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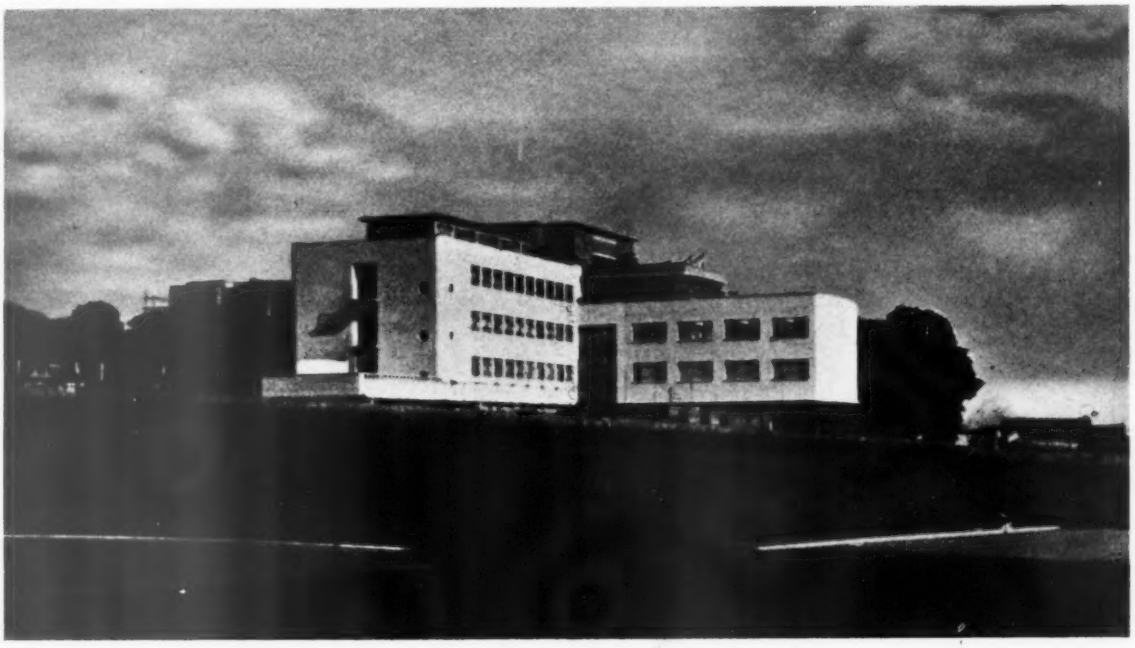
The Editor will be glad to receive MS. articles and also illustrations of current architecture in this country and abroad with a view to publication. Though every care will be taken, the Editor cannot hold himself responsible for material sent him.

THURSDAY, NOVEMBER 25, 1937. NUMBER 2236 : VOLUME 86

PRINCIPAL CONTENTS

MEDICAL SCHOOL, UNIVERSITY OF ABERDEEN

BY WILLIAM A. PITE, SON AND FAIRWEATHER



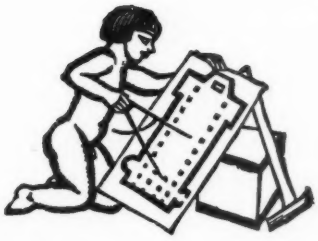
THE University of Aberdeen Medical School is to be transferred from the old building at Marischal College to a site adjoining the new Aberdeen Royal Infirmary at Forresterhill. The new building, now in course of erection, and of which progress photographs are reproduced above, has been designed to accommodate the following departments: Clinical chemistry, bacteriology, pathology, medicine, midwifery, surgery, forensic medicine, public health, materia medica. A future extension will be built to house the anatomy and physiology departments. The new building had to be so planned as to give covered access to the existing post mortem block, which is used by the students who attend a students' lecture and demonstration theatre in the P.M. Room.

The building has a reinforced concrete frame with stanchions generally at 12 ft. 6 in. centres (in the north wing 15 ft. centres); the floors are reinforced concrete and hollow tile, and the panel walls 6-in. partition blocks rendered on the outside with a cement rendering and insulated on the inside with 1 in. of black insulating cork, plastered. Externally the building will be, in the main, a silver-grey colour similar in tone to the thin granite facings which have been used at certain positions in deference to the wishes of the Aberdeen City authorities. At the base the small dwarf walls will be executed in brown rubble granite. A plinth of cement rendering will be buff coloured and the walls of the animal house pale cream coloured.

Further photographs and plans are reproduced on pages 817 and 818.

FARM HOUSE IN FRANCE

Above Cahors the valley of the Lot is narrow between limestone plateaux that, as they rise to the Cévennes, are barren and are called Les Causses—from cau, *the local form of the word* chaux, *i.e. lime. The farm house, on a lower and more fertile spur of Les Causses, is above Vers, near Cahors. The work of the farm occupies the ground floor, the living quarters being approached by a covered staircase that has a dovecot under its eaves.*



LOCATION OF INDUSTRY

THE last leading article on this page was about the idea which the Royal Commission on the Location of Industry is now examining. This idea, at its broadest, is a suggestion for revising our views of what pays.

Up to now it has been considered best in Britain to let private enterprise supply the driving force in the business of creating wealth, and for the Government, local or national, only to remedy abuses or make good omissions.

The system has raised standards of living, education and health, shortened working hours, improved housing and supplied all urban dwellings with good drainage and water supply. It has done a great deal. But, by its lack of a long view it has also involved definite abuses.

Industry of all kinds, in the century since industry really got going, has been allowed to go anywhere and do anything. The new idea which the Royal Commission is now thinking over, is that this is not good enough. It is felt that modern transport has made a small island so much smaller that it is time we became much more careful about what we do with its land surface. In particular the new idea is that two forms of regulation of industry are needed if standards of living are not to be endangered in twenty years' time and a long list of evils piled up for Government remedy. First, that industry should not be allowed to make a mess in one place and then move on and do the same elsewhere ; second, that the tendency for a few huge cities to go on getting bigger is thoroughly bad.

The predominant examples of these tendencies since the war have been the lack of new industrial enterprise in the north and the growth of industry in what should have remained the playground of the already too large London area.

The remedies already suggested for these particular evils are a reduction of rates and taxes for manufacturers starting new industries in the Special Areas and a ban on new industrial buildings within a certain radius of Charing Cross. Both are simple and it is as unlikely that the Royal Commission will not recommend something like the first as it is unlikely that they will be brave enough to recommend the second. Yet banning new industries in the Home Counties might probably have found the public more resentful of interference with manufacturers' initiative if manufacturers were not so ready to restrict their own initiative when it suited their own schemes.

In any case regulation of industrial location is bound to come. Either now, or in ten years' time when a healthy life in London has become more obviously impossible for lower income groups. The real point is how the new idea is tc be carried out.

Restriction is the easiest way and by far the most probable way for a badgered House of Commons. Second easiest is a handsome inducement to go " somewhere " within a certain area. The manufacturer will be forbidden to build within forty miles of Charing Cross and bribed to build in the Special Areas. The Commons at this point will have done its duty and will leave details to the existing local authorities.

It is interesting to follow in imagination the would-be manufacturer of 1950 in his selection of his factory site. He will almost certainly look for a site forty-one miles from Paddington. Local landowners will subdue their horror at industrial Buckinghamshire by thinking of changing land values, and the local town-planning officer will exhibit his plans in which certain areas of questionable land are scheduled for industry. The lucky owner of ten acres of this agricultural desert will no doubt sell, an isolated group of buildings will rise with the front to the main road thatched and half-timbered, and a considerable house building will occur around the villages within bicycle ride.

One has only to imagine this process occurring again and again round the circumference of the forbidden circle to realize that, whether the scheduled radius is thirty, forty, or fifty miles, the real intention of the ban will still be defeated. London will still be the centre of an urban-suburban district in which, in twenty years, a third of the population of Britain may easily live. What is more, the cost of transport and housing for the skilled worker will probably have raised wages to a point where even the nearness to a huge market will not offset them.

This prophecy does not seem very exaggerated and it is not encouraging. But, assuming the Government wishes to leave industry as free as it can, what are the alternatives to bribing and banning ? There seem none. Bribery, however, can be done in more than one way ; and by far the best way of guiding the location of industry in the future appears to be one which has already appeared in the Trading Estate.

Some industries are tied geographically ; the mass of newer industries which are creating havoc in the Home Counties are not so tied, and with transport growing increasingly efficient, could be placed almost anywhere in Britain. By encouraging the formation of carefully-planned Trading Estates throughout the country there can be no doubt that all the problems of industrial location for all but the heaviest industries could be solved. Such estates, with services, transport and even the buildings already in existence would be an attractive proposition to the manufacturer. If planned, as they must be, with regard to a pool of labour, housing, education and amusement, they would be even more attractive. By being carefully selected they would help to balance the industrial life of the country, and by being carefully designed they would stop industry being a blot on any district in which it settles.

There is only one outstanding question. Would these Trading Estates, Government or private, pay their way ? If, once a sufficient number were formed, the manufacturer who declined to make use of them was asked to pay for his exclusiveness, they certainly would.

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NOTES & TOPICS

INDUSTRIAL BY-PRODUCT

THE Royal Commission which is now examining different theories about industrial location is unlikely to suggest any tight framework of regulation. For it can be maintained that if the State leaves industry almost entirely free to choose where and how it works, the State cannot be blamed for failures; whereas, if it says to the individual manufacturer "You must build exactly there and in such and such a form," there will be no end whatever to State responsibility.

*

The Commission, however, cannot very well neglect public feeling about the Special Areas and the growth of population in the London area. Something which seems likely to help these two problems must be recommended. The most probable suggestion is one which, by rebates in rates and taxes offered to manufacturers, will attempt to divert to Wales and the North a larger number of the light industries now increasing in the Home Counties.

*

This, done with determination, would at least keep the older industrial districts continuously before manufacturers' minds. But it will not help the heavy industries very much.

*

I confess that the coal and iron industries puzzle me. At present one would imagine it profitable to work almost all coal and iron mines. But it is not so. In Wales, Durham and Northumberland, there are districts where these industries, having made an appalling mess, have now closed down—permanently. Eventually the Government must do something for these areas, even if it is only clearing up the mess, as the alternative to paying 200,000 doles for ever.

*

The November *FACT** is a monograph by Mr. Philip Massey called *Portrait of a Mining Town*. It describes life, people, surroundings and opinions in the urban district of Nantyglo and Blaina, a Monmouthshire coal and iron town of, now, 12,000 inhabitants. In February, 1921, seven collieries in the neighbourhood ceased work, throwing out 4,800 men, many of whom have had no work since.

*

Forty per cent. of insured workers are unemployed, 600 new houses are needed to relieve overcrowding—and so on. Local opinion believes that the district will just die by the migration of the younger generation. With rail transport, skilled workers and housing (of a kind; and new houses are being built) such a waste ought to be able to be avoided.

THE PRESIDENT'S ADDRESS

Discussion of this has brought me a letter:

Astragal, on page 770 of your current issue, "thinks it is worth remembering that the R.I.B.A. is democratically run." Surely, *remembering* is a bit of a misnomer; does not "Astragal" mean that it is worth imagining—or fancying—or fooling oneself into believing—that the R.I.B.A. is democratically run?

I venture to suggest this interpretation, since it is beyond my (merely normal) powers to *remember* that an Institution with its control confined to 25 per cent. of its members,† is being "democratically run."

*

My correspondent, who signs himself *Balderdash*, and is a member of the R.I.B.A., has not made a startling discovery. Whenever any subject is mentioned which concerns architecture and the R.I.B.A., the majority of Fellows on the Council is called the cause of all our troubles by a certain number of people—usually about twenty people, and the same people.

*

Sixty Fellows to eighty-one Councillors (accepting *Balderdash's* figures) may be ludicrous. It does not affect my argument if it is.

*

In the note of mine which is quoted, I asked why, if official and salaried architects form a majority of R.I.B.A. membership and resent having private architects in majority on the Council, official architects do not head the poll at elections. If Fellows must be in the majority there is nothing to prevent their being official Fellows.

THE COUNCIL'S VIEWS

The following letter from the Hon. Secretary gives the R.I.B.A.'s views:—

The Executive Committee of the Council has had under consideration the correspondence in the professional press criticizing certain passages in the President's inaugural address on the subject of official architecture.

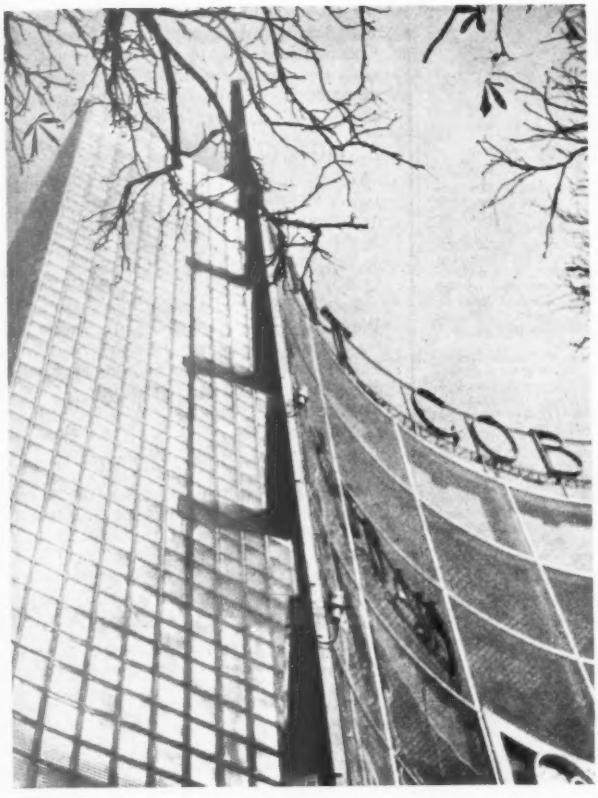
It is perhaps not generally known that Mr. Goodhart-Rendel went into hospital for a serious operation on the day following the delivery of his address, and while I am glad to say that he is making a good recovery, he is not yet able to reply to his critics himself. To this extent the hands of the Executive Committee are somewhat tied in dealing with the criticisms which have been made, especially as the President was at some pains to make it clear that he was giving his personal views in his own language.

The matter has been referred to the Official Architects' Committee of the R.I.B.A. and it will come before the Council at their next meeting.

Possibly it has hardly yet been fully realized, even by some of those whom it represents, that an Official Architects' Committee has been set up in the R.I.B.A. on the recommendation of the Constitutional Committee. This was a further step, following the institution of the Salaried Members' Committee some years ago, in the policy of the R.I.B.A. towards the close participation of official and salaried architects in the affairs of the Institute. The

* *Fact.* A monthly monograph. From 19 Garrick Street, W.C.2. Price 6d.

† Out of a Council of 81 members, about 60 *must* be Fellows. The number of Fellows is less than 25 per cent. of the total corporate membership (see R.I.B.A. Kalendar).



The Saint Gobain glass pavilion at the Paris Exhibition. The sheet glass of the façade contrasts effectively with the glass-brick filling of the return wall. Photo by Norman Westwood.

new byelaws now in force provide that the chairmen of both these committees shall be ex-officio members of the Council, so that there is set up within the Institute an organization for dealing with all matters affecting official architects.

This policy has undergone no change and has the President's full support. HENRY M. FLETCHER.

A.R.A.

Mr. C. H. James has become an A.R.A. at the age of forty-three, and so is likely to have one of the really grand careers of this century.

*

The career so far, encouragingly for the rest of us, has had ups and downs. Trained in Gloucester, Mr. James was an assistant with Sir Edwin Lutyens and later with Barry Parker and Sir Raymond Unwin. Then in the early twenties he lost a leg in the War.

*

Afterwards, he rapidly made a name in small houses—that particular post-War problem—which will stand with those of Voysey and Lutyens, and carried out many large schemes at Welwyn and elsewhere.

*

From 1925, for several years, Mr. James might have been thought to have settled down to domestic work, with a name made, but made in a branch of architecture which does not usually expand, and might be called today a decaying branch.

*

Mr. James did not like settling down. He turned his attention to competitions and just before the worst of the slump he won Norwich with Mr. Rowland Pierce. The building was postponed, but the successful partnership had got its eye in, and Slough and Hertford had been collected as well, within three years. The end of the story is the well-known firm.

FLATS

Mr. Valentine (" Clubfoot ") Williams, who has been writing about the new London in the *Daily Sketch*, says there is an increasing demand for flats in old blocks. Apparently behind those grim, blood-red façades and *art nouveau* lift enclosures are generously shaped rooms, lofty ceilings, and, above all, adequate sound-proofing. Mr. Williams shows a charming and unworldly ignorance of the reasons why the L.C.C. limits the proportion of one-room flats in a new block to 10 per cent. of the whole. He also very inaccurately describes the architectural style of Nazi Germany as " concrete and chromium." What I liked best was the bit where he was informed at the offices of " one of the biggest firms of flat specialists in London," that the flats which stand empty are those " where solid comfort is sacrificed to meretricious modernity."

FIRST SIGNS

To burly personality-columnist William Hickey of the *Daily Express* came last week a letter from a Hertfordshire architectural student. He claimed to have found a dead moth imprisoned in some papers sent to him by the R.I.B.A., and inquired if it was the first sign of a new presidential purge.

DARTS FRONT

With the score at one match all, A.A. and Architectural Press met for the Cup Final of the darts championship on Wednesday night. In view of the tenseness of the occasion, neutral ground, the Building Centre, was the chosen field of play, where in a room marked General Manager and furnished with one prodigious table tennis table, the rival captains, Messrs. Yerbury and Tatlock, tested each other's darts to see that no ugly fraud be perpetrated.

*

To show they meant business the A.A. pulled out Mr. H. J. W. Alexander, a champion with a European reputation, while the A.P. relied on the more subtle activities of Mr. W. P. Keen, a master of that strategy which consists rather in the manipulation of the score than of the dart-board.

*

In the end one is told Professor Keen made it 14-11 in favour of the Architectural Press, which shows, I think, artistic sensibility. We can't vouch personally for the result as we lost consciousness long before the end.

ASTRAGAL

FACTORIES

Next week's issue of the JOURNAL *will be a special Double Number on " FACTORIES," particular attention being paid to the light industrial buildings in this country. The contents will include an article in note form on Factory Design, by H. Courtenay Constantine, about 25 factory schemes, and an illustrated article on the Factory Acts and Regulations and various equipment by W. E. J. Budgen, Philip Scholberg and Beresford Evans.*

NEWS

POINTS FROM THIS ISSUE

L.C.C.

At Tuesday's meeting of the London County Council the Housing and Public Health Committee submitted a scheme, estimated to cost £657,800, for the development of the large site, about 33 acres in extent, which the Council is purchasing for housing purposes in Tulse Hill, Lambeth, adjoining Brockwell Park.

It is proposed that 965 flats—in 35 blocks, four storeys in height—shall be erected on about 28 acres of the site. About one-third of the new flats will be of an improved type, based on the principle of staircase access as opposed to the usual balcony access type.

ROYAL SOCIETY OF BRITISH SCULPTORS

The annual "best work of the year" medal has been awarded by the Royal Society of British Sculptors to Mr. Charles Wheeler, A.R.A., F.R.B.S., for his statue "Ariel of the Bank," erected on the Bank of England.

FOUNTAINS IN TRAFALGAR SQUARE

We understand that the two fountains in Trafalgar Square are likely to be reconstructed shortly, and that the work may be undertaken by Sir Edwin Lutyens, R.A. The Office of Works first approached Sir William Reid Dick, R.A. Sir William, it is understood, felt unable to undertake the task owing to pressure of work which will keep him busy for several years.

Sir Edwin Lutyens was then approached, and preliminary discussions between him and the Office of Works are now in progress.

PUBLIC WORKS SCHEMES

Sir Kingsley Wood, the Minister of Health, last week addressed the Public Works, Roads and Transport Congress at the Royal Agricultural Hall, London, and distributed the prizes to the successful competitors.

Sir Kingsley Wood said that in recent years there had been a considerable expansion of public works. Last year the total amount sanctioned was some £96,000,000, a figure which had been exceeded only twice since the war and then under exceptional circumstances. These works included large sums for hospitals, improved drainage, street lighting, public baths, open spaces and water-works.

THE ARCHITECTS' DIARY

Thursday, November 25

INSTITUTION OF CIVIL ENGINEERS. *Birmingham and District Association. At the James Watt Memorial Institute, Birmingham. "Work of the Institution Research Committee." By A. H. Naylor. Midland Counties Branch. At the Hotel Metropole, Leeds. "Middle Level Pumping Station." By R. G. Clarke, O.B.E.* 7.30 *p.m.*

INSTITUTE OF WELDING. *Leeds and District Branch. At the Griffin Hotel, Leeds. "Notes on Electric Welding." By E. C. Davies.* 7.30 *p.m.*

LONDON SOCIETY. *Visit to Ultra Electric, Ltd., Western Avenue, Acton.* 3 *p.m.*

SOCIETY OF ANTIQUARIES, *Burlington House, W.1. "Recent Work at the Church of the Nativity, Bethlehem." By William Harvey.* 8.30 *p.m.*

A.A.S.T.A. *Public Meeting. At Friends House, Euston Road, N.W.1. "Do Assistants want a Salary Scale?"* 6.15 *p.m.*

Friday, November 26

INSTITUTION OF STRUCTURAL ENGINEERS. *Midland Counties Branch. At the James Watt Memorial Institute, Birmingham. "The San Francisco-Oakland Bay Bridge." By Professor J. Husband.* 6.30 *p.m. Western Counties Branch. At the Merchant Venturers' Technical College, Bristol. Discussion and problems night.* 7.15 *p.m.*

NATIONAL HOUSING AND TOWN PLANNING COUNCIL. *Conference at Harrogate. Until November* 29.

Monday, November 29

R.I.B.A. EXHIBITION OF "MODERN SCHOOLS." *At the Public Library and Museum, Rugby.*

Tuesday, November 30

LONDON SOCIETY. *Annual Dinner. At the Hotel Victoria, Northumberland Avenue, W.C.2.* 7.30 *for* 7.45 *p.m.*

HOUSING CENTRE, 13 *Suffolk Street, S.W.1. "Schools Exhibition." By Gerald Barry.* 1 *p.m.*

Wednesday, December 1

ROYAL SOCIETY OF ARTS, *John Street, Adelphi, W.1. "The Manchester Ship Canal." By Sir H. Percy Douglas.* 8.15 *p.m.*

BANNED COMPETITION

The R.I.B.A. has issued the following notice: "The Competitions Committee desires to call the attention of members to the fact that the conditions of the competition for the design of a bathing station for the Hornsey U.D.C. are not in accordance with the Regulations of the R.I.B.A. The Competitions Committee is in negotiation with the promoters in the hope of securing an amendment. In the meantime, members should not take part in the competition."

Mr. C. H. James, F.R.I.B.A., who was elected an A.R.A. last week.

HONOUR FOR MAJOR ATHOE

Major G. B. J. Athoe, Secretary of the I.A.A.S., has been elected an honorary member of the Association of Hungarian Architects.

POSTER HOARDING COMPETITION

We are informed by the Secretary of the West Yorkshire Society of Architects that the name of one of the assessors of the Poster Hoarding Competition is wrongly given in the conditions. The name C. W. C. Milburn should read C. W. C. Needham, F.R.I.B.A., M.T.P.I.

ANNOUNCEMENT

Messrs. G. A. Jellicoe and Partners have taken into partnership Miss E. A. Heckford, B.A., and the name of the firm is to be changed on December 1 next to "Jellicoe, Page and Wilson." The practice will be continued at the present address (38 John Street, Bedford Row, London, W.C.1).

PRESERVATION OF HISTORIC BUILDINGS IN SHERBORNE

The Minister of Health, Sir Kingsley Wood, has approved an Order, made by the Urban District Council of Sherborne under Section 17 of the Town and Country Planning Act, 1932, for the preservation of three buildings of great historic interest under the shadow of Sherborne Abbey. They are the St. Thomas Becket Chapel or Hospital; the Almshouse of St. John the Baptist and St. John the Evangelist; and the Abbot's Lodging.

LAW REPORT

THOMAS *v.* HAMMERSMITH BOROUGH COUNCIL

THE hearing was resumed during last week in the King's Bench Division, before Mr. Justice Porter, of the action by Sir Alfred Brumwell Thomas, F.R.I.B.A., against the Hammersmith Borough Council to recover money alleged to be due to him for work done and services rendered as architect in the preparation of plans and drawings for a proposed town hall and buildings. In the alternative he sought to recover on a *quantum meruit*, or a sum as damages.

