THE ARCHITECTS' JOURNAL

standard contents

every issue does not necessarily contain all these contents, but they are the regular features which continually recur.

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★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ie one week, Ig to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

IGE	Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1. Sloane 8266
IHVE	Institution of Heating and Ventilating Engineers. 75, Eaton Place, S.W.1. Sloane 3158/1601
IIBD	Incorporated Institute of British Decorators. Drayton House, Gordon Street, W.C.1. Euston 2450
ILA	Institute of Landscape Architects. 12, Gower Street, W.C.1. Museum 1783
I of Arb.	Institute of Arbitrators. 35/37, Hastings House, 10, Norfolk Street, Strand, W.C.2. Temple Bar 4071
IOB	Institute of Builders. 48, Bedford Square, W.C.1. Museum 7197/5176
IR	Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3. Avenue 6851
IRA	Institute of Registered Architects. 47, Victoria Street, S.W.1. Abbey 6172
ISE	Institution of Structural Engineers. 11, Upper Belgrave Street, S.W.1. Sloane 7128
IWA	Inland Waterways Association. 14, Great James' Street, W.C.2. Chancery 7718
LIDC	Lead Industries Development Council. Eagle House, Jermyn Street, S.W.1. Whitehall 7264/4175
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1. Museum 3891
MARS	Modern Architectural Research Group (English Branch of CIAM) Secretary: Gontran Goulden, Building Centre, 26, Store Street, W.C.1. Museum 5400
MOA	Ministry of Agriculture and Fisheries. 55, Whitehall, S.W.1. Whitehall 3400
MOE	Ministry of Education. Curzon Street House, Curzon Street, W.1. Mayfair 9400
MOH	Ministry of Health. 23, Saville Row, W.1. Regent 8411
MOHLG	Ministry of Housing and Local Government. Whitehall, S.W.1. Whitehall 4300
MOLNS	Ministry of Labour and National Service, 8, St. James' Square, S.W.1. Whitehall 6200
MOS	Ministry of Supply. Shell Mex House, Victoria Embankment, W.C. Gerrard 6933
MOT	Ministry of Transport. Berkeley Square House, Berkeley Square, W.1. Mayfair 9494
MOW	Ministry of Works. Lambeth Bridge House, S.E.1. Reliance 7611
NAMMC	Natural Asphalte Mine-Owners and Manufacturers Council. 94-98, Petty France, S.W.1. Abbey 1010
NAS	National Association of Shopfitters. 9, Victoria Street, S.W.1. Abbey 4813
NBR	National Buildings Record. 37, Onslow Gardens, S.W.7. Kensington 8161
NCBMP	National Council of Building Material Producers, 10, Princes Street, S.W.1. Abbey5111
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1. Langham 4041/4054
NFBTO	National Federation of Building Trades Operatives, Federal House, Cedars Road, Clapham, S.W.4. Macaulay 4451
NFHS	National Federation of Housing Societies. 13, Suffolk St., S.W.1. Whitehall 1693
NHBRC	National House Builders Registration Council. 82, New Cavendish Street, W.1. Langham 4341
NPL	National Physical Laboratory. Head Office, Teddington. Molesey 1380
NSA	National Sawmilling Association. 14, New Bridge Street, E.C.4. City 1476
NSAS	National Smoke Abatement Society. Chandos House, Buckingham Gate, S.W.1. Abbey 1359
NT	National Trust for Places of Historic Interest or Natural Beauty. 42, Queen Anne's Gate, S.W.1. Whitehall 0211
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1. Whitehall 7245
RCA	Reinforced Concrete Association. 94, Petty France, S.W.1. Whitehall 9936
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh. Edinburgh 20396
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1. Langham 5721
RICS	Royal Institution of Chartered Surveyors. 12, Great George St., S.W.1. Whitehall 5322/9242
RFAC	Royal Fine Art Commission. 22A, Queen Anne's Gate, S.W.1. Whitehall 3935
RS	Royal Society. Burlington House. Piccadilly, W.1. Regent 3335
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2. Trafalgar 2366
RSI	Royal Sanitary Institute. 90, Buckingham Palace Road, S.W.1. Sloane 5134
RIB	Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19. Wimbledon 5101
SBPM	Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.1. Victoria 2186
SCR	Society for Cultural Relations with the USSR. 14, Kensington Square, London, W.8. Western 1571
SE	Society of Engineers. 17, Victoria Street, Westminster, S.W.1. Abbey 7244
SFMA	School Furniture Manufacturers' Association. 30, Cornhill, London, E.C.3. Mansion House, 3921
SIA	Structural Insulation Association. 32, Queen Anne Street, W.1, Langham 7616
SIA	Society of Industrial Artists. 7, Woburn Square, W.C.1. Langham 1934
SNHTPC	Scottish National Housing. Town Planning Council. Hon. Sec., Robert Pollock, Town Clerk, Rutherglen.
SPAB	Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C.1. Holborn 2646
TCPA	Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2. Temple Bar 5006
TDA	Timber Development Association. 21, College Hill, E.C.4. City 4771
TPI	Town Planning Institute. 18, Ashley Place, S.W.1. Victoria 8815
TTF	Timber Trades Federation. 75, Cannon Street, E.C.4. City 5040
WDC	War Damage Commission. 6, Carlton House Terrace, S.W.1. Whitehall 4341
ZDA	Zinc Development Association. Lincoln House, Turl Street, Oxford. Oxford 47988

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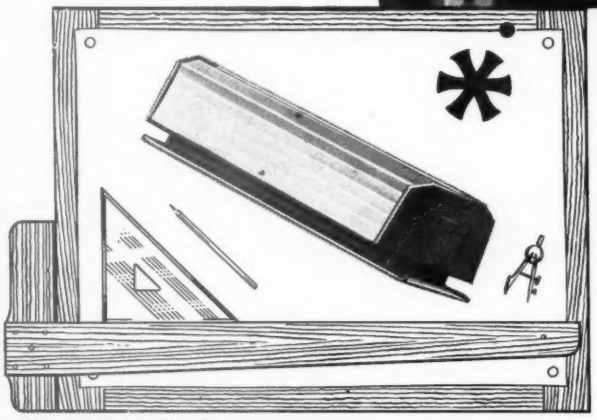

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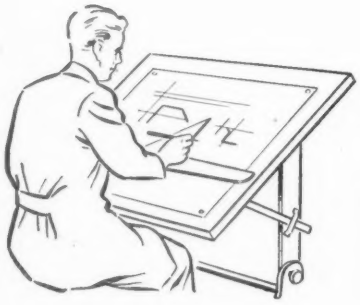

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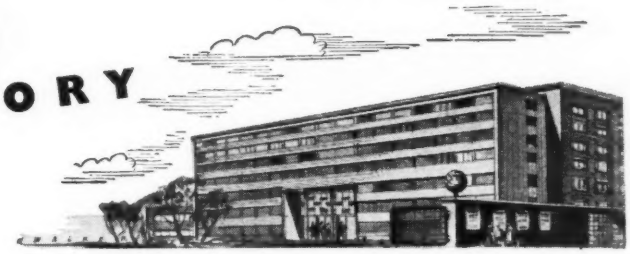

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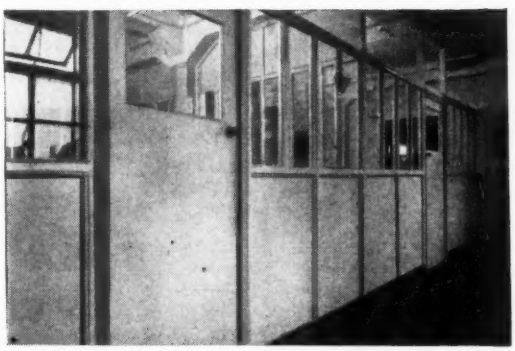

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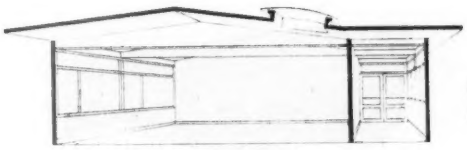

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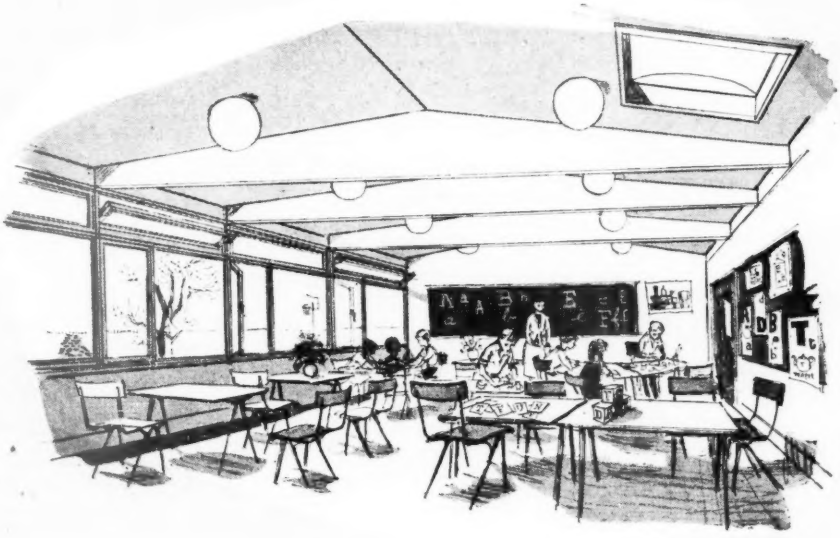

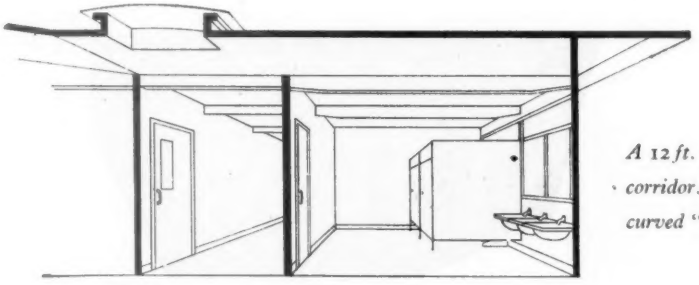

A 12 ft. span (flat roof) addition to the 6 ft. access corridor. In this case the corridor is provided with curved "Perspex" ventilated roof light.

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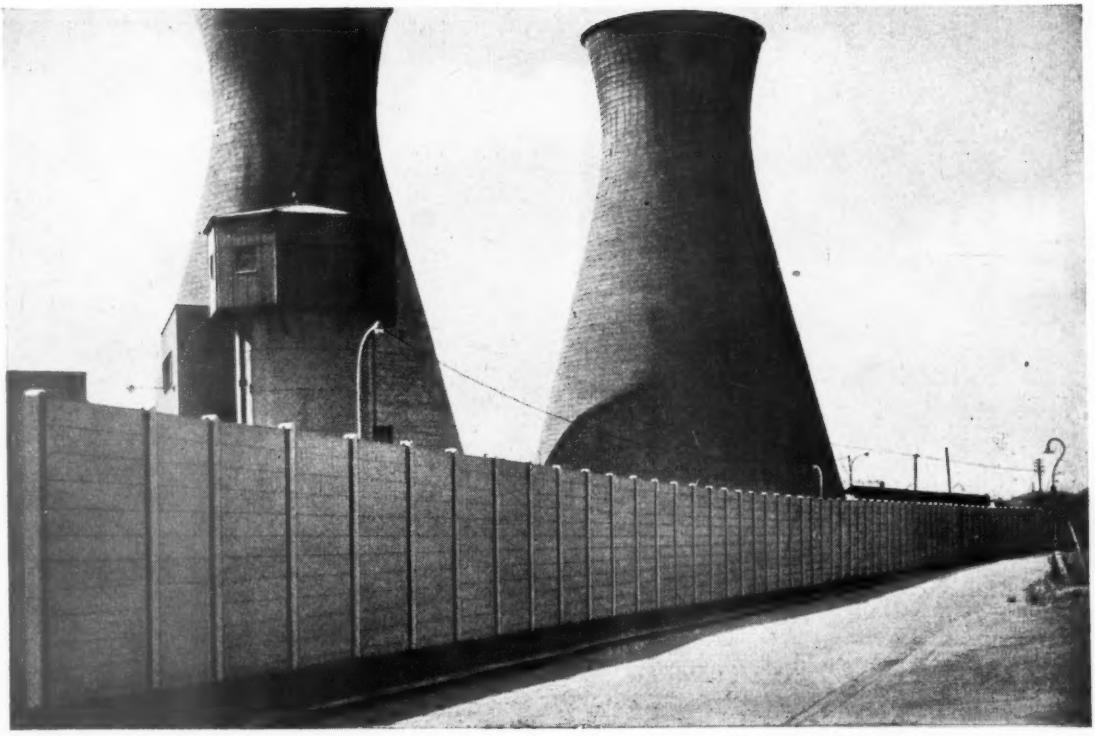

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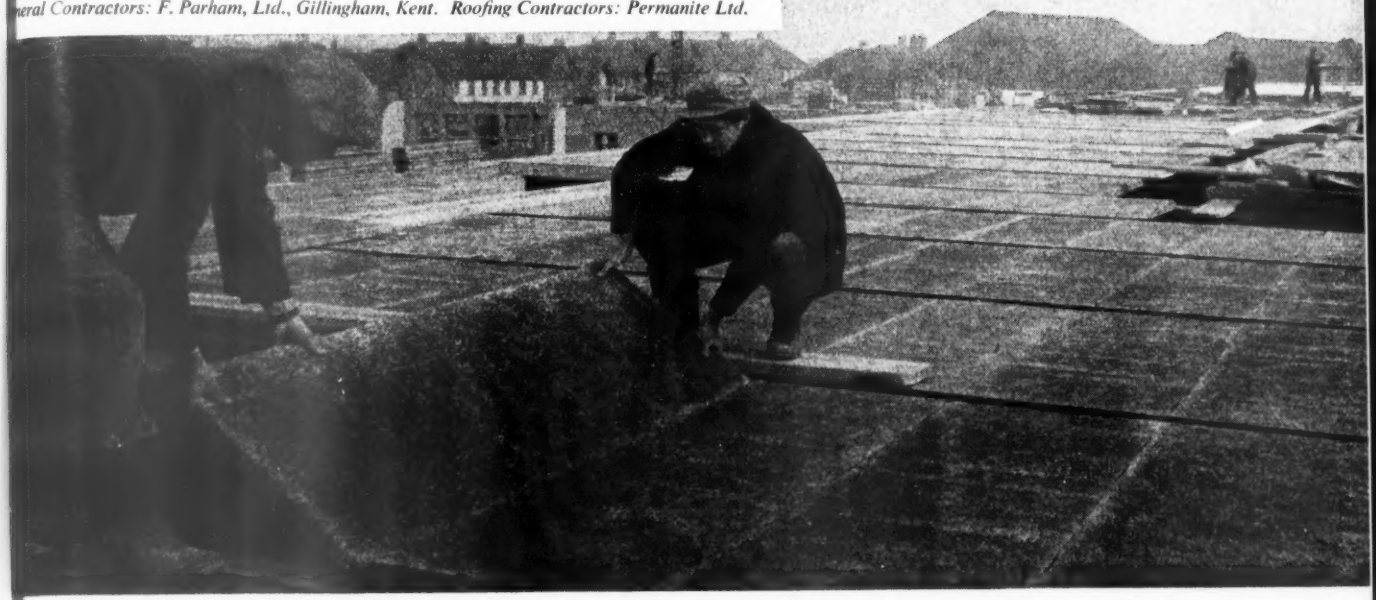
avesend Westcourt County Primary (Infants) School. Architects: Pite, Son & Fairweather, collaboration with S. H. Loweth, F.S.A., F.R.I.B.A., M.I. Struct. E., County Architect. neral Contractors: F. Parham, Ltd., Gillingham, Kent. Roofing Contractors: Permanite Ltd.



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Clyde, Young and Bernard Engel, F.R.I.B.A.

Wells Coates, O.B.E., R.D.I., F.R.I.B.A.

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Hening & Chitty, F.R.I.B.A., A.M.T.P.I.

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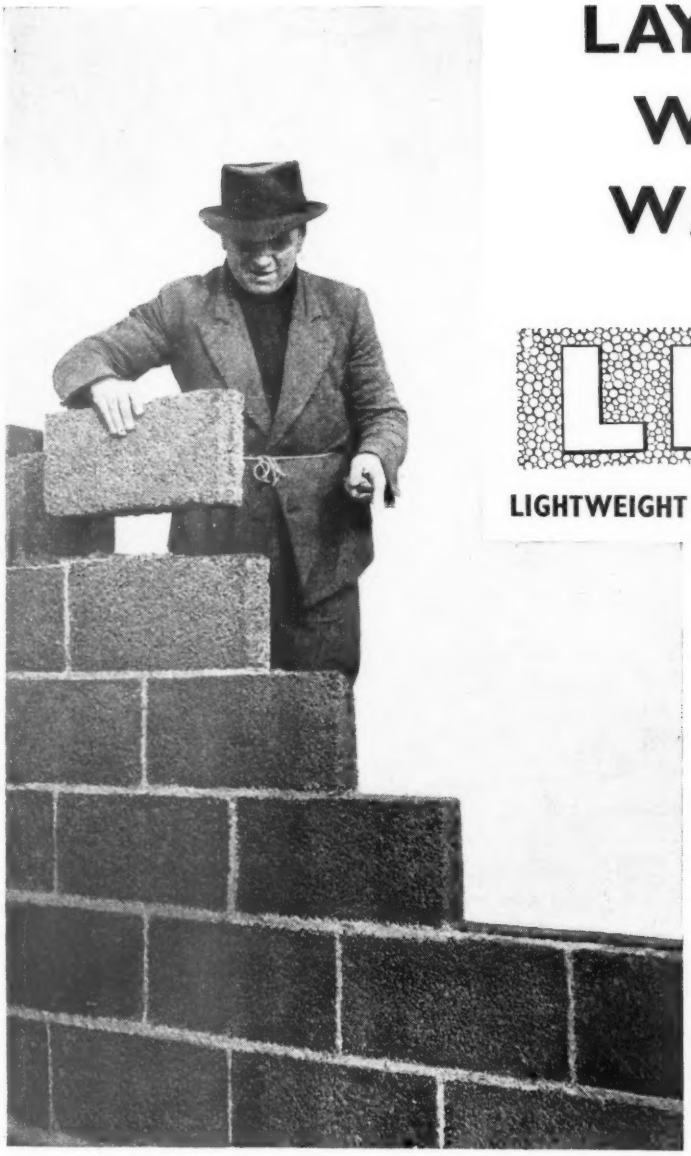

