THE ARCHITECTS' JOURNAL

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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.

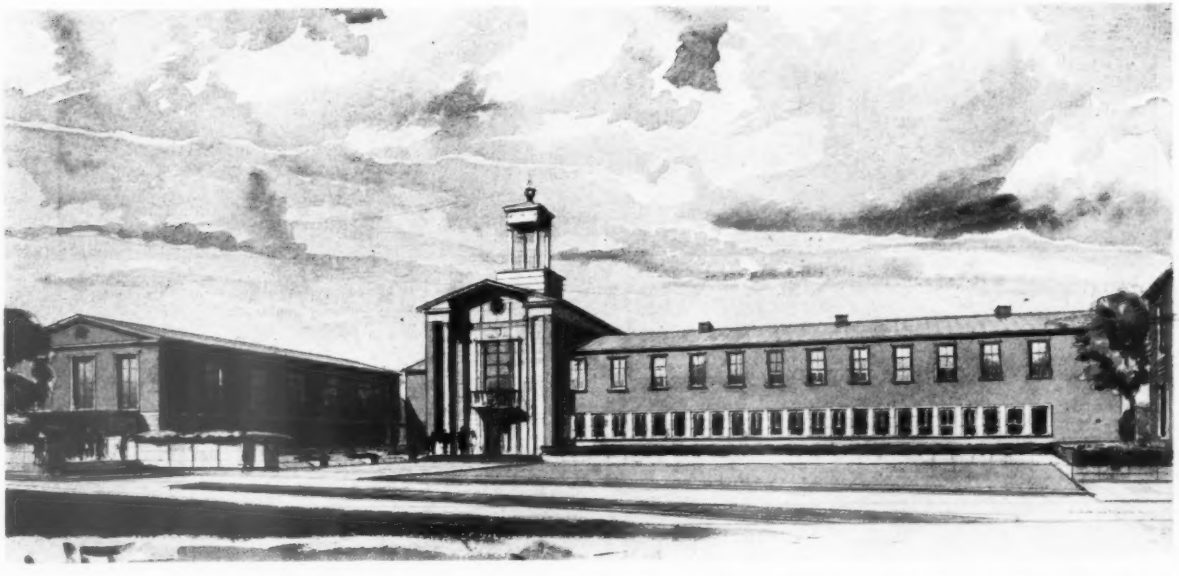
THURSDAY, APRIL 20, 1939 NUMBER 2309 : VOLUME 89

PRINCIPAL CONTENTS

TO BE OPENED TODAY

The new Westminster Hospital is to be opened today by H.M. the King. Above is the front facing St. John's Gardens. The architects are Messrs. Adams, Holden and Pearson.

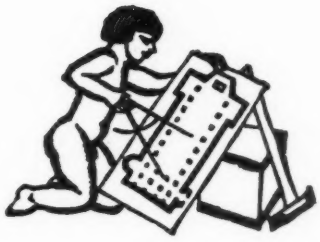
PROPOSED CIVIC CENTRE, GODALMING



A perspective, by Mr. Norman Westwood, of the proposed civic centre, Godalming. The architects are Messrs. Bryan Westwood and Edmund Ward, whose design was placed first in an open competition.

STREET SCENE

A photograph taken from over one of the gargoyles of the tower of the Innsbruck City Hall. The houses date from the 15th and 16th centuries.



EMERGENCY SERVICE

THOSE architects who watched the foreign news during Easter week-end and the following days must have been worried whether they were not going to find themselves in April, 1939, almost as unprepared for emergency service as they had been in September, 1938. The possibility was unpleasant: particularly as the profession had been sufficiently impressed by its unpreparedness last autumn to take measures to see that it did not occur again. In the relative calm which we are now enjoying every architect ought to consider very carefully whether he did not expect results from those measures which are unlikely to be realized.

In order to do this it is best to go back to last September. What did the average architect feel then? He felt that it was more than possible that his ordinary work would come to a full stop—either for six months or for several years. He was simultaneously quite sure that a modern war would need the skill of architects in large numbers: in the Royal Engineers, in planning and building A.R.P. shelters, rescue stations and evacuation camps, in repairing important buildings, in extending vital works and in designing emergency buildings of all kinds. He was sure that architects of particular ages and experience would be needed for one type of work, other architects for others. And he saw clearly that if war broke out it would be weeks, possibly months, before architects could be sorted out and directed into jobs of this kind, that the chaos and wastefulness during the most important opening stages of hostilities would be great.

After September, therefore, the profession was unanimous in wanting to prevent the same danger arising again. The first and most obvious step to this end was to compile a Register of the essential qualifications of all architects. And this was set in hand with energy by the R.I.B.A. in collaboration with the Ministry of Labour.

In the opening days of January duplicate index cards were sent out to about 13,500 Registered Architects and at the time of writing 10,000 have been completed and returned. This result shows that most architects appreciate the importance of the profession's being prepared and the JOURNAL hopes that the outstanding 3,500 will complete their cards at once.

When this is done the first step will be complete. As jobs become available after an emergency has arisen and are reported to the Ministry of Labour suitable architects will be chosen to fill them from the Register.

This arrangement is obviously better than nothing. What the profession has now to decide is whether it goes far enough. The JOURNAL believes most architects will think that it does not.

Nothing has been more often repeated in the last few years than that an attack on Britain can only have a chance of success in the first month or so after its outbreak. If it is made clear that our population and industrial equipment cannot be so demoralized and broken up by aerial bombing in the first few weeks that we are prevented from mobilizing our full fighting resources, then it is improbable that anyone will attack us.

The special importance of this state of affairs for architects becomes obvious when the callings more intimately connected with A.R.P. are considered. Transport, public service, and municipal engineers, fire fighting and ambulance services, hospitals and the majority of the medical profession will all be needed for their ordinary jobs on the outbreak of war: with the change that an eight- will become a sixteen-hour day under the most difficult of conditions.

But when one considers the professional men who will not be doing their usual jobs in more or less the usual place, the situation appears peculiar. Those who are doctors already know exactly what jobs they will do—at least to begin with.

But although the ordinary jobs of most architects and civil and structural engineers will come to a full stop in war time, although their services will be needed at once for the construction of shelters and camps and the extension and repair of vital buildings, nothing except a general Register seems contemplated as a means of allocating them to suitable jobs in the shortest possible time.

If the Ministry of Labour cannot go further than this, architects must do so for themselves. The number and place of jobs for which architects will be needed may be impossible to calculate with exactness, but the nature of the jobs and the ages and qualifications of men likely to fill them best must be already known.

The publication of this full list would be an important stage towards preparing architects for emergency service. There seems no reason for it to be delayed.

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NOTES & TOPICS

VIGILANCE COMMITTEE

*

1, R.I.B.A. President Goodhart-Rendel demanded a vigilance committee to vet designs for important buildings. 2, Astragal said committee consisting of whom? Architects ineligible; live-wire laymen, such as Georgian Group? 3, Georgian Group chairman Lord Derwent said difficult to vet modern buildings until some sort of standard established. He would accept for standard: B.B.C., Imperial Airways, Scarborough Hospital, Radio City, Battersea Power Station, Underground Building, R.A.F. aerodromes. 4, Astragal, puzzled, said: would this standard satisfy other eminent laymen. Decided to find out. Invited readers to nominate for vigilance committee laymen in whom they would have confidence. 5, readers sent in names of 61 men, 2 women. 6, *A.J.* Editor, at Astragal's request, asked above 63 for six recent buildings they approved of.

*

First of all, any enquiry of this sort invariably re... *haut monde.* Rea... rrespondence...

I CAN think of no good reason, except an entirely flippant one, why several of the distinguished people who have been writing to say what buildings they approve of (see "what has happened already," reproduced herewith) insist on coupling the Giraffe House at Whipsnade (Messrs. Tecton) with Campion Hall, Oxford (Sir Edwin Lutyens). But the most striking thing about nearly all the replies is the wonderful variety (one might almost say incongruity) of taste they show.

*

The most consistent lists are all by obviously confirmed supporters of the Modern Movement—one could almost make out a stock "modern" list: Peter Jones (Crabtree and Slater and Moberley), Bexhill Pavilion (Mendelsohn and Chermayeff), Highpoint (Tecton), Penguin Pool (Tecton), Ladbroke Grove flats (Maxwell Fry), Arnos Grove Station (S. A. Heaps; Adams, Holden and Pearson). But there are no consistently academic lists—perhaps we have no consistent academic style. Anyhow, people who like some of their architecture to be more or less fancy seem to like a surprising mixture of qualities. Here are a few more lists:

*

Alexander Korda, film magnate:

Underground Building (Adams, Holden and Pearson); Finsbury Health Centre (Tecton); Campion Hall, Oxford; Giraffe House, Whipsnade; Avenue Close flats (Stanley Hall and Easton and Robertson); Curzon Cinema (Burnet, Tait and Lorne).

The Earl of Harewood:

Battersea Power Station (Sir Giles Scott); the Cambridge University Building on the Huntingdon Road ("I think it is an Agricultural College") (Morley Horder); the new bridge at Peterborough; the restoration of the Jockey Club Rooms at Newmarket (Richardson and Gill); Freemasons' Hospital, Ravenscourt Park (Burnet, Tait and Lorne); Curzon Cinema.

Lord Harewood adds that "in order to appreciate the merits of a building it is necessary to have seen it inside as well as outside, and there are very few of the buildings . . . which I have seen inside."

Anthony Bertram (B.B.C. "fitness for purpose" propagandist), who sends a strictly orthodox "modern" list:

Bexhill Pavilion; Paisley Hospital (Burnet, Tait and Lorne); Ladbroke Grove flats; Boots' factory (Sir Owen Williams); Pithead baths at Polkemmet (Miners' Welfare Architects), Lanarkshire; Gropius and Fry house in Chelsea.

Cecil Cronshaw (I.C.I. Dyestuffs Director), writing from Blackley:

I.C.I. Dyestuffs Laboratories, Blackley (Chermayeff); the R.I.B.A. Building (Grey Wornum)—its first appearance; Underground Building; Simpson's, Piccadilly (Joseph Emberton); Central Offices, I.G. Farbenindustrie Aktiengesellschaft, Frankfort; New Trocadero, Paris (Doudel, Aubert, Viard, Dastugue and Jacques Carlu).

*

Some people, in replying, go to the trouble of giving their reasons, which often makes as interesting reading as the buildings they name. Some take the opportunity of naming a few buildings they severely disapprove of. Here are one or two lists with extracts from their compilers' letters:

David Low (celebrated cartoonist):

"I have approved (in different moods) of the following buildings:

"London University; R.I.B.A. Building; Shell-Mex Building (Messrs. Joseph) (with reservations); Friends' Meeting House, Euston Road (Hubert Lidbetter); Carrera's Factory (Wallis Gilbert and Partners) or Berlei Factory (Sir John Brown and A. E. Henson); Bush House, "in certain lights" (Helme and Corbett). I could add that, abroad, I have been stimulated by Radio City, New York; and reduced to a romantic pulp by the Town Hall, Stockholm (Ragnar Ostberg)."

Peter Fleetwood-Hesketh:

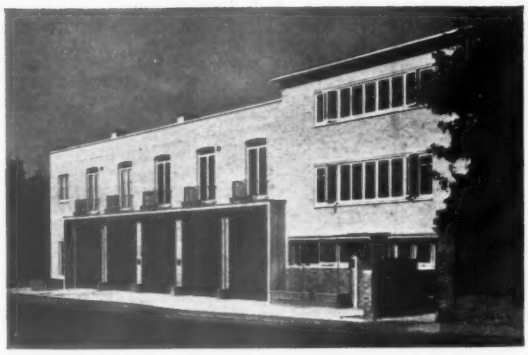
"Elephant House, Whipsnade (Tecton); Bandstand in Kensington Gardens (H.M.O.W.); Fire Station, Epsom (Pite, Son and Fairweather) "quite good but rather dull"; new entrance and additions to the Royal Enclosure Stand at Ascot. I think some of the modern houses such as one called Newlands Park, Chalfont St. Giles (Mendelsohn and Chermayeff) are quite pretty, but this type of design is unsuitable for houses, as it gives far too large a window area for the rooms. This problem of lighting low, wide rooms was much better solved in Tudor work.

"Popular favourites which I do *not* admire include:

"(*a*) Broadcasting House. Apart from being clumsy, there is a vertical 'feature' on the south side which entirely spoils the otherwise good curves of the façade.

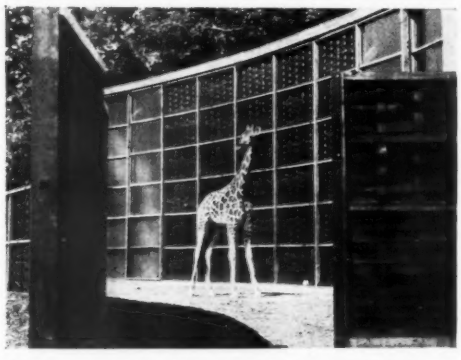
"(*b*) Battersea Power Station, which tries to be architectural without adopting any known style of architecture.

"(*c*) New buildings of London University in Bloomsbury, same fault. The old buildings of Bloomsbury provide excellent examples of both plain and ornamented buildings, but style is always present. But the new buildings lack style. (I do not refer to the extensions to Wilkins's University College, which are quite good.)



Chosen by Mr. Peter Fleetwood-Hesketh, "Quite good but rather dull"—Epsom Fire Station, by Pite, Son and Fairweather.

Chosen by Mr. Cecil Cronshaw—Offices at Frankfort.



Chosen by Mr. Alexander Korda—The Giraffe House at Whipsnade, by Tecton.

Other buildings chosen by the Vigilance Committee are illustrated on p. 641.

" (*d*) Shell-Mex House. A blot on London.

" There is a house in Seamore Place, which backs on to Park Lane, which has been re-modelled, in the form of a large glass bow window. This is very good from the outside (but bad inside) and should have been a model for other new buildings in Park Lane, all of which, however, are extremely bad. Bush House, Kingsway, is good architecture, but rather heavy for London. The new circular block of flats near Lowndes Square (Burnet, Tait and Lorne) is quite good. These are just my own opinions."

PARIS

The Englishman Abroad is still faithful to his tweeds and pipe, but no longer to his traditional headgear. In Paris, where I spent Easter, there were only four bowlers to be seen and, according to James Agate, one of these was on his own head and another on the head of a detective in a play. The only tweed cap I saw belonged to the concierge who was sitting sizzling behind the plate glass walls of Le Corbusier's Swiss Hostel in the Cité Universitaire.

*

Paris was thronged with visitors, but otherwise seemed changeless. The trains are still full of France's huge floating population of widows, nuns and commercial travellers. The coffin-shaped heads of fox-terriers still reach out from the front seats of " coupés de ville," and lacquered brass continues to be the most popular finish for the smartest shopfronts. There were compensations too for the crowded journey out. I missed the B.B.C. Albania bulletins, which I understand were disturbing. I heard the adjective " swell " translated as " chic." I saw the magnificent interior of the new Trocadéro museum, and Perret's strange new half-completed building in the Place d'Iéna. I saw a quantity surveyor in the Dôme Café, and (at different times) several distinguished members of the Mars Group outside the Petit Trianon, inside an African night club, and (late one night) skulking through the tubs of refuse and cattle blood in Les Halles.

*

Incidentally, the new Trocadéro building (though it houses such a fine museum) is a poor gain indeed—*pace* Mr. Cronshaw (see " Vigilance Committee, above). Though designed by eminent architects, it is one of the weakest pieces of pseudo-monumentality I have seen. But the great thing about Paris is that even its bad architecture is *decent*, not messy, as ours is over here. Moreover, one feels safe in Paris, as it is a civilised city. One can walk through the Place Vendôme without wondering whether next time one side of it will have been pulled down to make way for a block of flats.

OLIVER P. BERNARD

Most architects thought of Lyons' Corner Houses and the Cumberland and Oliver Bernard all in one. One must admit without question that these interiors, not to everyone's taste, were perfectly attuned to the social aspirations of those who used them ; more than this, no client can ask of his architect.

*

He used his post-*Lusitania* deafness with devastating effect on Institute Committees. That gentle smile and the hand-cupped ear, asking for some pointless remark to be repeated, convinced even the speaker of his own stupidity. And those asides (" I can't hear : what am I missing ? ") kept discussion almost to the point on more than one occasion.

*

Born in 1881. That makes him 58 by my reckoning. I'm bad at people's ages, but I should have given him at least ten years less.

ONE MORE AMENITIES CASE

At the R.I.B.A. on May 3 (6.30 p.m.) there will be held a " practice " enquiry in the matter of the Appeal under the Town and Country Planning Act, 1932, Town and Country Planning (General Interim Development) Order, 1933, against the refusal of the Chewdor-on-the-Mould Rural District Council to approve the plans for the erection of a dwelling house for the Hon. Price Rocbotham.

*

The Ministry of Health Inspector will be Mr. Basil R. Ward; Solicitor for the Appellant, Mr. John Carter, and Clerk to the R.D.C., Mr. Michael Richards—with full supporting cast. I do not remember a case of equal interest since the affair of the Tramworthy Panel (reported in the JOURNAL for June 21, 1934).

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

PROGRESS IN TOWN PLANNING

Approval by the Minister of Health of 28 schemes in the last twelve months indicates the rapid progress which is now being made with town and country planning.

The schemes are scattered all over the country, and are of many types. They include the Central North Durham scheme and the half million acres covered by the Lake District (South) Scheme and the Schemes for Wensleydale and the coast of the North Riding.

The schemes for the county boroughs deal primarily with the regulation of areas that have already been largely built up, but most of the others take in land round the town which has not yet been developed and the schemes will be important as means of making sure that this rural area will not be spoilt by indiscriminate and haphazard building.

SLUM CLEARANCE AND REHOUSING

The most recent figures showing the position of slum clearance and rehousing are summarised below.

Clearance Areas and Orders.—During March local authorities declared areas comprising 5,339 houses, representing the displacement of 19,677 persons, as compared with 1,780 houses and a displacement of 6,056 persons in February.

The Orders submitted during March covered 2,728 houses and the displacement of 9,990 persons, as compared with 3,363 houses and the displacement of 12,766 persons in February.

The Orders confirmed during March covered 4,302 houses and 17,947 persons as compared with 2,583 houses and 10,415 persons in February. The total number of houses in confirmed Orders is now 236,103 involving the displacement of 984,718 persons.

Rehousing Progress.—The latest available figures are those for February. At the end of that month there were 51,155 houses under construction as compared with 51,242 at the end of January and 67,528 at the end of February, 1938. 5,149 houses were completed during February as compared with 5,142 during January and 7,344 during February, 1938.

The great majority of these houses are being provided for rehousing persons displaced in connection with slum clearance schemes.

New houses approved during March numbered 6,512, as compared with 5,178 in February and 13,422 in March of last year.

THE ARCHITECTS' DIARY

Thursday, April 20

HOUSING CENTRE, 13 *Suffolk Street, S.W.1. Camps Exhibition. Until May 6.* 10 *a.m. to 5 p.m. Saturdays: 10 a.m. to 12 noon.*

BUILDING CENTRE, 158 *New Bond Street, W.1. Exhibition of Architecture in Drama by Professor Ernest Stern. Until April 22.*

IDEAL HOME EXHIBITION. *At Earls Court. Until May 6.*

SOCIETY OF ANTIQUARIES, *Burlington House, W.1.* "*The Association of Celtic Embossed Bronze Work and Roman Champlevé Enamelling on an Iron-backed Panel found at Elmswell, East Yorkshire.*" *By P. Corder and C. F. C. Hawkes.* "*Excavations on the Site of Whitehall Palace.*" *By G. H. Chettle.* 8.30 *p.m.*

BUILDING TRADES EXHIBITION, *City Hall, Deansgate, Manchester. Until April 29.*

Saturday, April 22

ECCLESIOLOGICAL SOCIETY. *Visit to Richmond Parish Church.*

Monday, April 24

R.I.B.A., 66 *Portland Place, W.1.* "*Railway Stations.*" *By A. E. Richardson.* 8 *p.m.*

HOUSING CENTRE. *Films in connection with the Holiday Camps Exhibition.* 8.30 *p.m.*

LONDON SOCIETY. *Visit to Mill Hill School, N.W.7.* 2.45 *p.m.*

Tuesday, April 25

HOUSING CENTRE. *Luncheon.* "*Are Flats Immoral?*" *By Anthony Bertram.* 1 *p.m.*

NATIONAL HOUSING AND TOWN PLANNING COUNCIL. *Annual Conference of Local Authorities in Lancashire and Cheshire. At the Town Hall, Manchester.*

INSTITUTION OF CIVIL ENGINEERS, *Newcastle-upon-Tyne and District Association. At the North of England Institute of Mining and Mechanical Engineers, Westgate Road, Newcastle.* "*Air Raid Precautions and the Civil Engineer.*" *By A. R. Astbury.* 7.30 *p.m.*

Wednesday, April 26

ARCHITECTURAL ASSOCIATION, 36 *Bedford Square, W.C.1. 91st Annual Reception.* 8.30 *p.m.*

LIVERPOOL ARCHITECTURAL SOCIETY, *Blue-coat Chambers, Liverpool. Annual General Meeting.* 6 *p.m.*

ECCLESIOLOGICAL SOCIETY, 6 *Queen Square, W.C.1.* "*The Order of St. John of Jerusalem: In the Past and Present.*" *By H. W. Fincham.* 8 *p.m.*

BERKSHIRE, BUCKINGHAMSHIRE AND OXFORDSHIRE ARCHITECTURAL ASSOCIATION. *At Beaconsfield. Annual Meeting.*

A NEW COMPETITION

The Merseyside Civic Society, in collaboration with the Cement and Concrete Association, invites residents in Lancashire, Cheshire and North Wales to submit designs in a competition for lamp, tram and trolley bus standards in reinforced concrete. Assessors: Professor L. B. Budden, Mr. Harold A. Dod, Professor W. G. Holford and Mr. R. Walker. Premiums: £10 and £5.

Following are extracts from the conditions:

"The design of each competitor is to be contained in one package, together with the report and sealed envelope, and is to be sent (carriage-paid) to Mr. John O. Nelson, Hon. Secretary, Planning Committee, Merseyside Civic Society, 22 Lord Street, Liverpool, 2, endorsed 'Designs for Lamp, Tram and Trolley Bus Standards,' not later than May 31, 1939, No questions can be answered.

"The bases of all lamp standards must be designed to take up as little of the footway as possible, but provision must be made for housing therein a control box with metal door opening outwards (size 18-in. by 6-in.). The depth of these boxes from the inside of the door is to be 7-in.

"The lighting units may be of any convenient type, either for electricity or gas, in common use at the present time. The lamp standards are not intended for overhead wiring. Foundations need not be shown on the drawings.

"Competitors are required to submit a design, consisting of two plans and one elevation in each case, for the following standards in reinforced concrete: (*a*) a lamp standard 13 ft. 6 in. high overall; (*b*) a lamp standard 25 ft. high overall; (*c*) a lamp standard with one lighting arm projecting 6 ft. at a minimum height of 25 ft. from the ground; (*d*) a tram or trolley bus standard with wire connection at a height of 25 ft. from the ground. Separate plans for the top and bottom respectively of each of the four standards, drawn to a scale of one inch to one foot, must be submitted (i.e. eight plans required)."

NEWS IN BRIEF

● At the annual general meeting of the Devon and Cornwall Architectural Society the following officers of council were elected for the ensuing year: President: Mr. R. F. Wheatly B.A., F.R.I.B.A. (Truro); Vice-Presidents: Messrs. J. Challice, F.R.I.B.A. (Exeter), and F. J. Taylor, F.R.I.B.A. (Plymouth); Past President: Mr. J. C. C. Bruce, F.R.I.B.A. (Torquay); Hon. Treasurer: Mr. John Bennett, F.R.I.B.A. (Exeter); Hon. Auditor: Mr. L. F. Tonar, L.R.I.B.A. (Exeter); Hon. Secretary: Mr. O. Parker, L.R.I.B.A. (Exeter).

● The Bucks Society of Architects, at its annual meeting, elected Mr. A. R. Borrett, A.R.I.B.A., as chairman of the Society for the coming year. Other officers for the coming year were elected as follows: Vice-chairman: Mr. W. G. Percy, L.R.I.B.A.: Secretary: Mr. A. A. Stewart, A.R.I.B.A.; Treasurer: Mr. J. C. Blair; Auditor: Mr. H. J. Stribling, F.R.I.B.A.; Committee: Mr. W. D. Hartley, F.R.I.B.A., Mr. A. Cooper, A.R.I.B.A., Mr. G. H. Williams, F.R.I.B.A., Mr. A. Vowell, Mr. G. H. Brocklehurst, L.R.I.B.A., Mr. J. L. Parkinson, A.R.I.B.A., and Mr. E. M. Galloway, A.R.I.B.A.

● The Sixth International Congress of Modern Architecture is to be held at the Liége International Exhibition of 1939 on June 17 and 18. The Congress is being organised by M. Falise, 40, Rue des Eglantiers, Liége, from whom all details may be obtained.

The Liége International Exhibition is being held from May to November of this year in commemoration of the inauguration of the recently completed Albert Canal.