The defence was that, having paid the plaintiff £3,000, they were not liable for any further amount.

Mr. W. J. Morris, K.C., and Mr. Granville Sharp appeared for the plaintiff, and Mr. Pritt, K.C., and Mr. R. A. Willis for defendants.

The evidence for the defence was continued.

Mr. Charles H. James, F.R.I.B.A., was examined by Mr. Pritt in detail on the plans, and dealing with the hall on the lower ground floor, said he had never been able to understand the way into the hall from the plaintiff's plans. No tanks were shown on the plans, and witness considered it was the duty of the architect to have shown the position of the tanks. The tanks when in use would weigh some 40 tons, and for the steel work to be calculated accurately, the position of the tanks should be clearly shown. Witness characterized many of the plans as definitely incomplete.

Witness added that up to a point the design of a town hall was standardized, as local authorities needed much the same accommodation. If the site was an open one, the positions of the Council Chamber and the Committee Rooms and the various departments suggested themselves at once.

Mr. Morris cross-examined Mr. James. Replying to questions, Mr. James admitted that he knew nothing of the subsoil of the site for the town hall, nor anything of the merits of the site. Witness was of opinion that, excluding the heating and foundations and the question of the staircases, there were many matters of importance that would prevent a quantity surveyor proceeding with his work, because the plans did not in fact work.

Mr. Morris: Is there anything of major importance to prevent a quantity surveyor commencing his work?—Witness thought there was, as the quantity surveyor would have to ask the architect so much in regard to the plans.

Mr. James added: I regret intensely having to make any criticisms on a brother architect.

Going through the plans, Mr. James pointed out various obstacles in the way of a quantity surveyor getting out quantities.

If witness had been a quantity surveyor, he should have raised many points with the architect over the plans and drawings. All the points witness had raised with regard to the drawings he regarded as absolutely vital. There would be no difficulty with the quantity surveyor charging up any points, not clear to him, with the architect.

Mr. Reginald T. Morgan, M.I.C.E., consulting engineer, specializing in building work, gave evidence on the question of the steel work set out in the plans and drawings.

Mr. Morgan, in the course of his evidence for defendants, said he agreed that it was fair to say that on the eight steel work drawings of the plaintiff, there was a good deal of steel framework definitely there.

Mr. Pritt: Could a quantity surveyor measure that up?—Not absolutely accurately, but he could measure it up.

His lordship: Could you design the steel work for the dome? Would you have enough material to do so?—It is incomplete. I should want to know what the dome was made of.

Mr. Pritt: If you were told the materials would the drawings give you enough information?—You could start on it.

Continuing, Mr. Morgan said he could not have started on the foundations, because he did not know the weight of the dome.

In cross-examination by Mr. Granville Sharp: Neither the architect nor the steel designer has anything to do with the actual erection of the steel in the building?—I do not agree. I always go round and inspect the building.

You inspect the building with a building surveyor?—No, on my own.

The mistakes you have called attention to are glaringly obvious, are they not?—No, only to an expert.

When a mistake appears you go to the architect and get it cleared up?—Definitely.

Then the position is that from these drawings you say that the steel work could not be done?—I don't think I said that. The dome could not possibly be done.

In reply to further questions, Mr. Morgan said that so far as the rest of the building was concerned he could definitely start. He might, of course, come across difficulties as he went along.

Mr. Alexander L. Woodward, district surveyor for Hammersmith, gave evidence that in the course of a building like the one in question, they could not start building unless they got his sanction to the steel work, which today was a speciality.

The hearing is proceeding.

Professor Reilly Speaking

This is the second of the monthly commentaries by Professor C. H. Reilly; the first appeared in our issue for October 21.

I AM sure the happiest moments in most architects' lives are the hours, especially the midnight ones, they spend over competitions, or were till quite recently. Now with the acute division of architectural faith there is among us, with the old men believing one thing if they really believe it and the young another, that can hardly remain the case, especially as it is the old men who generally do the assessing. Clearly one cannot go all out in one's design and enjoy the making of it to the full if one feels from the start it is the sort of thing which has no chance. Of course, there was always a certain amount of trimming of ideas to the assessor's predilections if one were really out to win. Think of great winning designs, such as Ralph Knott's London County Hall, with its big rusticated chimneys and immense tile roof, assessed by Norman Shaw, and what a waste was there—except for Ralph Knott! But trimming even to that extent and with one's tongue in one's cheek spoils the thrill even if one gets a laugh out of it at the time. If one wins, too, it leads to further difficulties and compromises with one's conscience. If one goes on winning competitions on these lines one gradually goes down hill, however much one climbs up the profession.

Such thoughts and certain correspondence in the architectural papers about a recent competition in which, apparently, the assessor, in his award, had taken no notice of one of his own binding conditions, bring one up with a jerk. The competitors in this case who complained in the press were hauled up before the Competitions Committee of the R.I.B.A., quite rightly as the rules stand, for complaining in public and not to the committee, though every one knows it is the long-range policy of the Institute never to upset an assessor's award. All this makes one feel everything is not really as well with our British competition system as the Institute, and especially its Competitions Committee, would have us believe. I know to say this is next door to blasphemy. The clever men who have done well out of the system, winning competition after competition, until seats are found for them on the Competitions Committee, naturally feel our system is the best of all possible ones. One can see it in their happy unlined faces, which seem to me when I look at them to hover between the slightly seraphic and the slightly bucolic, according to their temperaments but in either case to be carefree, an astonishing result after the stresses and strains they must have been through to reach their present eminence. Yet when one of the cleverest of them is freely given a town hall to design, as Mr. Berry Webber was at Dagenham, he does something so much more interesting than, say, his great work at Southampton, the result of a rigorous competition. Of course, he is still one of the youngest of the great and there is hope for him yet. On the other hand, think of the late honorary secretary of the R.I.B.A., Mr. H. T. Hare, who once told me he went in for thirty competitions before he won one, and of the awful results when he did win and went on winning for the rest of his life—hundreds of them. Think of the Oxford Town Hall if you can remember it, which I doubt, or look at it opposite Carfax Church next time you pass. For an example nearer at hand of the work of this greatest of all competition wallahs there is that insurance office in the Strand, where it curves round St. Clement Danes with its great Ionic order—that was his later phase—and a series of robust young women leaning out over the pediments of the ground floor windows to catch a glimpse of the Lord Mayor's show, and with a roof, or it had, of split Gloucestershire stones. "Why not now thatch our banks?" was, I remember, the witty comment of our new president in relation to it.

No, it is sufficiently clear, I think, that our competition system in spite of being "sans peur et sans reproche" does not produce the best architectural results. What may be called the Swedish Georgian compromise is as far as it gets today, and admittedly in certain hands like Messrs. James and Pierce and Mr. Uren, such work is admirable of its kind.

What, then, can be done to bring our competitive system more into line with modern thought and with the aspirations of the younger men who in previous generations looked to it as their natural opening and the right stepping stone to opportunity and fame? Indeed, up till now it has been the proud boast of our profession that by means of it the young and unknown could jump to the front in a way impossible to any but a film star. We can all remember cases like Sir Giles Scott and the Liverpool Cathedral. I rather like to think of him as the Greta Garbo of architecture, with his delightful combination of modesty and ability. But that is by the way. There is still the serious question of what is to be

done for the Giles Scotts of the present generation? How are they to be found when to win a competition today they have to present stuff they only half believe in and are even then, as the recent competition showed, at the mercy of the whims and the forgetfulness of one man?

My suggestions are, first, that there should today always be a jury for all competitions, and that on that jury there should be representatives of both schools of thought, the contemporary and the traditional or, as I should prefer to call them, the young and the old, though it is not a question, of course, of numerical age.

Then I think, and this is equally important, we should adopt the American system and have all conditions of competitions drawn up by an expert in clear and consistent drafting. Now I am no longer one, I suggest that two or three of the heads of the schools of architecture, with their vastly greater experience in drafting programmes than any one else in the profession, would be the best for this job. The late Professor Laird, of Philadelphia, did a great deal of this work in the States. The R.I.B.A. should have a permanent panel, say, of three such folk and pay them each a yearly salary. It's tiresome, dreary work attending committees, taking instructions, finding out sizes of departments, making the schedule and, most important of all, trying out various complete solutions to make sure a satisfactory one exists. These people would know, too, when to put "must" and when to put "may" into their programmes, a thing about which I am convinced an ordinary assessor, who takes the work in his stride among his other jobs, is not sufficiently careful.

When one of this panel of draftsmen has drawn up the conditions of a competition, and when the general clauses have been vetted as now by the R.I.B.A. Competitions Committee, though that would more and more under my proposals become a mere formality, this draftsman's work in connection with the competition would be finished.

When the designs come in the jury will then approach the programme with the same freshness and the same freedom from any predilections for one type of solution more than another as the competitors themselves. That is a great point, the jury to have no lingering memories of their own tentative solutions to warp their minds. Being, too, a jury purposely chosen as not all belonging to the same school of thought (this for our present transitional period only) the competitors themselves would not be so tempted to play up to the particular ideas of anyone of them. Indeed, with the other members of the jury to pull his leg it would be rather a dangerous thing to do. The result of all this would be each competitor would be much more likely to go straight ahead and do the thing he believed in without any of those little additions or tricks designed to tickle the taste of the dear old single assessor, human being as he is and often a delightful one—the more delightful, indeed, the more easily tickled.

Finally, and this too is an important point, the assessors having been relieved of all the tedious early work (they should, of course, as now, have the cubes, schedules and areas checked for them by a quantity surveyor) and with only the delightful work of making a judgment and choosing the best design before them, it should be easy in each case to get together a good and representative jury. Clearly, when they have only this jolly, if responsible, job to do they need not be paid nearly as much as the present rather ridiculously high fees. Indeed, they might even be willing, in certain cases, to give their services for the cause of good architecture, as they do for the assessing of the Rome and the other great prizes. They might be willing to do so, but, of course, they could not be asked. That would never do! In spite, however, of the jury and the draughtsmen which my suggested system requires, it need not, I am sure, cost more and it could cost a great deal less than the present one. The cheaper the R.I.B.A. can make competitions for promoters the more there will be. We all know cases where the work has been given to an individual architect because an R.I.B.A. competition, and none other rightly can be considered, has cost too much.

With a jury as I suggest relieved of all drudgery it would be easier, too, to introduce the double-stage competition with a sketch stage first to discover the folk with real imagination and to eliminate the dullards, who so often win today by knowing where the lavatories ought to be and the similar crossword puzzle things and have no main or glorious ideas to contribute. Looking through a series of photographs of recent town halls, all the results of strenuous competitions under the present system, one cannot help being struck with the way the majority of them have been born dead. Thinking again of the happy unlined faces of the chief competition experts I wonder whether I have not guessed the reason. Like a strange man I once met in an hotel, who told me he employed ten clerks and several rotary machines and made never less than a thousand pounds a year in winning crossword puzzles, are they not out first of all to win and then and then only, if there is time before the next great gamble comes along, to translate the last win into fine architecture? That is, of course, if it is still possible so to do, which is not generally the case without such radical alteration that it would be a different design and everyone would rightly be very upset. I remember an older architect, whom I still respect, telling me that if he ever found it necessary to alter a main feature of one of his designs he threw the whole thing away, took a clean sheet and started again. Can one imagine after he has pulled off a big competition anyone, even the youngest among us, having the courage to do that? Yet that may be the path to good architecture and one of the reasons why our present competition system so rarely leads to it.

EXHIBITIONS

[By D. COSENS]

JUDGED by any standards the work of the Riemann School is extremely competent, and when one remembers that the school has been in existence for less than a year and that the exhibition is entirely composed of the work of students, this is even more remarkable, and says much for the methods of a school whose avowed aim is to bridge the gap between generalized art education and the specialized requirements of professional practice in commercial and industrial design.

In the variety of the work, the direct attack of the various problems of design, and the obvious enthusiasm of everyone, this exhibition is refreshingly unlike the usual art school show; in fact, were almost any of these designs put into a general exhibition they would stand on their own merits, and no one would suspect them of being students' work. Baumgartel's line and wash drawing stands out as by far the best, and its liveliness does more for fashion presentation than the most carefully worked-out design. There are excellent posters by Nigel Bruce and Lars-Erik Hasberg, very original package designs by John Addison and Patricia Lewis, and the photography section could compete with the best professional work. Perhaps the outstanding features are the window displays for chocolates and macintoshes, by Marguerite Lawson and Margaret Smith.

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Reimann School Exhibition of Students' Work. 4–10 Regency Street, S.W.1. Until November 30.

R.I.B.A. NEWS BULLETIN

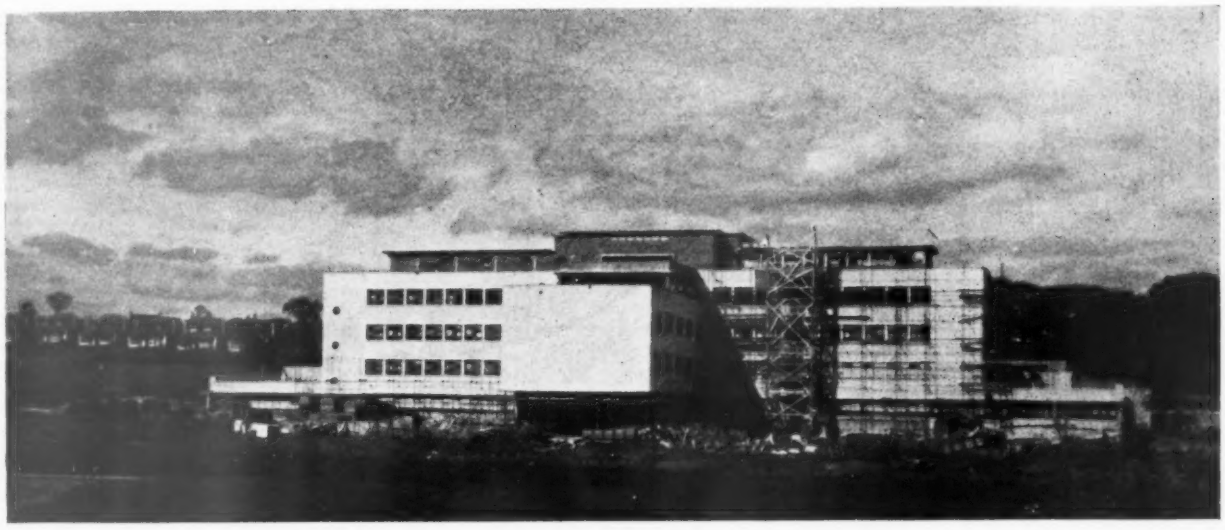
Christmas Holiday Lectures.—Members intending to send their children to the series of three Christmas Holiday Lectures at the R.I.B.A. are advised to apply for tickets early, as the demand always exceeds the number available. Also members are asked not to apply unless they are fairly certain the tickets will be used and if a ticket cannot be used the holder is requested to return it immediately. Mr. G. A. Jellicoe, F.R.I.B.A., is the lecturer, and his subject is "The English Countryside." On Wednesday, December 29, he will discuss "The Countryside of Today"; on Friday, December 31, "The Countryside of the Past"; and on Monday, January 3, "The Countryside of the Future." The time is 3.30 p.m.

Social Evening.—A concert arranged by the R.I.B.A. Music Group is to be held at the R.I.B.A. on Monday, December 6, at 8.15 p.m.

R.I.B.A. Exhibitions.—"Modern Schools" is being opened at the Public Library and Museum, Rugby, by the Mayor of Rugby, on Monday, November 29, at 7.30 p.m.

University Extension Lecture.—Mr. Basil Ward's eighth lecture at the R.I.B.A. on Tuesday, November 30, will be on "General Tendencies since the industrial revolution."

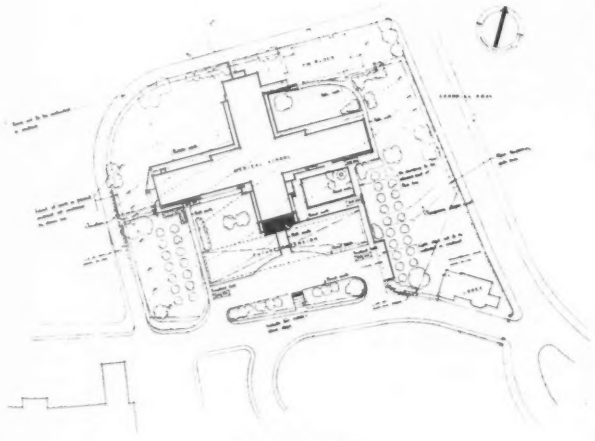
MEDICAL SCHOOL, UNIVERSITY OF ABERDEEN



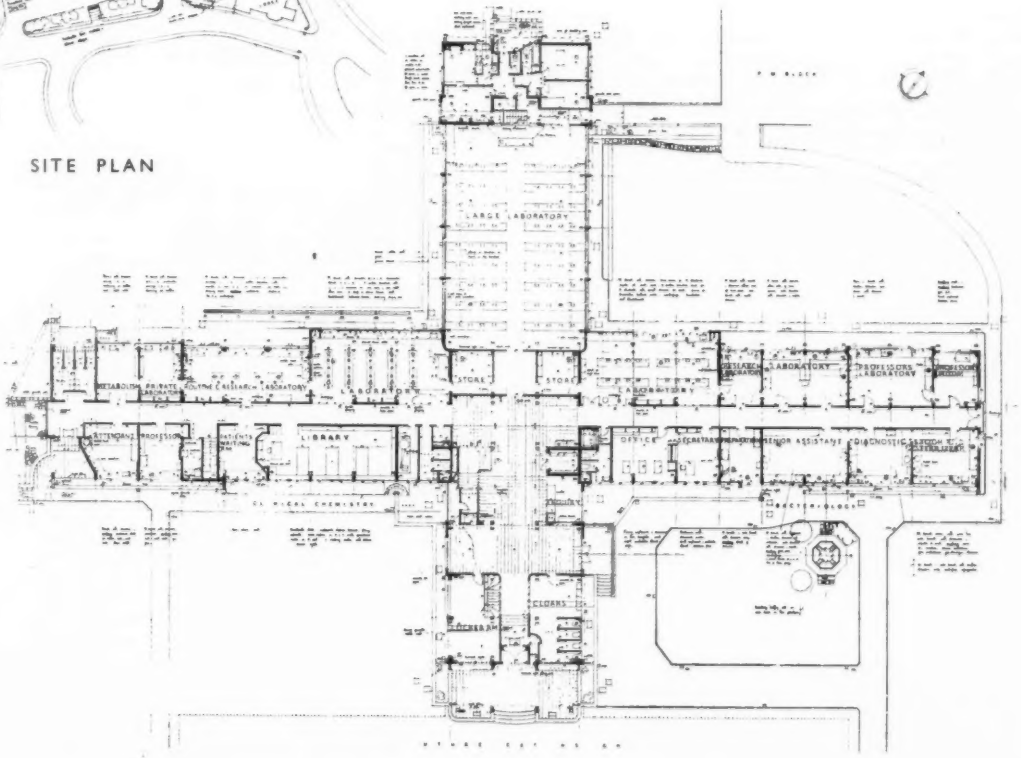
DESIGNED BY WILLIAM A. PITE, SON AND FAIRWEATHER

This building is now in course of erection on a site adjacent to the new Aberdeen Royal Infirmary at Forresterhill. A general description, and two progress photographs are reproduced on page 809. On this and the page following are three photographs, site and floor plans.

The plans are based on a simple cross shape with accommodation general to all departments in the north-south wing, and the particular departmental rooms in the east-west wing. In the north-south wing, on the ground floor, are the main entrance hall and stairs approached from the south end of the wing through a covered portico. To the north is a large laboratory for 90 students. The clinical chemistry department and a library are in the west wing and the bacteriology department in the east wing.

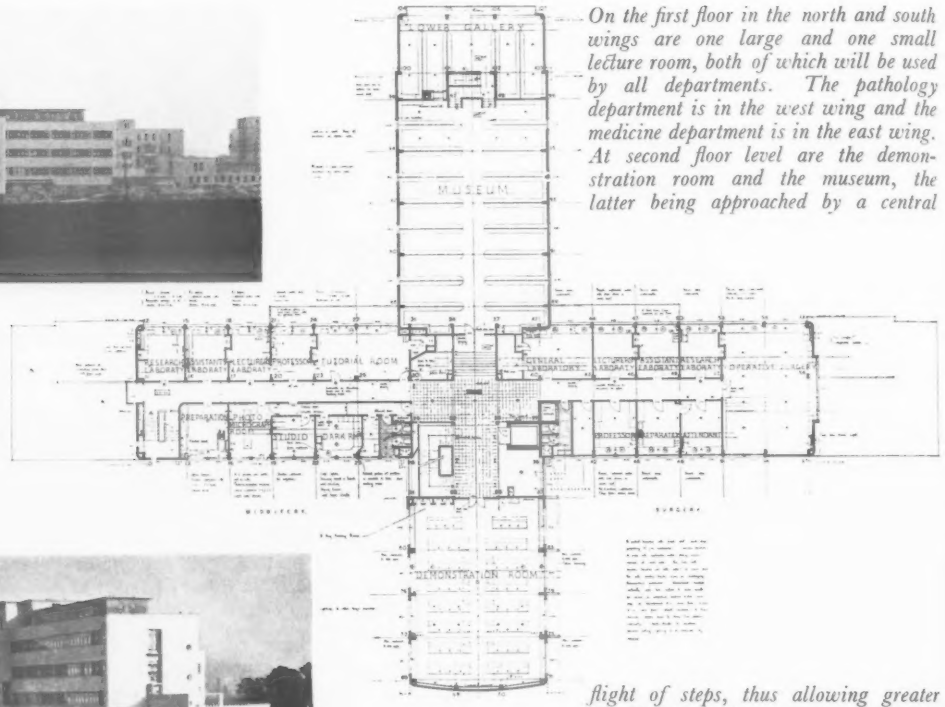


SITE PLAN



GROUND FLOOR PLAN

MEDICAL SCHOOL, UNIVERSITY OF ABERDEEN



SECOND FLOOR PLAN

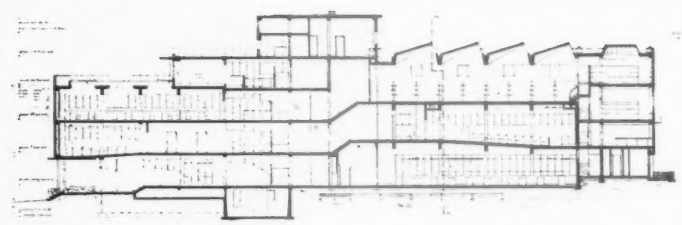
On the first floor in the north and south wings are one large and one small lecture room, both of which will be used by all departments. The pathology department is in the west wing and the medicine department is in the east wing. At second floor level are the demonstration room and the museum, the latter being approached by a central flight of steps, thus allowing greater height in the lecture room below. In the west wing at this level are the midwifery department and a small photographic department; in the east wing the surgery department, with a large operative surgery at the east end.

The third floor was originally designed in skeleton form with only the structure, windows, and panel walls, but the architects have since prepared the plan within this space, to accommodate the public health, forensic medicine, and materia medica departments. The fourth floor sets back from the main wall line, except in the centre, and accommodates the animal house.

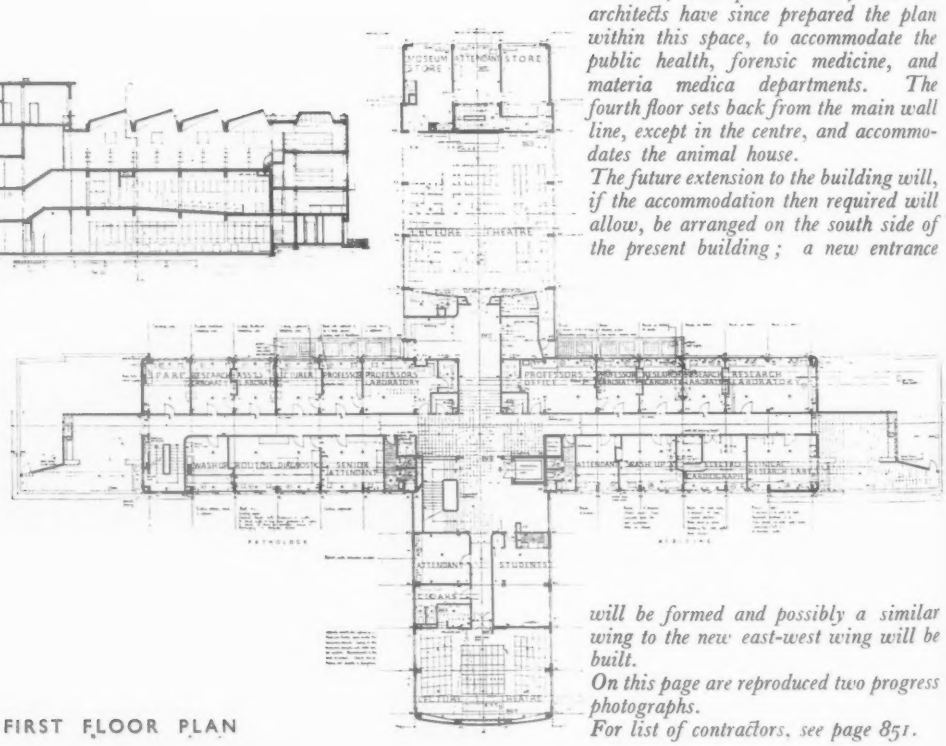
The future extension to the building will, if the accommodation then required will allow, be arranged on the south side of the present building; a new entrance will be formed and possibly a similar wing to the new east-west wing will be built.