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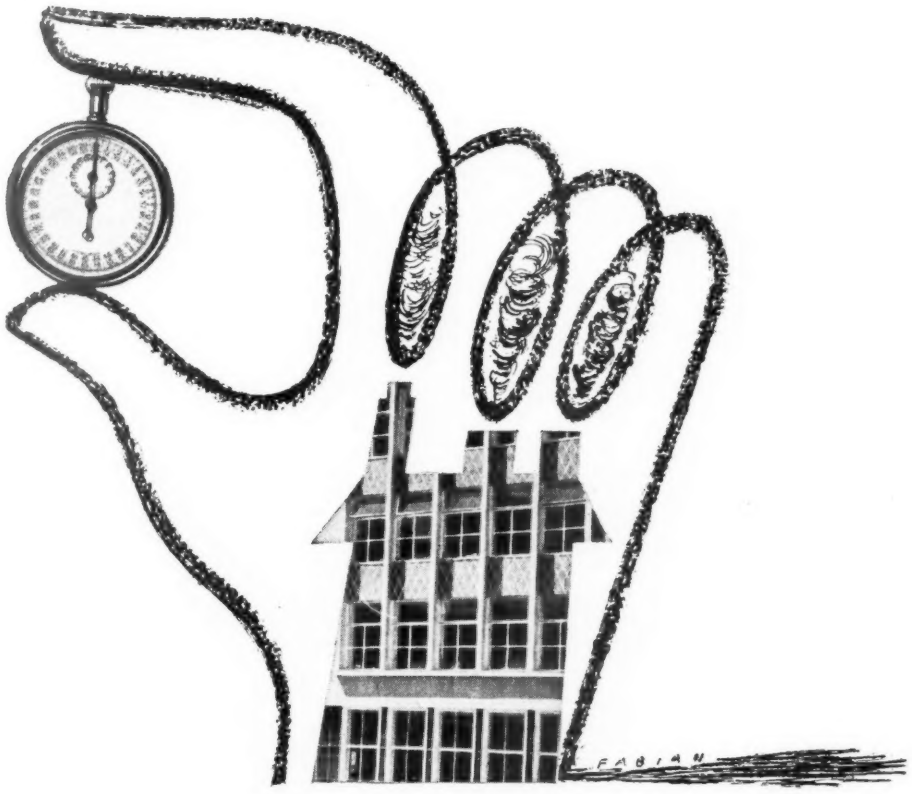

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SCOTTISH GAS BOARD: 26, Drumsheugh Gardens, Edinburgh, 3. Edinburgh 34331/5.
NORTHERN GAS BOARD: 30, Grainger Street, Newcastle-upon-Tyne, 1. Newcastle-upon-Tyne 26101.
NORTH WESTERN GAS BOARD: Bridgewater House, 60, Whitworth Street, Manchester, 1. Manchester Central 8121.
NORTH EASTERN GAS BOARD: Bridge Street, Leeds, 2. Leeds 32571/4.
EAST MIDLANDS GAS BOARD: Beverley House, University Road, Leciester. Leicester 23201/5.
WEST MIDLANDS GAS BOARD: 6, Augustus Road, Edgbaston, Birmingham, 15. Edgbaston 3616.
WALES GAS BOARD: 1 and 2, Windsor Place, Cardiff. Cardiff 28621.
EASTERN GAS BOARD: 2, The Abbey Garden, London, S.W.1. Trafalgar 5373/7.
NORTH THAMES GAS BOARD: 30, Kensington Church Street, London, W.8. Western 8141.
SOUTH EASTERN GAS BOARD: Katharine Street, Croydon, Surrey. Croydon 4466.
SOUTHERN GAS BOARD: 164, Above Bar, Southampton. Southampton 76362.
SOUTH WESTERN GAS BOARD: 9a, Quiet Street, Bath. Bath 60411/5.

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GC 19

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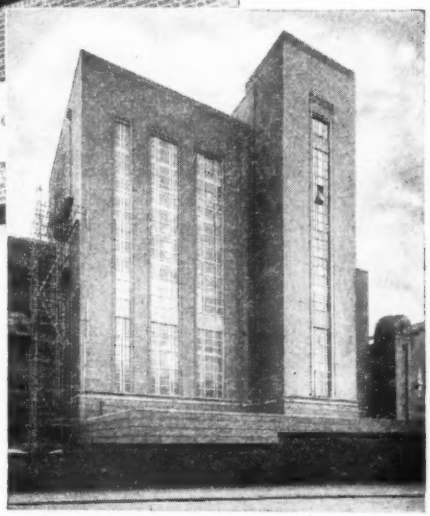

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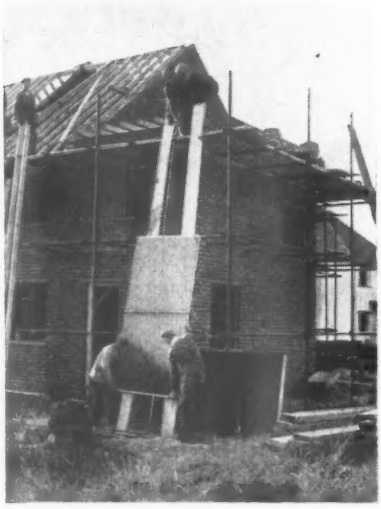

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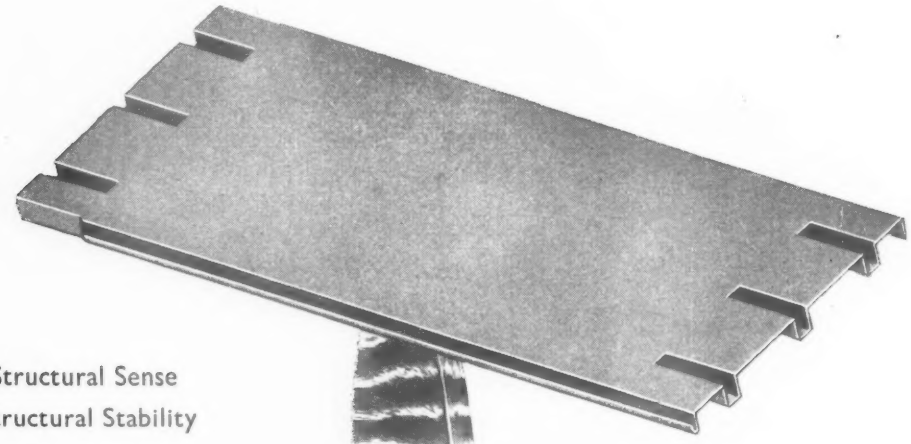

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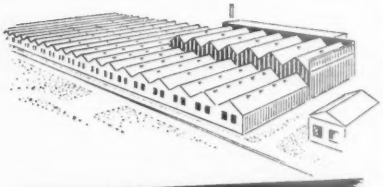

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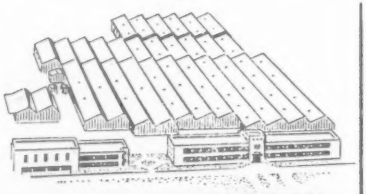

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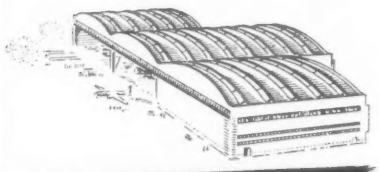

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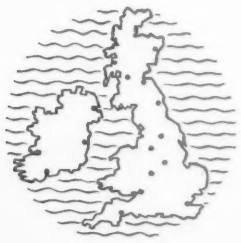

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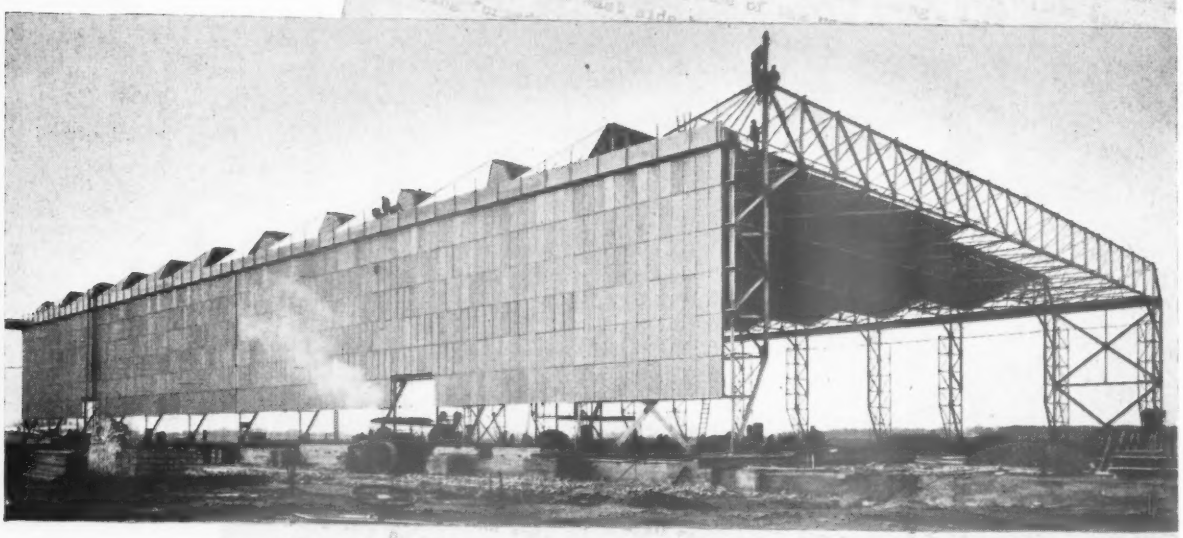

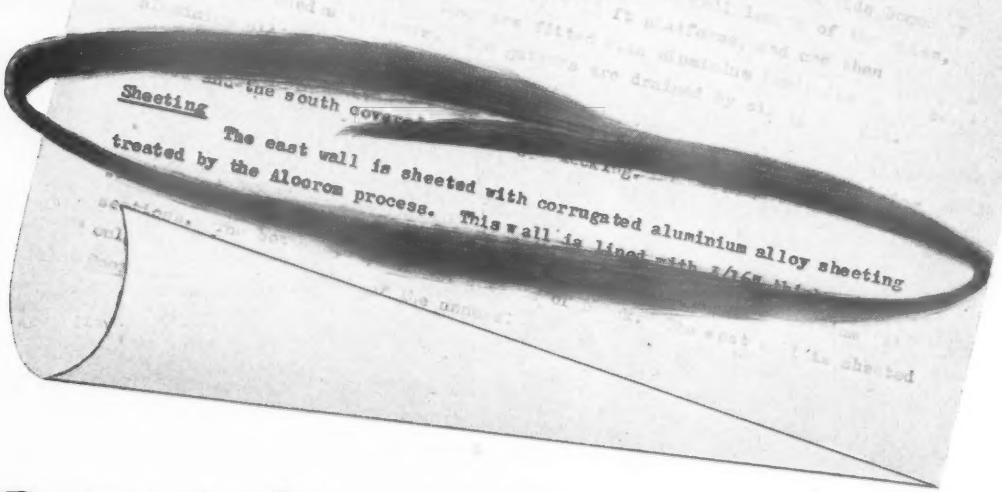

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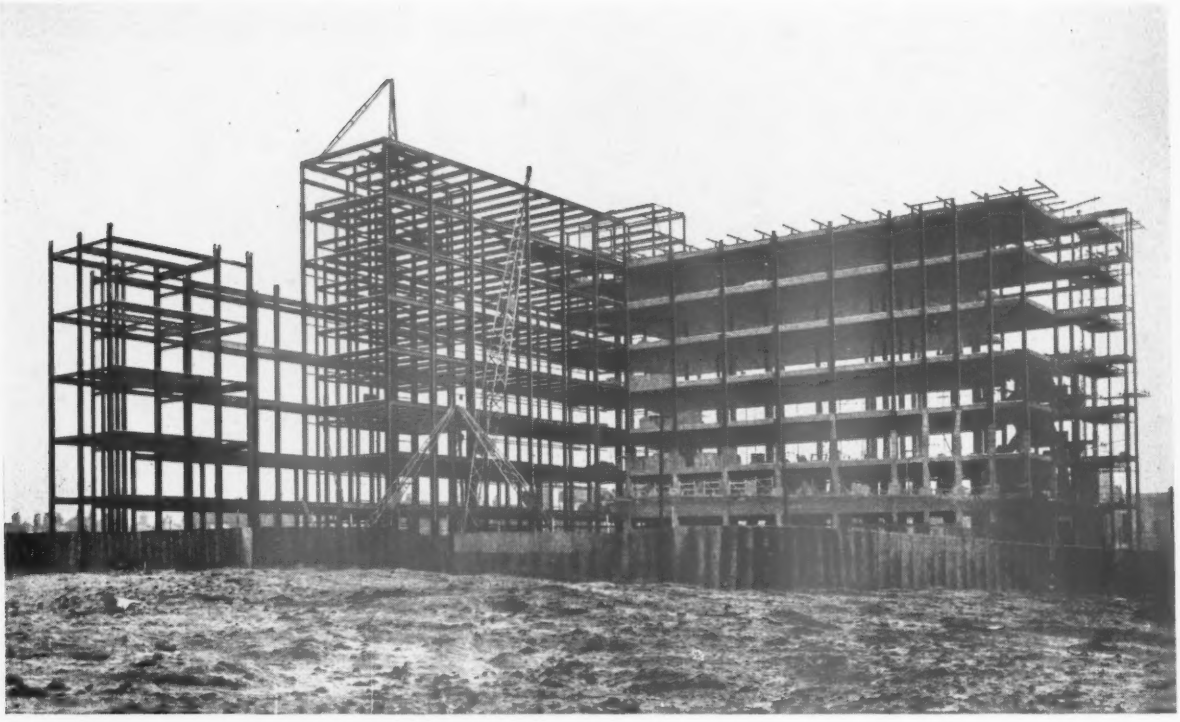

The present contract covers part of a much larger scheme. Approximate weight of steelwork in this first section is 2,900 tons. Fabrication and erection of steelwork by RUBERY OWEN

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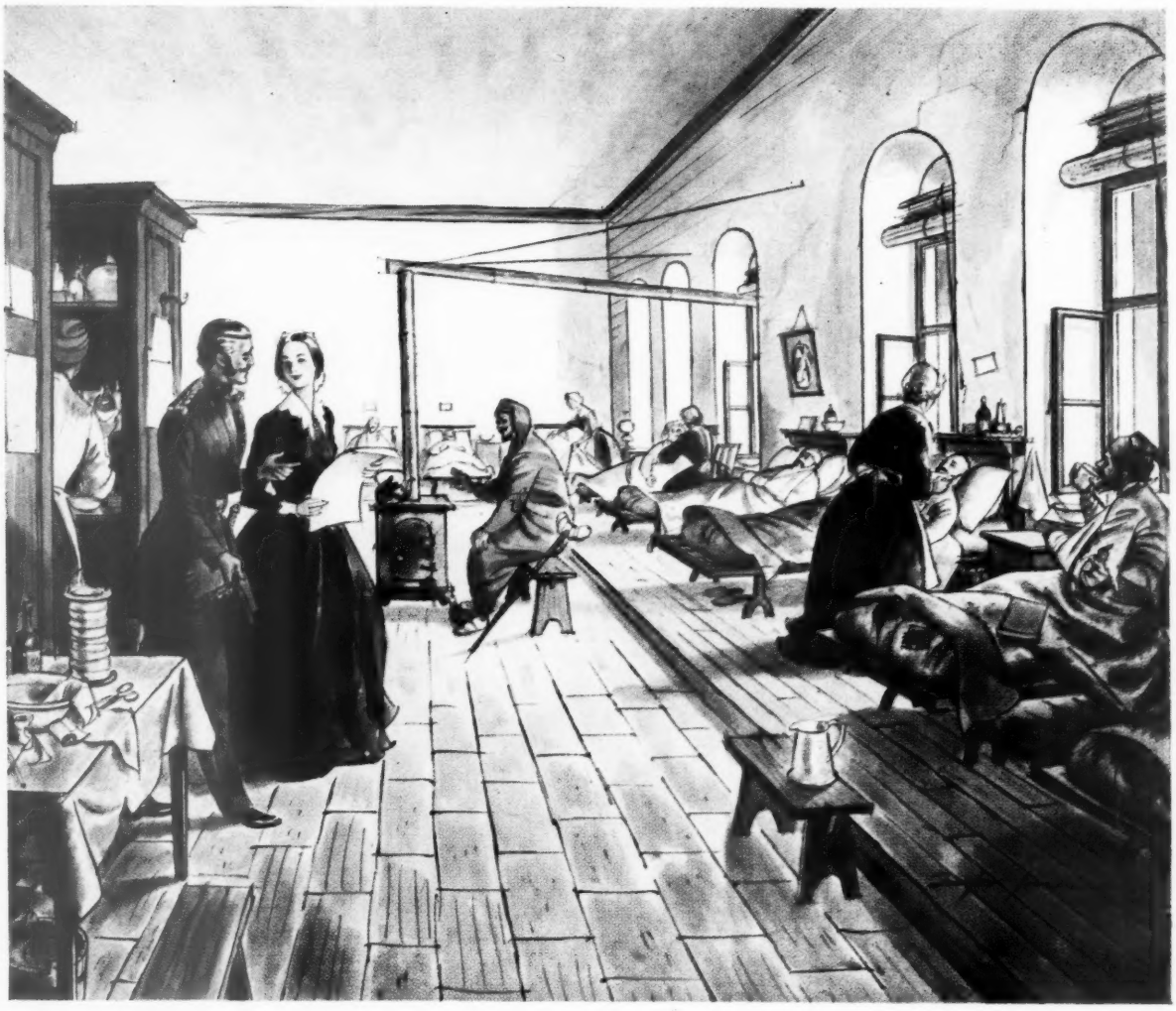
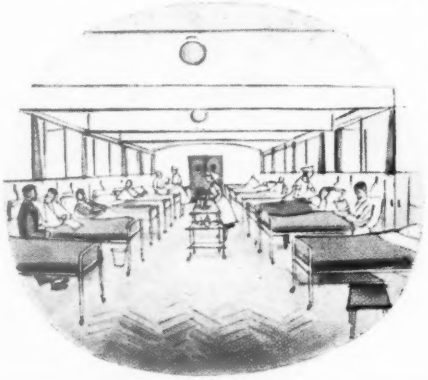


"The Lady with a Lamp"

Before Florence Nightingale, hospitals were places of dark terror. Medical skill, crude by our standards, was robbed of much of its effectiveness by dirt, ignorance and indifference. In the field hospitals of Crimea comparatively few of the unfortunate patients died from their wounds: the great majority perished from disease borne by germs bred in the dirt and squalor. Miss Nightingale challenged this evil. She defeated blind ignorance, cupidity and the inhumanity of red tape. She set a standard of skilful nursing and devotion to the sick or wounded. This is reflected today in the warm efficiency of our hospital service — a service that is content with nothing but the best for its patients. To this end Dunlopillo cushioning and mattresses — specially designed for post-operative or convalescent comfort — have already become standard equipment . . . a humanitarian use of a unique substance that gives daily pleasure to millions who enjoy Dunlopillo comfort in their homes and in cinemas, theatres and public buildings wherever they may be.



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THE ARCHITECTS' JOURNAL

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GOLD MEDAL 1953

As the JOURNAL goes to press the news arrives that the Royal Gold Medal is to be given this year to le Corbusier—one of the few indubitably great men of our day in the world of architecture. His influence has spread over four continents. The medal, which is for the promotion of architecture, could not have a more worthy recipient.

*

The honour comes at an appropriate moment, when le Corbusier's masterpiece, the Unité d'Habitation at Marseilles, has just been completed. For it he has already been made a Companion of the Legion of Honour by the French. The RIBA is to be congratulated on its well-timed choice.