● At the annual general meeting of the Southend and District Chapter of the Essex, Cambridge and Hertfordshire Society of Architects, Mr. D. N. Martin-Kaye, F.R.I.B.A., was unanimously re-elected chairman for a further year. The following officers and committee were also elected: Vice-chairman: Mr. L. J. Selby; Hon. Treasurer: Mr. Norman Evans, L.R.I.B.A.; Hon. Secretary: Mr. F. L. Buckley, L.R.I.B.A.; Hon. Librarian: Mr. O. H. Cockrill, A.R.I.B.A.; Hon. Auditor: Mr. P. Brockbank; Hon. Solicitor: Mr. J. G. Drysdale, M.A.; Hon. Assistant Secretary: Mr. W. H. Saunders; Executive Committee: Messrs. H. Ayshford, L.R.I.B.A., P. R. Fincher, F.R.I.B.A., P. G. Hayward, F.R.I.B.A., J. Saunders, A.R.I.B.A., and F. W. Smith, A.R.I.B.A.

● Mr. A. Eberlin, F.R.I.B.A., has been elected President of the Notts, Derby and Lincoln Architectural Society.

● The Darlington Town Council last week approved recommendations with regard to the proposed new municipal buildings, including a decision to apply for the loan of £188,225, the estimated cost of the scheme.

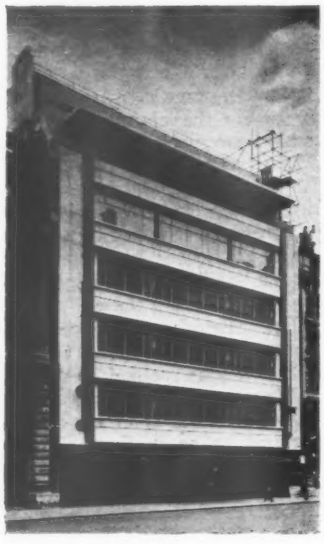
The general design of the buildings by Mr. C. Cowles-Voysey, F.R.I.B.A., was approved. The building will be of brick with stone dressings on a brick plinth of a contrasting colour.

● Mr. R. D. Robson, County Architect for the Isle of Ely, has been elected Chairman of the Cambridge Chapter of the Essex, Cambridge and Hertfordshire Society of Architects.

● Mr. Reginald John Allerton, the Estates Surveyor to the Norwich Corporation, has been recommended to the post of housing manager and secretary to the Bristol Corporation by the Housing Committee.

● The Corporation of London has subscribed £250 to the appeal for funds to save the old church of St. George the Martyr, Southwark, known as "Little Dorrit's" church, which is in urgent need of repair.

Chosen by the Vigilance Committee



Chosen by Mr. Cecil Cronshaw—Simpsons, Piccadilly, by Joseph Emberton

Chosen by Mr. Peter Fleetwood-Hesketh — Lowndes Square flats by Burnet, Tait and Lorne

Chosen by Lord Harewood—Extensions to Jockey Club at Newmarket, by Richardson and Gill

OBITUARY

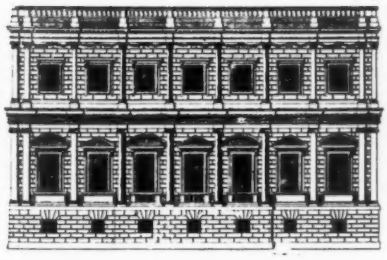
THE LATE OLIVER P. BERNARD

Mr. Oliver Bernard died last Saturday, April 15, and by his passing there disappears an artist who had none of the conventional training but came gradually to architecture by way of the theatre.

Born in London in 1881, Bernard was left alone in the world at the age of thirteen. Sent up to Manchester, he began work at once in the property and paint room of a local theatre ; and after some months of this got work in the studio of a scene-painter. Then followed several sea voyages, to Canada and Norway (undertaken in a spirit of adventure, and to put a drab life behind). In 1901 Bernard returned to stage work, with the London scenic designer, Walter Hann. Four years later he went to the United States, where he was successful in every sense but the economic one. His main field of activities was the Boston Opera House.

After being rejected for war service, and going out again to the States, Bernard came back in 1915 on the *Lusitania*, being saved from drowning by a happy chance after having given up his lifebelt to a woman. Early in the following year he went to France as a camouflage officer, under the late Solomon J. Solomon, R.A., was shot in the leg, and, after a period in hospital, was sent out to the Piave front, eventually reaching the rank of Captain.

On demobilization, Bernard continued his career as a designer of stage scenery, among other things creating several sets for Drury Lane. At the British Empire Exhibition of 1924 he was responsible for some admirable murals in the pavilion devoted to the Ministry of Agriculture and Fisheries and for some work in the amusement park. Of late years he had added to his theatrical reputation a creditable record as an architect, designing several excellent theatres and cinemas. Bernard was reponsible for the entire interior decoration and lighting of the Oxford Corner House, London, including the mural landscape decorations done in marble, and he also did similar work at the Strand Palace, the Cumberland, and other hotels. His autobiography, " Cock Sparrow," published in 1936, was a lively mingling of fact and philosophic reflection, written with considerable literary distinction.



TOWN PLANNING AND DEMOCRACY

[*By WILLIAM LOFTUS HARE*]

AT the sessions of the Town and Country Planning Summer School held at Exeter in September last, of which a full report has been issued,* the words " democracy " and " democratic " were heard again and again. It seems to have been assumed that because our country is said to belong to the diminishing group of democratic nations, all we do within the ambit of the State must be likewise democratic or tinged with that uncertain quality. Indeed, one of the lecturers, after describing the earlier methods of planning and the long period of non-planning which followed, remarked : " And so, democratic town planning is a new subject—a most interesting and hopeful enterprise in which every citizen can play his part." . . . " Planning has begun on a democratic basis and we want it to continue on this basis, not only because of the importance of democracy as a principle, but also because unless all sections of the community . . . take a far greater interest in planning than has hitherto been the case, good planning is impossible." Whereat, I think, " every citizen " must have pricked up his ears.

In the discussion which followed an American visitor remarked : " There needs to be a definition as to what is the democratic process." I felt the need so strongly that I have since given much thought to the subject and try in this article to bring it into the light.

ARCHOS, KRATOS, DEMOS

I like to go back to the beginning of things to get my mind clear on democracy. The Greeks, in their political philosophy, invented all the essential ideas, two of which were *Archos*, the first ; and *Kratos*, power. The eternal problem in the State was : Who should be the first or, the ruler, who should have the power ? Various answers had been tried out : the monarch, the aristocrats (" the best families "), or a few of these, the oligarchs. The tyrant had appeared and taken the place of the Timarch or wise acceptable lawgiver — Solon or Draco. At last a new idea seized the imagination of the Greeks ; the *demse* or parishes into which the city was

* Harrison & Sons, Ltd., 44 St. Martin's Lane, W.C. 2s. 6d. post free.

divided returned to the Assembly so many representatives whose collective voice was final. *Demos* was the ideal personification of these citizens, not a mob of one class only, but a community of all classes and their functions. Demos was the first. Demos had the power. Such was the theory in prose; if we wish to have it in rhetoric we may read the speech of Pericles at the grave of the unknown soldiers who fell in the Persian wars.

Alas! with the democrat came the demagogue; Aristides the Just gave way to Cleon and the sausage-seller.

Theoretically, our democracy is much like that of the Greeks, though it has a different history and technique.

Our "democratic process" is familiar. Fifteen million citizens of our *demoi*, who know next to nothing about town planning, return by universal suffrage 615 members of Parliament, who are—without disrespect—ill-informed on the subject. A Town Planning Bill is prepared by departmental experts, expounded by the Minister, debated and passed. The Act bears the Royal Arms at the head and the King's signature at the foot, and becomes the law of the land.

On reading the Act we find that the democratic process has not gone very far; channels are cut, lines are laid down, permissions are given, restrictions imposed. "A scheme may be made under this Act . . . ."—so reads section 1, and we learn that the democratic process is delegated to entities called "local authorities"—the *demoi* of the Greeks—whose behaviour we must inspect. If they act wisely their doings will be "approved" after a few years' delay and become an operative scheme or schemes; in fact, the law of the land within the area of the local authority.

Clearly, then, if we wish to follow the democratic process closely, we must do so from the local beginning and master every stage. We must watch to see when and how far *demos* takes the first place and exercises power. Can it do so? Has it done so up to the present? Is democratic town planning a reality or an illusion?

Local authorities are of several kinds and rank. The counties, with a few exceptions, are ancient historical administrative areas. Cut out from them are the urban districts and the rural districts; dotted about in these are county boroughs. In London are the twenty-eight metropolitan boroughs.

LONDON

We may well begin with the largest and most difficult case. The metropolitan boroughs have renounced their town-planning powers to the London County Council, which has an area of 120 sq. miles and a population of many millions, "every one of which must play his part or good planning will become impossible," as the eloquent lecturers say.

Let us watch them playing their part. Every five years they are asked to return one of two candidates for a seat on the Council. Again, as in Parliamentary election, suitors and suited—with due respect—know little about town planning, and say less. It is mentioned in the manifestoes, perhaps, and decisions are made on major ideological issues of Socialism, Labour, Moderate or Municipal Reform, the implementation of whose ideas cannot be foreseen—certainly not in respect to town planning. Meanwhile, town-planning policy and schemes to the number of nineteen are being prepared by a body of competent experts at the service of the orators.

The democratic process of election of representatives works smoothly. London's *demos* sends its representatives of all classes and functions to the assembly, properly dressed in black coats, but democratic town planning has not yet begun.

Let us be patient. After the formation of a government a town-planning committee is created and serious work begins; the difficulties are enormous, created not by any man's will, but by the inertia of centuries and, if we look deep enough, rooted in the nature of things. For, leaving out the word "democratic" we may well ask if town planning—which means replanning—is possible in London at all!

Here I take refuge in dogmatic assertion and, in place of a long argumentation I say that the most democracy can do is *to will to plan;* how to plan it cannot say.

Indeed, going back to our Greeks, we see no unwisdom in this decision. Granted that Demos is first and has the power, that suffices. Planning itself is the work of trained experts, with special functions. Doctors are not told by their patients how to effect a cure, nor artists instructed by their patrons how to paint. Demos must trust its planning functionaries and fortify them with the assistance of its local law and authority.

What has actually happened in the planning of London since the Acts of 1909–1932? At first, from necessity, nothing! Since 1932 we may discern three forces at work in the business.

1: *Volitional demolition* and clearance of slum areas and rehousing under the Housing Acts.

2: *Redevelopment* according to one or more of the nineteen statutory schemes *if and when* an area, a street or a building becomes "ripe" for treatment. The determining cause is not the will of the democracy, the council or of an arbitrary politician, but the slow, silent operation of a process known to the recondite, but a secret to Demos.

A building has a *physical* life-duration given by its material structure; it decays, reaches physical death and in due course will fall. It has, likewise, an *economic* life-duration determined by its value to its owner. Economic death generally precedes physical death, and when that moment arrives it may be rebuilt according to one or other of the nineteen plans in the archives of the council; it will follow the tram-lines laid down in the Acts, avail itself of the permissions and obey the restrictions. Volition in statutory town planning in London is thus ultimately in the will of an unknown power. Demos stands feebly before the blows of Fate. (Incidentally, the mysteries of this process were admirably discussed by Mr. W. F. B. Lovett in his paper at Exeter on "Planning in relation to Land Values").

It is useless to say that if values were in the hands of the community things would be different. Whoever holds values must conserve them.

3: The third force engaged in the planning of London is of a different order and may be typified by the Ministry of Transport and its Bressey report. Here the power is arbitrary in theory, but cannot be so in fact. Transport is a mighty physical thing that moves in and out of London, day and night, and will determine its plan more certainly than will Demos or the Ministerial Archon.

Outside London lies a vast belt of local authorities where statutory planning is proceeding as best it can; it is an appendix to London, as the council has shown by assistances given to the formation of a green belt.

THE PROVINCES

Readers may say that it is unfair to judge of democratic town planning by the example of London. I agree. Let us go to Birmingham, Liverpool, Leeds, Manchester, or any big city in the land; I think, *mutatis mutandis*, London's experience will be repeated, except perhaps in the share taken by Demos. In fact, as we get nearer to the parish pump we get nearer to the actual power of Demos. Urban districts and rural districts afford better opportunities for every citizen to play his part; on which there is something to say.

Before getting into closer contact with the planning process, I hope I may be allowed to draw upon my own experience, which extends to forty years, and during ten recent years has been intensive. Port Sunlight and Bournville were planned by practical, beneficent autocracy; Letchworth and Welwyn by brave, experimental, demonstrative idealism. Democracy was *non est* in these adventures.

As to statutory planning, I have watched closely every step of its career, and since 1933 have heard or read the discourses at the summer schools, the records of which are before me. The following schemes have thus passed before my eyes: Aberdeen, Birmingham, Cheshire, the coalfields, Devonshire, Dorset, Exeter, garden cities, Hampshire, Khartoum, Leeds, Manchester, Moscow, New Forest, North Riding, Southampton, Wiltshire and Wythenshawe. I cannot recollect any mention of a democratic process in operation in these specific schemes. Nor are they autocratic. Only Khartoum and Moscow fall within this class.

The rest are planned by the typically British mode of give and take, of compromise and agreement; decisions are made by the voice of the facts, not by factions, and only in the formal sense by Demos.

But let us get, as I have said, nearer to the parish pump. In smaller local areas, urban and rural, everyone knows the problems more intimately; the bottle-necks, the ugly hoardings, the traffic jam, the slums, the lack of open spaces and playing-fields. Many ratepayers and some councillors own property that is affected for good or ill by planning. Public opinion can be roused by the press, protest and meetings, public inquiries. Demos is divided by natural self-interest and is not all on one side. In the case of dispute Authority decides, in accordance with the Act.

I have only a sentence to add. Though I do not care to travel to Russia for advice on anything, I recall the facts given by Sir Ernest Simon in Manchester last year on the important question of public instruction. There the administration, though autocratic, takes infinite pains to educate the public to understand and appreciate the need and nature of the Moscow plan. Here we have not begun to think of such a thing. We merely talk about democratic town planning as if it were already a real process—which it is not!

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Below are extracts from a lecture by Prof. J. D. Bernal, at the Northern Architectural Students' Association on

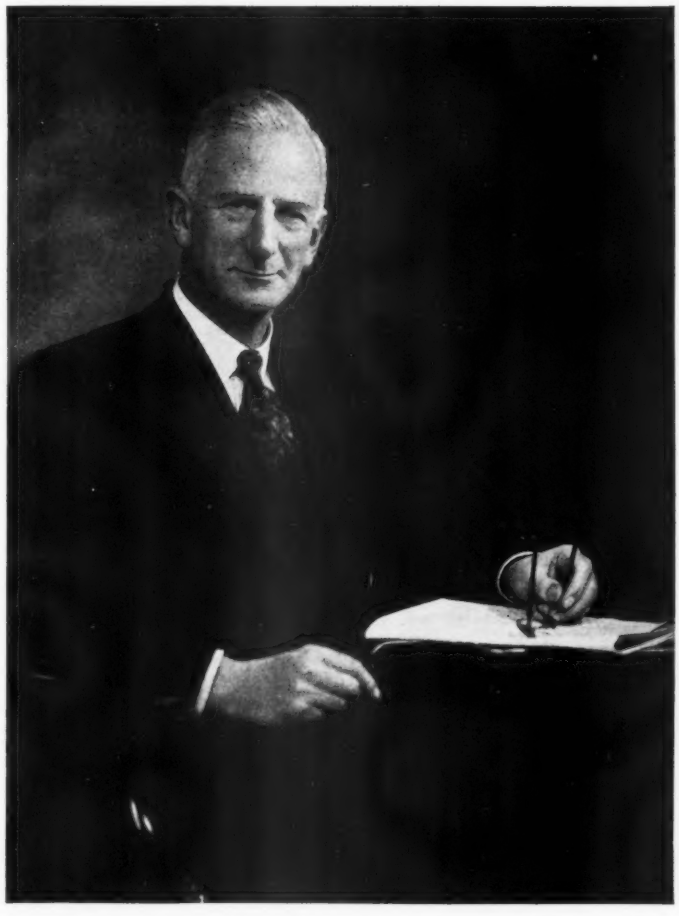
SCIENCE AND ARCHITECTURE

THERE are three principal ways in which science impinges on architecture, in planning, in construction, and in materials. The starting point for both science and architecture should be human needs. Architecture should provide the more or less permanent framework for these needs, and the part of science in this should be to determine as accurately as possible what these needs are. For that we should have a much greater development of sociological and statistical research than we have at present. A building, whether it is a house, office, or factory, has the functions of providing space and adequate services for multiple occupations.

Given the determinate problem of how to build a structure satisfying certain needs, new aspects of science are invoked, as well as the fundamental structural part of architecture. Up to now architecture has been an extremely traditional occupation. Buildings are erected essentially as they have been erected in the past with such modifications as new needs and new materials impose on them. We have now reached the stage when this procedure can be, so to speak, short-circuited. We can take together our needs on the one side and our materials on the other and try to solve the problem of the best type of construction, utilizing the latter to satisfy the former. The problem of construction is essentially an engineering one, but it is necessary to separate two entirely different functions in building, support and insulation. In one aspect a building is really a many staged bridge or gantry to support the weights of fixed equipment and movable personnel. In the other aspect every working space aims at being completely cut off from all undesirable influences, wind and weather, heat and cold, noise, and yet open to all channels of communication and necessary services. The ideal is complete seclusion combined with an atmosphere of unlimited spaciousness.

Modern design by separating the function of support from that of insulation is beginning a rational attack on these problems; and these twin needs of support and insulation lead directly on to the other aspect of the relation of science to architecture, that of the discovery of suitable materials. Up till a few years ago the question was simply what natural or artificial materials are there with requisite properties? We are just beginning to reach the stage when we can invert the order and ask for the synthesis of materials with any required properties. In the structural field this will lead to many new alloys for which systematic research is now possible, and even more so for new types of cement-like materials where a range of variety exists theoretically undreamt of by the practical manufacturer. With insulation there is still more to be done. New materials with a plastic base promise to furnish us with the ideal qualities that we want, simultaneous resistance to moisture, heat, and noise. But research in this field is only beginning, and if it were energetically pursued and were allowed to lead to the actual production of materials for architecture, then architecture would go through a more rapid transformation than it has done up till now.

These are separate aspects, they need to be brought together. If architecture and science are to advance hand in hand far greater co-ordination of research into materials and methods required by architects is needed. It would be extremely valuable to have in parallel with the research councils for medicine and agriculture one for architecture which would include and widen the very useful work of the Building Research Station. One part of its work might be an institute of domestic engineering, where the problems of architecture would be considered from the point of view of the needs of the housewife.



Mr. E Stanley Hall, M.A., F.R.I.B.A., who has been nominated by the Council of the R.I.B.A. for the Presidency.

R.I.B.A.

ELECTIONS

The R.I.B.A., announces that the Council's nominations for membership of the Council at he coming elections will not be notified to members by post as hitherto, but will be enclosed in the *R.I.B.A. Journal* for Monday next, April 24, as a loose leaf supplement.

ARCHITECTS AND NATIONAL SERVICE

The R.I.B.A. Emergency Panel announces that it has been informed by the Ministry of Labour that persons who had enrolled for National Service before the issue of the

Provisional Schedule of Reserved Occupations, January 1939, should not relinquish their National Service obligations because their occupation is included in the Schedule. The Schedule of Reserved Occupations has no retrospective effect on persons already enrolled for service. Any obligation for National Service undertaken before the issue of the Schedule can be maintained or renewed. It is only when a person previously enrolled for part-time service wishes to change his or her obligation into obligations for whole-time service that the Schedule will apply.

ELECTION OF MEMBERS

As Fellows (57): Messrs. Beech, F. W. (Exeter); Butlin, F. G. M. (London); Cashmore, F. M. (London); Chant, A. G. (Shrewsbury); Chitty, A. M. (London); Clarke, W. T., F.S.I., A.M.T.P.I. (Liverpool); Cogswell, V. G. (Portsmouth); Curtis, H. L. (London); De Colleville, H. (London); Fairhurst, P. G., M.A. (Manchester); Fare, A. C., R.W.A. (Bath); Farrer, J. C. (London); Fillmore, C. E. M. (Birmingham); Fisher, W. R. F. (London); Greenfield, T. (Midhurst, Sussex); Harvey, F. M., ASSOC.M.INST.C.E. (London); Harwood, A. W. (London); Houston, J., DIP.ARCH. GLASGOW (Kilbirnie, Ayrshire); Howcroft, Lt.-Col. G. B., M.C., T.D., M.A. (Oldham); Jackson, B. H. (London); Joseph, E. M., O.B.E. (London); Key, W. D., F.S.I. (London); Lloyd, A. P., M.C. (London); Mackey, S. A. H. (Warrington); Mole, H. W. (London); Morrey, P., M.B.E. (London); Murray, K. D. P. (London); Robinson, T. H. (Sheffield); Runton, Captain P. T., M.T.P.I. (Ilkley); Scriven, C. (London); Tasker, E. C. (Scarborough); Trubshawe, W. V. (London); Vallis, R. W. H., B.ARCH.L'POOL (Frome, Somerset); Weedon, H. W. (Birmingham); West, J. A. (Nottingham); White, R. C. (Aylesbury); White-Cooper, R. C., M.C., B.A. (London); Wilson, A. W. (Peterborough); Wilson, H. J. (Peterborough); Blount, W. S. (London); Bowman, H. (Oldham); Bradley, S. (Manchester); Bradley, W. (Manchester); Brocklehurst, R. G. (High Wycombe, Bucks); Cabré, J. W. (Liverpool); Davies, J. G. (Norwich); Davis, W. W. (London); Gardner, W. R. H. (Margate); Gregory, W. J. I. D. (London); Nicholson, C. D. G. (London); Rigby, L. (Southport); Ross, D. (Dundee); Ross, W. A. (Bradford, Yorks); Stocks, J. E. (Leeds); Walker, F. H. (Windermere). (*Overseas*): Miller, E. S. C. (Dunedin, New Zealand); White, J. H., A.A.DIP. (Dunedin, New Zealand).

As Associates (33): Messrs. Annan, W. R., DIP.ARCH.EDIN. (Edinburgh); Asbridge, V. B. (Bexley, Kent); Bellinger, C. (Bristol); Boyd, Miss D. F. (London); Messrs. Briggs, B. I. (Bamber Bridge, near Preston); Brown, M. J. (Edinburgh); Dorman, A. (Belfast); Duxbury, L. (Northwich); Everard, N. G. St. G., B.ARCH. (Orpington, Kent); George, W. N. B., B.ARCH.L'POOL (London); Gladstone, D. S. (London); Halliday, J. L., B.A. (London); Hamilton, G. D. (Edinburgh); Misses Hancock, M. D. (London); Iles, D. E. (Dewsbury); Messrs. Maddocks, G. E. (Eastbourne); Manning, R. D. (Welwyn Garden City); Marshall, A. T. (Edinburgh); Moffett, W. N. B.ARCH.L'POOL (London); Murphy, H. G. (London); Nightingale, P. F. (London); Peters, J. S. (London); Robertson, A. W. S. (South Shields); Rohm, K. R. (London); Roworth, W. L. (Edinburgh); Miss Smith, C. S. G. (London); Messrs. Tait, G. T. (London); Thearle, L. B., B.ARCH. (Liverpool); Thomson, A. (Hove); Ward, R. V., B.ARCH.L'POOL (London); Wilks, J. C. (Norwich) (*Overseas*): Goble, K. P. (Newcastle, N.S.W., Australia); Smith, M. A. (New Lambton, New South Wales).

As Licentiates (16): Messrs. Baines, H. (Rochdale); Bishop, W. C. J. M. (Whitstable); Dancey, C. V. (Gloucester); Dickie, W. E. (Glasgow); Holland, D. J. (London); Jackman, E. W. (London); McArdle, F., B.SC., M.INST.C.E.I. (Belfast); MacGregor, J. W. (London); Martin, W. H. (Tunbridge Wells); Maunder, J. F. de F. (London); Parker, J. (Burnley); Rushton, L. (London); Smith, H. L. (London); Springett, R. E. (London); Taylor, L. C. R. (Stafford); Weald, C. G. (London).

METROPOLITAN POLICE SE

DESIGNED BY HOR

PROBLEM — *Hostel for 120 unmarried men; basement space allocated to A.R.P. uses; canteen provided for non-residents.*

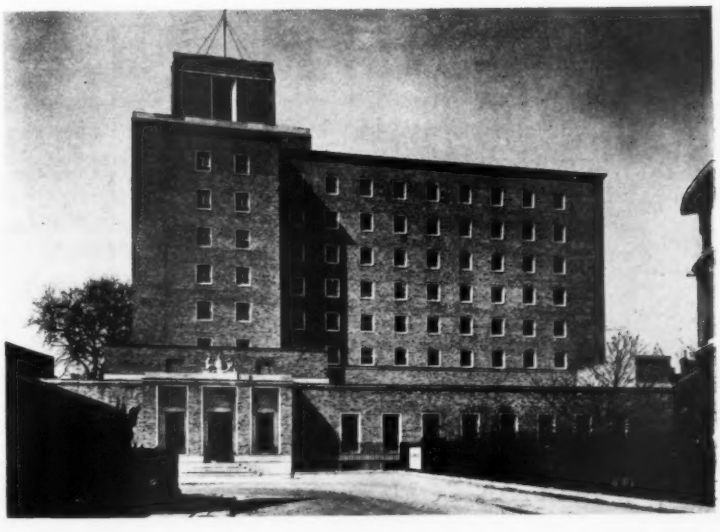
SITE — *At rear of Blackheath Road Police Station with dual access from Catherine Grove and from Station Yard.*

CONSTRUCTION—*Reinforced concrete frame; brick walls and partitions; asphalt roofs; reinforced concrete floors.*

EXTERIOR TREATMENT — *Buff bricks and Portland stone dressings. The carving over the main entrance is by Mr. E. R. Broadbent. Below, the main entrance, Catherine Grove.*

SECTION HOUSE, BLACKHEATH ROAD, S.E.