On this page are reproduced two progress photographs.

For list of contractors, see page 851.



SECTION



FIRST FLOOR PLAN

THE QUEEN'S HOTEL, LEEDS

BY W. CURTIS GREEN, R.A., SON AND LLOYD; ASSOCIATED ARCHITECT W. H. HAMLYN (CHIEF ARCHITECT, L.M.S.)

GENERAL—*This hotel, built by the L.M.S. Railway Company and opened by the Earl of Harewood on November 12, forms the first part to be completed of an extensive scheme for improving railway amenities in Leeds. The remainder of the programme, part of which is being carried out in conjunction with the L. & N.E. Railway Company, comprises the partial reconstruction of Leeds (Wellington) and Leeds (New) Stations, including a new concourse, booking and parcels offices, etc. The scheme will enable the two stations to be worked jointly. In addition, there is now being erected alongside the new hotel a large office building.*

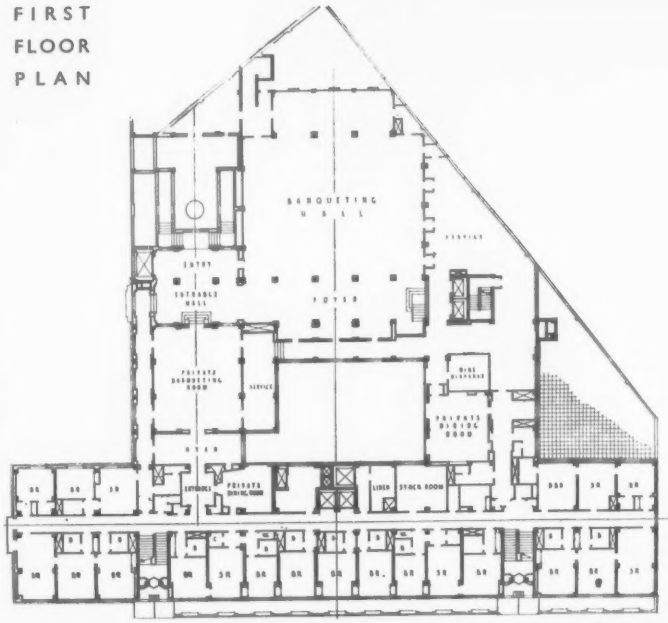
SITE—*The site is a difficult shape, the lines of the station concourse and the frontage on City Square converging sharply. On one side the hotel is flanked by the office building mentioned above and, on the other, by the approach to the hotel banqueting suite and to the station concourse.*

The photographs show : below, a perspective of the main front, by Mr. P. D. Hepworth ; above, a photograph of the same front ; left, a detail of the entrance to the foyer and French restaurant.

QUEEN'S HOTEL, LEEDS: BY W. CURTIS GREEN, R.A., SON AND LLOYD

ASSOCIATED ARCHITECT: W. H. HAMLYN

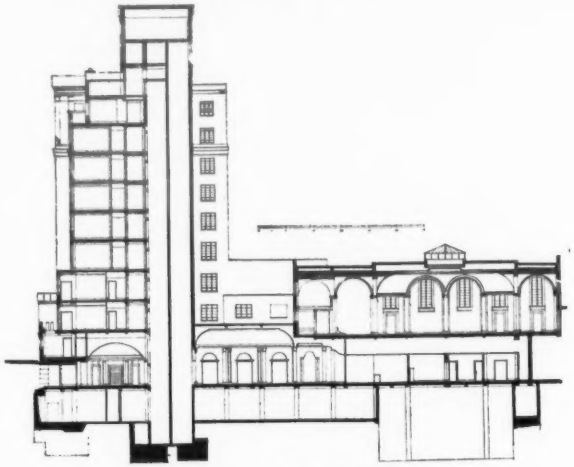
FIRST FLOOR PLAN



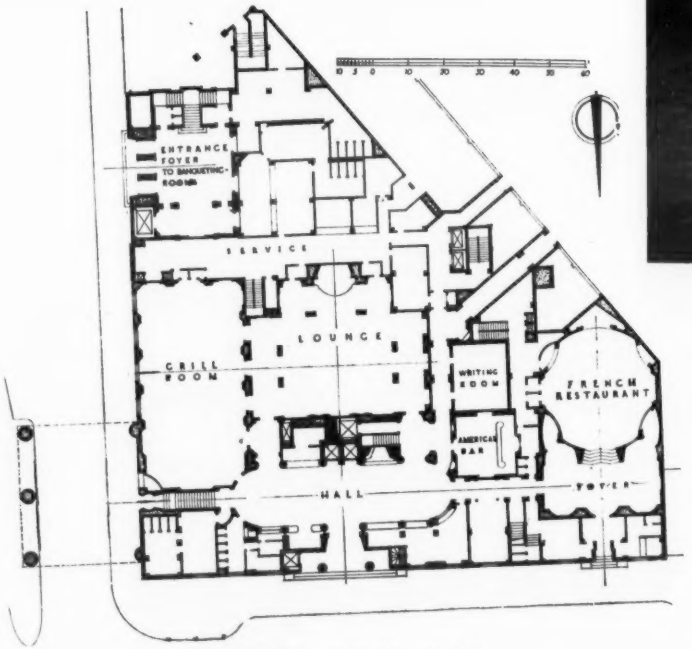
CONSTRUCTION AND EXTERNAL FINISH—*Steel-framed; the building is faced externally with Portland stone, red brick being also used in the less conspicuous parts. The columns supporting the bedroom floors of the hotel which project over the station approach road (see photograph on p. 819) are carved with designs symbolic of the towns served by the L.M.S. Railway. Generally speaking, the design of the building might be described as "cosmopolitan classic, with a decided transatlantic bias."*

The photographs show: above, left, the entrance hall; the floor is covered with an Indian red carpet; the diamond patterns on the piers are divided by gold trellis work. Above, the American bar, which is decorated in a warm golden brown; the front of the counter is finished in copper. Left, the small lounge or writing-room.

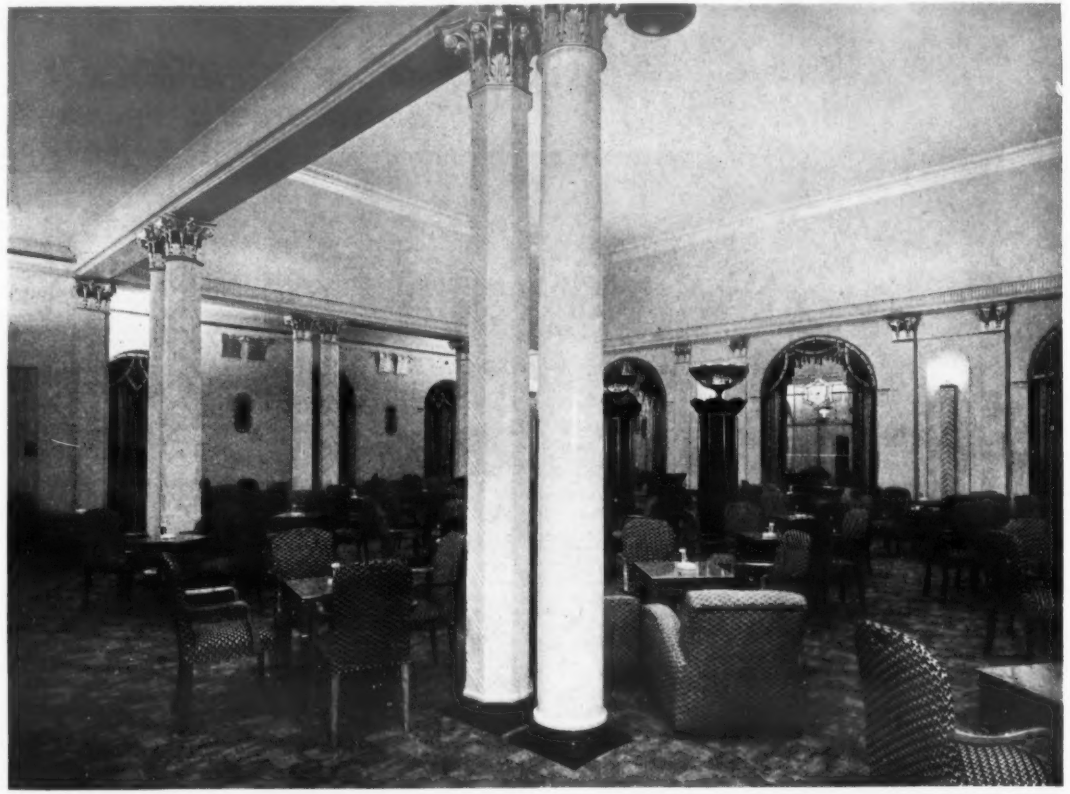
brown ; the front of the counter is finished in copper. Left, the small lounge or writing-room.



CROSS SECTION

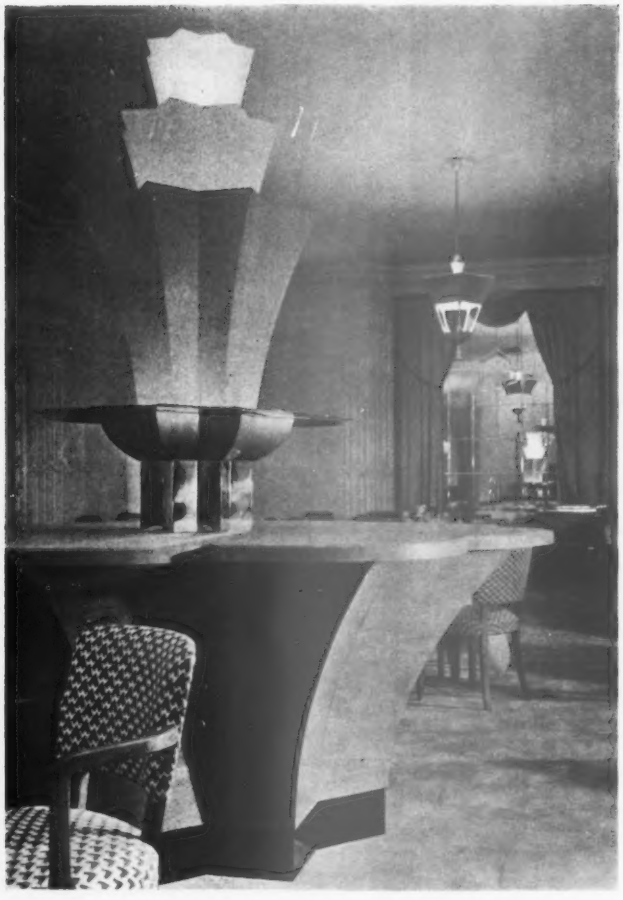


GROUND FLOOR PLAN



PLAN—*The main entrance, in the central axis of the City Square façade, leads into the entrance hall. From here there is direct access to all the more important public rooms in the hotel. To left and right of the entrance, and in the same line, are the hall porter's office and the inquiry, reception and cashiers' offices. The grill room, telephone booths and lavatories are also directly approached from the entrance hall, while two short lobbies give virtually direct access to the lounge beyond. This emphatic centralization has the advantage of eliminating corridors; the only corridor on the ground floor of the hotel is that connecting the main entrance hall with the passengers' entrance in the station concourse. The banqueting hall and its attendant rooms are on the first floor ; and the hall, being primarily concerned with functions outside the hotel routine, is provided with a separate entrance hall. The French restaurant also has an alternative entrance, in this case from City Square, and there is another separate entrance leading to the brasserie in the basement. The banqueting hall, restaurant, grill room and brasseries are all served from the same kitchens. These occupy the greater part of the basement. At ground floor level the whole site is covered, but higher up the building reduces itself to a long rectangular block adjoining City Square, with a short wing jutting out behind. Almost the whole of this upper part is devoted to bedroom accommodation. Above is a view of the lounge. The walls are cream ; the columns white, with red and gold capitals and black bases. Lighting in the main part of the room is derived from two decorative standards carrying bowls, shown on the right of the photograph.*

QUEEN'S HOTEL, LEEDS: DESIGNED BY



ASSOCIATED ARCHITECT: W. H. HAMLYN

The photographs show : above and left, two views of the grill room. The walls are cream coloured ; the carpet and curtains are reddish brown ; the ceiling is mottled yellow ; and the moulded coffers are symmetrically arranged round a central star-shaped coffer above the serving table. The coffers are coloured in red and gold and have mirror centres. Light is thrown up into the central coffer from a standard forming part of the serving table and, in addition, there are hanging bowls. Below, the smoke-room.

W. CURTIS GREEN, R.A., SON AND LLOYD

INTERNAL FINISHES—*The public rooms show a remarkable variety of decorative treatment. The basic combination is cream-coloured walls with gold enrichments, offset with red and green, but this is modified considerably by the occasional introduction of black, white and brown in the decoration itself and in the upholstery and hangings.*

The photographs show: above, the foyer to the French restaurant; and two views in the restaurant. The decorations are in cream, gold, silver and green. The light is projected upwards from behind the cornice, the source being concealed by a continuous coved shield in green etched glass. The carpets in the restaurant and the foyer are green.

QUEEN'S HOTEL, LEEDS: DESIGNED BY

The photographs show : top and bottom, two views of the banqueting hall. The decorative scheme is cream and gold, but where free-standing columns occur, they are painted a soft green. The carpet is grey-brown with green lines. The light fittings are offset with red and green. The hall provides accommodation for 400 persons. On the left is a view of the foyer to the banqueting hall.

W. CURTIS GREEN, R.A., SON AND LLOYD

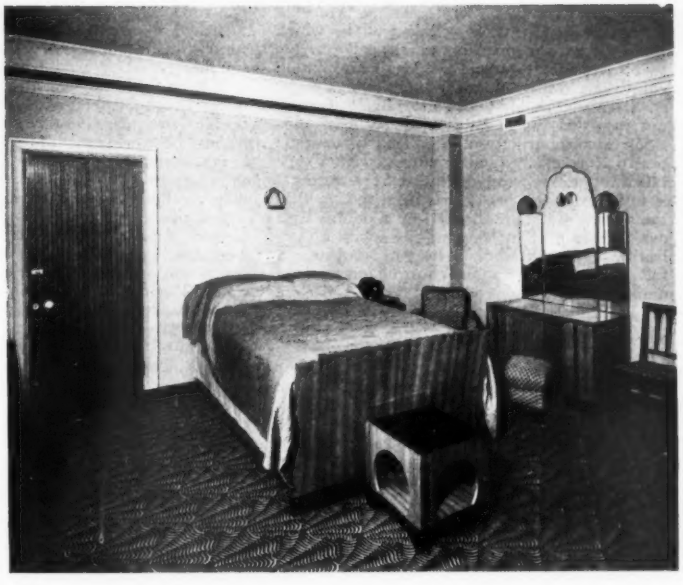
ASSOCIATED ARCHITECT

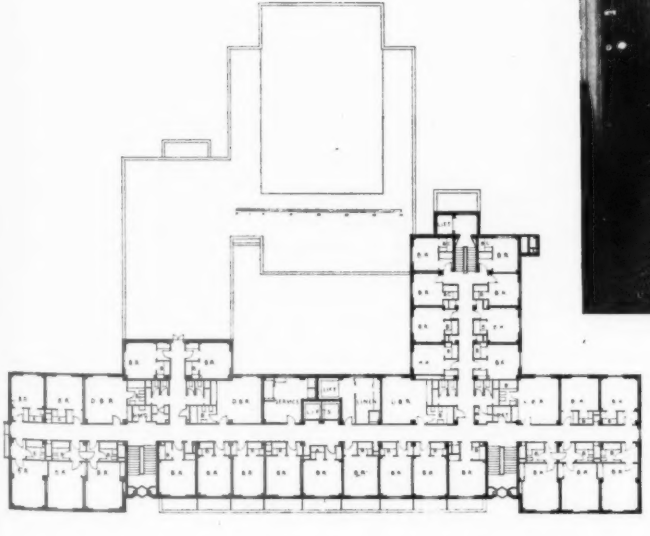
W. H. HAMLYN

SOUND-RESISTING EQUIPMENT—*The lift-motors are situated in a tower 130 ft. above street level, thus preventing their working from interfering with the comfort of guests in the bedrooms or public rooms. Anti-noise principles have also been carefully observed in planning the lay-out of the bedrooms and public rooms. Each bedroom is divided from the adjoining one by a double partition of specially constructed acoustic slabs. The ceilings are suspended from the special "aerodrome" anti-noise type floors.*

SERVICES—*Each bedroom has its own telephone and, for the first item in this country each telephone is fitted with a "cut-out" device which enables the caller to communicate with the exchange operator, without disconnecting the line on which the conversation is taking place. It is claimed that the hotel is the first in this country to be planned and built with a completely regulated ventilation system, circulating 8,000,000 cubic ft. of air per hour throughout the building.*

For list of general and sub-contractors, see page 851.





TYPICAL FLOOR PLAN

The photographs show: Above, the Banqueting Hall; and a typical double-bedroom; left, a typical sitting-room (bedroom suite). Each of the 200 bedrooms has been so planned that not a single one is overlooked by another; and each has its own private bath or bath lobby.

R.I.B.A.

PREVENTION OF NOISE IN BUILDINGS

Following are some extracts from the paper entitled "The Prevention of Noise in Buildings," read by Mr. C. J. Morreau, M.A., A.R.I.B.A., at a meeting of the R.I.B.A., on Monday last.

THE problem of transmission of sound is a highly complex one, for there are many kinds of sound and many alternative paths by which they may travel, all of which are interrelated. In order to simplify discussion I propose, for the purpose of this paper, to divide sounds into three classes: Air-borne sounds, which originate as sound waves in air, e.g. speech, violin music, wireless; impact or contact sounds, which originate as the result either of a blow on some part of the structure, e.g. footsteps, or by some other contact between an object and the structure, e.g. scraping of chairs; and equipment sounds, which, obviously, originate from one of the many forms of noise-producing equipment which are included in the modern building. This division refers only to the origin of the sound, for, no matter what its origin, sound nearly always reaches the ear by air.

AIR-BORNE SOUND

Of the problems relating to air-borne sound, the most common is how to prevent speech and music from being audible in a neighbouring room. Assuming that there is no free air link between the rooms the readiest path for the sound is by way of the dividing wall or floor, and the capacity of a wall or floor to resist air-borne sound is one of its important properties. Single walls insulate by virtue of their weight and of their weight alone, the heavier the wall the better being the insulation provided.

Where economy of weight is important, as it nearly always is, recourse must be made to double or complex construction. Were it possible to construct a double wall in which there were no connection at all between the two leaves then that wall would give insulation equivalent to the sum of the insulation given by each leaf separately; but in practice they do not by any means have this effect, A double partition as ordinarily built is better than a single partition of the same total weight, but it is not very much better. Since the edge link is the weakness, it is to be expected, and it has been shown, that the sound insulation afforded by a double wall can be increased by isolating the edges of each leaf from the surrounding structure, and indeed full benefit from double construction is only derived if this is provided. Quite effective results have been obtained by the use of ½-in. cork board as isolation.

The importance of transmission by way of the edges of double partitions appears to be greater in the case of masonry partitions than in the case of certain thin sheet materials such as glass or metal. With double windows the edge coupling is found to be of little significance compared with the coupling across the air space, and it is the width of the air space more than any other factor which determines the insulation provided by double glazing. With a wide air space a double window approximates closely to the ideal type of double partition.

A class of partition which is neither single nor double is the traditional wood framed or stud partition. This type of construction appears to behave partly as a single wall by virtue of the studs which connect the two faces, but largely as a series of small double walls, and stud partitions may give very useful results. For instance, insulation approximately equal to that given by 4½-in. brickwork can be obtained by a stud partition faced both sides with lath and plaster.

The considerations of weight affecting the insulation of walls apply equally to the insulation against air-borne sound provided by floors. Thus the lighter, hollow types of reinforced concrete floors are actually rather less effective from our present point of view than the heavier, solid types. In fact you will seldom be very far out if you assume reinforced concrete floors in general to afford insulation to air-borne sounds roughly equivalent to that afforded by 4½-in. brickwork, and it is not usually necessary to take sound insulating properties into account when selecting a type of structural concrete floor. Timber floors are usually much lighter, and a good deal less effective than concrete floors. There is no doubt that the old practice of pugging with lime or clinker concrete was worth while from an acoustical point of view, but there is grave doubt whether any useful purpose is served by the modern counterpart of using light fillings such as slag wool, or by the frequently advocated provision of a layer of fibre board or quilt, the boards and ceilings remaining rigidly fixed to the joists.

As in the case of walls the direct transmission of air-borne sound through floors can be reduced by introducing discontinuities in the construction. These steps are similar to those which must be taken to reduce the transmission of impact sounds.

IMPACT SOUND

The impact sound with which we are primarily concerned is the noise of footsteps. This varies tremendously The noise of footsteps varies also according to the nature of the floor surface trodden on; this is particularly the case as far as concerns the sound heard by the walker or other occupants of the same room. The more important problem with which we are faced is to prevent the noise of footsteps from being a nuisance in other parts of the building, especially in the room immediately below the walker, for in a great many cases if the footsteps are inaudible in the room below they will not be troublesome in other parts.

You are probably familiar with the noise that is set up by walking on a bare reinforced concrete slab, and this is usually equally loud in the rooms above and below the floor. It is convenient to take this as a reference level of loudness. We may group together all reinforced concrete floors into a category of "noisy" floors. The problem is how to render them less noisy to the occupants of a room beneath. The simplest expedient would be to provide a suitable floor finish applied direct to the concrete, but whatever effect such finishes may have upstairs they are generally disappointing to the listener below. Linoleum in all ordinary thicknesses, cork tiles, thin carpets and even rubber sheeting do not make sufficient difference to take the floor out of the category of "noisy." Thick pile carpets on underfelt and sponge-backed rubber flooring are more effective. Terrazzo, granolithic and magnesite finishes contribute nothing, nor do layers of loose but rigid fillings such as sand, clinker, pumice, etc,. nor do wood blocks or wood boards nailed to battens fixed rigidly to the concrete. Relief seems to be obtainable only by providing some sort of independent finish isolated by resilient supports from the structural floor. Wood boards and battens supported on rubber pads or on strips or layers of resilient blanket such as eelgrass or glass silk, or held in one of the proprietary clips incorporating insulation, provide a noticeable improvement over a bare floor, and concrete floors with such finishes might be raised to a category of "fairly noisy." Better results are obtained if the "floating" finish is of concrete, and this may with effect be supported either on rubber pads or on layers of suitably resilient blanket of adequate thickness. If possible the concrete slab should not be thinner than 2 ins., and if rubber pads are used as supports the space between structural and floating slabs should not be less than 1 in. Floating floors of 2 ins. or thicker concrete on rubber pads or on glass silk or eelgrass blanket not thinner than 1 in. will not render footsteps inaudible in a very quiet room below, but these forms of construction can certainly be classed as "quiet" floors.

Another method of reducing transmission of the noise of footsteps to the room below is to provide a false ceiling, either completely independent of the structural floor, or suspended from the floor in clips.

The above remarks apply to treatments of concrete floors, the bare floor itself having been classed as "noisy," but an ordinary wood joist floor is a good deal noisier under impact (I am still considering the effect in the room below) and must be classed as "very noisy." A heavy pugging makes a useful contribution to insulation against air-borne sound; it is useful also in quietening the floor under impacts, but only just brings it out of the "very noisy" category. If the boards are nailed to battens instead of direct to the joists a floating floor is formed which may be isolated from the joists, and which in small rooms is adequately held in place by the skirtings. Such a construction using rubber pads or thick resilient blanket as isolation certainly improves conditions beneath a wooden floor.