ANOTHER SOCIETY

Good luck to the newly formed Modular Society. Appalled though you may be by the formation of yet another society, you may have high hopes that this one will be really useful. Judging by some of the whispered private battles that took place during the inaugural meeting last week, the coming debates will be lively. "Why do you want a module at all?" hissed a natty pin stripe in the seat behind me, and was all but assaulted by a pair of green corduroys who was working on a four-foot module and found it very convenient thanks very much. "But how," asked a subdued plum waistcoat, "do you decide what *is* the correct module?" And then a tired-looking tweed suit, who couldn't bear it any longer, stood up and saddened us with the announcement that he very nearly hadn't come. His complaint? He didn't like the Society's name; it implied that there was no doubt that a module was needed. Wouldn't it be better, he asked, if the Society first made up its mind whether or not a module was essential?

*

With charm and patience Mark Hartland Thomas quoted from the Society's aims ("... collecting and disseminating information concerning a module ...") and invited the speaker to join in the coming debates. ASTRAGAL is looking forward to these debates and feels that even if the Society does not bring about the establishment of a fixed module, or group of modules, it will be of great value as a medium for the spreading of information on technical developments and on classification and coding.

EVENING STANDARDISATION

Hot on the heels of the JOURNAL'S New Year issue, which contained a description of the difficulties to be met with in designing street decorations, panted the eager hounds of the *Evening Standard*. "Westminster Coronation plans thrown into chaos ... Sir Hugh Casson must start again from scratch ...," etc. ASTRAGAL, stifling as best he could that disgracefully relieved feeling that always attacks him when Trouble hits somebody else's job, gave tongue in full pursuit to discover from tentative enquiries that the Trouble had been dealt with before Christmas, and that "scratch" had been left, by now, weeks behind, and "chaos" wasn't expected yet awhile. Nevertheless, our commiseration with the designer on the loss of his suspended garlands over Pall Mall and let's hope the more earthbound substitutes strike no further snags, either psychological or the other kind usually coated with Dr. Angus Smith's solution.

*

How encouraging to note, incidentally, that many London boroughs and provincial cities are, like Westminster, employing architects to design their Coronation decorations. This may not be an entirely new departure—Inigo Jones is only one of many previous architect designers of Royal settings—but it is at least an indication that the modern City Father is beginning to consider such matters a little more seriously.

*

And now a warm pat on the backs of the *Standard* hounds as they lope

back, tongues lolling, to their kennels. No doubt you read of the recent row with the film producers who, I gather, demanded only polite notices or else no advertising—and were told that reviews would continue uncensored and that their advertising was cancelled anyway. So for once a critic or two has had the proper backing; my hearty respects to Lord Beaverbrook or which ever of the high-ups took the decision. Will other dailies please copy?

DR. LANCHESTER

By the death, at the age of 89, of Dr. Lanchester, the profession loses not only a distinguished colleague and town-planning pioneer (he was the founder of the TPI) but also one of those links with the great architects whose names are now more often found in history books than in living memories. Indeed in appearance and manner—though not in energy of mind—he always seemed part of the Golden Age of sixty years ago, when jobs were large, and sculpture expected, and collars were as high and stiff as artists were relaxed and jolly and rich.

*

Indeed, in power of concentration and speed of output Dr. Lanchester could hold his own with the Great Victorian architects, many of whom dealt with their correspondence before breakfast, leaving the day clear for work. And what a day too. The hours in Pugin's office would whiten the hair of a shop-steward. Norman Shaw designed one of his largest country houses while the rest of his week-end party were out shooting. Dr. Lanchester—says his partner—could plan a large building during a week-end, and the more difficult the problem the better he liked it. He was a great competition winner, with a long list of civic and official buildings to his name (one of my favourites being Deptford Town Hall), but he will probably be best remembered for his work at Cardiff and for his Central Hall, Westminster, designed in association with E. A. Rickards—that virile and eccentric character portrayed in Arnold Bennett's "Clayhanger."

*

Those who knew Rickards best will judge the accuracy of that portrait (did that curious career really begin with a paintbox in an attic bedroom in the Five Towns?). But there is no doubt that Arnold Bennett—with his love of any kind of large project—did, in fact, spend many hours with the architect on the scaffolding of the Central Hall, delighting in the organization of the job, and in such mechanical novelties as concrete mixers. He and Rickards enjoyed finding biblical quotations about the "armour of God," etc., to justify baroque cartouches of arms to Rickards's Wesleyan clients. Bennett delighted too in Rickards's sketching facility—that very odd facility that did not so much make a sketch like a building but made the constructed building look just like a sketch. The Central Hall, which Lanchester and Rickards won in competition in 1904, looks more like a rather fine ink perspective than any building one can think of, just, as in contrast, its new neighbour-to-be, the Colonial Office, looks as if it will look like a rendered-up watercolour by a professional perspectivist.

Scrapbook for 1939? Don't be deceived by this sketch of the New Idealism of the 'thirties. Look again at the price, which does not include stone storks and golden window-ledge nudes, and you will deduce correctly that this is a recently published advertisement. And don't say you haven't been warned

This recent oil painting of the late Dr. Lanchester, of whom Astragal writes above, is by B. Fagan.

Guest Editor for 1953

The JOURNAL, continuing its policy of annually adding a new member to the editorial board to study a current, pertinent, architectural issue, has invited Ian Bowen, above, professor of economics at University College, Hull, to become guest editor for the year 1953. Readers will already be familiar with the series of articles on the statistics and economics of the building industry which Professor Bowen has been contributing regularly to the JOURNAL for many years. For 1953, however, Professor Bowen has accepted the role of guest editor in order to supervise a careful and detailed study of the structure of the architectural profession and to attempt to foretell its future prospects. Outside the architectural profession, and therefore safe from any accusation of having any professional axe to grind, and with a very high reputation as a building economist and statistician, Professor Bowen will be a guest editor with unique qualifications for undertaking such an analysis of the profession. The reasons for launching such an enquiry, and the scope of it, are given in broad terms in this week's leading article on the facing page. On page 150 are some brief biographical notes on Professor Bowen.

CHELSEA WIN

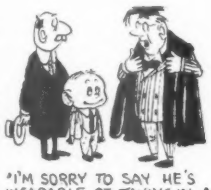
The scheme for building a new embankment, carrying a wide motor-road, across the bay formed by the curving foreshore of the upstream stretch of Cheyne Walk, Chelsea, is to be deleted from the County of London Development. This is a resounding victory for the Chelsea Society, the National Trust and all the other people who protested against this threat to the only part of London's waterfront that still retains its old character and charm.

*

But although protests were made on grounds of amenity, the LCC have withdrawn the proposal on grounds of cost and have reserved the right to examine it again if the national economic situation becomes easier. It is never satisfactory to have the right thing done for the wrong reasons, especially if those reasons may not be permanent. The objectors must persevere and persuade the Chelsea Borough Council and the LCC that the scheme should be condemned not merely for being impracticable but for being undesirable.

PARISH POLITICS

Mr. Woodbine Parish, the retiring LMBA President, has for years worked very hard for the better training of foremen, operatives and apprentices. Two weeks ago he had some sensible remarks to make on the pressing need for lower costs—low enough for "the man in the street . . . to feel that he is assured of real value for money."



"I'M SORRY TO SAY HE'S INCAPABLE OF TAKING IN A SINGLE NEW IDEA—I SUGGEST WE PUT HIM INTO THE BUILDING INDUSTRY!"

This quite obviously makes sense, but one of the present troubles is that the industry (in which architects, remember, are included) is starting to become a music hall joke. No doubt much of the criticism is "ill-informed" as Mr. Parish said the other day, but it is no good dismissing it as casually as that. The customer isn't always right, but then neither is the producer, and the only thing to do is to take criticism even if it hurts, and try to answer it in terms which the public can understand.

ASTRAGAL

Cartoon by Vicky (above), by permission of *News Chronicle*.

Executive Editor: D. A. C. A. BOYNE

WHERE DO YOU STAND?

HOW little the architect knows about his true status in society today and about the structure of his profession. From all sides come conflicting rumours and reports. We know, to take the simplest instance, that there are more registered architects in the profession than there have ever been. But is the profession actually doing more work than ever before? One can only guess. It seems as though they are, but does anyone really know if the volume of building work per architect has increased over the pre-war figure? Does anyone know how fast the size of the profession is growing? And is the volume of building work keeping pace with this rate of growth? Nobody seems to know.

We have been told of a very large London office which may have half its staff idle by mid-summer if it does not get some buildings to design at once. And we hear of offices that are still growing in size and have years of work ahead. We hear rumours of unemployment amongst architects, and at the same time, of staff shortages. Might we not try and discover the true position?

Let us take another tack. What does the title "architect" represent in the eyes of society? In a recent article in the *Financial Times* he is described as *starting* as a qualified assistant at £600 a year and rising to £1,000, with "only a minority" of architects in private practice earning "over £2,500 a year" and it is apparently "difficult to find any architect grossing over £20,000 a year with any regularity." Does the reader find himself fitting easily into this picture?

It may be felt that as a gentleman's profession architects should not be overtly interested in money. The article in the *Financial Times* ends: "On the whole architects do not expect to earn the larger incomes of members of other learned professions. The architect, after all, occupies a half-way house between the artist and the professional man, and for the intense personal satisfaction he derives from his proximity to the former he is content to forgo to some extent the monetary rewards of the latter." Which is, of course, nonsense. Doctors, dentists, barristers and builders undoubtedly get "intense personal satisfaction" from their work and considerable profit, too. The architect, the universally acknowledged leader of the building team, is responsible for renewing and increasing the bulk of the nation's capital wealth in the form of factories, shops, offices, civic buildings, schools and houses. His services should be valued accordingly as fully the equal of other professional men.

But do, in fact, the architect's services rate as equal to those of other professions in the eyes of the public, when judged by that handy yardstick, their annual incomes? Once again, we don't know. Oughtn't we to try and find out?

A few years ago, in response to a fear of unemployment expressed by members, the RIBA conducted a survey into the future of private practice. The fears were proved needless.

But since then conditions have changed. What people once optimistically called "post-war conditions" are today, to most architects, now normal conditions. The conditions of the nineteen thirties which once helped to shape the profession as it became a *registered* profession are now gone for ever. We have arrived by almost imperceptible degrees into an entirely new world for the architect. A new set of conditions in which to work, a new set of building techniques, and a largely school-trained entry into the profession.

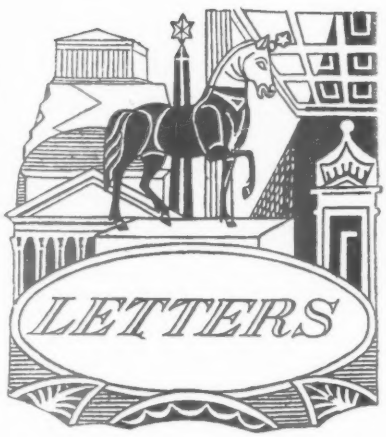
Now, therefore, is the moment to try and discover as much as possible about the profession and its method of working under these new conditions. Now is the moment for a careful analytical study of the structure of the whole profession—an analysis to include the unqualified assistant, the student, the qualified assistant and the principal, *in both public and private office*—so as to discover the profession's true strength and capacity, and the prospects of the individual. Now is the moment for an estimate of the quantity of building work which the profession can expect to handle over the next few years, and for a study of the factors, whether in the form of national financial policies, shortages of materials, defence measures or export drives, which may affect that quantity.

We are going to endeavour to find out all these facts and to publish them in the JOURNAL *during* 1953. Our Guest Editor for the year is Ian Bowen, professor of economics at University College, Hull, and well-known contributor to the JOURNAL. Professor Bowen, with his own team of experts, is going to examine existing facts and figures which, supplemented by polls, questionnaires and personal contacts with various sections of the profession, will build up an accurate picture of the structure, prosperity and prospects of the profession.

Architects will only achieve strength, confidence and influence when they know all that there is to know about *themselves*.

PROFESSOR IAN BOWEN

Professor Bowen, who, as the JOURNAL'S *Guest Editor for* 1953, *will be undertaking a detailed study of the size and prosperity of the architectural profession* (*see page* 149), *is a Welshman. He was born in Cardiff, and was educated at Westminster School and Christchurch, Oxford. A fellow of All Souls College from* 1930 *to* 1937, *and a Lecturer in Economics from* 1937 *to* 1940, *Professor Bowen started studying building industry statistics at the Institute of Statistics, Oxford. As a result of the reputation he gained there in this field, he was invited to become Chief Statistical Officer of the MOW in* 1940. *After the war Professor Bowen became a Research Associate of the National Institute of Economics and Social Research in London, where for two years he continued his study of the building industry. In* 1947 *he was appointed Professor of Economics at University College, Hull, a position which he still holds and where he now lives with his wife and two children. Although most widely known for his studies of the economics of the building industry, Professor Bowen is specially interested as an economist in problems of capital investment and on the organization of industry in Britain. Unlike the professors of fiction, he is well-travelled and an energetic player of golf, squash and tennis.*



R. Walt Mellor, A.R.I.B.A.

David W. Hedworth, Student R.I.B.A.

Marignane Hangars

SIR,—I have read with interest your Technical Review of the Year (January 15), especially your reference to the hangars at Marignane, France. There is, however, a point of some importance to which I should like to draw your attention concerning the lifting into position of the 355-ft. clear span concrete shell roofs.

The supporting columns were treated in a special manner so as to make them suitable for playing their part in the lifting operation. U-shaped elements were precast and positioned at the column locations. The entire roof structure was raised 3 ft. 3 in. by means of hydraulic jacks. Concrete was then poured into the U-shaped column elements but the problem arose of obtaining sufficient strength for this concrete to withstand the bearing pressure for the next lift after 24 hours.

It was therefore decided to treat a 6-in. thick "wall" of the filling concrete of the columns by means of the vacuum concrete process, which would give it the required strength without buckling under the load. The concrete was then filled and processed for fifteen minutes, after which the shutter was stripped. Twenty-four hours later the jacks were removed and re-erected in position for the next lift. This fact made it possible in this instance to achieve a rate of lifting of 3 ft. 3 in. per day, the total operation taking only eighteen days instead of the one-and-a-half months which would have been required by normal methods.

Although vacuum concrete was not used for the construction of the roof or the U-shaped column elements, it served to reduce the total time of the work considerably and in its very limited application produced material savings.

I feel that this is an important point and it was a pity that lack of space prevented it from being included.

R. WALT MELLOR.

London.

Why Not Vertical Cemeteries?

SIR,—With regard to ASTRAGAL'S notes on cemeteries might not "vertical burial" be the answer.

This would halve space needed by the old method and thus double "production."

DAVID W. HEDWORTH.

Poole, Dorset.

RIBA

Gold Medal to Le Corbusier

The RIBA Royal Gold Medal for 1953 has been awarded to le Corbusier. A brief comment by ASTRAGAL can be found on page 145.

NFBTE

Tendering Methods

The NFBTE will soon be examining methods of tendering in collaboration with the RIBA and the RICS. This was announced by the Federation's president, J. Ian Robertson, last week.

"Before changes are suggested," he said, "we must be sure that they are real improvements to a system which, by and large, has worked reasonably well in the past. The National Federation is most anxious, particularly at this time of high prices, that there should be the fullest possible competition in all sections of the building industry."

Le Corbusier, who is to receive this year's RIBA Royal Gold Medal.

COMPETITION

Hospital at Doha

Architects are invited by the Government of Qatar, Persian Gulf, to submit designs for a 100-bed hospital at Doha. Prizes: £1,250; £1,000, and £750. Designs to be submitted by August 15. Last day for questions, March 31.

The assessor will be Alexander S. Gray, of Messrs. W. H. Watkins, Gray and Partners.

Conditions, which will be available after January 30, may be obtained on application (with £3 3s. deposit) to Captain J. E. Stone, C.B.E., M.C., F.S.A.A., Hon. Secretary and Treasurer, International Hospitals Federation, 10, Old Jewry, E.C.2.

MODULAR SOCIETY

Inaugural Meeting

After the recent proposal by Mark Hartland Thomas that a Modular Society should be set up (the proposal was made during the first Alfred Bossom lecture to the Royal Society of Arts), the idea received enthusiastic support. At the inaugural public meeting of the Society at the Royal Society of Arts, last Friday, there already existed a nucleus of membership and a provisional committee under the chairmanship of Alfred Bossom. More than a hundred people who attended the meeting filled in membership forms.

There is only one class of membership. It is open, for an annual subscription of £2 2s., to all who are interested in the Society's aims. The Society is designed to bring together for these aims, on an equal footing, the professional, contracting and manufacturing sides of the building industry.

The aims of the Society are as follows:—

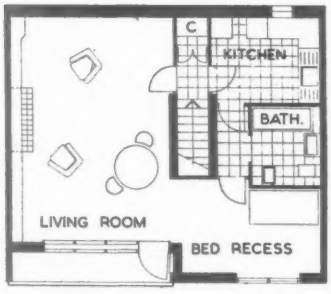
"The promotion of research, experiment,

WINNING DESIGN FOR 1956 OLYMPIC GAMES SWIMMING POOL

John and Phyllis Murphy, Peter McIntyre, Kevin Borland and William Irwin (Struct.Engineer.) have won the Australia-wide contest for an Olympic games swimming pool in Melbourne. Seventy-two entries were submitted. Prizes of £A400 were awarded to four other finalists. The winners' reward is the commission to build the pool at a cost of £A350,000.

HOUSE IN CONNAUGHT MEWS, LONDON, W.1. DESIGNED BY

The site of this house designed by F. R. S. Yorke, E. Rosenberg and C. S. Mardall is 24 ft. deep with a 30-ft. frontage, facing south on to the Mews, as seen in the photograph right. The property, which was purchased with a war damage claim on it, consisted of two stables with a straight staircase between them leading to the exposed first floor, were all that remained of the old building. The only wall for windows was the one facing the Mews, although later on a small window was pierced at the back for the kitchen, seen above right. The



First floor plan
[Scale : $\frac{1}{16}$" = 1' 0"]

living room, seen in the two photographs on this page, is 21 ft. deep and 15 ft. wide. The kitchen and bathroom have domed top lights and open on to a separate ventilated lobby. The large living room window is set back to form a balcony just wide enough to take a deck chair, and is made up of deep frames providing shelves for plants, so that whilst plenty of light comes in, a screen is formed between the room and the rather undistinguished view. A fitting stretching the length of one wall of the living room consists of book shelves, glass fronted cupboards,

YORKE, ROSENBERG AND MARDALL

gramophone record racks, a roll front cupboard and a built-in gas fire, and is raised up from the floor above a 10-in. high Hornton stone skirting. This fire is set in yellow-green and white patterned tiles designed by Peggy Angus, surrounded by a stainless steel frame. The floor is paved with Hornton stone, which is carried out on to the balcony. The back wall of the living room has a William Morris wallpaper on it. In the kitchen, bathroom and lobby the flooring is in grey flexible plastic tiling. The staircase is of waxed opepe hardwood. The stables on the ground floor are used as garages with doors of V-jointed oiled iroko hardwood. The external paintwork is white, except for the front door, which is a warm grey. The bricks are grey-brown Buckinghamshire facings, similar to those used on the most recently built adjoining house and for houses on the opposite side of the Mews. The quantity surveyors were George Bessant and Partners. The general contractors were Messrs. Simon Johns.

development and discussion (under certain circumstances also the undertaking of research and development) and collecting and disseminating information concerning a module and related dimensions, in the design and construction of buildings and in the manufacture of building materials, components, fittings and equipment in concordance with such a module, in order to provide buildings to the public at lower cost; and the furtherance of related improvements in technical methods."