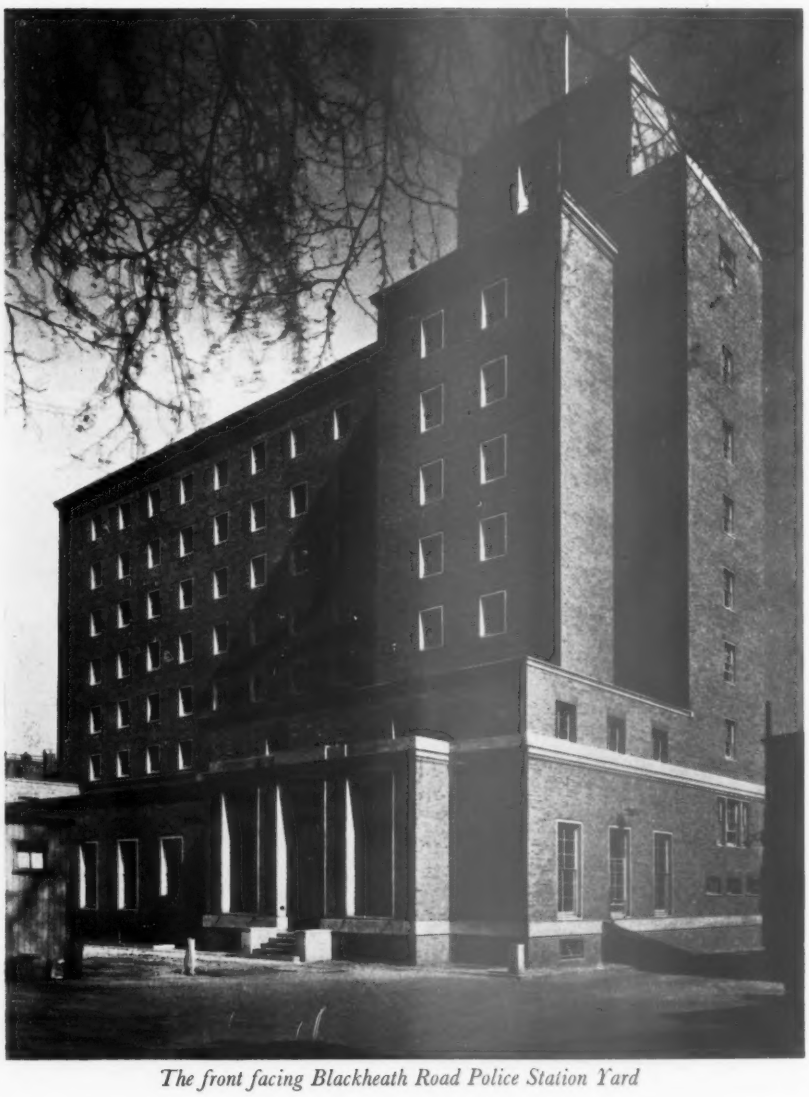
HORACE FARQUHARSON AND DONALD H. McMORRAN



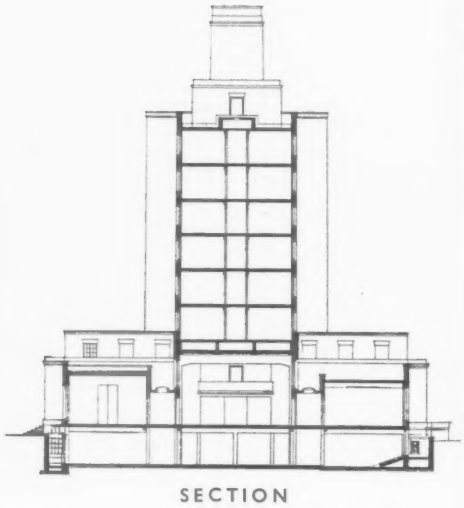
INTERIOR FINISHES — *Finishings throughout have been carefully selected with a view to economy in maintenance. Entrance hall and main corridors have Portland stone floors and artificial stone wall linings. Library has English oak floor and cork wall tiles. Joinery to bedrooms is in British Columbian pine stained and waxed ; other joinery in Australian walnut.*

SERVICES — *Heating is by low-pressure accelerated system with calorifiers for domestic hot water. Plumbing and all other services are carried in internal ducts with ample provision for access throughout.*

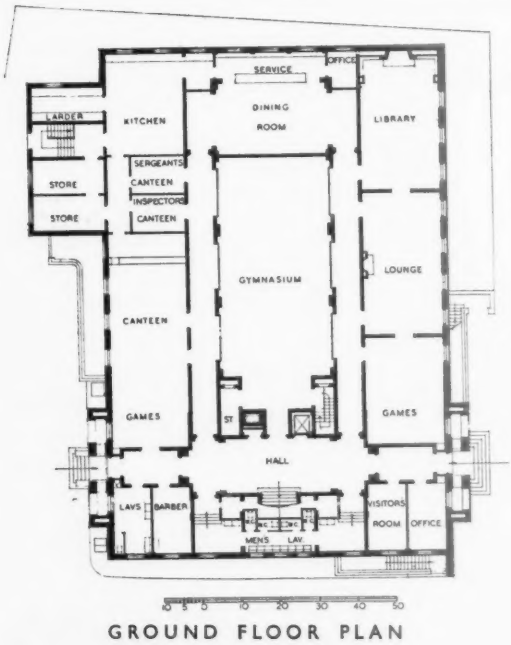
Above, another view of the main entrance from Catherine Grove. Right, the Catherine Grove front.



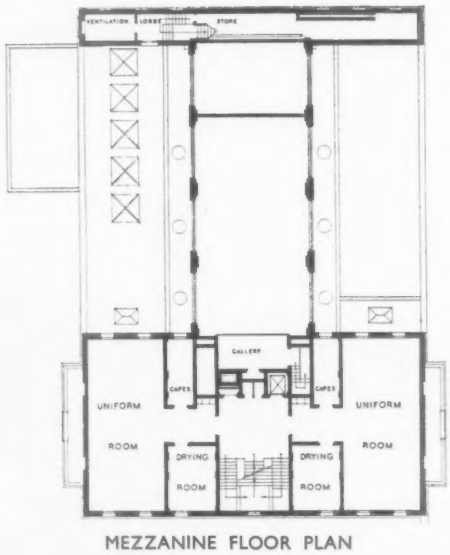
The front facing Blackheath Road Police Station Yard



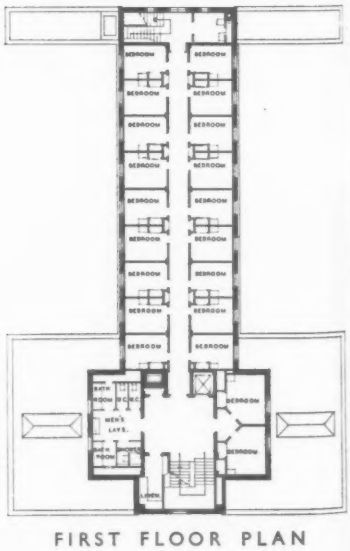
SECTION



GROUND FLOOR PLAN



MEZZANINE FLOOR PLAN



FIRST FLOOR PLAN

Above,
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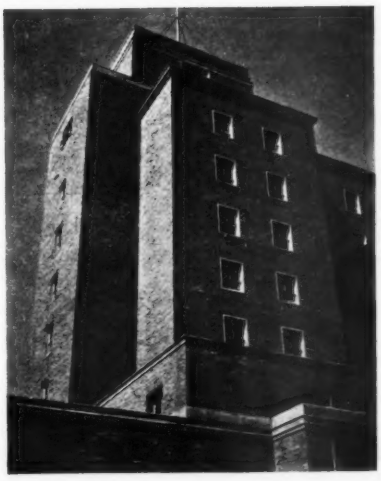
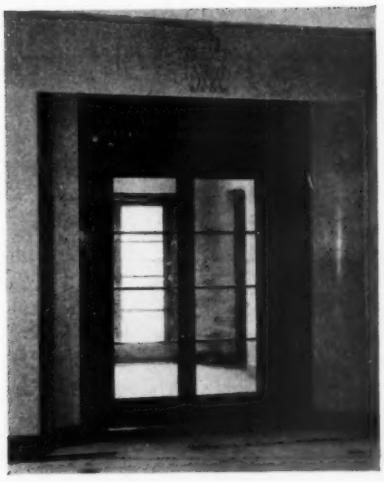
METROPOLITAN POLICE SECTION HOUSE, BLACKHEATH ROAD, S.E. • BY FARQUHARSON AN

Above, the main staircase; right, looking up the Catherine Grove front, and one of the two entrance doors, taken from the hall.
The general contractors were Messrs. Galbraith Bros., Ltd. For list of sub-contractors see page 669.

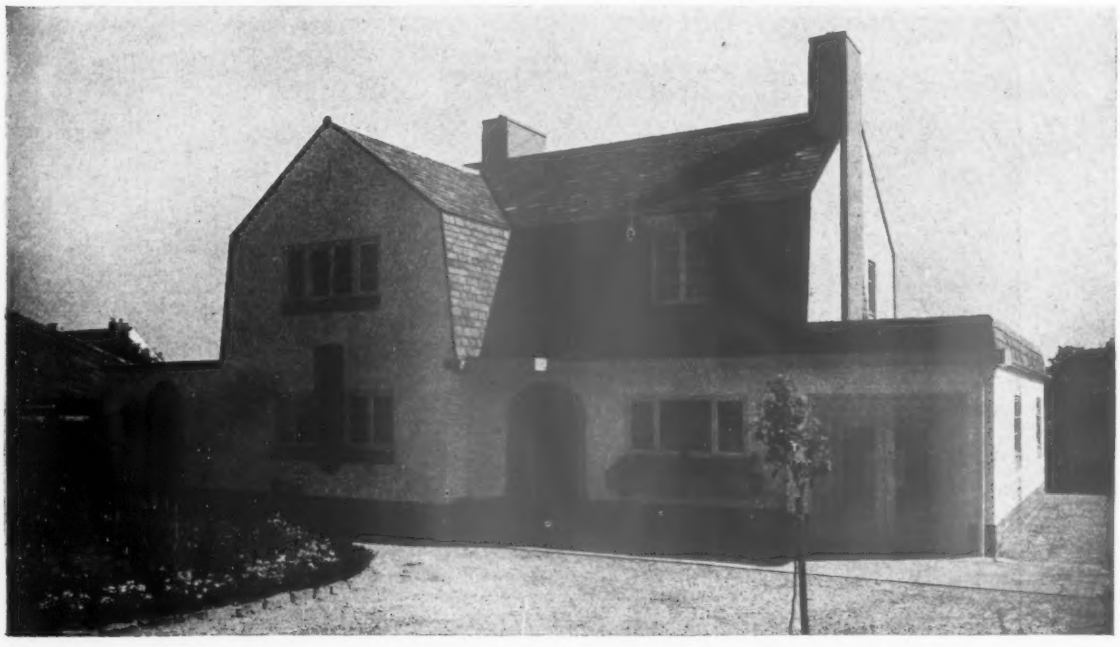




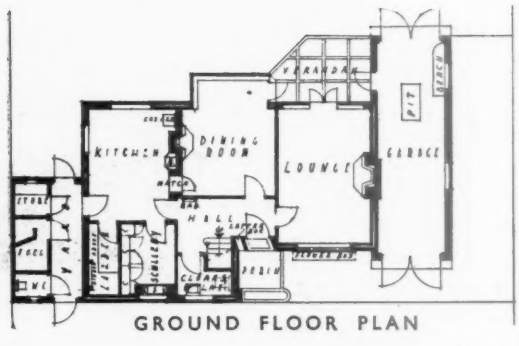
ON AND McMORRAN

HOUSES AT HOLLYWOOD, WORCESTERSHIRE, AN

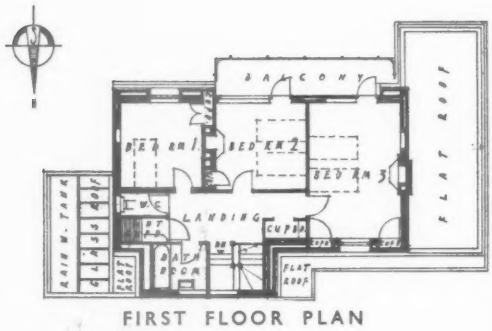
DESIGNED BY



Left, the entrance front of the house at Hollywood. Below, the garden front.



GROUND FLOOR PLAN



FIRST FLOOR PLAN

PROBLEM—*A house with a good view to the south. The kitchen was to be used for meals. The house was designed to use multi-coloured Cornish (Old Delabole rustic red) slates. The carved panel on the north side of the house is by Oliver O'Connor Barrett. Honiton stone was chosen for this panel—a wrong choice, as being away from the sunny side of the house the carving does not show up well. The flower box is of elm boards lined with zinc.*

SITE—*A narrow site only 23 yards wide.*

CONSTRUCTION—*11-in. cavity brick walls. Slates on felt roof. 4½-in. brick partitions, and double sound-proof wood-studded partition between bedroom 1 and w.c. Standard steel casement windows. Panelled external doors with asbestos plywood panels. The balcony is constructed of reinforced concrete with an iron balustrade. The flat roofs are covered with bituminous sheeting on boards.*

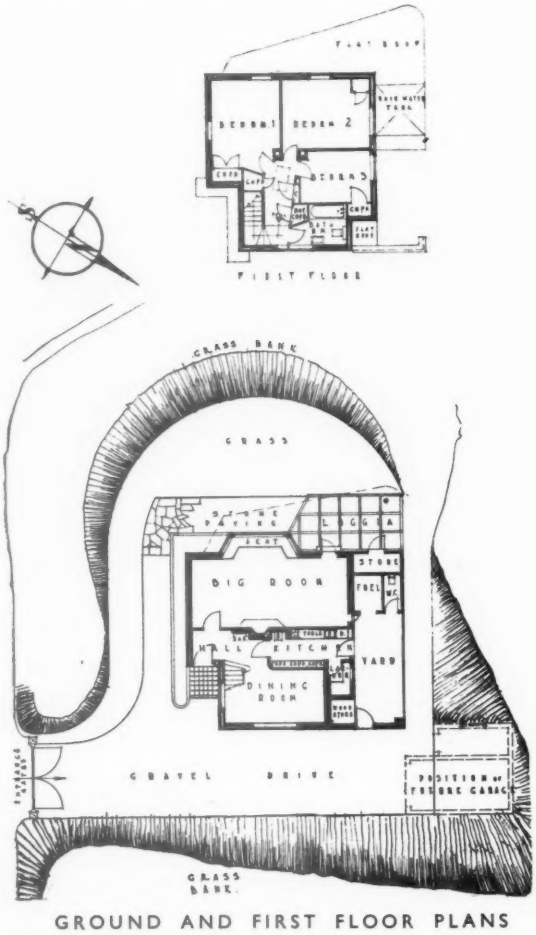
EXTERNAL FINISHES—*Walls are finished generally with waterproofed cement limewash, three coats, on 2½-in. common brickwork with horizontal joints recessed. Plinth, chimneys and sub-cills are in 2½-in. golden-brown facing bricks.*

INTERNAL FINISHES—*Flat oil paint on all walls and ceilings, which are finished slightly rough, in plaster. Bathroom walls lined with green and pink "vitrolite," with pink fittings to match. Oak boarded floors downstairs in lounge, hall and dining-room. Lounge and hall finished with oak panelling obtained from pulled-down house. Kitchen in brown quarry tiles 9 in. by 9 in. Built-in wardrobes in all bedrooms.*

SERVICES—*Hot water and copper radiator in hall (which is on direct supply pipe) and hot towel rail in bathroom, all supplied by the cooker in kitchen.*

E, AND MILFORD HAVEN, PEMBROKESHIRE

ED BY F. E. BROMILOW



GROUND AND FIRST FLOOR PLANS

PROBLEM—*House built for holiday and everyday use. Open views from south-east side of house; view from north-east side obstructed by lie of land and house next door. Client wished house to look somewhat like one designed by architect elsewhere. A small kitchen, but well fitted, was required, and house was to be managed without a servant.*

SITE—*1 in 5 slope towards the cliffs and sea, on rocky foundations. Very exposed position receiving full blast of west winds from the Atlantic. The ground on the sea side of house is built up so that the sea appears to be immediately below the edge of the built-up bank when looking through lounge window.*

CONSTRUCTION—*11 in. hollow brick externally. 4½-in. brick and 3-in. wood-studded internal partition walls. Interlocking blue-green glazed pantiles laid on untearable felt, counterbattening on boarding on S.W. roof slope on account of driving winds. Flat roofs in reinforced concrete. Windows are sliding sash type, with rubber anti-rattle strip at meeting rails. These windows were chosen because they are the only type which, according to local experience, stands up to the tremendous winds and rainstorms from the Atlantic. Carved plaque on S.E. elevation is by Oliver O'Connor Barrett.*

INTERNAL FINISHES—*House finished throughout inside with cream coloured distemper and cream gloss paint on woodwork and ironwork. Oak boarded floor in big room, wax polished. Flush doors. Built-in cupboards in kitchen and bedrooms.*

COST—*£1,000. 1s. 1½d. per cu. ft.*

The illustrations show, at top, a view of the house at Milford Haven from the sea; and, on left, views from the north-east and south.

LETTERS

JOHN E. YERBURY, F.R.I.B.A.
WINSTON WALKER, A.R.I.B.A.
"A.R.I.B.A."

Architects and a National Emergency

SIR,—May I, as shortly as possible, point out my objection to your front page of April 6?

Apart from the fact that I do not like to be the subject of headlines in capital letters, your heading seems to imply that, "Londoner" having expressed certain views, I had objected and challenged him to defend them.

The facts are that my first letter, with reference to your editorial of March 16, was sent to you on the *17th*.

"Londoner's" letter was published on *March 23rd*, and does not refer to my letter in any way; nor have I made any reference to his letter. Therefore the headline is misleading. My quarrel is with the Government, not with "Londoner," and I hope he has not any quarrel with me.

I wrote in your columns last year—"Architects who *in times of crisis* rush about looking for jobs as architects, should not be encouraged." This was written in October, 1938, in reply to your statement that during the September crisis many young architects had complained that they had been unable to find work as architects. I wrote to point out the absurdity of everyone badgering overworked officials *in times of crisis* for a job in his or her particular business or profession.

Now, in April, 1939, you refer to this obvious statement as the most original of all. I am glad not to have claimed originality, if that is original.

But you, Sir, suggest that I *question the use of foresight and suspect architects of seeking soft jobs*; thus *giving a useful weapon to those who do not want to think*. If that is not misrepresentation, I don't know what it is.

What did I write? In reply to your charge that members of the R.I.B.A. were too lazy to force the Institute to influence public opinion, I wrote—

(*a*) "At the moment the majority probably support the Government and will not do anything inconsistent with the Home Office policy.

(*b*) "The Home Office will have a say in the placing of jobs as architects, and the R.I.B.A. is doing its best on behalf of its members.

(*c*) "I do not think the public is anxiously waiting for the guidance of architects, because *the policy* of providing deep shelters is not in the public mind connected with architects, but with the Home Office.

(*d*) "The R.I.B.A. A.R.P. Committee has done valuable work.

(*e*) "Architects who know anything about it think we ought to have deep shelters.

(*f*) "Gauged by the support given to the A.B.S., architects as a class are not very good citizens."

In all this how can you read into what I have written: "*Mr. Yerbury appears to question the use of forethought and even to suspect architects who advocate it as seekers after soft jobs*"?

I have condemned the Government for want of forethought, and *praised those architects who have not only had forethought, but have generously placed the result of their work at the disposal of us all*. I have never suspected those men of looking for *soft* jobs, but admire them as the best type of good citizens.

JOHN E. YERBURY

London.

[In his letter dated March 17, published on March 30, Mr. John E. Yerbury wrote:—

"*The R.I.B.A. cannot do anything as an Institution so long as the majority in the country is content to keep the Jitterbugs in power; all the R.I.B.A. can do, looking for jobs, is to offer their services to the Government. . . . In questions of political policy, architects are a rather insignificant section of the public, and those who, in times of crisis, rush about looking for jobs* as architects, *ought not to be encouraged. . .*"
—Ed. A.J.]

The Walkers

SIR,—I'm rather afraid that my brother's letter in the JOURNAL for April 6 has created the impression, in certain directions, that there is some animosity between us. This is quite untrue, of course, and in fact we both have the same tailor and belong to the same club.

But there is just one point, my brother's name is HERBERT Raymond Myerscough-Walker (Herbert being my father's name, also to be found on my brother's birth certificate and etched in blood on his memory). His choice was not easy: Was it to be Herbert Walker, Herbert Raymond Walker, Raymond Walker, Raymond Myerscough Walker, or what? I think his choice excellent and right, and then, of course, the hyphen rounds off this rhythmic nomenclature. Incidentally, there is some doubt about hyphens—as far as I know there is no extra cost for it, but I think the bank must be notified, that is all.

Now the question of the name has been clarified may I add that the work of the Reform Society still carries on, and that the name of Winston Walker will be one of the few names nominated for election as Associate Member of the Council of the R.I.B.A., and in the name of Reform, in the coming election?

WINSTON WALKER

London.

Associates and Licentiates

SIR,—Referring to the letter from Mr. A. B. S. Fryer, L.R.I.B.A., in your issue for April 6.

As an Associate of the R.I.B.A., I should like to draw Mr. Fryer's attention to the fact that the class of Associates is not entirely composed of school-trained men of 21 years of age, as his letter might lead one to suppose. Indeed, I should imagine that the number of Associates aged only 21 would be very meagre.

Mr. Fryer might well bear in mind that the majority of Associates of the R.I.B.A. are men who have given up seven, eight or maybe more of the best years of their life to the intricate and detailed study of architecture to enable them to pass the final examination for candidature as Associate of the Royal Institute.

As far as I am aware the Licentiate class was opened some years ago for the express purpose of enabling middle-aged practising architects and assistants with a number of years' experience to become members of the R.I.B.A., without going through the process of the usual examinations. No doubt this class was a justifiable one, and there are many experienced and genuine men amongst the Licentiate class, but unfortunately it is more and more apparent that students of architecture today wish to have a good time when they are young and are not inclined to confine themselves to arduous study and evening, if not night, work.

"Why should we burn the midnight oil," they say, "let us wait until we reach the age of 30 and join the R.I.B.A. as a Licentiate. L.R.I.B.A. is every bit as good a qualification as A.R.I.B.A. from the lay man's point of view, so why worry?" Therefore, in reply to Mr. Fryer's query: "What virtue is there in holding the Licentiate diploma?" I venture to say—none at all.

In conclusion, it seems to me that the municipal authorities are quite justified in giving preference to Associates over Licentiates because—

1: The genuine Licentiates are so few and far between that the authorities stand a far better chance of getting a properly trained man, especially if they require a man of 40 or under.

2: It encourages the present-day student to train himself thoroughly for the profession and discourages him from taking the easy way out and joining the R.I.B.A. as a Licentiate.

"A.R.I.B.A."

Liverpool.

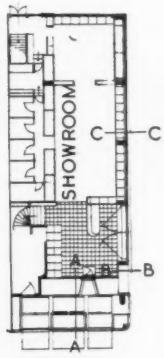
WORKING DETAILS : 743

SHOPFRONT • BUCHANAN STREET, GLASGOW • J. DUNCAN MILLER

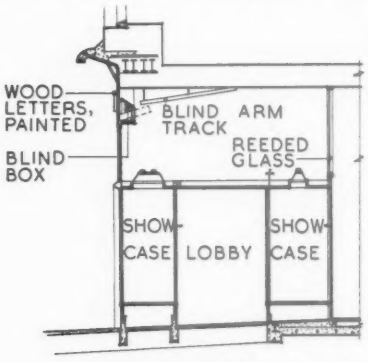
The site of the shop is a deep one with a narrow frontage to a busy street. The most has been made of the narrow frontage by recessing the front to form an entrance vestibule with showcases. Also, an impression of greater width has been obtained by running the windows round to the long façade of the side street. The fascia surrounds and stallboard to the entrance front are faced with glass tiles, while the elevation to the side street has a rendered finish. The house name appears on the illuminated glass tile fascia in painted wood lettering. There is a roller blind to the entrance front which is operated from inside the shop.
Details are shown overleaf.

