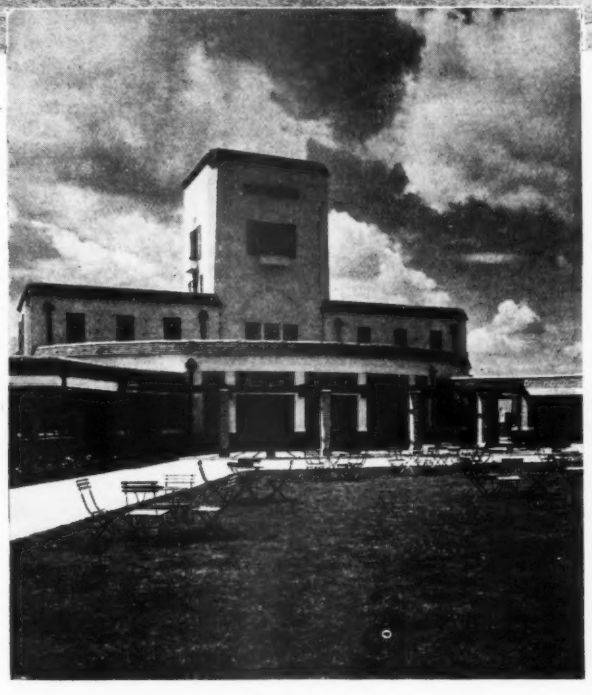
The Round House, Becontree.
Architect: A. W. Blomfield, F.R.I.B.A.
Contractors: W. Loweth & Sons Ltd., Hackney.



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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, FEBRUARY 24, 1938. NUMBER 2249 : VOLUME 87

PRINCIPAL CONTENTS

TERMINAL BUILDING, BIRMINGHAM AIRPORT

WORK has begun on the construction of the Terminal Building for the new Birmingham (Elmdon) Airport which, it is claimed, will be the most modern in the country.

The scheme, which is being carried out under the supervision of the Consultants to the Corporation, Messrs. Norman and Dawbarn, in collaboration with Mr. Herbert J. Manzoni, M.Inst.C.E., the Birmingham City Engineer and Surveyor, at an ultimate cost of £500,000, was prepared following the visit of a deputation to inspect principal Continental airports.

The perspective reproduced above—drawn from the official plans—shows the reinforced concrete terminal building as it will look when completed. The spreading concrete canopies on either side will enable aeroplanes to load and discharge passengers and freight under cover in all weathers.

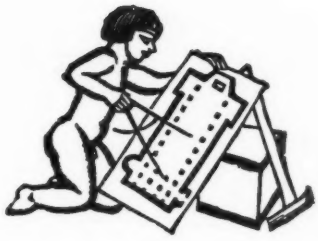
Consisting of four storeys, the building will contain, in addition to the usual Customs department and operating companies' offices, public terraces and refreshment rooms on the first floor, with a fully licensed restaurant on the second floor. The third floor will contain bedrooms, mainly for pilots, meteorological and other offices, while the fourth floor, on which the control tower is set, has been designed on the assumption that Birmingham will be given a full communication area of its own and will consequently require full meteorological and wireless equipment and personnel.

A commanding site has been chosen for the terminal building and the hangars are planned adjoining it. An extensive concrete apron will connect the hangars with the loading and taxi-ing areas in front of the airport building.

Provision will be made for the installation of full night-flying equipment, including a beacon, to be in use from the inception of the airport. Site levelling and seeding has been in progress for some months, and it is expected that the airport will be opened to traffic by the end of the year. The photograph is reproduced by courtesy of the Cement and Concrete Association.

ARCHITECT - CHAIRMAN OF THE L.C.C.

Members of the Labour majority on the London County Council have decided to nominate Mr. E. G. Culpin, F.R.I.B.A., as chairman of the Council for 1938-39, in succession to Lord Snell. Mr. Culpin has been a member of the Council for twelve years, and has been vice-chairman. The election will take place at the statutory meeting of the Council on March 15. The above photograph was taken on Monday last.



THE PURSUIT OF ALTRUISM

THE *R.I.B.A. Journal* for February 7 contains a memorandum prepared by the Public Relations Committee on the control of design under the Town and Country Planning Act, 1932. The memorandum states the conclusions come to by the committee after an investigation undertaken last session at the request of the Council, and is an example of committee work at its very best. Terse and admirably clear it enables every member who troubles to read his *Journal* to realize the extraordinary state of town planning at present and how delicate a business it is to try, via existing local authorities, to improve the external appearance of the ordinary humdrum building.

That small achievement—when compared with the problems of territorial planning—was the object of the Advisory Panel System ; and the main object of the committee's investigation was to find out why the Panel System was not working more smoothly and effectively and, having found out, to see what could be done about it.

Architects should read the committee's report more than once. Its contents, if only because they collect in two pages facts of which most architects already knew some and suspected more, deserve to be called sensational.

They can, perhaps for the first time, get a glimpse of what is happening in town planning. About 500 local authorities are preparing their own schemes, 600 more co-operating in 130 joint schemes, 500 others are being coaxed into activity and about 55 county councils are left out in the cold. The preparation of schemes has not been welcomed by a substantial proportion of authorities. Councillors, ratepayers and officials of small authorities descended on by much hard work and expense for a purpose far from clear to them, have roped in anyone to keep the thing going and the Ministry quiet. Those authorities who have taken the matter seriously, appointed qualified town planners and tried to do well for their districts, find themselves in no position to prevent undesirable building under an Interim Development Order.

Whatever their attitude nine-tenths of the authorities have no inclination to plunge their hands into the cauldron of architectural æsthetics, Panels or no Panels. If buildings are put where they will not grossly conflict with the immediate public interest, have good drains and water supply and are tolerably built, it is quite good enough for them.

Architects naturally think differently. Propaganda for better buildings better placed—under the curious name amenity—had had great effect in the last ten years. It seemed equally simple to try to improve matters from the other end ; to try to prevent the most ugly and tawdry buildings by persuading local authorities to exercise their powers for controlling design. It was supposed that larger authorities could do and would do this by employing architects as town-planning officers or consultants and the smaller by advisory panels of local architects. Accordingly architects tried to make it so.

The results have been peculiar. Most local authorities declined to do anything whatever. Town planning they might have to do by pressure of public opinion ; this was in their view going too far. The minority, more conscious of their duty, did decide to do something. Then the fun began.

Committee and councillors refused to believe that they needed expert architectural advice in telling whether a design was good and in keeping with the locality. They might ask their engineer or surveyor what he thought, but usually they knew a good design when they saw one. And mortified architects found zealous committees condemning designs all round the clock, and far too often the designs of esteemed professional colleagues.

Nor was that all. The Panels began to find that the schemes submitted for their advice were architects' schemes only, the designs submitted by builders having become so familiar to committees that they were passed without troubling the Panels about them. Finally, even members of Panels succumbed to human failings and began to believe they had a mission to force all who built in their locality to do so in exact accordance with their own ideas of architecture.

One of the recommendations of the Practice Standing Committee is that control of design should be made obligatory as soon as possible. If the attitude of the committee is that a raising of the general standard of design in buildings, however slight, is worth the lowering of architectural prestige, however catastrophic, then the JOURNAL stands silent in admiration of their altruism. If they do not think so, then the JOURNAL thinks the R.I.B.A. should seriously consider what is going to happen when dog starts eating dog, not once a year, but every day and everywhere.

That each planning authority should have a registered architect as adviser on design is admirable ; when the same adviser disapproves the work of three members of Council of the R.I.B.A. in the course of a month's devotion to duty the state of affairs will be diverting but otherwise of doubtful benefit to architects.

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NOTES & TOPICS

TRIUMPH . . .

LAST week the shores of England were battered by a series of storms which rivalled in fury the one which rises and falls four times daily in the gilded belly of the Odeon, Leicester Square.

*

According to the *Sunday Express*, the effect of the gales was watched at Folkestone with a special anxiety, for no less was at stake than the reputation of modern architecture. The whole town, we are told, had waited with misgivings for the day when the shuttering was to be removed from the 100 ft. diameter dome of the enchanting new fun fair, designed by Mr. Pleydell-Bouverie.

*

It had, however, remained disappointingly intact, and even weathered successfully the storms which almost immediately assaulted it. Complete confidence, however, was not restored until workmen ascended the roof to cover it with asphalt, and it didn't even crack beneath their weight.

. . . AND DEFENCE

Equally ruthless, but more effective, were the onslaughts made upon the stands at the B.I.F. by the bowler-hatted officials on their final round before the opening.

*

Materials suspected of inflammability were ordered to be torn down, fascias measured for uniformity, and projections over gangways removed. It was like Inspection Day in the O.T.C.

*

The general standard of design seemed much the same as usual, though quite a number of designers had evidently been to Paris last summer.

*

By far the most exciting stand I saw was that designed for I.C.I. at Olympia by Ernö Goldfinger. It really throbbed with the life of charged wires, moving wheels and running water, and is, I think, one of the most brilliant pieces of display design I have seen.

HEALTH AND FITNESS

Whatever the Government's official views may be about the Fitness Campaign it is really good to know that the R.I.B.A. doesn't think it merely a matter of physical jerks and organized games. Next Wednesday there opens at Portland Place an exhibition with the official title of Health, Sport and Fitness. One would naturally expect to find plenty of photographs of sports buildings, stadia, club houses and all the rest, but the exhibition is also to tell a story and not be just a collection of pretty pictures.

*

The story, boiled down, is that decent living and working conditions are what really matter. Obvious: but when you come to think about it, the architect is so very much concerned with the other things—from clean food to sewage disposal—which are not just putting up buildings that are healthy. He is, if you like a good militaristic metaphor, the first line of defence, a preventive and not a curative agent.

*

This aspect will be shown by plenty of buildings and the propaganda for Green Belts, Open Spaces, National Parks and all the arguments so familiar to us, but so strange to the general public, and particularly to the provincial public with whom these exhibitions spend three-quarters of their lives on tour.

INFORMAL MEETING

I am not supposed to "report" R.I.B.A. Informal Meetings. The idea is that invited speakers (if they are ever so indiscreet) and junior members who are notoriously indiscreet, can say exactly what they mean.

*

But no one does, much. The reason being that younger architects not being the readiest of impromptu speakers have to be encouraged by a few invited speakers first. And if the invited speakers in the aggregate take too long there is apt to be no time for indiscretions.

*

"Trunk Roads," last Wednesday was a good example. Three invited speakers were short, the other too long.

*

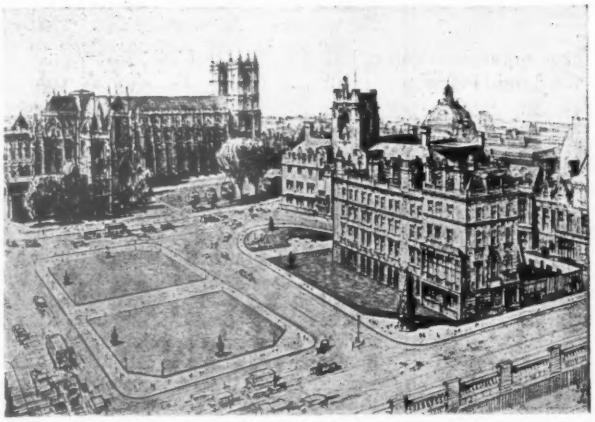
Sir Charles Bressey, Mr. Fryer (A.A.—motor cars), Mr. Jack and Mr. Robinson, Ministry of Transport, were the big noises.

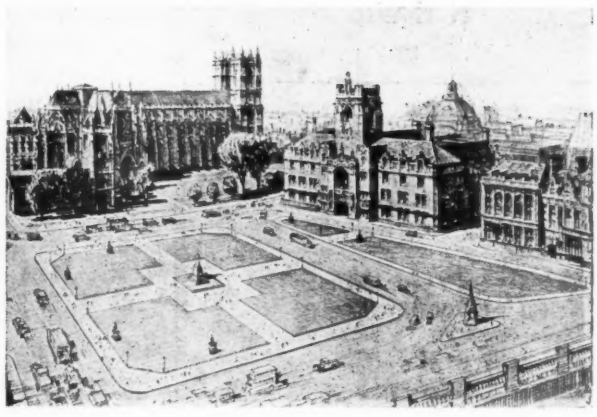
Two of them seemed to be trying hard to see where the architect came in. Otherwise their speeches were good.

*

Sir Charles's points were that Trunk Roads must be kept at a distance from towns, must be paralleled by service or

Mr. Pleydell-Bouverie's dome at Folkestone, mentioned by Astragal.





Above left, Parliament Square as it is now. Right, as it will be if the Westminster County Council's scheme for throwing the Westminster House site into the square is successful.

secondary roads, must differentiate traffic and have money spent on crossings. He believed the Trunk Roads Act, which at present provides for *occasional* new roads, would change in emphasis till it *concentrated* on new roads.

*

Mr. Fryer stated the present Act did not put the Ministry under an obligation to *do* anything and it seemed a pity that County Boroughs should be excluded from the Act. Mr. Jack described a Roman road and the amenity regulations of the German roads with astonishing completeness and at far too considerable length. Mr. Robinson being an official I will not mention, not because he said anything indiscreet, but because he may have been told he was not going to be reported and have taken it seriously.

*

After that time ran out almost immediately. An interesting meeting ; but I would have liked more enthusiasm, more heckling, more high feeling. If junior members believe in their future they ought to suggest debates *and speak at them.*

SWINGING PENDULUMS

An article in a Sunday paper, describing the Countess of Jersey's new country house, drew attention to a domestic feature which is new to me. After the usual list of gold-plated baths and marble towel-rails, it said, " . . . particularly pleasant, as well as novel, are the green-painted window slots."

*

It sounds as if the reaction against all-glass houses was becoming a little too marked.

" FURTHER EXTENSION TO BOTTLING PLANT "

Under this heading we have received a report of the annual meeting of a brewery company, which was addressed by its chairman, Lord Brocket, to whom I have referred before in this column. " It is our policy," he is reported to have said, " to set a high standard of architecture in our new houses, and we do not approve of the appalling buildings of modern cubist and futurist design, which one often sees today. We have adopted a policy of concentrating our designs into two groups : Tudor for country houses in Cheshire, and Georgian style elsewhere. We feel sure that in due course our public-houses will continue to be well-known, not only for the excellence of their beer, but also for the attractiveness and dignity of their architecture."

*

This clear-headed, if arbitrary division of styles into Tudor (for Cheshire) and Georgian (for elsewhere) is an indication of the increasing sureness of taste possessed by the brewing firms, and should be of great assistance to the architects in their employ.

PARLIAMENT SQUARE

In 1935 the Middlesex County Council purchased the site of a block of offices in Parliament Square called Westminster House, in order to forestall the erection of a multi-storeyed commercial building.

*

The cost was large, too large for the ratepayers to bear. A final appeal, therefore, is being made this week for Government help in the scheme for enlarging Parliament Square. Help is also to be expected from the L.C.C., the Westminster City Council, and the Ministry of Transport, but will not be sufficient.

*

Hitherto the Government have been unfavourable to granting aid to a scheme which they unjustly regard as a municipal responsibility only. This improvement cannot adequately be termed " Municipal," as the site is the centre of a great range of historic buildings, whose dignity would be greatly increased by the proposed clearance.

*

A great opportunity will be lost if the Government cannot be persuaded to relax what *The Times* calls " the rigour of punctilio." Why cannot this scheme be allowed to supersede the Archbishop's half-baked grass plot on the other side of the Abbey as a genuinely intelligent memorial to George V ?

ALLIED SOCIETY

Seven Hampshire Mayors attended the annual dinner of the Hampshire and I.O.W. Architectural Association, held last week, at Southampton. The principal guest was the President.

*

The Bishop of Winchester, proposing the toast of the R.I.B.A. and Allied Societies, commented upon the fact that he had lived in a house designed by Sir Christopher Wren, and also in a house by a modern architect—Mr. Norman Shaw.

*

Other speakers were the Mayor of Southampton, who drew rather irrelevant attention to the reduced cost of the land reclaimed by the Corporation from the River Test, and Mr. Smallbones, president of the Southern Counties Federation of Building Trades Employers. ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

A.A.S.T.A. VISIT TO AMSTERDAM

Arrangements are being made by the A.A.S.T.A. for a four-day tour at Easter to Amsterdam, leaving London on the night of Thursday, April 14, and returning from Amsterdam on the night of Monday, April 18. It is hoped to provide opportunities for the party to meet Dutch architects and to visit modern buildings in and around Amsterdam, and to make an excursion to Hilversum.

The provisional price of the tour, inclusive of fares, reserved seats, breakfast, dinner and room at the hotel for four days, is £6 to members, £6 6s. to non-members of the A.A.S.T.A.

CARDIFF CIVIC CENTRE ADDITION

There is to be an important addition to the civic centre in Cathays Park, Cardiff (states the *Western Mail*).

The Civic Buildings Committee of the Cardiff Corporation has approved in principle the provision of a block of offices between the Law Courts and the Welsh University Registry, part of which will be used for police purposes. The scheme is to be the subject of an open competition, but the cost of the building has yet to be decided. Figures of £60,000 and £75,000 were mentioned, but it was emphasized that the Finance Committee would have to go into further details before the scheme was finally adopted.

TIMBER SECTION AT THE BUILDING CENTRE

Today, at 12 noon, Sir E. Owen Williams, K.B.E., is to open the new timber section at the Building Centre, 158 New Bond Street, W.1. The exhibits include a museum of 200 various types of flooring, specimens of doors, windows and staircases, a wide range of veneers and plywoods, and an exhibit by the Forest Products Research Laboratory. In the evening, at 6 p.m., M. Marc Solotareff, the designer of the structural woodwork at the Paris Exhibition, is to deliver a lecture on "Modern Timber Construction."

D.I.A. VISIT TO EMPIRE EXHIBITION

The Design and Industries Association has arranged a visit to the Glasgow Exhibition combined with a short cruise to take place at Whitsuntide. The party will leave on the R.M.S. *Alcantara* from Southampton on Friday evening, June 3, at 8 p.m. After calling at Guernsey on Saturday to embark passengers, the ship will pass Land's End on Saturday afternoon and cruise up the West Coast, passing the Mull of Kintyre about 10 a.m. on Sunday, and entering the Sound of Islay at noon. She will reach Oban at 4 p.m. on Sunday, and anchor at Helensburgh on Whit Monday morning at 6 a.m. From Helensburgh, a visit will be made to the exhibition, the party returning to the ship in the evening. The *Alcantara* will leave on Monday at midnight and reach Southampton on Wednesday morning. A limited number of two-berth outside cabins have been secured at the special price of £10 10s. inclusive for the round trip from Southampton and back, and arrangements will be made for the journey from Helensburgh to Glasgow at an extra cost. Members wishing to take part in this visit should send their names to the Secretary, 6 Queen Square, W.C., together with a deposit of £1 1s., forming part of the cost of the tour.

THE ARCHITECTS' DIARY

Thursday, February 24

INSTITUTION OF STRUCTURAL ENGINEERS. *At the Institution of Civil Engineers, Great George Street, S.W.1. Joint meeting with the Institute of Welding. "Regulations and Specifications for Welded Steelwork." By E. P. Gardner.* 6.30 *p.m.*

SOCIETY OF ANTIQUARIES, *Burlington House, W.1. "Excavations at Maiden Castle." By Dr. R. E. M. Wheeler.* 8.30 *p.m.*

ARCHITECTURAL ASSOCIATION, 36 *Bedford Square, W.C.1. Exhibition of Work by Students of the Royal College of Art—arranged by the A.A. Students' Art Club. Until March* 18.

Friday, February 25

INSTITUTION OF STRUCTURAL ENGINEERS. *Midland Counties Branch. At the James Watt Memorial Institute, Birmingham. "Replacing a Telford Bridge on the Holyhead Road." By E. R. Knight.* 6.30 *p.m. South Wales and Monmouthshire Branch. Annual Dinner at Swansea.*

Tuesday, March 1

HOUSING CENTRE, 13 *Suffolk Street, S.W. Tuesday Luncheon: "The Case for Community Centres on New Estates." By Sir Wyndham-Deedes.* 1 *p.m.*

Wednesday March 2

CHARTERED SURVEYORS' INSTITUTION, 12 *Great George Street, S.W.1. "Town Planning in London." By G. Leslie Head.* 6.30 *p.m.*

R.I.B.A., 66 *Portland Place, W.1. Exhibition, "Health, Sport and Fitness," to be opened by Lord Aberdare at* 3.30 *p.m.*

"DESIGN WITH THE GLOVES OFF"

In the course of a paper under the above title read at the Reimann School of Commercial and Industrial Art, Mr. Charles Marriott said that a few years ago he would have said that the right solution of the problem of art in industry was by way of integration; taking art on the one hand and industry and commerce on the other at full strength and finding the right adjustment between them. What he would say now was that art and industry were only two names for the same possibility, and that any art which was not already latent in the commercial method or industrial process had no business to be there. In every commercial enterprise, in every industrial process, as ordinarily conducted, there were possibilities of artistic beauty, but the people who were engaged in the enterprise or process on the practical or technical side did not as a rule recognise this. That was where the trained designer came to the rescue. He did not add or introduce anything new to commerce or industry, he simply called out something that was already there. That was why the speaker would then say that the right solution of the problem was by way of evocation.

The chief asset of the designer was his highly developed sense of form and proportion, which could only be acquired by the practice of drawing. It was a mistake, however, to identify design exclusively with drawing. Anything that involved a plan or scheme, from political organisation and military strategy in domestic economy or the manœuvres of a lady to catch the man she wanted was, in the strict sense, a design. In the occupation of his hearers there was a good deal of designing which did not involve drawing. It might be the choice among alternative forms produced by a mechanical process; or the right assembling of standard writing; or—as in display—the planning of objects in effective relationships one to the other.

Up till now, the speaker thought, the training of designers had been to a certain extent insufficiently responsive to the actual conditions of industry and commerce. The subject had been approached, so to speak, with gloved hands. There was a notion that if things were to be well designed from an æsthetic point of view, business men must be persuaded to be a little less brutally commercial and industrialists a little less crudely utilitarian. Exactly the reverse was true, and we should only get good design when the customary workings of industry and commerce were accepted with both hands and at full strength. Otherwise, you cramped the style of the business men and the manufacturer, and no good design ever came out of a cramped style.

R.I.B.A. NEWS BULLETIN

Health, Sport and Fitness Exhibition.—Lord Aberdare will perform the opening ceremony at 3.30 p.m. on Wednesday, March 2. After tea has been served, Mr. John Gloag, HON.A.R.I.B.A., will lecture at 5 p.m. in the Henry Jarvis Hall on "The Object of the Exhibition." R.I.B.A. members do not require cards of invitation.

Rural Practice.—Mr. Edwin Gunn, A.R.I.B.A., is to deliver his paper entitled "Problems of a Rural Practice" at a General Meeting on Monday, March 7, at 8 p.m. The Council's guests will include Mr. J. W. Robertson Scott, Governing Director of "The Countryman"; Professor C. S. Orwin, Director of the Institute for Research in Agricultural Economics, Oxford; Sir E. John Russell, Director of the Rothamsted Experimental Station; Mr. Leslie S. Wood, President of the Land Agents Society; Mr. Harold V. Raffety, Chief Commissioner, Ministry of Agriculture.

University Extension Lectures.—In the last five lectures of the series of his University Extension Lectures on Thursday evenings at the R.I.B.A., Mr. Eric Jarrett, A.R.I.B.A., is dealing with the subject of architecture and modern civilization. His general title for the series is "The Ideas Behind Good Building." On March 3 the lecture will be on "The Modern Problem." The others are entitled "Rural Requirements," "The Town," "The Needs of Home Life," and "Looking to the Future." The charge is 1s. per lecture.

Touring Exhibitions

"Airports and Airways" is at the Museum Art Gallery, Botanic Gardens Park, Belfast, until March 5.

"Civic Centres" is at the Public Library, Museum and Art Gallery, Folkestone, until March 13.

"Modern Schools" opens at the Corporation

Museum and Art Gallery, Newport (Mon.), on February 28.

EXHIBITIONS

[*BY D. COSENS*]

OF the fifty-two paintings and sculptures at the Storran Gallery, none seems superfluous, and the whole widely mixed collection is of an unusually high standard. Modigliani at his best, or Picasso already magnificent at twenty-five, do not, as one might suppose, completely eclipse painters of lesser stature. Perhaps because, whether less or more successful in final assessment, all the work in this collection has the stamp of sincerity and none of it is dull. It would seem to have been chosen not necessarily by a standard of achievement, though this is frequently present, but for the genuine aims common to all good painting. It would be tedious to specify individually where all is so good, for selection in this case would be a question of personal taste rather than of particular merit.

•

André Bauchant is a farmer who, at the age of sixty-five, still paints with the naïveté and clear observation of a child, painting what he sees and understands in a straightforward manner, and with a rare lack of affectation; and taking enormous pleasure in simple country happenings and bright clear colour. He fits into no particular category of painters, and it is obvious that his work is a highly personal interpretation of an intense feeling for nature. This penetrates far enough into the individuality of inanimate things to verge at times on the surreal. He excels at painting flowers, but his most successful work is that in which he combines still life with landscape. The charm of this exhibition at the Lefèvre Galleries is the unaffected pleasure which M. Bauchant obviously derives from his work.

•

At the same gallery there is also a collection of paintings by Hans Feibusch, a very much more complex and sophisticated artist. Much of his work is mural decoration, and the broad treatment necessary for this has affected all his painting and is probably responsible for the sharp angular shapes and strong white high lights, calculated to tell at a distance, that, in an exhibition of this size, tend to become a little monotonous. The intensity of his work is so uniform that in spite of its sincerity it gives at times a feeling of over-dramatization that seems rather arbitrary. His sketches for mural paintings (38 and 39) are particularly good, especially the former with its simply suggested masses and depth of feeling, and this applies to most of his paintings of mythological figures, of which "Elijah" (21) is the outstandingly successful example.

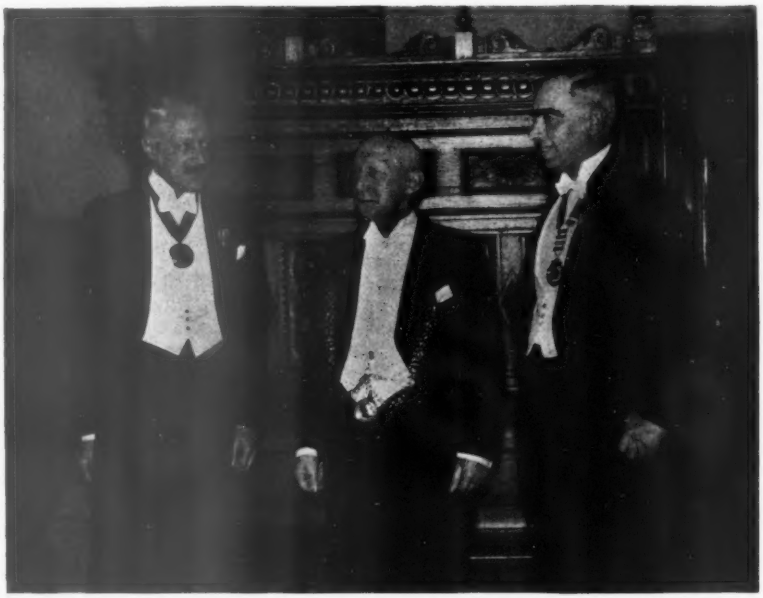
•

At the Bloomsbury Gallery, which has recently moved to South Molton Street, there is an interesting exhibition by Svetislav Vukovitch, a young Yugoslav painter. Though his work is well known on the Continent, this is his first exhibition in this country, and, with the exception of Mestrovic's sculpture, the first time Yugoslavian work has been shown here at all. And because the painter's name is unfamiliar, it is possible that a great many people may miss this exhibition. That would be a pity, for his work is well worth seeing. The excellent quality of his design is perhaps due to an early architectural training, and his painting is varied, and very broad and fluent in treatment. Mr. Vukovitch seems to be at his happiest when he is painting closely-related groups of figures, but such groups as "Holidays" (12) are very successfully composed of a landscape which is by no means subsidiary to the design.

English and French Paintings. Storran Gallery, 5 Albany Court Yard, Piccadilly. Until February 26.

André Bauchant and Hans Feibusch. Lefèvre Galleries, 1a King Street, St. James'. Until February 26.

Svetislav Vukovitch. Bloomsbury Gallery, 24 South Molton Street. Until February 26.



At the Annual Dinner of the Norfolk and Norwich Architectural Association held at Norwich on Friday last. Left: Mr. H. S. Goodhart-Rendel, P.R.I.B.A.; centre: Mr. Charles Watling (Lord Mayor of Norwich); right: Mr. F. H. Swindells (President of the Association).

Professor Reilly Speaking

THE Assistant's lot is not a happy one. That has been brought in to me very clearly by reading the essays submitted for the prizes recently offered by the Assistants' Association on "The Future and the Architectural Assistant." There is no doubt nowadays there is much less chance than there was when I was a young man of an assistant getting into practice on his own account. Then, forty years ago, it seems to me not only everyone hoped to, but nearly everyone did. There were some old stagers in all offices, often the mainstay of the office, who had married and settled down for good generally as head men, or at any rate men who had made themselves indispensable for some parts of the work. They were friendly old things who took an interest in the youngsters, and did not seem to mind their passing beyond them to practise on their own account. They were content to stay behind and help the next lot. One often learnt more from them than from one's boss. Even in those days he generally was too busy going out to lunch and seeking fresh jobs. On the other hand, there were young men who seemed to bypass the assistant stage —improvership it used to be called— altogether, and from pupilage to jump straight into practice. They had some convenient aunt who just then very conveniently wanted a house built and did not mind how little experience her nephew had had. Lutyens was like that, and later Oliver Hill. Neither went through the assistant stage. Lutyens tells an amusing story of going to see his first client, an old lady, and finding her very deaf. Being shy, in order to make conversation he asked her if she had heard the cuckoo. "What, what?" said the old lady, and produced a slate. "Please write it down." Lutyens did, and says he spelt cuckoo "Ku Ku," but he got the job. He would, of course, whatever the initial handicap. He had the personality, and I am sure had also the goods to deliver even then.

But any amount of personality and any amount of goods will not get one jobs today which do not exist. The friends and relations wanting to build £5,000 houses are no longer there. It was on one or two such that most men started. A few, of course, won competitions. That avenue is still open, more open than ever perhaps in the sense that there are today more competitions, though

it is less tempting for the reasons I gave some time ago, and which need not be repeated now—indeed, had better not be.

A prominent architect, with a profile such as a cabinet minister should have but generally has not, and a personality to dominate committees, told me the other day that out of all his assistants since he started practice, nearer a hundred than fifty, only three had got into practice on their own account, and of these only one had made any success of it. Of the other two, one had committed suicide and the other had returned to him in a few years penniless and asking to be taken back. Private practice is no doubt dwindling in the sense that the number of private practitioners is getting less. There may be more work to be done measured in money spent, though I am not sure of that. Buildings on the whole are no doubt getting bigger, but of those put up privately fewer and fewer men deal with them. The business architect who gets them grows fatter and fatter, metaphorically speaking, and leaves less and less for other people. Between him on the one hand and the official architect on the other, the ordinary architect of good ability gets fewer and fewer chances. I do not want to suggest the business architect cannot be an artist, too. He is occasionally. The predatory business type and the genuine artist always have this in common, that they are both great individualists.