The Society will hold regular meetings (at which technical papers will be read), periodical conferences and study groups. It will also publish a bulletin. Members are expected to make technical information—apart from trade secrets—freely available to the Society.

At the inaugural meeting Mark Hartland Thomas pointed out that the Society would not cut across the path of the BSI or the DSIR; rather would it supplement by direct industrial experience, any studies of modular planning undertaken by those organizations. He said that the Society was not likely to engage directly in industrial research ("except to a limited extent in special cases") but would look mainly to the work of its members for information about experiments.

As soon as possible there will be a meeting, or series of meetings, in which members will debate on the Society's proposal to adopt a module, or a group of related modules (vertical as well as horizontal) for "wet and heavy" construction, as well as for "light and dry." It is hoped that an agreement will be reached on a series of wall and floor finished thicknesses related to the module.

In addition, the Society intends to organize a symposium on tolerances, "so as to begin to build up a body of common experience." It will also sponsor the study of co-ordination of jointing details and will set up a library and information service.

The provisional committee will co-opt others who show interest and will divide itself into two sub-committees; one to consider ways of running the Society, the other to plan its programme of activities.

Applications for membership should be sent to Miss A. F. Annand, 5, Carlton Gardens, S.W.1.

The provisional committee comprises Alfred Bossom (chairman), David Carter, F. W. L. Heathcote, H. Johnson, J. C. Pritchard, James Riley, E. Munro Runtz, K. J. Sommerfeld, M. Hartland Thomas, P. E. Trench and F. R. Yerbury.

DIARY

Landscape Projects Connected with Mineral Workings. Sheila M. Haywood. At Student Planning Group, 28, King Street, W.C.2. 6.30 p.m. JANUARY 29

President's Address to Students. At RIBA, 66, Portland Place, W.1. Also criticism of work submitted for studentships and prizes and presentation of prizes by Howard V. Lobb. 6 p.m. FEBRUARY 3

A New Approach to Town Planning History With Special Reference to the Gridiron Plan. Dr. S. Lang. At 66, Portland Place, W.1. (RIBA Library Group Meeting.) 6 p.m. FEBRUARY 9

Colour in Schools. David Medd on the MOE Bulletin. At 2, Savoy Hill, W.C.2. Joint Meeting of RIBA and IES. 6 p.m. FEBRUARY 10

William Allen, of the Building Research Station, Watford, has written the following account of a visit he paid last summer to the United States.

AMERICAN VISIT

By William Allen

IN New York everyone goes to see the new Lever Building (above) and I queued with other architects from the American Institute of Architects' Convention then in progress across the street at the Waldorf Astoria. No doubt a great deal will be written about this remarkable building and this is not the place to talk about it in detail. But I would like to say that I think it must surely be one of the most important buildings built in our time, and there are at least two or three technical points which I might say something about.

Its cladding is of course the first thing to catch the eye, for it mirrors the nearby buildings and shimmers in a way only seen before in the UN Building, or in carefully taken photographs of Rockefeller Centre. The vertical lines of stainless steel catch and reflect the sun in a great arc of glinting highlights, while between them the windows of pale green glass give a shape to the whole casing which clear glass would lose—though there is in the effect a slight reminder of an aquarium which some may think significant. One is left with the impression that the line of thought which produced the cladding of the UN Building has here been carried a long way forward, and it seemed to me to have a character which is just right for urban office buildings.

But the shape of the building is really more important. It will be remembered that towards the end of the war the Ministry of Town and Country Planning, as it then was, and the Building Research Station put forward ideas for building design in central areas to improve daylighting, reduce noise, reduce fire risk, increase land-utilization and give a handful of other advantages. Holford and Holden have pushed these principles ahead in their City of London reports.

Broadly, the idea was to plan the ground level pretty freely, cover the site with one or two storeys, and then carry up a high slab or tower to hold the remainder of the floor area, working to overall maximum plot ratios (*i.e.*, ratios of floor area to site area) of 5 or 6:1. I have no idea whether the architects of the Lever Building studied these proposals of ours or not; probably not, but they have nevertheless hit the nail on the head. Here is the ground floor treated almost wholly as open space, except for a glass cage under the tower, which is the lobby. A big patio lies to one side and the whole is accessible to the public. Then over the whole site, except for a hole to let sunlight reach the patio, comes a single storey layer of offices. This gives shelter to the street level and nicely defines the extent of the site. Finally, there comes the great vertical slab of offices, somewhat to one side of centre, poised lightly above the horizontal matrix, from which it is separated by the restaurant, which is recessed and in shadow. It all seems so clear, and easy. Even the density (the plot ratio is about 6:1—half that of Rockefeller Centre) is right for a site this size, judging by British studies. So here we have a real text-book example of urban building by our own thesis. But it is a little sad to think that it took a British client and an American architect, working in America, to do it.

AMERICAN OFFICE DESIGN

One other impression of this building is of the way it exemplifies internally the modern American idea of office design. The windows are clear, pale green, plate glass—greenish to reduce heat gain in summer and sky glare at all times. Then they are fitted with louvre blinds, which were mostly in use when I was there, down almost to the bottoms of the windows; and finally, having thus twice cut down the illumination from outside, they turned on the artificial light throughout the building and ran it full steam all day.

Ventilation was, of course, artificial with air forced in through anemostats in the ceiling and extracted down the building near the lift shaft. Artificial ventilation is usual now in American office buildings because it enables them to introduce both heating and cooling without very much trouble. I have no experience of modern American winter heating in these buildings: people tell me it gets very hot and stuffy, but I was very grateful indeed for the cooling when temperatures outdoors were 100° F. or more. In the Lever Building they had gone so far as to fix-glaze all the windows; the only doubt I had about the wisdom of this was what the staff would do when they wanted to contribute telephone directories and other old paper out of the windows for New York's traditional greetings to heroes.

ARTIFICIAL LIGHT DEFENDED

At first impression it seems silly to reduce daylight and run artificial light all the time, but having seen it I must defend it in some ways. It is very comfortable, and the reduction of illumination near the edge of the building makes it possible for the artificial lighting to give the impression of the whole interior being equally satisfactory for work. This is the important point, for it makes it possible to put clerical and administrative staff in large groups out on the open floor, with only the most senior administrative people off to one side in cages, and this is the way Americans often have things. Definitely in its favour is the very high space utilization which results. The principle could be made inoperative, of course, by noise problems, but these are largely done away with now by the universal use of sound absorbent ceilings. Everything was beautifully finished, but unlike the main design and the cladding, there was nothing new in the principles on which they are based.

REPRESENTATIVE INTERIORS

These interiors were representative of practically all offices I saw. I cannot recall seeing a single plastered ceiling anywhere, except in very old buildings or in houses, all the time I was in the United States. The use of the suspended absorbent ceiling seems to have virtually superseded plastering. Sometimes the ceilings were of metal trays, perforated and carrying some absorbent, such as glass wool, above, but the most common I saw was a compressed fibrous tile looking rather like travertine. This was popular everywhere. Almost all of the treatments are in 12 in. squares. I formed the impression at first that these travertine-like tiles must be ground off after fixing, because they really were extraordinarily flat; I think it is just good manufacture and fixing, however.

The use of greenish glass is by no means so widespread, yet, as are sound absorbent ceilings, but it is unexpectedly popular and extends now even to motor cars, for almost all the new windscreens have this pale green tinge, darkened to a deep green at the top where the risk of glare is greatest. From the outside, as I said, it makes interiors of buildings look somewhat

like aquariums, but from the inside it has remarkably little effect on the scene except to reduce its brightness.

In Detroit I was able to see Saarinen's new Technical Centre for the General Motors Corporation.* Again, architects will have seen the recent illustrations of the first buildings of this astounding group, but construction has gone much farther than the published photographs have indicated. The centre is for the design, development and testing of all General Motors' products, and is a very large establishment built up in two or three-storey buildings on three sides of an enormous rectangular artificial lake.

COLOURED BRICKWORK

It is not reasonable to give any architectural opinions about a scheme like this, which is still quite a long way from completion, though I had some doubt about the architectural or utilitarian value of the lake. But leaving the question of general design on one side, the next thing that springs to my memory is the new range of finishes. The most striking at first glance is of course the coloured brickwork outside, which was featured in the published photos. I was told that this was produced simply by taking second grade bricks and dipping one face in the coloured glaze, which was then fired on. The brick has a rough texture, but the colours are pure and vivid, with the exception of the yellow which has turned somewhat greenish because the dark biscuit of the brick shows through in places. It shows through in all the bricks, but on the red and green it produces a rich effect. The big panels of brickwork are placed strategically in and around the buildings and produce an exciting impression. I wish we could get some of these over here.

METAL FINISHES

Then the interiors; practically the whole of the linings are sound absorbent in one way or another. Mostly I recall flat sheet metal finishes—truly flat in the way that makes a flat surface so beautiful—sometimes perforated when high sound absorption was wanted in the upper frequencies, and sometimes imperforate when merely the lower frequencies were to be absorbed. The metal finishes were of several kinds, sometimes simple flat colours stoved on, sometimes crackle-black or crackle-grey. I noted an ingenious way of hanging big rock wool quilts on the walls before the sheets were put on over them. A dab of adhesive would be stuck on the wall, and immediately a little square of metal with a nail protruding would be forced against it; these would be put all over the walls so that when the absorbent quilt came on the job, it was simply pushed back on to the nails and was impaled there. It was incredibly quick.

I came in contact with American architectural education twice. The first time was the result of my original purpose in visiting America—to lecture on acoustics at the Massachusetts Institute of Technology. There they had organized a short course for practising architects and other such interested people, to be given by the three professors who are concerned with acoustics at MIT—one a physicist, one an electrical engineer, and one an architect, who had invited me to join them.

TEACHING TECHNIQUE

I was interested in the technique they used and found it worked exceptionally well. The " student " body numbered about twenty-five, consisting largely of principals from architectural offices in various parts of the country, and teachers from schools, with a smattering of other people with professional acoustical interests. The technique for giving the course was very simple: we merely took one branch of acoustics each day, with two or three of us always in the room together, taking the lecturing along rather loosely from one to another as we found our own background gave us something to say. Slides and data hand-outs were organized of course. In this way the students were saved from the boredom of a single voice, and the teaching staff were saved from the labours of preparing numerous formal lectures. It was possible, working thus together, to give fifty hours tuition in the one week. We found this just sufficient to cover the subject nicely for this type of student; it included, of course, some demonstrations and " live " exercises such as the testing of intelligibility. These helped to ease the strain. In the middle of the afternoon we would begin a general discussion of the day's subject matter, with breaks morning and afternoon for coca-cola.

POST-GRADUATE EDUCATION

My other contact with education came in New York, where the Association of Collegiate Schools of Architecture was meeting with the American Institute of Architects. There were several interesting discussions, but the one which most captured my interest was their symposium on post-graduate education for architects. Two or three papers drew together the experience of the last ten or fifteen years in the few schools giving an advanced degree, and it was clear that the extra year was being used, often, not as an additional stretch of studio design, but as a year of training for original research and development. As one would expect, it is these courses which are now producing the scholars and the teachers for American schools of architecture. It seemed to me to be turning a somewhat doubtful adventure into a very considerable success.

EXPERIMENTS IN TEXAS

My last few days found me out in Texas, where W. W. Caudill is leading a group of people in some work which is very interesting indeed. Mr. Caudill is an architect, bitten like some of the rest of us with the idea of architectural research, and believing, also like us, that it should be in the hands of good designers. To show that this is right and can be done, he stands as senior partner in a successful firm of architects, he looks after some of the architectural teaching at the Engineering Institution there, and directs also the mixed team of architects, physicists and engineers which embarked two or three years ago upon what they call the Environment Engineering Research Project. They are pre-occupied at present with schools and school problems, especially in the south-west USA, and being in a hot part of the world, they started on natural ventilation; but like others of us who have entered this field they have found it necessary to spread over into lighting and acoustics and treat the group of subjects as one concept; and so this work is extending itself in a way which some people will be familiar with through the activities of the Architectural Physics division at BRS. Caudill's team is getting on with the job and there is very little doubt that we shall hear quite a lot from this group during the next few years. Their publications to date set an extraordinary standard for presentation.

I was not able to give much time to housing and saw only a few schemes where I could fit in a visit merely for the interest of it. Some of Charles Goodman's work in Washington was clearly very interesting, with a rather West Coast use of open planning and glass, sub-divided in a kind of simple modular system. He seemed to be using mostly redwood claddings externally, with areas of clinker blocks —the Americans make exceptionally good ones—which were given a coat or two of special paint. This was the only " modern " housing I saw, though I visited a few good individual homes.

THE HOUSING RUT

Otherwise I was forcibly reminded of the transient character and general tawdiness of wooden houses. Childhood memories of " individualistic " houses in long straight rows, one after another like mal-formed peas in a pod, rushed back upon me, with verandahs shading dark and airless interiors, and heavy, unhappy roof lines hanging over the upper storey like furrowed brows. Our own heritage is just as bad, and in some ways worse, of course; but my impression is that they are finding it harder to get out of this particular rut than we are.

* JOURNAL for January 24, 1952, p. 136.

William Allen, who writes of his recent American visit on the previous two pages, spoke last week at the RIBA. Extracts from his talk, which was sponsored by the BRS, are given here.

MODERN AMERICAN FACTORIES

Extracts from William Allen's RIBA Talk

DESPITE all the competition between designers and all the diversity of their clients' needs, there has emerged from both sides one conception, and one conception alone, of the type of building needed for the broad mass of industry. This forms the core of American industrial construction today, and designers and clients alike depart from it, on the whole, as little and as seldom as possible. The highest practicable degree of adaptability is their defined aim, and the consequence is a single type of building which houses an increasing variety of industry. The explanation is simple, and seems convincing; adaptability, they say, is in the national interest because it eases the transition from war to peace production and *vice versa*, thus increasing national strength.

The chief elements in adaptability as practised at present are adequate height, adequate bay size, a roof system capable of taking reasonable hung loads at any point, a clean floor plan, facilities for good artificial ventilation, often up to full conditioning, and a high uniform level of artificial light.

The clear height usual below trusses today is 18 ft. The plan is usually laid out on a 10 ft. grid, with a bay size of 40 x 60 ft., tending to 40 x 80 ft. or 40 x 100 ft. They use flat steel trusses, about 6-8 ft. deep, and an extremely interesting development—a straw in the wind—is the laying in of stocks of these standard trusses by steel fabricators, so that they can be taken "off the peg" as it were. The trusses are classified according to the hung loads they are designed to take, which are generally over a range from 1 to 3 tons per panel point, or three times this amount per bay.

This building, designed and built by Austins of Cleveland for Lincoln Electric Co., Cleveland, is described by William Allen as one of the latest and probably the best of the entirely windowless factories. A two-storey office block lies inside on the short axis; a tunnel goes through on the long axis, with toilets, lockers, power and cafeteria to either side. (Photo from Architectural Forum.)

THE FACTORY PLAN

The chief elements in the plan are much the same as they are here, but the location of the locker rooms and toilets and restaurant is an interesting problem. One requirement is that none of these should be on the factory floor. Another is that toilets should be within two minutes' walk of all working areas. A third is that they should not be below ground, where supervision becomes more difficult. On the whole, American designers have tried to keep the whole floor area clear for the owner right up to the bottom chord of the trusses, and this has led to a trend to put locker rooms, toilets and transformers into the depth of the trusses, just below the roof. Since this is not always easy to arrange, there have been occasional uses of penthouses for this purpose. This is simpler for planning, but means a great height to reach a toilet, and the height is of course increasing. A third course is the one that seems most likely to survive, which is to put toilets, lockers and transformers—and often the restaurant—on mezzanines. This leaves the owner his floor space clear, and is a reasonable compromise in other respects.

LUXURY LOBBIES

I became increasingly aware that entrance lobbies were given a lot of attention and that they shared certain characteristics. They were much of a size, about 25 or 30 ft. square and 15 to 20 ft. high. They had good, and often magnificent floors, good modern carpets and furniture, attractive indoor planting and splendid curtains. At a strategic point there would be an efficient looking control desk with an efficient and very presentable receptioness in control. As you probably know, it is quite a common practice in America to have one entrance only for management, personnel and visitors alike, and where this is the case it has been noticed that a good entrance has a very good effect on factory housekeeping. Apparently the men cannot cross a well-designed room of this size, especially over a fine floor, and pass the receptioness as well, without feeling that dirty shoes, dirty clothing, and bad behaviour generally is out of place.

ARTIFICIAL LIGHTING

Natural lighting from the roof is attempted less and less. North lighting was abandoned 25 or 30 years ago because it was difficult to ventilate and the directionality of the lighting created serious working difficulties, as we, too, sometimes find. They went over to the monitor, which reduced the directional effect but gave uneven and inefficient lighting the way they did it. Then wartime experience of black-out factories without roof lighting showed that the artificial lighting was acceptable by itself, and that if the money saved on capital and maintenance costs of monitors (some 10 per cent. of total factory cos.s) were put into good artificial ventilation, the nett result was much better working conditions.

The vision strip, about 6 ft. from sill to lintel, can have what are loosely called psychological effects of relief even in the middle of a factory 500 ft. square, and I believe this to be the policy that will survive and become standard.

It was surprising to find, with this tendency to rely on artificial light, that the quality of artificial lighting was poor. Its quantity, at uniform levels of 35 ft. candles or so, was very satisfying, of course, but not once did I see in a working area any direct light allowed to reach the ceiling, though an upward proportion of $\frac{1}{10}$ to $\frac{1}{4}$ has been a common recommendation both here and in America in recent years. The lighting people deplore this, but clients have been curiously impregnable to advice in the fear that they were losing something. Fortunately it has now been found that if fittings are perforated to allow a proportion of upward light, the better ventilation of the units keeps them so much cleaner, and lets the lamps operate so much cooler that there is usually no appreciable loss of operating efficiency as compared with conventional direct fittings, and the visual benefits are thus obtained more-or-less for nothing.

The really interesting thing to see was the uniform and relatively strong illumination, which is taking the place of the various levels of illumination related to the visual difficulty of the task. If the poor quality of the artificial lighting was a surprise in factories with an artificial climate, an even greater surprise was the almost total absence of colour.

ARTIFICIAL VENTILATION

Artificial ventilation is of course the established practice; it is not always done, but those who do not do it usually regret it in the summer. Common practice is to design for 4 to 7 summer air changes, or about 2 cfm/sq. ft., and to reduce this to about 1 to 1½ fresh air changes per hour in winter, with re-circulation of up to 75 per cent. of the total air, thus utilizing the remainder of the capacity of the fans.

Since they have the artificial ventilation plant, heating is naturally done by warming the circulated air; no radiant heating was seen. Cooling is said to be becoming common, but humidifying and filtering are still unusual, though filtering is perhaps fairly widely accepted.

May I ask you finally to consider what new direction, if any, we should now take? My own feeling runs somewhat thus: that we should press for the standardization and stocking of clean, economic, adaptable and attractive steelwork; that we should ask for adaptable ventilation plant along the American lines I described, co-ordinated with the steelwork. No doubt we should have monitors available to us when needed. And we should standardize in a way that facilitates the supply and fixing of good standardized lighting and power gear. I should like to see an effort made to devise reinforced concrete designs to give adaptability, for they can have the merits of cleaner design and lowered maintenance costs. And then I think we should aim to increase in every way studies of industrial technology.