WORKING DETAILS : 744

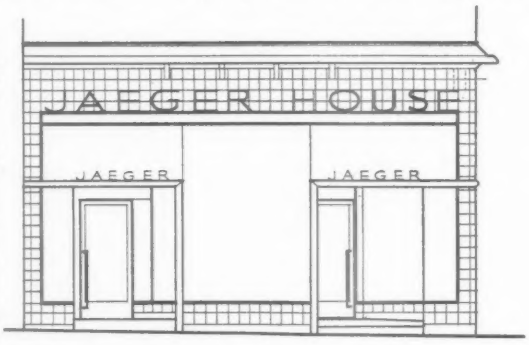
SHOPFRONT • BUCHANAN STREET, GLASGOW • J. DUNCAN MILLER



KEY PLAN

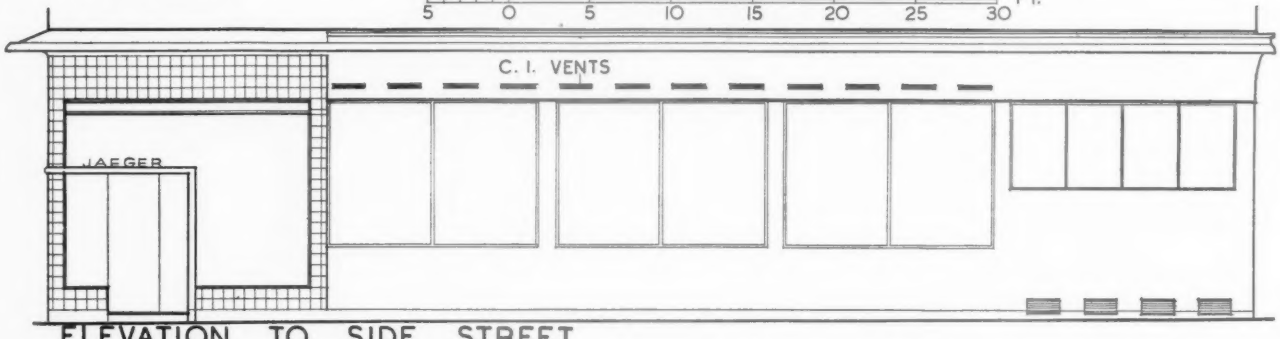


SECTION A-A

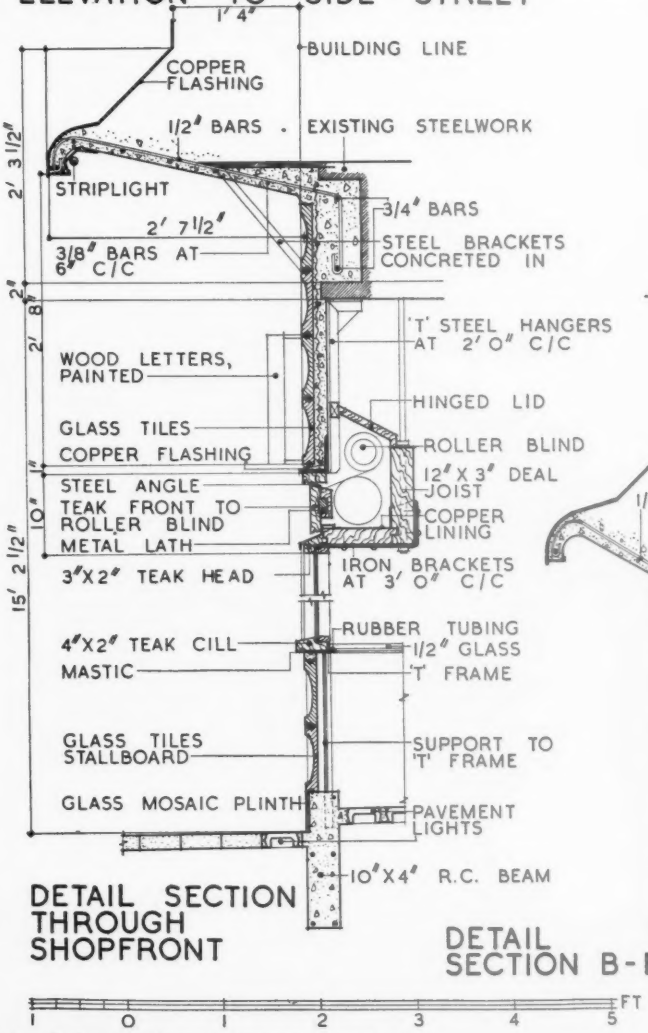


MAIN ELEVATION

5 0 5 10 15 20 25 30 FT.

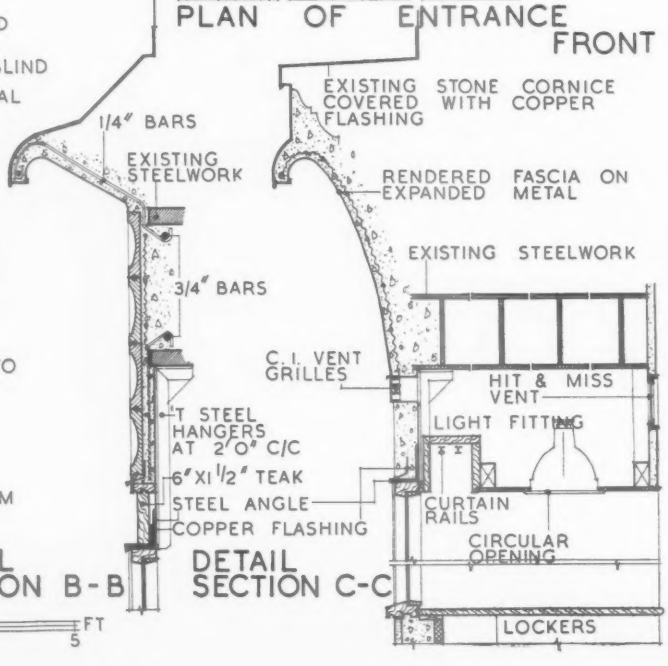


ELEVATION TO SIDE STREET



DETAIL SECTION THROUGH SHOPFRONT

PLAN OF ENTRANCE FRONT



DETAIL SECTION B-B

DETAIL SECTION C-C

1 0 1 2 3 4 5 FT

Details of the shopfront illustrated overleaf.

The Architects' Journal Library of Planned Information

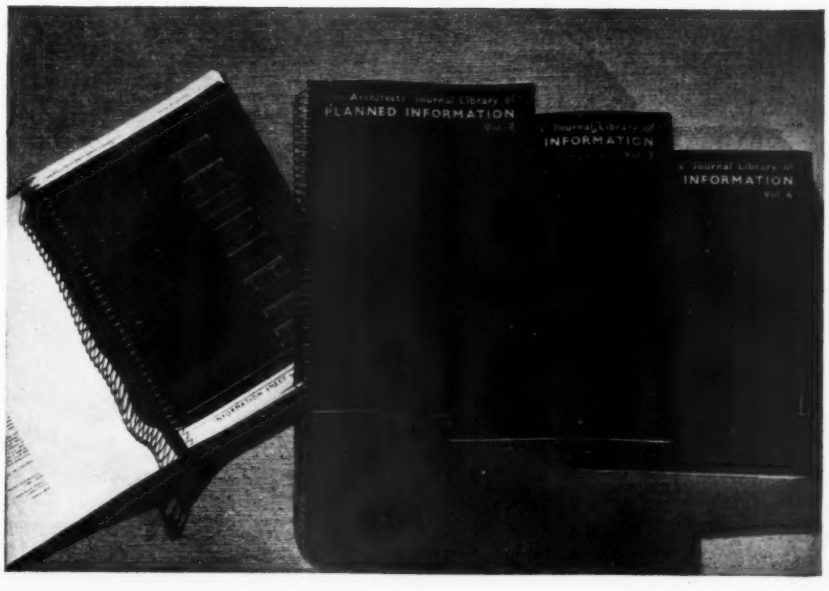
INFORMATION SHEET

SUPPLEMENT

SHEETS IN THIS ISSUE

723 Metalwork

724 Timber Construction



All the Information Sheets published in The Architects' Journal Library of Planned Information since the inception of the series to the end of 1938 have been reprinted and are available in the four volumes illustrated here. Price 21s. each.

Sheets issued since index :

701 : Tile Hanging
702 (420 revised) : Fixing Insulating Board
703 : Sheet Metals
704 : Plan Elements
705 : Metal Work
706 : Plan Elements
707 : Furniture Layout
708 : Plan Elements
709 : Flue Construction
710 : Natural Lighting
711 : Glass and Glazing
712 (109 revised) : Quarry Tiles
713 : Glass and Glazing
714 : Metalwork
715 (106 revised) : Hot Water Radiators (Pressed Steel)
716 : Furniture Layout
717 : Metalwork
718 : Flooring Materials
719 : Plumbing
720 : Water Heating
721 : Wall Facing Materials and Wallboards
722 : Roofing

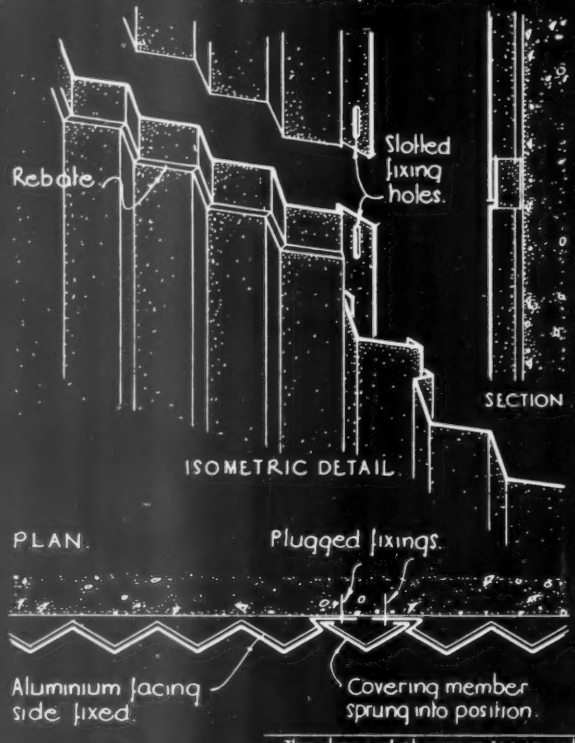
856.

856.

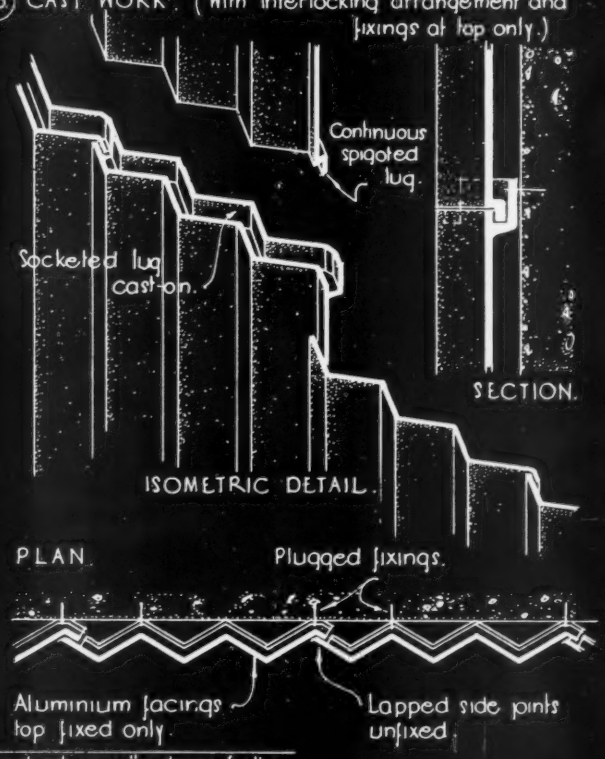
THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

TYPICAL FIXING DETAILS FOR EXTRUDED AND CAST ALUMINIUM FACINGS:

(1a) CAST WORK. (Side fixing & end rebate)

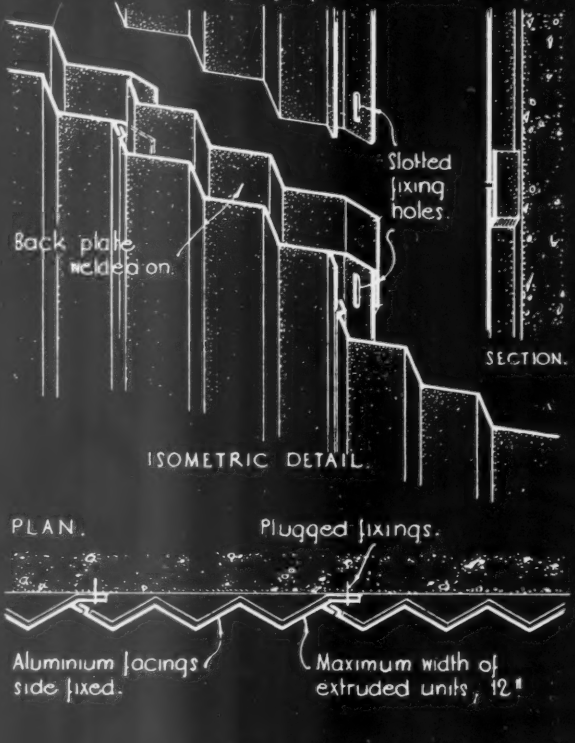


(1b) CAST WORK. (With interlocking arrangement and fixings at top only.)

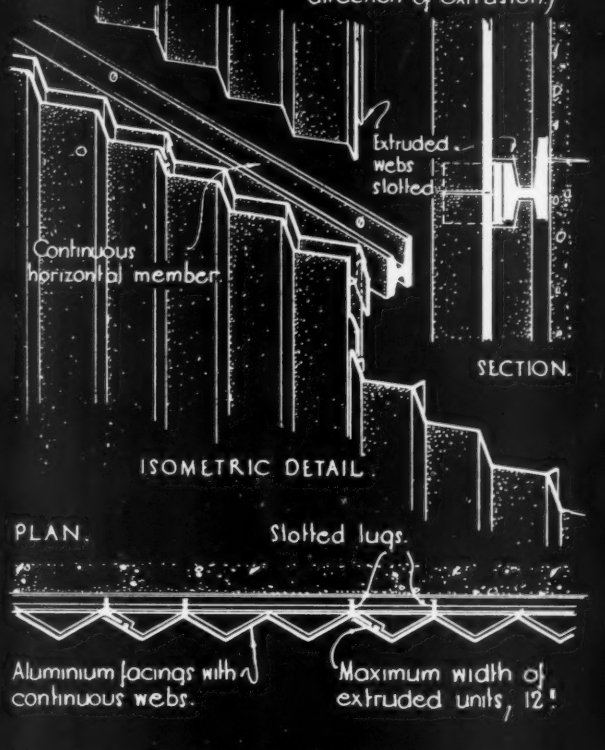


The shape of aluminium facing units depends only upon the design. for the purpose of these details a simple zig-zag shape has been used throughout.

(2a) EXTRUDED WORK. (Back plate, & side fixings by flanges parallel to extrusion).



(2b) EXTRUDED WORK. (Fixings at right angles to direction of extrusion.)



Information from the Northern Aluminium Company Limited.

INFORMATION SHEET : ALUMINIUM : Nº 13, ALUMINIUM WALL FACINGS.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1 • Orca A. Bayne

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 723 •

METALWORK

Subject :

On Sheets Nos. 714 and 717 of this series, a number of general types of aluminium facings for external piers and walls have been given with a general description of their use in relation to the method of fabrication.

Within certain limits, the fixing and jointing of the units must follow the same general lines for all types of facing work ; the details given on this Sheet may be applied, with modification, to those given in the two previous Sheets.

Erection :

The general principle to be followed in the design of aluminium facing work of all kinds is that the units should be capable of being erected, fixed and jointed after all the heavy trades have completed their work. Aluminium work is fabricated to exact dimensions, and the jointing is fairly close ; there is, therefore, little latitude in the position of fixing points. For this reason lugs or other fixings which require to be built-in by the heavy trades are to be avoided, as they are liable to be inaccurately located.

Where individual plugged fixings are used (as distinct from metal framing or continuous battening), the use of a drill and one of the patent plug fixings is to be preferred to the normal builder's rough plugging, because the former can be more accurately located and is usually more secure.

Fixing :

The general methods of fixing facing work around piers have been summarised in Sheet No. 714 (No. 11 of this series) and may be applied in principle to all facing work.

In plain wall facing work with units of normal size it is seldom necessary to fix along more than two opposite edges. Whether the fixings are placed along the top and bottom or along the two vertical edges is immaterial as far as security is concerned, and depends primarily upon the design of the units and the method of manufacture. (The method of manufacture may determine the position of the fixing flanges. See Sheet No. 714).

In many cases ample security is obtained with fixing only along the top edge, and if this method is permissible it forms probably the most satisfactory arrangement provided the top of each unit is shaped to receive and hold firmly the bottom edge of the unit immediately above.

It is not, however, always possible to provide the necessary shaped ends owing either to the design or the method of manufacture.

The Details :

The details shown on this Sheet show various methods of fixing which may be adopted according to the type of unit used. They are intended only as typical details since the variations which may be adopted are unlimited. Owing to the large size of the dies involved in their manufacture, the use of pressed and shaped sheet aluminium units is only economical for facing work when large quantities of sheet are to be fabricated from the same die.

Detail No. 1a :

This detail shows a method of arranging secret fixing for cast aluminium facing units. The method of manufacture permits a rebate to be formed in the end of each unit in addition to the longitudinal ribbing. This rebate provides a watertight joint and ensures true alignment between units.

Fixing is by bolts and screws through flanges provided along the sides of each unit. The flanges and fixings are then concealed by a long narrow covering member which is sprung into position and fixed only at the top. It is held at the bottom by the unit below.

Detail No. 1b :

This arrangement is also suitable only for cast facing units because it requires a specially shaped channel and flange along the top edge running *across the direction of the fluting or ribbing*.

The fixings are made through the top flange and they are concealed by the next unit above, when in position.

The channel provided to receive the bottom of the unit above provides a watertight joint and holds the upper unit in position. The sides of adjoining units are lapped.

Detail No. 2a :

This detail provides only for fixing along one side and is therefore applicable only to narrow units such as extruded sections which are limited to a width of 12 in.

The side which is not fixed is held in position by a small flange on the adjoining unit. The ends of the units are butt jointed, but a back plate concentric with the shape of the unit may be welded on, if required, to ensure true alignment and a watertight joint.

This method cannot be recommended if an anodised surface is to be used, because the area affected by the welding may anodise to a slightly different colour from the remainder of the work.

A suitable alternative fixing of the back plate may be obtained by riveting or screwing to the lower facing members, allowing the rivets or screwheads to appear as a part of the design.

Detail No. 2b :

In this detail individual fixings through the aluminium units are avoided entirely. An aluminium section of special shape is provided and is fixed horizontally on the wall as a batten after the lowest " course " of units is in position.

The lower flange of this horizontal member engages with the slotted ends of the flanges provided in the back of each unit and holds them securely.

The upper flange receives the units above similarly.

A back plate concentric with the shape of the facing unit is provided and is laid loose between the horizontal member and the back of the facing unit ; it is jammed into position and held tight when the unit above is erected. This back plate ensures true alignment but does not assist waterproofing.

The sides of adjoining units are lapped.

Jointings :

Aluminium facing units may be erected dry. It is, however, preferable to bed all joints in a flexible mastic such as bitumen-asbestine paste which will ensure a waterproof joint and yet allow thermal movement to take place.

Contacts with other Materials :

Precautions should be taken wherever aluminium adjoins other metals or materials containing cement or lime, to ensure that direct contact is not made, owing to the danger of electrolytic or chemical action. (See Information Sheets Nos. 669 and 686.)

Previous Sheets :

Previous Sheets of this series are :—

No.
492 : Sheet, plate and coil sizes (No. 1)
501 : Working, joining and bending (No. 2)
504 : Basic and special extruded shapes (No. 3)
505 : Typical extruded sections (No. 4)
506 : Typical extruded sections (No. 5)
661 : Casement window sections (No. 6)
669 : Window spandrels and cills (No. 7)
673 : Handrails and railings (No. 8)
680 : Aluminium Paint (No. 9)
686 : Cast and extruded grilles (No. 10)
714 : External pier casings (No. 11)
717 : Aluminium wall facings (No. 12)

Issued by : The Northern Aluminium Company, Limited.
Address : Bush House, Aldwych, London, W.C.2
Telephone : Temple Bar 8844

MINIMUM LOADINGS & MAXIMUM STRESSES FOR THE CALCULATION OF SIZES OF TIMBER.

The following table and printed clauses are quoted from the L.C.C. regulations for the use of timber. for permissible stresses etc. see back of this sheet.

For the purpose of computing loads on joists between binders or other supports, the su per imposed loading shall be taken as not less than that specified in Table I.

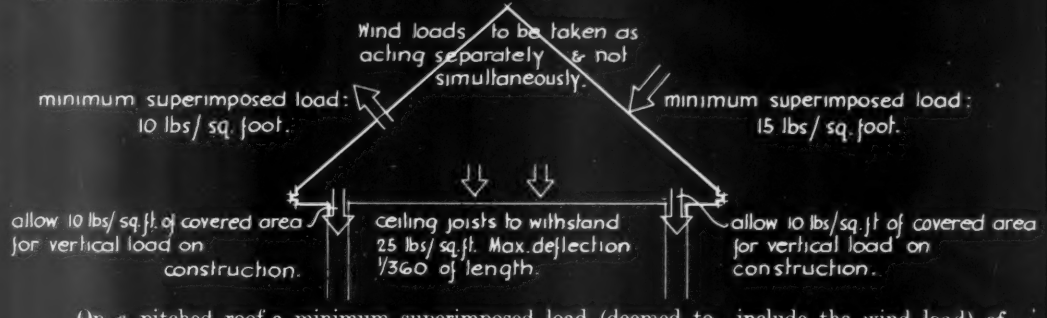
For the purpose of computing loads on binders and other constructions supporting joists the superimposed loading shall be taken as not less than that specified in Table I.

TABLE I.

Use of floor.	Superimposed loading in pounds per square foot of floor area.	
	On joists between binders or other supports.	On binders and other supporting constructions.
Rooms used for residential purposes	40	40
Offices, floors above entrance floor	80	50
Offices, entrance floor and floors below entrance floor, retail shops and garages for private cars of not more than two-and-one-quarter tons net weight ...	90	80
Corridors, stairs and landings	100	100
Workshops and factories, garages for motor vehicles other than private cars of not more than two-and-one-quarter tons net weight.	Loading to be provided for to be ascertained to the satisfaction of the district surveyor but not less than :— 150	120
Warehouses, book stores. stationery stores and the like	Loading to be provided for to be ascertained to the satisfaction of the district surveyor but not less than :— 200	200
Any purpose not herein specified...	Loading to be provided for to be ascertained to the satisfaction of the district surveyor.	

A superimposed load which may roll or move on wheels shall be calculated as being equivalent to a static loading which exceeds the weight of the rolling or moving load by not less than 50 per cent. Provided however that this requirement shall not apply to motor vehicles in garages.

The superimposed loading on joists, firring and other constructions between binders, trusses and other main supports in a flat roof shall be taken as being not less than 50 lbs. per square foot of the horizontal area covered, and on binders, trusses and other main supports, not less than 30 lbs. per square foot of such area.



On a pitched roof a minimum superimposed load (deemed to include the wind load) of 15 lbs. per square foot of surface shall be assumed acting normal to the surface inwards on the windward side, and 10 lbs. per square foot of surface acting separately and not simultaneously outwards on the leeward side. This requirement shall apply only in the design of the roof construction, and a vertical superimposed load of 10 lbs. per square foot of covered area shall be substituted for it in estimating the vertical superimposed roof load upon all other parts of the construction.

Ceiling joists shall be of a calculated strength and stiffness sufficient to withstand a superimposed load of twenty-five pounds per square foot of ceiling area without deflecting (when so loaded) more than one three-hundred-and-sixtieth of the length of such joists.

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 724 •

TIMBER CONSTRUCTION

Subject : The Calculation of Sizes of Timber Members

The table and printed matter on this Sheet and the quotations given below are taken from the *bye-laws made by the London County Council in pursuance of the London Building Act (Amendment) Act, 1935, for the use of timber in the construction and conversion of buildings*, which came into force in 1938, and to which reference should be made for the full text.

The bye-laws are in four sections and a schedule.

SECTION I.—*Requirements for all timbers.*
This section deals mainly with the application of the bye-laws, quality of timber, minimum thickness and joints.

SECTION II.—*Rules for calculations when the sizes and spacing of timbers are not determined under Section 3.*
This section is that given on this Sheet, and sets out the loads which must be allowed and the maximum stresses which are permitted when full computations are made.

SECTION III.—*Rules for the determination of the size and spacing of timbers when loads and stresses are not calculated under Section 2.*
This section sets out methods of determining sizes and spacing of timbers without full calculations.

SECTION IV.—*General.*
This section deals mainly with notices and penalties and the duties of the district surveyor.

SCHEDULE.—The schedule deals mainly with the measurement of grain and knots and with the grading rules for "grade 1,200 lb. f." timber.

SECTION 2.

Rules for calculations when the sizes and spacing of timbers are not determined under Section 3.

For the purpose of calculating dead loading the weight of materials shall be taken as set forth in British Standard Specification (Schedule of Unit Weights of Building Materials) numbered 648-1935, or if not set forth in that Specification, shall be ascertained to the satisfaction of the district surveyor.

For the purpose of determining the required thickness of floor boards and boarding to flat roofs, the superimposed loading shall be taken as not less than 200 lbs. per square foot of the horizontal area covered.

The stresses in timber shall not exceed those set out in Tables II and III following :—

TABLE II.

Nature of stress	*Maximum stress in lbs. per square inch.* Non-graded.	Grade 1,200 lbs. f.
Extreme fibre stress in bending ...	800	1,200
Shear stress in the direction of the grain	90	100
Compression perpendicular to the grain	165	325
Compression in the direction of the grain in posts and struts having a slenderness ratio not exceeding 10...	800	1,000
Tension in the direction of the grain	800	1,200
Modulus of elasticity	1,200,000	1,600,000

When a post or strut has a slenderness ratio exceeding 10, the compressive stress in the direction of the grain shall not exceed the maximum pressure set out opposite the slenderness ratio in Table III following :—

TABLE III.