What then is to happen to the great assistant class, the great mass that is of the profession? The business men, like their blocks of flats, will go on growing. They stand for efficiency and suit the modern world. As long as we have the land of our towns privately owned, those who show the owners how to get the biggest monetary return for possessing it to the centre of the earth and up to the sky will get the jobs. The business architect therefore will grow and grow as long as the present system lasts. Sometimes he will know what he wants, sometimes he won't, but he will always know what is best for his client. In this present competitive world, he is therefore an invaluable fellow. I met an old student of mine the other day who was with such an architect. He was a splendid fellow, he said, always going out and getting new cinemas to do and arranging the finance. "More power to him, we carry them out and have all the fun, and are not so badly paid, too. In fact, I am getting married." That is it. The assistants are getting married and are settling down to be assistants. It is a permanent class these days. How is it to be organized then to get its share not only of money but of fame, and how most of all is it to give its best work in return?

It is a very important question, however little those in power take notice of it. Our Schools of Architecture train men, as a parent was pointing out recently, at some cost and then the men so trained —five years of it today costing perhaps £750–£1,000 if they leave their home towns and go to one of the big schools —can with luck earn £200 a year to begin with. It is not very brilliant. A medical student, I was told at Liverpool by the Dean of the Medical Faculty, could always get £300–£400 to start with. The panel system of public service has made a great difference there. Then the British Medical Association lays down decent minimum salaries for men taking public appointments. Perhaps all that sort of thing is easier in a profession mainly scientific. The desirable minimum of knowledge can there be tested pretty accurately. So it can with us, but not so the desirable artistic skill. That is where the Schools should help and no doubt do. With the long series of designs exhibited and judged in five one-man shows, one at the end of each year of the course, it is, I maintain, possible and only possible in that way to graduate students according to their powers of design. The awards of the Schools should therefore mean something definite. A first-class honours degree, for instance, at Liverpool or London with a fine thesis should and does mean something very good indeed.

On such data and on subsequent work I suggest a grading system for assistants should be set up. An A.R.I.B.A. by itself is much too general and all-embracing a qualification. I suggest some central body, possibly the R.I.B.A., possibly the A.A.S.T.A., or possibly both together, should assess both the varying experiences of the candidates added to their varying degrees and diplomas, as well as the Final R.I.B.A., taking the thesis design into account in each case. They should then, I suggest, divide them all into at least six grades like the three into which the University lecturers are graded. As with them, a minimum salary should be fixed for each grade, to which public bodies and respectable architects would be expected to adhere. As with them, too, the lower grades, say, VI, V and IV, might be kept for original qualifications at the Schools or at the R.I.B.A., and the top three for the added experience. If there has been no school training and there are no R.I.B.A. qualifications then these lower grades must be devoted to office experience. Special ability in special lines would be noted as well. There is a body in America that does this for the vast mass of degrees and diplomas given over there by the endless universities and colleges of extremely varying standards. The top class is called Phi-Beta-Kappa. Anyone who can wear a little gold Phi-Beta-Kappa medal is acknowledged everywhere to be a first-class man or woman, and so on. I remember feeling doubly proud when a charming American girl once let me wear her's for a week or two as a mark of affection.

Once the Grades were established a certain comfort as well as substance would be gained as one achieved a step up. It might further be established that the names of, say, all Grade I men should appear on a firm's notepaper below that of the partners. They should appear too, in the same way below all illustrations in the press. Even in a Socialist State we should for a long time still require, I think, a good deal of personal recognition of our work. As long, however, as we live under the present competitive scramble called the capitalist system, though why called a system when there's so little that is systematic about it I cannot make out, we must all secure some minimum publicity if we want to get on. We do not each want or need a press agent as it is rumoured one celebrated architect employs, but we should all, I suggest, publish our drawings or express our ideas in writing or speaking now and then for the good of the community, and incidentally for our own. There is, indeed, an art of gracefully retiring into the limelight which some say I have been known to practice myself, now and then.

SIR IAN MACALISTER (Secretary of the R.I.B.A.)
A. W. BARR (Secretary of the A.A.S.T.A.)
H. C. HUGHES
COLIN PENN (Hon. Sec. of the A.A.S.T.A.)

LETTERS *FROM* READERS

R.I.B.A. Council

SIR,—I have just read Mr. Malcolm Mactaggart's interesting Prize Essay published in your last issue.

I note that in one important respect his information is not up to date. He says, speaking of the R.I.B.A.: "Out of its Council of 81 members, in fact, not less than 60 members (an incontestable majority) *must* be Fellows."

Under the old constitution this was true. Under the new constitution adopted in 1937—on the recommendation, be it noted, of a Council which then contained a large majority of Fellows—the constitution of future Councils was settled as follows:

The Council is to contain 74 members. Of these, 29 must be Fellows, 9 must be Associates, 3 must be Licentiates, 1 may be either a Fellow or an Associate, 32 may be either Fellows, Associates or Licentiates.

It is therefore in the power of the whole body of members to create a Council containing: 29 Fellows, 45 Associates or Licentiates.

Another small but not unimportant point. He says, "Well, the Bill did go through." It didn't. I hope it will be possible to say that next July.

IAN MACALISTER,
Secretary, R.I.B.A.

Salaries

SIR,—We have read with interest Mr. T. J. Murray's letter in your issue

A photograph taken at the annual dinner of the Norfolk and Norwich Architectural Association, held at Norwich on Friday last.

for February 10. The advertisement by the South Shields Corporation to which he refers, offers an extremely low salary—£200—for a post demanding a qualified architect with some years of office experience, and we have already sent the Corporation a letter of protest.

This Association has worked out a definite salary scale, which has already been in part adopted by several offices, and we are working continually to secure its general adoption. The post advertised, according to this scale, should carry with it a starting salary of £350 a year.

Mr. Murray has doubtless noticed that the successful applicant for this post will be subordinated to the borough engineer. This means that, however responsible an architect may be for work done by South Shields Corporation, he will remain anonymous and the engineer will get the credit for his work. This is still a common state of affairs, which we are constantly fighting.

The A.A.S.T.A. is concerned with the interests of students as well as those of assistants, both from the point of view of training and of prospects.

A. W. BARR,
Secretary, A.A.S.T.A.

The Panel System

SIR,—The comments of Astragal in your issue for February 10 start off with what seems to me a gross and unwarranted attack on the Panels system. It is quite untrue to say that "in actual working almost the only schemes submitted to panels have been the 'odd' ones." There is a constantly growing number of Town Planning areas in which *all* plans are submitted to the Panels as a matter of regular routine, and those who have worked on such Panels know well how seldom anything is produced which is even "odd," let alone designed. Country builders' work conforms pitifully close to a type, and the type is mostly a poor imitation of building in the suburb. Where the Panel is not consulted, the plans are submitted to the Town Planning Officer, who in the majority of cases is the local surveyor. In *some* areas, especially towns, only designs with which the local Planning Committee is dissatisfied are referred to the Panel: and that is their *only* chance of being judged on their architectural merits by architects.

It is generally agreed that competitions should only be judged by professional assessors, and surely it is equally important that architects' designs should not be rejected simply by the members of the local councils, who have full legal power to do so. Appeal is to the Ministry of Health only as long as the Town Planning Scheme is in its initial stages. It is the good fortune of architects today that the present Inspectors are ready to appreciate good design. When the schemes are completed, the only appeal will be to a local Panel Tribunal, one architect, one surveyor and one J.P. Here indeed the President of the R.I.B.A. will have a very important task of nominating as these architect members men whose judgment is acceptable to the local authority, but who will judge fairly to the architects, and be able to convince their fellow members of the Tribunal of the fairness of their judgment, and it is very important that there should be some co-ordination between the architect members of these Tribunals in different parts of the country.

To suggest that the area Panels are all of old men is absurd: the young are appointed equally with the elders for what does become in time a rather weary and exacting task.

H. C. HUGHES

Air Raid Precautions

SIR,—A letter such as that of Mr. Quelch in your issue for February 10 cannot be allowed to pass without some response from our profession. The Council of the A.A.S.T.A. has for some time been giving earnest consideration to the matter.

It is true that there are still to be found in this country people who say that peace is the only possible protection against air attack. But though peace is the only *complete* protection, experience in other countries has already proved that varying degrees of safety can be secured by methods suitably adapted to the different localities.

Architects can serve in three different ways:—

1: We can assist wealthy private clients to equip themselves and their families with the greatest degree of security which science can provide against bombing from the air.

2: Members of the profession have already been called upon, and will no doubt be called upon again, to advise the Government concerning the types of shelters and structural precautions to be recommended.

3 : We have surely a duty toward the general public of ordinary working citizens to give our advice as to the best possible methods of protecting their lives at work, at school, and at home.

Some may say, in connection with the last item, that architects are under no obligation to give advice to the public unasked, and that if our help is needed the Government or the local authorities will request it in good time. But this is a matter upon which we and our colleagues the engineers are experts, and we can and should form an independent opinion. Our obligation extends even to the criticism of schemes which are proposed and which we ourselves may be convinced are inadequate.

The necessity of criticism is clear when we remember that it is doubtful whether the measures proposed by the Government for the protection of the general public will provide any safety except for adults against gas. The measures proposed for offices and factories provide protection against gas, splinters, and blast only, while the application of them is left entirely to the discretion of the employer.

This Association set up a Committee some time ago to study the whole problem, and it has already been found that the proposals in France are likely to be much more effective than those in this country. Evacuation from Paris on a large scale is contemplated, shelters proof against heavy bombs have already been constructed, and plans have been made for the use of the Metro by the civilian population. The work which has been done by architects in France has convinced us that English architects have a similar duty to perform.

On behalf of the Public Relations Committee, the A.A.S.T.A.,

COLIN PENN, Hon. Secretary.

[*Owing to pressure on our space we are compelled to hold over a number of letters.* —*Ed.*, A.J.]

R.I.B.A.

Following are some extracts from a paper entitled "The Architectural Work of the Miners' Welfare Committee," read by Mr. J. H. Forshaw, Chief Architect to the Committee, at the R.I.B.A., on Monday last.

IT has always been conceded that the miners as a body are amongst the most courageous of our countrymen. Health, recreation, and the cultural aspects of the miners' lives are matters of deep concern to the Miners' Welfare Committee, and to us as architects, dealing with the problems arising therefrom.

Our work has one distinct aim—that of recreating an atmosphere woefully deficient in more senses than one. We regard this as a first consideration in all our schemes, whether it is a pithead bath, a recreational institute, sports ground or other scheme. It is not easy to define, but it is manifested by making the health, comfort and general well-being of the users the prime consideration, which for convenience I describe as the "Welfare Condition." This same care is being given in the design and detail of fittings, equipment and apparatus. This does not imply that we do not pay attention to costs—our limited funds compel us to secure the maximum benefits, but in every case we provide at least a reasonable minimum.

The Miners' Welfare Committee measures success in terms of improved health and of leisure wisely spent. Nevertheless, it is important that individual schemes should prosper under their own management. Our buildings, which are handed over to trustees representing the local interests of men and owners, are designed substantially and equipped so as to require a minimum expenditure on upkeep. All the early installations in this country followed in design the typical installations erected on the Continent. These installations consist essentially of a large and lofty hall surrounded by shower bath cubicles, the entrance to the cubicles being screened either by staggered arms in the form of a "T" or by doors. The great hall is used both for undressing and for dressing, and is equipped with a system of ropes or chains by which either the clean or pit clothes, as the case may be, are hoisted and suspended for drying in the upper part of the hall.

This type of continental plan has serious disadvantages in principle and in detail. The use of a common changing room for clean and dirty men is obviously unsatisfactory in many ways and the committee determined upon the complete isolation or "separation" of the washed man and his clean clothes from the unwashed man and his pit clothes.

This decision was largely due to the research work undertaken by Commander Coote, the central committee's welfare adviser at that time. It marked the introduction of "welfare" into the work; it was, in that sense, fundamental. Moreover, it definitely established the principle of first consideration for users, and departed from putting first considerations of cost and the mere fulfilling of the letter of an Act. In that way it placed British methods far in advance of the continental system. We had therefore our traditional late start in this important social work.

The acceptance of the principle of "separation" of clean and dirty clothes was the first step, and *not* the method of drying. The locker system was used at some few pits on the Continent and it was clear that where any choice had been given to the men the locker was preferred to that of the hoisting chain. This is noticeable in all the sections reserved to the deputies or overmen, and in the Belgian baths at Winterslag, adjoining the Dutch frontier, the whole installation is equipped with lockers. There was no provision of clean and pit sections in any foreign schemes and the same locker was used for home and pit clothes; in consequence the system retained many of the defects of the old hoisting method. It is interesting to know that the Germans now favour "separation" and are introducing pit and clean sections in their new schemes. In 1927 the Germans considered the extra cost involved in the provision of separate sections quite unnecessary—it is an interesting change of opinion, and there can be little doubt that it is our British system that has brought this about.

The principle of "separation" having been adopted for our schemes, the method of stowing and drying clothes was of next importance. None of the clothes lockers produced by manufacturers up to that time was suited for the special purpose. The locker system to be a success entailed the design and construction of a clothes locker specially suited for the use of miners, the first requirement being efficiency in drying clothes; that locker was produced and something like 600,000 have been installed in over 200 schemes to date.

This early problem of locker design was vital; the nest of lockers was the "unit" in the order of planning. The lockers not only stowed and dried the clothes but their design incorporated the essential seating for use in the changing rooms. The position of the "nests" required that congestion did not arise and the arrangement must facilitate circulation. The spacing at the correct distance apart, having in mind that the seating in front of opposite rows might be in use at the same time, was a matter of careful experiment. The saving of a few inches was important and meant a saving of feet in large locker rooms. The locker room was evolved (*a*) around the equipment it was to house and (*b*) around the "circulations" it was to enclose. This was the standardized mass-produced equipment and the same principles applied also, in a less degree, in determining the size, shape and spacing of the shower-bath cubicles. The installation became a co-ordinated whole, with essentials in equipment related to essentials in planning. That did not mean that we had produced a standardized building, because every site varies in shape and few collieries are of the same size. Even when the total number of men is similar, as in some few cases, the sizes of the working shifts invariably differ widely. Suitable ancillary accommodation such as a first-aid room, boot-cleaning and greasing sections, water-bottle filling and attendants' room, stores and a canteen are all based on a scale related to the size of the largest shift, and to the winding-time. In this way congestion or undue waiting is avoided as far as possible.

The great advantage was that these decisions concerning equipment, scale of accommodation and planning ensured that all the baths built by the Central Welfare Committee would be in accordance with a uniform scale; the scale would, in fact, ensure all the coalfields having schemes similarly equipped on the basis of an agreed national scale, as indeed it has proved. The advantages of the method are obvious. Apart from the great economies that are effected in the bulk purchase of equipment and fittings, there is the influence of an intimate control on the work by a committee in close touch with both sides of the industry. Above all, it had the valuable and satisfying characteristic that it did not lead to differences of opinion or of practice in the different parts of the coalfields. The pioneers in this country reproduced one or other of the types they had seen abroad, either in France or Belgium; actually one or two English schemes followed their continental model so closely that they left out all provision of a sanitary nature. This was in order to secure more square feet of hanging space for clothes, thereby accommodating a few more men.

It was the realization of the shortcomings of the existing English schemes that convinced the central committee of the need to examine the whole problem afresh. To seek the miner's point of view and to benefit from his observations and advice they established four experimental baths in different districts before launching out on their main building programme. The opinion of the users at first hand was thus obtained, and the criticisms and observations of visitors from all parts of the coalfields. Before the completion of the fourth experimental baths, and, in fact, by the opening of the third scheme, the committee were satisfied that the principles of this new idea were on the right lines.

At this point (1928) the central committee decided that their small staff of architects and quantity surveyors should be augmented for the purpose of building baths at those collieries where the men had agreed to use them as quickly as possible.

This decision to set up a central architectural staff to carry out the constructional work envisaged the method of establishing baths at all collieries as required by the Act of 1926. It envisaged, too, the application of the committee's principles in design and the embodiment, in all future schemes, of results gained by experience in building and in the operation of the experimental installations and subsequent schemes. Moreover, it made possible the concentration of effort on a specialized social work and ensured a continuity in improvement. It facilitated co-ordination not only in development but also in the establishment of baths on a time and order basis.

It has, I venture to say, maintained these conditions and in addition created a liaison with the personnel of the industry on all sides that is invaluable and, I believe, could not have been secured by any other method.

CONVALESCENT HOME FOR LEICESTER ROYAL INFIRMARY

DESIGNED BY PICK, EVERARD, KEAY AND GIMSON

GENERAL PROBLEM — *Convalescent home built through the bequest of the late Mr. Zachary Merton.*

SITE—*Ten miles from Leicester in the midst of Charnwood Forest, one of the highest and most beautiful parts of the county. The home stands on the crown of a hill having a gradient of 1 : 10.*

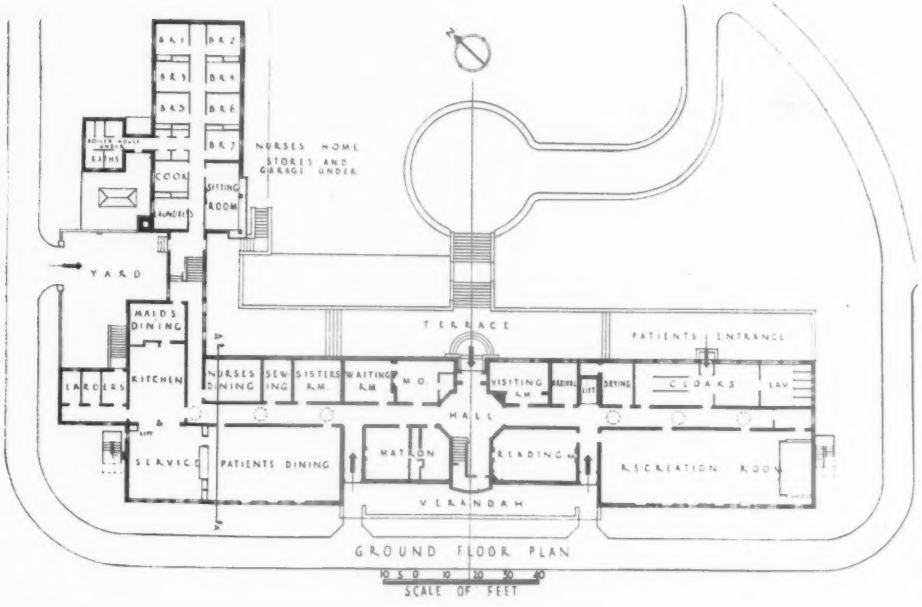
CONSTRUCTION—*Steel frame, reinforced concrete and hollow-tile floors and roofs. The walls are faced externally with local, rough texture mellow-red bricks. The heads, cills and the mullions of the windows are in situ and pre-cast concrete, brushed to expose the aggregate of local gravel. The bedrooms, which accommodate respectively four and two patients, are partitioned by glazed flush wood and breeze blocks screens, 7 ft. high with a 3-ft. open space over, so that the whole floor, including the corridor, has free cross ventilation. When the doors of the bedrooms are closed, air currents are directed over the screens and do not trouble the patients.*

PLAN—*The buildings comprise a convalescent home and an attached nurses' and maids' home. Accommodation is for 68 patients and 20 nursing and domestic staff. The main building is three floors high. On the ground floor are kitchen, service, and dining, reading, recreation and administration rooms, and the two upper floors are occupied on the south-west front by the patients' bedrooms, with open-air sun balconies in the centre. On the north-east front are sanitary and service blocks. The nurses' and maids' home is at the north end of the main building. Under the nurses' home, on a lower ground floor are a garage and a large general store, equipped with steel shelving, and at the side, the boiler house.*

The photograph shows part of the north-east front.

CONVALESCENT HOME FOR LEICESTER ROYAL INFIRMARY:

The photograph is of the veranda and balconies on the south-west front.



GROUND FLOOR PLAN

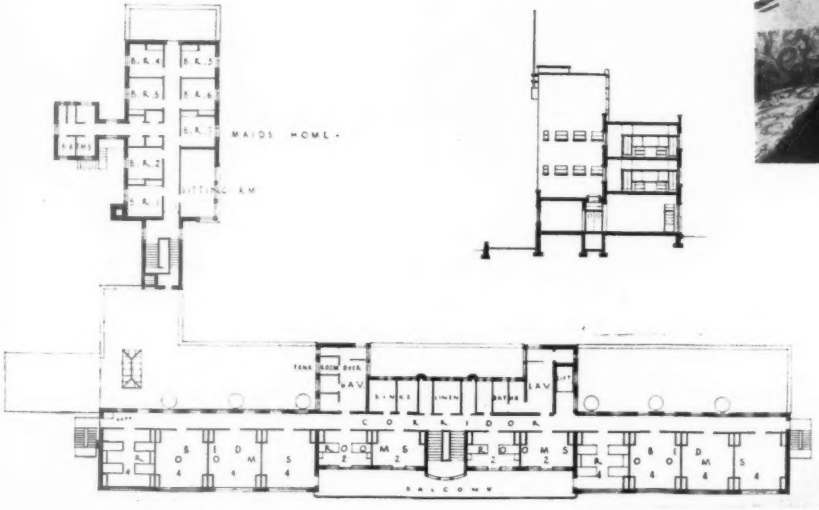
DESIGNED BY PICK, EVERARD, KEAY AND GIMSON

INTERNAL FINISHES—*Floors are linoleum cemented to the screeding, with coved skirtings, except in the kitchens and the service rooms, which have quarry floors. The walls to the kitchens and service rooms are in cream glazed tiles; the remainder are plastered. Doors and cupboards are flush oak. The main staircase and balustrade are in cream terrazzo.*

SERVICES—*Heating is by low-pressure hot water, and cooking and sterilizing are by steam and electricity. The laundry attached to the women's home on the adjoining site has been enlarged to serve both homes.*

The photographs show : above, the main kitchen; right, top and centre, patients' bedrooms, bottom, nurses' sitting-room.

For list of general and sub-contractors see page 344.



FIRST FLOOR PLAN AND SECTION

HOUSE, WELWYN GARDEN CITY

DESIGNED BY MAUGER AND MAY

GENERAL—*House for a partner in the firm. A sense of space was the main object, and it was decided to forego privacy so far as the ground floor was concerned. The house was to serve the needs of a family of four, including two young children. Four bedrooms were required—two of the smaller ones to become later study rooms for the children. It was hoped to run the house without a resident maid.*

CONSTRUCTION—*11 in. cavity walls; roof, 1⅝ in. fibre board fixed on boarding covered with patent roofing, the latter screeded with cement and sand; joists, 7 ins. by 2 ins.; first floor joists, 9 ins. by 2 ins.; balcony and bathroom and w.c. floors of reinforced concrete; internal partitions, 4½ ins. brickwork.*

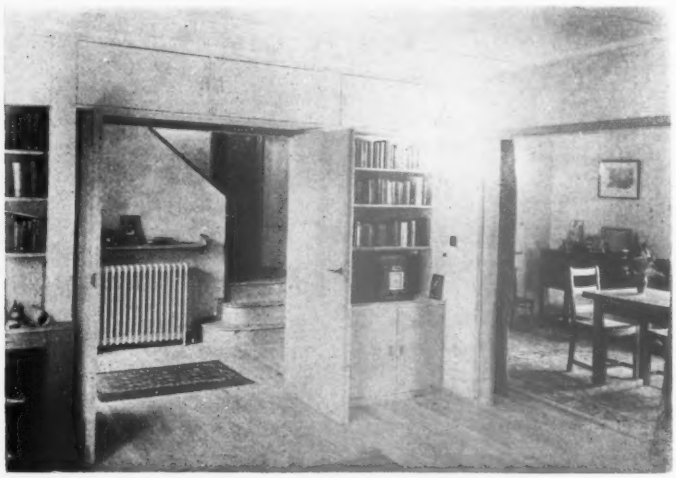
EXTERNAL FINISHES—*Hertfordshire yellow stock brickwork, with copper gutter and down pipes, with pale green window frames and an oiled oak front door (glazed with cross-reeded glass). Balcony balustrades are copper mesh.*

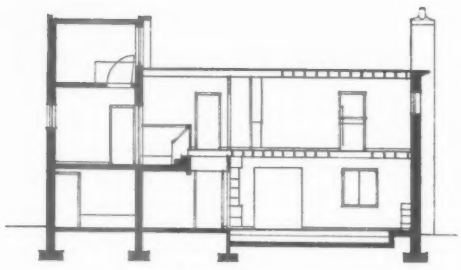
INTERNAL FINISHES—*Walls, plaster scraped finish; ceilings, wall board in large sheets (spanning rooms) with rebated v-joint; floors, American oak.*

COST—*Contract price, £1,455 1s. 3½d. per foot cube; final price (including fittings), £1,590 1s. 5½d. per foot cube.*

The photographs show: above, a view from the east; below, looking from the sitting-room into the entrance hall and dining-room.

For list of general and sub-contractors, see page 344.





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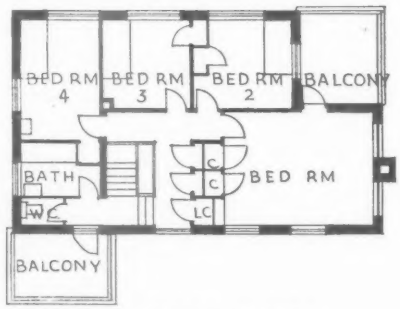
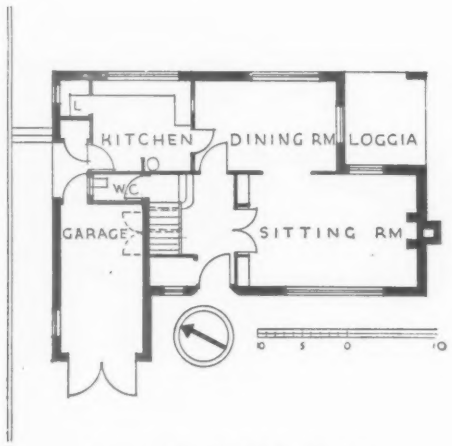


FIRST FLOOR



GROUND FLOOR PLAN

The Architects' Journal Library of Planned Information

INFORMATION SHEET

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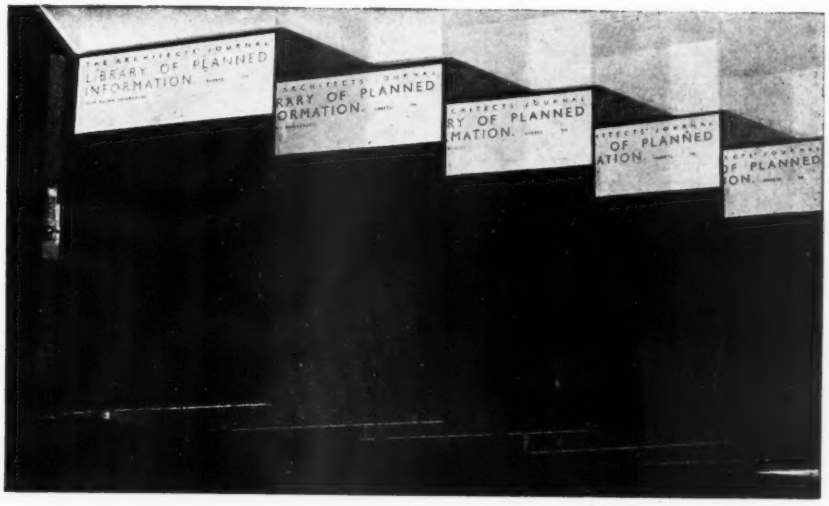

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544 : Sheet Leadwork
545 : Elementary Schools—III
546 : Elementary Schools—IV
547 : U.S.A. Plumbing—III
548 : Wallboards
549 : Elementary Schools—V
550 : Elementary Schools—VI
551 : U.S.A. Plumbing—IV
552 : Sheet Leadwork
553 : Kitchen Equipment
554 : Burnt Clay Roofing Tiles
555 : A.B.M. Draining Boards
556 : Kitchen Equipment
557 : Asbestos-Cement Roofing
558 : A.B.M. Rainwater Pipes
559 : Flashing
560 : Kitchen Equipment
561 : Asbestos-Cement Roofing
562 : A.B.M. Rainwater Gutters and Fittings
563 : Asbestos-Cement Roofing
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565 : Air Conditioning
566 : A.B.M. Rainwater Gutters and Fittings
567 : Plywood—I
568 : Leadwork
569 : Gas Cookers
570 : A.B.M. Moulded Gutters and Fittings
571 : Fuel Storage—I
572 : Electrical Equipment
573 : Wallboard and Insulating Board
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575 : Plywood—II
576 : Plumbing
577 : Leadwork
578 : Plumbing
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582 : Heating Stoves Burning Solid Fuel—II
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584 : Free Standing Gas Panel Heaters
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594 : Sheet Leadwork
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596 : Gas Heating Equipment
597 : Sanitary Castings
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599 : Heating (Electrical)
600 : Sewage Disposal
601 : Sanitary Equipment
602 : Enamel Paints

T14

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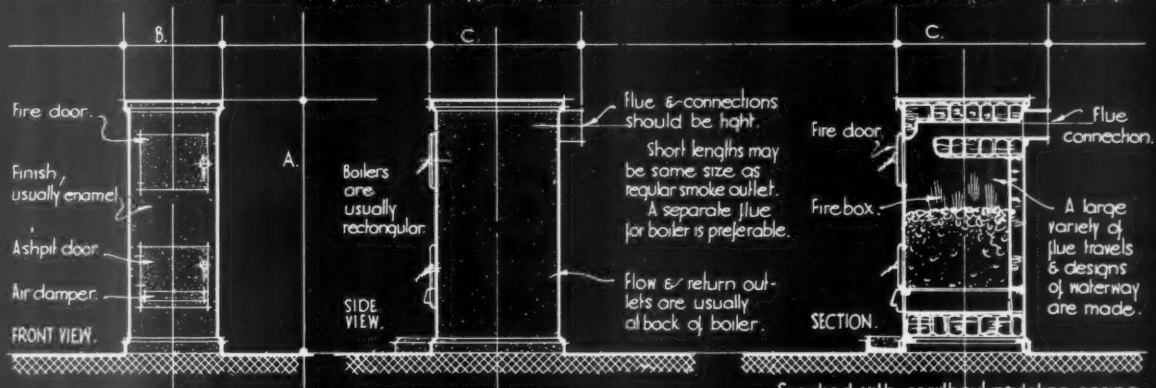
1. TYPICAL CAST IRON SECTIONAL BOILERS FOR CENTRAL HEATING

When used with a calorifier, this type of boiler can be used for hot water supply.



Supplied with or without insulating casing.

TABLE GIVING APPROXIMATE CAPACITIES & DIMENSIONS

CAPACITY OF BOILER. B.Th.U's. per hour.	DIRECT RADIATION. Square feet.	DIMENSIONS A.	B.	C.
20,000.	84.	36"	14"	13"
30,000.	125.	36"	14"	16"
40,000.	167.	36"	14"	19"
50,000.	208.	36"	14"	22"
60,000.	250.	36"	14"	25"

FUELS RECOMMENDED : Anthracite, coke or other smokeless fuels.

DIRECT RADIATION :
The figures for direct radiation represent 60% of the capacity of the boiler.