EQUIPMENT NOISES

By far the best means of achieving quiet in buildings would be to educate people not to create noise, but this not within the architect's province. He can, however, sometimes exercise control over a source of air-borne sound in connection with radio in flats. The wireless set is one of our greatest difficulties, but I am sure that it is so largely because of the quite unnecessary loudness at which it is frequently operated. It is therefore nearly always desirable to provide some form of central reception. Of the two alternative systems available, the low frequency or relay system has the very great advantage of enabling the landlord to control the maximum output of the individual loud-speakers. This seems to me to outweigh the disadvantage of the system, namely, the partial restriction in choice of programme, and I suggest that architects should consider very carefully with their clients the desirability of installing relay systems in all blocks of flats which they are called on to design.

In turning to those miscellaneous noises which I have classed together as equipment noises we have the opportunity to consider much more fully the possibility of suppressing sound at its source, and it cannot be too strongly emphasized that where this is possible it is always the best course to adopt.

The modern building often contains a great deal of mechanical equipment involving some kind of power-driven motor, particularly electric motors. Refrigerators, lift motors, water circulating pumps, ventilating fans are examples. All electric motors create a certain amount of noise, but for any one purpose there is nearly always a choice between a noisy and a quiet motor, and where noise is of consequence the architect should make sure that a quiet type of motor is specified. It is not usually the air-borne sound emitted by the machine which is a nuisance, but more often the sound which is transmitted by direct contact with the structure on which it stands, so that machinery should be isolated from the structure by mounting it on suitable resilient supports. In this connection, however, it is not always appreciated that the design of the supports is of the first importance. If due consideration is not given to the relation between the frequency of vibration or rotation of the machine and the natural frequency of vibration of the machine on its supports, matters may be aggravated rather than improved by the introduction of the resilient material. On the other hand, if the supports are correctly designed considerable improvement will result. Sometimes, as in the case of circulating pumps, even if the pump and motor are isolated from the structure they may be rigidly connected to metal piping which will also readily conduct the sound. This conduction may be very considerably reduced if a short length of rubber tubing is inserted near the pump and although the rubber will need periodical renewal, this need not constitute more than a minor item of maintenance.

For reasons of space the final portion of Mr. Morreau's paper has had to be omitted.

SCHOOLS

The Architects' Journal Library of Planning

Nursery - Infant Schools

PLAN UNITS: THE PLAYROOMS

Furniture, Equipment and Playthings

ANYBODY who has watched a small child at play knows that all objects within reach serve as raw material for imaginative games. Expensive or elaborate equipment is unnecessary, though carefully thought-out toys of a simple character can do much to stimulate a child's imagination. A great many things, from bibs to benches, can be made by the girls and boys of the neighbouring Senior School or by some community centre enterprise.

Some superintendents, however, believe in scientifically designed play material covering the progressive stages from 2 to 7, and where this is required special provision will have to be made for storing it away neatly in special playroom cupboards. The full Montessori repertoire is considerable. In any case, superintendents or directors of education should always be consulted as to the training technique that will be adopted and any special equipment that will be required.

In rooms for the 5–7+ children, individual lockers might be provided for sketch pads, paint boxes and writing books. Open bookshelves, if not provided in a separate small library, should be accessible in the playrooms.

Among the really useful equipment are:

(1) Swing: this can easily be movable and it should be possible to have it indoors, outdoors or in the covered play space. One swing for each group.

(2) Climbing rope: one for every two groups, set up indoors or outdoors.

(3) Rings: one for every two groups, indoors or outdoors.

(4) Slide: this can be "built in" to the younger children's playroom or can be of the movable type.

(5) Balancing board or see-saw: can be permanently fixed in the garden when there is plenty of space.

(6) Large, light hollow blocks, for building get-inside houses. Three or four sizes can be made to fit one inside the other, with hand-holes in the tops for lifting. They make very good stools for children of different sizes.

(7) Blackboard: this should be 4 to 6 ft. long, fixed low on the wall so that children can draw with pastels while sitting on the floor.

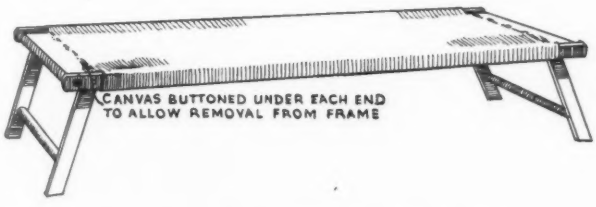
(8) Poster board: of cork or felt, for pinning up children's works of art or gay posters.

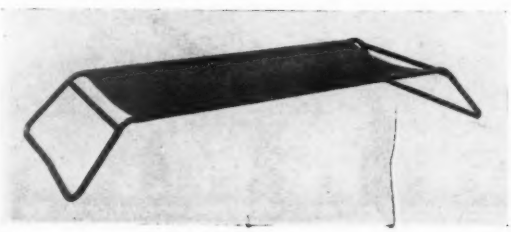
(9) Musical instruments: A *good* piano is important. There should be at least one for every three groups. A dulcitone and simple instruments of percussion are an asset, provided they are of good quality.

Details of smaller toys and equipment are outside the province of the architect, but he must realize that ample cupboards of varying sizes are necessary for stowing away these valuable possessions in places where they can readily be found by the children themselves.

Furniture should be easy to stack or store and easily moved by the children. Some good examples of nesting tables and chairs are illustrated. These are now used in a great many Nursery Schools and have been found thoroughly practical. They are light to handle, comfortable, and can be gaily cellulosed. Stretcher beds can be of the same character, though the wooden type, with legs folding under, can be much more cheaply made by a local joiner and will stack just as economically.

The varying heights of tables and chairs are shown diagrammatically. The once popular crescent-shaped tables are not suitable for Nursery School children. The square nesting type, large enough to seat four children, and a



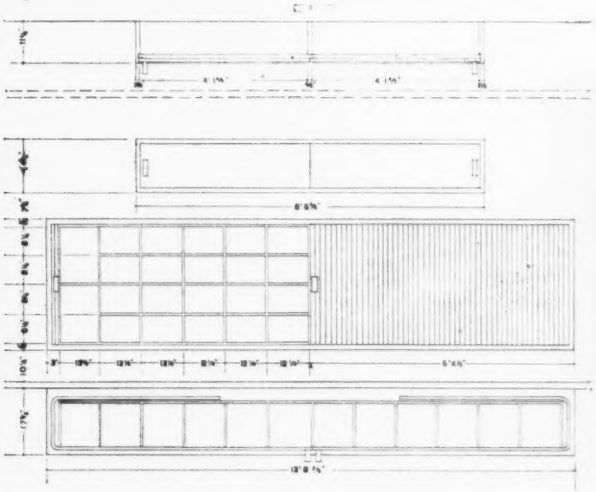


Two types of rest bed. Canvas and wood type is 4 ft. 6 ins. long (legs folded) by 2 ft. wide. Metal type 5 ft. 5 ins. overall by 1 ft. 10 ins. Height of both 10-11 ins. It is very important that the canvas covering should be easily removable and should not sag. Metal beds stack and wooden type are usually stored upright in a slotted cupboard with legs folded in.

1

2

Nursery-Infant Furniture. 1, Babies' Room in a Scarborough Infant and Junior School, a good example of the informal arrangement which should be aimed at and showing a variety of good equipment. Designed by H. V. Overfield and G. W. Alderson. 2, Simple cupboard with sliding doors. 3, Cupboard for toys with roller shutter door. Designed by André Lurçat for Villejuif. 4, Chairs and tables at Bottisham Nursery-Infant School. 5, Stacked metal chairs and tables at Brondesbury Nursery School.



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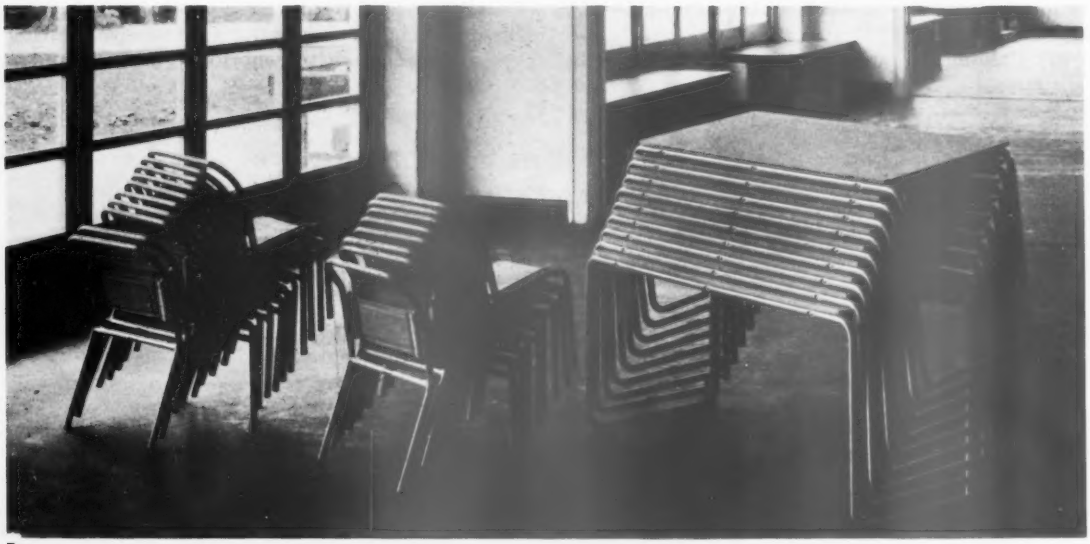

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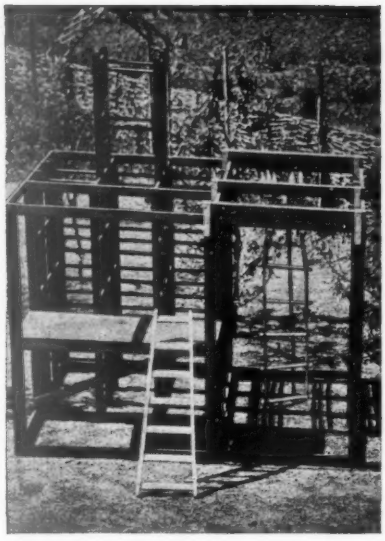
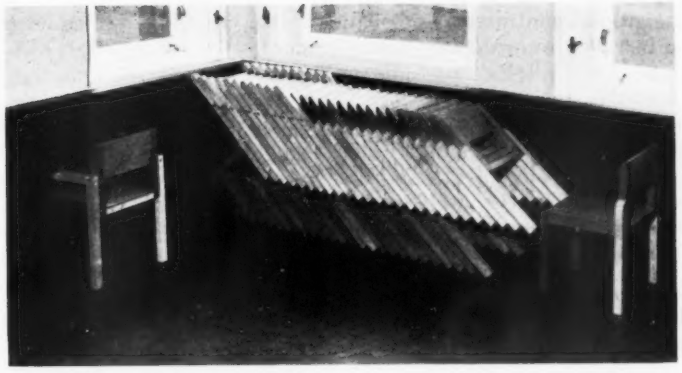
SCHOOLS





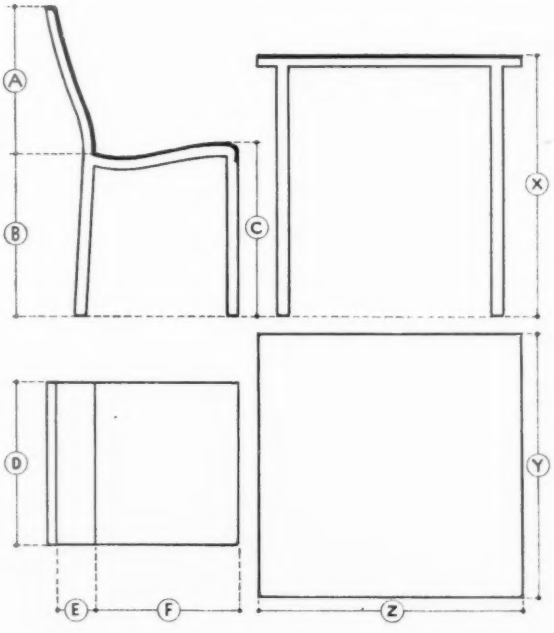
Left, jungle-gym with climbing ladder of a type suitable for two-group Nursery School. Above, stacking wood chairs, some with drop arms, designed for Viennese Nursery Schools by the Atelier Franz Singer.

few for one child alone, are all that are necessary, though circular group-tables are an attractive variation.

Chairs should not have semi-circular backs, for these restrict movement. To ensure good posture and growth sizes must be correctly followed.

Assembly Hall

It is more important to provide generous playgrounds and generous lavatories in a Nursery-Infant School than to provide an assembly hall.



Chair and table sizes ; Nursery-Infant Schools.

Age 2 and 3 : A = 5 ins. ; B = 9½ ins. ; C = 10 ins. ; D = 9 ins. ; E = 1-1½ ins. ; F = 10 ins. ; X = 16 ins. ; Y = 16-24 ins. ; Z = 16 ins.

Age 4 and 5 : A = 7¼ ins. ; B = 11 ins. ; C = 11½ ins. ; D = 9½ ins. ; E = 1½ ins. ; F = 11 ins. ; X = 18 ins. ; Y = 24 ins. ; Z = 18 ins.

Age 5-7 : A = 9 ins. ; B = 12 ins. ; C = 12½ ins. ; D = 11 ins. ; E = 1½ ins. ; F = 12 ins. ; X = 19½ ins. ; Y and Z : variable, 18 ins. X 20 ins. common.

When there has to be great economy, two playrooms, planned to open out into one large room, will serve the purpose of a hall.

In a separate Nursery School a hall is unnecessary, unless it is to serve as part of a welfare centre attached to the school. In a Nursery-Infant School, however, it has definite uses. Among these are :—

Large communal indoor play space.

Gathering place, particularly for the older children, used for singing, dancing, eurhythmics, talks and entertainments.

Meeting hall for parents, especially when the school is combined with a welfare centre.

Exhibition space for the children's own drawings and crafts and for travelling exhibitions. Battens for pinning up drawings at children's eye level should be provided.

For sleeping. The hall may be useful as overflow sleeping space, and if this use is contemplated storage for a certain number of beds should be provided.

The hall need not be planned with an independent approach and can even form part of the circulation, as in the model plan of a Nursery-Infant School shown later.

A platform, 1 ft. 6 ins. to 3 ft. high, is an asset, but it may be made movable.

Size.—For Nursery-Infant Schools, with four to six groups (120–180 children) the hall should be from 1,200 to 1,600 sq. ft. For six-group Infant Schools it should be as near as possible to 1,800 sq. ft.

Windows.—It would be a great advantage to have a continuous window-wall facing south-east to south-west, with windows down to the ground and made to slide or fold so that the room could be thrown completely open to the garden. In this form the hall could be combined with the outdoors covered play-space, though a canopy extending a few feet in front of the windows would help to protect the floor surface from rain.

There should be windows in the opposite wall, possibly at high level, to give cross-ventilation.

Artificial Lighting, Heating, Ventilation.—Requirements are similar to those for playrooms, except that where windows are taken down to

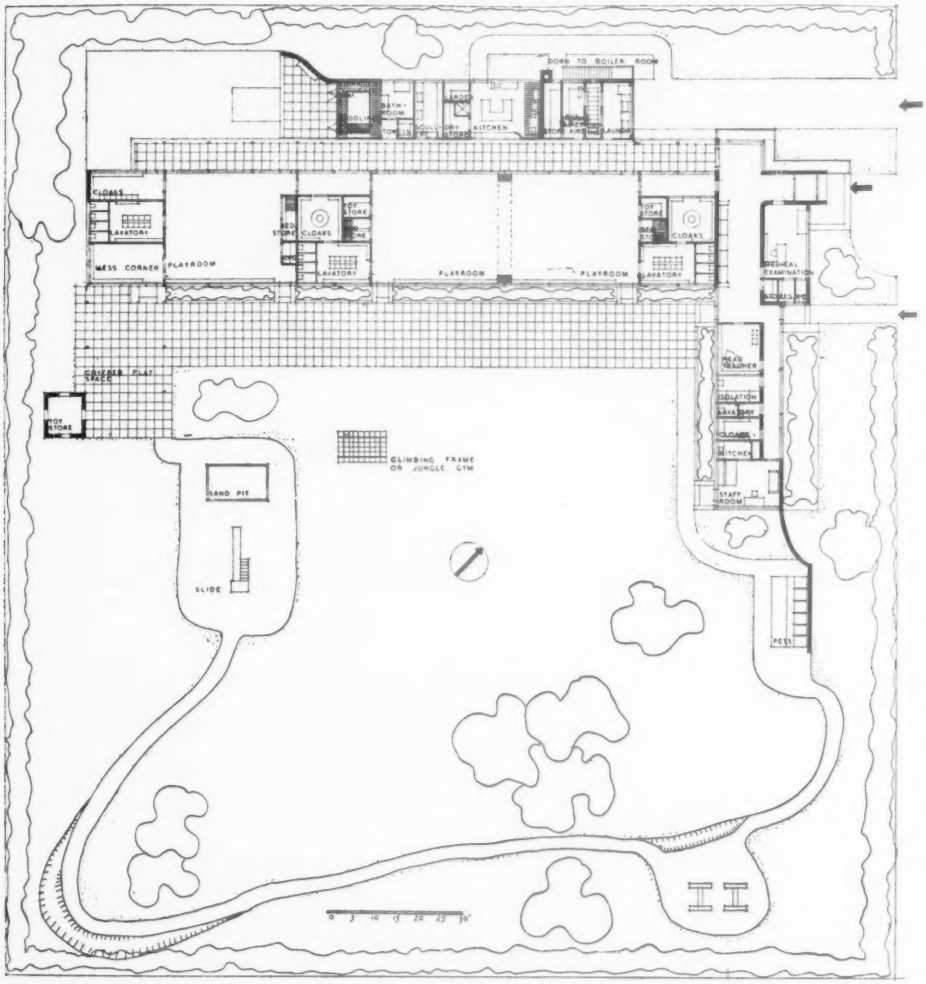
the ground continuous floor-panel heating should be installed immediately behind them if the hall is to serve all its functions perfectly. Though expensive to instal, this is the only satisfactory heating method for a hall or playroom treated as an open-air pavilion. Floor draughts, however, are a more serious problem in the playrooms than in the hall, where children will be more vigorously active and will not normally squat on the floor.

Floor Finishes.—A hardwood block or strip floor is likely to be best for hard wear, but a heavy matt-surface linoleum on boards is better hygienically and costs less. Strip-rubber applied direct to concrete is possible, but it should be remembered that very light plain colours show foot marks very easily. As the hall will be subjected to fiercer traffic than the playrooms, cork is not suitable.

Wall and Ceiling Finishes.—Suggestions already made for playrooms apply, except that bolder, more brilliant colour schemes might well be tried since this is a room mostly used for short periods.

Furniture and Equipment.—The room will usually be devoid of movable furniture. An extra supply of nesting chairs will be necessary, but extra tables are not likely to be wanted. A piano will normally be kept in the hall.

Storage.—If the hall is used for sleeping it will be necessary to provide storage for beds. The store for big wheeled toys might well open off the hall.



Nursery School for 90 to 100 children on a typical 1-acre site : an attempt to plan optimum accommodation in accordance with recommendations in the text. Objection may be taken to the open treatment of the covered-way approach to playrooms, but there is internal connection between playrooms and part of the covered way could be enclosed by doors in severe weather. The kitchen is centrally placed between the inter-communicating playrooms (classrooms) which could be shared by all children at mealtimes. The bathroom might be better placed near the medical examination room, but here it has the advantage of direct connection with an outdoor pool planned to catch the afternoon sun. Notice connections between playroom, coatroom, lavatory, and position of staff rooms, planned for maximum observation of indoor and outdoor play. Covered play space, with outdoor toy-store attached, is placed clear of main playroom windows. Architects: H. Myles Wright and R. Gardner-Medwin.

WORKING DETAILS : 609

EXHIBITION STAND • NORTH LONDON EXHIBITION • RODNEY THOMAS

The layout of the design resulted from the position of the stand in relation to the entrance, the two screens facing in this direction. Also, in view of the stand being open all round, the display is repeated showing a complete range of appliances from two directions.

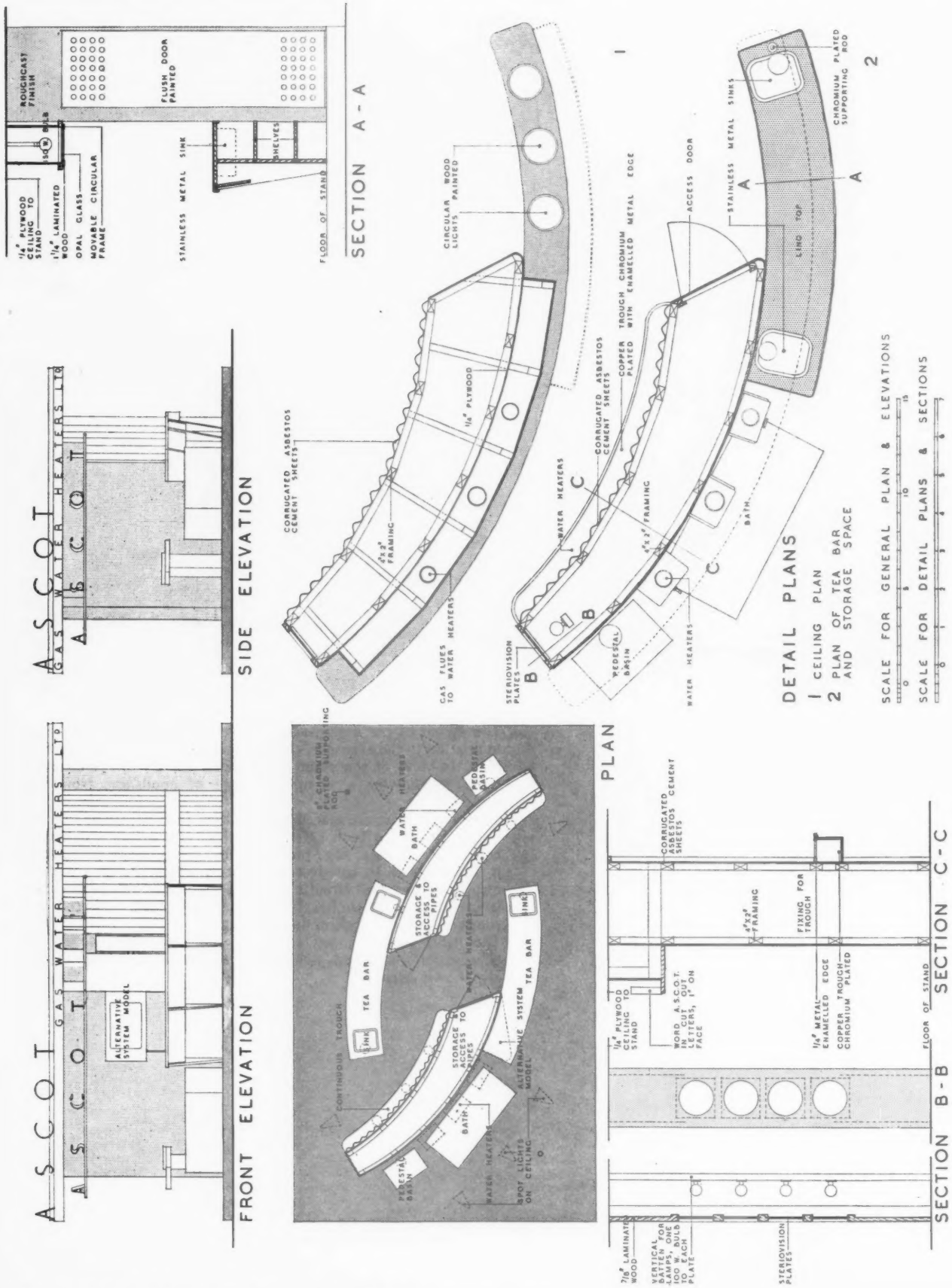
The two tea bars are placed back to back so as to provide service to the public on both sides, with the central staff area having access for storage, etc., into the fins. The inside of each fin is carried out in corrugated asbestos, which makes a suitable display for the small circular type of heater. The rest of the stand is constructed of timber framing and plywood, with the two supporting rods in chromium plating.