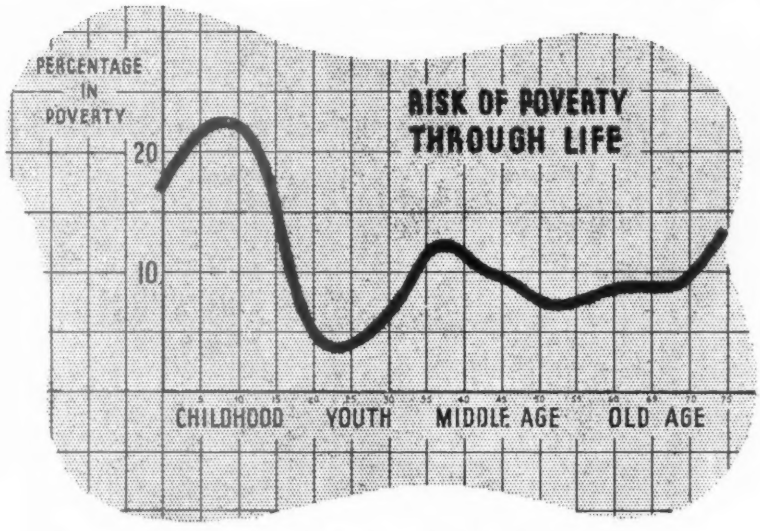
Slenderness ratio.	*Maximum pressure in lbs. per square inch.* Non-graded.	Grade 1,200 lb. f.
Exceeding 10 but not exceeding 12	785	985
" 12 " " 14	775	970
" 14 " " 16	755	950
" 16 " " 18	725	920
" 18 " " 20	690	875
" 20 " " 22	635	820
" 22 " " 24	565	745
" 24 " " 26	485	650
" 26 " " 28	420	600
" 28 " " 30	365	485
" 30 " " 32	320	430
" 32 " " 34	285	380
" 34 " " 36	255	340
" 35 " " 38	225	300
" 38 " " 40	205	275

The slenderness ratio of any post or strut shall not exceed forty.

When a post or strut is subject to bending action in addition to axial loading, such post or strut shall be of a section sufficient to withstand such bending action in addition to the axial load.

A beam or cantilever (which for the purpose of this bye-law shall be deemed to include a binder, joist, purlin, rafter, floor board, and boarding to flat roofs), shall be of such dimensions that the calculated deflection of such beam under the proper loading shall not exceed one-three-hundred-and-sixtieth of its length.

SECTION 3.—The methods laid down for determining size and spacing of timbers without full calculations are dealt with in two succeeding Information Sheets.



Reproduced from the cover of "The Standard of Living in Bristol" reviewed on this page.

BOOKS

RECENT ENGLISH PAINTING

[*By HERBERT GRIMSDITCH*]

Modern Painting in England. By Mary Chamot. Country Life, Ltd. Price 10s. 6d. net.

THERE is an abundance of books about modern French painting, and this is easily explained by the fecundity in genius and the variety in practice that have obtained in France over a period of some sixty or eighty years. Recent English painting has been less well served, no doubt because of a natural feeling that it had less native originality than the French ; yet there was room for a survey, and Miss Chamot has provided it. One point she might have made, but did not, is our indubitable supremacy in the field of water-colour. In this matter we need take off our hats to no other country ; so why be too modest about it?

Miss Chamot's scheme takes in painting alone, and one must appreciate the fact that her aim was not to bring out a long book. At the same time the exclusion of the other graphic arts forces her to neglect some of our strongest artists. Stephen Gooden, for example, is probably the most polished and finished living line engraver. (George Moore, in his sweeping way, once called him "the greatest living British artist") ; John Platt need fear no rival in colour woodcutting ; while etchers like Malcolm Osborne and James McBey are supreme in their kind.

However, the book is about painting, and it behoves us to inquire whether its scope is satisfactory and its conclusions just. Miss Chamot's selection of names is, on the whole, an extremely good one. There are surprising omissions—for example, those two fine Scottish painters, J. D. Fergusson and S. J. Peploe, though both appear in the Biographical Index with which the book concludes. The same is true of Robert Greenham, one of the most original of our younger figure painters. Yet no book on this scale (about 100 quarto pages) would be likely to satisfy every critic on this point of comprehensiveness. Miss Chamot writes in a direct, pleasing style, without verbosity or pretentious mannerism ; and an art critic of whom that can be said is welcome in our midst. Her analysis of individual techniques and current movements is highly intelligent, but, like the late Frank Rutter, she is at her best when she is praising.

There are some contentious judgments, of course, but of how many surveys of the fine arts could this not be said? Augustus John gets his full ration of praise, which no serious observer would deny him ; but Miss Chamot seems to have some odd quirk of prejudice about Sargent and Orpen. Of Sargent she writes : "No artist has ever been more completely at the mercy of his sitter for the success or failure of the portrait"—an astonishing dictum on the most penetrative character-portraitist of our times. Orpen's portraits are put in a lower class than his conversation pieces. McBey and Brangwyn, two of our most remarkable and original artists, are rather briefly dismissed. And while Miss Chamot is quite right to become lyrical over Steer's water-colours, she is quite wrong in saying that "no other artist can even approach him in this sphere." Connard can, at his best ; and why the silence about Russell Flint, whose technical virtuosity in water-colour is the envy and despair of every young painter? Is it, perchance, because the poor man happens to be an R.A. ?

It is hard, indeed, to escape the suspicion of the *parti pris* in this matter. In actual fact, as this pen has often contended elsewhere, it is a shallow and partial view that condemns the whole Academy, lock, stock and barrel. That institution has many and manifest faults, and includes some very bad painters ; but readers of this JOURNAL will not be slow in thinking of many others, who are none the worse because they preserve a certain continuity in tradition. Miss Chamot has an obvious predilection for "abstract" art, and is inclined to exaggerate its present vogue and influence. The newest painters have worked through that phase and are everywhere returning to "representation," with their sense of design usefully sharpened and disciplined by the efforts of the experimental period.

The illustrations are plentiful and good. Some sub-editing should be done if it is intended to re-issue the book. "Violet storm" (for "violent"), "Carolus Durand" (for Carolus-Duran), "National Art Collection Fund" (for "National Art-Collections Fund") are a few patent errors.

BRISTOL

The Standard of Living in Bristol. By Herbert Tout. Bristol : J. W. Arrowsmith, Ltd. Price 1s. net.

A SHORT meaty booklet, first fruits of the Social Survey of Bristol which has been proceeding for some two years.

"In a prosperous town at a moment of general prosperity" (the summer of 1937) there were some 40,000 people in actual poverty. The children's position is the worst, for one working-class child in five comes from a home unable to afford it a fair start in life (see page 37 and graph on front cover).

Good research work, and a clear and interesting report.

P. M.

BUILDING—A CAREER

Building as a Career. By Edgar Lucas, A.I.A.A. Pitman. Price 3s. 6d.

THIS little handbook does not set out to show the short cuts to business success, or "How to be a Builder in Six Months"—it is simply a concise survey of the building industry of today—its organization, its different trades, the qualifications needed, and the prospects which it holds out. There is a complete list of the various examinations, and the best methods of training are fully discussed.

It is written in the rather breezy manner of a school chaplain—there is even something about the divine by-laws and the disapproval notice of the Great Surveyor. But in general it is a practical book full of sound advice and useful information for the student.

Pitmans presumably know what they are up to, but I should have thought that the book would have found a wider public, had it been published

less elaborately and at a cheaper price. Three-and-six is a lot to pay in these days for something which is little more than a pamphlet.

H. C.

CASTLES

[*By HUGH CASSON*]

Castles. By Sidney Toy. Heinemann. Price 25s.

IN his preface to this book the author writes that his object has been to trace the art of fortification from earliest times to the sixteenth century. Earliest times is a good way back, and many remains exist (at Babylon, Mycenæ and Tiryus for instance) which date from 1600–1200 B.C., and with the rise of the Romans, military architecture became still more highly developed.

After them, there was a halt in progress until the eleventh and twelfth centuries. During these years an incessant series of pilgrimages, crusades and military expeditions crossed to and fro over Europe and the Levant. On these journeys (like on the sketching tours of the nineteenth century) hints were picked up and quickly applied to home defence. Mr. Toy points out, for instance, that it was not until after the third crusade that the trick of building round instead of square keeps was adopted from the army engineers of the Levant.

Military architecture was thus the first to create an "international style," as it was dependent on military strategy which developed in all countries along similar lines. There were, of course, variations created by site, climate and local materials, but in general, progress was uniform.

For this reason the author has not confined himself, but has dealt with the whole of Europe and the Levant. He explains the uses of battlements, keeps and gate-houses. He describes the siege operations and engines of the day, and the methods of defence employed against them. The result is a comprehensive and authoritative book, which has grown from considerable investigation and research. It is generously illustrated with admirably clear plans and sections, and some not very imaginative photographs.

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BOOKS RECEIVED

Safety in the Construction and Use of Lifts. International Labour Office, Geneva. P. S. King and Son. Price 6s.

Architecture. By W. R. Lethaby. Second Revised Edition by W. S. Purchon. Thornton Butterworth. Price 2s. 6d.

LIBERAL JEWISH

BY FELIX ASCHER IN ASSOCIATION WITH ROBERT FRIEDMANN

PROBLEM—*A synagogue for the Liberal Jewish Community of Hamburg, won in competition by Felix Ascher, and built just before 1933.*

SITE—*In the tree-bordered Oberstrasse not far from the Alster.*

CONSTRUCTION—*Steel frame with R.C. floors. External panel walls are of brick finished in 2-in. thick stone in alternate deep and narrow courses. The flat roofs are R.C., finished with bitumen sheeting and gravel.*

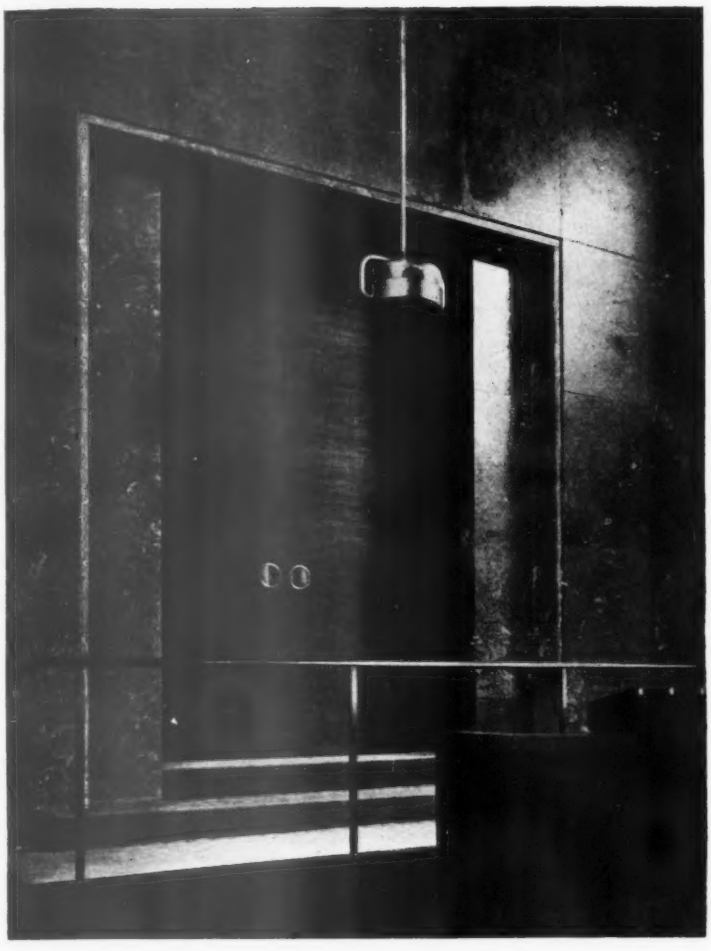
Above and below, a detail and general view of the front to the Oberstrasse.

On the facing page is a detail of the women's gallery in the large Temple. Seating is in light stained pine ; walls are rough plaster ; the floor finish is linoleum. The ceiling is also of pine, painted.

SYNAGOGUE AT HAMBURG

A general view of the large Temple. Seating is of light stained pine, and walls of rough and smooth plaster. The altar is of ebony and rosewood, and the sanctuary wall is of black-grey marble with an inscription in bronze.

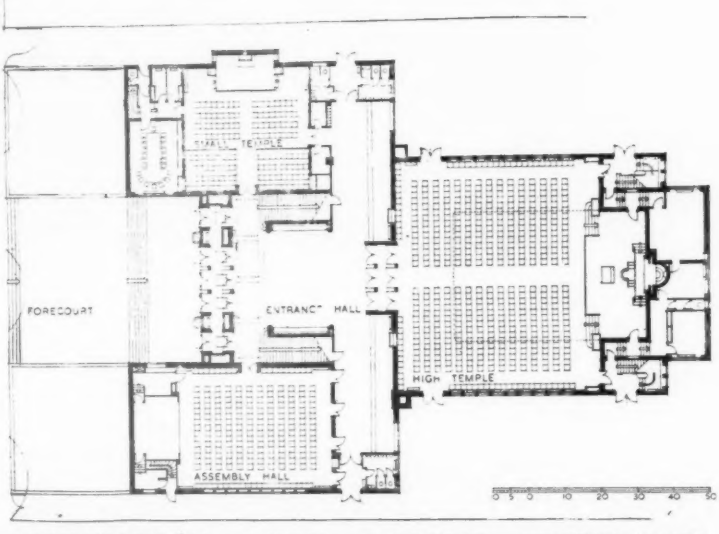
LIBERAL JEWISH SYNAGOGUE AT HAMBURG • BY FELIX ASCHER,



Above is a detail of the doors to the shrine behind the high altar.

PLAN—*The plan consists of four main units : the large Temple, a smaller Temple for use during the week, an assembly hall and lecture room, and the foyer. The large Temple seats 600 men at ground level and 600 women in the gallery.*

Cloakroom and lavatory accommodation is generous, as services last all day at certain periods. A meeting-room for elders, a choir room and Rabbi's room are also provided.



ASSOCIATION WITH ROBERT FRIEDMANN

LAW REPORTS

RIGHT TO EXHIBIT ADVERTISEMENT SIGNS

Taylor v. *Cocchi.—King's Bench Division. Before Lord Justice du Parcq*

THIS action related to the rights to exhibit signs on the exterior wall of a building. It was brought by Mr. Cyril Richard Taylor, of Archway Road, Highgate, against Mr. P. Cocchi, of the same address, claiming damages in respect of the removal of certain advertisement signs on the outside walls of the first and second floors of No. 2 Archway Road, Highgate.

Mr. Astill Burt, for the plaintiff, said his client was the tenant of the first and second floors, where he carried on the business of a travel agent. He used the wall to advertise his business and had the consent of his landlord and superior lessor to do so. His case was that in breach of the agreement the defendant had removed the advertisements and had refused to put them back. Plaintiff had had the signs there for some years and defendant, he argued, had waived any right to object. Under these circumstances, the plaintiff claimed damages.

Mr. Granville Sharp, for the defendant, said his case was a denial that defendant had assented to the continuance of the advertisements, that they were unauthorised and a breach of plaintiff's covenant. His submission was that defendant lawfully revoked his permission for the exhibition of the advertisements and that therefore he was not liable for damages. By a counterclaim defendant claimed damages from the plaintiff for alleged trespass on his roof and injury to the walls due to fixing the signs.

His lordship, in giving judgment, said he came to the conclusion that the signs were never lawfully on the premises. Owing to the agreements between the parties the legal position, however, was uncertain. He did think that when the defendant removed the signs to repair the walls he intended to restore them at a later date. This he had failed to do when he found he was in a strong legal position. The result was that the plaintiff was entitled to damages for defendant's failure to adhere to his bargain. He assessed the damages at £25, and gave judgment for plaintiff for that sum, with costs, and dismissed the counterclaim.

ALLEGED GUARANTEE

Wiggins-Sankey, Ltd. v. *Line and Others — King's Bench Division. Before Mr. Justice Cassels*

THIS was an action by Messrs. Wiggins-Sankey, Ltd., builders' merchants, of Lysia Street, Fulham, against the defendants, Messrs. Albert Stanley Line, Ernest Geo. Payne, and Percy Ellis Smith, of Dickins Road, Leamington Spa, Warwick, to recover the sum of £1,288 as the price of building materials supplied to a company called Crawley Sussex, Ltd., of which, at all material times, it was alleged the defendants were directors.

In the alternative the plaintiffs claimed a declaration that they were entitled to be indemnified by each of the defendants against any loss which they might sustain by reason of the non-payment of the price of the materials supplied to the Crawley Sussex company, who at the time was carrying on extensive building operations on an estate at Crawley. The plaintiffs alleged that the defendants and each of them were, respectively, engaged in the direction and management of such operations. Plaintiffs also said that prior to September 21, 1937, it was in contemplation of all the parties

that plaintiffs should supply to the Crawley company large quantities of building materials for the purpose of the building operations, but the plaintiffs were not willing to give credit for the price of such materials to the company. Accordingly, on September 21, 1937, an interview took place in the building manager's office on the estate between representatives of the plaintiffs and the defendants, when plaintiffs alleged it was orally agreed between the two representatives that in consideration of the plaintiffs supplying the materials to the company, the defendants and each of them would pay, or cause to be paid to the plaintiffs, the price of such goods.

In the alternative the plaintiffs pleaded that the defendants and each of them orally warranted that there was no danger that plaintiffs would not be paid the price of the goods, and in pursuance of that agreement the plaintiffs supplied goods to the company. By a letter dated January 10, 1938, defendants refused to pay the plaintiffs and repudiated the agreement.

In December, 1937, Crawley Sussex, Ltd., went into liquidation, and in the events which had happened the plaintiffs brought the present action against the defendants.

The defence pleaded a denial of the alleged agreement, or that the defendants had ever orally warranted that there was no danger or possibility that plaintiffs would not be paid. Defendants further pleaded that if such an agreement were made (which was denied) it constituted a guarantee, in which case there was no memorandum in writing thereof sufficient to satisfy the Statute of Frauds.

Mr. J. L. S. Hale appeared for the plaintiffs, and Mr. Norman Winning for the defendants.

His lordship, after hearing the evidence, gave judgment for the defendants, with costs, holding that plaintiffs had not proved the contract which they had endeavoured to put forward.

IS AN OPEN SHOPFRONT A WINDOW?

Maynards, Ltd. v. *Adams.—Chancery Division. Before Mr. Justice Simonds*

THIS action gave rise to a decision of some importance as to whether or not an open shopfront is a shop window within the meaning of a window in a lease.

Maynards, Ltd., confectioners and tobacconists, are the owners of 539 and 537 Green Lanes, Harringay, and at 539 they carry on business as confectioners and tobacconists. They granted Mr. C. A. Adams a 21 years' lease of the adjoining premises, with a covenant restricting the use of them for a hairdresser's business only.

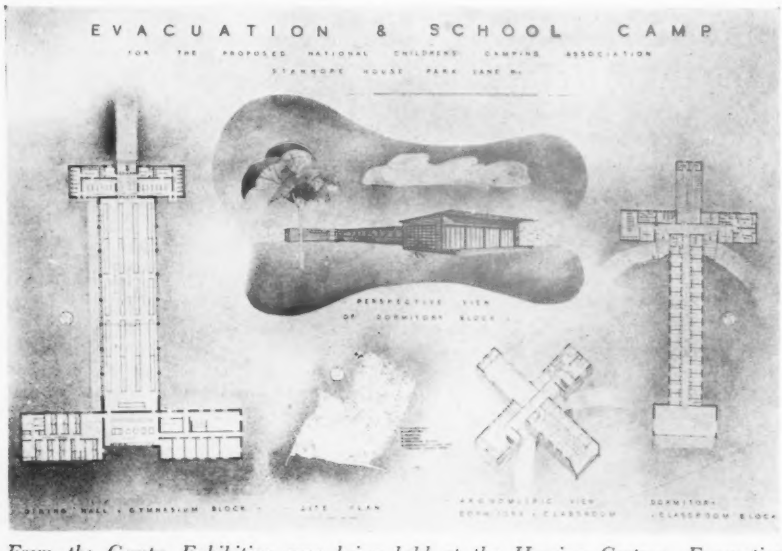
Mr. A. Grant, K.C., for plaintiffs, stated defendant asked if he could sell tobacco, cigarettes, etc., and plaintiffs consented on condition that the window and outside showcase of plaintiffs' premises were solely used for the display of toilet preparations, scent, etc. Defendant had now committed a breach of the covenant in that he was displaying and selling cigarettes, tobacco, etc., in an open shopfront he had had constructed in his shop.

Mr. Grant said his contention was, whether the shopfront was glazed or unglazed, it was a window within the covenant of his lease, and therefore plaintiffs were entitled to an injunction and to damages.

Mr. S. T. Drew, architect and surveyor, said the definition of window was accepted by the profession as being an opening to admit light and air to premises.

Mr. Vaisey, K.C., for the defence, contended that an open front was not a window. Here all his client had done was to have an opening in his shopfront and put a counter there from which he sold tobacco and cigarettes from shelves around. It was impossible to say, he contended, that this was a shop window, or that the defendant had infringed the lease and licence granted to him by his landlord.

His lordship, after further argument, in giving judgment, said he had not the least doubt that this open shopfront was a window and nothing else. It was admitted that it was fitted with a counter, with cigarettes and tobacco displayed so as to attract the public. Under these circumstances it was impossible to say that this was not a shop window. There was a clear breach of the agreement, and he granted an injunction restraining the defendant from using the window or showcase for any other purpose than the display of things connected with his trade. Plaintiffs had suffered damages from the defendant's action, and there would be an inquiry. The defendant would have to pay the costs of the action.



From the Camps Exhibition now being held at the Housing Centre: Evacuation and School Camp for the proposed National Children's Camping Association. By Marianne Loehberg in association with S. T. Curtis.

Notes from the Building Research Station on*

CONCRETE FLOORING

SINCE 1935, eighty-seven enquiries have been received at the Building Research Station on difficulties experienced with concrete floors, indicating that the subject is of sufficient importance to justify the issue of a note. A comprehensive investigation of concrete floors has not yet been made in this country, though certain researches into the effect of hardeners, and on the bonding of new concrete to old, throw light upon some aspects of the problem. In America the subject has been studied more directly and comprehensively, and in the present note advantage is taken of this experimental work in its bearing on the problems which arise in practice.

Analysis of the enquiries received reveals that the defects complained of can be divided under several heads :—

1 : Lifting, warping and cracking ..	25
2 : Dusting	32
3 : Slipperiness	9
4 : A variety of other defects, such as general disintegration, sweating, etc.	21

It should be observed that the above summary excludes a considerable group of enquiries dealing with injuries from various forms of chemical attack, such as by vegetable oils, sugar and sugary substances and dairy products, and of which no account will be taken in the present note. And of the troubles taken for the purposes of the above analysis, and which may be described broadly as being of mechanical or physical origin, there will be discussed only those of lifting, warping or cracking, and dusting, which the analysis shows to be the principal problem with concrete floors.

LIFTING, WARPING AND CRACKING

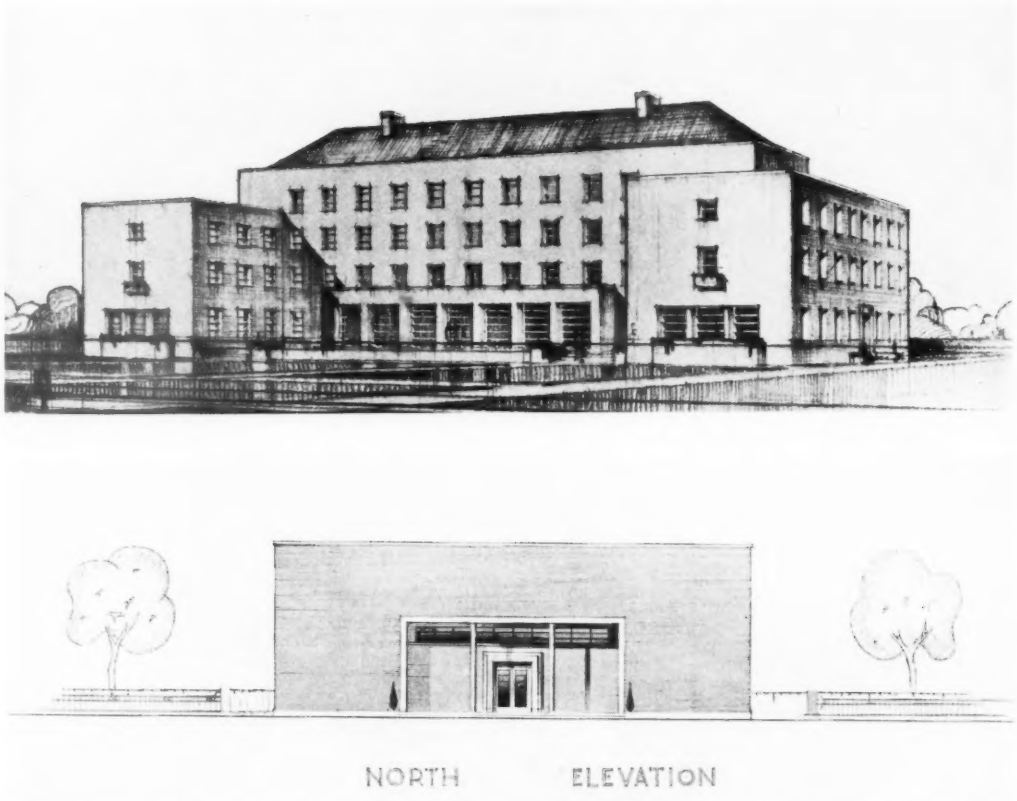
The fundamental cause of lifting, warping and cracking is the difference in shrinkage properties of the surfacing and the base to which it is applied. Concrete wearing surfaces are invariably richer than the base, the usual specification being 2 parts of cement to 5 parts of granite chippings.† The usual mix for structural concrete, on the other hand, is 1 part of cement to 2 parts of sand and 3 or 4 of coarse aggregate. Concrete shrinks as it dries, and experiment shows that very rich mixes—and a surfacing must be described as such—have higher shrinkage than lean, so that there is always some tendency for differential movement between a granite topping and the base.