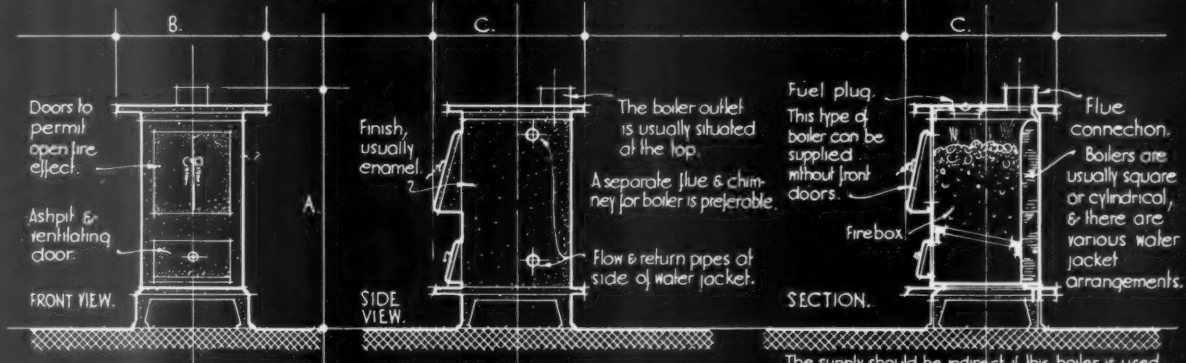
NOTE • An average figure for radiator emission is 150 B.Th.U's. per square foot when mean water temperature is 160° F.

SMOKE OUTLET : horizontal or vertical.

EXTENSIONS : These boilers can usually be extended to deal with additional radiators or indirect hot water supply.

2. TYPICAL CAST IRON BOILERS FOR THE DIRECT OR INDIRECT HOT WATER SUPPLY SYSTEMS

Precautions are necessary in the case of exceptionally hard or soft waters.
When domestic boilers are used for indirect heating instead of ordinary direct hot water supply, a size larger should be selected.



The supply should be indirect if this boiler is used also for central heating purposes.

TABLE GIVING APPROXIMATE CAPACITIES & DIMENSIONS.

CAPACITY OF BOILER. B.Th.U's. per hour.	GALS. PER HOUR. 40 to 100° F.	40 to 140° F.	DIMENSIONS. A.	B.	C.
20,000.	33.	20.	26"	18"	18"
30,000.	50.	30.	30"	20"	20"
40,000.	66.	40.	34"	22"	22"

FUELS RECOMMENDED : Anthracite, coke or other smokeless fuels.

FUEL FEED :
This type of boiler is usually fuelled through a cover in the top plate.

CLEANING :
Wide waterways, usually in the form of a jacket with clean out covers, are provided for the removal of scale from the boiler interior.

FLUES : should be tight, & vertical if possible.

Information from the Coal Utilisation Council.

INFORMATION SHEET : TYPICAL SMALL INDEPENDENT HAND-FIRED BOILERS FOR HEATING & HOT WATER SUPPL
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1 • Oscar A. Bayne

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 603 •

HOT WATER BOILERS

III

Subject : Typical independent hand-fired boilers for heating and hot water supply

General :

The particulars on this Sheet are intended to be generally representative of this class of appliance only, and are enumerated without prejudice to any information that may be given subsequently regarding the appliances of individual manufacturers.

Central Heating :

Low-pressure hot water heating boilers of the type indicated in Section No. 1 are recommended for small central heating installations. They are built of cast iron sections, and hence usually can be extended to the maximum capacity listed to deal with additional radiators or increased demand for hot water supply. In small private houses the domestic hot water supply and partial central heating is often provided by means of the type of boiler indicated in Section 2, but it is recommended that wherever possible the hot water supply should be separated from the heating water by means of a calorifier, and a valve inserted for shutting off the heating system during the summer months. For larger installations, cast iron and steel boilers are available in a variety of types and of ratings up to 2,000,000 B.Th.U.s per hour.

No special foundation is required on which to stand small boilers having a waterway below the ashpit as illustrated, provided that local bye-laws are complied with.

It is recommended that an automatic damper or other approved regulating device be fitted to the central heating type of boiler to prevent overheating. A thermometer indicating the maximum water temperature facilitates adjustment of such devices.

Flues :

Flue pipes should never be less in diameter than the smoke outlet of the boiler ; where flues are comparatively long they should be larger. It is important to ensure that the chimney to which the boiler is connected is of adequate height and area, and that it does not also serve an open fireplace.

Fuels :

For particulars of the fuels recommended for use in these boilers, reference should be made to the material published on the back of Information Sheet No. 571, " Fuel Storage."

Hot Water Supply :

Two methods of obtaining a constant and adequate supply of hot water for domestic purposes are given in Section 2. The first, known as the direct system, in which the supply is drawn from a storage tank directly coupled to the boiler, and the second, the indirect system using a calorifier, sometimes called an indirect cylinder.

The direct system is the cheaper to instal owing to the simple construction of the boiler and storage tank, and is extensively used in the smaller type of house. When the direct system is used in districts where the water is hard, there is a likelihood of scale or deposit forming in the boiler, due to the continual changing of the water. The hot water supply type, unlike central heating boilers, is constructed with wide waterways and clean-out covers for the removal of scale deposits. The indirect system does not have this disadvantage, and should be employed in cases where there is the possibility that the supply of hot water may be combined with a central heating system.

The main advantages of combining the hot water supply system with the central heating system are that less space is required, and only one fire needs attention. The choice of system in any particular case is influenced by the demand that is likely to be made upon each of the services.

At certain periods of the year, the supply of hot water may be required only intermittently and it may not, for example, be convenient to light the fire in order to provide occasional baths. In this event, the installation of an automatically controlled electric immersion heater in the tank is possible, or, alternatively, the fitting of a gas water heater interconnected to the tank outlet so that hot water may be available.

In districts where the water is very soft, or of a nature likely to corrode iron boilers and pipes, some precaution such as Bower Barffing is necessary, to prevent discoloration of the water and deterioration of the apparatus. The use of galvanized cylinder and piping may prevent this corrosive action taking place. If the water is exceptionally soft the use of non-ferrous metals for all parts of the heating system may be required.

In all water systems the use of different metals for various parts of the circuit should be avoided as far as is practicable in order to minimize galvanic action.

Flues, Fuels, etc. :

See remarks above relating to central heating boilers.

Technical Service :

The British Coal Industry, through the engineers of the Coal Utilisation Council, provides technical service to architects and the public generally on all problems relating to the use of coal and its derivatives for all purposes. In addition to the staff at the Head Office, there is an engineer attached to each branch office at the addresses given below. Additional general information is also available in various technical bulletins issued free by the Council.

Previous Sheets :

This Sheet is the third of the series by the Coal Utilisation Council, the first and second being Nos. 571 and 582, dealing respectively with Fuel Storage and Heating Stoves.

Issued by : The Coal Utilisation Council
Head Office and Southern Branch : Grosvenor Gardens House, Victoria, S.W.1
Telephone : Victoria 4366
Midland Branch : Essex House, 27 Temple Street, Birmingham, 2
Telephone : Midland 3736
Eastern Branch : Alliance Chambers, 19 Horsefair Street, Leicester
Telephone : Leicester 65011
North-Eastern Branch : 38-39 Pearl Chambers, East Parade, Leeds, 1
Telephone : Leeds 23616
North-Western Branch: 38 Deansgate, Manchester, 3
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South Wales and South-Western Branch : United Kingdom Provident Buildings, 14-16 Baldwin Street, Bristol, 1
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81.

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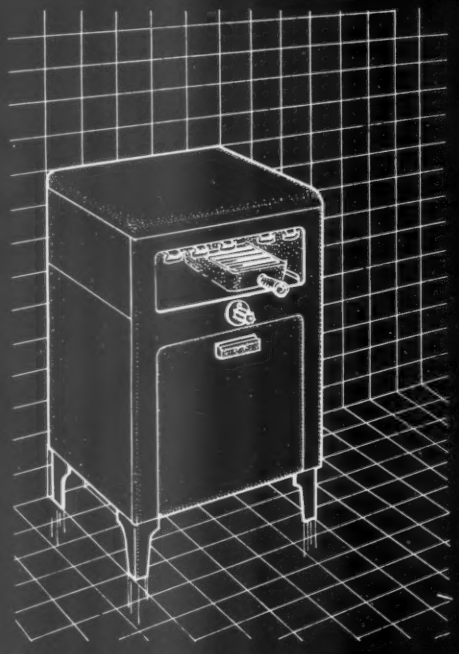
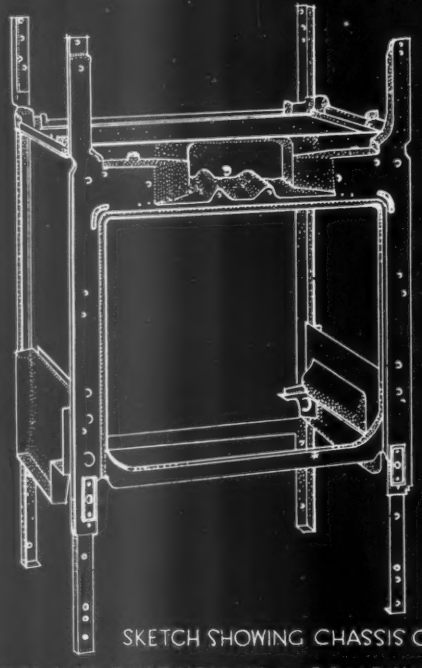
PARKINSON RENOWN (Mark II) GAS COOKER.



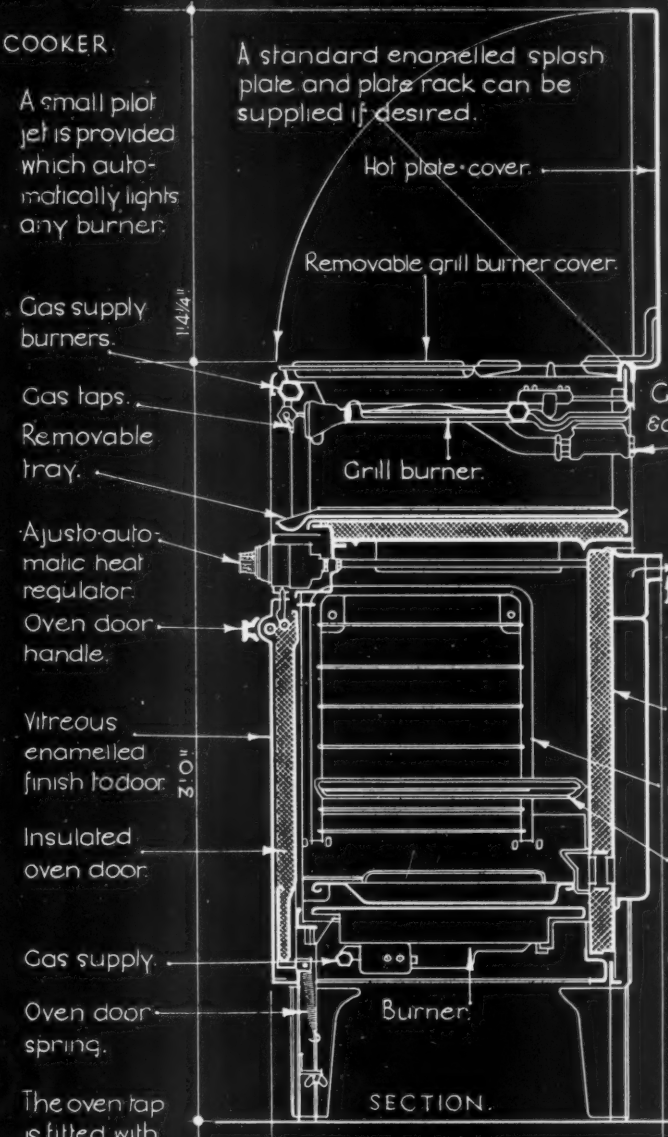
SKETCH OF COOKER WITH H.P. COVER CLOSED.

A small pilot jet is provided which automatically lights any burner.

A standard enamelled splash plate and plate rack can be supplied if desired.

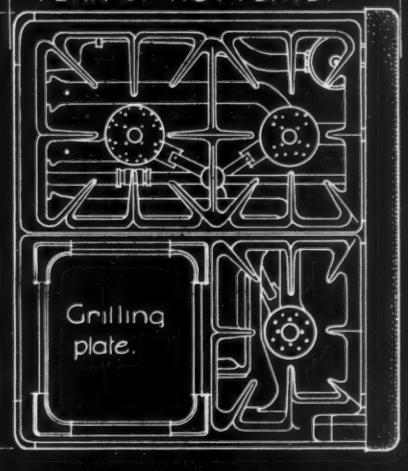


SKETCH SHOWING CHASSIS OF COOKER.



SECTION.

The oven tap is fitted with a safety device, which makes the accidental turning on of the gas impossible.



PLAN OF HOT PLATE.

TABLE OF DIMENSIONS: RENOWN MARK II.

Oven, inside	Height 17¼", Width 18", Depth 14"	Hot plate	Width 20¼", Depth 16¼"
Ovendoor opening	Height 14", Width 16½"	Overall dimensions of cooker including provision for lighter	Height 52¼", Width 22", Depth 20¼"
Height of hot plate	36"		
Height over cover, open	52¼"	Width without provision for lighter	21"

Information from The Parkinson Stove Co. Ltd.

INFORMATION SHEET : GAS COOKERS : THE PARKINSON RENOWN COOKER, MARK II.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1 • Olca A. Bayne

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INFORMATION SHEET

• 604 •

GAS COOKERS

Product : The Parkinson Renown Gas Cooker

General :

Parkinson Renown gas cookers are made in two sizes, Mark I and Mark II ; Mark II is the smaller model and details of it are given on this Sheet.

The cooker is built upon a cast-iron and mild-steel chassis or framework, the door, sides, back and top of the oven being insulated against heat loss, and the whole entirely enclosed in a pressed steel covering with vitreous enamelled finish.

Capacity :

The Mark II model is intended to serve all normal meals for four to six persons.

Hotplate :

The hotplate contains three boiling burners and one covered grill, each being served by an automatic ignition system. By this system a single pilot jet ignites by a flash each burner when the appropriate taps are turned on.

Simmering jet :

Each boiling burner gas control tap is provided with a stop beyond the full-on position for convenience when a simmering position is required.

Ajusto oven control :

The oven is fitted with an adjustable thermostatic control which is used in conjunction with a cooking chart supplied with the cooker.

Plate-rack and cover :

The hinged cover shown on this Sheet is supplied as a standard fitting with the cooker, but this may be omitted and replaced by a splash plate and plate-rack if required, for a small extra cost.

Flash lighting :

The flash lighting system may be omitted if required and a small reduction in price is made.

Mark I :

The Mark I model is the larger of the two and is intended to serve all normal meals for from four to eight persons.

Dimensions

—	H	W	D
	ins.	ins.	ins.
Oven, inside	18¼	19	18
Oven, door opening	15	17½	—
Height to hotplate	36	—	—
Height over cover when open ...	57¼	—	—
Hotplate	—	21¼	21¼
Overall dimensions of cooker (including provision for lighter)	57¼	23	24½
Width without provision for lighter	—	22	—

Information from : The Parkinson Stove Co., Ltd.

Address : Birmingham, 9

London Showrooms : Terminal House, Grosvenor Gardens, S.W.1

Telephone : Sloane 0111

Glasgow offices : 13-27 Camden Street

SCHOOLS

Senior Schools

Well-designed benches in the boys' handicraft room of one of the new Cambridgeshire village schools. Metalwork bench, with hood, can be seen in the background. Architect, S. E. Urwin.

PLAN UNITS : SCIENCE AND HANDICRAFT ROOMS

ONLY the elementary stages of physics, chemistry, botany and biology are taught in Senior Elementary Schools, but as a certain amount of smell is unavoidable, the science wing should be reasonably isolated from classrooms and practical rooms.

The department should consist of :

Laboratory	960 sq. ft.
Biology room	250–300 sq. ft.
Store and dark room ..	200–250 sq. ft.

Laboratory

Provision is normally made for a full class. In smaller schools, where economy is necessary, half-classes are sometimes arranged. A good size for a full class is 38 ft. 6 ins. by 25 ft. Minimum width is 22 ft. 6 ins., minimum height 11 ft.

There should be three suspension beams, running the full length of the laboratory, for display and demonstration purposes. They should be 3 ins. wide, 9 ins. deep below the ceiling, and firm enough to support the head of a ladder.

Storage

Apart from the store and dark room, which will be described later, built-in storage should be provided behind the teacher's demonstration bench. Cupboards 1 ft. deep should be planned under the blackboard, and a cupboard at least 2 ft. 6 ins. deep at the side, allowing storage for bell jars, flasks, retorts and bottles. There should also be a small shelf for reference books.

Windows

One side wall, preferably but not necessarily facing south to south-east, should have maximum window area down to bench level, opposite wall having continuous windows at high level. Shades or Venetian blinds are needed to darken the room. All-opening, mechanically-operated hopper types are best. End walls should be free from windows.

Artificial Lighting

Shadowless electric light, throwing 12–15 foot candles on benches, is specially important when evening classes are held. Light plugs should be provided at intervals along the two side walls for table lamps and occasional electrical experiments.

E

Heating

Elements should be recessed so as not to interfere with wall benches or equipment.

Ventilation

Natural cross ventilation should be assisted by at least two efficient extract ventilators of an adjustable type in the roof or high up in the laboratory walls.

Floor Finishes

Hardwood, high density wood compound, tiles, good quality linoleum or asphalt, with coved skirtings. Cork or rubber should not be used.

Wall and Ceiling Finishes

Walls are best if faced with some form of internal facing bricks or with plastic paint over a skim coat of plaster. Ordinary plaster walls are not suitable for laboratories. In light-framed structures painted wall board may be used for upper parts of walls, asbestos-plywood or other erosion-proof panels for the lower 4 ft. 6 ins.

Ceilings may be of insulation board, but should be painted to avoid absorption of moisture and gases.

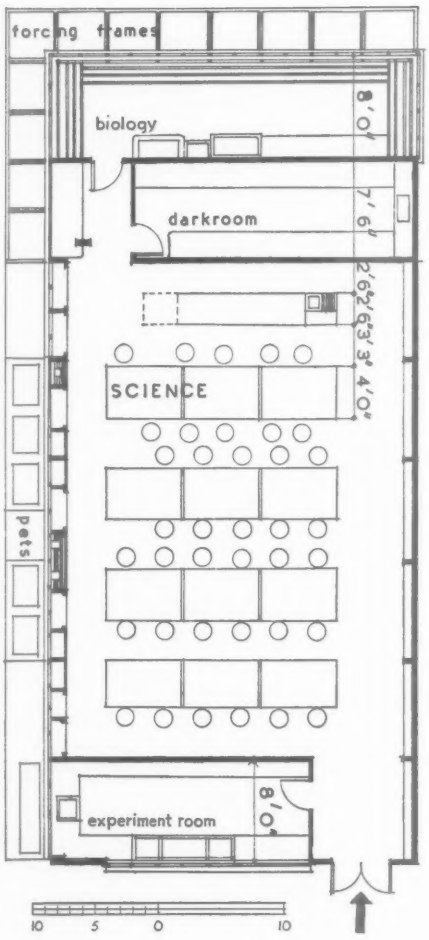
Furniture and Equipment.

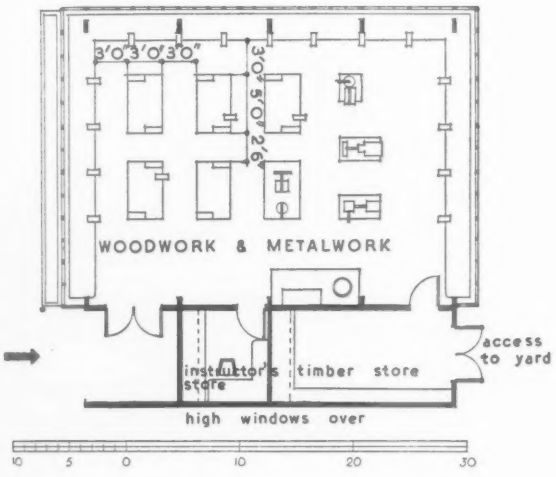
Equipment is very simple, though more elaborate apparatus is sometimes necessary when adult evening classes are held. Usual equipment is :

Demonstration bench, 8 ft. by 2 ft. to 2 ft. 6 ins., 2 ft. 9 ins. high. Flaps may be provided at ends to increase length to 10 or 12 ft. Sink fitted at one end. At least two electric, two gas power points. Drawers and cupboards fitted on teacher's side, cupboards on children's side. It is an advantage if teacher's platform is raised 6 ins. for demonstration purposes.

Blackboard 12 ft. by 4 ft. behind teacher's desk. Teacher's shelves and cupboards fitted around blackboard as already described.

Lantern. Usually projected from one end of bench. May be mounted on a movable trolley or permanently provided for at the end





Above : Diagrammatic plans showing suitable layouts of benches, equipment and storage spaces in science wing and boys' handicraft room. Science laboratory is 960 sq. ft. in area, workshop 850 sq. ft.
Left : Window benches in science laboratory of Bottisham village college, Cambridgeshire. Architect : S. E. Urwin.

SCHOOLS

of the bench. Part of the side wall under the high windows, or the wall opposite the blackboard, should be left free for a lantern screen.

Benches. Ordinary firm tables with drawers are better than very solid types of benches. Tops of well-seasoned teak are best. Double benches, 5 ft. long, 3 ft. 6 ins. wide, 2 ft. 9 ins. high, are usual. They are easier to supervise than single benches and economise space. Single benches are 2 ft. wide. Gangway spacing between double benches is 4 ft. 6 ins., between single benches, 3 ft. minimum.

Wood and metal work bench. Used largely for repair of equipment. Consists of a table with wood and metal vices and racks for tools.

2 sinks, in addition to the one in demonstration bench. One should be household type, the other 12 ins. square, 8 ins. deep, in white glazed ware.

Gas and electric points at intervals.

Fume cupboards are only necessary when advanced evening work is done.

Biology Room

This should take the form of a glass house with at least three window walls and a glass roof. It should be immediately accessible from the laboratory. Here plant and animal life will be studied. There will also be a miniature aquarium. Open batten shelves, 1 ft. 6 ins. to 2 ft. 6 ins. wide, and a sink are necessary. Floor should be tiled.

It is a good idea to have outdoor pets near the science wing, and there should be direct access from the biology room to the experimental part of the garden.

When a biology room is not possible, Wardian cases should be provided at the bottom of laboratory windows.

Store and Dark Room

This should run the full width of the laboratory and be at least 8 ft. wide. One end may be partitioned off as a dark room (at least 10 ft. by 8 ft.) so that the store is still accessible when the dark room is in use. Both store and dark room must be ventilated to the outer air but need not have windows.

Adequate shelves for materials and equipment must be provided, and there must be a large sink, with hot and cold water, in the dark room.

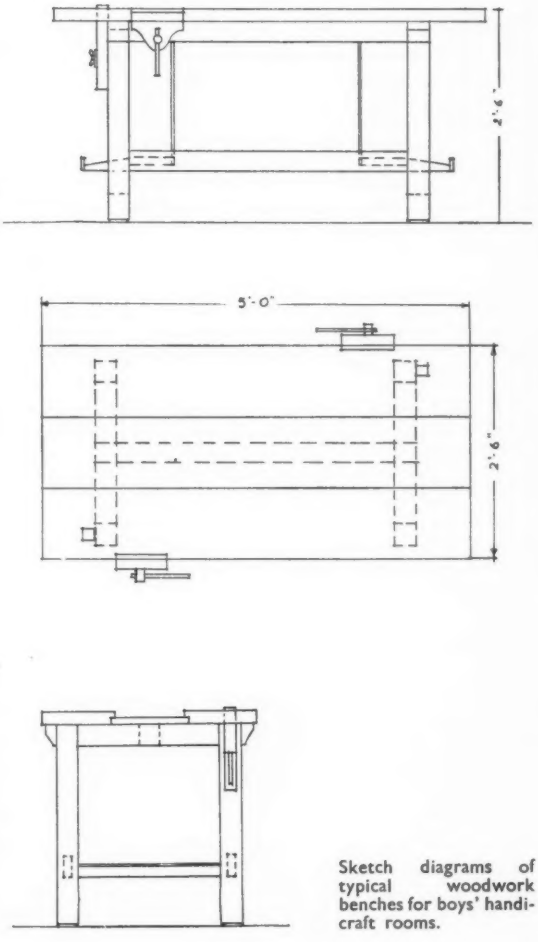
Experiment Room

Though not essential, an extra room (200–250 ft.) where long term experiments may be carried out, is an asset. It should be provided with shelves, cupboards, work table at least 2 ft. 6 ins. wide along one wall, and a large household sink. It can also be made convertible to dark room, but when this is done a sink should still be provided in the store room.

HANDICRAFT ROOM

The handicraft room is used almost exclusively by boys for training in wood and metal work. Each boy spends at least one half-day each week in handicrafts.

As wood and metal work involves a good deal of noise, this unit of the plan should be isolated from other teaching units as effectively as possible. It may be treated as a detached workshop, connected with the rest of the school by a covered way. At the same time, it should be planned near a service entrance, so that supplies of timber can be unloaded near the timber store.



Sketch diagrams of typical woodwork benches for boys' handicraft rooms.

Size

Boys are usually taught in half classes. Minimum accommodation required is :

3-stream boys' : 2 rooms, 850 ft. (or 1 room, 1,500 ft.).
3-stream mixed : 1 room, 850 ft.
2-stream boys' : 2 rooms, 850 ft.
2-stream mixed : 1 room, 850 ft.
1-stream boys' : 1 room, 700 ft.
1-stream mixed : 1 room, 700 ft. (combined with practical room).

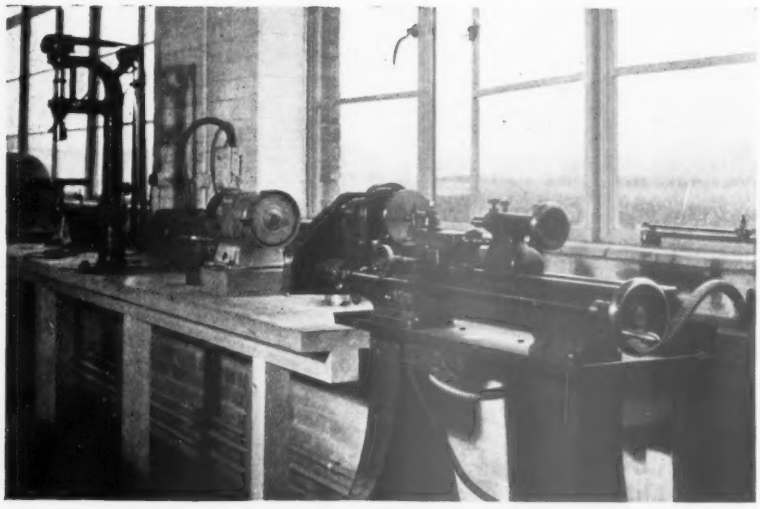
In 3-stream boys' schools, where accommodation is not limited and handicrafts are stressed, an area of 850 ft. for each stream is desirable.

Height should be 11 ft. to 12 ft. 6 ins.

Storage

Timber store, accessible to service yard, should be at least 15 ft. long with an area of 180 sq. ft. No heating pipes must be taken through the timber store.

A general store, 100–120 sq. ft., is also necessary.



Above : Handicraft room in action at a Stockholm school, showing continuous bench and tool racks under windows.
Below : Some of the equipment in the handicraft room at Bottisham village college.

In dual-purpose rooms additional storage, similar to that listed under practical rooms, will be required.

Windows

If possible, there should be window-walls on three sides, the windows starting level with the ceiling and stopping 1 ft. to 1 ft. 6 ins. above bench level in order to allow space for tool racks and avoid risk of breakage.

Artificial Lighting

Sufficient to give illumination of 15 ft. candles on benches for evening work.

Heating

Elements should be carefully considered in relation to planning of wall equipment. Wall or ceiling radiant heating panels are most suitable.

Floor Finish

The usual workshop floor of tongued-and-grooved deal boards laid on concrete is most practical. It does not blunt dropped tools.

Wall and Ceiling Finishes

Deal boarding or hardboard fibre panels are suitable for walls above and below benches. An insulation-board ceiling avoids excessive resonance.

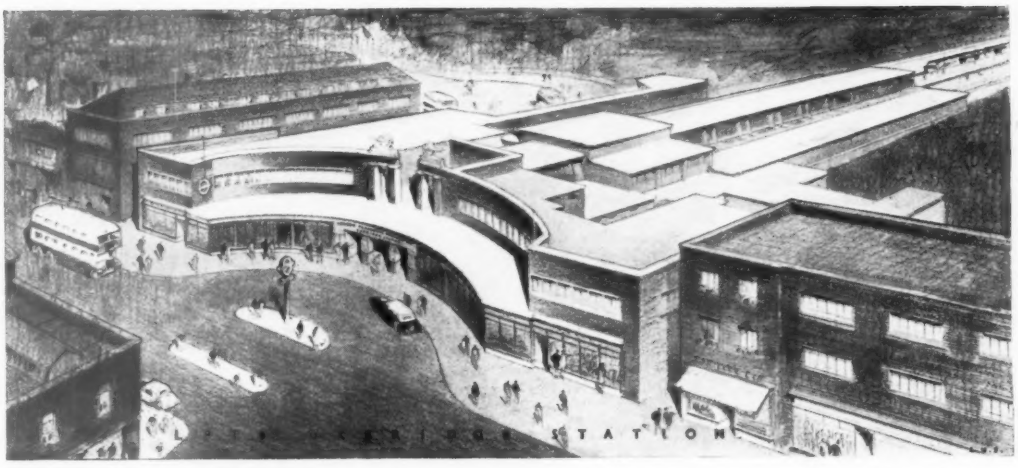
Equipment

Double benches, 5 ft. by 2 ft. 6 ins., made adjustable in height or varying from 2 ft. 4 ins. to 2 ft. 6 ins., are usually convenient. (See diagrams and photographs.) Benches should be placed 6 ft. centre to centre, and gangways between rows should be 3 ft. Careful consideration to the placing of benches should be given when designing the handicrafts room. A rather larger bench, 2 ft. 9 ins. high, should be provided for the instructor. In addition, there should be continuous benches down at least one side of the room.

Wood and metalwork equipment should be separated. Equipment varies to some extent in different schools, and when evening classes for older boys are held it is often quite elaborate. The Board of Education suggests that the machinery provided should include :

1 or 2 motorized back-geared screw-cutting lathes.
1 electric drilling machine.
1 or 2 bench hand drill machines.
1 power grinder.

In exceptional cases a power-driven wood-turning lathe is suggested.



Perspective of the new London Transport Station which is now in course of construction in the High Street, Uxbridge. The estimated cost is £100,000, and the architects are Adams, Holden and Pearson.

IN PARLIAMENT

THE HOUSING BILL

IN the House of Commons last week Sir Kingsley Wood, the Minister of Health, moved the second reading of the Housing (Financial Provisions) Bill. He said that it provided for the furtherance of the work of slum clearance and dealing with overcrowding. It also made special provision for agricultural housing and would meet exceptional conditions which prevailed in small urban areas. The slum clearance programme covered about 400,000 houses, and some 800,000 persons had passed from slums to new and good housing conditions and others would be dealt with at the rate, on an average, of 25,000 a month. Local authorities had been actively engaged in slum clearance work. Some 17,000 new houses had been built or approved for the abatement of overcrowding, and one of the principal objects of this Bill was to enable further and continuous efforts to be made in this direction. It was estimated that for the execution of the present programme for slum clearance and for dealing with overcrowding on the present standard some 600,000 new houses were required—400,000 for slum clearance and 200,000 for the abatement of overcrowding.