The lighting is arranged so as to cast cross shadows on the corrugation and direct lighting on the water heaters. Details are shown overleaf.

FILING REFERENCE:

WORKING DETAILS : 610

EXHIBITION STAND • NORTH LONDON EXHIBITION • RODNEY THOMAS



Details of the exhibition stand illustrated overleaf.

WORKING DETAILS : 611

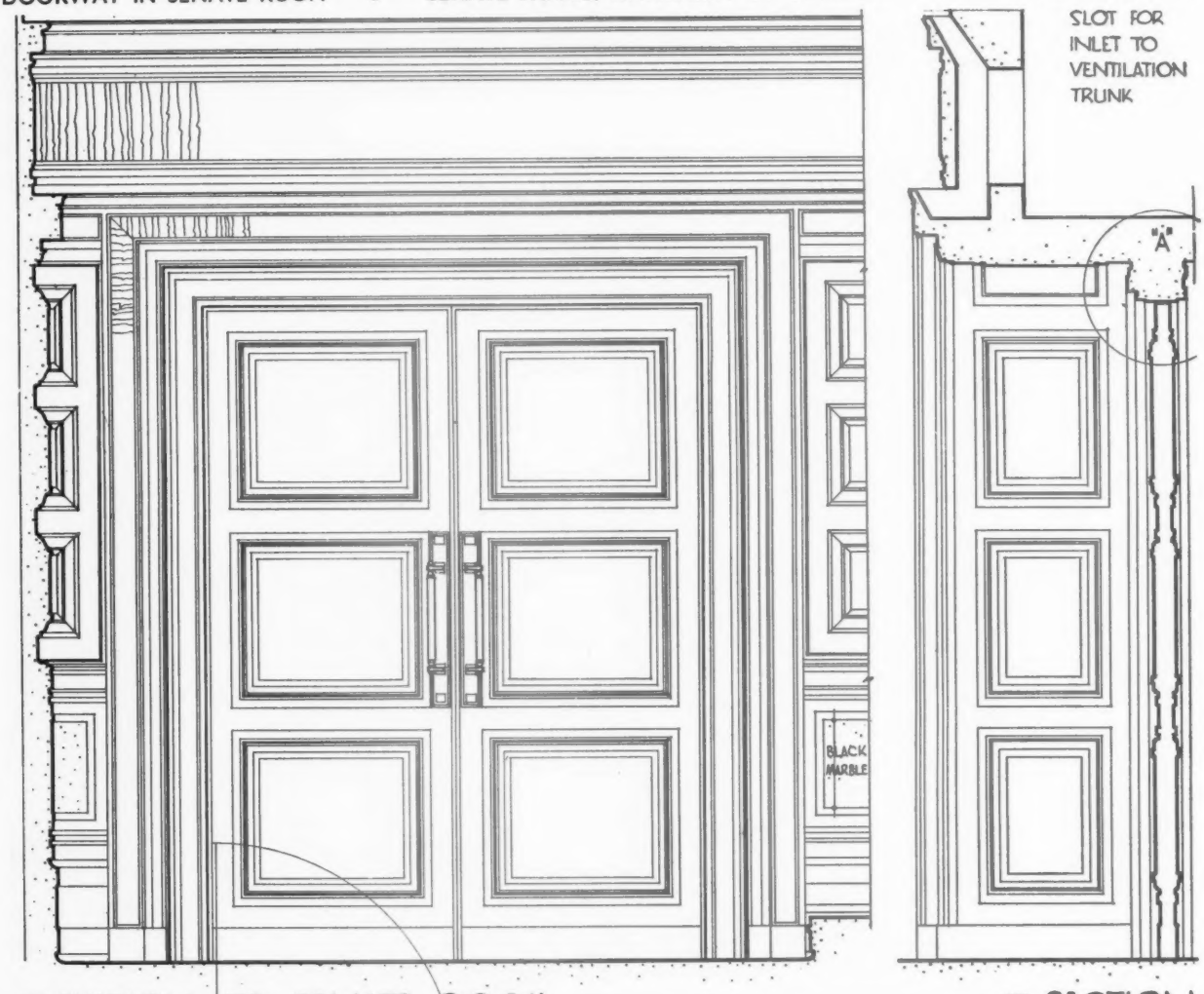
DOORWAY IN SENATE ROOM • SENATE HOUSE, UNIVERSITY OF LONDON • CHARLES HOLDEN

The doorway is one of the two main entrances into the Senate room. The doorway and surrounding panelling is constructed in English walnut, the door furniture and kicking plate being in bronze. There are heating panels in the adjoining dado faced with black marble, and extract ventilation slots are recessed in the doorway cornice.

Details are shown overleaf.

WORKING DETAILS : 612

DOORWAY IN SENATE ROOM • SENATE HOUSE, UNIVERSITY OF LONDON • CHARLES HOLDEN



Details of the doorway illustrated overleaf.

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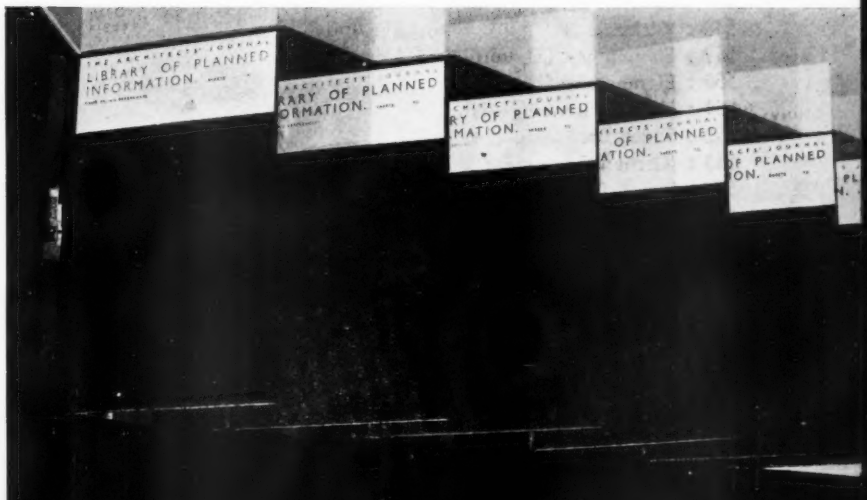
INFORMATION SHEET

SUPPLEMENT

SHEETS IN THIS ISSUE

576 Plumbing

577 Leadwork



Sheets Issued since Index :

501 : Aluminium
502 : Fixing Blocks
503 : Approximate Estimating—XII
504 : Aluminium
505 : Aluminium
506 : Approximate Estimating—XIII
507 : Plumbing : Jointing of Copper Pipe
508 : Roofing—Valley Flashings
509 : The Equipment of Buildings
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561 : Asbestos-Cement Roofing
562 : A.B.M. Rainwater Gutters and Fittings
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570 : A.B.M. Moulded Gutters and Fittings
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572 : Electrical Equipment
573 : Wallboard and Insulating Board
574 : Sanitary Equipment
575 : Plywood—II

689.

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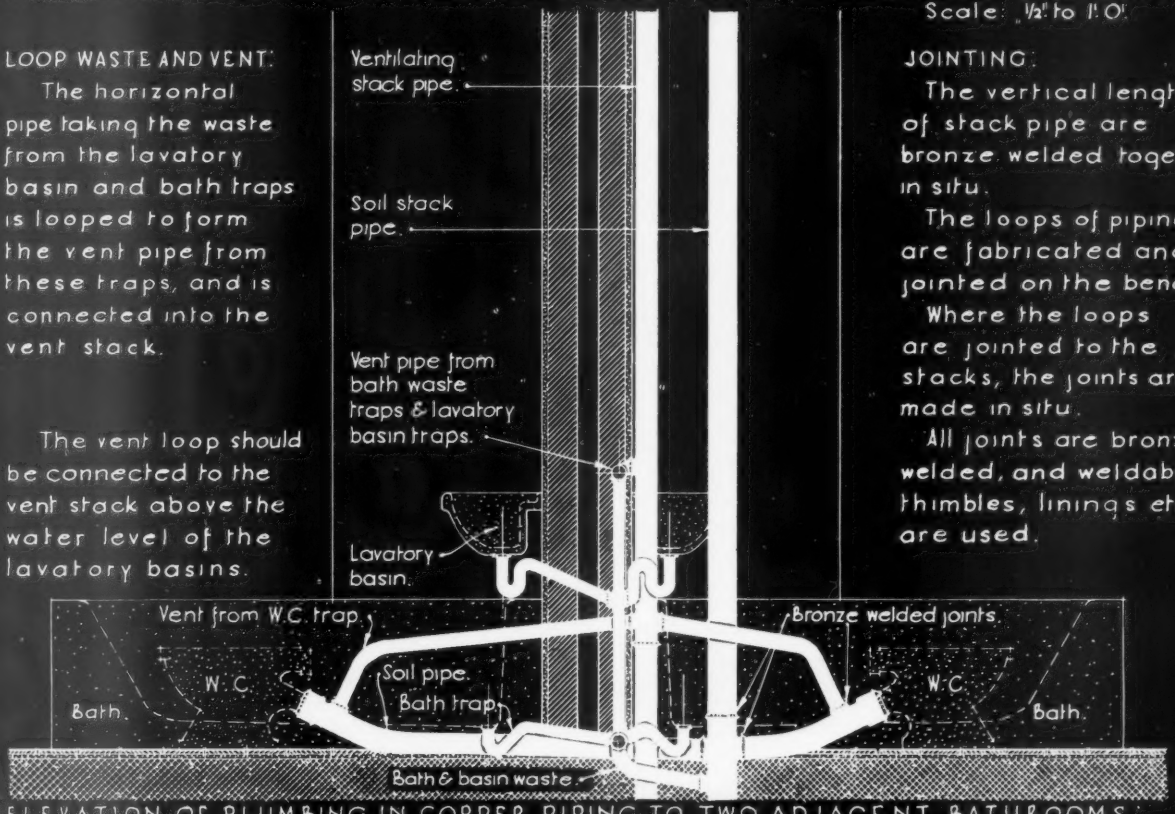
PLUMBING IN COPPER PIPING WITH BRONZE WELDED JOINTS TO TWO ADJACENT BATHROOMS.

Scale: ½" to 1'-0"

LOOP WASTE AND VENT:

The horizontal pipe taking the waste from the lavatory basin and bath traps is looped to form the vent pipe from these traps, and is connected into the vent stack.

The vent loop should be connected to the vent stack above the water level of the lavatory basins.



JOINTING:

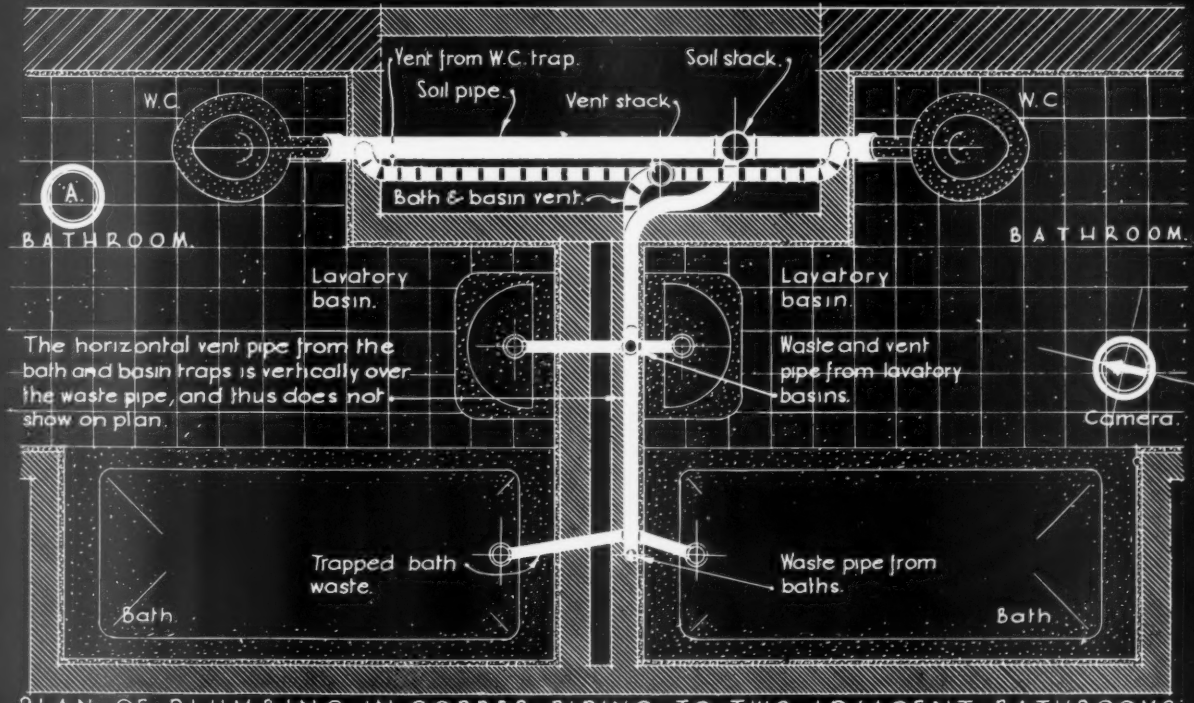
The vertical lengths of stack pipe are bronze welded together in situ.

The loops of piping are fabricated and jointed on the bench.

Where the loops are jointed to the stacks, the joints are made in situ.

All joints are bronze welded, and weldable thimbles, linings etc. are used.

ELEVATION OF PLUMBING IN COPPER PIPING TO TWO ADJACENT BATHROOMS.



PLAN OF PLUMBING IN COPPER PIPING TO TWO ADJACENT BATHROOMS.

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

INFORMATION SHEET: PLUMBING IN COPPER PIPING WITH BRONZE WELDED JOINTS: No. 1

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

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 576 •

PLUMBING

Subject : Bronze Welded Copper Piping

In a previous series of Sheets issued by the Company, the methods of joining copper piping by means of bronze welding have been fully described. The numbers of these Sheets are given below.

The welding of an installation of copper piping of large diameter may be carried out partly on the site and partly in the workshop.

The aim of prefabrication in the workshop is to leave a minimum amount of welding to be done *in situ*, which should if possible be in the form of vertical overhand joints.

Horizontal sections such as the waste and vent loops for the baths and basins, shown on the front of this Sheet, are welded in the workshop, leaving only the connections to the stack and to the traps to be made *in situ*.

Ferrules, thimbles, linings and cleaning eyes, etc., are welded on in the workshop. It should be noted that these fittings should be of weldable copper, as the heat of welding is liable to cause deterioration of brass fittings.

This Sheet, and the accompanying photograph, show the plumbing to two adjacent bathrooms carried out in bronze welded copper piping.

A soil stack and vent stack are run side by side in a pipe duct, and take the soil and waste from two W.C.s, two baths and two lavatory basins. The trap of each fitting is vented.

The two W.C. soil pipes are connected into the soil stack opposite one another at the same level, and the two vent pipes taken off the back of the W.C. traps connect directly into the vent stack.

A waste pipe common to both the lavatory basins and baths is taken off the soil stack and, at a point beyond the bath trap connections, is carried up vertically and returned horizontally to the vent stack at a height above the lavatory basin water level. A vertical pipe between this horizontal vent and the waste pipe below serves the two lavatory basins both as a waste and vent pipe.

This waste and vent loop was made in the workshop on the site and joined to the two stacks *in situ*. The traps were connected *in situ*.

Fixing :

On one-pipe systems of plumbing there is likely to be a slight expansion and contraction of soil stack pipes, and it is unwise to fix holderbats under the belled-out section of a vertical welded joint.

A method of overcoming this difficulty is by welding on to the pipe at a convenient position a band of copper bar ; this forms a firm seating for the holderbat which is fixed immediately beneath.

The most economical method is to use a copper weldable socket at the junction of the two lengths of pipe. The bronze welded joint then forms a good seating for the holderbat.

Previous Sheets :

The numbers of previous Sheets dealing with welded copper piping are as follows :—

1. 225
2. 234
3. 243
4. 251
5. 259
6. 268
7. 321
8. 413
9. 418

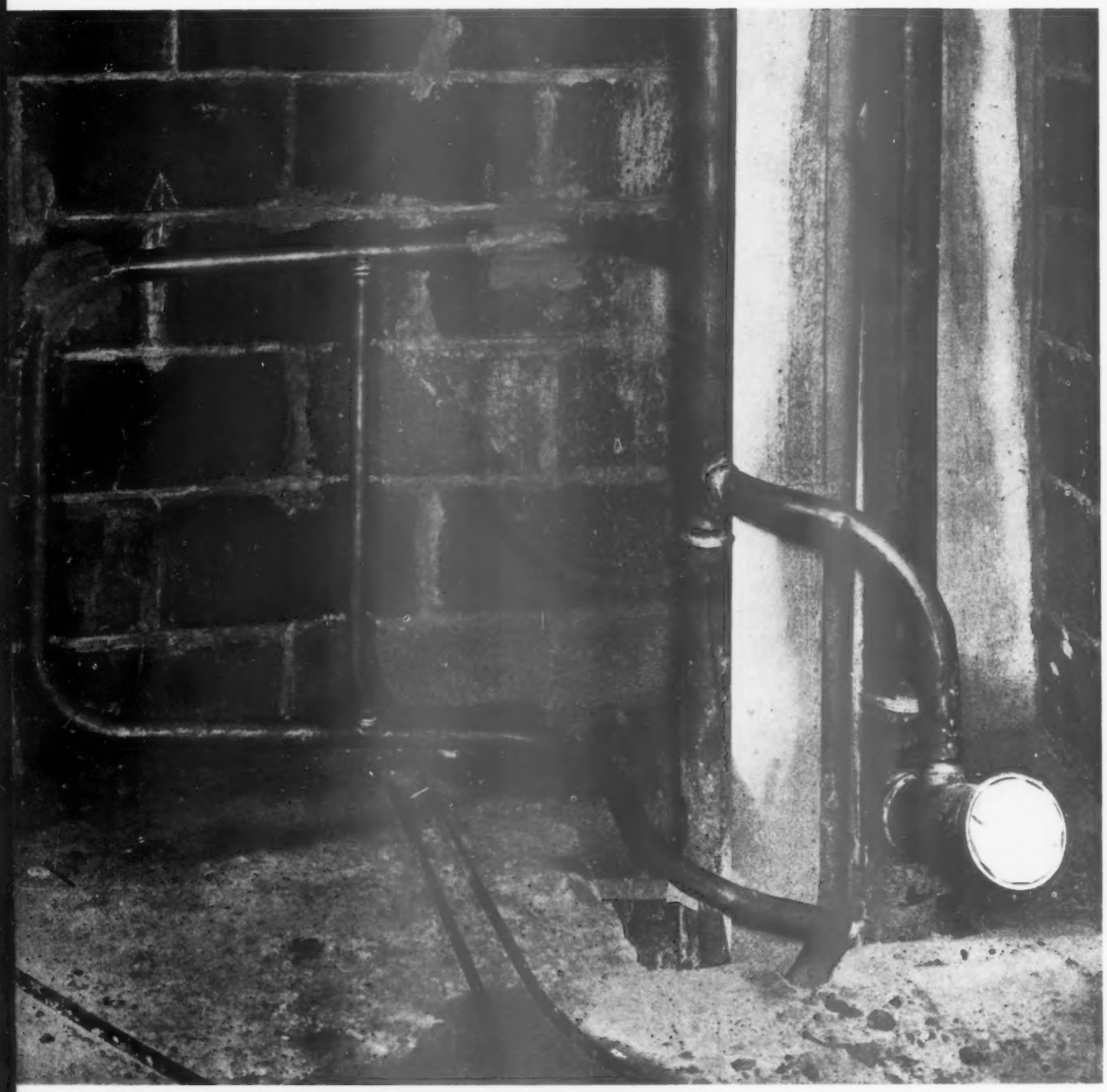
Issued by : The British Oxygen Co. Ltd.

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

Telephone : Victoria 9225

PLUMBING

This photograph was taken from camera position "A" (marked on the front of this Sheet) before the erection of the duct and bathroom partitions, and shows one of the W.C. branch connections to the main copper soil stack, with the branch vent carried over to the main copper vent stack in the usual manner.
In this view of the installation it will be noticed that the copper combined waste and vent loop for the basins and baths has been centred further to the right of the main stacks than shown on the drawings.
The hot and cold water risers with branches to the various fitments can be seen executed in welded copper piping on either side of the picture.

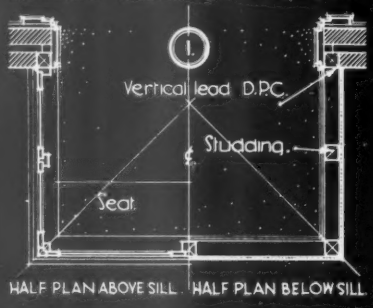


The photograph shows the bronze welded copper soil and vent stacks running side by side in the pipe duct. One of the W.C. branch connections can be seen in the foreground, with its vent, while the waste and vent loop for the baths and basins is shown chased into, and temporarily tacked to, the dividing wall between the two bathrooms.

740.

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

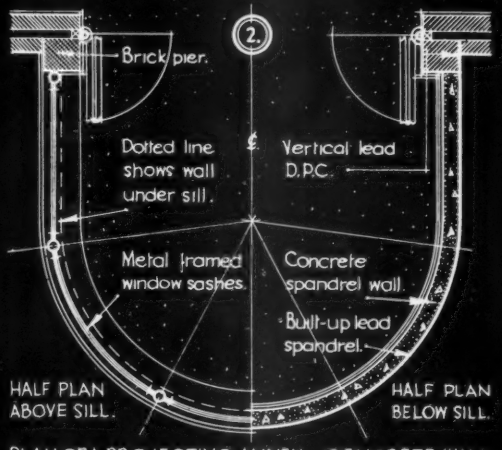
DETAILS SHOWING VARIOUS METHODS OF APPLYING BUILT-UP MILLED SHEET LEAD WINDOW SPANDRELS :



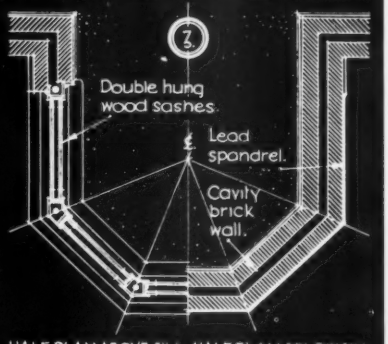
HALF PLAN ABOVE SILL. HALF PLAN BELOW SILL.

In this series of details the lead spandrel is built-up in sheet lead, the sheets being jointed with lead cames. (See detail below) The cames can be screwed to the wall.

PLAN OF A PROJECTING BAY, SPANDREL WALL IN TIMBER. Scale 1/4"



PLAN OF A PROJECTING ANNEX, CONCRETE WALL.



HALF PLAN ABOVE SILL. HALF PLAN BELOW SILL.

In this type of spandrel all decoration is built-up and lead burned on.

PLAN OF A PROJECTING BAY, SPANDREL WALL IN BRICK. Scale 1/4"

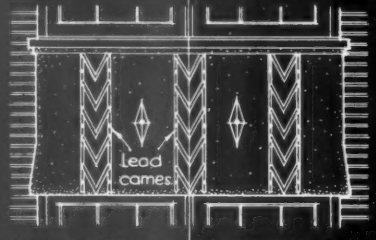


FIG.1. ELEVATION OF LEAD SPANDREL.

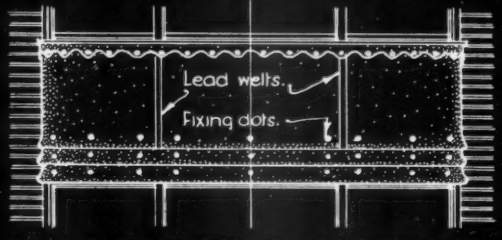


FIG.2. ELEVATION OF LEAD SPANDREL.