If a topping is applied to a structural concrete which has hardened and dried there is then a marked differential shrinkage, for the whole of the shrinkage of the topping has to take place with respect to a base which has reached approximately its final dimensions. A further factor which enters is that the shrinkage of the structural concrete may be restrained by reinforcement when this is used, which also tends to increase the differential movement between topping and base. If a concrete floor surfacing is applied to the structural concrete before the latter has taken its final set there is little risk of lifting. But this hardly provides a solution to the problem : the immediate application of a surfacing involves serious interference with the usual course of building operations, and it is necessary to arrive at a specification which will ensure reasonably satisfactory results in a structure which is some weeks or months old. Nevertheless, where arrangements can be made for the topping to follow the structural concrete immediately, a better result, from the point of view of adhesion, may be expected.

1 : ADHESION

The shrinkage of a concrete topping tends to cause a parting at the plane of contact between

† The term granite is not used here in its strict geological meaning, but covers any hard aggregate suitable for flooring, such as quartzite.



Two schemes awarded first prizes in the Manchester Society of Architects' Students' competitions. Top, Senior design prize, by John Wilkins; bottom, Junior design prize, by Frederick B. Scholfield. The winners are students of the Manchester Municipal School of Art.

the surfacing and the structural concrete. This tendency can be minimized by :—

(*a*) Improving the adhesion of the two concretes.

(*b*) Reducing the shrinkage of the topping.

Examination of cases of cracking and lifting in floors indicates that poor adhesion is the chief cause of trouble and it is in this direction that improvement is principally to be sought, but beneficial modifications could also be made in regard to (*b*) above.

The strength of adhesion between concretes of different compositions has been studied by N. Davey, and the results of numerous experiments were given in a Building Research Special Report, "Construction Joints in Concrete : Bonding New Concrete to Old."* Methods have been developed whereby a new concrete can be bonded to old concrete of similar composition so effectively that the joint is as strong as the concrete on either side. The best procedure involves :—

1 : Chipping and wire-brushing the old surface.
2 : Moistening the concrete.
3 : Application of a grout.
4 : Application first of a rich, then of a normal mix of cement mortar.

In this way a gradation of the materials in the joint is effected and differential shrinkage is reduced. This procedure is too elaborate for use in flooring work, but one of its most important features, namely, the use of a neat cement grout, is already widely adopted.

One of the facts which emerged is that it is difficult to secure good adhesion of a rich granite concrete to ordinary ballast concrete when the latter is mature. Test pieces of 1 : 2 : 3 gravel concrete were prepared, and 2 : 5 granite concrete was immediately joined on. Other specimens of ballast concrete were kept for 28 days before the granite concrete was added, but then the surface of the old concrete was grouted with neat cement. Comparative tests were made on ballast concrete joined to concrete of the same composition. The following results were obtained :—

	Strength of Adhesion (expressed as percentages of best joint strength) Per cent.
Gravel concrete (1 : 2 : 3) joined to fresh gravel concrete	98
Gravel concrete joined to old gravel concrete	83
Granite concrete (2 : 5) joined to fresh gravel concrete	100†
Granite concrete joined to old gravel concrete	40

The figures show that the bond strength of granite concrete applied to matured ballast concrete is much less than the best attainable, but it is probable that if a value approaching this bond strength were obtained in practice lifting of surfacings would be rare. Unfortunately there are other important influences which still further impair the rather poor bond. Amongst these may be mentioned :—

Laitance.—Structural concrete in floors, especially if placed rather wet, often has a layer, $\frac{1}{16}$ in.-$\frac{1}{8}$ in. thick, of laitance, consisting of cement and excess water, silt from the aggregate and other impurities in the concrete. The laitance layer can reduce bond strength by one-half.

Surface Contaminations.—Concrete floors which are not immediately surfaced quickly become coated with a thin layer of dirt and clay carried in by foot traffic and frequently with other impurities such as plaster, oil, etc. A surface so contaminated may appear quite firm, when dry, but is quite unsuitable to receive a granite concrete topping. It must be emphasized that the application of a grout to such a surface does little to improve the conditions, for though the topping and grout may adhere perfectly the grout will be pulled clean away from the loose surface beneath, as has been found in a number of cases investigated.

Proper preparation of a concrete base to receive a granite concrete surfacing involves cleaning the base so thoroughly that a hard, strong, but rough, surface is exposed which is capable of restraining the shrinkage of the topping. A committee of the American Concrete Institute who recently reported the results of some very comprehensive investigations into concrete flooring‡ gave a schedule of labour costs for laying 1,000 sq. ft. of surfacing, as follows :—

	$
Preparing the base (roughening and cleaning) : 32 man-hours, common labour	20.80
Laying two coats and finishing : 12 man-hours, skilled labour ; 27 man-hours common labour	32.55
Curing : 3 man-hours, common labour	1.95
	55.30

or nearly 40 per cent. labour costs on preparation of the base. The fact that this part of the work often receives but perfunctory attention is undoubtedly responsible for a great deal of trouble.

2 : OTHER FACTORS INFLUENCING LIFTING

The attempt to reduce shrinkage of concrete topping must be made with caution, but improvements are certainly possible, in the following directions :—

(*a*) *Richness of Mix.* The standard mix for floors is undoubtedly unduly rich. Nevertheless, if the aggregate is not clean and well graded, it would be unwise to reduce the cement content otherwise the cement paste will be weak and the floor will wear badly. If, on the other hand,

* The practical conclusions from the research mentioned are given in succinct form in Bulletin No. 9 *Bonding New Concrete to Old*, Price 3d. net. H.M. Stationery Office.

† The best joint strength is about half that of a specimen of monolithic ballast concrete.

‡ Journal of the American Concrete Institute, Volume 10 [No. 1] page 21, September, 1938.

the aggregate is thoroughly clean and well graded, there is no reason why the aggregate content should not be increased to 1 : 3. Granite chippings which are clean but deficient in finer grades could be improved by the addition of *clean coarse* sand in the following proportions :—

1 cement.
1 sand.
2 granite.

A harsh grade of chippings, together with clean sand would, it is thought, lead to better results than a rather fine crushed aggregate containing an excess of dust. The results of the American tests favour the use of rather coarse chippings, ⅜ in.-⅛ in., together with sand, ⅛ in. down, which contains not more than 15 per cent. passing a 50 sieve. These aggregates are combined in the proportions :—

1 cement.
1½ sand.
2 coarse aggregate.

A specification framed on these general lines deserves careful consideration.

(*b*) *Water Content.* Shrinkage will be increased by the use of excessive amounts of mixing water. Flooring mixes should therefore be laid as stiff as practicable. This point is also referred to under "Dusting" below, this being a defect which also is much influenced by water content.

DUSTING

It is not uncommonly found that when concrete floors are first subjected to traffic, a considerable amount of dust is formed by the rapid wearing of the surface. This effect can be extremely objectionable in factories where delicate machinery is used or where foodstuffs or photographic materials are handled. Examination of a floor which is dusting reveals the presence of a thin surface layer of soft material, overlying the hard granite concrete beneath.

The formation of this layer is in part due to the nature of the aggregate used, in part due to workmanship.

In a concrete mix there is always a tendency for the large aggregate to sink, while water, fine cement particles, clayey matter in sand, or granite dust rise to the surface. The trowelling of a concrete floor merely smoothes and consolidates this laitance layer which then forms the surface of the floor. As it consists of fine cement particles, clay and dust and contains no hard aggregate, its poor wearing properties are not surprising. The appearance of a floor in which considerable laitance has formed, but which has been skilfully trowelled is generally deceptively good, but if the traffic is heavy the surface film quickly wears away until the hard, strong granite concrete, which is capable of resisting wear, is exposed.

An understanding of the nature of the dusting layer at once indicates the precautions which must be taken to avoid trouble. Several factors which have been enumerated as important from the point of view of cracking and loss of adhesion are important in this connection also.

(*a*) *Water Content.* Laitance is encouraged by the use of excessively wet mixes. Concrete for flooring should be laid as stiff as possible consistent (1) with good adhesion to the base, and (2) satisfactory consolidation. Mixes of sloppy consistence, trowelled while still very soft are particularly liable to dust.

(*b*) *Aggregate.* The aggregate used should be free from dust and clayey matter, which are constituents of laitance.

With the object of producing a very smooth finish—or in order to speed up the finishing of a floor which has been laid very wet—the practice is sometimes adopted of sprinkling the surface with neat cement. This causes dusting, and is therefore to be deprecated.

The stage at which a floor is trowelled seems to influence the liability to dusting. Evidently it is desirable that there should be as little trowelling as possible, consistent with the production of a smooth surface, for trowelling encourages the formation of a laitance layer. The coarse granite fragments constitute the essential wear-resisting element in the floor, and these should be kept as close to the surface as possible. The American committee, whose work has already been referred to, suggest the following procedure : The floor having been laid as stiff as possible, the surface is immediately floated to a compact and smooth surface. It is then allowed to stand for not less than 30 to 45 minutes. Trowelling is not begun until pressure with the finger ceases to make any indentation. This is essentially similar to the practice adopted by experienced floor layers in this country with the object of obtaining the required smooth finish without encouraging laitance. (Some modification of the procedure will be required where heavy dressings of carborundum have to be incorporated, or where a surface hardened by the incorporation of iron particles is applied. The above suggestions relate to the non-surfaced type of granite concrete floor.)

As soon as the surface is hard enough it should be covered, either by waterproof paper, or by damp sand or sawdust to prevent evaporation. Curing in this way for from four to seven days should not only minimize the risk of dusting, but also ensure that the full thickness of the topping attains a good degree of strength before it is subjected to traffic.

SURFACE HARDENING TREATMENTS

It is now quite common to apply a surface-hardening treatment to floors either to stop dusting which is already occurring, or initially, as a general precaution, to improve the immediate abrasion-resistance of the floor.

Two classes of substances are used :—

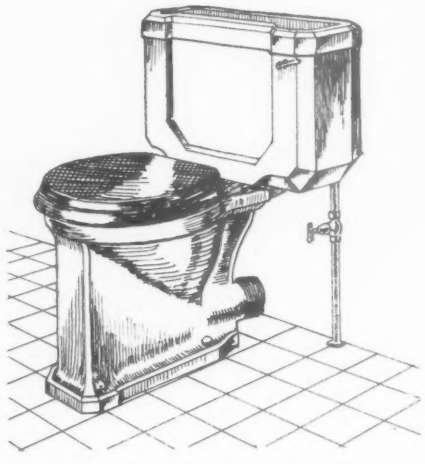
1 : Water solutions of silicates, silicofluorides, etc.

2 : Oils or solutions of oils in spirit.

Of the former class sodium silicate (water-glass) is the best known. A special grade is sold for floor hardening and it is the usual practice to make several applications of a weak solution, with intervals for drying. This treatment is generally effective. Silicofluorides are also used. Zinc sulphate and aluminium sulphate also have a hardening effect. The latter has been found, in laboratory tests, to be particularly powerful in its effect, but the Station has no experience of its use in practice.

The second class of treatments consists in the application of drying oils, of the kind used as paint media, either in the form of the plain oil, or mixed with an equal part of turpentine or white spirit. The thinned oil will have the greater penetration power. Linseed oil, either raw or boiled, and tung oil (china-wood oil) have all been found effective.

The solutions required for floor hardening can either be prepared on the job, using (*a*) the appropriate grade of sodium silicate, diluted with water, or (*b*) oil, plain or thinned, or they may be purchased ready for use since there are a number of proprietary preparations in which substances in one of the two classes mentioned form the essential constituent and these may be found convenient in practice as avoiding the necessity of making up solutions on the site.

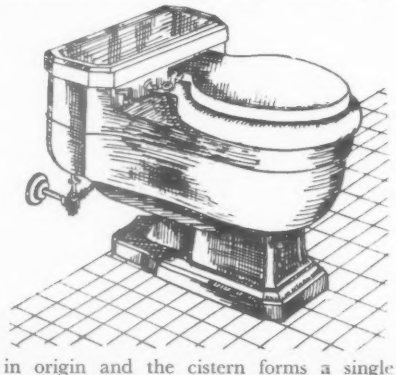


TRADE NOTES

[*By PHILIP SCHOLBERG*]

W.C. Cisterns

IT is only during the last few years that the low-down type of flushing cistern has become more or less accepted in practice. It has the undoubted advantage of greater silence, but rather more water is needed to give an adequate flush than with the older, elevated type, and there is liable to be a certain amount of mild opposition from water boards in districts where supplies are at all limited, while others just don't like them for no reason at all, after the manner of water boards. The sketch at the head of these notes shows a low-level tank and w.c. made by Edward Johns. This is a free-standing unit and no wall attachment is necessary, a point which makes fixing easy and which also, incidentally, means that there is no sound transmission through the wall if w.c.s are planned, as they so often are, back to back in adjoining flats. This type is marketed under the trade name of "Universia." The sketch below shows what is probably the final stage of the low-down idea. This design is American



in origin and the cistern forms a single unit with the bowl of the w.c. In this country it would no doubt be severely

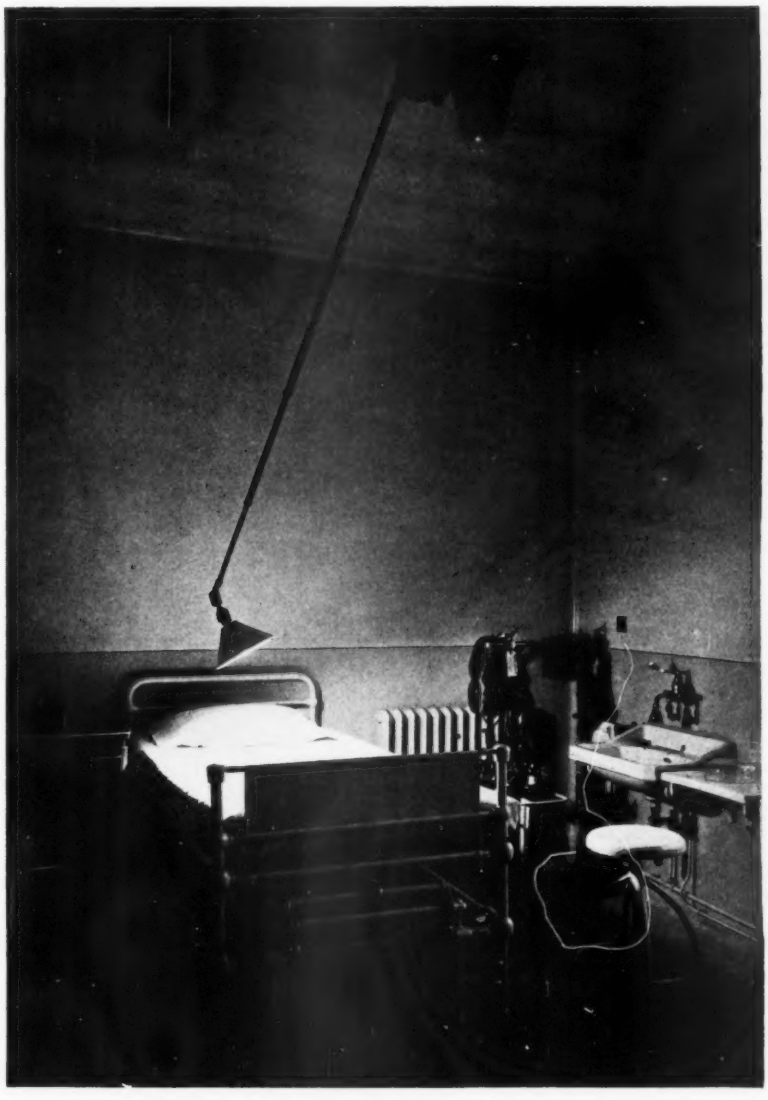
frowned upon by water boards who have very stringent ideas about the possibility of contamination of the main water supply, even when it would seem, judged by normal standards, to be virtually impossible. The American design is not, so far as I know, available here, but it could presumably be used in the London area on large jobs having their own supply from artesian wells or in country houses having independent sources of water. American standards of plumbing are generally regarded as being exceptionally high, and in spite of the now notorious but carefully hushed-up affair during the Century of Progress Exhibition at Chicago, the fittings themselves may be taken as satisfactory, even though the sewage disposal system may sometimes be inadequate. It is rather unlikely that this extreme design will ever find a ready sale in this country, and we may therefore assume that the Edward Johns' unit represents very nearly the final stage.—(*Edward Johns & Co., Ltd., Armitage, near Rugeley, Staffs.*)

Repairing Gas and Water Mains

The gas companies have various methods for isolating damaged mains, and I believe that they generally use a rubber bag rather like a football bladder, which can be inserted through a small hole drilled in the damaged main and then inflated until it forms a plug and prevents the passage of gas. This method is only suitable for the very low pressures usual in gas mains, and water companies are reduced to a series of stop valves at judicious intervals. Whatever methods are used for cutting off the supply, there remains the question of repairs, and the Victaulic Company has just put forward a scheme for high-speed repairs if the mains should be damaged by bombs. This firm has for many years been making flexible pipe joints which they suggest are the solution to the difficulty if a bomb has fallen over the main and left a large crater which cannot be bridged, the only alternative being to take the main round the edge. The standard Victaulic joint can be made in about two minutes and allows a certain amount of flexibility, which does not affect its leak-tightness. The bends can be swivelled while the joints are being made and each joint can carry the full end load. The broken ends of the existing main are connected up by means of a special closer which is made extra long to deal with the jagged ends which will almost certainly be made in a cast-iron main. Special screws are provided for holding this fitting against the end load. The firm suggests that repairs could be made with an almost standardized assembly consisting of 12-ft. lengths of piping coupled with bends and elbows which could be swivelled about to cover almost any possible bomb crater. —(*The Victaulic Co., Ltd., King's Buildings, Dean Stanley Street, Millbank, London, S.W.1.*)

Drink More Milk

Most of the refrigerator firms have already standardized models for cooling milk in milk bars during the summer, and Radiation, Ltd., have now evolved a gas-fired milk warmer. The standard model is arranged to take up to thirty bottles of one-third pint size, and the temperature is thermostatically controlled so that the appliance more or less looks after itself. Below the warming unit is a separate cupboard which will take 96 one-third pint bottles and keep them warm if the upper heating unit is full. The price of the milk warmer is £11, with a further £6 15s. for the warming cabinet underneath. The design is simple and straightforward and well up to the standard which we have now come to expect in gas cookers. Looking at this unit one thinks instinctively of ordinary milk bars, but it is, of course, equally suitable for schools and canteens.—(*Radiation, Ltd., 15 Grosvenor Place, London, S.W.1.*)



The lighting fitting described below.

Lighting Fittings

The illustration on this page shows a lighting fitting which is Swedish in origin and has been on the market there for some years, and the English agency for which has now been taken over by a London firm. Two standard models are made, one with a minimum length of 4 ft. 8 in., and a maximum extended length of 10 ft. 2 in., the corresponding figures for the short fitting being 2 ft. 11 in. and 4 ft. 11 in. Fixed to the ceiling the lamp may be raised and lowered or swung in a horizontal circle, and the arm is also telescopic so that a good light intensity would be available almost anywhere in a comparatively small room, while for hospital use it seems almost perfect for general examinations. The vertical ceiling hinge is frictionally controlled, and adjustment is by means of a large sensible butterfly nut, so that after a certain amount of wear has taken place there is no need to hunt for the usual two pairs of pliers which no house ever possesses. The flex runs inside the telescopic arms and is coiled on a spring loaded drum at the ceiling to allow for the telescoping of the arm. The flex is rubber covered so that faults are not likely to develop, and particular care has been taken to earth the the whole fitting from end to end by means of sliding contacts so that it conforms in every way to present regulations. Prices, finished in white enamel and nickel plate, are £6 15s. and £6 5s. for the two models, grey enamel being 10s. less. I add, almost with resentment, that the English agents are the inevitable Troughton and Young, who always seem to be somewhere at the back of designs like this. I almost wish that some other firms would show a little more enterprise, for this particular fitting has been, as I have already said, available in Sweden for some time. It has to my certain knowledge been shown to at least two firms of electrical suppliers who remained quite uninterested and left it to

the present suppliers, who thus get all the credit.—(*Troughton and Young, Ltd., 143 Knightsbridge, London, S.W.1.*)

The Economy of Brick

Bulletin No. 13 from the Clay Products Technical Bureau of Great Britain makes a reasonable case for the use of brick on multi-storey buildings up to six floors in height, and the buildings illustrated are of various fairly representative types, including schools and hospitals, though the majority are flat blocks. It is perhaps a little unfortunate that it was not possible to obtain examples for which cost figures with alternative forms of construction had been worked out, but at Eyre Court and Eresby House, both large flat blocks by T. P. Bennett and Son, the saving due to brick construction was in one instance 1d. per foot cube, and in the other 1½d. Apart altogether from its virtues in the reduction of sound transmission, there is at the moment an additional argument in favour of brick, for the available supplies are virtually unlimited and there is comparatively little variation in price. Steel, thanks to the armament programme, can mean quite considerable delays, and if a few odd lengths are needed later on in a job, it is often found that the price has taken quite a surprising jump.—(*Clay Products Technical Bureau of Great Britain, 19 Hobart Place, Eaton Square, London, S.W.1.*)

Lamp Standards

I have been following with some interest the correspondence in this JOURNAL on the question of bending moments in lamp standards. No doubt "R. A. M." is perfectly right in his analysis, but I should have thought that the static load due to the weight of the arm and the lamp would be quite insignificant compared with the wind load, and that lamp-posts were thus designed purely to stand up and without very much eye on their weight-carrying abilities. Hence the applied fruit and gilded municipal eagles probably make very little difference. Since somebody is sure to take this as a plea for the streamlining of lamp-posts, may I point out that the wind is only too liable to change its direction.

Laundry Machinery

Two or three weeks ago I referred to Messrs. D. and J. Tullis, of Glasgow, who were making laundry machinery a good many years before most of us were born. They reproach me slightly for suggesting that institutions such as hospitals only use the smaller type of machinery, and tell me that in practice the heaviest type of plant is used.—(*D. and J. Tullis, Ltd., Clydebank, Scotland.*)

IDEAL HOME EXHIBITION

The *Daily Mail* Ideal Home Exhibition opened at Earls Court on Tuesday of last week. It will remain open until May 6. Following are some notes on the principal exhibits :

A selection of books published by the Architectural Press is on view on a stand adjoining the All-Europe House, designed by Miss Elizabeth Denby.

•

A full range of Aga heat storage cookers is on view on the stand (No. 111) of Aga Heat, Ltd. The Aga automatic boiler for domestic hot water and radiators is also exhibited.

Ascot Gas Water Heaters Ltd.'s stand (No. 115) has been designed by Mr. Rodney Thomas, A.R.I.B.A. On view is a full range of Ascot instantaneous gas water heaters in operation, Ascot multi-point heaters, Ascot bath water heaters, and Ascot sink water heaters.

•

The exhibits of Berry's Electric, Ltd. (Stand No. 88), include Magicoal fires and fires of the Haloberry series, in which radiant heat is combined with decorative illumination, and a new colour-changing fireplace, the Chameleon.

•

From a large range of sunshine rooms and garden shelters, two have been selected for the stand (No. 151) of Boulton and Paul, Ltd., the one of traditional type with span roof forming an attractive gable, and the other of carefully designed modern character.

•

Bratt Colbran, Ltd., are exhibiting (Stand No. 119) a comprehensive range of their products, which includes several new designs.

•

The British Electrical Development Association's stands (Nos. 85 and 89) demonstrate the public service of electricity supply. By means of working exhibits visitors are able to secure direct information concerning the economic, hygienic and labour-saving advantages of electric methods of cooking, water heating, heating, refrigerating, cleaning and a score of other domestic services.

•

Paul Rotha's film of the Gas Industry called "New Worlds for Old" is being shown by the British Gas Federation on their stand on the first floor of the Exhibition.

•

Candy & Co., Ltd., display, on Stand 108, their Devon fires in faience and tiles which can be supplied in colours to harmonize with any scheme of decoration. A fireplace in unglazed red with a hard, smooth and easily washable surface is also included.

•

The Cement and Concrete Association's exhibit (Stand 149) takes the form of an A.R.P. shelter. The shelter shown is that which has received approval as being most likely to meet the requirements of the average family.

•

The stand of the Coal Utilization Council is organized to provide information on the use of solid fuels (coal, anthracite and coke) for domestic and central heating purposes, and to demonstrate their advantages when used under modern conditions.

•

The display of Messrs. W. H. Colt (London), Ltd., comprises a Kentish oast house on which Colt shingles are used for both roof and walls. In addition there is a comprehensive and interesting display of the uses of Colt Canadian cedar wood shingles. There is also a continuously running cinema showing the fixing of this roofing material.

•

Crane, Ltd. (on Stand 125), show a comprehensive range of their Ipswich and Carlton domestic boilers, including the new Nos. 00 and 01 Ipswich and the New Carlton.

•

Dunlop Rubber Co., Ltd., have on view (Stand No. 13) their Dunlopillo mattresses, Dunlopillo cushioning for lounge furniture upholstery, Dunlopillo cushioning for window seating, cosy corners, motor boats, caravans, etc.