To date some 200,000 houses had already been built towards that total and another 70,000 were under construction, while houses were being completed at the rate of about 7,000 a month. The present building of new houses should ensure the maintenance of the local authorities' programmes at the same high rate during the present year. The January figures showed that 6,675 new houses were approved in that month, and with the 8,742 approved in December and the 7,065 approved in November this gave a total of 22,000 houses approved during the last three months. The December figures, which included the comparatively large figure of 1,248 houses for general needs, was the highest since August, 1935. According to the latest figures the local authorities had built no less than 1,000,000 houses since the Armistice. Much, however, still remained to be done, and another 400,000 houses would be necessary to complete this effort. This would mean between five and six years of steady work at the present rate of building. This broadly represented what was immediately practicable in view of the heavy demands on the building industry. In these circumstances it was the policy of the Government in urban districts to concentrate Exchequer assistance on the provision of houses to deal with slum clearance and overcrowding, which constituted the primary health problem in relation to housing.

There were indications that the peak had been reached in building costs and that prices were now steadying for a fall. Local authorities were now receiving more tenders for work, particularly in the south, and more contractors were seeking contracts. The Ministry would maintain a constant scrutiny of tender prices submitted and take action when necessary. Under the arrangements proposed in the Bill, houses completed not later than December 31, 1938, would rank for subsidies fixed by the Acts of 1930 and 1935, and those finished after that date would rank for subsidies fixed by the present Bill. Certain transitional provisions were necessary because of the change-over from one subsidy to another, and power was taken in Clause 10 to pay subsidies for houses built to abate overcrowding or the general needs of the population, including any contracts entered into after the introduction of the Bill, notwithstanding that the houses were finished before December 31, 1938. He had also provided in the Bill that a further review should be made after December 31, 1941, but that contribution should be payable on all houses completed by September 30, 1942.

In the new financial provisions two important changes were being made. The first was the fixing of the two subsidies for slum clearance and overcrowding at the same level.

The second proposal was that the contribution should take the form of an annual contribution for each house built, payable over a period of 40 years. The uniform subsidy fixed would, so far as slum clearance operations were concerned, enable local authorities to let houses at practically the same rents as were contemplated when the slum clearance subsidy was fixed in 1930. By far the greater part of the rehousing still to be done would be by way of cottage-building rather than by flats. Under the Bill non-parlour houses with three bedrooms could be let at rents between 6s. and 7s. a week exclusive of rates, and it would no longer be necessary to make a separate rent pool for those houses. It would be paid into a general housing revenue account and pooled with other subsidies and rents could be arranged as each local authority found suitable.

Special provision was necessary for certain special cases, such as the erection of flats. The contribution of £5 10s. might be regarded as the ordinary contribution payable for all cottages built to deal with slum clearance and overcrowding. But in connection with blocks of flats on expensive sites in a few large towns a specially high rate of contribution varying with the cost of the site was proposed. The minimum contribution payable on sites costing more than £1,500 but less than £4,000 would be £11 a year for 40 years as compared with £6 a year for 40 years in the 1935 Act.

There was a considerable advantage in a graduated scale, because the price of sites was subject to wide variations. The new flat subsidy would enable flats to be built at a rent between 7s. and 8s. on the average. The Government's policy would continue to be to encourage the building of cottages where practicable and flats where it was essential, as in the centres of large towns.

Three and a half million houses had been built in England and Wales since the Armistice, an unparalleled figure, unapproached, he thought, by any other country. But they had not yet been able to make sufficient provision for people who were vital to the nation, the agricultural workers. More and better housing was needed on the countryside. If people, particularly young people, were to remain there they must be given housing conditions in which they could live a happy, healthy, and comfortable life. There were three ways in which this could be done: by (1) improving sound old houses; (2) demolishing and replacing bad houses; and (3) providing new houses. The Housing (Rural Workers) Act had proved an increasingly useful measure. Some 14,000 cottages had been repaired and reconditioned and made fit for human habitation, and the number of dwellings in respect of which grants or loans had been promised was about 17,000. Applications for grants and loans were increasing steadily. But more useful work could be done by methods which not only secured improved living conditions, but preserved so many country cottages. The Government therefore proposed to introduce legislation at an early date to extend the operations of this Act, which would otherwise expire next June, for four years.

Existing methods and machinery were not sufficient to enable new houses to be built for the general needs of the agricultural community to let at suitable rents. The gap between building costs and the rents that were within the means of the agricultural worker was much wider than elsewhere. The Central Housing Advisory Committee advised him that there was particularly a shortage in certain parts of cottages suitable for young workers and that this had a material effect in driving young workers into the towns, notwithstanding the demand for competent agricultural labour. The financial provisions were designed to meet this problem, and would enable cottages to be provided at average rents ranging between 3s. and 4s. a week exclusive of rates. In this way

they could improve the lot of agricultural workers and make the industry more attractive, particularly to the younger generation. There was a provision which would enable the Exchequer contribution to be increased by not more than £2 a year for 40 years where the building costs were exceptionally high, the increase to be accompanied by an equivalent increase from the county council.

It was of great importance that the new houses, particularly in the country, should not only be structurally sound and suitable for the use of the occupants, but harmonious with the countryside. They should be built in or close to existing villages. There were great disadvantages to the tenant and his family if they were far away from the village.

Local authorities should employ architects or, where this was not possible, should forward their plans to the Ministry for advice and help. He intended to issue a special manual, when the Bill became law, containing plans and illustrations for local authorities of what could be done.

Since the Armistice the taxpayers had contributed nearly £180,000,000 to better housing. It was estimated that the annual Exchequer contributions under the proposals contained in the Bill would amount to £2,700,000. The present commitment of the Exchequer in respect of houses provided since the war was approximately £14,500,000 a year. The housing work done by local authorities, or to which they had made contributions, had involved a capital expenditure of £750,000,000. Thanks to the generous Exchequer contributions, 1,000,000 houses owned by local authorities were let at working-class rents at a cost to local rates averaging about 3½d. The present programme would, on the average, increase the rates by about 1d. This measure was one of major importance, and it would help to ensure a measure of planned building for some years. The additional number of new houses required would mean an output of 80,000 houses a year —an increase of 10,000 a year on the present output. It also provided an opportunity for filling the gap that might be left by a falling-off in the present output of private enterprise.

Mr. Greenwood, for the Labour party, moved that this House, realizing the limited extent to which overcrowding can be abated under the operation of the Housing Act, 1935, and the need for more progressive measures, regrets that, on the contrary, a Bill has been introduced which, in so far as it becomes operative, will result in higher rents, and which substantially reduces the amount of State assistance in respect of slum clearance, abandons the sound principle of basing the subsidy upon the number of persons rehoused, and revives the objectionable policy of subsidizing private enterprise in circumstances which will perpetuate the evil system of the tied cottage in rural areas. He said that the Bill illustrated what had always been the Government's policy—the maximum of window-dressing and the minimum of assistance to people who needed new homes. The Labour Party had always held that subsidies should go not to private builders but to local authorities, and that there should be differentiation between the richer and the poorer local authorities. They also believed in the principle—which the Minister had completely abandoned—of basing State grants upon the number of persons rehoused. The Bill had accepted the principle of differentiating between the richer and poorer areas but, unfortunately, it had gone back to the principle of subsidizing the private landlord.

Mr. Hicks said he hoped that efforts to economize on the costs of building would not be reflected in lowering the standard of the houses. Far too little advantage was taken by local authorities and private owners of the best architectural skill, and the best way to secure that was by adopting a system of open competition for housing designs.

Mr. Tree said that there was an ever-growing body of public opinion which believed in the importance of rural England. They had seen in a comparatively short time London torn so much to pieces that it had lost all its individuality, and today was just another great capital city. They had seen the suburbs in every city and town in England wantonly destroyed, and large areas of the country spoilt for ever. There was a universal cry to keep what was left. If building on a large scale was to take place let them see that proper sites were chosen and that buildings were of good design. A few years ago panels of architects were set up to advise district councils. In certain parts of England they had done magnificent work. He was told that in about one-third of England the scheme had been most effective ; in another third the panels, although set up, had done very little ; and in the other third they were entirely inoperative. That was not good enough. Work of that importance should not be left to a voluntary body. Under the present Bill a qualified architect should be employed in each district by the local authorities to give advice in the preparation of all schemes, and the Minister would satisfy himself before granting a subsidy that a qualified architect had been employed. By-laws should be less rigid so that good designs could be made.

After further prolonged debate, the amendment was rejected by 258 votes to 137, and the Bill was read a second time.

Later, when the money resolution in connection with the Bill was passing through Committee, Mr. Bernays said that the Minister of Health attached very great importance to the preservation of the amenities and would do all he could to encourage the use of panels of architects.

BUILDING BY-LAWS

Mr. D. Somerville asked the Minister of Health whether he was satisfied that the building by-laws in Greater London were such as to permit the erection of large-scale flats intended to economize the use of available land for building ; and, if not, whether he would suggest to the local authorities concerned that they should be remodelled.

Sir K. Wood said he was not aware that the building by-laws in force in the local government districts comprising Greater London precluded the erection of buildings of the type to which his hon. friend referred. If he had in mind any particular case of difficulty, he (the Minister) would be glad to look into it.

HOUSING SUBSIDY

Mr. D. Somerville asked the Minister of Health whether he was satisfied that the fullest possible use of the subsidies for flats was being made by local authorities in London and Greater London ; and, if not, whether he would suggest to those authorities concerned the desirability of utilizing all available ground to greater advantage than by the exclusive erection of houses.

Sir K. Wood said he had no reason to consider that local authorities who found themselves obliged to purchase expensive sites were not fully alive to the possibilities of development by means of flats.

SOCIETIES AND INSTITUTIONS

BIRMINGHAM AND FIVE COUNTIES ARCHITECTURAL ASSOCIATION

Following are some extracts from a paper entitled "The Responsibilities of Architects in Spending the Wealth of the Nation," read by Mr. T. P. Bennett at a recent meeting of the above Association :

In the erection of buildings I am forced to the conclusion that the profession of building to-day is a very long way from the standard of perfection, that the excessive cost of many buildings is not the result of things beyond the control of the architect and the builder.

There is a tendency on the part of most architects to wash their hands of the control of installations of engineering services, and leave them to the respective subcontractors and engineers.

While it may be impossible to become technical experts in every type of equipment, the wider the comprehension of the man in charge of the whole building and the only man probably in direct touch with the ultimate owners is the man to decide with meticulous care and considerable detail upon the precise nature of the equipment.

What is, however, an unquestionable necessity is a proper testing of this plant when it is installed and I am appalled to find that the use of proper tests throughout the building brings to light a surprising number of discrepancies in the work obtained through competition.

Many schemes only work because they so rarely have to comply with the conditions of the specification. For example, in England we might easily go through a whole winter and have only a day or two when the temperature is below 32 degrees, and far too many contractors trade upon this fact, coupled with the assumption that the tenant will provide some measure of heating from electric or gas fires, open coal fires and similar means, which the contractor was supposed to produce.

Similarly, hot water is supplied at temperatures of 105 degrees and 110 degrees unless the boilers are abnormally stoked, but the worst factor of the competitor is discovered when these discrepancies are disclosed and when the contractor proceeds to explain why this particular item fails to work, finishing the explanation with an indication that it is no fault of his own and the client must pay.

I have now investigated very large numbers of these attempts to make the client pay for something which the architect definitely intended for inclusion in the original contract.

The contractor relies on loose specification writing by the architect, upon masses of obscure printing which he puts on the back of his tender and which in many cases, I am reluctantly forced to believe, is put there with the intention not of guiding the architect or the building owner, but to provide a "get away" for the contractor in case his system is tested and fails to work.

Some of these printed conditions are of a kind which ought to be brought to the notice of the architect or builder, joinery where special slowness of heating is needed or desirable, additional coats of paint which should be put on the moment the material is delivered, and other important and substantial subsidiary works which in many cases could be carried out if this particular requirement was singled out from the mass of irrelevant information which appears and which should be made the subject of special correspondence on the part of the contractor.

In the erection of buildings I am forced to the conclusion that the profession of building to-day is a very long way from an attainable standard of perfection and that the excessive cost of many buildings is *not* the result of things beyond the control of the architect and the builder.

FYLDE ARCHITECTS

At the annual meeting of the Blackpool and Fylde Architectural Society, Mr. R. Anderton, of South Shore, was elected president ; Messrs. J. Crabtree and F. M. Wilding were appointed vice-presidents ; Mr. J. Burns was elected honorary auditor ; and Mr. F. W. Coope was re-elected secretary and treasurer.

ANNOUNCEMENTS

The partnership between Mr. Harold W. E. Lindo, A.R.I.B.A., and Messrs. M. E. and O. H. Collins, of No. 115 Old Broad Street, E.C.2, was terminated on December 31, 1937. Mr. Lindo is practising at No. 37 Panton Street, Haymarket, S.W.1. Telephone : Whitehall 6944. Messrs. Collins are continuing at their same address.

Mr. J. Russell Baxter, A.R.I.B.A., of 23 Alwiyah, Baghdad, would be pleased to receive manufacturers' catalogues.

IN THAT CONTINGENCY

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

Dampness in Buildings

IN the last three issues of this series of Notes the various aspects of the problem of dampness in buildings have been discussed. The present note is a continuation of the series.

(iii) *Local damp penetration through walls due to defective construction*

The risk of damp penetration through walls largely depends upon the severity of exposure as affected by the height of the building and its situation. However, certain details of construction and minor defects in technique may appreciably accentuate the tendency to damp penetration in a given situation. For the present purpose it must suffice to refer to some of these points in general terms, the principles involved being applied in various ways to suit particular cases.

From the earliest times it has been recognized that the exclusion of moisture by solid masonry can only be *depended upon* provided the conditions of exposure are relatively mild and suitable structural features are incorporated in the design. The provision of such features as cornices, copings, overhanging eaves, cills and string courses is the natural outcome of this knowledge. When traditional building materials are used, the omission of well-designed features of this kind often causes local or even general penetration through solid walls. It is not always appreciated that such features are of importance from the point of view of protection as well as architectural effect and when for some reason they are omitted and no alternative protection is afforded, penetration often occurs. For instance, cornices, copings, etc., should have " weathered " surfaces and a drip, and the joints in the masonry should if possible not be introduced in positions which are most subject to penetration.

The correct placing of masonry joints has an important bearing upon local penetration. Figures 1 and 2 illustrate a string course and a rusticated joint, respectively.

The joint A is placed above the point (*a*) where the greatest accumulation of water is to be expected. When a projecting brick course is used as a string and no flashing is provided the joint is in the most vulnerable position and the check to the flow of water is often accentuated by lack of " weathering." Cement fillets used to cover the joint and form a "weathering " are rarely satisfactory as they tend to shrink and form cracks against the wall face. The joints B and C in the sketches are both protected by an overhang and in the case of C it is to be noted that a joint at the level of the upper surface of the projection is avoided.

The application of these principles to the design of brickwork and other forms of masonry will materially assist in preventing local penetration of moisture.

Special considerations apply to horizontal surfaces which are exposed to much more severe conditions than vertical work, and in the case of brickwork the number of joints materially adds to the risk of penetration. Unprotected horizontal and even sloping brick surfaces should therefore be avoided as far as possible. When brick-on-edge copings are used on walls it is a common practice to use a single or double course of roofing tiles in cement mortar, but this often fails to afford the necessary protection ; even if the tiles are impervious, shrinkage cracking of the mortar joints may destroy the usefulness of the tile creasing. Window cills and weatherings with this construction are often a source of trouble. When brick copings or other horizontal surfaces are adopted they should either be covered with an impervious material, such as a metal flashing, or a damp-proof course of bitumen or metal should be placed immediately beneath the exposed brickwork.

Experience shows that vertical joints are much more liable to allow penetration of moisture than are horizontal joints. The bonding of brickwork therefore becomes important, as any bond which increases the number of vertical joints will adversely affect the watertightness of a wall. Brick-on-end courses (" soldier " courses) have been known to permit the entry of moisture in walls which were otherwise immune to penetration. This form of bond gives the maximum length of vertical joint. A projecting

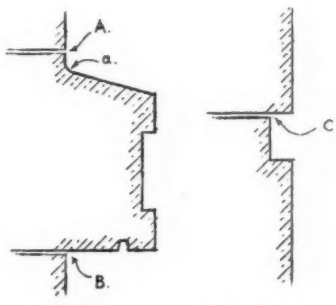


FIGURE 1.

FIGURE 2.

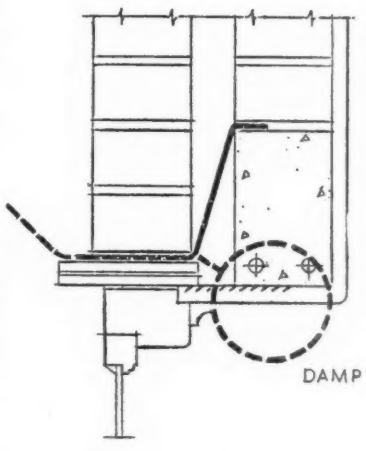


FIGURE 3.

brick-on-end course when used as a string course, especially immediately beneath a rendered wall is particularly to be avoided. Not only is the construction vulnerable, but, because of the large volume of water which may flow from an impervious wall face, the exposure is very severe.

Other sources of moisture penetration, which may be mentioned briefly, are the placing of window and door frames flush with the external surface of the wall without provision for the protection of the joint between the frame and the jambs ; inadequate bedding and pointing to wood or steel frames ; and the failure to fill joints beneath the window cills at the completion of the work. The remedies are obvious.

Cavity construction has previously been mentioned as a satisfactory method of preventing general moisture penetration. However, it often happens that faulty design or construction results in serious local penetration. The air space of a cavity wall can be considered as a vertical damp-proof course, and it must be as continuous as possible. Any bridging of the cavity by porous material has a similar effect to the perforation of an impervious damp-proof course.

During very wet weather there may be a continuous flow of water on the internal surface of the external leaf of a cavity wall and in designing such a wall this state of affairs should be considered possible. Provision must be made for preventing moisture gaining access to the inner leaf and also to prevent an accumulation of water in any part of the cavity. The features in cavity construction which need the most careful consideration are :—

(1) The provision of properly constructed cavity " gutters " or " trays " over all openings, even in the case of small openings, such as ventilators, and over other members which pass through the cavity, e.g. stone or concrete door hoods.

(2) The cavity should never be bridged with a *horizontal* damp-proof course. Over window heads, etc., the damp-proof course should be stepped down from the inner leaf (Fig. 3).

(3) Where the inside leaf unavoidably touches the outer leaf a damp-proof course must be provided, e.g. at window jambs.

(4) Wall ties, cavity gutters and the cavity beneath the damp-proof course should be clear of rubbish and droppings.

(5) Lintols should preferably not bridge the cavity. There should be a separate lintol to carry each leaf. By this means the cavity gutter may be constructed immediately above the opening. A solid lintol may be sufficiently porous to become damp internally or moisture may pass between the lintol and the masonry.

(6) A stepped cavity-gutter may be necessary over arched openings or in cases where the sloping roof of a lower building abuts a cavity wall.

(7) Water which collects in the cavity must be permitted to escape rapidly. Open vertical joints above openings and immediately beneath the external damp-proof course are satisfactory.

Frequently, for the sake of appearance, cavity gutters are cut off flush with the external wall face or even finished on horizontal surfaces. When this is done their usefulness may be affected, as moisture may enter the joint beneath. Fig. 3 is a typical example of this kind of defect.

Painting on Keene's Cement

¶ *AN enquirer, referring to the application of a Keene's cement finish, wished to have the views of the Building Research Station on the traditional practice of " following the trowel " with a sharp coat of paint. He stated that in his own practical experience this method had not always been advantageous, and wished to know whether there was any experimental evidence on the point.*

Although the question of painting on Keene's cement is one which has interested the Building Research Station for some time, it must be stated at once that no definite conclusion has yet been reached.

While it might appear at first sight a comparatively simple matter to decide whether or not a coat of paint should be applied to Keene's cement immediately following the trowel, the problem is actually somewhat complex. One of the chief difficulties lies in the fact that the material sold under the name of Keene's is not a standard product, and probably the difference between various brands accounts in part for the conflicting views, based on practical experience, which are often put forward concerning the best technique for decorating this type of material.

The problem is being actively investigated at the present time as part of a study of the

problem of painting on calcium sulphate plasters as mentioned in the Report of the Building Research Board for 1936, pages 87-95. Special attention is being paid to the causes of failure of adhesion of paint, which is the type of defect most frequently experienced on plasters of the Keene's type.

It may be of interest to mention briefly certain observations which have already been made :—

Some plasters of the Keene's type combine with water somewhat slowly. With these it is desirable, therefore, to avoid unduly rapid drying in the early stages, since otherwise the plaster may be weakened and the paint fail to adhere. A thin coat of paint applied early is likely to reduce the rate of drying to some extent and may be of some value for this reason. If, however, this procedure is adopted with a plaster suited to treatment in this way, two essential conditions must be observed :—

(*a*) Any paint applied must contain only a minimum of oil, for it has been shown that if an appreciable amount of oil penetrates into the partially set plaster it will interfere with the setting of the surface layer.

(*b*) No further coats of any kind must be applied until drying of the structure is well advanced.

Within these limits, therefore, the traditional procedure of applying a " sharp " coat of paint immediately following the trowel finds experimental justification, but this conclusion does not necessarily apply to all plasters of the Keene's type. There are other considerations to be taken into account besides the degree of hydration of the plaster, and with some plasters better results have been obtained by delaying the painting to a later stage.

It is sometimes stated that paint fails to " take " on Keene's cement which has been allowed to set and dry fully, and it is suggested that the reason for this lies in the dense, polished nature of the surface. Experimental evidence does not support this view, for ordinary oil paint has been found to adhere well to even the most highly polished plaster surfaces.

The " suction " shown by wet and dry plasters, the ease with which they permit the formation of efflorescence and their behaviour on different types of backing may be mentioned as other factors affecting decoration which are being investigated. It is not expected that the final results of this work will accrue for some little time, but as soon as conclusions are reached they will be made known generally.

The present attitude of the Building Research Station towards the particular problem of Keene's cement is that the practice of painting following the trowel is unobjectionable, provided that the paint contains only a minimum of oil, and that no further coats of any kind are applied until drying of the structure is well advanced.

Improving the Sound Insulation of Existing Floors

¶ *AN architect engaged in the conversion of old houses into flats asked for advice for improving the sound resistance of the existing timber floors. He has considered the use of a floating finish supported by felt strips carried on the old joists or of a building board between the old floor boards and the new, but feared that the fixing nails in the latter method would render this method of little value.*

In dealing with transmission of sound through floors it is necessary to classify the sound in two groups, firstly impact sounds, such as footsteps, and secondly air-borne sounds, such as wireless and conversation.

Impact sounds are best dealt with by discontinuous construction, and in the case of floors, the most successful way of carrying this out seems to be by the use of floating surfaces.

With solid floors and walls, the resistance to air-borne sound is determined principally by weight. It increases directly with the logarithm of the weight, which means that doubling the latter *does not double the resistance*, but makes a just perceptible improvement of some five decibels. In the circumstances, then, it will be seen that if the wireless noises and conversation are unreasonably loud from floor to floor in these houses, then a heavy pugging will be desirable, in addition to the use of a floating finish to resist the impact sounds. On the other hand, if these air-borne noises are not too bad, the suggested floating finish, resting preferably on strips of glass silk quilt rather than felt, is perhaps all that is needed.

The use of a building board, through which nails are driven, would be of but little value. The same applies for the skirting design, which should be so carried out that there is a thin strip of felt, or other similar material, between it and the floor boards. It is a safe rule to remember that for impact sounds any rigid connection across the insulation acts like a short circuit in electrical layout.

Unfortunately, up to the present time the information is limited to what experience and theory would indicate to be reliable. Actual tests are in hand on the whole problem of sound transmission in relation to floors, but the work has not reached a point where advice based on experimental work can be given in relation to timber floors.

B. I. F., BIRMINGHAM

On Monday last the "Heavy Industries" section of the British Industries Fair was opened at Castle Bromwich, Birmingham. The exhibition will remain open until March 4. On this and the two following pages are some notes on the principal exhibits

ACCLES and Pollock, Ltd., are exhibiting, on stand D.611-510, a full range of their products. These include : Cold drawn weldless steel tubes and stainless steel tubes, cold rolled metal sections, mechanical and precision tubes, manipulated tubes and sections for all industries.

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Guildstone fireplaces are prominently displayed on the stand (A. 635) of Allied Guilds, Ltd. Other exhibits include : Guildstone architectural stonework, Guildstone garden ornaments, fibrous plaster enrichments, plastercraft ventilator grilles, architectural woodwork, hanging signs, cast lead panels, signs, rainwater goods, mantelpieces and wood carving.

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New designs in self-lighting gas fires are featured by Allied Ironfounders, Ltd., on Stand Ca. 601. The firm also display their porcelain enamelled gas cookers with automatic oven control.

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On Stand D. 736 Arens Control, Ltd., have a display of their Arens remote controls for windows, dampers, and ventilators, rigid and waterproof-covered flexible controls for motor boats, rigid and flexible controls for cars, aircraft, locomotives, marine and general engineering purposes.

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Ascot Gas Water Heaters, Ltd., are showing, on Stand Ca. 405-304, a complete range of instantaneous gas water heaters for domestic purposes. On view are single-point bath and sink heaters, multi-point heaters serving bath, basin and sink, instantaneous boiling water appliances and other new developments. The stand has been designed by Mr. Rodney Thomas.

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Solid fuel automatic stokers for sectional, vertical and horizontal steam boilers, core stoves, calcining, annealing and all types of industrial furnaces are displayed by Ashwell and Nesbit, Ltd., on Stand B. 327-226.

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Bakelite, Ltd., are exhibiting, on Stand Cb. 408, Bakelite synthetic resin products, moulding materials, varnishes, lacquers, cement, spirit and oil soluble resins, laminated sheet, rod and tube, silent gear material, etc.

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A comprehensive selection of entirely new Bell fireplace designs is exhibited in faience and tiles, glazed rustic briquettes and natural slate and reconstructed stone by A. Bell & Co., Ltd., on Stand B. 603.

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A wide range of Belling electric, portable and built-in fires for the home are exhibited by Belling & Co., Ltd., on Stand Cb. 308. Also shown are the Baby Belling cooker and other models.

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The following products are displayed by Benham and Sons, Ltd., on Stand B. 624 : Nevastane sink and drainer units made of Firth-Vickers Staybrite stainless steel, Nevastane plate racks, mixing taps, access trape and under-sink cupboards.

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On the stand (Cb. 209) of Berry's Electric, Ltd., there is exhibited a complete range of the firm's domestic heating apparatus, including the Magical and Haloberry fires, modern and period light fittings and low tension heavy switchgear.

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The Tenby wiring system and accessories are shown by S. O. Bowker, Ltd.; the exhibits include : Bakelite ceiling roses and switch-plates, brass and rubber bushes, porcelain connectors, insulated staples, Tenby Pilot switches and Tenbyluxe switches. The firm's stand number is Cb. 317.

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On Stand Cb. 212, Bratt Colbran, Ltd., are showing a comprehensive range of portable electric fires, inset radiators, metal, marble and tile surrounds and complete electrical fireplaces. On stand Ca. 604 the firm's exhibits include : Portcullis gas fires, Portcullis gas fire (portable), and Portcullis industrial heaters, fireplaces and surrounds in wood, metal, tiles and marble.

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Advice and information on any matter relating to the uses of gas for domestic or industrial purposes may be obtained from the British Commercial Gas Association's Information Bureau (Ca. 407-306).

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Information concerning electricity supply facilities in Great Britain and Northern Ireland can be obtained at the British Electrical Development Association's Bureau (Cb. 407-306).

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A complete range of electric wires and cables for all purposes is exhibited by British Insulated Cables, Ltd., on Stand Cb. 401-300.

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On Stand D. 411-312 the British Oxygen Co., Ltd., exhibit and demonstrate a wide range of high-pressure oxy-acetylene welding and cutting equipment. Literature dealing with the firm's products is obtainable at the stand, including the folder containing seventeen information sheets on the welding of copper pipes and sheets and lead burning by the oxy-acetylene process for hot and cold water services, sanitary

installations and roof work. These sheets have been reprinted from THE ARCHITECTS' JOURNAL.

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The British Thermostat Co., Ltd., display, on Stand Cb.700, automatic control equipment for central heating, air conditioning, refrigeration, cooking and all industrial heating processes.

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The display (Stand B. 323) of the British Trane Co., Ltd., consists of heating, cooling and drying equipment, including working models of Univectairs, Vectairs and Electric Vectairs with steam fitting specialities and ventilating grilles.

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Selfstoke boilers, coke fires, two-in-one fire Thermidair heaters, unit heaters, gas, steam and water boilers are shown on the Stand (Ca. 709-606) of the Brockhouse Heater Co.

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The stand (Cb. 401-300) of the Cable Makers' Association displays some of the most interesting research and test work constantly undertaken by members of the Association.

•

Callender's Cable and Construction Co., Ltd., are exhibiting, on the stand of the Cable Makers' Association (see note above), a complete range of electric wires and cables which may be used for all purposes.

•

The stand B. 719-632 of the Canadian Government Exhibition Commission contains displays representative of Canadian manufactures and Government exhibits of Canadian timber and minerals.

•

Electrical cooking and heating appliances, comprising fires, cookers, tubular heaters, irons, etc., are displayed by Carron Co., on Stand Cb. 723.

•

Cellactite and British Uralite, Ltd., exhibit the following products (Stand B. 625-522): Cellactite asbestos protected metal roofing and roof ventilators, Urastone imperishable flues, air-ducts; Kimoloboard (fireproof panelling board), Asbestone asbestos-cement flat and corrugated sheets; and Uralite fireproof sheets.

•

Cellon, Ltd., exhibit (Stand B. 529) their Cerric cellulose finishes for wood, metal, leather, etc.; Cerrux synthetic finishes (air-drying or stoving); Cerrex anti-corrosive primers, etc.

•

Claygate Brickfields, Ltd., are exhibiting (Stand B. 620) their Claygate old English fireplaces, built of hand-made sand-faced briquettes.

•

On Stand B. 609-506 the Coal Utilization Council exhibit several modern domestic and industrial appliances for the utilization of solid fuel. Information can also be obtained on modern methods of combustion.

•

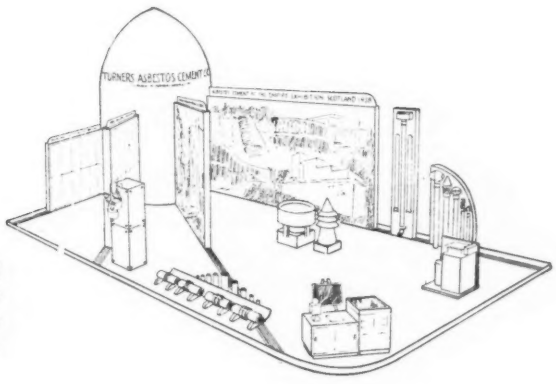
W. H. Colt (London), Ltd., display, on Stand B.719-632, their Colt Canadian cedar wood tiles for roofs and walls. These are claimed to be economical, durable and easy to lay. The minimum life is said to be sixty years.