FLATS

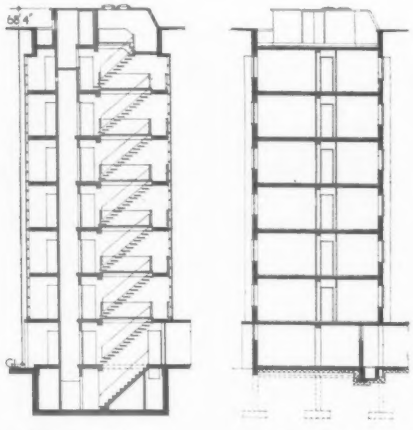
in BEEHIVE LANE, ILFORD, ESSEX
for the ILFORD BOROUGH COUNCIL
designed by L. E. J. REYNOLDS
senior assistant architect, H. B. N. NIXON
assistant architect-in-charge, R. C. EDLESTON
quantity surveyors, WALTER W. GREEN and PARTNER

Beehive Court, consisting of a block of 11 old peoples' flats (completed in 1951) and a 7-storey block of 38 flats for the middle income group, occupies a 2-acre site, on which originally stood semi-derelict industrial buildings. The area in which the site lies is to the south of Eastern Avenue, near Gants Hill station, and mainly contains semi-detached houses (a few can be seen in the photograph, left). The density of the Beehive Court development is 90 persons to the acre.

The 7-storey block with the old people's flats on the left.

Left, the covered way between the main entrances, from the north.

SITE.—In making its decision to purchase this site the Council was influenced by the following considerations. To restore the original, war-damaged buildings would have perpetuated an industrial use of the site, which was inconsistent with the residential character of the area. The site is within a few minutes' walk of an underground station, bus routes and shops. The existence of all necessary services and two flanking roads meant the minimum expenditure on these normally expensive items. In view of these facilities and the nearness of the site to a fine public park, it was considered suitable for high density development. The two sections of the community, old persons and members of the middle income group, accommodated in Beehive Court, had not been previously served by the Council's post-war housing programme. The shape of the site, its orientation, area and the position of existing trees, determined the layout adopted. All flats overlook a spacious green and the existing trees include elm, apple, pear, cherry, laburnum, plane, poplar and shumac. The service road at the rear of



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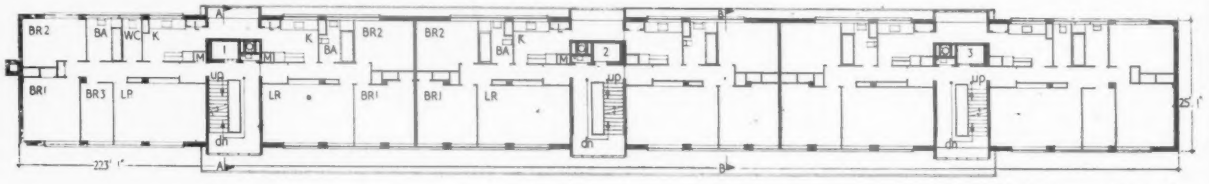
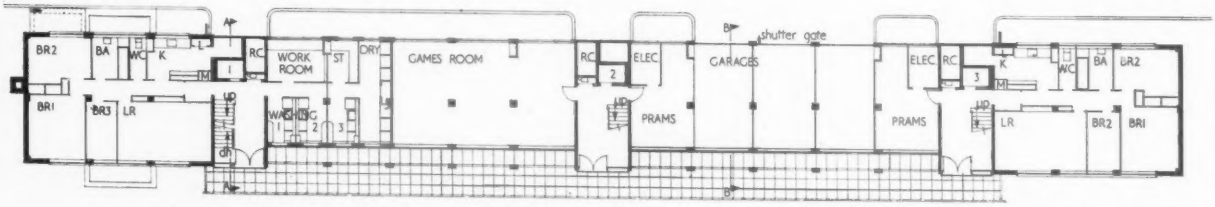
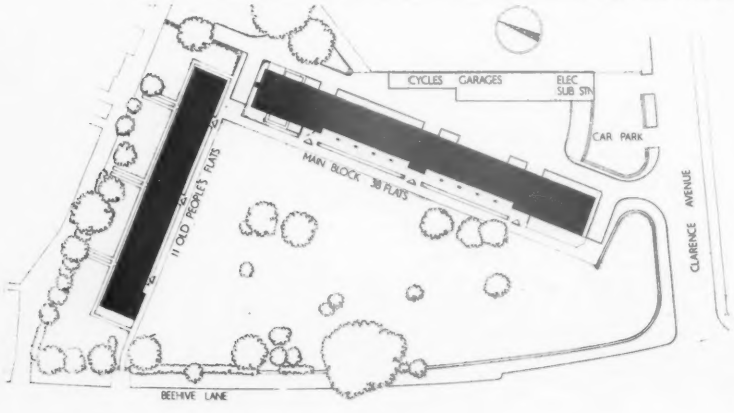


Typical upper floor plan



Ground floor plan [Scale : $\frac{1}{16}$" = 1' 0"]



Site plan

FLATS

at ILFORD, ESSEX

designed by L. E. J. REYNOLDS

the main block gives access to garages and to the boiler house at the north-east corner of the site. It is also used for refuse removal.

PLAN.—The main block has an overall length of 223 ft., a width of 25 ft., and a height from ground floor to top of roof parapet of 64 ft. 9 in. There are fourteen 3-bedroom flats, twenty-four 2-bedroom flats, a laundry, workroom, games room, stores for prams, and garages.

CONSTRUCTION.—A reinforced-concrete frame was chosen mainly for economy in steel and is designed on a 12-ft. square grid on plan, 10 ft. where staircases occur. The staircase walls, which are 6-in. solid RC, are designed as vertical cantilevers to resist wind pressure on the whole wall face, in conjunction with the north and south walls of the block. External panel walls are of 9-in. cavity construction, consisting of a 4½-in. outer skin of facing bricks, a 2½-in. cavity and a 2-in. inner skin of keyed hollow blocks. The two skins are tied with copper wire butterfly wall ties at 3-ft. by 1-ft. 6-in. centres. Internal partitions are constructed of 2-in. or 3-in. breeze blocks. Party walls between adjoining flats are constructed of two breeze block skins, one 3 in. the other 2 in., divided by a 4-in. cavity for sound insulation. The different thicknesses of these skins adds to the insulation value of the walls. Expansion joints pass through the entire building at these points. The RC beams in the floors are split with ½-in. thick fibre board sandwiched in the gap. The vertical expansion

Below, the front, or west facade, seen from the south-west across Beehive Lane.

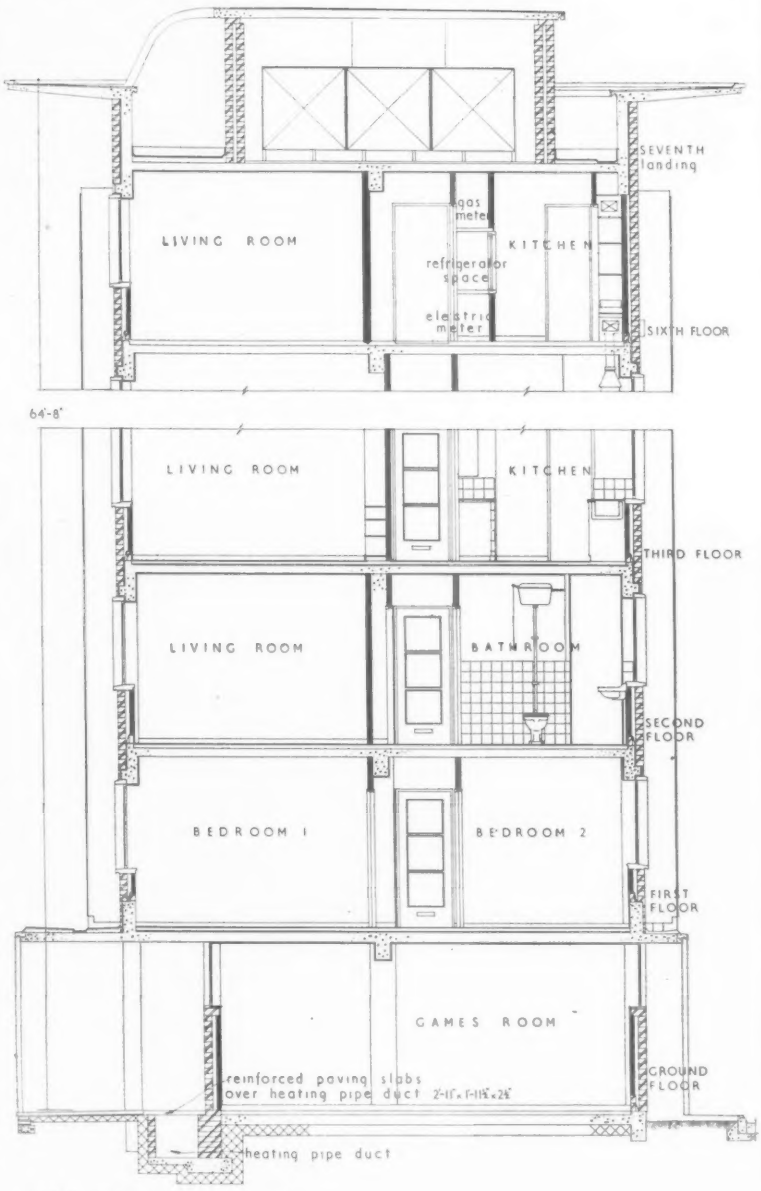
Left, one of the staircases from the sixth floor landing.

FLATS

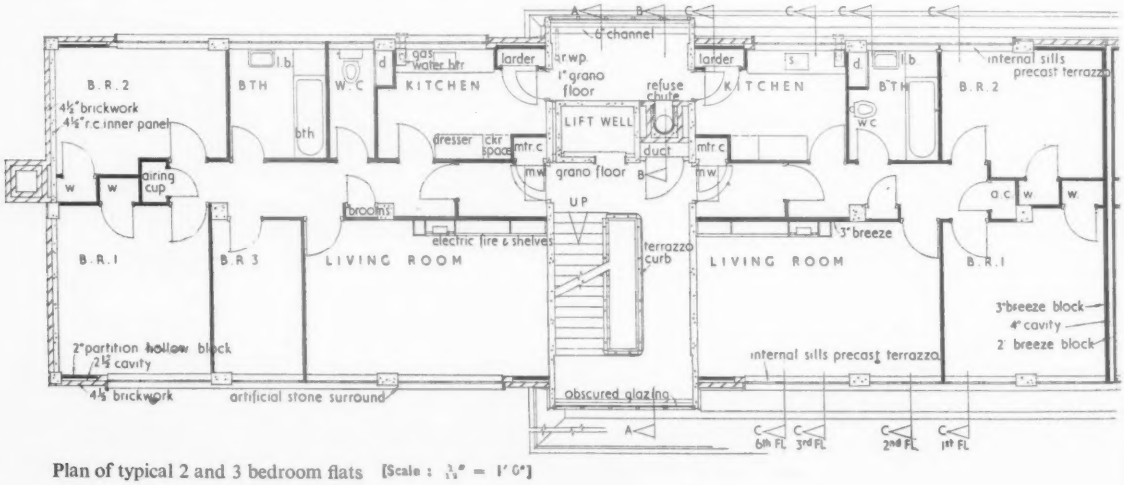
at ILFORD, ESSEX

designed by L. E. J. REYNOLDS

joints through the external faces of the block consist of ⅝-in. thick by 2-in. deep cork strip inserted in the ¾-in. joint, covered on the face by an aluminium section fixed to a hardwood strip, secured to lugs built into the brickwork. Where the expansion joints meet windows on the west elevation there are special plate mullions. Through the projecting RC canopy a fibre board strip is inserted; the roof slab is similarly treated but with a V-shaped groove left on the top face of the slab to accommodate the 2-layer mineral-faced felt roofing laid on ½-in. fibre board. All floors are 5-in. solid RC slabs. The lift shafts are enclosed in 5-in. RC walls and are carried up fully isolated from the surrounding



Section C-C [Scale : ⅛" = 1'0"]



Plan of typical 2 and 3 bedroom flats [Scale : 1/16" = 1'0"]

WORKING DETAIL — COVERED WAYS AND CANOPIES: 6

CANOPY OVER ENTRANCE DOORS: SCHOOL AT ST. PAUL'S CRAY

Elie Mayorcas, architect, in collaboration with S. H. Loweth, Architect to the Kent County Council

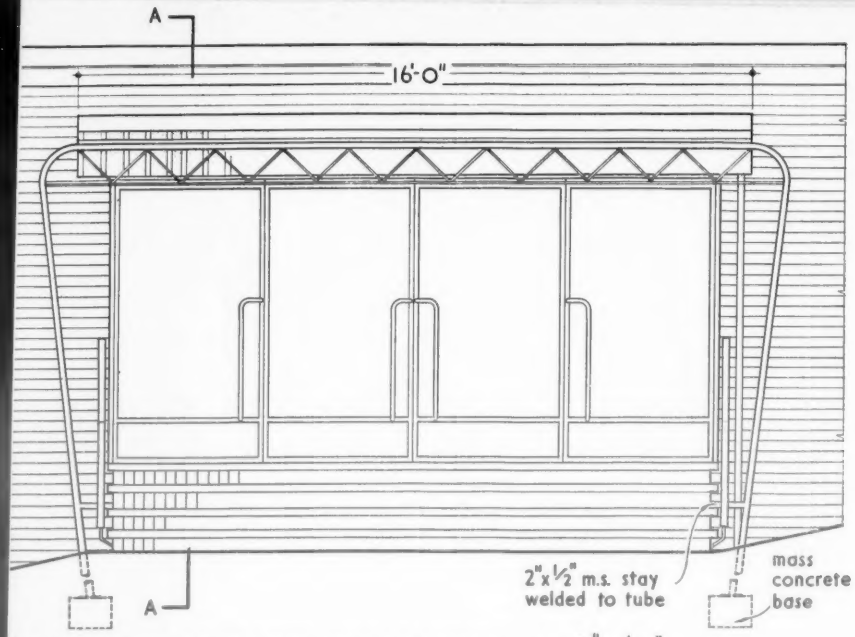
The canopy is of aluminium decking and is supported at the front by a tubular steel frame and at the wall on a steel angle

WORKING DETAIL

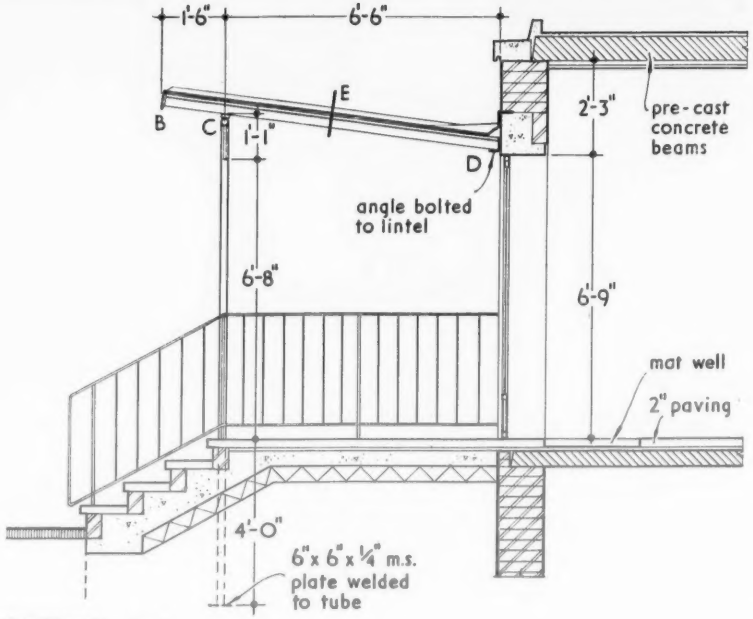
COVERED WAYS AND CANOPIES: 6

CANOPY OVER ENTRANCE DOORS: SCHOOL AT ST. PAUL'S CRAY

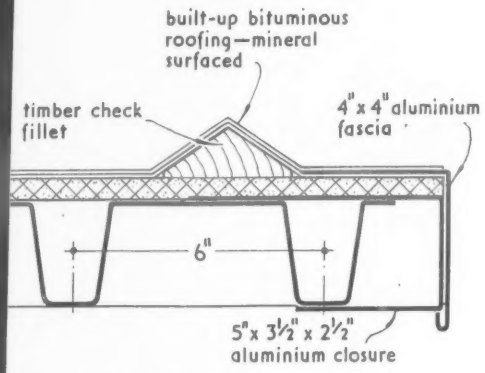
Elie Mayorcas, architect, in collaboration with S. H. Loweth, Architect to the Kent County Council



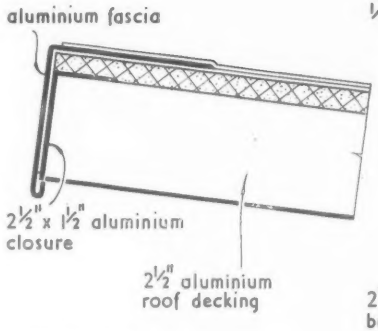
ELEVATION OF ENTRANCE AND CANOPY. scale ¼" = 1'-0"



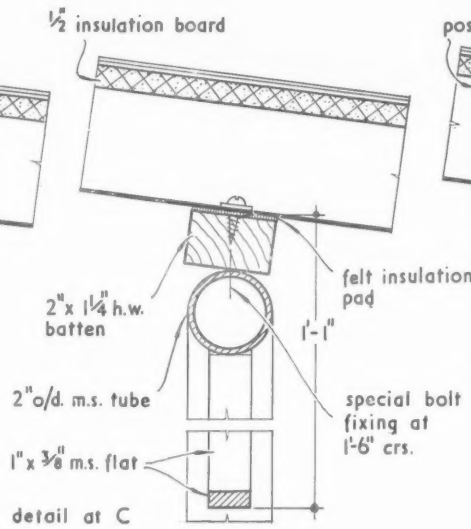
SECTION A-A.