•

Esse heat storage cookers and water heaters, including the Esse Fairy for smaller households, are being shown by the Esse Cooker Co., on Stand 113. On the same stand, Smith and Wellstood, Ltd., display Esse anthracite heating stoves, including the new B.J. Esse heaters.

Single- and multi-point gas water heaters are prominently displayed by Ewart and Son, Ltd., on Stand 118.

•

Firth-Vickers Stainless Steels, Ltd., manufacturers of the Staybrite super rustless steel, and Firth stainless steel for cutlery, have again concentrated in Staybrite house an extensive range of domestic articles, fabricated from their steels. The main groups of exhibits under the auspices of Firth-Vickers Stainless Steels, Ltd., are on the stands of Messrs. Selfridge & Co., Ltd., and The London Metal Warehouses, Ltd. The stand houses an Information Bureau, where details relating to the manufacture and use of articles made from the various stainless and heat-resisting steels may be obtained.

•

The 1939 line of Frigidaire electric refrigerators, of which the complete range is exhibited by Frigidaire, Ltd. (Stand 213), includes a model for every home. All models incorporate such exclusive convenience features as eleven-point cold control, permitting extra fast freezing of ice cubes and ice cream; automatic reset defroster; automatic ice tray release, wherein the hardest frozen ice trays can be removed with a finger touch; porcelain interior with all corners rounded and an acid resisting finish, etc.

•

A complete range of the products of W. H. Gaze and Sons, Ltd., is on view on Stand No. 181.

•

Various models from the Haleo Junior range of automatic gravity feed boilers for central heating and domestic hot water supply are being shown by Hall Boilers, Ltd., on Stand 97.

•

Solon resin-cored solder is on view on the stand of W. T. Henley's Telegraph Works Co., Ltd. This solder is ideal for domestic use as it contains its own flux. It is produced in the form of a tube of alloy with a pure resin filling providing the correct quantity of non-corrosive flux. It conforms to British Standard Specification 441 (Grade F, 13 S.W.G. 50 per cent. lead 50 per cent. tin) and is sold in 6d. reels or 1-lb. and 7-lb. coils packed in cartons.

•

The exhibit (Stand 102) of the Ideal Boilers and Radiators, Ltd., comprises boilers and radiators for Ideal central heating, and Ideal domestic boilers for hot water supply. There are also displayed Ideal gas boilers, including the popular Ideal gas boilers for automatic hot water supply, the Ideal Cookanheat, Ideal towel rails in chromium and nickel plated finish and other Ideal accessories. Also on view are two complete bathrooms for the exhibition of standard sanitary appliances. Included are cast iron porcelain enamelled baths, and also lavatories, w.c. suites, etc., made from Ideal vitreous china.

•

Imperial Chemical Industries, Ltd., display and demonstrate Velanprufe fabrics, materials which are claimed to be water-repellent and stain-resistant and do not lose these valuable properties after washing and dry-cleaning, on Stand No. 513.

•

Loft Ladders, Ltd., are exhibiting (Stand No. 175) disappearing loft ladders, with novel methods of counter-balance, obviating the use of weights, together with fire-escape ladders, extending ladders and household steps.

•

Pilkington Bros., Ltd. (stand No. 190) is specially designed to assist those with only a very modest income in applying Vitrolite in the most attractive and suitable way to some of the essential features in the home, in which, for hygienic reasons alone, it is claimed by the firm to be the most appropriate material.

Phurnod smokeless coal for all types of hot-water boilers and closed heating stoves, also for central heating plants, magazine boilers, etc., is being exhibited by Powell Duffryn Associated Collieries, Ltd., on Stand 123.

•

A complete range of gas appliances for domestic and industrial cooking, heating and hot water production is on view on the stand (No. 120) of Radiation, Ltd.

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Practical examples of the pleasing and permanent results of Ronuk, Ltd.'s system of staining and polishing all kinds of flooring and other interior woodwork are being shown on Stand No. 50.

MANCHESTER BUILDING TRADES EXHIBITION

The Annual Manchester Building Trades Exhibition is now being held in the City Hall, Deansgate, Manchester. It will remain open until Saturday, April 29.

•

The stand of the Accrington Brick Co. has been designed by Messrs. Harry Fairhurst and Sons, and incorporates several of the firm's products.

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Gunmetal and brass work, including many samples of Brownall fittings for light-gauge copper pipes, are being shown by Donald Brown (Brownall), Ltd.

•

The Thermovent electric convectors shown on the stand of E. K. Cole, Ltd., are unusual for the use of a patented "duct-within-a-duct" construction, which keeps the outer surfaces at a temperature no higher than room air, yet enables the heater to be kept remarkably compact.

•

Various uses of Colt Canadian wood shingles are displayed by Messrs. W. H. Colt, Ltd.

•

Century hand-made clay roofing tiles are featured by Messrs. Colthurst, Symons & Co., Ltd. Their latest design, the Bambino tile, is also on view.

•

A comprehensive range of cooking and heating appliances is being displayed by the Eagle Range and Grate Co., Ltd.

•

A special feature of the stand of J. Gerrard and Sons is a selection of photographs displaying the many kinds of work carried out by them during the past seventy-five years.

•

The stand of F. Hills and Sons, Ltd., has been specially designed to incorporate their flush doors, which are finished with the new Mædian veneer.

•

The exhibits of Henry Hope and Sons, Ltd., include: standard metal windows and doors, four types of pressed metal door, hardware and rainwater heads in lead and cast iron, etc.

•

The principal feature of the Limmer and Trinidad Lake Asphalt Co., Ltd., is a series of exhibits showing the resistance of asphalt to incendiary bombs.

•

M. McCarthy and Sons, Ltd.'s stand displays examples of their high quality white facing bricks (S.P.W. brand).

•

Demonstrations of woodworking machinery of all types are being given on the stand of John Pickles and Son (Engineers), Ltd.

•

The Rawlplug Co., Ltd., show a complete range of fixing devices for all purposes. Exhibits introduced since last year include: Rawlplug screw anchors and rawldrives. The screw anchor is a metal flange plug for exterior and interior fixing to brick, concrete, stone, cement, marble, etc., and is produced to meet a demand for an anchor made of metal that would resist climatic conditions and overcome prejudices against non-metallic fixings, without sacrificing the advantages of resiliency associated with fibre Rawlplugs.

•

Stainless steel fittings, including door furniture, handrails and footrails, and sinks and sink units are being displayed by the Taylor Rustless Fittings Co., Ltd.

•

A complete range of the products of Turners Asbestos Cement Co. (Branch of Turner and Newall, Ltd.) is on view on their stand.

•

Examples of decorative metalwork in 20 per cent. nickel silver are on view on the stand of Henry Wiggin & Co., Ltd.

THE BUILDINGS ILLUSTRATED

METROPOLITAN POLICE SECTION HOUSE, BLACKHEATH ROAD, S.E. (pages 644-647). Architects: Horace Farquharson and Donald H. McMorran. General contractors: J. W. Falkner and Sons, Ltd., who were also responsible for the foundation work. Sub-contractors and suppliers included: Galbraith Bros., Ltd., general contractors for superstructure; D. Anderson and Sons, Ltd., roof insulation; Bostwick Gate and Shutter Co., Ltd., collapsible gates; Bratt Colbran, Ltd., fireplace interior; E. R. Broadbent, stone carving; C. Butterfield & Co., flagstaff; Camden Tile and Mosaic Co., Ltd., and Carter & Co. (London), Ltd., floor and wall tiling; J. Clark and Son, Ltd., glazing; Cork Insulation Co., Ltd., wall tiling; Educational Supply Association, Ltd., sliding door gear; S. W. Farmer and Son, Ltd., wrought iron balustrading; G. N. Haden and Sons, Ltd., panel warming installation; Hammond and Champness, Ltd., electric passenger lift; Kingsmill Metal Co., Ltd., bronze balustrading; Lawford Asphalte Co., Ltd., asphalt roofing; W. and R. Leggott, Ltd., ironmongery; Luxfer, Ltd., lantern lights; McDowall Steven & Co., Ltd., cooking apparatus; Manu-Marble Co., wall tiling; Eric Munday, lettering; Nobel Chemical Finishes, Ltd., paint and distemper; Northwick Brick and Tile Co., Ltd., facing bricks; R. E. Pearse & Co., Ltd., steel casements; Royde and Tucker, Ltd., sash pulleys and chains; South Metropolitan Gas Co., Ltd., cooking apparatus; Stitson, White & Co., Ltd., hot water installation, plumbing and sanitary work; Synchronome Co., Ltd., electric clocks; W. A. Telling, Ltd., plastering; Vigers Bros., Ltd., oak and maple flooring; Waring, Withers and Chadwick, Ltd., electrical installation; J. Wood, Ltd., rubber and linoleum flooring; Abbey Building Supplies Co., Ankortite fittings; Bull Motors, Bull super silent motors.

•

In our issue for April 13 we omitted to state that A. Edmonds and Co., Ltd., were the general contractors of the Kardomah Café, Market Street, Manchester.

The name of Joseph Sankey and Sons, Ltd., was inadvertently omitted from the list of sub-contractors and suppliers for Finsbury Square House, illustrated in our issue for April 13. They supplied the internal windows throughout the building.

BUILDING NEWS

LONDON

BETHNAL GREEN. *Tenements.* The B.C. is to erect tenements in Digby Street at a cost of £9,348.

DEPTFORD. *Warehouse, etc.* Plans passed by the B.C.: Warehouse, Creekside, for Mr. G. T. Harman; extensions, Trafalgar Works, Croft Street, for Mr. P. B. Dannatt; additions, Victoria Works, Grove Street, for Messrs. F. Braby & Co., Ltd.; rebuilding 33–35 Lewisham High Road, for Mr. H. A. Scrase; parsonage house, Reginald Road, for Mr. C. M. Oldrid Scott.

GREENWICH. *Tenements.* The B.C. is to erect tenements in Coldbath Street at a cost of £24,500.

LEWISHAM. *Flats, etc.* Plans passed by the B.C.: 15 flats, Thorpewood Avenue, Sydenham, Mr. M. Joseph; shops and flats, Brockley Rise, next St. German's Road, Messrs. Pearsons; shops and flats, Kangley Bridge Road, Sydenham, Giddings and Haswell; flats, Bromley Hill, Mr. J. N. Aylwin; cinema, Southend Lane, Sydenham, T. Spencer Bright & Co; shops and flats, Grove Park Station Bridge, Mr. R. Ward; 44 houses, Catford Park Estate, and 78 houses, The Hall Park Estate, Catford, Wates, Ltd.; 54 flats, Lee Church Street, Mr. H. T. Cadbury-Brown; two houses, 33 Mayow Road, Sydenham, Mr. R. G. Covell; club, Old Bromley Road, Mr. A. H. Taylor.

SOUTHGATE. *Flats.* Plans passed by the Corporation: 14 flats, Limes Avenue, Miss S. M. Cooper; house, corner Stonehall Road, Mr. E. Lewis; 32 maisonettes, Orchid Road, Mr. C. E. O. Ward; seven houses, Heddon Court Avenue, Cockfosters, Mr. F. W. Walker; shop and maisonette over, 96 Chase Side, Marshall and Tweedy; two houses, 21 and 22 Telford Road, Mr. F. F. Tomlin; two houses, 5 and 9 Leys Gardens, Cockfosters, Mr. G. W. Newman; four houses, Waterfall Road, J. Farrer and Sons.

PROVINCES

ABERGAVENNY. *Swimming Pool.* The Corporation is to construct an open-air swimming pool.

BEXHILL. *Senior School.* The Bexhill Education Committee is to obtain tenders for the erection of a senior school.

BEXHILL. *Houses, etc.* Plans passed by the Corporation: Two bungalows, 47 and 48 First Avenue, Mile Oak Estates, Ltd.; two houses, St. George's Road, Mr. S. A. Skinner; two bungalows, Thorne Crescent, Mr. R. W. Moore; house, Barnhorn Road, Mr. J. E. Maynard; two bungalows, 37 and 39 Newlands Avenue, Mr. R. A. Larkin.

BRADFORD. *Houses.* The Corporation has obtained sanction for a loan of £53,160 for the erection of 78 houses on the Birksland estate and 60 on the Broomfields estate.

BRIGHTON. *Alterations, etc.* Plans passed by the Corporation: Alterations and additions, "Live and Let Live," 25 Richmond Street, Tamplin and Son's Brewery, Brighton, Ltd.; alterations, "Grafton Hotel," Marine Parade, Mr. M. R. Raeburn; house, adjoining "Reggio," Ainsworth Avenue, Ovingdean, Guiseppo Brandolino; bungalow, 4 Ivor Road, Wick Estate, Woodingdean, Mr. Charles Taylor; six shops with flats over, Woodbourne Avenue, Withdean Estate East, Patcham, Braybons, Ltd.; four bungalows, Crescent Drive, The Ridgway, Downs Estate, Woodingdean, Alec Ellwood; two houses, 11 and 12 Braybon Avenue, Patcham, Mr. Stanley Owen; two houses, Ainsworth Avenue, Ovingdean, Mr. John Alfred Wheeler; three houses, Ditchling Road, Withdean Estate, T. J. Braybon and Son, Ltd.; rebuilding, 10 and 11 Montague Place, Mr. Maurice Freedman; alterations, 19 Sussex Square, Marquis of Bristol; two bungalows, 7 and 8 Woodbourne Avenue, Withdean Estate East, Patcham, Mr. Wm. H. Soper; four bungalows, Woodbourne Avenue, Patcham, Mr. Edward Homewood; four bungalows, Old Court Close, Withdean Estate East, Patcham, Mr. Edward G. Cornish; ten bungalows, Ladies Mile Road, Patcham, Swordmills Estate; two houses, Gableson Avenue, Dyke Road estate, Patcham, Dyke Road Estates (Brighton), Ltd.; four bungalows, Stoneleigh Avenue, Patcham, Mr. George Swiney; theatre, North Street, Verity and Beverley.

Copies of the loose supplement containing the labour rates for the principal towns and districts throughout the country can be obtained from the JOURNAL, price 2d. to cover postage.

PRICES

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

1. Current Market Prices of Materials, Part I. (published last week)
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.

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

Prices generally remain at about the same level. Such changes as have occurred are marked as indicated below.

O. A. DAVIS, F.S.I.

PART 2

Prices vary according to quality and quantity ordered.

Those given below are average market prices and include delivery in the London area, except where otherwise stated, but do not include overhead charges and profit.

CURRENT MARKET PRICES OF MATERIALS

BY DAVIS AND BELFIELD

JOINER

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

Joinery Timber

				Per standard £ s. d.	Per foot cube s. d.
3″×9″	Scantling	2nd	Archangel	42 0 0	5 1¼
3″×9″	,,	3rd	,, ...	28 10 0	3 5½
●2″×9″	,,	2nd	,, ...	48 10 0	5 10¾
2″×9″	,,	3rd	,, ...	28 10 0	3 5½
●3″×8″	,,	2nd	,, ...	35 10 0	4 3¾
3″×8″	,,	3rd	,, ...	24 0 0	2 11
●2″×8″	,,	2nd	,, ...	39 0 0	4 9
2″×8″	,,	3rd	,, ...	24 0 0	2 11
●3″×7″	,,	2nd	,, ...	35 0 0	4 3
3″×7″	,,	3rd	,, ...	23 10 0	2 10½
●2″×7″	,,	2nd	,, ...	38 10 0	4 8½
2″×7″	,,	3rd	,, ...	23 0 0	2 9½
2″×6″	,,	u/s	,, ...	22 0 0	2 8
1¼″×11″	,,	3rd	,, ...	38 10 0	4 8¼
1¼″×9″	,,	u/s	,, ...	34 10 0	4 2½
1″×9″	,,	2nd	,, ...	47 10 0	5 9½
1″×9″	,,	3rd	,, ...	35 0 0	4 3
1″×11″	,,	2nd	,, ...	50 0 0	6 0¾
1″×11″	,,	3rd	,, ...	39 10 0	4 9½
1¼″×9″	,,	2nd	,, ...	47 10 0	5 9½
1¼″×9″	,,	3rd	, ...	35 10 0	4 3¾
1¼″×11″	,,	2nd	,, ...	50 0 0	6 0¾
1¼″×11″	,,	3rd	,, ...	41 0 0	4 11¾

JOINER—(*continued*)

Flooring

		7/8″	1″	1¼″
Yellow deal, plain edge in batten widths ..	per square	19/9	22/6	●30/–
Ditto, T. & G.	per square	20/3	23/–	●30/6
Ditto, T. & G. narrow widths	per square		●22/–	28/–
T. & G. rift sawn B.C. pine in 4″ widths ..	per square		30/–	42/6
T. & G. random grain, in 4″ widths	per square		18/6	

Wall Linings

Deal Match Boarding :—		
1″ × 6″ T.G.B.	per square	24/–
1″ × 4½″ T.G.V.	per square	23/6
¾″ × 6″ T.G.B.	per square	18/–
¾″ × 4½″ T.G.V.	per square	17/–
⅝″ × 6″ T.G.B.	per square	14/9
⅝″ × 4½″ T.G.V.	per square	13/9
½″ × 4½″ T.G.V.	per square	11/3
Asbestos-Cement :—		
5/32″ Semi-compressed flat building sheets, grey	per yard super	1/5½
3/16″ Ditto	per yard super	1/6½
¼″ Ditto	per yard super	2/2½
½″ Metal reinforced flat building sheets	per yard super	3/8½

Prices are for orders of less than 1 ton and are subject to 5% trade discount.

● **Items marked thus have risen since March 23.**

CURRENT PRICES

BY DAVIS AND BELFIELD

JOINER AND STEEL AND IRONWORKER

JOINER—(*continued*)

Wall Boards :—

¼″ Asbestos-cement wall board (in sheets 8′ 0″ × 4′ 0″, 10′ 0″ × 4′ 0″ and 12′ 0″ × 4′ 0″) under 5,000 feet super per foot super	–/2¾
3/16″ Ditto .. .. per foot super	–/2¼

The following prices are subject to 10 per cent. trade discount :—

Asbestos-cement stipple glazed sheets (in sheets 8′ 0″ × 4′ 0″ and 4′ 0″ × 4′ 0″) .. per yard super	6/6
Ditto, plain white glazed sheets (in sheets 8′ 0″ × 4′ 0″ and 4′ 0″ × 4′ 0″) per yard super	8/6
Marble glazed sheets (in sheets 8′ 0″ × 4′ 0″ and 4′ 0″ × 4′ 0″) .. per yard super	7/–

	300 yards	300–1,000 yards	1,000–2,000 yards	Over 2,000 yards
¼″ Fibre board ..	2/–	*1/10	*1/8	*1/6

	25-75 yards	150–300 yards	600 yards
¾″ Fireproof plaster board per yard super	2/2	1/10	1/6
½″ Ditto .. .. .. per yard super	2/–	1/8	1/4
Joint tape (approx. 250 feet run) per roll	..	..	1/6
Joint filler .. .. per lb.	..	..	–/4

Plywoods :—

	4 m/m	5 m/m	6 m/m	9 m/m	15 m/m
Birch (A) per square	18/9	23/6	—	37/–	—
„ (B) per square	15/6	—	21/–	30/6	43/–
Japanese figured oak (A.A.) per square	33/6	—	39/3	65/–	—
Austrian oak, figured one side, plain oak reverse (A.A.) per square	—	—	86/3	92/6	—
Australian walnut, finely figuredoneside(boards 72″ × 36″) per square			¼″ 67/6	⅜″ 85/–	
Sycamore, figured one side (ditto) per square			75/–	85/–	
Honduras mahogany, figured one side (ditto) per square			75/–	—	
Honduras mahogany, finely figured (boards 84″ × 36″) per square			125/–	—	

Prices are for complete bundles.

Blockboards :—

Alder :—

Thickness		Boards 60″ × 183″	Boards 72″ × 183″
½″	per square	59/3	59/3
5/8″	per square	66/3	66/3
¾″	per square	72/6	72/6
⅞″	per square	79/–	79/–
1″	per square	85/6	85/6
1¼″	per square	99/6	99/6
1½″	per square	114/6	114/6
1¾″	per square	128/–	128/–

Birch :—

Thickness		Boards 60″ × 84″ & 54″ × 72″	Boards 60″ × 140″
½″	per square	43/9	47/3
5/8″	per square	50/–	54/–
¾″	per square	55/3	59/6
⅞″	per square	60/–	64/–
1″	per square	67/6	72/3

Prices are for complete bundles.

Hardwoods

Joinery Quality.

English oak	per foot cube	15/–
American oak (plain)	per foot cube	10/–
„ „ (quartered)	per foot cube	12/–
Australian Silky Oak (plain) ..	per foot cube	11/–
„ „ „ (quartered) ..	per foot cube	12/6
Walnut, European	per foot cube	18/–
Teak, Rangoon	per foot cube	15/–
„ African	per foot cube	12/–

JOINER—(*continued*)

Mahogany, Honduras	per foot cube	13/6
„ „ Cuban	per foot cube	18/–
American whitewood	per foot cube	9/–
Birch	per foot cube	8/–
Cedar (aromatic)	per foot cube	16/–
Japanese oak (plain)	per foot cube	10/–
„ „ (quartered)	per foot cube	12/–
Austrian oak (plain)	per foot cube	10/6
„ „ (quartered)	per foot cube	14/–

Sundries

Slaters or sarking felt	per yard run	–/6
Roofing felt	per yard run	–/8
Bituminous hair felt	per roll	33/–
All rolls 25 yards long by 32″ wide.		
Cork slabs, 1″ thick (3′ 0″ × 1′ 0″)	per foot super	–/4½
„ 2″ thick (3′ 0″ × 1′ 0″)	per foot super	–/8
Slagwool	per cwt. (approx.)	12/–
Building paper in rolls of 100 yards, 1-ply, 60″ wide (B.I.80 and L.G.I.80)	per roll	67/6
Ditto, 2-ply, 60″ wide (B.I.80)	per roll	135/–
Ditto, 2-ply, 60″ wide (B.I.20)	per roll	202/6

"Cabots" Quilt :—(Ex Works Twelve roll lots delivered carr. free.

Double ply ..	per roll 42/–	per half roll	23/6

All rolls 28 yards long by 36″ wide. Special terms for quantities.

Cut steel clasp nails, 1″	per cwt. 29/9	4″	per cwt. 20/9
„ „ floor brads, 2″	„ 20/–	3″	per cwt. 19/6
Bright oval wire nails 1″	„ 29/3	4″	per cwt. 21/3
Scotch glue			per cwt. 65/–

Floor Clips :—

		£ s. d.
*One leg floor clip	per 1,000	7 10 0
*2″ short leg floor clip	per 1,000	7 10 0
*2″ Regular floor clip	per 1,000	7 15 0
*3″ „ „	per 1,000	8 8 0
*2″ Regular ceiling clip	per 1,000	7 15 0
Single leg ceiling clip (7½″)	per 1,000	10 10 0

Special terms for quantities.

STEEL AND IRONWORKER

Steelwork

		£ s. d.
Basis price for rolled steel joists sections 5″ × 3″ to 16″ × 6″, in 10 ft. to 50 ft. lengths	per ton	12 10 0
Extras on above for :—		
9″ × 7″ Section	per ton	0 5 0
4″ × 3″, 5″ × 2½″, 10″ × 8″, 12″ × 8″, 14″ × 8″ and 16″ × 8″ to 20″ × 7½″ sections inclusive	per ton	0 10 0
3″ × 1½″, 3″ × 3″, 4″ × 1¾″, 4½″ × 1¾″ and 24″ × 7½″ sections	per ton	1 0 0
Channels, angles and tees	per ton	13 10 0
Mild steel plates	per ton	13 10 0
Screw bolts	per ton	31 0 0

Fabricated Steelwork

		£ s. d.
Joists cut and fitted	per ton	16 10 0
Stanchions, ordinary sections with riveted caps and bases	per ton	20 0 0
Stanchions, compound	per ton	28 0 0
Plate girders	per ton	24 10 0
Framed roof trusses, 25′ 0″ span	per ton	25 0 0
„ „ „ 60′ 0″ span	per ton	28 0 0

These prices are approximate, and definite quotations should be obtained.