•

The greater portion of the stand (Cb. 607-506) of Constructors, Ltd., is devoted to a display of Adjusteel shelving. There is a centre-piece, comprising a double-tiered shelving layout, providing approximately 1,000 cub. ft. of storage space on 72 sq. ft. of ground. This centre-piece forms a part of a complete stores, assembled from standard Adjusteel components. Scientific shelf loading has been given very careful consideration, and one section of the stand is used for a demonstration of loading capacities.

•

The exhibits of the Davis Gas Stove Co., Ltd., on Stand Ca. 503-402, include: Alpine New World Regulo-controlled gas cookers, Davis geysers, Health Ray gas heaters for infra-red irradiation, Panella build-in and High Beam gas fires.



A drawing of the stand of Turner's Asbestos Cement Co. at the British Industries Fair, Birmingham.

•

The exhibit (Stand D. 511) of the Dunlop Rubber Co., Ltd., shows the many varieties of colours and qualities available in the firm's tiling, long-length flooring and plastic rubber materials.

•

Eclipse and Service extending ladders, loft ladders, roof ladders, extending steps, extending scaffold boards, extending and ordinary trestles, are shown by the Eclipse Rail-Track Co., Ltd., on Stand B. 418.

•

Esavian folding and sliding doors, windows, and partitions are featured by Esavian Doors (Stand D. outdoor).

•

A comprehensive range of the stoves manufactured by Falk, Stadelmann & Co., Ltd., is on view on their Stand A. 631.

•

Firth-Vickers Stainless Steels, Ltd., have two Stands, D. 311 and D. 413-314. The former shows Staybrite steel in all forms, as fabricated by various manufacturers; and the latter Staybrite and stainless steels in every variety of application to art and industry.

•

The Kabineat all-porcelain enclosed gas cooker, pressed steel gas cooker model 37, Elf wall-type cooker, Radiant-Panel gas heaters, built-in and independent gas fires, Metro gas-ignited coke fires, are included in the exhibit of Sydney Flavel & Co., Ltd. (Stand Ca. 507-406).

•

Silver Fox new process stainless steels are specially featured on the Stand (D. 613-512) of Samuel Fox & Co., Ltd.

•

A complete exhibit of lighting for all purposes comprises the stand (Cb. 517-414) of the General Electric Co., Ltd. The exhibits on view include: Magnet cookers and boiling plates, Osram and Osira lamps and fittings for decorative, industrial and exterior illumination.

•

The exhibits of General Stampers (Welwyn), Ltd., include: Lever sets, locks, coloured door furniture, roller catches, door-pulls, door-bars, etc. The firm's stand number is A. 319.

•

J. Halden & Co., Ltd., show, on Stand Cb. 206, their engineers' drawing office specialities, including new Type 36 electric copying machine.

•

The Richard gas-fired central heating system is featured by John Harper & Co., Ltd., on Stand Cb. 601.

•

Numerous examples of perforated metal and woven wire for screening, grading, separating, sifting and filtering purposes are shown by Messrs. G. A. Harvey & Co. (London), Ltd., on Stand B. 329. The metals, perforated or woven, include steel, brass, copper, bronze, stainless steel, nickel and duralumin, the perforations ranging from round holes ·015 in. diameter in brass up to 9 in. diameter in steel and other examples are of square and diamond-shaped holes and slots of various patterns, one of which is in steel $\frac{7}{8}$ in. thick. Many interesting specimens are also shown of perforated designs in steel, brass, copper, etc., for radiator and electric heater covers and ventilating panels and grilles; also perforated mild steel cable plates for the rapid and economical method of fixing electric wires and cables in ships and elsewhere.

•

Electric wires and cables for all purposes are exhibited by W. T. Henley's Telegraph Works Co., Ltd., on Stand Cb. 121.

•

A comprehensive range of patent roof glazing is shown by Hills Patent Glazing Co., Ltd., on Stand B. 613. The exhibits also include: sliding and folding doors and windows, lantern lights (glass and metal), metal windows and steel doors and partitions.

•

Following are some of the exhibits displayed by Henry Hope and Sons, Ltd., on Stand B. 415-314: metal windows (steel, factory, sash); patent glass roofing, lantern and sky-lights; ventilator operating gear; continuous opening lights, electrically or hand controlled: pressed steel door and window frames; hardware and rainwater heads.

•

The exhibit of Hope's Heating and Lighting, Ltd. (Stand B. 316) consists of mechanical stokers for Lancashire boilers and heavy general purpose underfeed types. Technical advice is obtainable on industrial heat and pressure control problems. Automatic domestic heating equipment is also exhibited.

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The Hurry Water Heater Co. (Stand Ca. 307) show water heaters, all types, gas-operated, and circulators and storage heaters for domestic and light industrial purposes.

•

Brass, copper, cupro-nickel, phosphor bronze, Everdur and other non-ferrous alloys in plates, sheets, strip, sheathing, roofing, guttering, tubes, etc., are displayed by I.C.I. Metals, Ltd. (Stand D. 403-302).

•

International Combustion, Ltd., show, on Stand D. 215-114, their Ty-rock mechanical screen which, it is claimed, is eminently suited to coarse separating duties. Also shown are Vacseal rubber-lined pumps to handle abrasive slurries and pulps.

•

Heat insulating materials, asbestos insulating materials, bricks (heat insulation), cold storage

and cork insulation, refrigerators and cabinets, sound-insulating materials, and sound-deadening materials are included in the exhibits of Newalls Insulation Co. (branch of Turner and Newall, Ltd.), on Stand D. 521.

•

North British Rubber Co., Ltd., show the firm's following products on D. 737–634 : Rubber transmission and conveyor belting, hose, tubing, sheet, mechanical rubbers, rubber flooring and matting, industrial footwear, and rubber road blocks.

•

A comprehensive range of gas cookers, fires, radiators and water heaters, including the firm's latest design in gas cookers—the Renown—are shown by Parkinson Stove Co., Ltd. (Stand Ca. 500).

•

Radiation, Ltd., have arranged, on Stand Ca. 503–402, a comprehensive display of Regulo-controlled New World gas cookers, High Beam gas fires, gas radiators, gas-operated hot water apparatus and large cooking apparatus for hotels and boarding houses.

•

Radiant Heating, Ltd., display on Stand Ca. 210 their gas-fired Radiant panels for space heating, Radiant gas burners, surface combustion griller, Locost space heater, etc.

•

Robot automatic stokers for sectional, vertical, or locomotive boilers used for hot water, heating or process steam supplies, are shown by Riley Stoker Co., Ltd. (Stand D. 215–114). These stokers, it is claimed, give smokeless combustion, are fully automatic, and require minimum attention. The firm's other stand (D. 116), is devoted to automatic stoker equipment suitable for central heating and vertical and horizontal steam boilers and for small water tube boilers ; also for heating boilers in private houses.

•

Automatic temperature controls, including thermostats for electric water heaters, cookers and room heaters, and complete controls for automatic firing apparatus and central heating are exhibited by the Rheostatic Co., Ltd. (Stand Cb. 411–310).

•

On Stand B. 313 the Ruberoid Co., Ltd., have a display of bitumen roofings for every type of roof and building, Ruberoid for large buildings; Starex and Pluvex for smaller buildings. bitumen dampcourses, Hessian based and lead-lined, asbestos roofings, and slaters' felts.

•

Rubery, Owen & Co., Ltd., feature electric cookers, including the White Knight, on Stand Cb. 705. On their other stand, D. 703–602, they exhibit steel storage equipment, shelving bins, cupboards, lockers, benches, stackpans, etc.

•

Electric wires and cables for all purposes are shown by the St. Helens Cable and Rubber Co., Ltd., on Stand Cb. 401–300.

•

Steel pressings of every description are shown by Joseph Sankey and Sons, Ltd., on Stand B. 513–A. 412. The exhibits include : Stainless steel ware, holloware in all metals and finishes, dairy utensils, steel wheelbarrows, etc.

•

Simplex Electric Co., Ltd., have arranged, on Stand Cb. 415–314, a large exhibit of Simplex installation products, comprising Creda electric heating and cooking appliances (cookers, fires, water heaters, tubular heaters, irons, kettles, etc.), Simplex installation specialities, including conduit, conduit fittings, switchgear, distribution boards, industrial lighting equipment, etc.

•

Working exhibits of Esse heat storage cookers and water heaters, Premier Esse, Esse Major, Esse Minor, are shown on the stand of Smith and Wellstood, Ltd. New exhibits include Esse Fairy for smaller homes, and Esse Diamond, the heavy-duty cooker with the large boiling surface.

•

Full details of Smith's Fireproof Floors, Ltd., two-way reinforced fireproof floor is obtainable at the firm's stand, Number B. 222. This floor is claimed to resist surface and floor cracking.

•

Stelcon Anchor steel plates, shown by Stelcon (Industrial Floors), Ltd., on Stand D. 108, are claimed to make dustless hygienic all-steel floors of great strength and durability ; and are so designed that every three square inches is firmly anchored to concrete sub-floor.

•

The stand (Ca. 301) of Turners Asbestos Cement Co. (Branch of Turner and Newall, Ltd.), is designed to display asbestos-cement products in use. The main feature is an arrangement of large wings carrying mural photographs of buildings and examples of modern asbestos-cement roofings and wall-coverings. The photographs on this stand comprise many different types of building and illustrate how asbestos-cement can be utilized for walls, ceilings, ventilating ducts, floors (Poilite rigid rubber floor tiles), and in many special situations where co-operation with the makers has produced a happy solution to structural difficulties in asbestos-cement. Two entirely new roofings are shown, the Turnall combined sheet and the Turnall super-sixteen corrugated sheet, side by side with the well-known Turnall Trafford tiles, the Everite Bigsix and standard corrugated sheetings. There are also attractive decorative forms of asbestos-cement such as the exhibited Turnall glazed panels, marble-glaze and stipple-glaze sheets.

•

The United Steel Companies, Ltd.'s stand, D. 512–613, has been designed by Mr. E. Maxwell Fry, A.R.I.B.A. The display units for each group have been planned to give, as far as practicable, a complete "story" of the manufacture and application of the materials shown. For example, one group incorporates a flow-chart of the various stages of manufacture illustrated with appropriate photographs, and supplemented, where necessary, with examples of actual tests, etc., taken during manufacture.

•

Last year the United Steel Companies endeavoured "to bring the works to the Fair" by means of a cinema in which were shown films of the production of various materials. The idea was highly successful and the same arrangements are being carried out this year. The films, some of which are in actual colour, include : "The Manufacture and Use of 'Phœnix' (Standardized) Rapid Machining Steel" ; "The Manufacture of Workington Hematite Irons" ; "The Production of Appleby Plates," etc. The films are being shown at 10.30 a.m., 12 noon, 2 p.m., 3.30 p.m. and 5 p.m. On the same stand the United Strip and Bar Mills (Branch of the United Steel Companies, Ltd.), show hot-rolled steel strip, various qualities in coils and straight lengths and various finishes.

•

The stand (B. 518) of the Universal Asbestos Manufacturing Co., Ltd., shows a large range of their products, including : reinforced flat troughing and decking, reinforced and ordinary asbestos, cement, corrugated sheets, Watford tiles, slates, etc.

•

The Valor Company, Ltd., on Stand B. 401, show their latest models of Valor heaters, boilers, cookers, ovens, stands and accessories, Valor steel equipment for offices and works, fire extinguishers for various fire risks, plumbers' and sanitary brassware, and oil storage equipment.

•

The exhibit of Venesta, Ltd. (Stand B. 605) demonstrates the use of Plymax for partitions, doors, bench tops, w.c. compartments, hoods and ducting. Also shown are Venesta plywood flush doors and ornamental plywood for panelling, and Venesta plywood flooring.

•

Vent-Axia silent air extractors, made in moulded synthetic materials, and various forms to fit in windows, walls, partitions, ship's bulkheads, for extracting or supplying air, are displayed by Vent-Axia, Ltd. (Stand B. 706).

•

The exhibit (Stand D. 733) of William Warne & Co., Ltd., consists of the following products : Rubber hose and tubing for engineering, industrial and general purposes ; mechanical rubber goods, rubber flooring, mats, and matting.

•

Williams and Williams, Ltd. (Stand B. 315) are showing metal windows and doors of all types for every class of building.

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Gas cookers and cooking appliances, gas fires and heaters, gas lighters, gas ranges, and gas water heaters comprise the exhibit (Stand Ca. 503–402) of Wilsons and Mathiesons, Ltd.

•

On Stand Ca. 503/402, John Wright & Co., Ltd. have a display of Regulo-controlled New World gas cookers, High Beam gas fires, gas radiators, gas-operated hot water apparatus, and large cooking apparatus for hotels and boarding houses.

•

The exhibits (Stand B. 717–630) of the Yorkshire Copper Works, Ltd., include : Copper, brass, aluminium, cupro-nickel, Yorcalbro (aluminium brass), Yorcwyte (white metal), etc.

•

Specimens of engineering, architectural, electrical, building and domestic ironwork, rust-proofed by the Sherardizing process, are displayed on the stand (B. 714) of the Zinc Alloy Rust-Proofing Co., Ltd. Technical information, prices and full details are obtainable at the stand.

•

Slum Clearance and Decrowding

During December Scottish local authorities in their administration of the Housing Acts caused 835 unfit houses to be vacated preparatory to their closure and demolition. 3,846 persons were displaced from these houses. During 1937 the total number of unfit houses so vacated was 9,240, involving the displacement of 42,129 persons.

The month of December saw also 1,540 families from fit but over-crowded houses accommodated in larger houses, of which 1,147 were owned by local authorities. This is the largest number of families decrowded in any month since operations under the Housing Act of 1935 commenced. During 1937, 10,534 families were decrowded, 8,601 being transferred to houses owned by local authorities.

The combined result of these operations during 1937 has been the transference of approximately 90,000 persons—equal to the population of Paisley—from unsatisfactory to satisfactory housing conditions.

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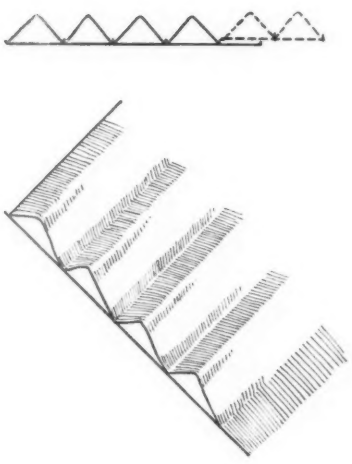
Change of Address

Mr. H. Hubbard Ford, A.R.I.B.A., has changed his address from 5 Ivy Terrace, Eastbourne, to 24A Cornfield Road, Eastbourne. Telephone No. : 3399.



TRADE NOTES

[BY PHILIP SCHOLBERG]

Heat Insulation

MOST architects are familiar enough by now with the habit of using crumpled aluminium foil as a heat insulator, the good results being due partly to the fact that the shiny surfaces of the aluminium are good heat reflectors and partly because of the dead air spaces formed by the crumpling of the foil itself. There are a few difficulties, however, in fixing this foil on the site, for it is not too easy to handle, and rough treatment may easily overdo the crumpling so that the dead air spaces are lost, and air spaces, next to a complete vacuum, are the world's worst conductors of heat.

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Quite a neat way out of the difficulty has recently been evolved by the Ardor Engineering Co., who take a sheet of corrugated foil and stitch it to a second sheet of plain foil, thus forming a series of triangular section air spaces half an inch deep, not only between the two foil sheets, but also between the faces of the corrugations and any surface against which the sheet may be fitted. The foil used is thicker than usual and it has a certain amount of strength, so that it is less liable to damage, and the stitching is carried out with wire staples in the same way as a magazine, so that the resultant unit is fairly stout and at the same time can be quite easily bent to run round corners. The sketch at the head of these notes gives some idea of what the sheet looks like, and the standard width is 2 ft., with an extra 1-in. lap of plain foil backing at one side so that joints can be properly made; the length of the sheets can be more or less anything to suit the job in hand.

•

For jobs such as cold stores, or any other places where heat losses must be reduced to an absolute minimum, this firm makes unit slabs with anything up to four layers of the thermal sheet built up into a slightly heavier gauge frame, so that the units can be used in much the same way as partition slabs, and are quite easy to fix. Four layers of the sheet are enough, as each sheet emits only 10 per cent. of the radiant heat it receives, so that four layers bring the loss down to 0.01 per cent., which should not be enough to worry anybody. Many people I know find it difficult to believe that a shiny surface will reflect heat in much the same way as a mirror reflects light, but with a small sample of this sheet it is possible to conduct a quite illuminating experiment. About 18 ins. in front of a fairly large gas fire I have a wooden fender protected on its inner face by a mild steel strip, and after the fire has been on for more than a few minutes this strip is far too hot to touch. The thermal sheet propped in the same position has only just got the chill off after two hours, and though this gives no *quantitative* proof of anything it does seem to prove that the sheet tends to do what is claimed for it. Cost, by the way, works out at 3d. a sq. ft., and the weight, of course, is negligible.—(*The Ardor Engineering Co., Ltd., Ardor Works, Arterial Road, St. Mary Cray, Kent.*)

Built-in-Radio

There cannot be very many architects who have a free enough hand with the furniture to design cabinets for built-in wireless sets, but there are plenty who know full well that a room over which they have taken a good deal of trouble is quite likely to be spoilt by a frightful piece of moderne cabinet work, though the set inside may be quite efficient. Most wireless manufacturers are supremely uninterested in built-in sets, and, mass production being what it is, it will probably cost you more to get the works without the case, even assuming that the manufacturer will agree to supply it. There is one firm, however, which really seems to think that architects are quite nice to know and is only too glad to supply bare sets for building in, a refreshing outlook in an industry where everyone thinks his own cabinets are perfect. These people make five different models, and will supply blue prints showing all the essential dimensions so that there should be no difficulty about building them in to a range of shelving or cupboards. So far I have only seen a few examples, but most of them look very well, and one of them, by Practical Furniture, of Sloane Street, was illustrated in these notes about eighteen months ago.

This firm is also marketing the Annan-McKinlay system of tele-control for wireless sets. With this method the set may be installed anywhere in the house, in the roof space or out of the way in a cupboard, loud-speakers are wired up in any room where they are needed, and the set is controlled from a small and quite light box which can be carried from one room to the next and plugged into a wall or skirting socket connected to the set. The control box is small enough to balance on the arm of a chair, with the result that there need no longer be the mad destructive rush from one end of the room to the other as soon as a talk by one's favourite phobia is announced. The price is high, but for luxury jobs it is worth while to know that a control of this kind exists.—(*Halford Radio Ltd., 31 George Street, Hanover Square, London, W.1.*)

Lighting

While photographs of successful lighting installations can be very interesting in themselves, there is still the feeling that one would like to know how it is all done. I say this because I have just received a booklet called Controlled Light from the G.V.D. people; this system uses remarkably few lamps to get its results, four at the most for a large laylight, and a current saving "in some cases amounting to as much as 75 per cent." is claimed, but the only information given is that "the technical methods employed . . . are based on certain patented reflecting and diffusing arrangements by which the light from each lamp is evenly distributed over the greatest possible area." Now I am not for one moment suggesting that the claims made for this system are not true, and I know that many jobs carried out by this firm look very nice indeed. There are in this booklet several restaurants and shops where the results seem eminently successful, and there are also some interesting fittings for indirect lighting in trams. But suppose for a moment that you have an intelligent client who wants to know *why* when you tell him he is getting a lighting system which uses very little current; to ask him to accept it on trust only gives the impression that you just don't know.

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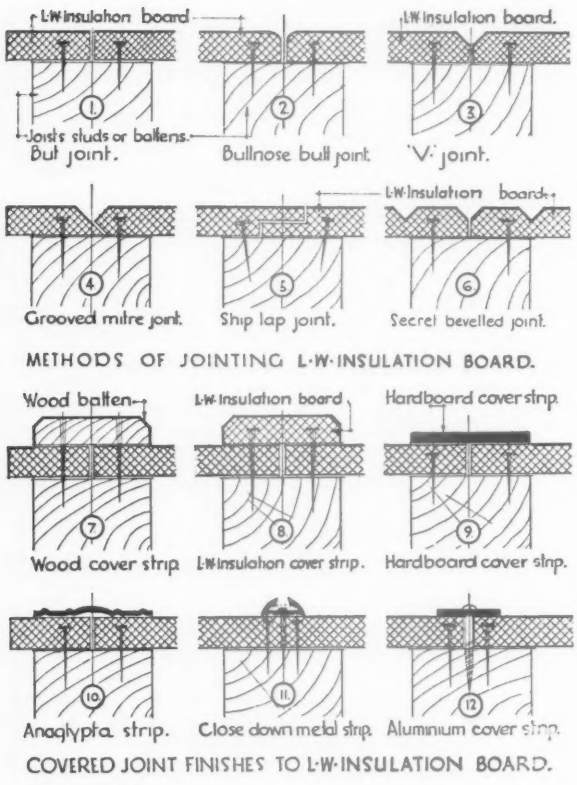
I would suggest to Mr. Downer that more and more architects are refusing to take things for granted and are unwilling to specify anything they do not understand. The G.V.D. technique is covered by patents, so that I cannot see any harm would be done by explaining how—probably it would do a great deal of good.—(*G.V.D. Illuminators, Ltd., Aldwych House, Aldwych, London, W.C.2.*)

Wallboard Data

Though wallboard is perhaps the wrong thing to call it, for the wallboards of a few years ago are now available in such a variety of grades and finishes, and are used for so many different purposes that the general name of panel boards is probably much better. The latest catalogue comes from Brown and Tawse, who are marketing L.W.—a Swedish board made in five different grades, ultra-hard, hard, semi-hard, insulation and building. There is a description of the process of manufacture, and it is interesting to note that this firm gives its boards a further treatment after pressing to ensure that each board has the right moisture content. Photographs of executed work show almost every purpose



METHODS OF JOINTING L·W·INSULATION BOARD.

COVERED JOINT FINISHES TO L·W·INSULATION BOARD.

from a covered tennis hall in Stockholm via the electrical section at the Building Centre to caravans and kitchen cabinets. For the architect the most useful section deals with fixing details of all kinds, from simple insulating jobs to partitions, shuttering and floor finishes; a fairly typical sample showing different types of joint is reproduced above. A sensible production which gives a lot of useful information in a reasonably small space.—(*Brown and Tawse, Ltd., St. Leonard's Street, Bromley-by-Bow, London, E.3.*)

Look What We've Done

Birthday parties are not really the concern of these notes, but I think it is worth drawing attention to a booklet celebrating the tenth birthday of Contractors J. L. Kier. Chiefly because they have chosen to illustrate their jobs not only with photographs, but also with plenty of plans, sections and constructional details, with the result that you stop to look instead of just flicking the pages over.—(*J. L. Kier & Co., Ltd., Allington House, 142 Victoria Street, London, S.W.1.*)

LAW REPORT

NUISANCE BY NOISE—INJUNCTION GRANTED

Peters and others v. *Gee, Walker and Slater, Ltd.—Chancery Division. Before Mr. Justice Simonds.*

This was a motion by Mr. A. D. Peters and others, of Adam Street, Adelphi, seeking an injunction against Gee, Walker and Slater, Ltd., to restrain them from using pneumatic drills and picks and mechanical concrete mixers on the Adelphi site, so as to cause a nuisance by noise to the plaintiffs.

His lordship had previously granted an *ex parte* injunction restraining the use of pneumatic drills to the hours of 8 a.m. to 9.30 a.m., 12.30 p.m. to 2 p.m., and 6 p.m. to 7 p.m., and of concrete mixers from 8 a.m. to 7 p.m.

Mr. Andrew Clark, for the plaintiffs, said there were four separate grounds of complaint: the noise caused by pneumatic drills and picks, concrete mixers, pile-driving and the rubbish shoot. He suggested that the pile-driving should be limited to Mondays, Wednesdays and Fridays. He also suggested that the rubbish shoot should be of wood, and be provided with a cover on top to keep in the dust.

Mr. Danckwerts, for the defendants, read an affidavit by Mr. F. N. Gee, a director of the defendant company, in which he described the work, and said the private Act of Parliament for the reconstruction of the Adelphi gave the contractor power to break up the streets, subject to the supervision of the Westminster City Council. All the vaults under the three streets had to be demolished as they were dangerous structures. The defendants desired to complete the work and reopen the streets as quickly as possible, and if pneumatic drills and picks could not be used the time required would be enormously increased. No serious complaint had ever been made of noise caused by the demolition of the vaults in John Street and Robert Street. The defendants had taken all reasonable steps to minimize the inevitable inconvenience to residents. The drills were only used intermittently and the pile-driving system was the quietest known. To drive a pile meant at least twelve hours' continuous work. There were two kinds of concrete mixers, the fixed and the mobile variety, and the latter was a great improvement on the former.

Counsel said his submission was that the plaintiffs' complaints had been exaggerated.

Defendants placed other evidence before the Court in support of their case.

Mr. Andrew Clark, in reply, read an affidavit by Mr. Frederick Josiah Harrington, a surveyor, who said that, though the concrete roadway of Adam Street might require pneumatic drills to break it up, the brickwork vaults underneath could be demolished by men using hand picks. Mr. Harrington also expressed the opinion that the limitation of noisy work to certain hours would not prevent a great deal of other work going on all day, and that the piling was essential to give mechanical support to the new roadway. He suggested that the concrete mixers, or some of them, might mix and discharge in John Street or Savoy Place.

Other evidence was given for plaintiffs.

His lordship said that the *ex parte* order which he had made relating to the hours during which the concrete mixers might be used to 7 p.m. must be continued, until the trial of the action. He could see no ground for allowing the noise of pneumatic drills and picks to go on except during the hours already limited.

A further ground of complaint was the noise of pile-driving, but he thought that the plaintiffs' grievance in that respect was one which they would have to put up with until the operations were complete. On the last matter, as to the rubbish shoot, it showed the spirit in which the defendants had conducted the work that for a rubbish shoot they had used one made of corrugated iron. He understood that the defendants had undertaken not to use this any longer, but to substitute a wooden shoot. The costs would be costs in the action.

THE BUILDINGS ILLUSTRATED

THE ZACHARY MERTON CONVALESCENT HOME, WOODHOUSE EAVES, LEICESTERSHIRE (pages 323-325). Architects: Pick, Everard, Keay and Gimson. The general contractors were Wm. Moss and Sons, Ltd., who were also responsible for the plumbing, glazing and fireproof floors. The principal sub-contractors and suppliers included: D. Anderson and Son, roofing specialist; John Ellis and Sons, Ltd., artificial stone and concrete specialist; R. Pochin and Son, Ltd., ironmonger; A. Hutt, plasterer; Edward Wood & Co., Ltd., structural engineer; J. Riley and Son, painter; Witcomb and Blackwell, Ltd., electrician; Wm. Freer, Ltd., heating, hot water, steam plant, kitchen and laundry equipment; Gimson & Co. (Leicester), Ltd., lifts; J. and E. Hall, Ltd., refrigeration; Super Floors, Ltd., linoleum floor coverings; Crittall Manufacturing Co., Ltd., steel windows; Gent & Co., Ltd., Pulsynetic clocks; Furse & Co., lightning conductors; Craven, Dunnill & Co., wall tiling; Perkins Brothers & Co., Morgan Squire & Co., Ltd., Inglesants, Ltd., and R. Morley and Sons, Ltd., furniture; Evered & Co., Ltd., hospital bedsteads; Wm. Matthews, mattresses; Dryad, Ltd., cane furniture; Albert Browne, Ltd., food wagons and dressing trolleys; Sankey-Sheldon, steel shelving; Parmeko, Ltd., wireless installation; Marbello and Duras, Ltd., terrazzo floors; Haywards, Ltd., fire escape staircases; F. McNeill & Co., balcony floors; G. Tucker and Son, Ltd., facing bricks; G. Potter and Sons, ironwork.

HOUSE AT WELWYN GARDEN CITY (page 326). Architects: Messrs. Mauger and May. The general contractors were D. C. Pearce, who were also responsible for the joinery. The sub-contractors and suppliers included: Hertingfordbury Brick Co., bricks; Andersons, special roofings; Vigers, American oak flooring; James Combe and Sons, central heating; Ideal Boilers and Radiators, Ltd., boilers; A. Coltman, electric wiring; Best and Lloyd, electric light fixtures; G. A. Harvey, copper gutters, pipes and grilles; Boldings, sanitary fittings; Dryad & Co., Ltd., door furniture; Crittall Manufacturing Co., casements; Stamfordstone Quarries, window cills, fireplace, paving inside loggia; Ryders, shrubs and trees; Pither, water-softening plant.

This week's issue of the JOURNAL contains as a loose supplement the new LABOUR RATES for the principal towns and districts throughout the country. These Rates should be retained for use in conjunction with PRICES, and additional copies will be obtainable from the JOURNAL, price 2d. to cover postage.

P R I C E S

The Prices Supplement of the JOURNAL begins its first repetition this week.

On the following pages appears Prices of Materials—Part I, with the prices, last published on January 27, brought up to date.

Immediately below, Messrs. Davis and Belfield mention the principal changes which have occurred in the last month. Similar notes, and the deductions that may be drawn from them, will be published on this page each month.

NOTES ON PRICE CHANGES

Attention is drawn to mild steel rods as the basic price has been reduced by £2 per ton. The conditions in the steel market appear more stable, and no large fluctuations are expected in the near future.

The condition of the timber market is also slightly easier. The increase in certain prices is due to shortage of these particular scantlings owing to Scandinavian imports at this time of year being very small. This is a seasonal fluctuation only and may be expected to last until the end of April.

The other changes in the prices of this section are marked in the lists, and do not appear to be of any special significance.

O. A. DAVIS, P.A.S.I.

★ *ANSWERS TO QUESTIONS*

While the JOURNAL, *naturally, cannot presume to undertake the responsibilities of a quantity surveyor, it has arranged with the authors of this Supplement to answer readers' questions regarding any matter that arises over their use of the Prices Supplement in regard to their work, without any fee. Questions should be addressed to the Editor of the* JOURNAL, *and will be answered personally by Messrs. Davis and Belfield. As is the normal custom, publication in the* JOURNAL *will omit the name and address of the enquirer so that it is unnecessary to write under a pseudonym.*

• *Items marked thus in Prices have risen in price since last quotation on January 27.*

★ *Items marked thus in Prices have fallen in price since last quotation on January 27.*

The complete series of prices will consist of four sections, one section being published each week in the following order :—

1. Current Market Prices of Materials, Part I.
2. Current Market Prices of Materials, Part II.
3. Current Prices for Measured Work, Part I.
4. A.—Current Prices for Measured Work, Part II.
   B.—Prices for Approximate Estimates.

★ *The previous complete Supplement is contained in the issues of the* JOURNAL *for Jan. 27, Feb. 3, 10 and 17.*

Prices vary according to quality and the quantity ordered.

Those given below are average prices and include delivery in the London area, except where otherwise stated.

Owing to the unsettled state of the market most prices are liable to fluctuate, and those for metals in particular should be confirmed by actual quotation whenever possible.

PART 1

CURRENT MARKET PRICES OF MATERIALS—I

BY DAVIS AND BELFIELD, P.A.S.I.

CONCRETOR

Cements

All delivered in paper bags (20 to the ton) free and non-returnable.