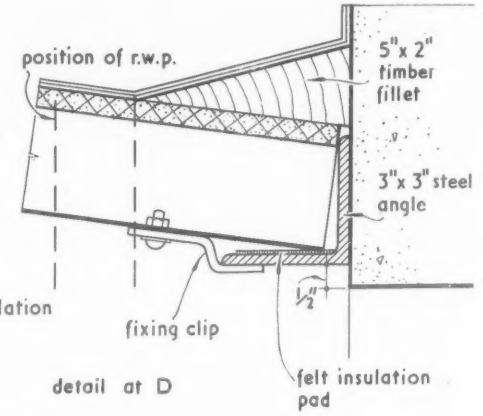
section thro' verge at E



detail at B



detail at C



detail at D

DETAILS OF CANOPY. scale ¼ full size

WORKING DETAIL

LIGHTING: 3

DECORATIVE NICHE AND LIGHTING: HOUSE IN LONDON, N.W.8

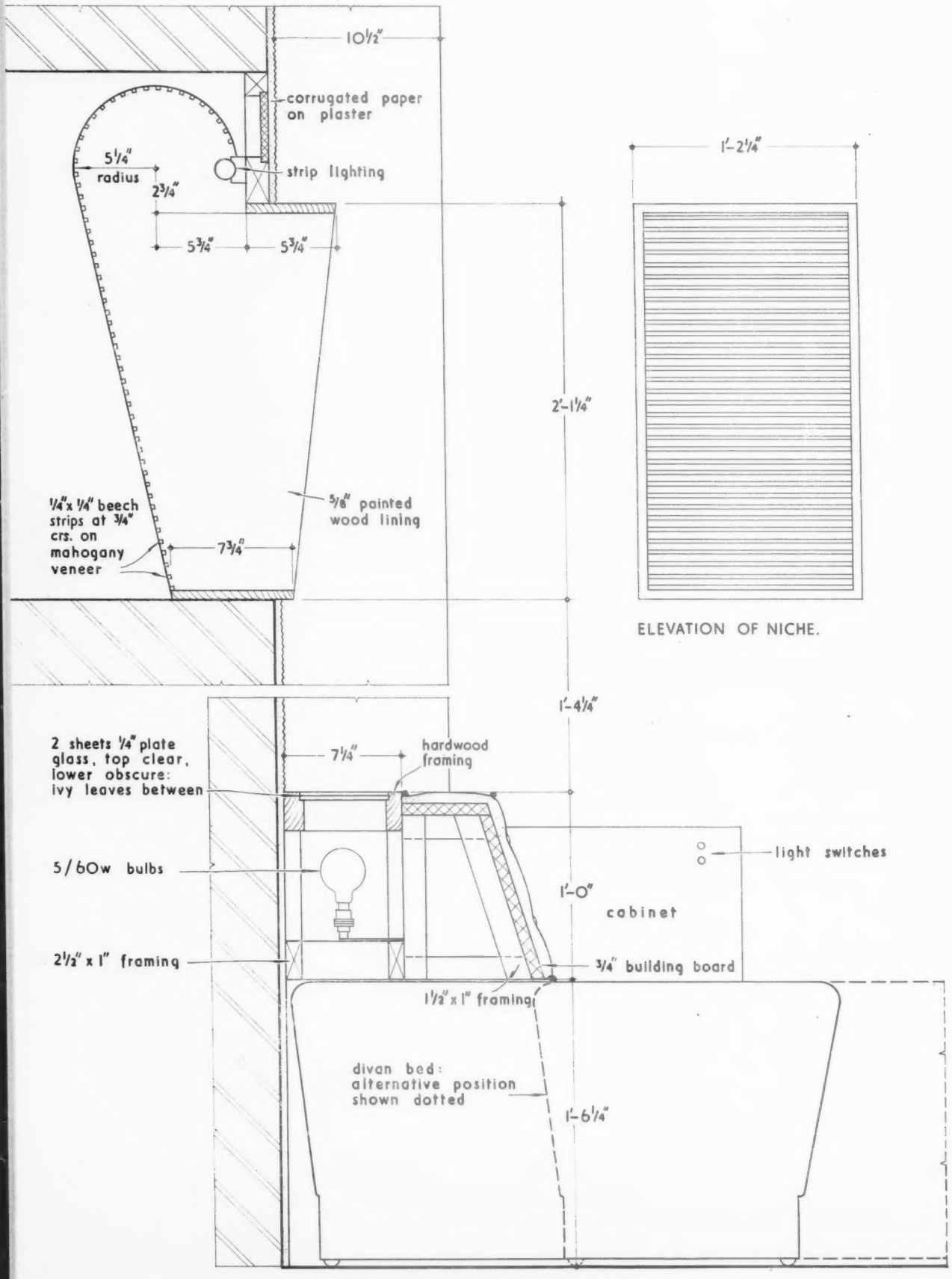
A. V. Pilley, architect

The back of the niche is lined with beechwood strips on mahogany veneer and is illuminated from the top by concealed strip lighting

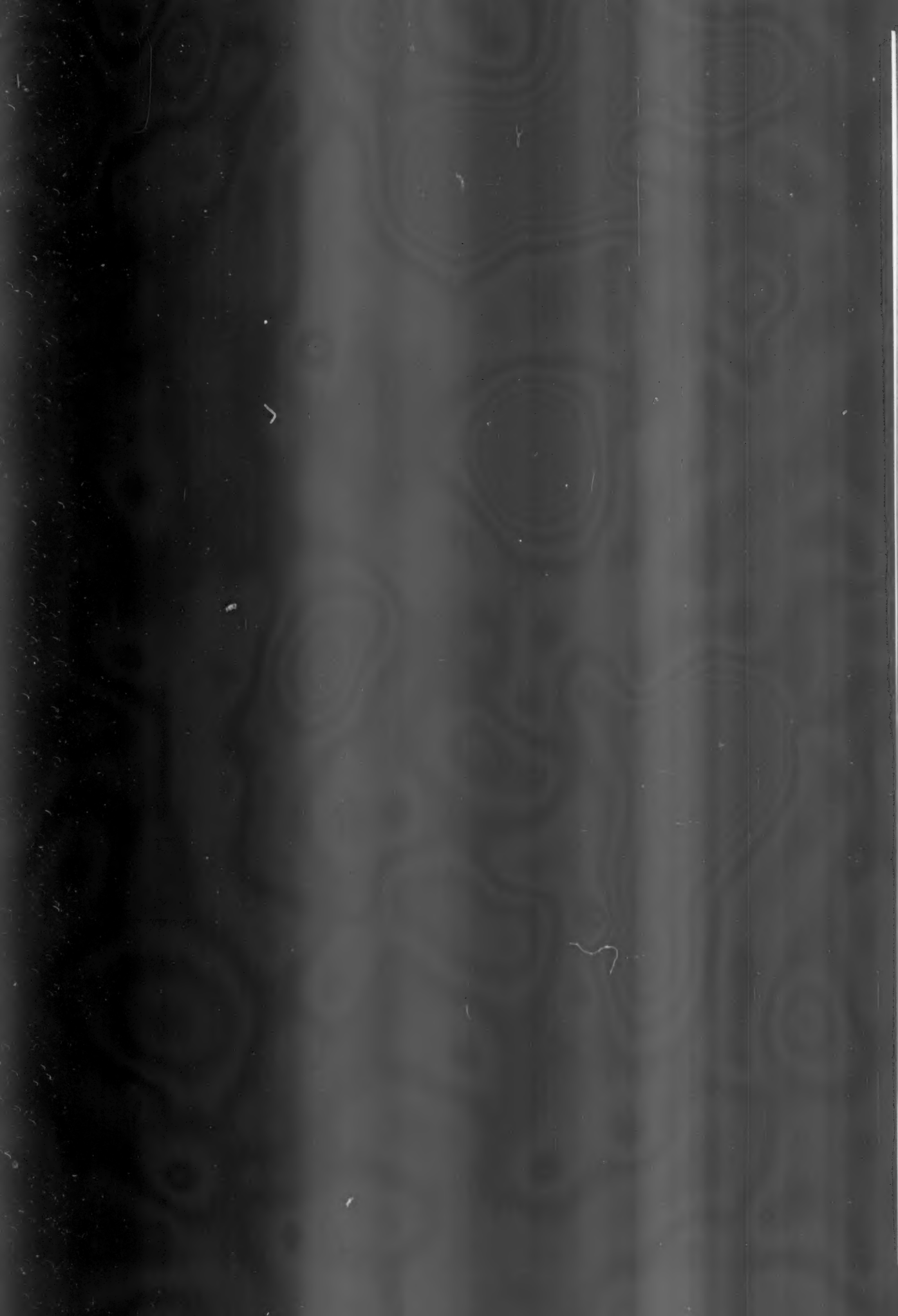
WORKING DETAIL **LIGHTING: 3**

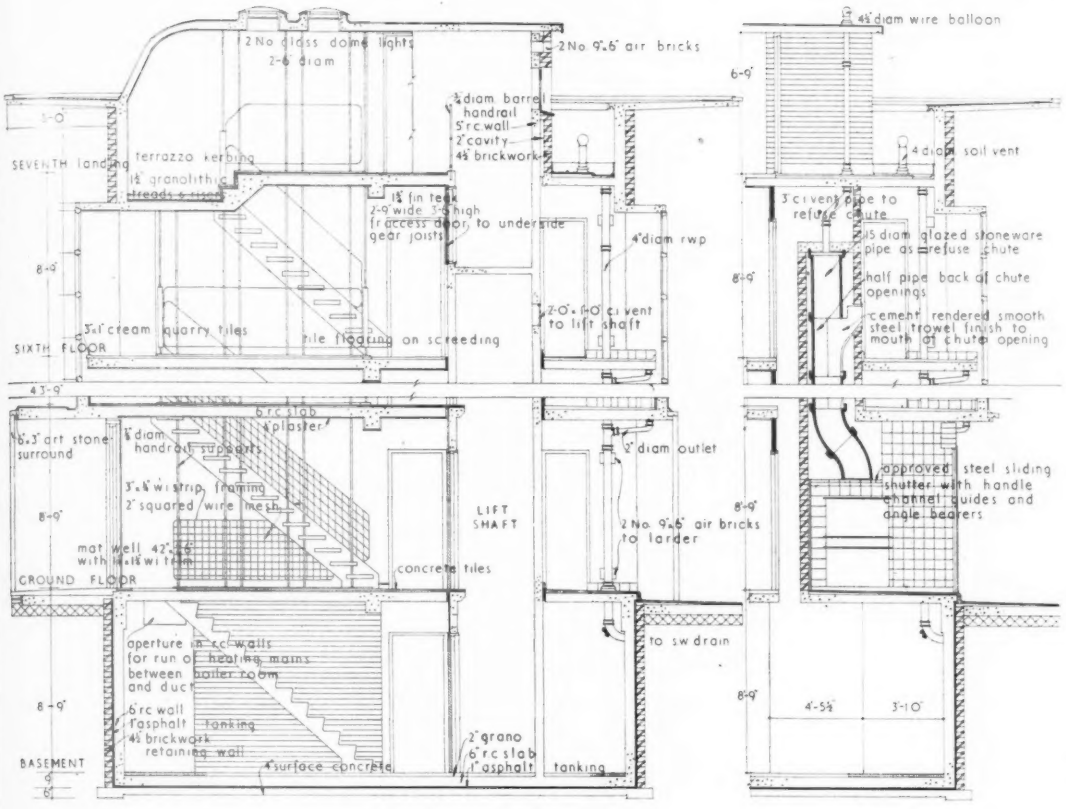
DECORATIVE NICHE AND LIGHTING: HOUSE IN LONDON, N.W.8

A. V. Pilley, architect



SECTION THROUGH NICHE AND CONCEALED LIGHTING. scale 1½" = 1'-0"





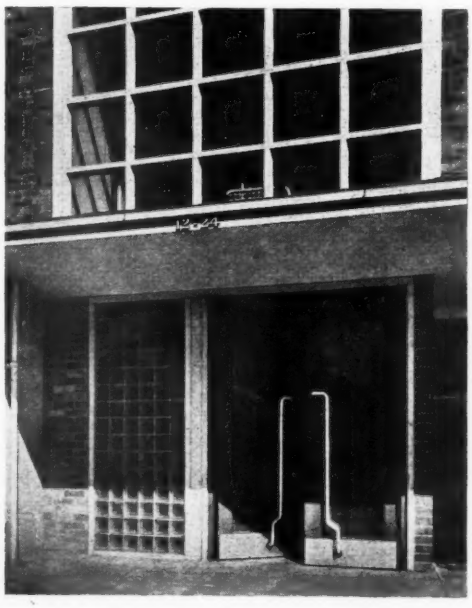
Sections A-A and B-B

[Scale ⅜" = 1' 0"]

structure for sound insulation. Cork strips 6 in. by 2 in. are inserted vertically between adjoining walls. And 1-in. thick cork is inserted horizontally between shaft walls and RC landings.

FINISHES.—The walls are faced with autumn tint facing bricks with flush joints and all RC beams and stanchions are faced with 1-in. thick brick tiles to match. A 5-ft. projecting RC overhang is cantilevered from the top of the parapet walls. This canopy, which conceals the tank rooms, is pierced with tapering 5-in. to 4-in. square holes 1 ft. 9 in. from the wall face, at 6-ft. intervals. These holes allow a hook to a painter's cradle tackle to be drawn through and attached to a cranked, round ⅞-in. dia. steel bar. When not in use these holes are closed with felt covered wooden stoppers. Cradles are used when staircase windows are cleaned and

Below left, kitchen landings are hidden on the east facade behind timber louvres in an RC grille. Below, one of the main entrances on the west front, and the lower part of a tall staircase window.



Left, the east facade with expansion joint, which passes through the entire building. Below, the main block, with old people's flats on the left, seen from the south-west.

FLATS

at ILFORD, ESSEX

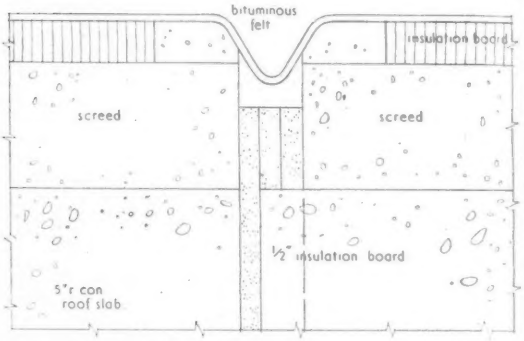
designed by L. E. J. REYNOLDS

external painting of metal casement windows is carried out. Floors are insulated against air-borne sound by a 1-in. layer of glass silk quilt, compressed down to ½ in. thickness, covered with building paper and chicken wire on which is laid a 2-in. thick cement sand screed, the floor finish being chequer pattern cork tiles, 12 in. square and $\frac{3}{16}$ in. thick in living rooms, bedrooms and corridors. In halls, kitchens, bathrooms and W.C.s the finish is 9-in. square thermoplastic tiles. All internal walls are plastered and distempered, except in tank rooms and the laundry. Windows on the east elevation are standard, but on the west elevation they are purpose-made steel casements. All windows delivered to the site were rust proofed by the electro-galvanizing process. Behind lift shafts are landings, accessible from the kitchens of two adjoining flats. These landings are screened on the rear elevation by RC grilles similar to staircase windows on the front elevation, but fitted with framed timber louvres in place of glazing.

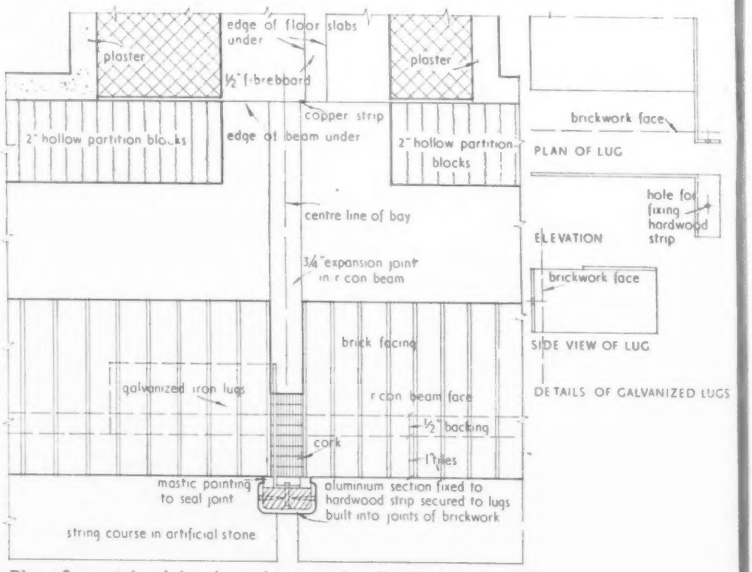
SERVICES.—There is a combined heating system for the main block and the old people's flats by low pressure hot water, with radiators in all living rooms, bedrooms, work room, games rooms and kitchens. The heating chamber is under the north end of the main block.

The period for construction of the main block was 18 months and the contract price £98,123. The cost per ft. cube was 5s. and per ft., super 69s. 3d. The ancillary buildings cost £2,590; landscaping cost, £720. Rents, including central heating, use of laundry, games room and workshop, are £3 1s. 8d. for a 2-bedroom flat and £3 8s. 9d. for a 3-bedroom flat per week.

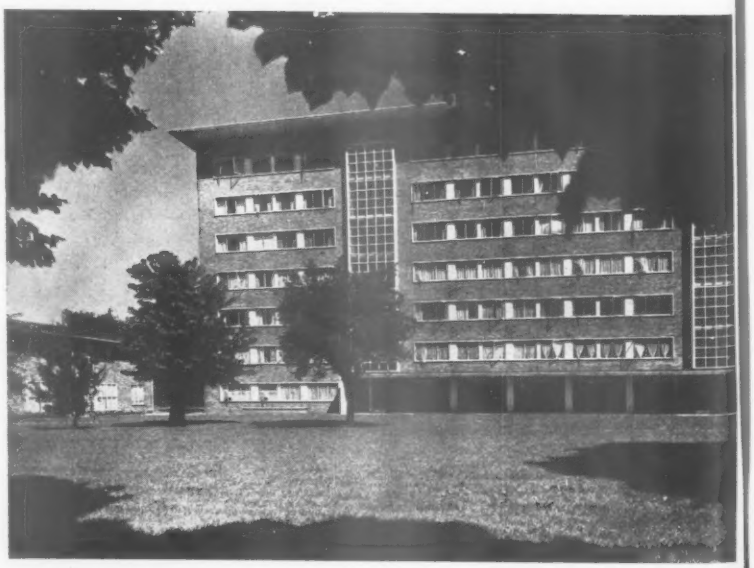
The general contractors were Gee, Walker & Slater, Ltd. For sub-contractors, see page 174.



Section of expansion joint through roof



Plan of expansion joint through external wall [Scale : 3" = 1' 0"]



BUS GARAGE

for the LONDON TRANSPORT EXECUTIVE

in WHITEHALL ROAD, THORNTON HEATH, SURREY

designed by ADIE, BUTTON and PARTNERS

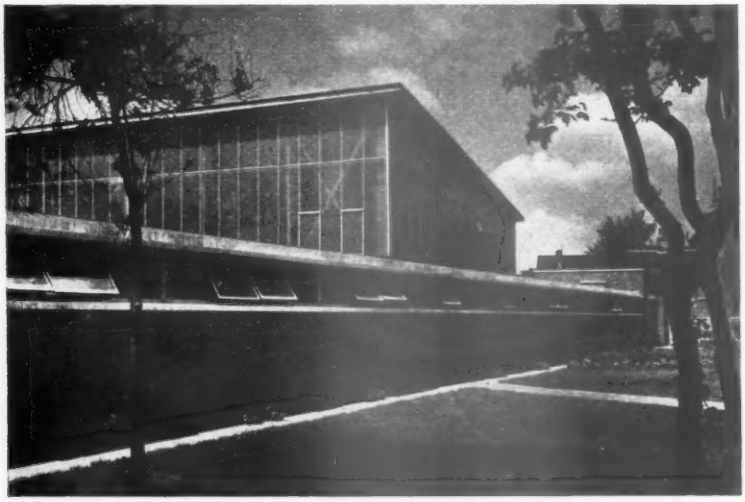
under the direction of P. CROOM-JOHNSON, chief engineer to the LTE and T. BILBOW, architect to the LTE

consulting engineer, A. E. BEER; electrical engineers, RONALD EDGAR and PARTNERS

quantity surveyors, HARRIS and PORTER

This garage forms part of the LTE South London tramways conversion scheme and occupies the site of the former tram depot and three houses facing the London Road. The building was planned to accommodate 107 buses, together with five running shift and rota pits, workshops, stores, etc., for engineering staff. The block which faces Whitehall Road contains the traffic offices with staff canteen and recreation room on the first floor.