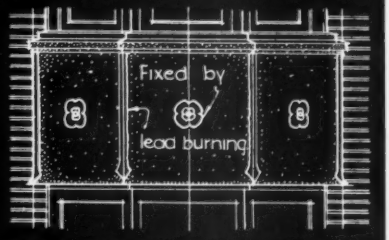
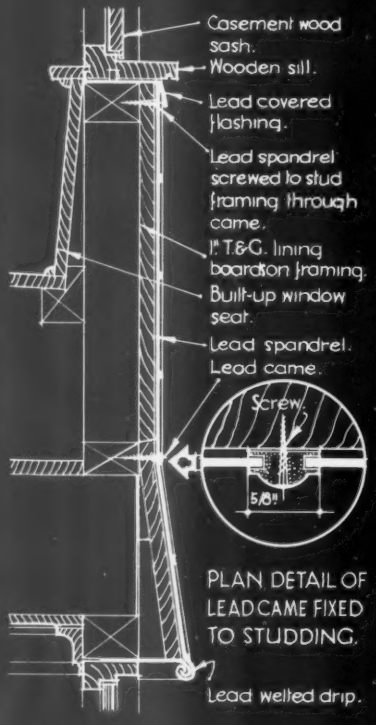
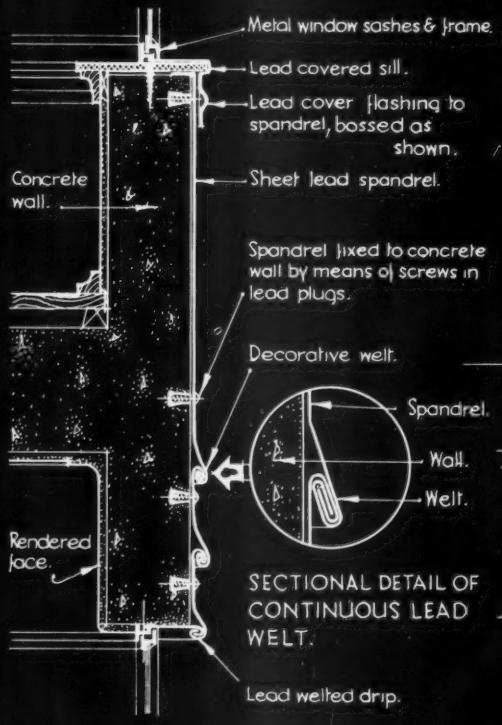


FIG.3. ELEVATION OF LEAD SPANDREL.



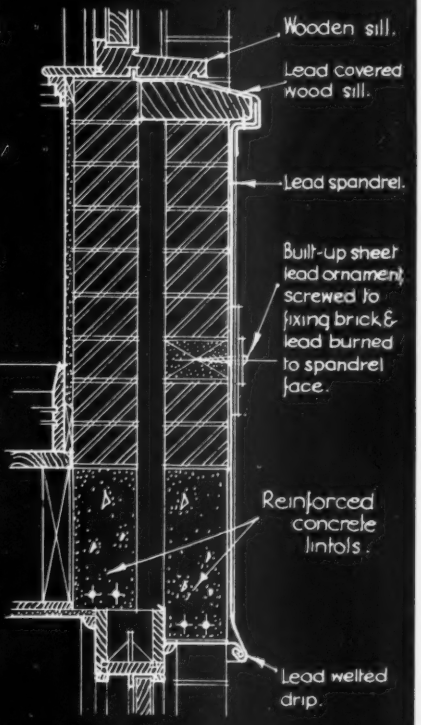
PLAN DETAIL OF LEAD CAME FIXED TO STUDDING.

DETAIL SECTION OF BUILT-UP LEAD SPANDREL ON STUD WALL. Scale 1" to 1'-0"



SECTIONAL DETAIL OF CONTINUOUS LEAD WELT.

DETAIL SECTION OF BUILT-UP LEAD SPANDREL FIXED TO A CONCRETE SPANDREL WALL. Scale 1" to 1'-0"



DETAIL SECTION OF BUILT-UP LEAD SPANDREL ON BRICK WALL. Scale 1" to 1'-0"

Information from the Lead Industries Development Council.

INFORMATION SHEET : BUILT-UP SHEET LEAD WINDOW SPANDRELS : No. 42.

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

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INFORMATION SHEET

• 577 •

LEADWORK

Subject : Built-up sheet lead facings to wood, brick and concrete spandrel walls

General :

This Sheet deals with the various methods by which milled sheet lead can be built-up and applied to the faces of spandrel walls, to give a decorative and waterproof covering to bay windows, projecting balconies and annexes, etc.

Three different structural spandrel walls are dealt with :—

(1) Timber studding.
(2) Concrete walling.
(3) Brick, 11-in. cavity walling.

For built-up sheet lead spandrels of this type the lead should weigh between 4 and 6 lbs. per sq. ft., and the size of sheets should never exceed 15 sq. ft. Fixing points should, wherever possible be approximately 18 ins. apart in all directions for all classes of work.

Detail Group No. 1—Lead Spandrel on Timber Studding :

This plan, elevation and detailed section show how milled sheet lead may be built-up to form an ornamental and weather-proof spandrel to a bay window.

In this case lead came (the heaviest type as used for leaded lights) is used to form a decorative pattern as shown on the elevation. These cames form a type of jointing rib for the sheet lead and are about $\frac{5}{8}$ in. wide by $\frac{3}{8}$ in. thick. See inset detail.

The cames can be run in straight or curved lines, to form various patterns, and offer a good medium for fixing the spandrel to the wall.

Brass screws at approximately 18 ins. centres should be used to fix the cames, and the screw heads do not necessarily need any lead burned protecting cover.

Where the spandrel wall joins the main external wall, the lead facing should be built well into the outer skin of the cavity and fixed to the timber stud.

If cames occur at this point they may be cut off and finished flush with the wall.

In other types of design the sheet lead between the came, instead of being flat, may be applied with a concave or convex surface.

The detailed section shows the spandrel lining built out in the form of a splay at the bottom. This gives a greater depth for proper waterproofing at this point. A lead drip, formed by welting the edges of the two pieces of sheet lead, acts as the waterproofer.

The top edges of the spandrel should be protected by a lead cover flashing tacked to the underside of the sill and turned down over the spandrel a distance of at least 3 ins.

In timber spandrel walls it is advisable to build a solid backing for the lead facing, either by lining with T. and G. boarding or some of the hard fibre boards.

Detail Group No. 2—Lead Spandrel on Concrete Wall :

This plan, elevation and detailed section show how milled sheet lead may be built-up and designed to form an ornamental and weather-proof facing to an annex or a projecting room. These details are intended to show how the lead may be used in continuous strips applied to the long surface of the curved spandrel wall.

The main part of the spandrel is built up of large sheets of lead. The panels being fixed to the concrete wall by screwing to lead dovetail plugs in the concrete.

The heads of the screws may be either lead burned to the surface of the spandrel or finished off by a lead dot.

The continuous horizontal strips of lead are applied and similarly fixed in position, as shown on the detail.

The free hanging edges are then welted together to form an ornamental continuous roll, while the bottom roll acts as a drip. (See inset detail.)

As previously described, a lead cover flashing should be fixed under the sill, or may be welted over and around the sill nosing and built in under the metal window frame as indicated.

As shown on the elevation, this flashing is turned down, and the bottom edge cut to form a continuous decorative and bossed wave mould. Varieties of this type of ornament can be obtained, the oval shaped bosses being formed with the plumber's " dummy " or " mallet."

At the junction of the spandrel wall and the main external wall of a building the covering lead should be built-in to form a waterproof joint. The protruding welted rolls may also be worked down flat to enter the joint in the wall.

Detail Group No. 3—Lead Spandrel on Brick Wall :

This plan, elevation and detailed section show how a built-up sheet lead spandrel may be enriched by the application of ornamental designs in the shape of rosettes, stars, chevrons, etc., which are themselves built-up of sheet lead, with lead burned joints. These motifs should be lead burned to the spandrel face and may also form a good covering to the heads of the fixing screws.

The lead spandrel should be fixed in position by screws driven into special fixing bricks.

At the bottom edge of the spandrel a lead welted drip is formed.

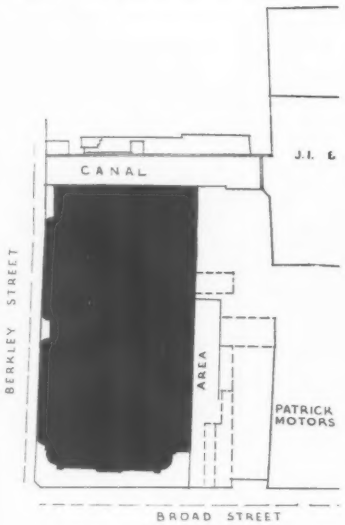
In this group of details the lead spandrel is finished against projecting courses of brickwork (as shown on plan) being properly built into the joints.

Information from: The Lead Industries Development Council

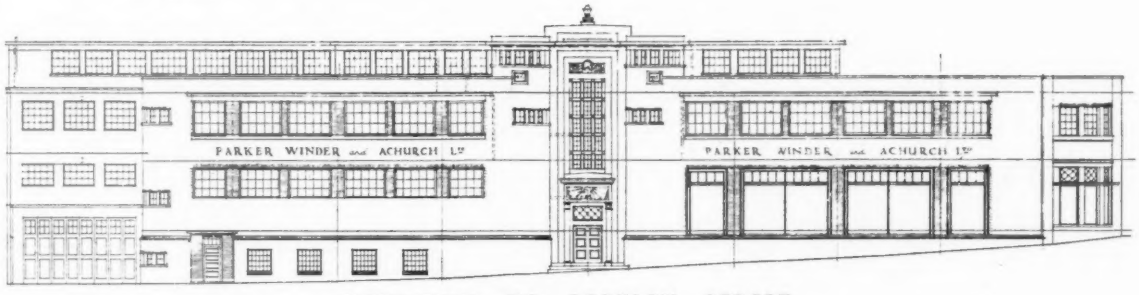
Address : Rex House, 38 King William Street, E.C.4

Telephone : Mansion House 2855 (3 lines)

SHOWROOMS AND OFFICES, BIRMINGHAM



SITE PLAN



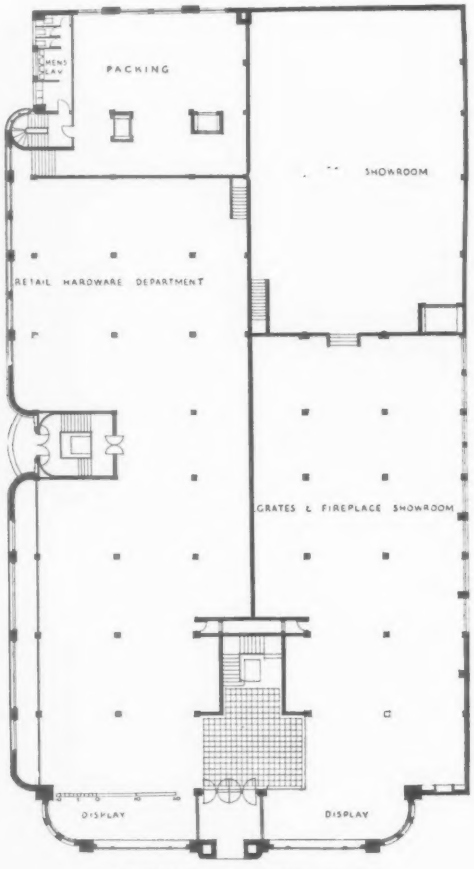
ELEVATION TO BERKLEY STREET

DESIGNED BY HOLLAND W. HOBBISS

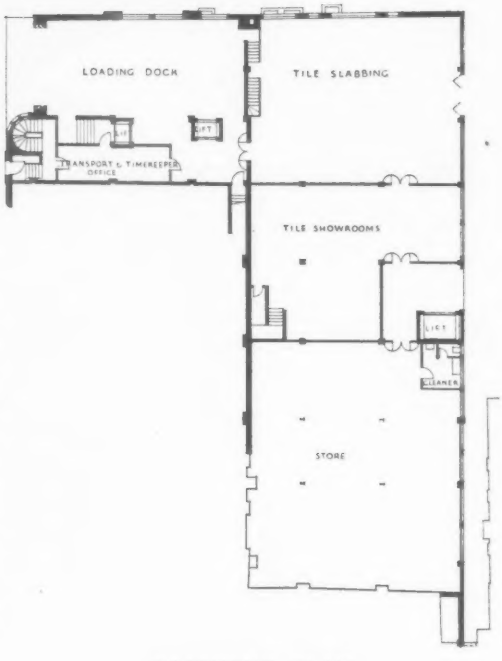
PROBLEM—*Showrooms and offices for Messrs. Parker, Winder and Achurch, Ltd. The elevations are of brick and artificial stone. The photographs show : top, the Broad Street front ; left and above, two views of the Berkley Street front.*

H

SHOWROOMS AND OFFICES, BIRMINGHAM:



GROUND FLOOR PLAN



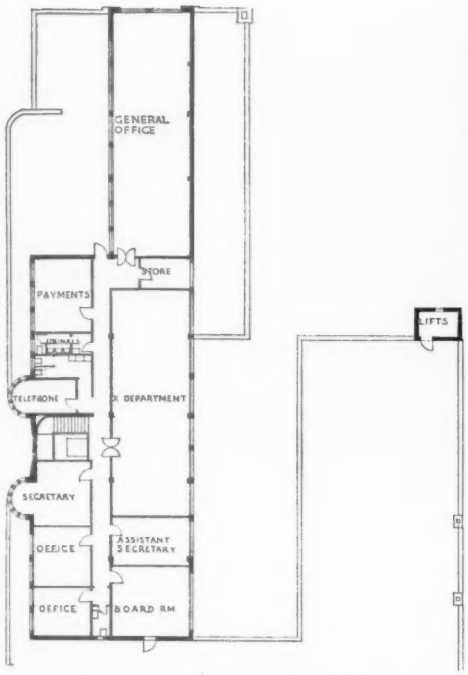
BASEMENT PLAN

PLAN—*The accommodation consists of a hardware showroom, or shop, for retail customers ; fireplace and sanitary goods departments ; store rooms and distributing rooms for builders' hardware ; offices and board room. The main entrance from Broad Street leads to the shop and to the fireplace and sanitary departments ; that from Berkley Street to the builders' hardware. The sanitary goods department, on the first floor, includes a number of show bathrooms. On this floor also are interview rooms for the use of architects and builders, and special rooms in which samples of builders' ironmongery are laid out for special jobs. In the basement rooms are set aside for the display of tile slabbing for surrounds ; and wall tiling for bathrooms, etc. A portion of the site is allocated for future extensions or for letting. It was necessary therefore to provide a well to give adequate light to the centre of the building.*

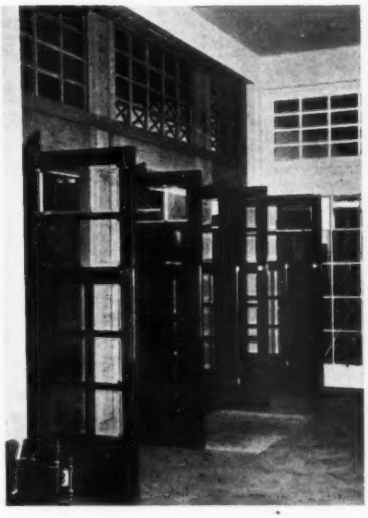
DELIVERY AND DESPATCH—*Owing to the fall of the site the stores for heavy goods are placed beneath the ground floor in a series of basements, lighted directly. The goods are delivered at the rear of the building, the lighter ones being taken up by lifts and stored in bins and the heavier ones being taken down to the basement storage. A continuous belt runs through the main stock rooms and discharges the goods into the packing rooms. There the goods are collected and sent down by lift to the loading dock and despatched.*

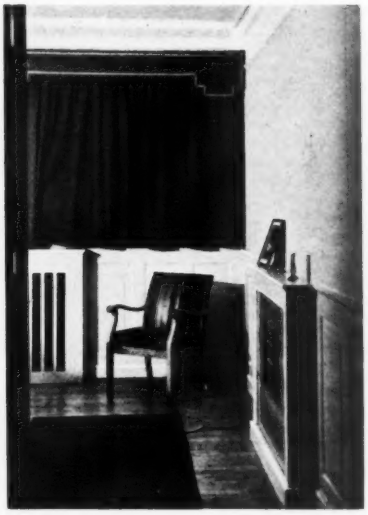
The photograph is of the main entrance from Broad Street.

DESIGNED BY HOLLAND W. HOBBISS

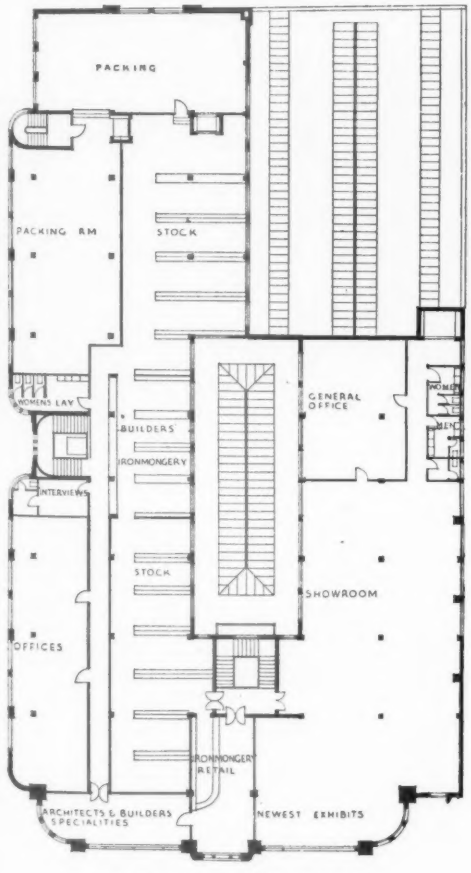


SECOND FLOOR PLAN

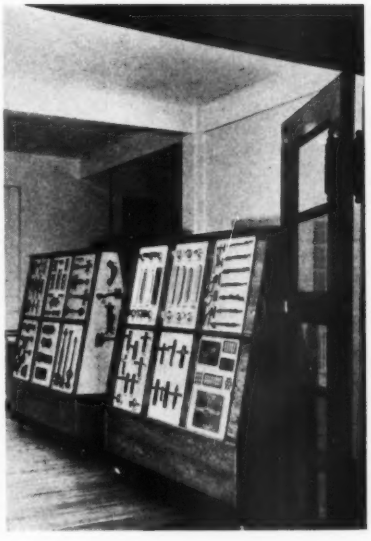


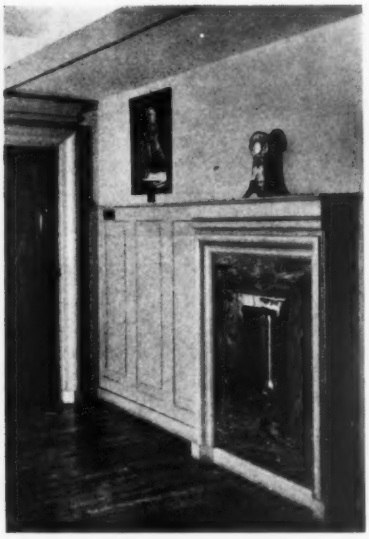


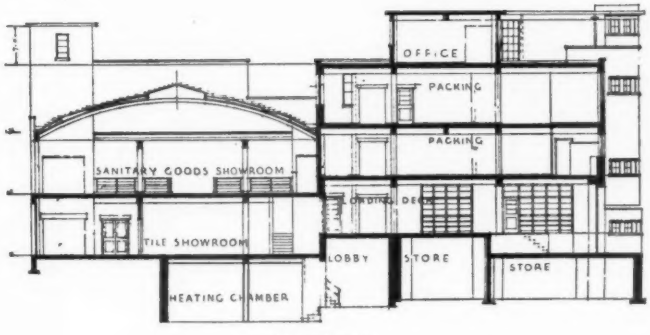
The photographs show : above, left, the doors leading from the arcade to the entrance hall on the Broad Street front ; right, a director's room ; below, a display of builders' ironmongery ; and a corner of the board room.



FIRST FLOOR PLAN







SECTION

SHOWROOMS AND OFFICES, BIRMINGHAM

DESIGNED BY

HOLLAND W. HOBBISS

The photographs show: Top, left, one of the model bathrooms in the sanitary goods department on the first floor. Top, right, and centre, left, two general views in the sanitary goods department; above, a bathroom exhibited in one of the shop windows facing Broad Street; right, centre, the continuous belt which conveys goods to the packing-rooms; right, a typical desk in the general office.

For list of general and sub-contractors see page 851.

Bungalow at Whipsnade. Designed by Lubetkin and Tecton.

LITERATURE

ENGLISH MODERNISM

[*By EDWIN GUNN*]

The Modern House in England. By F. R. S. Yorke, A.R.I.B.A. London: The Architectural Press. Price 15s. net.

STUDY of this comprehensive collection of "Modern" English houses leaves this reviewer in much the same condition as he is reduced to by earnest attempts to appreciate modern music, and for reasons sufficiently similar. In the music of the Classical and Romantic composers it is possible to recognize definite patterns, rhythms, balance—a general symmetry or scheme which to one accustomed to its enjoyment seems utterly lacking in the meandering doodling of the moderns. In much the same way the loose arrangements and what seem fortuitous whimsicalities of the more religiously modern of our young men fail to strike any responsive chord in the sensibilities of one who yet hopes to be believed when saying that he has honestly striven to appreciate their aims and achievements.

This may be a matter of age *v.* youth; "old dogs can't learn new tricks," or some similar subtle difference between one generation and another. Be that as it may, each side in the controversy will probably continue to regard the other as hopelessly blind and a victim of prejudice—and perhaps they are both right! Presuming, however, that the Young School has as earnest a desire to understand the views and objections of the older school as this member of the latter cherishes for them, some of the assumptions and practices which stand out in their published works that to this humble exponent of an earlier creed are incomprehensible may perhaps be set down here.

1: It is surely not the fact that "fake Tudor" or "free Georgian" are necessarily the only alternatives to mechanistic building.

2: Not everyone wishes to feel so much like a fish in an aquarium as enclosure in walls almost wholly of glass entails. There are some thus enclosed who incline to feel more like the aquatic beetle which strives to screen itself behind some opaque object. One hopes that the occupants of these glasshouses never suffer from bilious headaches.

3: "Free" planning, in which rooms tend to merge, leaves in some people the same bewildered feeling as they experience when (having been reared on *The Times* or *Daily Telegraph*) they are presented with a "free-columned" news-sheet. That "free" planning may be suicidal for architects as a class, owing to its easy exploitation by practically anyone, need not influence us. If architects are unnecessary, by all means let them be discarded with the neatly-fitting plans which were formerly considered their highest practical achievement. A plan such as that shown on page 94 may be much better.

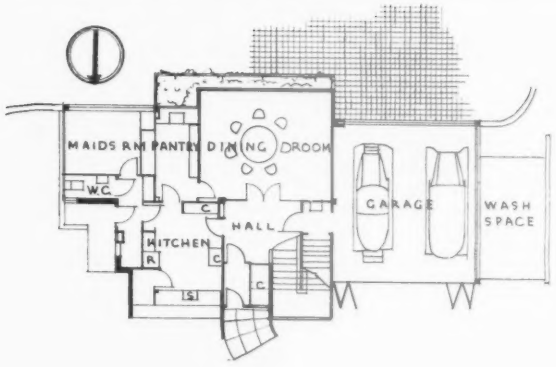
4: Is it necessary to admire machines as such? Few would forgo the conveniences which machines give us, but need we worship machine forms? One would not be startled if the house shown on pp. 101-2 (shown on following page) moved off to the left, nor if the one on pp. 96-100 began to whirl on its vertical axis.

5: What is the practical or stylistic reason for the wandering beams (usually supported by very slender steel columns) which now figure in so many designs; e.g. pp. 31, 94, 98, 118?

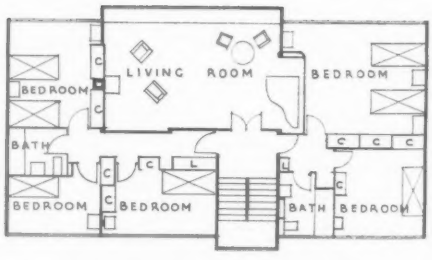
6: Is the argument as to reinforced concrete that since almost any liberties can be taken with it as a structural material, the more fun we can have the better? Some of the designs shown are awfully good jokes, but in only one case (reproduced above) is it admitted that the entertainment of the architect was a primary motive.

7: Presumably it was wrong to desire and aim for a definitely domestic character in design. A great many of the houses shown have no quality which appears to stamp them as such—they might equally well be laboratories, offices, workshops, or intensive poultry

House at Wentworth. By Connell, Ward and Lucas. From "The Modern House," reviewed on the preceding page.



GROUND FLOOR PLAN



FIRST FLOOR PLAN

plants. There are, of course, exceptions ; Mr. Oliver Hill's Virginia Water house, and Messrs. Connell, Ward and Lucas' house at Moor Park, for instance, but in the present state of development it is not unnatural for neighbours to harbour for the extreme modernists' experiments a feeling akin to that held by infantry formations in the war for their own trench mortars—" Let 'em, but not here."