		4 Tons and over	Min. 80 ton freights F.A.S. Safe wharf in River Thames, London area
Portland	per ton	42/–	38/–
Rapid hardening ..	per ton	48/–	44/–
Water repellent ..	per ton	72/–	68/–

		1 ton upwards
•Colorcrete rapid hardening, Nos. 1 and 2	per ton	69/–
Snowcrete	per ton	175/–

	1–10 cwts.	11–15 cwts.	16–20 cwts.	1 ton and upwards
Ciment Fondu, delivered Central London area .. per cwt.	7/9	7/3	6/–	6/–

Aggregate and Sands (Full Loads)

2″ Unscreened ballast	per yard cube	6/–
¾″ (Down) Washed, crushed and graded shingle	per yard cube	6/2
⅜″ (Down) Ditto	per yard cube	7/6
2″ Broken brick	per yard cube	10/6
¾″ Ditto	per yard cube	11/9
Washed pan breeze	per yard cube	5/3
Coke breeze 1″ to dust	per yard cube	13/6
3/16″ Sharp washed sand	per yard cube	8/3
White Silver Sand for white cement (one ton lots)	per ton	25/–

(For Sands for Bricklaying and Plastering see respective trades)

Pavings

Brick hardcore	per yard cube	2/9
Concrete ditto	per yard cube	4/–
Clean furnace clinker and boiler ashes ..	per yard cube	3/6
Coarse gravel for paths	per yard cube	6/9
Fine ditto	per yard cube	9/6
Clean granite chippings	per ton	18/6
Red quarry tiles, 6″ × 6″ × ½″ ..	per yard super	6/–
Buff ditto, 6″ × 6″ × ⅜″	per yard super	6/6
Hard red paving bricks	per 1,000	150/–

Reinforcement

★Basis price for mild steel rods, ⅝″ diameter and upwards, from London stocks	per ton	£15 10 0
Extras for :—		
9/16″ and ½″ diameter	per ton	10/–
7/16″ diameter	per ton	15/–
⅜″ diameter	per ton	20/–
5/16″ diameter	per ton	30/–
¼″ diameter	per ton	40/–
3/16″ diameter	per ton	60/–
Lengths of 40 ft. to 45 ft.	per ton	10/–
Lengths of 45 ft. to 50 ft.	per ton	15/–

• **Items marked thus have risen in price since January 27.**

CONCRETOR—(*continued*)

Sundries

Retarding liquid, in 5-gallon drums (for exposing aggregate) per gallon	20/–	Ex Warehouse, Southwark Bridge. Drums chargeable and credited, if returned.
Ditto. (for obtaining a bond) per gallon	12/6	

BRICKLAYER

Common Bricks

Rough stocks	per 1,000	73/–
Third stocks	per 1,000	54/6
Mild stocks	per 1,000	71/6
Sand limes	per 1,000	50/–
* Phorpres pressed Flettons	per 1,000	46/3
* Phorpres keyed Flettons	per 1,000	48/3
Blue Staffordshire wirecuts	per 1,000	165/–
Lingfield engineering wirecuts	per 1,000	95/–
Breeze fixing bricks	per 1,000	57/6
Firebricks, best Stourbridge 2½″	per 1,000	155/–
Firebricks, best Stourbridge 3″	per 1,000	190/–

* At King's Cross. For delivery in W.C. district add 4/3 per 1,000.

Facing and Engineering Bricks

Sand Limes, No. 1	per 1,000	85/–
Sand Limes, No. 2	per 1,000	70/–
*Phorpres rustic Flettons	per 1,000	66/3
Midhurst Whites	per 1,000	75/–
Hard stocks, firsts	per 1,000	95/–
Hard stocks, seconds	per 1,000	88/–
Sand-faced, hand-made reds	per 1,000 from	115/–
Sand-faced, machine-made reds	per 1,000 from	110/–
Red rubbers (9¾-in.)	per 1,000	300/–
Hunziker	per 1,000	67/6
Hunziker (creams, light greys, etc.) ..	per 1,000 from	100/–
Dunbricks (concrete), multi reds, ex works	per 1,000	72/–
Dunbricks (concrete), multi lavender, ex works	per 1,000	75/–
Southwater engineering No. 1 (first quality red pressed)	per 1,000	145/–
Southwater engineering No. 2 (second quality red pressed)	per 1,000	125/–
Blue pressed	per 1,000	174/–

* At King's Cross. For delivery in W.C. district add 4/3 per 1,000.
Discount if accompanied by order for pressed 2/– per 1,000.

★ **Items marked thus have fallen in price since January 27.**

CURRENT PRICES

BY DAVIS AND BELFIELD, P.A.S.I.

BRICKLAYER AND DRAINLAYER

BRICKLAYER—(*continued*)

White, Salt and Coloured Glazed Bricks (9″×4½″×2⅞″)

The following prices are subject to 2½ per cent. trade discount and 2½ per cent. cash discount, and include delivery to any railway station (minimum 4-ton loads). Add 10/– per 1,000 for delivery in London area.

Prices per 1,000	White, Ivory and Salt Glazed			Buff, Cream and Bronze		Other Colours	All Colours	
	Best		Seconds	Best		Best	Seconds	
	£ s. d.		£ s. d.	£ s. d.		£ s. d.	£ s. d.	
Stretcher, glazed one side ..	24 0 0		22 0 0	26 0 0		29 10 0	23 0 0	
Header, glazed one end	23 10 0		21 10 0	25 10 0		29 0 0	22 10 0	
Double stretcher, glazed two sides	32 10 0		30 10 0	34 10 0		38 0 0	31 10 0	
Double header, glazed two ends	29 10 0		27 10 0	31 10 0		35 0 0	28 10 0	
Quoin, glazed one side and one end	30 10 0		28 10 0	32 10 0		36 0 0	29 10 0	

Limes and Sand

		1-ton lots
●Lime, greystone	per ton	43/–
●Lime, chalk	per ton	43/–
Lime, blue Lias (including paper bags) ..	per ton	47/–
Lime, hydrated (including paper bags) ..	per ton	47/–
Washed pit sand	per yard cube	7/9

(For cements, *see* "Concretor.")

Sundries

Wall ties, self coloured	per cwt.	19/–
Wall ties, galvanized	per cwt.	24/6
Hoop iron, black	per cwt.	20/–
D.P.C. slates, size 18″×9″	per 1,000	157/6
D.P.C. slates, size 14″×4½″	per 1,000	61/3
*Ledkore D.P.C. Grade A	per foot super	5d.
*Ledkore D.P.C. Grade B	per foot super	6½d.
*Ledkore D.P.C. Grade C	per foot super	8d.

* Trade discount 5 per cent. and cash discount 5 per cent. Prices include delivery on minimum of £4 orders.

	9″×3″	9″×6″	9″×9″	12″×9″	14″×9″
Earthenware airbricks: red, blue, vitrified and buff terra cotta each	–/8	1/4	2/4	4/–	6/8
	9″×3″	9″×6″	9″×9″	12″×6″	12″×9″
Black cast iron, School Board pattern airbricks per doz.	●3/–	5/6	11/–	11/–	20/–
Galvanized ditto per doz.	5/6	11/–	22/–	22/–	40/–
Black hit and miss cast iron ventilators per doz.	12/–	15/–	21/–	21/–	36/–
Galvanized ditto per doz.	24/–	30/–	42/–	42/–	72/–
	1′ 0″	1′ 6″	2′ 0″	2′ 6″	3′ 6″	5′ 0″
Buff terra cotta chimney pots .. .. each	2/6	3/–	4/4	5/9	13/4	22/6
Fireclay .. per cwt.	4/–					

Wall reinforcement supplied in standard rolls containing 25 yards lin.

●2″ wide black japanned per roll 2/1
●2″ wide galvanized .. per roll 3/2
●2½″ wide black japanned per roll 2/7½
●2½″ wide galvanized per roll 3/10½

} Greater widths pro rata 2½″ price carriage paid on orders of £5. Discounts for quantities.

Partitions

		2″	2½″	3″	4″
Breeze ..	per yard super	1/3½	1/5½	1/8	2/3
Clay tiles ..	per yard super	2/3	2/6	2/9	3/1
Pumice ..	per yard super	2/8	3/–	3/6	4/–
Plaster ..	per yard super	2/3	2/9	3/3	4/–

● **Items marked thus have risen in price since January 27.**

BRICKLAYER—(*continued*)

Shepwood Partition Bricks size 9″ × 2⅞″ and 2½″ on bed. Terms, as for Glazed Bricks

Prices per 1,000 except where stated per brick	White, Ivory and Salt Glazed		Buff, Cream and Bronze	Other Colours	All Colours
	Best	Seconds	Best	Best	Seconds
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Double stretcher, glazed two sides	32 10 0	30 10 0	34 10 0	38 0 0	31 10 0
Single stretcher, glazed one side	24 0 0	22 0 0	26 0 0	29 10 0	23 0 0
	Each	Each	Each	Each	Each
Round end glazed two sides and one end ..	–/10½	–/10	1/0½	1/0½	–/10½

Gas Flue Blocks

		Single Flues	Double Flues
Straight blocks	each	1/1	1/11
Building in set	Per set of 3	2/8	4/10
Cover blocks	each	1/5	3/–
Raking blocks 45°	each	2/9	3/11
Raking blocks 60°	each	1/11	2/10
Offset blocks	each	3/4	4/10
Closer blocks	each	1/1	1/11
Closer flashing blocks	each	1/–	1/8
Straight flashing blocks	each	1/–	1/8
Terminal and cap	per set	6/9	11/6
Middle terminal and cap	per set	6/3	10/9
End terminal and cap	per set	6/6	11/3
Corbel block	each	4/10	3/2
Gathering block	each	—	9/8

DRAINLAYER

Agricultural Pipes

		2″	3″	4″	6″
●Pipes in 12″ lengths ..	per 1,000	67/6	92/6	120/–	210/–

(Delivered in full loads Central London Area.)

Salt Glazed Stoneware Pipes and Fittings

		4″	6″	9″
Pipes (2′ lengths)	each	1/8	2/6	4/6
Bends, ordinary	each	2/6	3/9	6/9
Single Junctions, 2′ long	each	3/4	5/–	9/–
Yard Gulley, without grating ..	each	6/3	6/10½	11/3
Ordinary 6″ × 6″ Grating, painted ..	each	–/7½	1/3	2/6
Ordinary 6″ × 6″ Grating, galvanized	each	1/0½	2/1	4/4½
Extra for Inlets, horizontal	each	1/6	1/6	1/6
Extra for Inlets, vertical	each	2/3	2/3	2/3
Intercepting Trap with Stanford Stopper	each	17/6	22/6	37/6
Grease and mud interceptor with bucket for removing silt and grease for 6″, 9″ and 12″ drains, with iron grating, painted	each	20/–		
Ditto, with iron grating galvanized	each	21/10½		

The above prices to be varied by the following percentages for the different qualities given. All subject to 2½ per cent. cash discount.

	British Standard	British Standard Tested
Orders for 2 tons and over	Less 20%	Plus 5%
Orders under 2 tons, 100 pieces upwards	Less 2½%	Plus 22½%
Orders under 2 tons, less than 100 pieces	Plus 7½%	Plus 32½%

	Best	Seconds
Orders for 2 tons and over	Less 27½%	Subject to 15% off the price of best quality for all sizes
Orders under 2 tons, 100 pieces upwards	Less 10%	
Orders under 2 tons, less than 100 pieces	Nett	

★ **Items marked thus have fallen in price since January 27.**

CURRENT PRICES

BY DAVIS AND BELFIELD, P.A.S.I.

DRAINLAYER AND MASON

DRAINLAYER—(*continued*)

Cast Iron Drain Pipes and Fittings

Socket and Spigot Pipes :—

Weight (per 9 ft.)	Size.	9 fts.	6 fts.	4 fts. each	3 fts. each
1 . 1 . 8	4″ per yard ..	6/6	7/3	11/7	8/9
1 . 1 . 20	4″ per yard ..	6/9	7/5	11/10	9/–
2 . 0 . 6	6″ per yard ..	10/–	11/11	19/3	15/4
4 . 0 . 2	9″ per yard ..	18/2	23/9	41/3	31/5

Socket and Spigot Pipes :—

Weight (per 9 ft.)	Size.	2 fts.	18 ins.	12 ins.	9 ins.
1 . 1 . 8	4″ each	7/3	6/6	5/8	5/2
1 . 1 . 20	4″ each	7/4	—	—	—
2 . 0 . 6	6″ each	11/6	—	—	—
4 . 0 . 2	9″ each	—	—	—	—

Tonnage Allowances :
Orders up to 2 tons nett.
Orders 2 to 4 tons less 2½%
Orders 4 tons or over less 5%

		4″	6″	9″
Bends	each	6/3	12/10	40/7½
Single junctions	each	11/–	22/–	70/11
Intercepting traps	each	37/6	48/3	137/6
Gulleys ordinary trapped ..	each	15/–	—	—
Extra for inlet 4″..	each	4/3	—	—
Grease Gulley trap	each	117/6	—	—
H.M.O.W. large socket gulley trap with 9″ gulley top and heavy grating and one back inlet ..	each	23/9	42/9	—

Cast Iron Inspection Chambers

The larger figures below refer to the main pipes and the smaller figures to the branches

	4″×4″	6″×4″	6″×6″	9″×6″
Straight chambers with two branches one side .. each	56/3	66/10	78/9	153/9
Straight chambers with three branches in all .. each	66/3	76/10	91/3	166/3
Straight chambers with four branches in all .. each	76/3	87/10	103/9	178/9
Straight chambers with three branches one side .. each	71/3	88/9	101/3	—
Straight chambers with four branches in all .. each	81/3	98/9	113/9	—
Straight chambers with five branches in all .. each	91/3	108/9	126/3	—
Straight chambers with six branches in all .. each	101/3	118/9	138/9	—
Straight chambers with four branches one side .. each	93/9	111/3	133/9	—
Straight chambers with five branches in all .. each	103/9	108/9	146/3	—
Straight chambers with six branches in all .. each	113/9	131/3	158/9	—
Straight chambers with seven branches in all .. each	123/9	141/3	171/3	—
Straight chambers with eight branches in all .. each	133/9	151/3	183/9	—

The branches to the above are at 135°

		4″	6″
Extra for branches between 135° and 180°	each	7/6	7/6
Extra for branches between 90° and 135° other than standard angles	each	6/3	6/3

	4″×4″	6″×4″	6″×6″
Curved chambers, no branch 90°–112½° each	26/10	—	38/2
Curved chambers, no branch 135° each	26/10	—	38/2
Curved chambers, one branch 135° each	33/9	48/9	55/–
Curved chambers, two branches 135° each	40/8	65/8	76/3

Channels in White Glazed Ware (Unselected Quality)

		4″	6″	9″
Half round straight channels, 6″ long	each	2/4	3/2	5/3
Half round straight channels, 12″ long	each	3/3	4/5	6/11
Half round straight channels, 18″ long	each	4/–	5/3	8/5
Half round straight channels, 24″ long	each	4/8	6/4	10/6
Half round straight channels, 30″ long	each	5/10	7/11	13/2
Half round straight channels, 36″ long	each	7/–	9/6	15/9
Half round ordinary or long channel bends	each	8/5	12/11	21/–
Half round ordinary or short channel bends	each	6/–	8/5	—
Three-quarter round ordinary branch bends	each	8/1	11/8	—
Three-quarter round ordinary branch bends, midgets	each	7/3	—	—

		6″×4″	9″×6″
Half round taper channels 24″ long ..	each	7/10	11/3
Half round taper channel bends ..	each	10/3	17/9

These prices are subject to 20% discount.

• **Items marked thus have risen in price since January 27.**

DRAINLAYER—(*continued*)

Channels in Brown Glazed Ware

		4″	6″	9″
Half round straight channels 24″ long..	each	1/3	1/10½	3/4½
Half round straight channels 30″ long..	each	—	—	4/2¾
Ditto, short lengths	each	1/3	1/10½	—
Half round ordinary channel bends ..	each	1/10½	2/9¾	5/0¾
Ditto, short	each	1/10½	2/9¾	—
Ditto, long	each	3/9	5/7½	10/1½
Three-quarter round branch bends ..	each	5/–	7/6	—

		6″×4″	9″×6″
Half round taper channels 24″ long ..	each	3/9	6/9
Half round taper channel bends ..	each	4/8¼	8/5¼

The above prices are subject to the same discounts as those given for " Best " quality salt glazed stoneware pipes.

Manhole Covers

	Black	Galvanized
24″ × 18″ single seal for foot traffic. (Weight 0.3.0 in lots of 24) .. .. .. each	12/–	23/3
24″ × 18″ single seal for light car traffic. (Weight 2 cwt. in lots of 24) .. .. .. each	•30/3	★56/9
24″ × 18″ Wood Block pattern. For road traffic. (Weight 3 cwts.) .. .. .. each	Coated 55/9	

	Fine Cast	Galv.
Cast step irons, 13½″ long, 6″ wide, 9″ in wall, approximate weight 5½ lbs. each per dozen	12/6	20/6

	4″	6″
Galvanized fresh air inlets, with cast brass fronts (L.C.C. pattern) .. .. each	5/6	20/3

MASON

Yorkstone

Building quality Robin Hood and Woodkirk Blue Stone.

Blocks scrappled, random sizes .. .. per foot cube	4/6
Add for blocks to dimension sizes.. .. per foot cube 6d. (each dimension)	
Templates with sawn beds, edges rough (up to 4 ft. super and not over 2′ 6″ long) .. .. .. per foot cube	5/–
Templates with sawn beds, sawn one edge per foot cube	6/–
Templates with sawn beds, sawn two edges per foot cube	7/–
Prices f.o.r. Yorkshire, railway rate to London Station per ton. (Minimum 6-ton loads.)	18/3

Ancaster Stone

Freestone, random blocks .. .. .. per foot cube	3/6
Brown weather bed stone selected for polishing all brown blocks .. .. per foot cube	8/–
Brown and blue weather bed stone selected for polishing .. .. per foot cube	7/–
Prices f.o.r. Ancaster, railway rate to London Station approximately 11½d. per foot cube (minimum 6-ton loads).	

Bath Stone

Random blocks, delivered railway trucks, Paddington or South Lambeth .. .. per foot cube	2/10¾

Portland Stone

Whitbed, in random blocks of 20 feet cube average, delivered railway trucks Nine Elms, South Lambeth or Paddington .. .. per foot cube	4/5
Basebed—add to the above .. .. per foot cube	–/3
For every foot over 20 ft. cube average—add per foot cube	–/1
For every foot over 30 ft. cube average—add per foot cube	–/0½

¾″ Thick Plain Marble Wall Linings

Roman Travertine .. .. per foot super	6/3
Golden Travertine .. .. per foot super	7/9
Roman stone .. .. per foot super	6/9
Hopton-wood stone .. .. per foot super	7/9
Second statuary .. .. per foot super	9/–
Sicilian .. .. per foot super	6/9

Artificial Stone

6″×3″	Copings and sills	per foot run	1/6
6″×6″	Copings and sills	per foot run	2/4
9″×3″	Copings and sills	per foot run	2/–
9″×6″	Copings and sills	per foot run	3/4
12″×3″	Copings and sills	per foot run	2/4
12″×6″	Copings and sills	per foot run	3/9

Cornices according to detail, per foot cube (from) 6/9

★ **Items marked thus have fallen in price since January 27.**

CURRENT PRICES

BY DAVIS AND BELFIELD, P.A.S.I.

MASON, SLATER, TILER AND ROOFER, AND CARPENTER

MASON—(*continued*)

Reconstructed Stone to match Natural Stone

Sills, lintols, coping, cornices, ashlar, etc., average size	per foot cube 10/-
Window sills, 9″×3″ section	per foot run 2/1
,, ,, 7″×3″ section	per foot run 2/-

Slate Slabs, cut to size and Planed

	1″	1¼″	1½″
Not exceeding 4′ 6″ long or 2′ 3″ wide per foot super	3/1	3/4	3 11
,, ,, 6′ 6″ long or 3′ 3″ wide per foot super	3/9	4/1	4 10
Exceeding 6′ 6″ long or 3′ 3″ wide per foot super	4/1	4/6	5/2
Rubbed faces ... . per foot super	-/5	-/5	-/6
,, edges .. .. .. per foot run	-/4	-/4	-/5

Combined Slate Cills and Window Boards for Metal Windows

Window Width	Straight Cills Wall thickness 9″	11″	13½″	Circular Cills for C.O.P. Frames Radius	External reveals 2″	4½″
1′ 8″ ..	4/-	4/8	5/8	2′ 4½″ ..	21/-	24/-
3′ 3½″ ..	7/4	8/7	10/4	2′ 7½″ ..	25/6	28/6
4′ 10½″ ..	10/6	12/3	14/10	2′ 10½″ ..	30/-	33/3

SLATER, TILER AND ROOFER

Best Bangor Slates

	£	s.	d.
24″×12″ .. .. per 1,000 actual	33	6	6
22″×12″ .. .. per 1,000 actual	27	19	0
22″×11″ .. .. per 1,000 actual	25	4	9
20″×12″ .. .. per 1,000 actual	24	14	6
20″×10″ .. .. per 1,000 actual	21	15	5
18″×12″ .. .. per 1,000 actual	20	19	3
18″×10″ .. .. per 1,000 actual	17	4	0
18″×9″ .. .. per 1,000 actual	15	11	9
16″×12″ .. .. per 1,000 actual	17	14	9
16″×10″ .. .. per 1,000 actual	15	11	9
16″×9″ .. .. per 1,000 actual	13	19	6
16″×8″ .. .. per 1,000 actual	12	1	11

Prices include for delivery to site in lots of 1,000 and upwards.

Old Delabole Slates (f.o.r.)

Standard sizes.
Prices and computed weights per 1,200.

		20″×12″	16″×10″
Grey medium gradings	per 1,200 cwts.	597/- 46½	366/- 30
Unselected greens (V.M.S.) ..	per 1,200 cwts.	672/- 55½	413/- 36

Random sizes.
Prices per ton and computed covering capacities in squares per ton.

		No. 1 Grading 24″/22″ to 12″/10″
Ordinary grey greens	per ton	128/-
Covering cap.:	per ton (3″ lap)	2·37 squares
	per ton (4″ lap)	2·19 squares

		No. 2 Grading 24″/22″ to 12″/10″
Weathering grey greens (V.M.S.)	per ton	139/-
Covering cap.:	per ton (3″ lap)	2·25 squares
	per ton (4″ lap)	2·08 squares

		No. 2 Grading 24″/22″ to 12″/10″
Weathering greens (V.M.S.) ..	per ton	149/-
Covering cap.:	per ton (3″ lap)	2·25 squares
	per ton (4″ lap)	2·08 squares

		No. 2 Grading 24″/22″ to 12″/10″
Rustic reds (25%) and weathering greens (V.M.S.) ..	per ton	174/-
Covering cap.:	per ton (3″ lap)	2·25 squares
	per ton (4″ lap)	2·08 squares

Railway rate to Nine Elms, London, minimum 4 tons, 21/9, minimum 6 tons per truck, 18/1 per ton.

Tiles

	£	s.	d.
Hand-made sandfaced 10½″×6½″ red roofing tiles per 1,000	4	15	0
Machine-made sandfaced 10½″×6½″ red roofing tiles per 1,000	4	0	0
Berkshire rustic pantiles .. .. .. per 1,000	18	10	0

SLATER, TILER AND ROOFER—(*continued*)

Westmorland Green Slates

	Bests, 24″ to 12″ long. Proportionate widths Price per ton	Computed cover in sq. yds. per ton
Random sizes.		
No. 1 Buttermere fine light green ..	240/-	30
No. 2 ,, light green (coarse grained)	215/-	27–28
No. 5 ,, olive green (coarse grained)	197/-	25–27
No. 5 Medium green	197/-	25–26
No. 7 Elterwater fine light green ..	216/-	27–28
No. 15 Tilberthwaite fine light green ..	214/-	26–28
No. 16 ,, light green (coarse grained)	202/-	25–27

Prices include for delivery to any station, minimum 6-ton truck loads.

Asbestos-cement

6″ corrugated sheets, grey	per yard super	2/11		
Standard 3″ corrugated sheets, grey	per yard super	2/7½		
Slates :—				
15¾″×7⅞″ grey	per 1,000	£6	16	3
15¾″×15¾″ diagonal, grey	per 1,000	£12	18	6
15¾″×15¾″ diagonal, russet or brindled	per 1,000	£16	6	6
Pantiles.				
Large russet brown	per 1,000	£19	8	6

Prices are for minimum two-ton loads.

Cedar Wood Tiles

Canadian cedar wood shingles .. per square 32/- (normal quantity).

Prices include for delivery to nearest railway station in England but vary with quantity.

CARPENTER

Carcassing Timber

Prices are for Standards in one delivery; when less than a standard is required, or special lengths, add £1 0 0 per standard.

	Per standard £ s. d.	Per foot cube
●4″ ×11″ Scantling	27 10 0	3/4
●4″ × 9″ ,, ...	27 0 0	3/3¼
3″ ×11″ ,, ...	24 10 0	2/11¾
2″ ×11″ ,, ...	24 10 0	2/11¾
3″ × 9″ ,, ...	24 0 0	2/11
2″ × 9″ ,, ...	24 10 0	2/11¾
3″ × 8″ ,, ...	23 10 0	2/10¼
2″ × 8″ ,, ...	23 0 0	2/9½
●3″ × 7″ ,, ...	23 10 0	2/10¼
2″ × 7″ ,, ...	22 10 0	2/8¾
4″ × 6″ ,, ...	25 0 0	3/0¼
3″ × 6″ ,, ...	24 10 0	2/11¾
2″ × 6″ ,, ...	21 10 0	2/7¼
3″ × 5″ ,, ...	22 10 0	2/8¾
3″ × 4″ ,, ...	21 0 0	2/6½
●2″ × 5″ ,, ...	21 0 0	2/6½
2″ × 4″ ,, ...	20 10 0	2/6
1½″×11″ ,, (20 ft. lengths and over)	per ft. run	-/5
1½″×9″ ,, (20 ft. lengths and over)	per ft. run	-/4
1½″×7″ ,, (20 ft. lengths and over)	per ft. run	-/2¾

Yellow Deal Battens

¾″×1″	per 100 feet run 1/9
¾″×1½″	per 100 feet run 2/9
¾″×2″	per 100 feet run 3/9
1″ ×2″	per 100 feet run 4/9
1½″×2″	per 100 feet run 7/-

Weather Boarding

Deal :—	
¾″×¼″×6″ Feather edge	per square 12/6
¾″×¼″×4″ Feather edge	per square 10/9
Western red cedar :—	
1″×6″ Rebated	per square 35/-
11/16″×⅝″×6″ Feather edge	per square 13/6
¾″×¼″×4″ Feather edge	per square 12/6

Roof Boarding

Deal :—	
¾″×6″	per square 17/6
●1″×6″	per square 24/6

● Items marked thus have risen in price since January 27. ★ Items marked thus have fallen since January 27.

TO BE CONTINUED IN NEXT ISSUE

THE WEEK'S BUILDING NEWS

LONDON AND DISTRICTS

CAMBERWELL. *Flats.* The L.C.C. is to erect flats in Albany Road, Camberwell, at a cost of £15,000.

ENFIELD. *Flats, etc.* Plans passed by the Enfield U.D.C.: 82 flats, Merlin Close, Mr. E. W. Palmer; 24 houses, Great Cambridge Road, Mr. M. R. Bohan.

ENFIELD. *School Extensions.* The Middlesex Education Committee has obtained sanction to borrow £44,454 for extensions at the Enfield Grammar School.

FRIERN BARNET. *Flats, etc.* Plans passed by Friern Barnet U.D.C.: 24 flats, Sutton Road, Davies and Knight; 26 houses, Oakleigh Gardens, L. T. Swanne & Co.

GREENWICH. *Tenements.* The Greenwich B.C. is to erect tenements at Blackheath Hill, at a cost of £21,512.

GREENWICH. *Tenements.* The L.C.C. is to erect four blocks of tenements at a cost of £95,000 in Thames Street, Greenwich.

ILFORD. *School.* The Ilford Education Committee has purchased a site in Forest Road, for the erection of a school.

ILFORD. *Cinema, etc.* Plans passed by the Ilford Corporation: 28 houses and 16 flats, Dryden Close, Davis Estates, Ltd.; 28 houses, Birch Grove, Mr. J. Giles; 60 flats, Lancelot Road, Mr. G. F. Siegerts; 9 houses, Virginia Gardens, South Essex Property Co.; cinema, Fullwell Cross, Mr. G. Coles.

ISLINGTON. *Rehousing, etc.* The L.C.C. is to clear slums in the Liverpool Road area of Islington and provide rehousing, at a cost of £41,000.

KENSINGTON. *Pavilions, etc.* The Kensington B.C. is to lay out land at Northolt for recreative purposes and erect pavilions, etc., at a cost of £20,500.

LEWISHAM. *Houses, etc.* Plans passed by the Lewisham B.C.: Flats rear of Silverdale, Sydenham, G. H. Dabin, Ltd.; flats, Russell Street, Sydenham, L. A. Culliford and Partners; block of flats, Bromley Road, Wates, Ltd.; 248 maisonettes, Meadow View Road, J. Spencer Bright & Co., Ltd.

LEWISHAM. *Houses, etc.* Plans passed by the Lewisham B.C.: Flats, Sydenham Park, Mr. H. St. John Harrison; 116 houses and 20 flats, Winsford Park Estate, Homesteads, Ltd.

LONDON. *Hospital Extensions, etc.* The L.C.C. has approved a scheme for special works and improvement at county hospitals and institutions, at a cost of £64,675.

STEPNEY. *Tenements.* The Stepney B.C. is to erect tenements in Rhodeswell Road, at a cost of £14,643.

PROVINCES

ACCRINGTON. *School.* The Accrington Education Committee is to erect a senior school at Spring Hill.

BARNSLEY. *School Extension.* The Barnsley Education Committee is to extend the Wilthorpe school, at a cost of £4,500.

BARROW-IN-FURNESS. *Houses.* Plans passed by the Barrow-in-Furness Corporation: 50 houses, Rating Lane, J. Whittaker (Builders), Ltd.; 16 houses, Hawcoat Lane, J. Parkinson and Sons, Ltd.

BARROW-IN-FURNESS. *Clinic.* The Barrow-in-Furness Corporation is to erect clinic accommodation at the Risedale maternity home, at an estimated cost of £2,200.

BEARE GREEN. *School.* The Surrey Education Committee has approved a scheme for the provision of a mixed Church of England central school for 280 children at Beare Green.

BIGGLESWADE. *Police Station.* The Bedfordshire C.C. is to erect a police station at Biggleswade at a cost of £14,175.

BIRMINGHAM. *Technical College.* The Birmingham Education Committee has purchased property in the vicinity of Corporation Street for the erection of a technical college.

BLACKPOOL. *Houses.* Plans passed by the Blackpool Corporation: 73 houses, Penrose Avenue, etc., R. Fielding and Son; 10 houses, Bispham Road, Mr. H. Grimbledeston; 11 boarding-houses, Clifton Drive, Mr. W. H. Airey.

BLETCHINGLEY. *School.* The Godstone District Church of England authorities are to obtain a site at Bletchingley for the erection of a central school.

BOURNEMOUTH. *School.* The Bournemouth Education Committee is to obtain a site for a new junior school at East Howe.