The administrative block, from the east.



View from the south-east, with glazing to the dock area in the background.

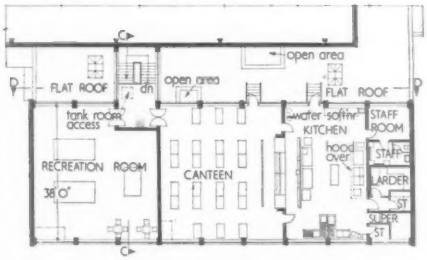
BUS GARAGE

at THORNTON HEATH, SURREY

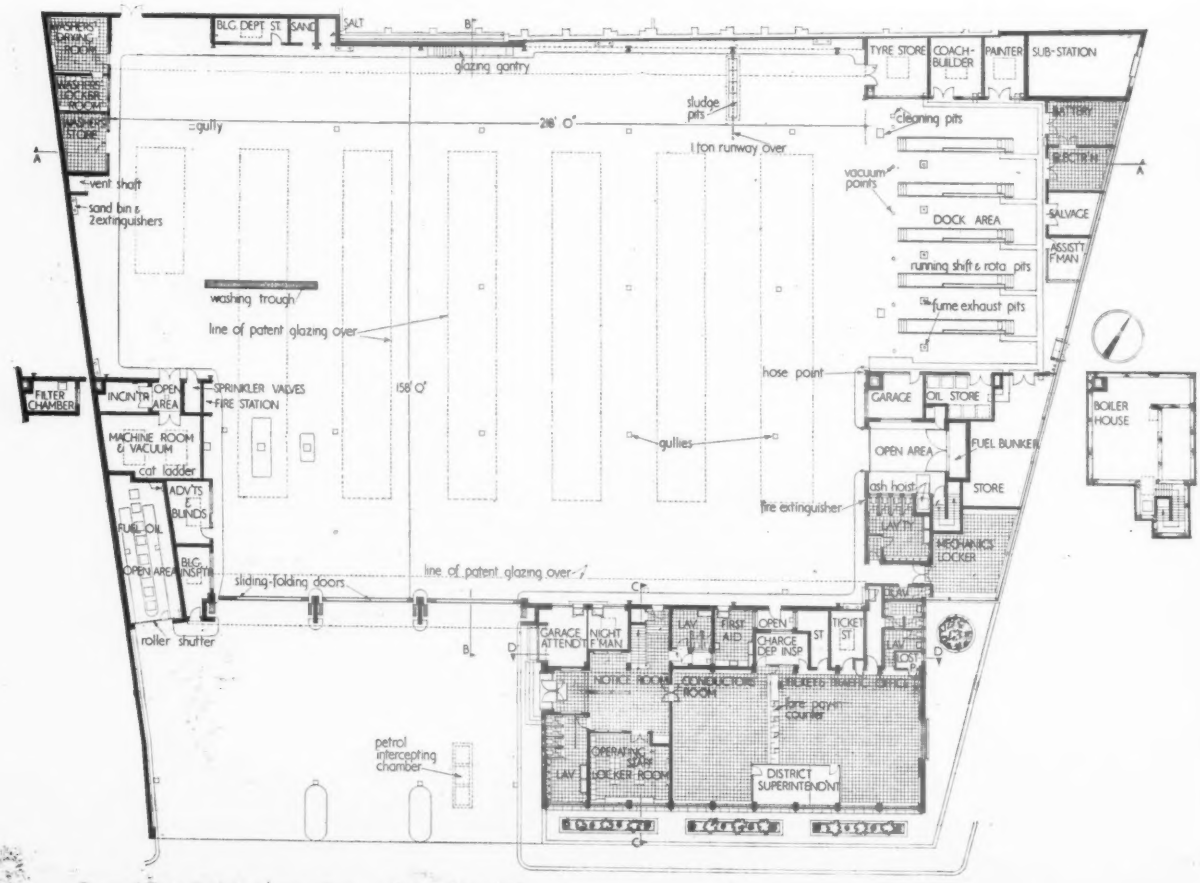
designed by ADIE, BUTTON and PARTNERS

SITE.—All the existing buildings on the site, including the three houses, were demolished before building began, with the exception of the sub-station on the south-west side, which could not be demolished until a later date when trams on all routes had ceased to run. The garage has been set back from the old building line on London Road to allow for future road widening and this portion of the site has been made into a fenced garden.

PLAN.—The main entrance and exit was planned as far as possible from the main road to allow buses to queue, before entering the garage, without disturbing traffic. The main entrance to the operating and welfare block is off the bus entrance to



First floor plan

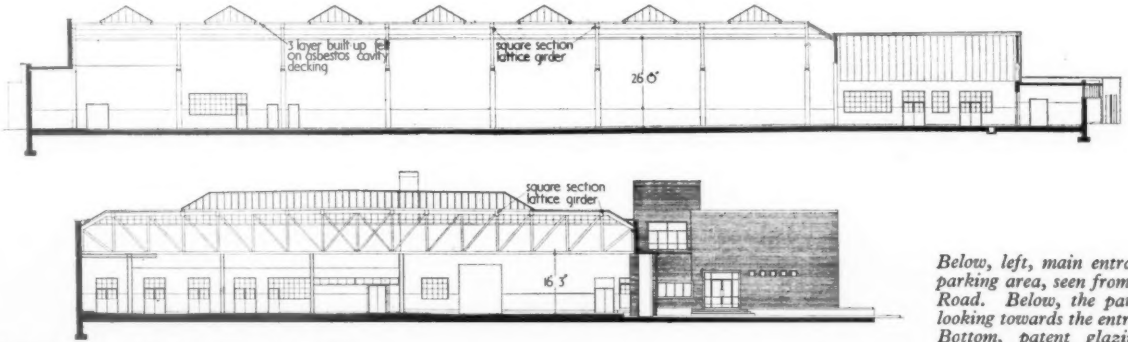


Ground floor and basement plans [Scale : $\frac{1}{16}$" = 1' 0"]

allow conductors easy access when paying in fares. There is also access from the parking area for mechanics and drivers.

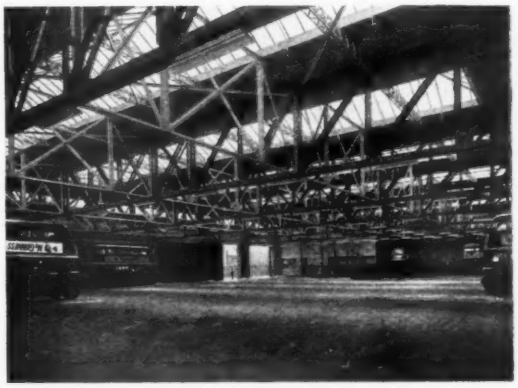
CONSTRUCTION.—The main parking area has a flat roof carried on lattice girders, supported on stanchions and the external walls are solid 18-in. brickwork. Some of the walls formed part of the original tram depot and have been refaced on the inside. The welfare block is completely steel framed; the external walls are of 13½-in. brickwork. Partitions are of 13½-in., 9-in. and 4½-in. brickwork and of 3-in. breeze blocks. All suspended floors and the low level roof slab are of precast reinforced concrete with *in situ* filling.

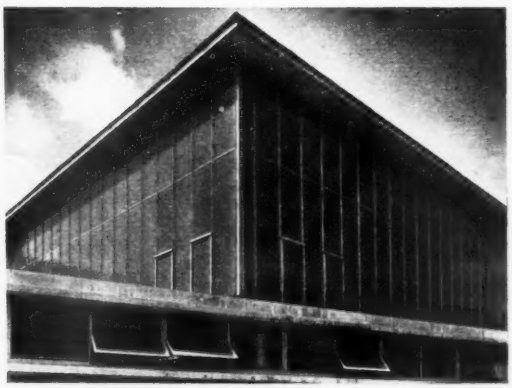
FINISHES. The roof over the parking area is of asbestos-cement decking covered with three-ply felt and 1-in. macadam intersected with 14-ft. wide skylights. All r.c. flat roofs are covered with 2-in. cork, screeded to falls in sand and cement and covered with three-ply bituminous felt with 1-in. macadam. The main parking and pit area walls are of sand lime bricks, with a 5-ft. cement rendered dado, painted grey. The floors are of hardened granolithic, and the ceiling is distempered cream. The main elevation of the welfare block is faced with 2-in. Portland stone and other elevations are faced with brown rustic facing bricks. All windows are steel, rust-proofed and painted. All workshops have walls of fair-faced brickwork, painted grey to a height of 7 ft. and ivory above. Ceilings are plastered and distempered cream. Lavatories and locker room walls are finished with 6-in. sq. sepia or mushroom

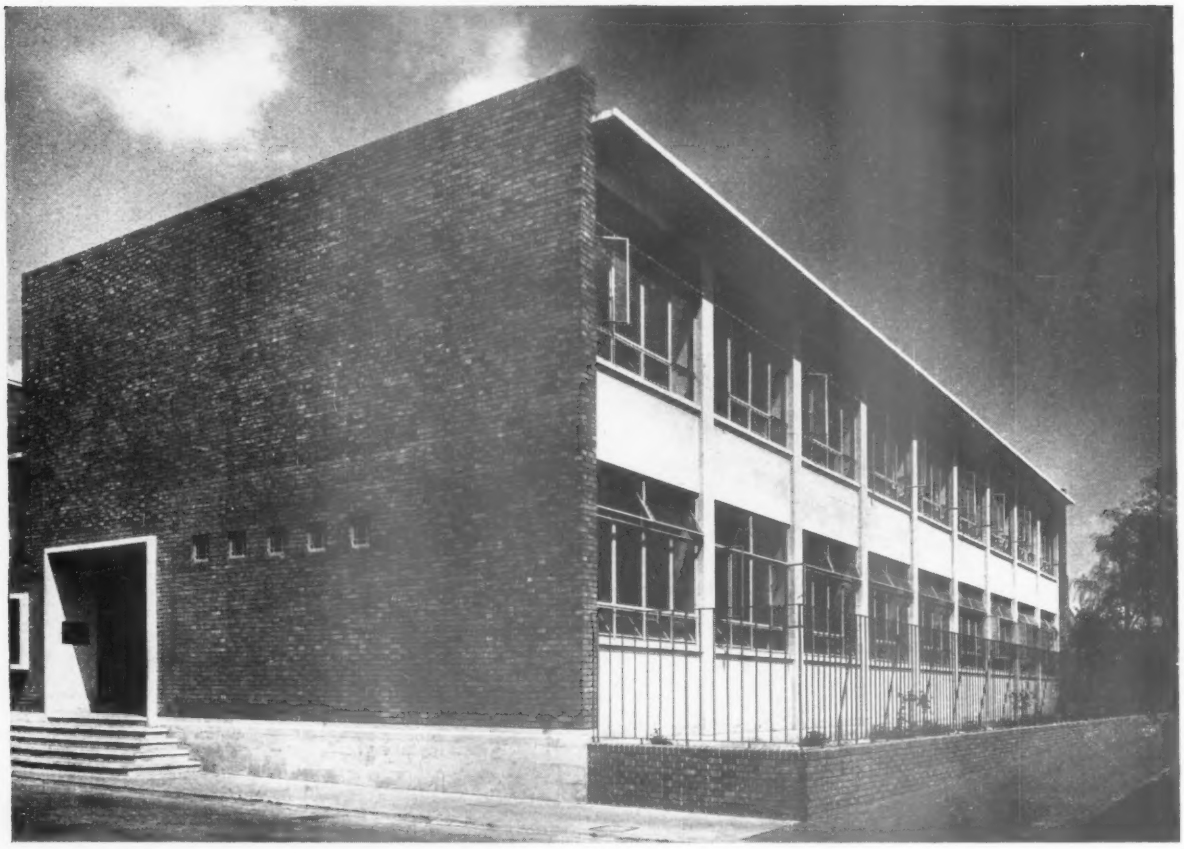


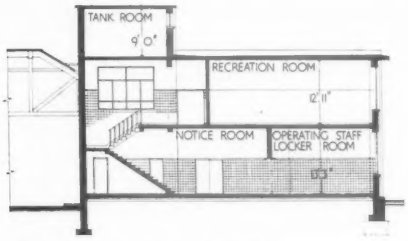
Sections A-A and B-B [Scale : $\frac{1}{16}$" = 1' 0"]

Below, left, main entrance to the parking area, seen from Whitehall Road. Below, the parking area, looking towards the entrance doors. Bottom, patent glazing to the dock area.

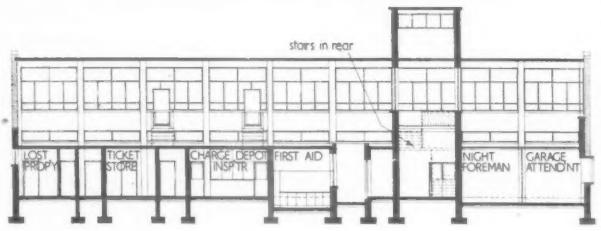








Section C-C [Scale : $\frac{1}{32}$" = 1' 0"]



Section D-D

BUS GARAGE

at THORNTON HEATH, SURREY

designed by ADIE, BUTTON and PARTNERS

coloured tiles to 7-ft. height and peach distemper above. The canteen is tiled with 6-in. sq. mottled yellow tiles up to 7 ft. and has a floor of heather brown tiles. Window sills are cantilevered over the radiators and covered with laminated plastic.

SERVICES.—The welfare block, offices, workshops, stores and pits are centrally heated from a boiler room in the basement. Boilers are fitted with underfeed stokers, gravity fed from a fuel bunker which is accessible from the parking area. A central vacuum system is installed for cleaning buses. Oil fuel tanks are below ground adjoining the entrance. There are two vertical extract shafts on the north-west side of the garage to assist in the ventilation of the parking area.

The general contractors were M. J. Gleeson (Contractors), Ltd. For sub-contractors, see page 174.

Above, the welfare block, from the south-west. Below, left, folding-sliding entrance doors. Below, bus being repaired over one of the rota pits.

TECHNICAL SECTION

Recently arrived in this country is a publication of the American Federal Civil Defence Administration entitled : *An Interim Guide for the Design of Building Exposed to Atomic Blast.* This is an interesting, if somewhat depressing, document ; architects, one would have thought, had enough problems getting their buildings up, without having to consider what will happen when someone tries to knock them down.

However, the first question that the architect in this country will ask is : " May I use more steel and other materials in order to strengthen my building against the effects of atom bombing ? " To this MOW reply that it depends what the building is for and where it is to be built. In the case of a building in the heart of the country, no ! In the case of a building of national importance in the heart of a city, yes—the Minister *will* take into account the building's resistance to bombing when considering the application for steel.

One particularly interesting point emerges from the American publication—that buildings with continuous frames or with rigid connections have the greatest resistance to bombing ; these are, in fact, forms of construction that are essentially economical in materials.

This week's special article

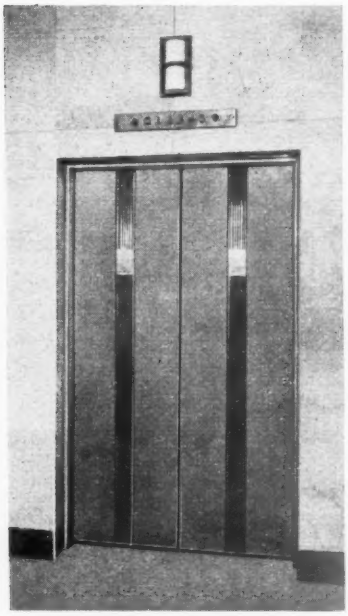
26 SERVICES AND EQUIPMENT
standard lifts

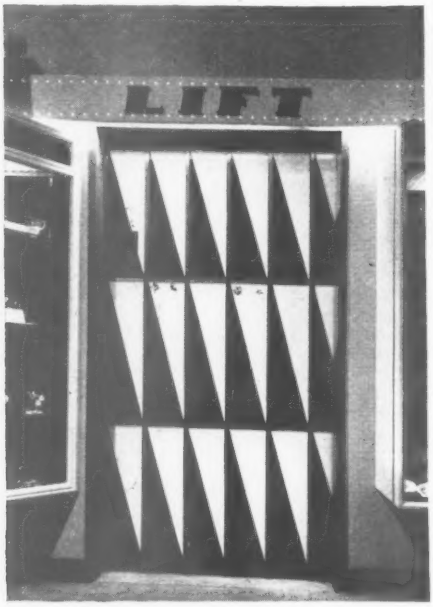
The number preceding the week's special article or survey indicates the appropriate subject heading of the Information Centre to which the article or survey belongs. The complete list of these headings is printed from time-to-time. To each survey is appended a list of recently-published and relevant Information Centre items. Further and earlier information can be found by referring to the index published free each year

In a short article below, A. Dixie puts the case for "standard" lifts. Recommended in Post War Building Study No. 9, abandoned in the BS C of P, the standardization of lift speeds, dimensions and loading is now under consideration again by a BSI committee. Mr. Dixie claims that the specification of standard lifts by architects, whenever possible, would mean cheaper lifts, better lifts and a reduction in the time spent at the drawing board in the architect's office.*

Part 2 of Post War Building Study No. 9 (*Mechanical Installations*) was devoted to lifts, hoists and escalators. In addition to many pages of recommendations for lifts in various buildings, outline diagrams of many types of lift were given, together with main dimensions for lifts with various loads and speeds. The committee that prepared this publication represented both users and makers, and its work was the first official effort towards standardizing electric lifts. The value of this work was appreciated by many architects, engineers and manufacturers. One manufacturer, who before the war only made lifts " to order," has installed,

* *Mechanical Installations.* MOW. (HMSO, 1944, 2s.)





Left, a standard general-purpose lift for 20 persons, exported from Great Britain and installed in Singapore, at the Chartered Bank of India, Australia and China. (Architects, Messrs. Palmer and Turner.) The more standard lifts exported, the cheaper lifts at home will become. Right, standard components need not look dull. These ordinary telescopic gates at Thos. Cook and Son, Ltd. Berkeley Street, have been painted so that as they open and close the patterns change. (Architect, Dennis Lennon.)

since 1945, hundreds of standard lifts, which he claims, with some logic, can be produced far more economically than " tailor-made " lifts.

A RETROGRESSIVE STEP

In 1951 the Council for Codes of Practice for Buildings issued BS C of P 407,101 (1951), which covers very similar ground to that covered by Part 2 of *Mechanical Installations*, but there was one vital difference between the two publications: in the C of P, loads, speeds and dimensions were omitted from the diagrams of the lifts. Hence, the basis on which a range of standard lifts could have been built up was destroyed, and architects were left to seek the information they required on space requirements from individual firms, or simply to ask firms to make the best use of a given space.

The following reason for the omission was given in the C of P:

> " Owing to the different types of components, *e.g.*, door-operating devices, that are available, and differences in site conditions, it is not practicable to prepare dimensioned layouts to cover the many possible combinations of conditions with electric lifts. Moreover, changes in space requirements occur at not infrequent intervals as improvements in the equipment are made."

This excuse overlooked the fact that what was claimed to be " not practicable " had already been done, both here and in the USA. Fifty per cent. of the output of passenger lifts of one American firm alone consists of standardized products. It has been suggested that the lift-maker cannot be expected to standardize more than the details of his equipment, and that he should be prepared to assemble his equipment on the site in an infinite number of combinations. But, unless a certain degree of standardization of *layout* is accepted, the chances of achieving any worthwhile standardization of *equipment* are severely reduced. All too often, site variations necessitate unexpected changes in equipment. The standardization of components without the standardization of assembly means that the manufacturer is obliged to stock too great a range of components.