Professor Lethaby's exposition of the merits of " style " *versus* " Styles " is boldly employed as a foreword to the volume. Written in 1920, it is in some measure prophetic, though it may be doubted whether he would have thought some recent trends in motor-car fashions quite so " perfect " as he then supposed. One is tempted, however, to quote as even more prophetic, the satirical verse from an early play, written probably some twenty years sooner, and quoted from memory :—

O' the art of modern architects is tending to the plain
And the simple ; yes, the simple.
We build for truth and beauty, and not for worldly gain,
We're simple, O, quite simple.
If you want to build a house which will the mouths of critics stop,
Build four bare walls with windows like a warehouse or a shop
And a fat unwieldy drainpipe from the bottom to the top,*
That's simple, O, quite simple.

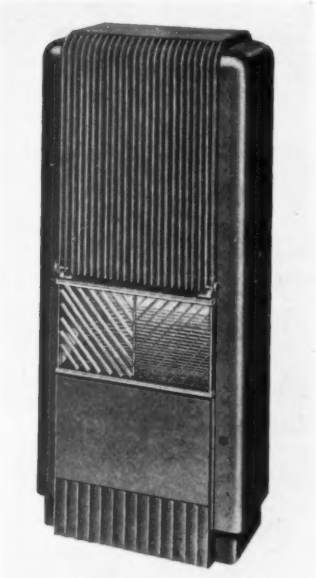
8 : It is noted that (not unnaturally) all the photographs are taken when buildings were fresh and new, with the advantage of limpid sunlight and striking shadows. Many of them also rely for their interest on sylvan settings. It has been this reviewer's misfortune to see some of them under less favourable conditions, which recalled a line from Mr. A. P. Herbert's verse in " Tantivy Towers " :—

He may be a devil—but will he be *dull ?*
Well, how would you stand a wet Sunday in Hull ?

9 : There used to be a cult of " labour-saving." Perhaps someone will explain in what respect vast areas of glass requiring to be cleaned and curtained (no one admires *smeary* glass), and even vaster areas of flat roofs which, unlike pitched roofs, are not self-scavenging, comply with this demand ?

Finally, and more seriously, this book is an excellent collection of the work of the younger school of architects; work carried on with a religious fervour which may be admired and respected (even if not understood) and its presentation in this form should help it on further development, which seems inevitable, to escape from its early crudity.

* *See* page 89.



TRADE NOTES

[*EDITED BY PHILIP SCHOLBERG*]

The Public Works Show

APART from a few old friends, recognizable from the Building Exhibition, there is little of interest to the architect at the Agricultural Hall. True, concrete mixers, hoists and such things as steam rollers are worth looking at for curiosity's sake, but my only real discovery was that Ruberoid are now selling foamed slag, either as an aggregate or in the form of partition blocks. The technique of foaming blast furnace slag has been developed for some years in Germany, and the material was first used in this country by Holland & Hannen and Cubitts for the fire-testing station at Boreham Wood. The foaming process, however, was started in this country a few months ago and so far has been carried out at Scunthorpe in Lincolnshire, freight charges thus making the price rather high in the London area. Arrangements have now been made to start foaming in the London area, so that the price should be somewhat lower as soon as production gets going properly. The trade name of this aggregate, by the way, is Solite.—(*The Ruberoid Co., Ltd., Lincoln House, 296-302 High Holborn, London, W.C.1.*)

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To return for a moment to the show, the general level of stand design was deplorably low. A few of the stands had been designed by architects, but in a show intended to appeal to a group of people who are responsible for a great deal of " public works," whether it be bridges or lamp standards, it seems a pity that efficient machinery and equipment should be presented in such a second-rate way. The P.R.I.B.A. is (presumably *ex officio*) a vice-president of the show, so it may be possible to do something about it one day, though there are forty-eight other vice-presidents who will have to be converted first.

Pilkington's Glass Train

While there are plenty of buildings which suffer a good deal from vibration, the average railway carriage is a lot worse off, and it occurred to me therefore that some special methods of fixing might well have been necessary in Pilkington's glass age train. But so far as I can discover the precautions taken against damage during shunting operations and running are nothing out of the way. The Vitroflex on the outside of the coaches, for instance, is fixed with a special paste, and, as a protection against weather conditions, all units are pointed with a plastic compound, but this latter precaution seems only reasonable as Vitroflex is not normally expected to stand up to the weather.

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Throughout the job either Gripon mastic or a Latex adhesive has been used as the fixing medium, but, again as a remedy for vibration, all the joints and edges of the glass and Vitrolite have been insulated by inserting strips of cork expansion tape. Ceiling panels, which one would expect to be most liable to suffer, are fixed in the normal way with a hessian backing, mastic and cover fillets or metal rosettes, as was described in these notes a few weeks ago. So it would seem that there is little likelihood of Vitrolite ceilings collapsing on an ordinary job.—(*Pilkington Bros., Ltd., St. Helens, Lancs.*)

A New Flueless Heater

The illustration at the head of these notes shows a new flueless heater recently put on the market by John Wright & Co. Or rather a heater which is normally used

The cocktail bar of Pilkington's "Glass Age Exhibition Train." The train consists of two L.N.E.R. passenger coaches and shows 600 varieties of glass. See note on page 849.

without a flue, but which can be easily arranged to take one if necessary. But more of this later on. Constructionally, the heater has a row of ten inclined burners which impinge on a refractory element level with the top of the chevron-louvred door, the ribbed reflector giving a pleasant glow, while radiant heat is emitted direct by the refractory and also *via* a large panel behind the vertical ribs. At the top of these ribs there is also discharged a stream of warm air which is directed forwards out into the room. The sides, top, and back of the heater are always quite cool, so that there is no danger of blistered paintwork, and the forward discharge of the warm air avoids staining. Installation is simple, only a ¾-in. gas pipe being necessary, though this size should be increased to ½ in. if the pipe run is more than 20 ft. long. Gas consumption is 18 cub. ft. an hour, and there is a governor on the supply pipe. Price is £6 19s. 6d., with a choice of four different finishes.

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Consideration of flueless heaters brings me to a point which I have wanted to clear up for a very long time. Gas companies and associations everywhere claim that one of the major advantages of the gas over the electric fire is that the gas fire has a flue and therefore helps to ventilate the room. This seems a perfectly fair and reasonable argument, and it therefore comes as a slight surprise when you discover that a heater is supposed to be quite all right without a flue. I have sometimes suggested in conversation that there appears to be a slight inconsistency here, and I seem to remember being told that a committee of distinguished members of the medical profession had gone into the whole matter very carefully and decided that heaters of this kind were not dangerous to health. This is no doubt a perfectly accurate statement of fact, but nobody has ever suggested that the products of gas combustion are anything but poisonous. In small doses some poisons—strychnine, for example—have a definite tonic effect, but I do not imagine that this would be claimed for gas. Subject to correction by the B.C.G.A., who I hope, incidentally, will produce a definite and conclusive statement on the whole question, I conclude that a flueless gas heater will do you no measurable harm if you are normally healthy. But it will do you no good either, for there are quite a number of apparently healthy people who invariably get headaches from heaters of this kind unless the windows are kept wide open. In nurseries or schools I should view these heaters with the gravest suspicion; 18 cub. ft. of gas an hour is roughly the same as an ordinary gas fire with five radiants and there will be plenty of carbon dioxide hanging about at floor level just where children will be playing.

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None of the foregoing need be taken as reflecting on Messrs. Wright, who are, if anything, more conscious than some of their competitors of the possible dangers of these heaters. One of their leaflets reads: "In living-rooms it can be fitted attached to a flue; for large apartments the Luma need not be fitted with a flue." From the "need not" of the second half it seems that the manufacturers themselves suggest that in living-rooms a flue is not at all a bad thing to have, so I assume that they would more or less agree with what I have said. —(*John Wright & Co., Ltd., Essex Works, Aston, Birmingham, 6.*)

Sheet Steel for Housing

During last summer the British Steelwork Association opened a block of flats at the back of King's Cross to show what could be done with sheet steel, both as a structural and as a finishing material. The block, designed by Mr. John Dower, was illustrated in this JOURNAL, and the Association has now issued a booklet of some thirty pages describing the different floors, ceilings, roofs and partitions employed, with plenty of photographs to show how it all works. The various pressed steel sanitary fittings are also, one hears, standing up to their work, and there are no complaints from the tenants, in spite of the fact that the baths are wider and shallower than the usual type.—(*British Steelwork Association, Steel House, Tothill Street, London, S.W.1.*)

THE BUILDINGS ILLUSTRATED

NEW MEDICAL SCHOOL, UNIVERSITY OF ABERDEEN (pages 817-818). Architects: W. A. Pite, Son and Fairweather. Quantity Surveyors: John Dansken and Purdie. Structural Engineer: George Allen, M.I.STRUCT.E. General contractors: Messrs. James Scott and Son (Aberdeen), Ltd.

QUEEN'S HOTEL, LEEDS (pages 819-825). Architects: W. Curtis Green, R.A., Son, and Lloyd. Associated Architect: William H. Hamlyn, F.R.I.B.A. Consultant Civil Engineers: B. L. Hurst, M.INST.C.E., and J. Norman Pierce, M.INST.C.E. Engineer for heating, ventilating, water and related services: Dr. Oscar Faber, O.B.E., D.SC. The general contractors were Wm. Airey and Son (Leeds), Ltd., and the sub-contractors and suppliers included: Redpath, Brown & Co., Ltd., structural steelwork; G. N. Haden and Sons, Ltd., heating and ventilation; E. Pollard & Co., Ltd., ventilating shafts; Rashleigh, Phipps & Co., Ltd., electrical installation; Allom Bros., Ltd., lighting fittings; General Electric Co., wiring for and telephones, etc.; Standard Telephones and Cables, Ltd., cable terminal boxes; W. T. Glover & Co., Ltd., cables for telephone installation; S. Dixon and Son, Ltd., fire appliances; Moler Products, Ltd., partition blocks; J. W. Gray and Son, Ltd., lightning conductors, and flagstaffs; Henry Hope and Sons, Ltd., metal windows; Dixon, Powner and Sons, iron gates and railings; Pilkington Bros., Ltd., glass domes; Frazzi, Ltd., Paropa roofing; Lenscrete, Ltd., roof lights; Fredk. Braby & Co., Ltd., steel staircases; Waygood-Otis, Ltd., J. and E. Hall, Ltd., and Keighley, Ltd., lifts; Hartley and Sugden, Ltd., Gravico boilers; Henry Hope and Sons, Ltd., skylights and lantern lights, and laylight to banqueting hall; bronze indication plates and figures and letters; John Stubbs and Sons, marble margins to main corridors; Hollis Bros. & Co., Ltd., wood flooring; Modern Surfaces, Ltd., cold glaze; Lamson Engineering Co., Ltd., linen chute; Clark and Fenn, Ltd., plastering, etc., to public rooms; Samuel Elliott and Sons (Reading), Ltd., flush doors and doors

to special rooms; Bath Cabinet Makers Co., Ltd., wardrobes; J. P. White and Son, Ltd., wardrobes; Carter & Co. (London), Ltd., wall tiling; Lamson Engineering Co., Ltd., pneumatic tubes; General Electric Co., Ltd., service room indicators; Baker, Perkins, Ltd., flour elevator and sifter and dough mixer; Bull Motors, Limited, electric motors; Carron Co., cooking equipment and metal counters; Benham and Sons, Ltd., ovens, boiling tables, central ranges, gas grillers, chopping blocks, pastry racks and steel stainless sinks, etc.; Arthur Docking & Co., gas grillers; A. Johnson & Co. (London), Ltd., stainless steel sinks, etc.; John Bolding and Sons, Ltd., earthenware sinks; J. and E. Hall, ice cream mixer and hardening cabinet; Lightfoot Refrigeration Co., Ltd., wine dispense cabinets and still-room cabinets, beer-cooling cabinets and food-display case, etc.; W. M. Still and Sons, Ltd., coffee and tea-making equipment; Lancashire Dynamo and Crypto, Ltd., kitchen machinery; "Mora" Machine Co., silver burnishing machine; James Stott & Co. (Engineers), Ltd., tea and coffee-making boilers and egg steamers; United Yeast Co., Ltd., confectioners table; Cox Ovenbuilders, Ltd., bakers' ovens; Dumbrill Plant and Engineering Co., roll dividing and moulding machines; Tunstalls, Seyssel and Limmer Rock Asphalte Co., Ltd., asphalt and coloured asphalt floors; Diespeker & Co., Ltd., terrazzo pavings, etc.; Tudor Art Metal Co. (1935), Ltd., wrought iron balustrades, etc.; Joseph Kaye and Sons, Ltd., door locks, etc.; Roanoid, Ltd., door furniture, etc.; James Gibbons, Ltd., hinges, bolts, catches and finger plates, etc.; Robert Adams (Victor), Ltd., door springs, hinges, etc.; John Stubbs and Sons, Quarzite flooring to lavatories; H. Morfitt and Son, Vitrolite wall lining; Docker Bros., paints; Newalls Insulation Co., noise insulation; S. Elliott and Sons (Reading), Ltd., leather panelling to banqueting hall; Joseph Sankey and Sons, Ltd., architectural metal trim; Gent & Co., Ltd., electric clocks; Henry Hope and Sons, Ltd., copper cupolas; Leeds Fireclay Co., tiling to bathrooms; J. A. King & Co., Ltd., glazing panels to canopies; Henry Hope and Sons, Ltd., patent glazing to main entrance canopy; Dawson Bros., Ltd., dish-washing machines; Carron Co., spiral staircases, etc.; Borough Electric Signs, neon strip lighting and neon signs; Tudor Art Metal Co. (1935), Ltd., fascias to banqueting hall canopy; Bromsgrove Guild, Ltd., fascias to main entrance and French restaurant canopies, and cast lead flower boxes; Ferranti, Ltd., electric fires; J. Clark and Son, Ltd., and C. Brinkman & Co., Ltd., mirrors; A. Sanderson and Sons, Ltd., wallpapers; Osborne Garratt & Co., Ltd., chairs in hairdressing saloons; Colman-Van Kannel, revolving doors; Dunlop Rubber Co., Ltd., rubber flooring; Fredk. Sage & Co., Ltd., display cases; W. W. Jenkins & Co., Ltd., marble lamp standards; Haskins, collapsible gates; Maple & Co., Ltd., stair eye fixings; Comyn Ching & Co. (London), Ltd., cloakroom fittings; Bath Cabinet Makers Co., Ltd., entrance hall counters and fittings; John P. White and Sons, Ltd., counter in brasserie; Carter & Co. (London), Ltd., floor tiling in lavatories; S. Elliott and Sons (Reading), Ltd., counters in American bar and French restaurant and banqueting hall cloak-room, and hairdressing cabinets, etc.; Gaskell and Chambers, Ltd., beer engines, etc., in brasserie bar; James Gibbons, Ltd., brackets for glass shelves in brasserie; Leeds Fireclay Co., Ltd., baths, basins, closets for all bathrooms and hotel toilets; Doulton & Co., Ltd., baths and basins for bath lobbies and all staff fitments; John Bolding and Sons, Ltd., closets on first and second floors. *Furnishings, etc.*: Bath Cabinet Makers Co., Ltd., fitted wardrobes, lounge chairs and bedroom furniture; John P. White and Sons, Ltd., brasserie counter, sitting room and certain bedroom furniture; Buoyant Upholstery Co., Ltd., settees and easy chairs; Birch and Alpe, Ltd., banqueting chairs; Macneill's Ayrshire Cabinet Works, brasserie chairs; D. Macdonald and Bros., Ltd., grill room chairs and bedroom tub chairs; B. Cohen and Sons, Ltd., French restaurant chairs and toilet show cases; Crossleys, Firth, Cookes, and Morton Sundour Fabrics, carpets; Maple & Co., fittings.

NEW OFFICES AND SHOW-ROOMS, PARKER, WINDER AND ACHURCH, LTD. (pages 843–846). Architect: Holland W. Hobbiss, F.R.I.B.A. The general contractor was J. R. Deacon, who was also responsible for the reinforced concrete, plumbing and joinery. The sub-contractors and suppliers included Val-de-Travers Paving Co., Ltd., asphalt; Blockleys, Ltd., bricks; Dows Granolithic Co., Ltd., artificial stone; E. C. and J. Keay, Ltd., structural steel; Horseley Bridge and Thomas Piggott, Ltd., Lamella roof; Ruberoid, Ltd., special roofings; Wm. Pearce and W. Cutler, Ltd., patent glazing; Kerner Greenwood, Ltd., "Pudlo" waterproofing materials; Ideal Boilers and Radiators, Ltd., boilers; Shanks, Ltd., sanitary fittings; Parker, Winder and Achurch, Ltd., sanitary fittings, electric wiring, door furniture and central heating; John Gibbs, Ltd., casements; George Prince, Ltd., plaster; William Bloye, decorative plaster; W. H. Fraley and Son, marble; Harris and Sheldon, Ltd., shop fittings and office fittings; Express Lift Co., Ltd., lifts; Lloyd Boards, Ltd., Lloyd wallboards; Masonite Ltd., Masonite wallboards; J. A. Crabtree & Co., electric switches.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICT (15 MILES RADIUS)

ACTON. *Houses.* Plans passed by the Acton Corporation: 20 houses, Cloister Road, Mr. G. L. Russell, A.R.I.B.A.

DAGENHAM. *School Enlargements.* The Essex Education Committee is to enlarge the Fanshawe Council School, Dagenham, at a cost of £3,877.

FINCHLEY. *Flats, etc.* Messrs. G. Reed and Sons, Ltd., are to erect 144 flats and 106 houses at the junction of Falloden Way and the North Circular Road, Finchley.

FINSBURY. *Depot.* The Finsbury B.C. is to erect a depot in Helmet Row at a cost of £9,275.

HAMPSTEAD. *Housing.* The Hampstead B.C. has acquired a site in Garnett Road for a housing scheme.

SOUTH-WESTERN COUNTIES

BRISTOL. *Cemetery.* The Bristol Corporation has approved plans for buildings and the layout of a cemetery at Bedminster Down, at a cost of £40,900.

PLYMOUTH. *Houses, etc.* Plans passed by the Plymouth Corporation:—Eight houses, Ayreville Road, Mr. F. Westcott; 26 houses, Saltburn Road, Mr. C. Jope; eight houses, Wolseley Road, Taylor Woodrow Estates, Ltd.; 14 houses, Ashburnham Road, T. H. Mitchell, Ltd.; 16 bungalows, Laira Park Crescent, Mr. J. H. Maunder.

MIDLAND COUNTIES

NORTHAMPTON. *Houses.* Plans passed by the Northampton Corporation:—54 houses, Kettering Road, etc., for Messrs. Chowns, Ltd.; 11 houses, Towcester Road, and seven shops, Gloucester Avenue, for Messrs. T. Wilson and Son, Ltd.; eight houses, Moulton Turn, for Messrs. Holtons.

NOTTINGHAM. *Police Headquarters, etc.* The Nottingham Corporation is to erect new headquarters for the police force and fire brigade, at a cost of £153,700.

NOTTINGHAM. *School Departments.* The Nottingham Education Committee is to erect senior departments at Bilborough "The Player" Council School, at a cost of £90,763.

WALLSEND. *Flats.* Plans passed by the Wallsend Corporation:—48 houses in flats, Low Willington Estate, Mr. David Gateshill.

WALSALL. *Swimming Bath Reconstruction.* The Walsall Corporation is to reconstruct the swimming bath, Tower Street, at a cost of £3,000.

WALSALL. *Rehousing.* The Walsall Corporation is to convert disused factory premises in Upper Rushall Street to accommodate single men to be rehoused from demolished lodging houses and houses-let-in-lodgings, at a cost of £6,000.

NORTHERN COUNTIES

LEEDS. *Houses, etc.* Plans passed by the Leeds Corporation:—12 houses, Grosmont Place, Appleyard Bros., Ltd.; flats, Bentcliffe Avenue, Roundhay, Mr. J. R. Micklethwait.

LEEDS. *Refuse Works.* The Leeds Corporation is seeking sanction to borrow £53,796 for the construction of refuse works at Lennox Road.

LEEDS. *Cinema.* The Leeds Watch Committee has approved plans by Odeon, Ltd., for the erection of a cinema in Woodhouse Lane.

ROTHERHAM. *Depot Extensions.* The Rotherham Corporation Transport Committee has approved plans by the borough engineer for depot extensions, at a cost of £20,000.

ROTHERHAM. *Shops, etc.* The Rotherham Corporation has approved plans by the borough engineer for shops and offices to be erected at Upper Millgate, at an estimated cost of £47,000.

SHEFFIELD. *Houses, etc.* Plans passed by the Sheffield Corporation:—10 houses, off Bradway Road, F. B. Skinner and Sons, Ltd.; eight houses, Westwick Road, Wright and Walton; 10 houses, Norton Lees Crescent, Bonser Bros.; 29 houses, Lyminster Road, Mr. D. Hurrell; 27 houses and seven flats, Bolehill Road, Mr. J. C. Mason; eight houses, Westwick Road, Mr. W. Redmile; 21 houses, Hall Road, Mr. S. Dencher; 43 houses, Grimesthorpe Road, Mr. J. Samuel; six houses, Sherwood Glen, Auckland and Bromehead; cinema, Herries Road, M. J. Gleeson, Ltd.; 12 houses, Norton Park Road, Mr. A. G. Redmile; eight houses, Wheatley Grove, Mr. M. Marcroft; 12 houses, Birley Rise, Mr. G. E. Smith; six houses, Jepson Road, Mr. F. Clifton; 27 houses, between Brooklands Avenue and Whiteley Lane, T. W. Knowles, Ltd.

SHEFFIELD. *Flats.* The Sheffield Corporation is to erect 64 flats on the Edward Street site, by direct labour, at a cost of £43,821.

SOUTH SHIELDS. *Bus Station.* The South Shields Corporation has approved a scheme for the provision of a bus station at Station Approach, at a cost of £4,350.

SOUTH SHIELDS. *Cinema.* Messrs. J. H. Morton and Son have prepared plans on behalf of Shepherd and Thompson Enterprises for the erection of a cinema in Marsden Road, South Shields.

SOUTH SHIELDS. *School.* Plans passed by the South Shields Corporation:—elementary school Prince Edward Road, for Education Committee.

SWINTON. *School.* The Swinton and Pendlebury Education Committee is to erect a school for about 300 children at Grosvenor Road, Swinton.

TYNEMOUTH. *Houses.* The Tynemouth Corporation is to prepare a revised scheme for the erection of 214 houses on the Ridges Estate.

WHITLEY. *School.* The Northumberland Education Committee is to erect a secondary school at Whitley, at a cost of £15,633.

WALES

CARDIFF. *Houses.* The Cardiff Corporation has leased land in Bishops Walk to Mr. S. Swail for the erection of 15 houses.

CARDIFF. *Adaptation of Premises for Hospital.* The Cardiff Corporation is to adapt premises in Cowbridge Road for hospital purposes at a cost of £2,250.