BOURNEMOUTH. *Health Centre.* The Bournemouth Corporation has approved plans by the borough engineer for the proposed health centre at Hadow Road, East Howe, at a cost of £8,000.

BOURNEMOUTH. *Library.* The Bournemouth Corporation is to include in estimates provision for the erection of a branch library in Hadow Road.

BOURNEMOUTH. *Flats, etc.* Plans passed by the Bournemouth Corporation: 10 houses, Avebury Avenue, Mr. G. T. Lattimer; 20 flats, Manor Road, Mrs. L. Rowley; flats and maisonettes, Surrey Road, Mr. A. R. Wilkinson; flats and offices, Richmond Hill, Mr. H. W. Clark; 11 houses, Cranleigh Road, Mr. F. B. Wright.

BRADFORD. *School.* The Bradford Education Committee has obtained sanction to borrow £48,801 for the erection of new premises for the Thornton Grammar School.

BRISTOL. *Dock Extensions.* The Bristol Corporation is to extend the Royal Edward Dock by the development of the Eastern Arm and to construct additional wharves at the Oil Basin, Royal Edward Dock, at an estimated cost of £821,850.

BRISTOL. *Medical Equipment, etc.* The Bristol Corporation is to install medical equipment and furniture, construct cottages and lay out grounds, at the Barrow Hospital, at a cost of £43,946.

BRISTOL. *Technical College.* The Bristol Education Committee has acquired land for the erection of a technical college in the vicinity of Leek Lane.

BRISTOL. *Cinema.* The Bristol Corporation has concluded an agreement with Mr. F. G. W. Chamberlain, for the erection, at a cost of £13,000, of a cinema at Filwood Broadway.

BURTON-ON-TRENT. *Houses.* The Burton-on-Trent Corporation is to erect 189 houses in Rosliston Road, at a cost of £84,000.

CATERHAM. *Houses.* Plans passed by the Caterham U.D.C.: Flats, Cromwell Road, Mr. A. W. Hall; houses, Searchwood Road Sunnyside Estate, Warlingham, R. J. Clarke & Co.

CHIPPENHAM. *School.* The Wilts Education Committee is to erect new premises for the county school at Chippenham at a cost of £44,154.

DARTFORD. *Houses.* Plans passed by the Dartford Corporation: 60 houses, James Road, C. and D. J. Barwell, Ltd.; 21 houses, Wentworth Drive, R. E. M. Building Co.

DORCHESTER. *Houses.* The Dorchester Corporation proposes to erect a further 48 houses in Victoria Park.

FOLKESTONE. *Schools.* The Folkestone Education Committee is to erect senior and junior schools in Harcourt Road, at a cost of £52,491.

KIDDERMINSTER. *Gymnasium, etc.* The governors of King Charles I School, Kidderminster, are to provide a gymnasium and cycle accommodation at a total estimated cost of £4,500.

LEICESTER. *Constabulary Headquarters.* The Leicestershire C.C. is to erect constabulary headquarters at London Road, Leicester, at a cost of £12,000.

LEICESTERSHIRE. *Schools.* The Leicestershire Education Committee has approved plans for the following new buildings: Birstall Council Infants' School; Kegworth Primary School; Appleby Magna Primary School.

LICHFIELD. *Houses.* The Lichfield Corporation is to erect 40 houses on the Stychbrook Gardens Estate.

NORTHAMPTON. *Houses.* Plans passed by the Northampton Corporation: Six houses, Bushland Road, A. Glenn and Sons, Ltd.; six shops and six houses, off Windsor Crescent, A. and F. Gale, Ltd.; 31 houses, off London Road, Mr. R. H. Hewins.

NORWICH. *Stores, etc.* The Norwich Corporation has approved plans by Messrs. A. F. Scott and Sons, architects, for the erection of stores, etc., for the electricity department in Duke Street, at a cost of £74,890.

NORWICH. *Clinic, etc.* The Norwich Corporation is to erect an infant welfare centre and antenatal clinic at Lakenham, at an estimated cost of £1,500.

NORWICH. *School.* The Norwich Education Committee is to erect a nursery school on the North Earlham Estate, at a cost of £8,848.

NUNEATON. *School.* The Nuneaton Education Committee is to erect an elementary school in Higham Lane, at a cost of £52,238.

OLDBURY. *School Extensions.* The Worcestershire Education Committee has approved plans for extensions at the County High School, Oldbury, at a cost of £8,000.

ORMSKIRK. *School Enlargement.* The Lancashire Education Committee is to enlarge the Ormskirk Grammar School, at a cost of £26,146.

REDCAR. *Houses.* The Redcar Corporation is to erect 46 houses in Kirkleatham Lane, at a cost of £10,580.

REDDITCH. *School.* The Worcestershire Education Committee has approved plans for the erection of a senior school at Redditch.

ROTHERHAM. *Hospital Extensions.* The Rotherham Corporation has approved the following estimates: Almax Road hospital, out-patient block, £20,000; isolation hospital extension, £20,000; Oakwood Hall sanatorium extensions, £2,100.

ROTHERHAM. *Houses.* Messrs. Saville & Co. are to erect 18 houses in East Bawtry Road, Rotherham.

ROTHERHAM. *Schools, etc.* The Rotherham Education Committee has approved the following schemes: School for physically defective children, £19,340; Coleridge Road junior school, £17,250; nursery school, £8,300; site for proposed school in Broom Lane, £3,200; gymnasia at three central schools, £12,978; Acland central school, £59,500; gymnasium at Municipal High School for girls, £6,000; and assembly hall and gymnasium at Grammar School, £15,680.

ROTHERHAM. *Houses, etc.* Plans passed by the Rotherham Corporation: House and shop and house, South Street, Mr. W. Levers; bungalow, Moorgate Road, Mr. F. Holdsworth; rebuilding, Shakespeare Inn, Whitworth, Son and Nephew, Ltd.; factory, Fitzwilliam Road, Mr. C. B. Backer; four houses, Osbert Road, Mr. O. Parkin; additions, Norfolk Street, H. Wigfall and Son, Ltd.; sports pavilion, Low Lane, R. Jenkins & Co., Ltd.

SITTINGBOURNE. *School.* The Kent Education Committee has approved plans for the provision of a central school at Sittingbourne.

SOUTHAMPTON. *Library.* The Southampton Corporation is to erect a branch library at Bitterns, at a cost of £9,739.

STOKE-ON-TRENT. *Houses.* Plans passed by the Stoke-on-Trent Corporation: Six houses, Frederick Avenue, Penkhull, for Mr. N. Marsden; 13 shops and nine houses, Uttoxeter Road, Meir, for Modern Architectural Estates, Ltd.; 22 houses, Barnfields, for Penkhull Garden Village; 12 houses, Poplar Drive, Blurton, for Holly Bush Building Co.; 17 houses, Lower Spring Road, Normacot, for Messrs. Higginson and Cope; 32 houses, Weston Coyney Road, for Messrs. Foreman and Thorley.

STOURPORT-ON-SEVERN. *School.* The Worcestershire Education Committee has approved plans for the erection of a senior council school at Stourport-on-Severn, at a cost of £26,690.

WHISTON. *Nurses' Home.* The Lancashire C.C. is to provide additional accommodation in the nurses' home at the Whiston institution, at a cost of £39,150.

WHISTON. *School.* The Lancashire Education Committee is to erect a junior and infants' council school at Whiston, at a cost of £23,276.

WORCESTERSHIRE. *School Extensions.* The Worcestershire Education Committee has approved revised plans for extensions at Pershore school, at a cost of £9,000.

WROTHAM. *Central School.* The Kent Education Committee has purchased a site at Wrotham for a central school.

LABOUR RATES

These lists are intended to be used in conjunction with the Prices Supplement of the JOURNAL, and will be re-issued when the rates change. Additional copies of the lists may be obtained from the JOURNAL at the price of 2d. per copy to cover postage. The Prices Supplement of the JOURNAL is published in four weekly parts:

1. Current Market Prices of Materials, Part I.
2. Current Market Prices of Materials, Part II.
3. Current Prices for Measured Work, Part I.
4. A.—Current Prices for Measured Work, Part II.
   B.—Prices for Approximate Estimates.

LABOUR RATES

The following gradings of towns in England and Wales date from February 1, 1938.

Rates for

LONDON DISTRICTS

	Within 12 miles of Charing Cross	Within 12–15 miles of Charing Cross
Craftsmen	1/9	1/8½
Painters	1/8	1/7½
Labourers	1/3¾	1/3½

RATES FOR

OTHER DISTRICTS (ENGLAND AND WALES)

Grade Classifications ...	A	A_1	A_2	A_3	B	B_1	B_2	B_3	C
Craftsmen	1/7½	1/7	1/6½	1/6	1/5½	1/5	1/4½	1/4	1/3½
Labourers	1/2¾	1/2¼	1/2	1/1½	1/1¼	1/0¾	1/0½	1/-	11¾d.

Aerodrome sites are subject to special grading for specific periods, and rates of wages in such districts must always be verified.

Rates for

SCOTTISH DISTRICTS

Grade Classifications	A	A^1	A^2	A^3	B	B^1
Craftsmen	1/7½	1/7	1/6½	1/6	1/5½	1/5
Labourers	1/2¾	1/2¼	1/2	1/1½	1/1	1/0½

★ Against the following towns are placed index figures denoting grading. The rates of wages for each grading are given above.

★ The following gradings are printed by permission of the National Joint Council for the Building Industry (England and Wales) and the Scottish National Joint Council for the Building Industry. The JOURNAL has made every effort to ensure accuracy, but cannot accept responsibility for errors.

LABOUR RATES

District	Region	Grade
A		
Aberavon	S. Wales & Mon.	A
Aberdare	S. Wales & Mon.	A_1
Aberdovey	North-Western	B_1
Abergavenny	S. Wales & Mon.	A_1
Abergele	North-Western	A_2
Abingdon	Southern Counties	A_3
Accrington	North-Western	A
Acle	Eastern Counties	B_1
Acol	Southern Counties	B_1
Addlestone	Southern Counties	A_2
Afan Valley	S. Wales & Mon.	A
Aldeburgh	Eastern Counties	C
Alderley Edge	North-Western	A
Aldershot District	Southern Counties	B
Alfreton & Ripley	Midlands	A
Alnwick	Northern Counties	A_1
Alton (Hants)	Southern Counties	B
Altrincham	North-Western	A
Amble	Northern Counties	A_1
Ambleside	North-Western	A_3
Amersham	Southern Counties	A_3
Ammanford	S. Wales & Mon.	A
Ampthill	Eastern Counties	B_1
Andover	Southern Counties	B
Anglesey	North-Western	B
Annfield Plain	Northern Counties	A
Appleby	North-Western	B_3
Ardingley	Southern Counties	B
Ardleigh	Eastern Counties	A_2
Arlesey	Eastern Counties	A_3
Arundel	Southern Counties	B
Ascot	Southern Counties	B
Ashbourne	Midlands	B
Ashby	Eastern Counties	B
Ashby-de-la-Zouch	Midlands	A_3
Ashford (Kent) Dist.	Southern Counties	B_1
Ashford (Middlesex)	Southern Counties	A
Ashington	Northern Counties	A_1
Ashtead	Southern Counties	A
Ashton-under-Lyne	North-Western	A
Ashwell (Herts)	Eastern Counties	B_1
Askham	North-Western	A_3
Atherstone	Midlands	A_2
Attleborough	Eastern Counties	B_2
Audlem	North-Western	A_2
Aycliffe	Northern Counties	A_1
Aylesbury	Southern Counties	B
Aylmerton	Eastern Counties	B_2
Aylsham	Eastern Counties	B_2
B		
Bacton	Eastern Counties	B_2
Bagborough	South-Western	B
Bagillt	North-Western	A_3
Bagshot	Southern Counties	B
Bakewell	Midlands	A_3
Bala	North-Western	B_1
Balcombe	Southern Counties	B
Baldock	Eastern Counties	A_3
Bampton (Devon)	South-Western	B_1
Banbury	Southern Counties	B
Barmouth	North-Western	B
Barnard Castle	Northern Counties	A_3
Barnoldswick	Yorkshire	A_2
Barnsley	Yorkshire	A
Barnstaple	South-Western	B
Barrow-in-Furness	North-Western	A
Barry	S. Wales & Mon.	A
Basingstoke	Southern Counties	B
Bath	South-Western	A_2
Batley	Yorkshire	A
Beaconsfield	Southern Counties	A_3
Beamish	Northern Counties	A
Bearpark	Northern Counties	A
Beccles	Eastern Counties	B_2
Beck Row	Eastern Counties	B_2
Bedale	Northern Counties	A_3
Bedford	Eastern Counties	A_2
Bedlington	Northern Counties	A_1
Bedwas	S. Wales & Mon.	A_1
Beenham District	Southern Counties	B
Belper	Midlands	A
Benson	Southern Counties	B
Berkeley	South-Western	B_2
Berkhamsted	Eastern Counties	B_1
Berwick District	Northern Counties	A_1
Bettws-y-Coed	North-Western	A_3
Beverley	Yorkshire	A
Bewdley	Midlands	A_2
Bexhill	Southern Counties	B
Bicester	Southern Counties	B
Biddestone	South-Western	B_1
Bideford	South-Western	B
Bidford-on-Avon	Midlands	B_2
Biggleswade	Eastern Counties	B_1
Billericay	Eastern Counties	B_1
Bilston	Midlands	A
Bingley	Yorkshire	A
Birchington	Southern Counties	B_1
Birmingham	Midlands	A
Bishop Auckland	Northern Counties	A
Bishop's Lydeard	South-Western	B
Bishops Stortford	Eastern Counties	A_3
Bishops-Waltham	Southern Counties	B
Bispham	North-Western	A
Blackburn	North-Western	A
Blackdown	Southern Counties	B
Blackheath	Midlands	A
Blackhill	Northern Counties	A
Blackhill Mill	Northern Counties	A
Blackpool	North-Western	A
Blackrod	North-Western	A
Blackwater	Southern Counties	B
Blandford	South-Western	B_1
Blindley Heath	Southern Counties	B
Blofield	Eastern Counties	A_3
Blyth	Northern Counties	A
Bognor Regis	Southern Counties	B
Bollington	North-Western	A_1
Bolney	Southern Counties	B
Bolton	North-Western	A
Bordon	Southern Counties	B
Boreham	Eastern Counties	B_2
Boroughbridge	Yorkshire	B_3
Bosham	Southern Counties	B
Boston	Midlands	A_2
Botesdale	Eastern Counties	B_3
Botley	Southern Counties	A_2
Bourne	Midlands	B
Bourne End	Southern Counties	A_3
Bournemouth Dist.	Southern Counties	A_2
Bourton-on-the-Water	South-Western	B
Bovey Tracey	South-Western	B
†Box	South-Western	B_1
Boxford (Suffolk)	Eastern Counties	C
Bracknell	Southern Counties	B
Bradford	Yorkshire	A
†Bradford-on-Avon	South-Western	B_2
Bradninch	South-Western	A_3
Braintree	Eastern Counties	B
Bramley (Surrey)	Southern Counties	B
Brampton (Hunts)	Eastern Counties	B_2
Bramshott	Southern Counties	B
Brandon (Durham)	Northern Counties	A
Brandon (Suffolk)	Eastern Counties	B_3
Braughing	Eastern Counties	B_3
Braunton	South-Western	B
Brecon	S. Wales & Mon.	B
Brenhill	South-Western	B_1
Brentwood	Eastern Counties	A_1
Bridgend	S. Wales & Mon.	A
Bridgnorth	Midlands	B
Bridgwater	South-Western	B
Bridlington	Yorkshire	A_1
Bridport	South-Western	B_1
Brierfield	North-Western	A
Brigg	Midlands	A_3
Brighouse	Yorkshire	A
Brightlingsea	Eastern Counties	B
Brighton	Southern Counties	A_2
Bristol	South-Western	A
Brixham	South-Western	B_2
Broadstairs	Southern Counties	B_1
Bromsgrove	Midlands	A_2
Bromyard	South-Western	B_3
Broom	Northern Counties	A
Broseley	Midlands	A_3
Broughton (Cheshire)	North-Western	A
Broughton-in-Furness	North-Western	A_3
†Buckfastleigh	South-Western	B_1
Buckingham	Southern Counties	B
Buckley	North-Western	A
†Budleigh Salterton	South-Western	B_1
Buglawton	North-Western	A_3
Buildwas	Midlands	A_3
Builth Wells	S. Wales & Mon.	B
Bulphan	Eastern Counties	A
Bungay	Eastern Counties	C
Buntingford	Eastern Counties	B_3
Bunwell	Eastern Counties	B_3
Bures (Suffolk)	Eastern Counties	B_3
Burgess Hill	Southern Counties	B
Burnham Market	Eastern Counties	C
Burnham-on-Crouch	Eastern Counties	B_3
Burnham-on-Sea	South-Western	B_1
Burnhope	Northern Counties	A
Burnley	North-Western	A
Burnopfield	Northern Counties	A
Burry Port	S. Wales & Mon.	A
Burslem	Midlands	A
Burstow	Southern Counties	B
Burton-on-Trent	Midlands	A
Bury	North-Western	A
Bury St. Edmunds	Eastern Counties	B_1
Buxton	North-Western	A_1
Byfleet	Southern Counties	A_3
C		
Caister	Eastern Counties	B
Calder Valley	Yorkshire	A
†Calne	South-Western	B_2
Camberley District	Southern Counties	B
Cambridge	Eastern Counties	A_1
Cannock (and Hednesford)	Midlands	A_1
Canterbury	Southern Counties	B_1
Cantley	Eastern Counties	B
Cardiff	S. Wales & Mon.	A
Carlisle	North-Western	A
Carmarthen	S. Wales & Mon.	B
††Carnarvonshire	North-Western	B
Carnforth	North-Western	A
Carno	North-Western	B_3
Castle Cary	South-Western	B_1
Castle Combe	South-Western	B_1
Castleford	Yorkshire	A
Castleside	Northern Counties	A
Caterham	Southern Counties	A
Catfield	Eastern Counties	B_2
Catterick Camp Area	Northern Counties	A_2
Cavendish	Eastern Counties	C
Cefn	North-Western	A_1
Chagford	South-Western	B_2
Chailey	Southern Counties	B
Chalfonts	Southern Counties	A_3
Chapel-en-le-Frith	North-Western	A_1
†Chard	South-Western	B_2
Charlwood (Surrey)	Southern Counties	B
Chatham & Dist.	Southern Counties	A_3
Chatteris	Eastern Counties	C
Cheadle (Staffs)	Midlands	A
†Cheddar Valley	South-Western	B_2
Chedworth	South-Western	B
Chelmsford	Eastern Counties	A_3
Cheltenham	South-Western	A_3
Chelwood Gate	Southern Counties	B
Chepstow	S. Wales & Mon.	A_2
Cherry Hinton	Eastern Counties	A_1
Chertsey	Southern Counties	A_2
Chesham	Southern Counties	A_3
Chester	North-Western	A
Chesterfield	Midlands	A
Chichester	Southern Counties	B
†Chippenham	South-Western	B_1
Chipping Campden	South-Western	B
Chipping Norton	Southern Counties	B
Chorley	North-Western	A
Christchurch	Southern Counties	A_2
Christian Malford	South-Western	B_1
Chudleigh	South-Western	A_3
Church Stretton	Midlands	B_1
†Cirencester	South-Western	B_1
Clacton	Eastern Counties	B
Clare	Eastern Counties	C
Cleator Moor	North-Western	A_3
Clevedon	South-Western	B_1
Cleveleys	North-Western	A
Cliddesden	Southern Counties	B
Clitheroe	North-Western	A
Clophill	Eastern Counties	B_1
Clyst St. Mary	South-Western	A_3
Coalbrookdale	Midlands	A_3
Coalport	Midlands	A_3
Coalville	Midlands	A
Cobham (Kent)	Southern Counties	A
Cobham (Surrey)	Southern Counties	A_2
Cockermouth	North-Western	A_3
Cockfield	Northern Counties	A_1
Coggeshall	Eastern Counties	B_1
Colchester	Eastern Counties	A_2
†Coleford	South-Western	B_2
Coleshill	Midlands	A_2
Colne	North-Western	A
Colne Valley	Yorkshire	A
Coltishall	Eastern Counties	B_1
Colwyn Bay	North-Western	A_2
Combe Martin	South-Western	B
Congleton	North-Western	A_1
Coniston	North-Western	A_3
Connah's Quay	North-Western	A
Consett	Northern Counties	A
Conway	North-Western	A_2
Copthorne	Southern Counties	B
Corfe (Somerset)	South-Western	B
Corfe Castle	South-Western	B_1
Cornsay	Northern Counties	A
†Corsham	South-Western	B_1
Corton	Eastern Counties	B
Corwen	North-Western	B_1
Costessey	Eastern Counties	A_1

† Painters 1d. less than Craftsmen.

†† Except Conway, Llandudno.

District	Region	Grade
Cottenham ..	Eastern Counties	C
Coundon	Northern Counties	A_1
Coventry	Midlands ..	A
Cowden	Southern Counties	B
Cowfold	Southern Counties	B
Craghead	Northern Counties	A
Cranbrook ..	Southern Counties	B_1
Cranham	Eastern Counties	A_1
Cranleigh	Southern Counties	B
Crawley (Sussex) ..	Southern Counties	B
Crawley Down ..	Southern Counties	B
§Crediton	South-Western ..	B_2
Creech St. Michael	South-Western ..	B
Crewe	North-Western ..	A_2
Crewkerne ..	South-Western ..	B_2
Crickhowell ..	S. Wales & Mon.	B
Cricklade	South-Western ..	B_1
Cromer	Eastern Counties	B_2
Crook	Northern Counties	A_1
Crook Stanley ..	Northern Counties	A_1
Crosshills	Yorkshire ..	A
Crostwick	Eastern Counties	A_1
Crowborough ..	Southern Counties	B
Cuckfield	Southern Counties	B
Cullompton ..	South-Western ..	B_1
**Cumberland ..	North-Western ..	A_2
Curry Rivel ..	South-Western ..	B
Cwmbran	S. Wales & Mon.	A

D

Dalton-in-Furness	North-Western ..	A
Danehill	Southern Counties	B
Darenth	Southern Counties	A_1
Darlaston	Midlands ..	A
Darlington District	Northern Counties	A
Dartmouth ..	South-Western ..	A_2
Darwen	North-Western ..	A
Dauntsey	South-Western ..	B_1
Daventry	Midlands ..	A_2
Deal	Southern Counties	B_1
Debenham ..	Eastern Counties	C
Deepcut	Southern Counties	B
Denbigh	North-Western ..	A_3
Derby	Midlands ..	A
Derry Hill ..	South-Western ..	B_1
†Devizes	South-Western ..	B_3
Dewsbury	Yorkshire ..	A
Didcot	Southern Counties	B
Dipton	Northern Counties	A
Disley	North-Western ..	A_1
Diss	Eastern Counties	B_3
Docking	Eastern Counties	C
Dolgelly	North-Western ..	B_1
Doncaster	Yorkshire ..	A
†Dorchester ..	South-Western ..	B_1
Dorking	Southern Counties	A_3
Dormans Land ..	Southern Counties	B
Dormans Park ..	Southern Counties	B
Doulting	South-Western ..	B_2
Dover	Southern Counties	B_1
Dovercourt ..	Eastern Counties	B
Downham Market	Eastern Counties	C
Draycott	South-Western ..	B_1
Drayton (Norfolk)	Eastern Counties	A_1
Driffield	Yorkshire ..	A_3
Droitwich	Midlands ..	A_2
Dudley	Midlands ..	A
Dudley Port ..	Midlands ..	A
Dunmow	Eastern Counties	B_2
Dunstable	Eastern Counties	II
Durham City ..	Northern Counties	A
Dursley	South-Western ..	A_2
Duxford	Eastern Counties	B

E

Eastbourne ..	Southern Counties	A_2
East Budleigh ..	South-Western ..	B
East Dereham ..	Eastern Counties	B_3
East Glamorgan and Monmouthshire Valleys ..	S. Wales & Mon.	A_1
East Grinstead Dist.	Southern Counties	B
East Harling ..	Eastern Counties	B_3
East Horndon ..	Eastern Counties	A_2
East Kirby ..	Midlands ..	A
Eastleigh	Southern Counties	A_1
Eastwood (Notts)..	Midlands ..	A
Ebbw Vale & Dist.	S. Wales & Mon.	A_1
Ebchester	Northern Counties	A
Edenbridge ..	Southern Counties	B
Edge Hills ..	Midlands ..	B
Edmonsley ..	Northern Counties	A
Effingham	Southern Counties	A_3
Egham	Southern Counties	A_2
Egremont (Cumb.)	North-Western ..	A_3
Elmswell	Eastern Counties	C
Ely	Eastern Counties	B_3
Emsworth	Southern Counties	II
Epping	Eastern Counties	A_2
Esh	Northern Counties	A
Esh Winning ..	Northern Counties	A
Essendon	Eastern Counties	A_2
††Essex : Belt A ..	Eastern Counties	A
*† Belt B ..	Eastern Counties	B_1
Etherley	Northern Counties	A_1
Eton	Southern Counties	A_2
Evenwood ..	Northern Counties	A_1
Evesham	Midlands ..	B
§Exeter	South-Western ..	A_2
Exminster ..	South-Western ..	A_2
Exmouth	South-Western ..	B
Exning	Eastern Counties	B
Eye (Suffolk) ..	Eastern Counties	C

F

Fairford	South-Western ..	B_2
Fair Oak	Southern Counties	B
Fakenham (Norfolk)	Eastern Counties	B_3
Falmouth	South-Western ..	A_3
Fareham	Southern Counties	A_2
Faringdon	Southern Counties	B
Farnborough (Hants)	Southern Counties	B
Farnham (Surrey)	Southern Counties	B
Farningham (Kent)	Southern Counties	A_3
Faversham ..	Southern Counties	B_1
Felbridge	Southern Counties	B
Felixstowe ..	Eastern Counties	A_3
Felstead	Eastern Counties	B_2
Fenny Stratford ..	Southern Counties	B
Fenstanton ..	Eastern Counties	B_3
Fenton	Midlands ..	A
Ferryhill	Northern Counties	A_1
Festiniog	North-Western ..	B_1
Filey	Yorkshire ..	A_3
Fincham	Eastern Counties	C
Fishguard	S. Wales & Mon.	B_3
Fleet (Hants) ..	Southern Counties	B
Fleetwood	North-Western ..	A
Fletching	Southern Counties	B
Flint	North-Western ..	A_1
Folkestone	Southern Counties	B_1
Fordham (Cambs)	Eastern Counties	B_1
Fordingbridge ..	Southern Counties	B_2
Forest Row ..	Southern Counties	B
Forncett	Eastern Counties	B_3
Foulsham	Eastern Counties	C
Framlingham ..	Eastern Counties	C
Frimley	Southern Counties	B
Frinton	Eastern Counties	B
Frodsham	North-Western ..	A
†Frome	South-Western ..	B_2
Frosterley	Northern Counties	A_2
Fulbourn	Eastern Counties	A_2

G

Gainsborough ..	Midlands ..	A_2
Garstang	North-Western ..	A
Gateshead	Northern Counties	A
Gaywood	Eastern Counties	B_1
Gerrard's Cross ..	Southern Counties	A_3
Gillingham (Kent)	Southern Counties	A_3
Gillingham (Norfolk)	Eastern Counties	B_3
Glastonbury and Street	South-Western ..	B_2
Glossop	North-Western ..	A
Gloucester ..	South-Western ..	A_2
Godalming	Southern Counties	B
Goole	Yorkshire ..	A
Goring-on-Thames	Southern Counties	B
Gorleston	Eastern Counties	B
Gornal	Midlands ..	A
Gorseinon	S. Wales & Mon.	A
Gosport	Southern Counties	A_2
Gowerton	S. Wales & Mon.	A
Grange-over-Sands	North-Western ..	A_3
Grantham	Midlands ..	A_2
Grasmere	North-Western ..	A_3
Gravesend ..	Southern Counties	A_1
Grays	Eastern Counties	A
Grayshott	Southern Counties	II
Great Horkesley ..	Eastern Counties	A_3
Great Plumstead ..	Eastern Counties	A_1
Great Rissington ..	South-Western ..	B
Great Somerford ..	South-Western ..	B_1
Great Yarmouth ..	Eastern Counties	B
Greenhithe ..	Southern Counties	A_1
Grimsby	Yorkshire ..	A
Grittleton	South-Western ..	B_1
Groombridge ..	Southern Counties	B
Guildford District	Southern Counties	B
Guilsborough ..	Midlands ..	A_3

H

Hadleigh (Essex)	Eastern Counties	A_2
Hadleigh (Suffolk)	Eastern Counties	C
Hailsham	Southern Counties	II
Hale Street ..	Southern Counties	A_3
Halesworth ..	Eastern Counties	C
Halifax	Yorkshire ..	A
Halstead	Eastern Counties	B
Halton Park ..	Southern Counties	B
Ham Hill	South-Western ..	B_1
Hamsterley ..	Northern Counties	A_2
Hamsterley Colliery	Northern Counties	A_1
Handcross ..	Southern Counties	B
Hanley	Midlands ..	A
Hardenhuish ..	South-Western ..	B_1
Harlech	North-Western ..	B
Harleston (Suffolk)	Eastern Counties	C
Harlow	Eastern Counties	B
Harpenden ..	Eastern Counties	A_3
Harrington ..	North-Western ..	A_2
Harrogate	Yorkshire ..	A
Hartfield	Southern Counties	B
Hartlepools ..	Northern Counties	A
Hartley Wintney ..	Southern Counties	B
Harwich	Eastern Counties	B
Haslemere ..	Southern Counties	B
Hastings	Southern Counties	B
Hatch Beauchamp	South-Western ..	B
Hatfield	Eastern Counties	A_2
Hatfield Peveril ..	Eastern Counties	B_2
Hathersage ..	Yorkshire ..	A_3
Havant	Southern Counties	B
Haverfordwest ..	S. Wales & Mon.	B_3
Haverhill	Eastern Counties	C
Hawarden	North-Western ..	A
Hawkhurst ..	Southern Counties	B_1
Hay	S. Wales & Mon.	B_2
Haydock	North-Western ..	A
Hayfield	North-Western ..	A_1
Hayle	South-Western ..	B_2
Hayling Island ..	Southern Counties	B
Haywards Heath ..	Southern Counties	B
Heacham	Eastern Counties	B_3
Heanor	Midlands ..	A
Heathfield ..	Southern Counties	B
Hebden Bridge ..	Yorkshire ..	A
Hemel Hempstead	Eastern Counties	A_2
Henley-in-Arden ..	Midlands ..	A_3
Henley-on-Thames	Southern Counties	B
Henlow	Eastern Counties	A_3
Hereford	South-Western ..	B
Herne Bay ..	Southern Counties	B_1
Herriard	Southern Counties	B
Hertford	Eastern Counties	A_2
††Hertfordshire: Belt A	Eastern Counties	A
*† Belt B	Eastern Counties	A_3
Heysham	North-Western ..	A
Heywood	North-Western ..	A
High Hurstwood ..	Southern Counties	B
Higher Kinnerton	North-Western ..	A
Highworth	South-Western ..	A_3
Hinckley	Midlands ..	A
Hingham	Eastern Counties	C
Histon	Eastern Counties	A_3
Hitchin	Eastern Counties	A_3
Hoddesdon ..	Eastern Counties	A_2
Holbrook	Eastern Counties	B_1
Holmfirth	Yorkshire ..	A
Holt (Norfolk) ..	Eastern Counties	C
Holt (Wilts) ..	South-Western ..	B_2
Holtye	Southern Counties	B
Holywell	North-Western ..	A_2
Holywell Row ..	Eastern Counties	B_2
Honiton	South-Western ..	B_2
Hopton	Eastern Counties	B
Horley	Southern Counties	B
Hornby	North-Western ..	A
Horncastle	Midlands ..	B
Hornchurch ..	Eastern Counties	A
Horndon-on-the-Hill	Eastern Counties	A
Horning	Eastern Counties	B_1
Hornsea	Yorkshire ..	A_3
Horsham District	Southern Counties	B
Horsham St. Faith	Eastern Counties	A_1
Horsted Keynes ..	Southern Counties	B
Horwich	North-Western ..	A
Hove	Southern Counties	A_2
Howdon-on-Tyne	Northern Counties	A
Huddersfield ..	Yorkshire ..	A
Hull	Yorkshire ..	A
Hullavington ..	South-Western ..	B_1
Hungerford ..	Southern Counties	B
Hunstanton ..	Eastern Counties	B_3
Huntingdon ..	Eastern Counties	B_2
Hunwick	Northern Counties	A_1
Hythe (Kent) ..	Southern Counties	B_1

I

Ilfracombe ..	South-Western ..	B
Ilkeston	Midlands ..	A
Ilkley	Yorkshire ..	A
†Ilminster	South-Western ..	B_2
Immingham ..	Yorkshire ..	A
Ingatestone ..	Eastern Counties	B
Ipswich	Eastern Counties	A_2
Ironbridge & Dist.	Midlands ..	A_2
Isle of Grain ..	Southern Counties	A_2
Isle of Sheppey ..	Southern Counties	B_1
Isle of Thanet ..	Southern Counties	B_1
Isle of Wight ..	Southern Counties	B_2
Ivybridge	South-Western ..	B_2
Ixworth	Eastern Counties	C

J

Jarvis Brook ..	Southern Counties	B

§ Painters ½d. less than Craftsmen. ** Except Carlisle. *† The Essex and Hertfordshire Belts B comprises the territory between 17 and 25 miles from Charing Cross. †† The Essex and Hertfordshire Belts A include the territory in those counties between 15 and 17 miles from Charing Cross.