Prime Galvanized Corrugated Iron Sheets

(Ex London Stocks)

	10 cwt. lots £ s. d.	Less quantity £ s. d.
4 to 9 fts. 18 or 20 gauge, 8/3″ corrugations .. .. .. per ton	18 15 0	19 15 0
10 fts. 18 or 20 gauge, 8/3″ corrugations	19 5 0	20 5 0
4 to 9 fts. 22 or 24 gauge, 8/3″ corrugations .. .. .. per ton	19 5 0	20 5 0
10 fts. 22 or 24 gauge, 8/3″ corrugations	19 15 0	20 15 0
4 to 8 fts. 26 gauge, 8/3″ corrugations ..	20 10 0	21 10 0
9 fts. 26 gauge, 8/3″ corrugations ..	21 0 0	22 0 0
10 fts. 26 gauge, 8/3″ corrugations ..	21 10 0	22 0 0

*** Items marked thus have fallen since March 23**

CURRENT PRICES

BY DAVIS AND BELFIELD

PLASTERER, PLUMBER AND INTERNAL PLUMBER

PLASTERER

Plaster and Cement

		1-ton loads	5-ton loads
Sirapite (coarse)	per ton	70/–	64/–
„ (fine)	per ton	78/–	—
Victorite No. 1	per ton	85/–	78/6 } 6-ton
„ No. 2 or non sweat	per ton	80/–	73/6 } loads
Thistle (browning, haired and pink finish)	per ton	70/–	64/–
Thistle (fine)	per ton	78/–	—
Pink plaster	per ton	66/–	—
White plaster	per ton	78/–	—
Keene's pink	per ton	112/6	—
Keene's white	per ton	117/6	—
Super Carbo	per ton	—	47/6 } 4-ton
Carbo-setting	per ton	—	57/6 } loads

		1 ton upwards £ s. d.
Cullamix No. 2 cream (rendering mixture)	per ton	5 10 0
„ No. 3 cream	„ „	per ton 5 10 0
Snowcrete mixture	„ „	per ton 5 5 0

Sundries

Sharp washed sand	per yard cube	8/–
Cow hair	per cwt.	40/–
Goat's hair	per cwt.	55/–
¾″ laths	per bundle	2/–
1″ laths	per bundle	2/4½
Expanded metal lathing, 9′ 0″ × 2′ 0″ ¾″ mesh × 26 gauge	per yard super	–/11
Lath nails (galvanized) 1¼″ × 14 gauge	per cwt.	48/6
„ (bright wire) „ „	per cwt.	27/–

	Less than 150 yds.	Less than 300 yds.	Over 300 yds.
¾″ Plaster board per yard super	1/–	–/11	–/10
1½″ Galvanized nails per lb.	–/5		
Scrim cloth in 100-yard rolls per roll	2/3		

Wall Tiles

Commercial quality.

Ivory, white, etc., glazed 6″ × 6″ × ¼″	per yard super	9/9
Angle beads (1½″ wide)	per yard run	1/2¾
„ „ (1″ „)	per yard run	–/10
Rounded edge tiles	per yard run	2/6½
Coloured enamelled bright glazed, 6″ × 6″ × ¼″	per yard super	14/3
Angle beads (1½″ wide)	per yard run	1/4¾
„ „ (1″ „)	per yard run	–/11½
Rounded edge tiles	per yard run	2/7
Eggshell gloss enamelled, 6″ × 6″ × ¼″	per yard super	15/–
Angle beads (1½″ wide)	per yard run	1/7½
„ „ (1″ „)	per yard run	1/0¾
Rounded edge tiles	per yard run	2/8½

PLUMBER

Lead

3½ lbs. and upwards milled sheet lead in quantities of 5 cwts. and upwards	per cwt.	22/6
Add if cut to sizes	per cwt.	3/–
Lead ternary alloy, No. 2 quality extra over sheet lead	per cwt.	7/–
Allowance for old lead delivered to merchant	per cwt.	13/–

Cast Iron Rainwater Goods (Painted or Unpainted)

The following prices for rainwater pipes and gutters are subject to 20 per cent. trade discount, and the prices of the fittings are subject to 5 per cent. and 20 per cent. trade discount.

Rainwater Pipes

	2″	2½″	3″	3½″	4″	4½″	5″	6″
Round pipes per yard	2/8½	2/9¾	3/7¾	4/0¾	4/9½	6/1¾	7/2½	9/2
Shorts, 2′ 0″, 3′ 0″ and 4′ 0″ extra per yard	–/3¾	–/3¾	–/3¾	–/3¾	–/3¾	–/5	–/5	–/5
Bends each	1/9	2/–	2/6	3/–	3/7	5/–	6/6	8/5
Offsets, 4½″ and 6″ projection each	2/2	2/8	3/–	3/5	4/4	6/3	7/6	9/10
Offsets, 9″ projection each	2/10	3/2	3/9	4/8	5/7	7/6	8/10	11/2
Branches, single each	2/7	3/1	3/9	4/4	5/3	7/6	8/5	13/1
Shoes each	1/6	1/9	2/–	2/8	3/–	4/4	5/5	7/6

PLUMBER—(*continued*)

Square and rectangular pipes.

3″ × 3″	per yard 6/9½
3½″ × 3½″	per yard 8/4
4″ × 2″ or 2½″	per yard 7/4¾
4″ × 3″	per yard 7/4¾
4″ × 4″	per yard 9/0¾
4½″ × 3″	per yard 8/5¼
5″ × 3″ or 3½″	per yard 9/7

Gutters

	3″	3½″	4″	4½″	5″	6″
Half round gutters per yard	1/9¼	2/1	2/1	2/2¼	2/4¾	3/7¾
Shorts 2′ 0″, 3′ 0″ and 4′ 0″ extra per yard	–/2½	–/2½	–/2½	–/2½	–/3¾	–/3¾
Angles and nozzle pieces each	1/5	1/7	1/9	2/–	2/2	3/1
Stop ends each	–/5	–/5	–/7½	–/9	–/10½	1/–
Ogee gutters per yard	2/1	2/3½	2/4¾	2/6	2/9¾	3/10½
Straight back and shorts 2′ 0″, 3′ 0″ and 4′ 0″ extra per yard	–/2½	–/2½	–/2½	–/2½	–/3¾	–/3¾
Angles and nozzle pieces each	1/11	1/11	2/–	2/4	2/8	3/3
Stop ends each	–/6	–/7½	–/9	–/10½	1/–	1/3

Mild Steel Rainwater Goods

The following prices are subject to 12½ per cent. trade discount.

24 Gauge rainwater slip jointed pipes.

	2″	2½″	3″	3½″	4″
Galvanized round pipes with ears per 6′ 0″	2/7½	3/1½	3/9	4/3	4/9
* Painted round pipes with ears per 6′ 0″	2/4½	2/9	3/1½	3/7½	4/–
Painted or galvanized short lengths with ears, extra each	–/6	–/6	–/6	–/6	–/6

18 Gauge Gutters.

	3″	3½″	4″	4½″	5″	6″
Galvanized half round gutters per 6′ 0″	2/–	2/3	2/4½	2/9	3/–	3/7½
Painted half round gutters per 6′ 0″	1/6	1/9	2/–	2/3	2/6	3/–
Painted or galvanized short lengths extra each	–/3	–/3	–/3	–/3	–/3	–/3

Asbestos-Cement Rainwater Goods

The following prices are subject to 12½ per cent. trade discount.

Orders over £30 are subject to 17½ per cent. trade discount.

Rainwater pipes.

Prices are for 6′ 0″ lengths, and 10′ 0″ lengths in 2″, 2½″ and 3″ diameters. Short lengths up to 2′ 0″ are charged as one yard. From 2′ 0″ to 4′ 0″ charged as 1½ yards. From 4′ 0″ to 6′ 0″ charged as 2 yards. Over 6′ 0″ charged as 10′ 0″.

Round pipes.

2″	per yard run 1/10
2½″	per yard run 2/0¾
3″	per yard run 2/5¾
3½″	per yard run 2/11¼
4″	per yard run 3/4¾
4½″	per yard run 4/10¼
5″	per yard run 5/9½
6″	per yard run 7/1¾

Gutters.

Short lengths of gutter up to 2′ 0″ charged as 1 yard; from 2′ 0″ to 4′ 0″ as 1½ yards, and over 4′ 0″ as 2 yards.

	3″	4″	4½″	5″	6″	8″
Half round gutters per yard run	1/3¾	1/6¾	1/7¾	1/11	2/8	3/3½
Ogee gutters per yard run	—	1/11	2/0¾	2/5¾	3/0¼	3/11¼

INTERNAL PLUMBER

Lead pipe in coils, 5 cwts. and upwards	per cwt.	22/–
Lead soil pipe	per cwt.	25/–
Add if ribbon marked	per cwt.	–/3
Lead ternary alloy, No. 2 quality extra over lead pipe	per cwt.	7/–
Plumber's solder	per cwt.	95/–
Tinman's solder	per cwt.	122/–

Drawn lead traps with brass screw eye, 6 lbs.

	1″	1¼″	1½″	2″
S. trap each	1/7	1/10	2/3	3/3
P. trap each	1/5	1/6	1/10	2/8
Extra for 3″ deep seal each	–/6	–/6	–/6	–/6

* Items marked thus have fallen since March 23

CURRENT PRICES

INTERNAL PLUMBER

BY DAVIS AND BELFIELD

INTERNAL PLUMBER—(*continued*)

Screwed and Socketed Steel Tubes and Fittings for Gas, Water and Steam, etc.

Tubes.

		½″	¾″	1″	1¼″	1½″	2″
Tubes 2 ft. long and over	per ft.	–/5½	–/6¾	–/9¼	1/1	1/4½	1/10
Pieces 12″ to 23½″ long	each	1/1	1/5	1/11	2/8	3/4	4/9
Bends	each	–/11	1/2	1/7½	2/7½	3/2	5/2
Fittings.							
Elbows, square ..	each	1/1	1/3	1/6	2/2	2/7	4/3
Elbows, round ..	each	1/2	1/5	1/8	2/4	2/10	4/8
Tees	each	1/3	1/7	1/10	2/6	3/1	5/1
Crosses	each	2/9	3/3	4/1	5/6	6/7	10/6
Sockets, plain ..	each	–/4	–/5	–/6	–/8	–/10½	1/3
Sockets, diminished	each	–/6	–/7	–/9	1/–	1/4	2/–
Flanges	each	1/–	1/2	1/4	1/9	2/–	2/9
Caps	each	–/5	–/6	–/8	1/–	1/3	2/–
Plugs	each	–/4	–/5	–/6	–/8	–/10	1/3

Fittings and flanges and tubes ordered in long random lengths are subject to the following trade discounts :—

	Tubes	Fittings	Flanges
Gas	62½%	53¾%	57½%
Water	58½%	50%	52½%
Steam	56½%	46½%	47½%
Galvanized gas	53½%	46½%	47½%
,, water	48½%	42½%	42½%
,, steam ..	43½%	38½%	37½%

Brasswork. Best Quality

		½″	¾″	1″
Brass screw-down bibcocks, with crutch top, screwed for iron ..	per dozen	33/–	51/–	90/–
Ditto, with screw ferrule ..	per dozen	38/–	57/–	99/–
Chromium plated easy clean screw-down bibcocks, with capstan head lettered, screwed for iron ..	per dozen	54/–	78/–	153/–
Ditto, with screw ferrule ..	per dozen	61/–	88/–	166/–

		Brass Screwdown Stop Cocks with Unions both Ends	Brass Screwdown Stop Cocks with Screwed Ends	Brass Screwdown Stop Cocks with Male Screwed End and Iron Unions
½″	per dozen	44/–	33/–	41/–
¾″	per dozen	65/–	51/–	50/–
1″	per dozen	99/–	83/–	93/–
1¼″	each	13/6	11/9	12/9
1½″	each	21/9	18/6	20/3
2″	each	41/3	38/3	39/–

		½″	¾″	1″
Portsmouth pattern ball valve for low pressure, screwed for iron ..	each	4/1	5/11	12/–
Ditto, with flynut and union ..	each	4/9	6/9	13/6
High pressure ditto, screwed for iron	each	4/1	5/11	12/–
Ditto, with flynut and union ..	each	4/9	6/9	13/6

		2″	2½″	3″	4″
Socket thimble sloping shoulder	per dozen	10/–	13/–	16/–	22/–

		1½″	2″	2½″	3″
Flanged ferrule thimble ..	per dozen	8/–	10/–	14/–	17/5

	½″	¾″	1″	1¼″	1½″	2″
Union joints for lead and iron .. per dozen	8/3	11/3	15/5	28/2	46/9	101/2
Single nut short boiler screws .. per dozen	6/–	9/–	15/–	21/–	33/–	60/–
Double nut boiler screws per dozen	9/–	10/–	16/–	23/–	44/–	69/–
Belfast sink wastes stamped brass with brass plug diameter of outlet 2″ .. .. .. per dozen						19/10

Galvanized Mild Steel Open Top Cisterns riveted with internal angle iron at top and corner plates

The following prices are subject to 15% and 20% trade discount :—

	14-gauge	12-gauge	¼″ plate	5/16″ plate
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
50 gallon capacity each	2 5 11	2 14 5	3 1 7	7 0 8
100 ,, each	3 8 9	4 2 11	4 16 9	9 10 8
200 ,, each	6 6 9	6 19 5	7 18 3	13 1 0
500 ,, each	12 6 0	18 16 1	15 16 3	22 6 9
1,000 ,, each	—	21 9 4	24 19 5	34 15 4

INTERNAL PLUMBER—(*continued*)

Galvanized Hot Water Tanks, fitted with handhole cover.

The following prices are subject to 15% and 20% trade discount :—

Capacity	16-gauge tested to a pressure of 1 lb. per sq. inch = 1⅓ ft. head of water	14-gauge tested to a pressure of 3 lbs. per sq. inch = 4½ ft. head of water	12-gauge tested to a pressure of 7½ lbs. per sq. inch = 10 ft. head of water	¼″ plate tested to a pressure of 10 lbs. per sq. inch = 15 ft. head of water
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
20 gallons each	2 0 3	2 3 11	2 7 8	2 12 9
40 ,, each		3 1 7	3 9 0	3 16 8
		Tested to a pressure of 5 lbs. per sq. inch = 7½ ft. head of water	Tested to a pressure of 7½ lbs. per sq. inch = 10 ft. head of water	
60 ,, each		4 19 3	5 5 5	
80 ,, each			7 5 7	
100 ,, each			8 4 5	

Screwed flanges or bosses

½″	¾″	1″	1¼″	1½″	1¾″	2″	2¼″	
1/8	2/–	2/4	2/11	3/4	3/9	4/8	6/9	Extra per flange or boss.

2½″	3″	3½″	4″	4½″	5″	6″
8/4	14/3	16/9	19/3	26/11	30/1	45/1

Galvanized Hot Water Cylinders, Mild Steel Riveted throughout, without Manhole, with usual number of flanges

The following prices are subject to 15% and 20% trade discount :—

Capacity	16-gauge tested to 5 lbs. pressure = 10 ft. head of water	14-gauge tested to 15 lbs. pressure = 30 ft. head of water	12-gauge tested to 20 lbs. pressure = 40 ft. head of water	¼″ plate tested to 25 lbs. pressure = 50 ft. head of water
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
20 gallons each	1 18 7	2 2 8	2 8 4	2 15 4
40 ,, each	2 10 11	2 16 8	3 6 1	3 15 6
65 ,, each		4 8 7	5 1 8	5 16 1
75 ,, each		5 1 7	5 15 0	6 11 4
85 ,, each			6 10 8	7 11 9
100 ,, each				8 2 5

Cast Iron Soil Pipes and Connections, L.C.C. 5/16″ metal.

The following prices for soil pipes are subject to 20% trade discount, and the prices of the fittings are subject to 20% and 5% trade discount.

	2″	2½″	3″	3½″	4″	5″ ⅛″ metal	6″ ⅛″ metal
Minimum weights in lbs. per 6′ 0″ length	24	30	35	41	46	78	92
Pipes coated or uncoated per yard run	3/10½	4/0¾	4/5¾	5/–	5/8¾	11/8	14/0¾
Double sockets extra each	–/11¼	–/11¼	–/11¼	–/11¼	–/11¼	1/0¼	1/0¼
Short lengths extra 2′, 3′ and 4′ per yard run	–/3¾	–/3¾	–/3¾	–/3¾	–/3¾	–/5	–/5
Single spigot branch cast on pipe .. .. each	4/3	4/5	4/7	4/9	4/11	7/6	9/3
Single socket branch cast on pipe .. .. each	10/9	11/–	11/3	11/6	11/9	16/–	19/–
Bends, standard angles each	3/1	3/5	3/9	4/8	5/3	9/4	12/9
Large radius bends each	4/–	4/4	5/–	6/–	7/–	13/–	16/9
Inspection bends raised flange door, 4 gunmetal bolts .. .. each	16/1	16/11	17/9	18/8	19/3	31/10	36/6
Swannecks 4½″ and 6″ projection .. .. each	3/9	4/4	5/11	6/10	7/11	14/11	20/1
9″ ditto .. .. each	5/–	5/7	6/10	7/11	9/4	17/1	22/10
12″ ditto .. .. each	5/11	6/10	7/11	9/8	10/7	19/1	27/1
Single branch with two sockets. T pieces. T pieces diminishing two sockets, inverted two sockets.	3/9	4/8	5/7	6/6 each	7/6	15/10	21/8
Parallel branch pieces not exceeding 6″ centres. Y pieces. Anti-syphon branches with curved arm.	4/10	5/11	6/10	7/11 each	8/11	—	—
Double branch pieces, three sockets .. .. each	5/11	7/–	7/11	9/–	10/3	20/3	27/3
Inspection branch pieces double oval access door, 2 gunmetal screws each	12/11	14/–	14/11	16/6	17/9	29/2	36/2
Long branch pieces each	5/–	6/–	7/3	8/6	9/9	19/–	25/–

CURRENT PRICES

BY DAVIS AND BELFIELD

COPPERSMITH AND ZINCWORKER, GLAZIER AND PAINTER

COPPERSMITH AND ZINC WORKER

Copper

Hot rolled copper sheeting in 1 cwt. lots, all gauges to 24 wire gauge	per lb.	-/9½
Copper tube, seamless solid drawn	per lb.	1/0¾
Copper wire, 10 and 12 gauge	per lb.	-/9½
Copper nails, 1" and up	per lb.	-/11

Fittings for Copper Tubes

Compression Type:	½"	¾"	1"	1¼"	1½"	2"	2½"
Straight coupling each	1/1½	1/4½	2/0½	2/8	3/9½	5/7½	14/-
Obtuse elbow each	1/10½	2/2½	3/3	4/1½	7/1½	10/5½	—
Tees .. each	2/1½	2/5½	4/-	5/9½	9/3	13/1½	19/3½
Crosses .. each	3/-	3/4½	5/2½	6/8½	10/11¼	15/3	26/4½
Reducing coupling each	—	1/4½	2/0½	2/8	3/9½	5/7½	14/-
Bends .. each	1/7½	1/11½	2/11	3/8½	6/7½	9/10½	14/1
Brass stop cocks each	3/11½	5/10½	8/7½	15/11½	22/3½	37/8½	—

Extra for Polishing 25%; Chromium plating 50%; Nickel plating and polishing 50%.

Capillary Type							
Straight coupling each	-/7½	-/10½	1/3½	1/8½	2/3½	3/4½	5/9
45° elbow .. each	1/8½	1/8½	2/4½	3/2	4/9	7/1½	11/1
Tees .. each	1/5½	1/7½	2/8	3/11½	5/7½	8/3½	12/8
Crosses .. each	1/10½	2/0½	3/4½	4/9	7/2½	10/6	18/2½
Reducing coupling each	—	-/6½	-/8½	1/0½	1/7	2/9½	4/4½
Bends .. each	1/7	1/11	2/9½	3/9½	5/11½	8/3½	11/10½
Pillar tap connection .. each	1/-	1/5½					

Extra for Polishing 15%; Chromium plating 40%; Nickel plating 27½%.

Zinc

	Quantities of less than 3 cwts.	Quantities of more than 3 cwts.	Quantities of more than 5 cwts.
*Sheet zinc, 10 gauge and up .. per cwt.	32/6	32/-	31/6

	5 sheets and under	12 sheets
8 gauge zinc safe hole perforated sheets, size 8′ 0″ × 3′ 0″ .. per sheet	4/11½	4/2½
7 gauge ditto .. .. per sheet	4/4½	3/9
6 gauge ditto .. .. per sheet	3/11	3/4½

GLAZIER

Sheet Glass cut to size (ordinary glazing quality)

		In squares not exceeding 2 ft.	4 ft.	5 ft.	Over 6 ft.
18 oz. clear sheet ..	per foot super	-/2½	-/2¾	-/3	-/3½
24 oz. ditto	per foot super	-/2¾	-/3¾	-/4	-/4⅝
32 oz. ditto	per foot super	-/4	-/5½	-/6½	-/7⅞
Obscured sheet glass net extra	.. ..	-/1½	-/1½	-/1½	-/1½
⅛" figured rolled glass, white	per foot super	-/6½			
⅛" ditto, normal tints ..	per foot super	-/9½			
Hammered, double rolled, Cathedral white	per foot super	-/6			
Ditto, normal tints ..	per foot super	-/8½			

Thick Drawn Sheet Glass cut to size

	In squares not exceeding 1 ft.	2 ft.	3 ft.	4 ft.	6 ft.	8 ft.
⅛" thick .. per foot super	-/9	-/11	1/-	1/2	1/3	1/5½
¼" thick .. per foot super	-/11	1/-	1/3	1/5	1/7	1/9½

	In squares not exceeding 12 ft.	20 ft.	45 ft.	65 ft.	90 ft.	100 ft.
⅛" thick per foot super	1/5½	1/8	1/8	—	—	—
¼" thick per foot super	1/9½	2/3	2/3	2/6½	2/10½	2/10½

For selected glazing quality add 10 per cent. to the above prices.

British or Foreign Polished Plate Glass cut to size

Ordinary ¼" Substance		Glazing for Glazing Purposes	Selected Glazing Quality	Silvering Quality
In Plates not exceeding				
1 ft. super ..	per foot super	1/1	1/4	1/7
2 ,, ..	per foot super	1/5	1/7	1/10
3 ,, .	per foot super	1/10	2/1	2/6
4 ,, ..	per foot super	2/6	2/9	3/2
6 ,, ..	per foot super	2/9	2/10	3/3
12 ,, ..	per foot super	2/11	3/2	3/8
45 ,, ..	per foot super	3/1	3/10	4/2
65 ,, ..	per foot super	3/4	4/3	4/11

GLAZIER—(*continued*)

British or Foreign Polished Plate Glass cut to size—(contd.)

Ordinary ¼" Substance		Glazing for Glazing Purposes	Selected Glazing Quality	Silvering Quality
In Plates not exceeding				
90 ft. super ..	per foot super	3/7	4/8	5/1
100 ,, ..	per foot super	3/9	4/10	5/4

Plates exceeding 100 ft. super or 160 in. long or 104 in. wide at higher prices.

The usual thickness of polished plate glass is about ¼", but if required of special thickness for glazing purposes add to the above for :—

		Plates up to and including 4 ft. super	All plates over 4 ft. super
⅛" to 5/32" ..	per foot super	-/2	-/4
⅛" to 3/16" exact	per foot super	-/2	-/3
3/16"	per foot super	No extra	-/1½
¼" bare ..	per foot super	,,	-/1¾
¼" exact ..	per foot super	-/2	-/2
5/16" to ⅜" ..	per foot super	No extra	-/4½
⅜" exact ..	per foot super	-/2	-/6

Special quotations should be obtained for other qualities and thicker substances.

Silvering

	Ordinary Quality on Polished Plate, Thick Drawn Sheet, Patent Sheet and Plain Sheet	On Embossed or Decorative Work
12 ft. super or 90 in. long per ft. super	9d.	1/4
20 ft. ,, or 100 in. long per ft. super	10d.	1/4
45 ft. super } or 110 in. long per ft. super	1/-	1/5
50 ft. ,, }	1/0½	1/6
55 ft. ,, } or 120 in. long per ft. super	1/1	1/6½
60 ft. ,, }	1/1½	1/7
65 ft. ,, } or 130 in. long per ft. super	1/2	1/8
70 ft. ,, }	1/3	1/9½
75 ft. ,, } or 140 in. long per ft. super	1/4	1/11
80 ft. ,, }	1/5	2/0½
85 ft. ,, } or 150 in. long per ft. super	1/8	2/5
90 ft. ,, }	1/11	2/9½
95 ft. ,, } or 160 in. long per ft. super	2/2	3/2
100 ft. ,, }	2/5	3/8

For silvering on fluted sheet, figured rolled and cathedral, add 4d. a foot to the prices set out in the first column for polished plate, etc.

Silvering bent glass, double or more, according to bend.

For plates over 100 ft. super add 3d. per ft. super for every 5 ft. or part of same.

Plates over 160 in. long at special rates.

Stripping for re-silvering, add 8d. per ft. super.

Wired Glass Cut to Sizes

¼-in. Georgian rough cast .. .. per ft. super 10d.

	In squares not exceeding 1 ft.	2 ft.	3 ft.	4 ft.
¼-in. Georgian polished plate per ft. super	2/6	2/8	2/10	3/2
	8 ft.	12 ft.	20 ft.	30 ft.
¼-in. Georgian polished plate per ft. super	3/8	3/10	4/2	4/6

Supplied in sizes up to 110 in. long and up to 36 in. wide.

For cutting to allow for wires in adjacent pieces to be "lined up," add 4d. per foot super.

PAINTER

White ceiling distemper	per cwt.	11/6
Washable distemper	per cwt.	60/-
Petrifying liquid	per gallon	4/6
Ready mixed white lead paint (best) 5-cwt. lots, in 14 lb. tins	per cwt.	66/-
White enamel	per gallon	25/-
Aluminium paint	per gallon	20/-
Stiff white lead, genuine English stack process, 1-ton lots, in 1-cwt. kegs ..	per cwt.	49/3
Driers	per cwt.	36/-
Linseed oil raw (5-gallon drums)	per gallon	3/-
,, boiled ,, ,, ...	per gallon	3/3
French polish	per gallon	11/6
Knotting	per gallon	16/-
Oil stain	per gallon	12/-
Varnish, oak	per gallon	10/-
,, copal	per gallon	16/-
,, flat	per gallon	20/-
Turpentine, genuine American, 5-gallon lots	per gallon	3/3
Creosote, 1-gallon lots	per gallon	1/4
Putty	per cwt.	13/-
Size	per firkin	3/6
Best English quality gold leaf, 23 carat ..	per book	2/4½
Extra thick, ditto	per book	3/6

* Items marked thus have fallen since March 23.