RATES OF WAGES

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

			I. s. d.	II. s. d.
A	ABERDARE ...	S. Wales & M.	1 7	1 2½
A	Aberdeen ...	Scotland	1 7	1 2½
A_1	Abergavenny ...	S. Wales & M.	1 6½	1 2
A_2	Abingdon ...	S. Counties	1 5½	1 1½
A	Accrington ...	N.W. Counties	1 7	1 2½
A_2	Addlestone ...	S. Counties	1 6	1 1½
A	Adlington ...	N.W. Counties	1 7	1 2½
A	Airdrie ...	Scotland	*1 7	1 2½
C	Aldeburgh ...	E. Counties	1 3	0 11½
A	Altrincham ...	N.W. Counties	1 7	1 2½
B_2	Appleby ...	N.W. Counties	1 3½	0 11½
A	Ashton-under-Lyne	N.W. Counties	1 7	1 2½
B	Aylesbury ...	S. Counties	1 5	1 0½
B	BANBURY ...	S. Counties	1 5	1 0½
B_1	Bangor ...	N.W. Counties	1 4½	1 0½
A_2	Barnard Castle	N.E. Coast	1 6½	1 1½
A	Barnsley ...	Yorkshire	1 7	1 2½
B	Barnstaple ...	S.W. Counties	1 5	1 0½
A	Barrow ...	N.W. Counties	1 7	1 2½
A	Barry ...	S. Wales & M.	1 7	1 2½
B	Basingstoke ...	S.W. Counties	1 5	1 0½
A_2	Bath	S.W. Counties	1 6	1 1½
A	Batley ...	Yorkshire	1 7	1 2½
A_2	Bedford ...	E. Counties	1 6	1 1½
A_2	Berwick-on-Tweed	N.E. Coast	1 6	1 1½
A_2	Bewdley ...	Mid. Counties	1 6	1 1½
B	Bicester ...	S. Counties	1 5	1 0½
	Birkenhead ...	N.W. Counties	*1 8	1 3
A	Birmingham ...	Mid. Counties	1 7	1 2½
A_1	Bishop Auckland	N.E. Coast	1 6½	1 2
A	Blackburn ...	N.W. Counties	1 7	1 2½
A	Blackpool ...	N.W. Counties	1 7	1 2½
A	Blyth	N.E. Coast	1 7	1 2½
B	Bognor ...	S. Counties	1 5	1 0½
A	Bolton ...	N.W. Counties	1 7	1 2½
A_2	Boston ...	Mid. Counties	1 5½	1 1½
A_2	Bournemouth...	S. Counties	1 6	1 1½
B_2	Bovey Tracey	S.W. Counties	1 4	1 0
A	Bradford ...	Yorkshire	1 7	1 2½
A_1	Brentwood ...	E. Counties	1 6½	1 2
A	Bridgend ...	S. Wales & M.	1 7	1 2½
B	Bridgwater ...	S.W. Counties	1 5	1 0½
A_1	Bridlington ...	Yorkshire	1 6½	1 2
A	Brighouse ...	Yorkshire	1 7	1 2½
A	Brighton ...	S. Counties	1 6	1 1½
A	Bristol ...	S.W. Counties	1 7	1 2½
B	Brixham ...	S.W. Counties	1 5	1 0½
A	Bromsgrove ...	Mid. Counties	1 7	1 2½
B	Bromyard ...	Mid. Counties	1 5	1 0½
A	Burnley ...	N.W. Counties	1 7	1 2½
A	Bursiem ...	Mid. Counties	1 7	1 2½
A	Burton-on-Trent	Mid. Counties	1 7	1 2½
A	Bury	N.W. Counties	1 7	1 2½
A_1	Buxton ...	N.W. Counties	1 6½	1 2
A_1	CAMBRIDGE	E. Counties	1 6½	1 2
B_1	Canterbury ...	S. Counties	1 4½	1 0½
A	Cardiff ...	S. Wales & M.	1 7	1 2½
A	Carlisle ...	N.W. Counties	1 7	1 2½
B	Carmarthen ...	S. Wales & M.	1 5	1 0½
B	Carnarvon ...	N.W. Counties	1 5	1 0½
A_1	Carnforth ...	N.W. Counties	1 7	1 2½
A	Castleford ...	Yorkshire	1 7	1 2½
A_2	Chatham ...	S. Counties	1 5½	1 1½
A_2	Chelmsford ...	E. Counties	1 5½	1 1½
A_2	Cheltenham ...	S.W. Counties	1 5½	1 1½
A	Chester ...	N.W. Counties	1 7	1 2½
A	Chesterfield ...	Mid. Counties	1 7	1 2½
B	Chichester ...	S. Counties	1 5	1 0½
A	Chorley ...	N.W. Counties	1 7	1 2½
B_1	Cirencester ...	S. Counties	1 4½	1 0½
A	Clitheroe ...	N.W. Counties	1 7	1 2½
A	Clydebank ...	Scotland	1 7	1 2½
A	Coalville ...	Mid. Counties	1 7	1 2½
A_2	Colchester ...	E. Counties	1 6	1 1½
A_1	Colne	N.W. Counties	1 6½	1 2
A_2	Colwyn Bay ...	N.W. Counties	1 6	1 1½
A_1	Consett ...	N.E. Coast	1 6½	1 2
A_2	Conway ...	N.W. Counties	1 6	1 1½
A	Coventry ...	Mid. Counties	1 7	1 2½
A_2	Crewe	N.W. Counties	1 6	1 1½
A_2	Cumberland ...	N.W. Counties	1 5½	1 1½
A	DARLINGTON	N.E. Coast	1 7	1 2½
A	Darwen ...	N.W. Counties	1 7	1 2½
B_1	Deal	S. Counties	1 4½	1 0½
A_2	Denbigh ...	N.W. Counties	1 5½	1 1½
A	Derby	Mid. Counties	1 7	1 2½
A	Dewsbury ...	Yorkshire	1 7	1 2½
B	Didcot ...	S. Counties	1 5	1 0½
A	Doncaster ...	Yorkshire	1 7	1 2½
B_1	Dorchester ...	S.W. Counties	1 4½	1 0½
A_2	Driffield ...	Yorkshire	1 5½	1 1½
A_2	Droitwich ...	Mid. Counties	1 6	1 1½
A	Dudley ...	Mid. Counties	1 7	1 2½
A_2	Dumfries ...	Scotland	1 6	1 1½
A	Dundee ...	Scotland	1 7	1 2½
A	Durham ...	N.E. Coast	1 7	1 2½
A_2	EASTBOURNE	S. Counties	1 6	1 1½
A_1	Ebbw Vale ...	S. Wales & M.	1 6½	1 2
A	Edinburgh ...	Scotland	1 7	1 2½
A_2	Exeter ...	S.W. Counties	*1 6	1 1½
B	Exmouth ...	S.W. Counties	1 5	1 0½
A_1	FELIXSTOWE	E. Counties	1 5½	1 1½
A_2	Filey	Yorkshire	1 5½	1 1½
A	Fleetwood ...	N.W. Counties	1 7	1 2½
B_1	Folkestone ...	S. Counties	1 4½	1 0½
A	Frodsham ...	N.W. Counties	1 7	1 2½
B_2	Frome	S.W. Counties	1 4	1 0
A	GATESHEAD	N.E. Coast	1 7	1 2½
B	Gillingham ...	S. Counties	1 5	1 0½
A_1	Glamorgan-shire, Rhondda Valley District	S. Wales & M.	1 6½	1 2
A	Glasgow ...	Scotland	1 7	1 2½
A_2	Gloucester ...	S.W. Counties	1 6	1 1½
A_2	Goole	Yorkshire	1 6	1 1½
A_2	Gosport ...	S. Counties	1 6	1 1½
A_2	Grantham ..	Mid. Counties	1 5½	1 1½
A_1	Gravesend ...	S. Counties	1 6½	1 2
A	Greenock ...	Scotland	*1 7	1 2½
A	Grimsby ...	Mid. Counties	1 7	1 2½
B	Guildford ...	S. Counties	1 5	1 0½
A	HALIFAX ...	Yorkshire	1 7	1 2½
A	Hanley ...	Mid. Counties	1 7	1 2½
A	Harrogate ...	Yorkshire	1 7	1 2½
A	Hartlepools ...	N.E. Coast	1 7	1 2½
B	Harwich ...	E. Counties	1 5	1 0½
B	Hastings ...	S. Counties	1 5	1 0½
A_2	Hatfield ...	S. Counties	1 6	1 1½
B	Hereford ...	S.W. Counties	1 5	1 0½
A_2	Hertford ...	E. Counties	1 6	1 1½
A	Heysham ...	N.W. Counties	1 7	1 2½
A	Howden ...	N.E. Coast	1 7	1 2½
A	Huddersfield ...	Yorkshire	1 7	1 2½
A	Hull	Yorkshire	1 7	1 2½
A	ILKLEY ...	Yorkshire	1 7	1 2½
A	Immingham ...	Mid. Counties	1 7	1 2½
A_2	Ipswich ...	E. Counties	1 6	1 1½
B_2	Isle of Wight ...	S. Counties	1 4	1 0
A	JARROW ...	N.E. Coast	1 7	1 2½
A	KEIGHLEY ...	Yorkshire	1 7	1 2½
A_2	Kendal ...	N.W. Counties	1 5½	1 1½
A_2	Keswick ...	N.W. Counties	1 5½	1 1½
A	Kettering ...	Mid. Counties	1 6½	1 2
A_2	Kidderminster	Mid. Counties	1 6	1 1½
B_1	King's Lynn ...	E. Counties	1 4½	1 0½
A	LANCASTER ...	N.W. Counties	1 7	1 2½
A_1	Leamington ...	Mid. Counties	1 6½	1 2
A	Leeds	Yorkshire	1 7	1 2½
A	Leek	Mid. Counties	1 7	1 2½
A	Leicester ...	Mid. Counties	1 7	1 2½
A	Leigh	N.W. Counties	1 7	1 2½
B	Lewes	S. Counties	1 5	1 0½
A_2	Lichfield ...	Mid. Counties	1 6	1 1½
A	Lincoln ...	Mid. Counties	1 7	1 2½
	Liverpool ...	N.W. Counties	*1 8½	1 3½
A_2	Llandudno ...	N.W. Counties	1 6	1 1½
A	Llanelly ...	S. Wales & M.	1 7	1 2½
	London (12-miles radius)		1 8½	1 3½
	Do. (12-15 miles radius)		1 8	1 3
A	Long Eaton ...	Mid. Counties	1 7	1 2½
A	Loughborough ...	Mid. Counties	1 7	1 2½
A_1	Luton	E. Counties	1 6½	1 2
A	Lytham ...	N.W. Counties	1 7	1 2½
A_1	MACCLESFIELD	N.W. Counties	1 6½	1 2
A_2	Maidstone ...	S. Counties	1 5½	1 1½
A_2	Malvern ...	Mid. Counties	1 5½	1 1½
A	Manchester ...	N.W. Counties	1 7	1 2½
A	Mansfield ...	Mid. Counties	1 7	1 2½
B_1	Margate ...	S. Counties	1 4½	1 0½
A_2	Matlock ...	Mid. Counties	1 5½	1 1½
A_1	Merthyr ...	S. Wales & M.	1 6½	1 2
A	Middlesbrough	N.E. Coast	1 7	1 2½
A_2	Middlewich ...	N.W. Counties	1 6	1 1½
B_2	Minehead ...	S.W. Counties	1 4	1 0
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 4	1 0
A	Morecambe ...	N.W. Counties	1 7	1 2½
A_2	NANTWICH ...	N.W. Counties	1 6	1 1½
A	Neath	S. Wales & M.	1 7	1 2½
A	Nelson ...	N.W. Counties	1 7	1 2½
A	Newcastle ...	N.E. Coast	1 7	1 2½
A	Newport ...	S. Wales & M.	1 7	1 2½
A	Normanton ...	Yorkshire	1 7	1 2½
A	Northampton ...	Mid. Counties	1 7	1 2½
A	North Shields...	N.E. Coast	1 7	1 2½
A	North Staffs ...	Mid. Counties	1 7	1 2½
A_1	Norwich ...	E. Counties	1 6½	1 2
A	Nottingham ...	Mid. Counties	1 7	1 2½
A	Nuneaton ...	Mid. Counties	1 7	1 2½
A_2	OAKHAM ...	Mid. Counties	1 5½	1 1½
A	Oldham ...	N.W. Counties	1 7	1 2½
A_2	Oswestry ...	N.W. Counties	1 5½	1 1½
A_1	Oxford ...	S. Counties	1 6½	1 2
A	PAISLEY ...	Scotland	*1 7	1 2½
B_2	Pembroke ...	S. Wales & M.	1 3½	0 11½
A	Perth	Scotland	*1 7	1 2½
A_1	Peterborough ...	E. Counties	1 6½	1 2
A	Plymouth ...	S.W. Counties	*1 7	1 2½
A	Pontefract ...	Yorkshire	1 7	1 2½
A_1	Pontypridd ...	S. Wales & M.	1 6½	1 2
A_2	Portsmouth ...	S. Counties	1 6	1 1½
A	Preston ...	N.W. Counties	1 7	1 2½
A	QUEENSFERRY	N.W. Counties	1 7	1 2½
A_2	READING ...	S. Counties	1 6½	1 2
B	Reigate ...	S. Counties	1 5½	1 1½
A_2	Retford ...	Mid. Counties	1 5½	1 1½
A_1	Rhondda Valley	S. Wales & M.	1 6½	1 2
A_2	Ripon	Yorkshire	1 5½	1 1½
A	Rochdale ...	N.W. Counties	1 7	1 2½
B	Rochester ...	S. Counties	1 5	1 0½
A_1	Ruabon ...	N.W. Counties	1 6½	1 2
A	Rugby ...	Mid. Counties	1 7	1 2½
A_2	Rugeley ...	Mid. Counties	1 6	1 1½
A	Runcorn ...	N.W. Counties	1 7	1 2½
A_1	ST. ALBANS ...	E. Counties	1 6½	1 2
A	St. Helens ...	N.W. Counties	1 7	1 2½
B_2	Salisbury ...	S.W. Counties	1 3½	0 11½
A_1	Scarborough ...	Yorkshire	1 6½	1 2
A	Scunthorpe ...	Mid. Counties	1 7	1 2½
A	Sheffield ...	Yorkshire	1 7	1 2½
A	Shipley ...	Yorkshire	1 7	1 2½
A_2	Shrewsbury ...	Mid. Counties	1 6	1 1½
A_2	Skipton ...	Yorkshire	1 6	1 1½
A_2	Slough ...	S. Counties	1 6	1 1½
A_1	Solihull ...	Mid. Counties	1 6½	1 2
A_2	Southampton ...	S. Counties	1 6	1 1½
A_1	Southend-on-Sea	E. Counties	1 6½	1 2
A	Southport ...	N.W. Counties	1 7	1 2½
A	S. Shields ...	N.E. Coast	1 7	1 2½
A_1	Stafford ...	Mid. Counties	1 6½	1 2
A	Stirling ...	Scotland	1 7½	1 2½
A	Stockport ...	N.W. Counties	1 7	1 2½
A	Stockton-on-Tees	N.E. Coast	1 7	1 2½
A	Stoke-on-Trent	Mid. Counties	1 7	1 2½
B	Stroud ...	S.W. Counties	1 5	1 0½
A	Sunderland ...	N.E. Coast	1 7	1 2½
A	Swansea ...	S. Wales & M.	1 7	1 2½
A_2	Swindon ...	S.W. Counties	1 6½	1 1½
A_1	TAMWORTH ...	N.W. Counties	1 6½	1 2
B	Taunton ...	S.W. Counties	1 5	1 0½
A	Teesside Dist....	N.E. Coast	1 7	1 2½
A_2	Teignmouth ...	S.W. Counties	1 6	1 1½
A	Todmorden ...	Yorkshire	1 7	1 2½
A_1	Torquay ...	S.W. Counties	1 6½	1 2
B_2	Truro	S.W. Counties	1 4	1 0
A_2	Tunbridge Wells	S. Counties	1 5½	1 1½
A	Tunstall ...	Mid. Counties	1 7	1 2½
A	Tyne District....	N.E. Coast	1 7	1 2½
A	WAKEFIELD	Yorkshire	1 7	1 2½
A	Walsall ...	Mid. Counties	1 7	1 2½
A	Warrington ...	N.W. Counties	1 7	1 2½
A_1	Warwick ...	Mid. Counties	1 6½	1 2
A_1	Wellingborough	Mid. Counties	1 6½	1 2
A	West Bromwich	Mid. Counties	1 7	1 2½
A_2	Weston-s.-Mare	S.W. Counties	1 6	1 1½
A_2	Whitby ...	Yorkshire	1 6	1 1½
A	Widnes ...	N.W. Counties	1 7	1 2½
A	Wigan ...	N.W. Counties	1 7	1 2½
B	Winchester ...	S. Counties	1 5	1 0½
A_2	Windsor ...	S. Counties	1 6	1 1½
A	Wolverhampton	Mid. Counties	1 7	1 2½
A_2	Worcester ...	Mid. Counties	1 6	1 1½
A_2	Worksop ...	Yorkshire	1 5½	1 1½
A_1	Wrexham ...	N.W. Counties	1 6½	1 2
A_2	Wycombe ...	S. Counties	1 5½	1 1½
B	YARMOUTH ...	E. Counties	1 5	1 0½
B	Yeovil ...	S.W. Counties	1 5	1 0½
A	York	Yorkshire	1 7	1 2½

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

The rates for every trade in any given area will be sent on request. The rates of wages have been revised consequent upon the increase in wages which came into operation on February 1, together with all revisions following authorised annual regradings.

CURRENT PRICES

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

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 8½
Carpenter . . . . . ,,	1 8½
Joiner . . . . . ,,	1 8½
Machinist . . . . . ,,	1 9½
Mason (Banker) . . . . . ,,	1 8½
,, (Fixer) . . . . . ,,	1 9½
Plumber . . . . . ,,	1 8½
Painter . . . . . ,,	1 7½
Paperhanger . . . . . ,,	1 7½
Glazier . . . . . ,,	1 8½
Slater . . . . . ,,	1 8½
Scaffolder . . . . . ,,	1 4½
Timberman . . . . . ,,	1 4½
Navvy . . . . . ,,	1 3½
General Labourer . . . . . ,,	1 3½
Lorryman . . . . . ,,	1 6½
Crane Driver . . . . . ,,	1 7½
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

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

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4"	6"
	s. d.	s. d.
Straight Pipes . . . per F.R.	0 9	1 1
Bends . . . . each	1 9	2 6
Taper Bends . . . ,,	3 6	5 3
Rest Bends . . . ,,	4 3	6 3
Single Junctions . . ,,	3 6	5 3
Double . . . . ,,	4 9	6 6
Straight channels . . per F.R.	1 6	2 6
¾" Channel bends . . each	2 9	4 0
Channel junctions . . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . . ,,	6 9	8 9
Interceptors . . . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . . per F.R.	2 3	3 8
Bends . . . . each	6 4	13 1
Inspection bends . . ,,	11 5	14 4
Single junctions . . ,,	11 2	22 10
Double junctions . . ,,	17 2	30 9
Lead Wool . . . . lb.	6	—
Gaskin . . . . . ,,	5	—

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 . . ,,	4 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . . ,,	26 10 0
Glazed Second Quality, *Less* . . ,,	1 0 0
,, Buffs and Creams, *Add* . . ,,	2 0 0
,, Other Colours . . . ,,	5 10 0
2" Breeze Partition Blocks . . per Y.S.	1 7
2½" ,, ,, ,, . . . ,,	1 10
3" ,, ,, ,, . . . ,,	2 1
4" ,, ,, ,, . . . ,,	2 6

MASON

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

SLATER AND TILER

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

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

CARPENTER AND JOINER

	£ s. d.
Good carcassing timber . . F.C. 2s. 7d.	– 2 10
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, ⅞" . . . Sq.	18 5
,, 1" . . . ,,	1 1 6
,, 1¼" . . . ,,	1 2 0
,, 1½" . . . ,,	1 5 0
,, 1¾" . . . ,,	1 10 0
Deal matchings, ⅞" . . . ,,	14 0
,, 1" . . . ,,	15 6
,, 1¼" . . . ,,	1 4 0
Rough boarding, ⅞" . . . ,,	16 0
,, 1" . . . ,,	18 0
,, 1¼" . . . ,,	1 6 0

Plywood, per ft. sup.:

Thickness	¼"			⅜"			½"			¾"		
Qualities	A	B	BB	A	B	BB	A	B	BB	A	B	BB
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch 60 × 48	4	2½	2	5	3	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.)

	½"	¾"	1"	1¼"	2"
	d.	d.	d.	d.	d.
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–1½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . ,,	1/6	2/3	4/2	5/4	11/6
,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts	TUBES			
	Per cent.			Per cent.
Gas . . .	66⅔	Galvanized gas	.	56⅔
Water . . .	61⅔	,, water	.	51⅔
Steam . . .	58⅓	,, steam	.	46⅔

	FITTINGS			
Gas . . .	57⅓	Galvanized gas	.	48⅔
Water . . .	53⅓	,, water	.	46⅔
Steam . . .	48⅔	,, steam	.	41⅔

	s. d.
Rolled steel joists cut to length . . cwt.	15 6
Mild steel reinforcing rods, ⅜" . . . ,,	18 0
,, ,, ,, ½" . . . ,,	17 9
,, ,, ,, ⅝" . . . ,,	17 6

SMITH AND FOUNDER—*continued*

	s. d.
Mild steel reinforcing rods, ¾" . . . cwt.	17 6
,, ,, ,, ⅞" . . . ,,	17 6
,, ,, ,, 1" . . . ,,	17 6
,, ,, ,, 1¼" . . . ,,	17 6
,, ,, ,, 1½" . . . ,,	17 6

Cast-iron rain-water pipes of ordinary thickness metal . . F.R.	3" s. d.	4" s. d.
	1 0	1 3½
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.	1 7 3
,, drawn pipes . . . ,,	1 6 9
,, soil pipes . . . ,,	1 9 9
,, scrap . . . . ,,	18 0
Solder, plumbers' . . . lb.	1 1½
,, fine do. . . . ,,	1 4
Copper, sheet . . . . ,,	1 0½
,, tubes . . . . ,,	1 2½

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

PLASTERER

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

GLAZIER

	s. d.	s. d.
Sheet glass, 24 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,,	,,	3¼
Flemish, Arctic, Figures (white)* .	,,	7½
Blazoned glasses	,,	2 6
Reeded: Cross Reeded . . .	,,	11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite	,,	6½
Crown sheet glass (n/e 12" × 10") .	,,	2 0
Flashed opals (white and coloured) .	,,	1 0 and 2 0
¼" rough cast; rolled plate . .	,,	6
¼" wired cast; wired rolled . .	,,	10½
¼" Georgian wired cast . . .	,,	11½
¼" Polished plate, n/e 1 ft. . .	,,	†1 0 to ‡1 3
,, ,, 2 . .	,,	†1 4 ,, ‡1 6
,, ,, 4 . .	,,	†2 6 ,, ‡2 9
,, ,, 8 . .	,,	†2 11 ,, ‡3 4
,, ,, 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 ⅜" .	,,	8½ ,, 1 0
Putty, linseed oil . . .	lb.	3

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

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

PAINTER

	£ s. d.
White lead in 1-cwt. casks . . cwt.	2 17 9
Linseed oil . . . . . gall.	3 2
Boiled oil . . . . . ,,	3 5
Turpentine . . . . . ,,	3 9
Patent knotting . . . . ,,	14 0
Distemper, washable . . . cwt.	2 6 0
,, ordinary . . . ,,	2 0 0
Whitening . . . . . ,,	4 0
Size, double . . . . . firkin	3 0
Copal varnish . . . . . gall.	13 0
Flat varnish . . . . . ,,	14 0
Outside varnish . . . . ,,	16 0
White enamel . . . . . ,,	1 15 0
Ready mixed paint . . . ,,	13 6
Brunswick black . . . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

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

EXCAVATOR AND CONCRETOR		s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add	6
If in underpinning	"	4 6
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 6
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.	5 9	8 3
Extra, only for bends (cast iron)	Each	12 3	18 4

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

ASPHALTER		s. d.
½" Horizontal dampcourse	Y.S.	4 9
½" Vertical dampcourse	"	7 9
¾" paving or flat	"	6 3
1" paving or flat	"	7 6
1" × 6" skirting	F.R.	1 0
Angle fillet	"	2½
Rounded angle	"	2½
Cesspools	Each	5 6

MASON		s. d.
Portland stone, including all labour, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 8
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 8
" " " " " " " (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, 1¼" 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
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1¼" deal moulded wall strings	"	2 1
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.	18 6
Riveted plate or compound girders, and hoisting and fixing in position	"	1 6 6
Do. stanchions with riveted caps and bases and do.	"	1 2 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	1 4 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.	1 18 0
Do. in flashings	"	2 1 6
Do. in covering to turrets	"	2 7 0
Do. in soakers	"	1 12 9
Labour to welted edge	F.R.	3½
Open copper nailing	"	3
Close " "	"	4

		½" s. d.	¾" s. d.	1" s. d.	1½" s. d.	2" s. d.	4" s. d.
Lead service pipe and fixing with pipe hooks	F.R.	1 2	1 4	1 8½	2 7	3 6	—
Do. soil pipe and fixing with cast lead tacks	"	—	—	—	—	—	7 3
Extra, only to bends	Each	—	—	—	—	2 3	7 6
Do. to stop ends	"	6½	8	9	11	1 0	—
Boiler screws and unions	"	3 3	3 9	5 "	8 0	—	—
Lead traps	"	—	—	—	8 0	11 6	—
Screw down bib valves	"	6 9	9 6	11 0	—	—	—
Do. stop cocks	"	7 0	9 6	12 6	—	—	—

		£ s. d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1 6
Do. outlets	"	2 0
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 7
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 under on walls	"	1 2½
Render, refloat 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