District	Region	Grade
K		
Keighley	Yorkshire	A
Kellaways	South-Western	B_1
Kelling	Eastern Counties	B_2
Kelvedon	Eastern Counties	B_3
Kemble	South-Western	B
Kendal	North-Western	A_3
Kenilworth	Midlands	A
Kessingland	Eastern Counties	B_2
Keswick	North-Western	A_3
Kettering	Midlands	A_1
Keynsham	South-Western	A
Kidderminster	Midlands	A_2
Kineton	Midlands	B
Kingsbridge	South-Western	A_2
Kingsgate	Southern Counties	B_1
Kingskerswell	South-Western	A_1
King's Lynn	Eastern Counties	B_1
Kingsteignton	South-Western	A_1
Kington	South-Western	B_2
Kington Langley	South-Western	B_1
Kington St. Michael	South-Western	B_1
Kirby Moorside	Yorkshire	B_3
Kirkby Lonsdale	North-Western	B_2
Kirkby Stephen	North-Western	B_3
Kirkham	North-Western	A
Knaresborough	Yorkshire	A_3
Knebworth	Eastern Counties	A_3
Knighton	S. Wales & Mon.	B_3
Knitsley	Northern Counties	A_1
Knowle	Midlands	A_1
Knutsford	North-Western	A_2
L		
Lacock	South-Western	B_1
Laindon	Eastern Counties	A_2
Lakenheath	Eastern Counties	C
Lambourn	Southern Counties	B
Lancaster	North-Western	A
Lanchester	Northern Counties	A
Langley Burrell	South-Western	B_1
Langley Mill	Midlands	A
Langley Park	Northern Counties	A
Langport	South-Western	B_2
Lavenham	Eastern Counties	C
Laverstoke	Southern Counties	B
†Lavington	South-Western	B_2
Leadgate	Northern Counties	A
Leamington	Midlands	A
Leatherhead	Southern Counties	A_2
Leavesden Green	Eastern Counties	A_1
Ledbury	South-Western	B_2
Leeds	Yorkshire	A
Leek	Midlands	A
Leicester	Midlands	A
Leigh	North-Western	A
Leigh-De-La-Mere	South-Western	B_1
Leighton Buzzard	Eastern Counties	B_2
Leiston	Eastern Counties	B_3
Leominster	South-Western	B
Letchworth	Eastern Counties	A_3
Lewes	Southern Counties	B
Leyland	North-Western	A
Lichfield	Midlands	A_2
Lincoln	Midlands	A
Lindfield	Southern Counties	B
Lingfield	Southern Counties	B
Linslade	Southern Counties	B
Linton (Cambs)	Eastern Counties	C
Liphook	Southern Counties	B
Liskeard	South-Western	B_2
Liss	Southern Counties	B
Littlehampton	Southern Counties	B
Little Holland	Eastern Counties	B
Littleport	Eastern Counties	C
Little Somerford	South-Western	B_1
Llandilo	S. Wales & Mon.	B
Llandovery	S. Wales & Mon.	B
Llandrindod Wells	S. Wales & Mon.	B
Llandudno	North-Western	A_2
Llanelly	S. Wales & Mon.	A
Llanfyllin	North-Western	B_3
Llangollen	North-Western	A_3
Llangurig	North-Western	B_3
Llanidloes	North-Western	B_3
Loddon	Eastern Counties	C
London	—	—
Long Eaton	Midlands	A
Longridge	North-Western	A
Long Stratton	Eastern Counties	C
Longton	Midlands	A
Looe	South-Western	B_2
Loughborough	Midlands	A
Louth	Midlands	A_3
Lowestoft	Eastern Counties	B
Lowfield Heath	Southern Counties	B
Ludham	Eastern Counties	B_3
Ludlow	Midlands	B_1
Lulworth	South-Western	B_1
Luton	Eastern Counties	A_1
Lyme Regis	South-Western	B_1
Lympstone	South-Western	B
Lyng	South-Western	B
Lynmouth	South-Western	B
Lynton	South-Western	B
Lytham	North-Western	A
M		
Macclesfield	North-Western	A_1
Machynlleth	North-Western	B_2
Madeley	Midlands	A_3
Maesteg and Valley	S. Wales & Mon.	A
Maidenhead	Southern Counties	A_3
Maiden Newton	South-Western	B_1
Maidstone	Southern Counties	A_3
Maldon	Eastern Counties	B
Mallwyd	North-Western	B_1
Malpas	North-Western	A_2
Malton	Yorkshire	A_3
Malvern	Midlands	A_3
Manchester	North-Western	A
Manningtree	Eastern Counties	B_3
Mansfield	Midlands	A
March	Eastern Counties	B_2
Maresfield	Southern Counties	B
Margate	Southern Counties	B_1
Market Bosworth	Midlands	A_3
Market Drayton	North-Western	A_3
Market Harborough	Midlands	A_2
Market Weighton	Yorkshire	B_3
†Marlborough	South-Western	B_2
Marley Hill	Northern Counties	A
Marlow	Southern Counties	A_3
Marsh Green	Southern Counties	B
Maryport	North-Western	A_3
Masham	Yorkshire	B_3
Matlock	Midlands	A_3
Meadowfield	Northern Counties	A
Medomsley	Northern Counties	A
Melbourn	Eastern Counties	B_3
†Melksham	South-Western	B_2
Melton Constable	Eastern Counties	C
Melton Mowbray	Midlands	A_2
Merionethshire	North-Western	B_1
Merthyr and Aberdare District	S. Wales & Mon.	A_1
Methwold	Eastern Counties	C
Mexborough	Yorkshire	A
Middlesbrough	Northern Counties	A
Middleton	North-Western	A
Middlewich	North-Western	A_2
Midhurst	Southern Counties	B
Midsomer Norton	South-Western	B_1
Mildenhall	Eastern Counties	B_2
Milford Haven	S. Wales & Mon.	B
Millom	North-Western	A_3
Milton-under-Wychwood	Southern Counties	B
Milverton	South-Western	B
Minchinhampton	South-Western	B
†Minehead	South-Western	B_2
Minster in Thanet	Southern Counties	B_1
Mistley	Eastern Counties	B_3
Mold	North-Western	A_1
Monkton (Kent)	Southern Counties	B_1
Monmouthshire Valleys	S. Wales & Mon.	A_1
Monmouth Town	S. Wales & Mon.	B_2
Montacute	South-Western	B_1
Montgomery	North-Western	B_3
Montgomeryshire	North-Western	B_3
Monyash	North-Western	A_3
Morecambe	North-Western	A
Moreton-in-Marsh	South-Western	B
Morley	Yorkshire	A
Morpeth	Northern Counties	A_1
Morthoe	South-Western	B
Mortimer	Southern Counties	B
Mostyn	North-Western	A_3
Much Hadham	Eastern Counties	B_3
Much Wenlock Parish	Midlands	B
Mundesley	Eastern Counties	B_2
N		
Nantwich	North-Western	A_2
Neath & Valley	S. Wales & Mon.	A
Needham Market	Eastern Counties	C
Nelson	North-Western	A
Nether Stowey	South-Western	B
Newark-on-Trent	Midlands	A_2
Newbiggin-by-the-Sea	Northern Counties	A_1
New Branceteth	Northern Counties	A
New Buckenham	Eastern Counties	B_3
Newbury	Southern Counties	B
Newcastle	Northern Counties	A
Newcastle-under-Lyme	Midlands	A
New Chapel	Southern Counties	B
New Forest District	Southern Counties	B_2
Newhaven	Southern Counties	A_2
Newick	Southern Counties	B
Newmarket	Eastern Counties	B
New Mills	North-Western	A_1
Newport (Essex)	Eastern Counties	B_3
Newport (Mon.)	S. Wales & Mon.	A
Newport (Salop)	Midlands	B
Newport Pagnall	Southern Counties	B
Newquay	South-Western	B_2
New Radnor	S. Wales & Mon.	B_3
Newton Abbot	South-Western	A_1
Newtown	North-Western	B_3
Normanton	Yorkshire	A
Northallerton Dist.	Northern Counties	A_3
Northampton	Midlands	A
North Cerney	South-Western	B
Northfleet	Southern Counties	A_1
Northleach	South-Western	B
North Mimms	Eastern Counties	A
Northop	North-Western	A_1
North Petherton	South-Western	B
North Runcton	Eastern Counties	B_1
North Shields	Northern Counties	A
North Walsham	Eastern Counties	B_2
North Weald	Eastern Counties	A_2
North-West Kent	Southern Counties	A_3
Northwich	North-Western	A_2
Northwold	Eastern Counties	C
North Wootton	Eastern Counties	B_1
Norton Fitzwarren	South-Western	B
Norton-sub-Hamdon	South-Western	B_1
Norwich	Eastern Counties	A
Nottingham	Midlands	A
Nuneaton	Midlands	A
Nutley	Southern Counties	B
O		
Oakengates	Midlands	A_2
Oakham	Midlands	A_3
Ockendon	Eastern Counties	A_1
Odcombe	South-Western	B_1
Ogmore and Garw	S. Wales & Mon.	A
Okehampton	South-Western	B_2
Old Buckenham	Eastern Counties	B_3
Oldbury	Midlands	A
Old Fletton	Eastern Counties	A_1
Oldham	North-Western	A
Ongar	Eastern Counties	B
Ormskirk	North-Western	A
Orsett	Eastern Counties	A_2
Ossett & Horbury	Yorkshire	A
Oswestry	North-Western	A_3
Otterton	South-Western	B
Ottery St. Mary	South-Western	B_2
Oulton Broad	Eastern Counties	B
Oundle Rural Dist.	Midlands	A_2
Over	North-Western	A_2
Overstrand	Eastern Counties	B_2
Overton	Southern Counties	B
Oxford	Southern Counties	A_1
Oxted	Southern Counties	A_3
P		
Paignton	South-Western	A_1
Pakefield	Eastern Counties	B
Pangbourne	Southern Counties	B
Pateley Bridge	Yorkshire	B_3
Peas Pottage	Southern Counties	B
Pembroke Dock	S. Wales & Mon.	B_3
Pembroke Town	S. Wales & Mon.	B_3
Penistone	Yorkshire	A
Penrith	North-Western	A_3
Penzance	South-Western	B_1
Peterborough (Borough)	Eastern Counties	A_1
Peterborough, Soke of.	Eastern Counties (see Regional Chart)	
Peterfield	Southern Counties	B
Petworth	Southern Counties	B
Pewsham	South-Western	B_1
Pickering	Yorkshire	B_3
Piltdown	Southern Counties	B
Pitminster	South-Western	B
Pitsea	Eastern Counties	A_3
Plymouth	South-Western	A
Pontardawe and Swansea Valley	S. Wales & Mon.	A
Pontefract	Yorkshire	A
Pontypool and Dist.	S. Wales & Mon.	A_1
Pontypridd District	S. Wales & Mon.	A_1
Poole	Southern Counties	A_2
Porthcawl	S. Wales & Mon.	A
Portishead	South-Western	A
Portland, Stoneyards	South-Western	A
Portsmouth	Southern Counties	A_2
Port Talbot	S. Wales & Mon.	A
Potter Heigham	Eastern Counties	B_3
Poulton	North-Western	A
Prescot	North-Western	A
Prestatyn	North-Western	A_2
Prestbury	North-Western	A_1
Presteign	S. Wales & Mon.	B_3
Preston	North-Western	A
†Princetown	South-Western	B_1
Prittlewell	Eastern Counties	A_1

District	Region	Grade
Puckeridge	Eastern Counties	B_3
Pudsey	Yorkshire	A
Pulborough	Southern Counties	B
Purfleet	Eastern Counties	A
Purton	South-Western	A_2

Q

Queensferry	North-Western	A

R

Radcliffe	North-Western	A
Rainford	North-Western	A
Ramsey (Hurts)	Eastern Counties	B_3
Ramsgate	Southern Counties	B_1
Raunds	Midlands	A_3
Rayleigh	Eastern Counties	A_2
Reading	Southern Counties	A_2
Redditch (Northern)	Midlands	A_2
Redditch (Southern)	Midlands	A_3
Redhill	Southern Counties	A_3
Redruth & Camborne	South-Western	B_1
Reepham (Norfolk)	Eastern Counties	C
Reigate	Southern Counties	A_3
Retford	Midlands	A_3
Rettendon	Eastern Counties	B
Reydon	Eastern Counties	B_3
Rhondda Valley	S. Wales & Mon.	A_1
Rhyl	North-Western	A_2
Richmond District	Northern Counties	A_3
Rickmansworth	Eastern Counties	A_1
Ripon	Yorkshire	A_3
Rochdale	North-Western	A
Rochester	Southern Counties	A_3
Rochford	Eastern Counties	A_1
Romney	Southern Counties	B_1
Romsey	Southern Counties	B_2
Rossendale Valley	North-Western	A
†Ross-on-Wye	South-Western	B
Rotherham	Yorkshire	A
Roughton	Eastern Counties	B_2
Royston	Eastern Counties	B_1
Ruabon	North-Western	A_1
Rugby	Midlands	A
Rugeley	Midlands	A_2
Runcorn	North-Western	A
Runwell	Eastern Counties	B
Rushden	Midlands	A_2
Ruskington	Midlands	A_3
Ruthin	North-Western	A_3
Rye	Southern Counties	B

S

Sacriston	Northern Counties	A
Saddlebow	Eastern Counties	B_1
Saffron Walden	Eastern Counties	B_3
St. Albans	Eastern Counties	A_1
St. Anne's	North-Western	A
St. Asaph	North-Western	A_3
St. Austell	South-Western	B_2
St. Helen's	North-Western	A
St. Ives (Cornwall)	South-Western	B_2
St. Ives (Hunts)	Eastern Counties	B_2
St. Lawrence (Kent)	Southern Counties	B_1
St. Neots	Eastern Counties	B_2
St. Nicholas	Southern Counties	B_1
St. Osyth	Eastern Counties	B
St. Peter's	Southern Counties	B_1
Salcombe	South-Western	A_2
Salhouse	Eastern Counties	B_1
†Salisbury City	South-Western	B_2
†Salisbury Plain	South-Western	B_2
Sandbach	North-Western	A_2
Sandringham	Eastern Counties	B_1
Sandy	Eastern Counties	B_1
Sarre	Southern Counties	B_1
Satley	Northern Counties	A
Sawbridgeworth	Eastern Counties	B
Saxmundham	Eastern Counties	C
Scarborough	Yorkshire	A_1
Scaynes Hill	Southern Counties	B
Scole	Eastern Counties	B_3
Scratby	Eastern Counties	B
Scunthorpe	Yorkshire	A
Seaford	Southern Counties	A_2
Seagry	South-Western	B_1
Seahouses	Northern Counties	A_1
Sedbergh	North-Western	B_2
Sedgeley	Midlands	A
Selby	Yorkshire	A
Sevenoaks	Southern Counties	A_3
Shaftesbury	South-Western	B_1
Shardlow	Midlands	A
Shawbury	Midlands	A_2
Sheerness (*see* Isle of Sheppey).		
Sheffield	Yorkshire	A
Sheffield Park	Southern Counties	B
Shelford	Eastern Counties	A_3
Shepton Mallet	South-Western	B_2
Sherborne (Dorset)	South-Western	B
Sheringham	Eastern Counties	B_2
Shifnal	Midlands	A_2
Shildon	Northern Counties	A_1
Shipley	Yorkshire	A
Shipston-on-Stour	Midlands	B
Shoeburyness	Eastern Counties	A_1
Shoreham (Sussex)	Southern Counties	A_2
Shotley Bridge	Northern Counties	A_1
Shotton	North-Western	A
Shrewsbury	Midlands	A_2
Sible Hedingham	Eastern Counties	B
Silverdale (Lancs)	North-Western	A
Silver End	Eastern Counties	B
Silverton	South-Western	B_1
Sirhowy Valleys	S. Wales & Mon.	A_1
Site of Benson R.A.F. Station	Southern Counties	B
Site of Bovington Camp (Dorset)	South-Western	B_1
Sittingbourne	Southern Counties	B_1
Skegness	Midlands	A_2
Skipton	Yorkshire	A_2
Sleaford	Midlands	A_3
Slough	Southern Counties	A_2
Smallfield	Southern Counties	B
Snettisham	Eastern Counties	B_3
Snodland	Southern Counties	A_2
Soham	Eastern Counties	C
Solihull	Midlands	A_1
Southam	Midlands	A_3
Southampton	Southern Counties	A_1
South Cerney	South-Western	B
South Darenth	Southern Counties	A_1
Southend-on-Sea District	Eastern Counties	A_1
South Fleet	Southern Counties	A_1
South Molton	South-Western	B
South Moor	Northern Counties	A
Southport	North-Western	A
South Repps	Eastern Counties	B_2
South Shields	Northern Counties	A
Southwell	Midlands	A_2
Southwold	Eastern Counties	B_3
Sowerby Bridge	Yorkshire	A
Spalding	Midlands	B
Spennymoor	Northern Counties	A_1
Spen Valley	Yorkshire	A
Stafford District	Midlands	A_1
Staffordshire, part of (Stafford Outer Zone)	Midlands	A_2
Staines	Southern Counties	A_2
Staithes	Northern Counties	A
†Stalbridge	South-Western	B_2
Stalham	Eastern Counties	C
Stamford	Midlands	A_2
Standon	Eastern Counties	B_3
Stanford-le-Hope	Eastern Counties	A
Stanhope	Northern Counties	A_3
Stanley	Northern Counties	A
Stansted (Essex)	Eastern Counties	B_3
Stanton St. Quintin	South-Western	B_1
Staplefield	Southern Counties	B
Staplehurst	Southern Counties	B_1
Stevenage	Eastern Counties	A_3
Stewartby	Eastern Counties	A_3
Steyning	Southern Counties	B
Stockbridge	Southern Counties	B
Stockport	North-Western	A
Stocksbridge	Yorkshire	A
Stockton-on-Tees	Northern Counties	A
Stogumber	South-Western	B
Stoke	Eastern Counties	C
Stoke Ferry	Eastern Counties	C
Stoke-on-Trent	Midlands	A
Stoke St. Gregory	South-Western	B
Stoke St. Mary	South-Western	B
Stokesley	Northern Counties	A
Stoke-sub-Hamdon	South-Western	B_1
Stony Stratford	Southern Counties	B
Stotfold	Eastern Counties	A_3
Stourbridge (Indust.)	Midlands	A_1
Stourbridge (Non-Industrial)	Midlands	A_2
Stourport	Midlands	A_2
Stowmarket	Eastern Counties	B_3
Stow-on-Wold	South-Western	B_3
Stratford-on-Avon	Midlands	A_3
Stratton St. Margaret	South-Western	A_3
Streatley (Beds)	Eastern Counties	B
§Stroud	South-Western	A_3
Sturminster Newton	South-Western	B_1
Sudbury (Suffolk)	Eastern Counties	C
Sunderland District	Northern Counties	A
Sunningdale	Southern Counties	A_3
Sutton Benger	South-Western	B_1
Sutton Coldfield	Midlands	A
Sutton-in-Ashfield	Midlands	A
Swadlincote	Midlands	A
Swaffham	Eastern Counties	C
†Swanage	South-Western	B
Swanscombe	Southern Counties	A_1
Swansea	S. Wales & Mon.	A
Swansea Valley	S. Wales & Mon.	A
Swanwick	Midlands	A
†Swindon	South-Western	A_2

T

Tadcaster	Yorkshire	A_3
Talgarth	S. Wales & Mon.	B_2
Tamworth	Midlands	A_1
Tanfield	Northern Counties	A
Tankerton	Southern Counties	B_1
Tantobie	Northern Counties	A
Tarporley	North-Western	A_2
Taunton	South-Western	B
§Tavistock Town	South-Western	B_2
Tebay	North-Western	B_2
Tees-side District	Northern Counties	A
†Teignmouth	South-Western	A_2
Tenby	S. Wales & Mon.	B_3
Tenterden	Southern Counties	B_1
Tetbury	South-Western	B
Tewin	Eastern Counties	A_2
†Tewkesbury	South-Western	A_3
Thame	Southern Counties	B
Thames Haven	Eastern Counties	A
Thaxted	Eastern Counties	C
Thetford	Eastern Counties	B_3
Thirsk	Northern Counties	A_3
Thornbury	South-Western	B_2
Thorne	Yorkshire	B_3
Thorney	Eastern Counties	C
Thornton	North-Western	A
Thorpe Bay	Eastern Counties	A_1
Thorpe-le-Soken	Eastern Counties	B_2
Thrapston Rural District	Midlands	A_3
Three Bridges	Southern Counties	B
Thurloxton	South-Western	B
Tideswell	North-Western	A_3
Tilbury	Eastern Counties	A
Tilston	North-Western	A_2
Tipton	Midlands	A
†Tiverton	South-Western	B_1
Todmorden	North-Western	A
Tonbridge	Southern Counties	A_2
Topsham	South-Western	B_2
Torquay	South-Western	A_1
Torrington	South-Western	B
Totnes	South-Western	B
Totton	Southern Counties	B_2
Towcester	Midlands	B
Tow Law	Northern Counties	A_3
Towyn	North-Western	B
Trawsfynydd	North-Western	B_1
Trimingham	Eastern Counties	B_2
Tring	Eastern Counties	B_2
†Trowbridge	South-Western	B_2
Trull	South-Western	B
Trunch	Eastern Counties	B_2
Truro	South-Western	B_2
Tunbridge Wells	Southern Counties	A_3
Tunstall	Midlands	A
Turner's Hill	Southern Counties	B
Tyne & Blyth District	Northern Counties	A

U

Uckfield	Southern Counties	B
Uffculme	South-Western	B_1
Ulverston	North-Western	A_3
Upminster	Eastern Counties	A_1
Uppingham	Midlands	A_3
Usk	S. Wales & Mon.	B_2
Uttoxeter	Midlands	A_3

W

Wadhurst	Southern Counties	B
Wakefield	Yorkshire	A
Walberswick	Eastern Counties	B_3
Walkern	Eastern Counties	A_2
Wallingford	Southern Counties	B_2
Wallington	Eastern Counties	A_3
Walsall	Midlands	A
Walsden	North-Western	A
Walsingham	Eastern Counties	C
Walton-on-Naze	Eastern Counties	B
Wantage	Southern Counties	B
Ware	Eastern Counties	A_2
Wareham	South-Western	B_1
†Warminster	South-Western	B_2
Warninglid	Southern Counties	B
Warrington	North-Western	A
Warwick	Midlands	A
Waterhouses	Northern Counties	A_1
Watton	Eastern Counties	C
Weardale West of Stanhope and Teesdale West of Barnard Castle	Northern Counties	B
Wednesbury	Midlands	A
Weedon	Midlands	A_3
Weeley	Eastern Counties	B_2
Wellingborough	Midlands	A_1

District	Region	Grade
Wellington (Salop)	Midlands.. ..	A_2
†Wellington (Somerset) ..	South-Western ..	B_2
Wells (Norfolk) ..	Eastern Counties	C
Wells (Somerset) ..	South-Western ..	B_2
Welshpool	North-Western ..	B_2
Welwyn	Eastern Counties	A_2
Welwyn Garden City	Eastern Counties	A
Wem	North-Western ..	A_2
Wendover	Southern Counties	B
West Auckland ..	Northern Counties	A_1
West Bromwich ..	Midlands.. ..	A
†Westbury	South-Western ..	B_2
Westcliff-on-Sea ..	Eastern Counties	A_1
West Down ..	South-Western ..	B
Westerham ..	Southern Counties	A_2
Westgate	Southern Counties	B_1
†West Gloucestershire	South-Western ..	B_2
West Hatch ..	South-Western ..	B
West Hoathly ..	Southern Counties	B
Westhoughton ..	North-Western ..	A
West Monkton ..	South-Western ..	B
Weston-super-Mare	South-Western ..	A_2
West Row ..	Eastern Counties	B_2
West Runton ..	Eastern Counties	B_2
West Winch ..	Eastern Counties	B_1
Wetherby	Yorkshire ..	A_2
Weybourne ..	Eastern Counties	B_2
Weybridge.. ..	Southern Counties	A_2
†Weymouth ..	South-Western ..	B_1
Whaley Bridge ..	North-Western ..	A_1
Whalley	North-Western ..	A
Wheatley	Southern Counties	B
Whipsnade ..	Eastern Counties	B_1
Whiston (*and portions of the Whiston R.D.C.*)	North-Western ..	A
Whitby	Yorkshire ..	A_2
Whitchurch (Hants)	Southern Counties	B
Whitchurch (Salop)	North-Western ..	A_2
Whitehaven ..	North-Western ..	A_2
Whitstable & Dist.	Southern Counties	B_1
Whittlesey.. ..	Eastern Counties	B_2
Wickford	Eastern Counties	B
Wickhambrook ..	Eastern Counties	C
Wickham Market ..	Eastern Counties	B_2
Wicklewood ..	Eastern Counties	B_2
Widnes	North-Western ..	A
Wigan	North-Western ..	A
Wiggenhall St. German	Eastern Counties	B_1
Wigton	North-Western ..	A_2
Willenhall	Midlands.. ..	A
Willington	Northern Counties	A_1
Wilmslow	North-Western ..	A
Wimborne	Southern Counties	B
Winchcombe ..	South-Western ..	B
Winchester ..	Southern Counties	B
Wincle	North-Western ..	A_1
Windermere ..	North-Western ..	A_2
Windsor	Southern Counties	A_2
Winsford	North-Western ..	A_2
Winslow	Southern Counties	B
Wirksworth ..	Midlands ..	A_2
Wisbech	Eastern Counties	B_2
Witham	Eastern Counties	B
Withington (Glos)	South-Western ..	B
Withyham.. ..	Southern Counties	B
Witley	Southern Counties	B
Witney	Southern Counties	B
Witton Gilbert ..	Northern Counties	A
Witton-le-Wear ..	Northern Counties	A_1
Wiveliscombe ..	South-Western ..	B
Wivelsfield.. ..	Southern Counties	B
Wivenhoe	Eastern Counties	A_2
Woking District ..	Southern Counties	A_2
Wokingham ..	Southern Counties	B
Wolsingham ..	Northern Counties	A_2
Wolverhampton ..	Midlands.. ..	A
Wolverton District	Southern Counties	B
Wombwell.. ..	Yorkshire ..	A
Woodbridge ..	Eastern Counties	B_2
Woodbury.. ..	South-Western ..	B
Woodhall Spa ..	Midlands.. ..	B
Woodsford.. ..	South-Western ..	B_1
Woodstock ..	Southern Counties	B
Wool	South-Western ..	B_1
Woolacombe ..	South-Western ..	B
Wooler	Northern Counties	A_1
Wootton Bassett ..	South-Western ..	A_2
Worcester	Midlands.. ..	A_1
Workington ..	North-Western ..	A_2
Worksop	Yorkshire ..	A_2
Worlingham ..	Eastern Counties	B_2
Worlington ..	Eastern Counties	B_2
Wormley	Eastern Counties	A
Worthing	Southern Counties	B
Wotton-under-Edge	South-Western ..	B_2
Wrabness Naval Station	Eastern Counties	B
Wrentham.. ..	Eastern Counties	B_2
Wrexham (including Cefn) ..	North-Western ..	A_1
Wrotham	Southern Counties	A_2
Wroughton ..	South-Western ..	A_2
Wroxham	Eastern Counties	B_1
Wycombe	Southern Counties	A_2
Wymondham ..	Eastern Counties	B_2

Y

Yarm	Northern Counties	A
Yatton Keynell ..	South-Western ..	B_1
Yeadon	Yorkshire ..	A
Yeovil	South-Western ..	B
York	Yorkshire ..	A
Yoxford	Eastern Counties	C

★ *Unlike the rates for England and Wales, the Scottish rates have not recently changed. They are expected to do so shortly and revisions will then be published in the JOURNAL.*

GRADE A

Glasgow and District, Edinburgh and District, Dunoon and District, Perth and District, Rothesay, Dundee and District (includes Broughty Ferry, Monifieth and Newport), Tayport and St. Andrews, Dunblane and Bridge of Allan Districts, Aberdeen, Ayrshire, Clackmannanshire, Dumbartonshire, East Lothian, Mid-Lothian, West Lothian, Fifeshire (with the exception of towns in East Fife which are mentioned under Grade B), Kinross-shire, Lanarkshire, Renfrewshire, Stirlingshire.

*

GRADE A1

Inverurie and District, Peterhead and District.

*

GRADE A2

Forfarshire, Perthshire (with the exception of Perth, Bridge of Allan, Dunblane, Callender and Doune, which are in Grade A), Kincardineshire, Stornoway, Selkirkshire, Berwickshire, Roxburghshire, Dumfries-shire, The Stewartry, Peebles-shire.

*

The Counties of Banff, Moray and Nairn. That part of East Fife embraced by a line from Largo to Kingsbarns and eastwards to the Coast.

*

GRADE B

Reference to the Grade Rate for the following Shires should be made direct to the Regional Secretaries: Inverness, Ross and Cromarty, Sutherland, Caithness, Orkney and Shetland, and parts of Aberdeen and Argyll.

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