THE ADVANTAGES OF STANDARDIZATION

Standardization, and the increasing degree of mass-production of components that it makes possible, brings down the cost of a lift, in just the same way as it brings down the cost of any other commodity. Moreover, a cheaper product would enable us to compete more successfully with the USA for foreign markets. Compared with the United States' annual output of lifts, there are in America *less* firms of lift-makers than there are in this country. Hence, it will be appreciated, American competition is keen. The reader may well ask why, as an architect, he should be concerned with our lift exports. The answer to his question is simply that, if our exports increase, the cost of lifts would fall—to the benefit of his client.

Clearly, too, if the output of lifts was increased, the firms that make them could devote more money to development work—which, in turn, would mean cheaper lifts and better lifts.

The saving of drawing-office time, both for the manufacturer and for the architect, is another important consideration. In the case of the former, it helps to further reduce costs; in the case of the latter, it means that standard details can be used, and that working drawings are not held up whilst awaiting the arrival of details from the manufacturer.

LOADINGS

Standardization means that the architect, instead of choosing any size and loading for a lift, must choose the size and loading nearest to his requirements from the schedule that the industry adopts. The standard loadings for passenger lifts suggested in the Post War Building Study were based on the industry's past practice. They were 600, 900, 1,200, 1,500, 2,250 and 3,000 lb.—for 4, 6, 8, 10, 15 and 20 persons respectively—*i.e.*, based approximately on cwts., rather than, as in the USA, on the unit of 1,000 lb. (Standard loadings for American passenger lifts are 1,000, 2,000, 2,500, 3,000, 3,500, 4,000 and 5,000 lb.) Similarly, standard goods lifts in America start from the relatively large load of 2,500 lb., in contrast to our first size of 10 cwt.

These loads, and the standards for speeds and dimensions, have been criticized. They may, in fact, not be the best figures to adopt. But this does not affect the argument that standardization is in itself a good thing. It is not impossible to change the figures. For example, immediately after the war, the 4-person lift was widely adopted for local authority flats. This was not suitable for carrying a pram, and the use of an 8-person lift, specially-shaped to carry a pram, was adopted instead.

An architect, or his client, can seldom justify the necessity for an intermediate size of passenger lift, and, even then, if the more widespread use of standard lifts brings their price down further, the difference in price between these and a " special " might well make a client change his mind.

GOODS LIFTS AND LIFTS IN EXISTING WELLS

Goods lifts do not lend themselves to standardization as readily as passenger lifts. Nevertheless, architects often find that a standard lift will serve just as well as a " special," unless there are very unusual requirements. The replacement of lifts in existing wells can, of course, seldom be done with standard lifts. But, if the practice of using the standard product increases, this will, in time, become possible, and it will mean that the replacement of a lift by a more up-to-date type will cease to be such an extravagance as it often is today.

BISON PRESTRESSED

Notice of Longer Spans

Our extensive experience in this work, and assured supplies of High Tensile steel wire have enabled us to offer BISON PRESTRESSED UNITS for longer spans than in our published Span Table.

The Span Table published in the Bison Information Book, Volume II, and Prestressed Booklet, is therefore modified as follows :—

Table of Maximum Spans of Bison Prestressed Floors and Roofs for various Loads and Thicknesses

Depth of BISON SLAB	Dead Weight of BISON SLAB lbs. per sq. ft.	Safe Distributed Superimposed Load (lbs. per square foot)				
		30	60	100	150	200
4¼″	30	18′ 0″	16′ 0″	14′ 0″	12′ 0″	11′ 0″
5″	38	22′ 0″	19′ 0″	16′ 0″	13′ 9″	12′ 0″
6″	43	25′ 0″	21′ 0″	18′ 0″	15′ 6″	14′ 0″
7″	48	29′ 0″	25′ 0″	22′ 0″	19′ 3″	17′ 0″
8″	53	33′ 0″	29′ 0″	25′ 0″	22′ 0″	20′ 0″

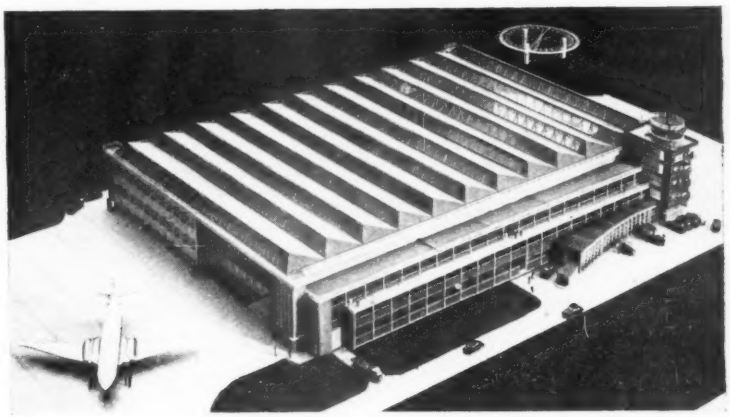
An advertisement of

CONCRETE LIMITED

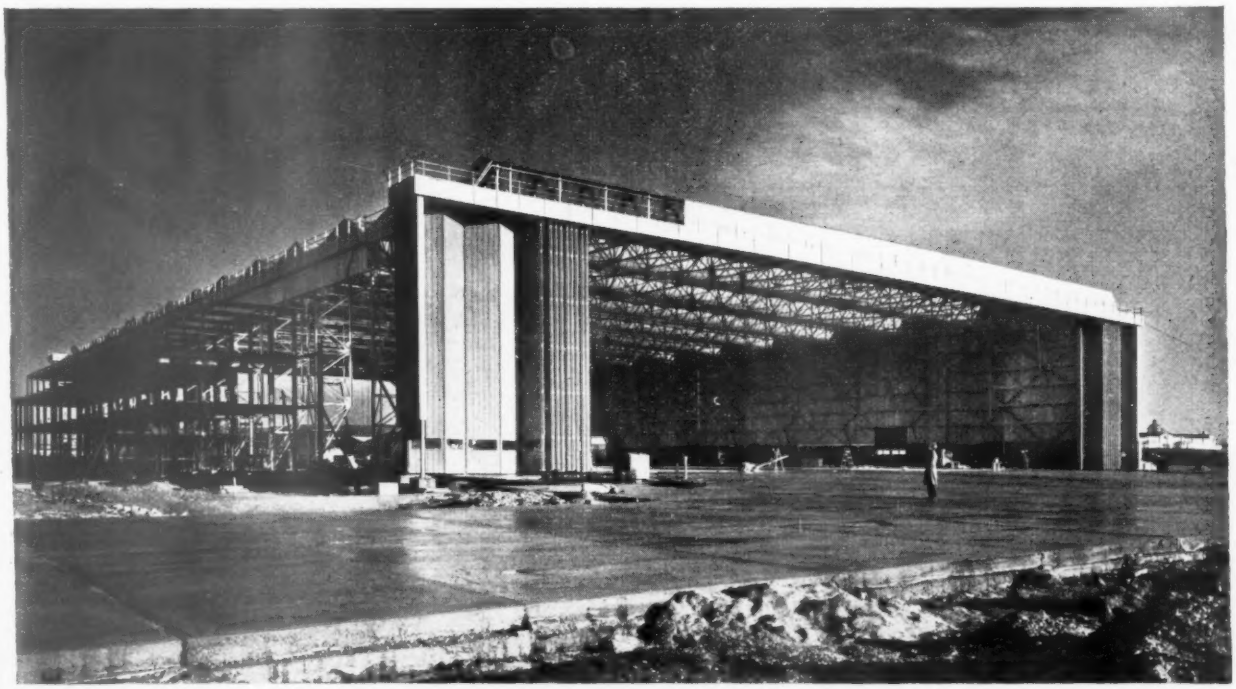
LONDON: Green Lane, Hounslow, Middx.
LEEDS: Stourton, Leeds 10.
LICHFIELD: Dovehouse Fields, Lichfield, Staffs.
FALKIRK: Etna Road, Falkirk.
EDINBURGH: Sighthill Industrial Estate, Edinburgh.

ALUMINIUM FLIGHT HANGAR FOR THE COMET AIRLINER

The new flight hangar for the "Comet" has a clear span of 200 ft. (overall width, 217 ft.) and is 330 ft. long. The main structure, consisting of 12 aluminium portal frames, covers, therefore, an area of approximately 66,000 sq. ft., as compared with 107,000 sq. ft. for the Dome of Discovery (span 342 ft.) and 3 × 16,500 sq. ft. for the three-bay aluminium hangar at London Airport (spans 150 ft.). The principal advantages of using aluminium were, firstly, that for a span as great as this the weight of the structure is only about one-seventh that of an equivalent steel structure. Thus, large factory-fabricated elements can be more easily transported and more of the work done in the factory. So that, secondly, site erection is very rapid—the main structure was erected by 18 men in 13 weeks, using only two 5-ton hand-operated cranes, practically without scaffolding. Below, a recent photograph showing completion to date. On the left can be seen the framework for the office annexe. The photograph above is of a model, made by the architects; in the foreground are the offices; and on the right, the control tower. The portal frames (each frame weighs only 6 ton 7 cwt.) have pinned bases of welded steel (see photo on page 170).



The legs of the portals are 8 ft. wide, and the horizontal portions have a constant depth of 10 ft., except at the knee positions, where they are slightly deeper in order to counteract the heavy fixing couples that are induced. The clear height to the underside of the beams is 45 ft. 4¾ in. Spanning between the portals are aluminium north-light trusses—23 to each bay, making 253 in all. Each truss weighs only 175 lb. Wind girders have been introduced between the last 3 portals at each end of the structure. The problem of expansion along the 330-ft. length of the hangar has been solved by the introduction of expansion joints at all structural connections on one side of the 6th portal frame from the north end. All sheeting rails and ties on the east side of this portal have slotted holes, the rail stays being formed so as to allow freedom of movement yet still to function as stabilisers for the leg of the frame. Expansion in the width of the building is absorbed by strain in the portal frame members. The north-light glazing is 9 ft. 3 in. deep, with aluminium-alloy glazing bars at 2-ft. centres and ¼-in. wired cast glass. The south slopes of the roof are covered with aluminium roof decking, over which there is ½-in. insulation board and two



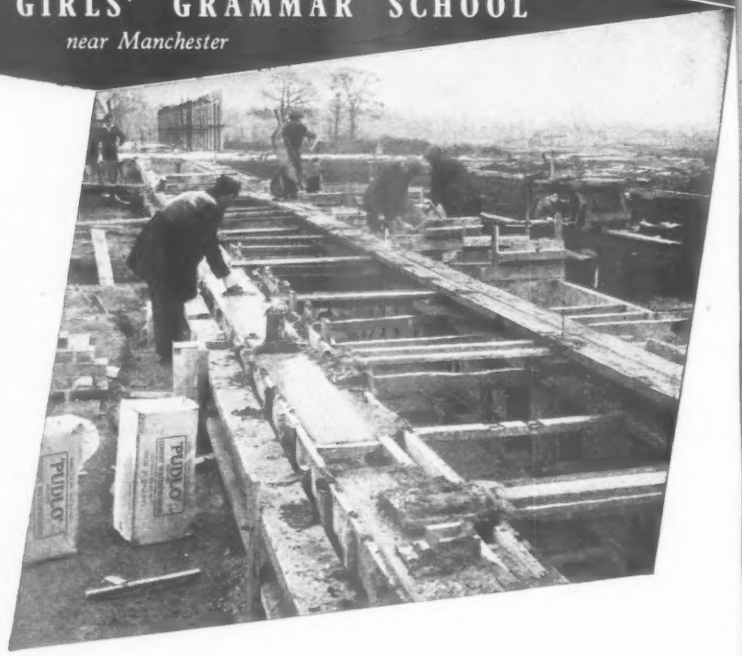
The photographs depict the placing of the waterproofed concrete to the floor ducts and also at ground level. A large quantity of 'PUDLO' Brand Waterproofer was employed for this work and was quickly and accurately proportioned to the cement by measure.

County Architect :—
***G.** Noel Hill, F.R.I.B.A., M.T.P.I., Preston*

Contractors :—
***G. & J.** Seddon Ltd., Little Hulton, near Bolton*

STRETFORD GIRLS' GRAMMAR SCHOOL

near Manchester



Nothing can be more simple than adding a powder to a powder, thus eliminating wastage and loss which often happens with a liquid or paste. Write for the latest edition of our Book of Directions which gives comprehensive specifications for the waterproofing of most types of structural dampness, both new and old work. This will gladly be sent, post free, upon request.

'PUDLO' BRAND

CEMENT WATERPROOFER

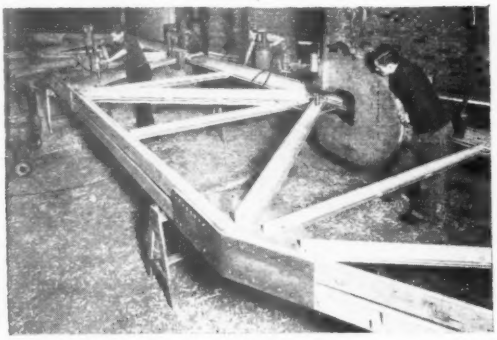
The word 'PUDLO' is the registered Trade Brand of Kerner-Greenwood & Co. Ltd. by whom all articles bearing that Brand are manufactured.

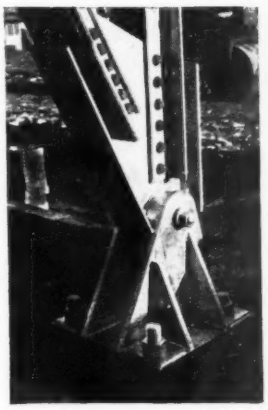
THE MOST RELIABLE FIRE CEMENT IS 'FEUSOL'
—have you tried it?

Sole Proprietors and Manufacturers :—

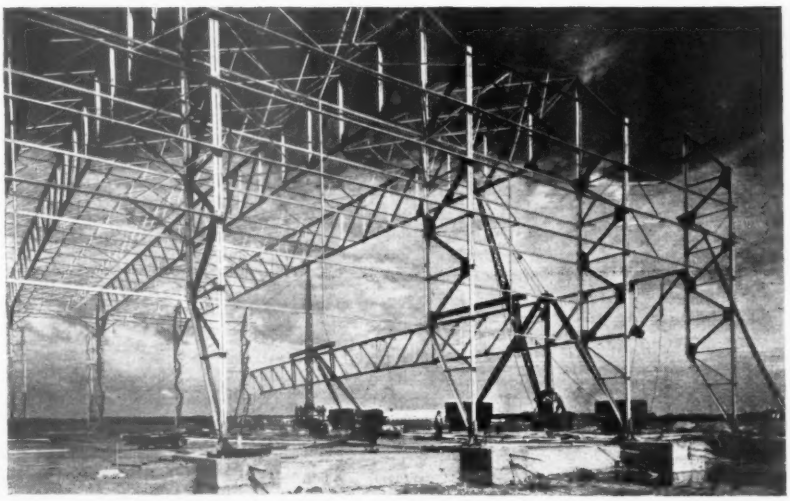
KERNER-GREENWOOD & CO. LTD. · KING'S LYNN · NORFOLK

THE COMET HANGAR — A 200-FT. CLEAR SPAN IN ALUMINIUM (continued)





layers of bituminous roof felt with a mineral finish. The 2-ft. wide boundary gutters, widened out at each corner to form 10-ft. by 12-ft. platforms, are fitted with aluminium handrails so that they may be used as walkways. They are drained by six 4½-in. dia. aluminium-alloy down pipes. The east wall, and the west wall above the roof level of the brick-clad annexe, is clad with corrugated aluminium-alloy sheeting, and lined with $\frac{3}{16}$-in. asbestos-wood board fixed with T-section aluminium extrusions. Aluminium-foil insulation has been used. The main sliding/folding doors give a clear opening 200 ft. wide and 44 ft. 9 in. high. Two sliding/folding doors, 12 ft. wide and 15 ft. high, are incorporated in the east wall. The photograph below shows one of the beams, having been assembled on the ground, being hoisted on to the legs of the portal. Top right, one of the welded steel pin joints. Top left, one of the frames being riveted in the factory. Cold-squeezed rivets were used. They fill the entire hole, as there is no contraction after cooling, and are driven with 25-ton pressure. The yoke (seen in the photo) used to rivet against weighs ½ ton; it is suspended from the roof. The loading conditions are in accordance with those stipulated in BS 449 : 1948. In addition to dead loads from the structure and covering, a load of 10 lb./sq. ft. to allow for snow, and a load of 2 lb./sq. ft. to allow for lights, sprinkler system, etc., were taken into account. (Architects, James M. Monro & Son; consulting engineer for foundations, J. Bak; consultants for materials, Fulmer Research Institute; contractors, page 174.)



INFORMATION CENTRE

A digest of current information prepared by independent specialists; printed so that readers may cut out items for filing and paste them up in classified order.

8.33 surveying and specification

SURVEYING

Surveying and Field Work. J. Williamson. (Constable & Co. Ltd. 1952. 40s.)

3rd edition of well-known work on surveying; now contains 20 chapters, 551 pp. and 337 figs.

The main revision of this book consists of the addition of a chapter on hydrographic and hydro-electric surveying, which not only describes methods of making soundings for river beds, harbours, etc., but includes methods of measuring and recording water flow in rivers and channels by making use of weirs and current meters.

The various types of survey—chain, compass, theodolite, plane-table and tacheometric—are adequately described, as are the necessary instruments and their adjustment; the practice of levelling; the various types of level and the preparation of sections. The setting-out of works is dealt with in detail and there is a chapter on the measurement of earthworks. The book is well illustrated, easy to read and gives throughout the practical aspects of surveyors' problems.

9.32 design : general

BRS

Building Research, 1951. DSIR. (HMSO. 1952. 4s. 6d.)

Annual report of BRS. To keep even remotely up to date with new developments one *must* read this. A 60-pp. report with something of interest, and often something new, on almost every page. An infuriating document because it cannot go far enough on any subject to do more than whet the appetite. The list of 1951 publications is, at first sight, impressive but, when compared with the number of subjects covered by the report, it emphasizes once again the time lag between research done, or in progress, and the results getting across to the industry. The increasing amount of work being done on productivity, and especially on building plant, is reflected in part of the report.

9.33 design: general

REFERENCE BOOK

Architects', Builders' and Civil and Highway Engineers' Reference Book. (4th edition.) (Geo. Newnes Ltd. 1952. 5 gns.)

Having reached its fourth edition, this encyclopædia is presumably now sufficiently well known to need little description. It contains several special articles, including one on schools.

The various sections dealing with materials, finishes and fittings each contain an article

of a rather general nature; in most of these some reference is made to recent developments. At the end of each section is a list of manufacturers and suppliers, together with the names of the materials they supply. Unfortunately, these lists do not seem to be comprehensive. The sections are interspersed with pages of advertisements. About 70 pp. are devoted to a section called "Progress and Development," which consists of very brief descriptions of new products, mostly in a form easily recognized as resembling manufacturers' "hand-outs."

In this book's 1,000 pages there is a great deal of information, but whether this type of book is the best way to provide architects with it, is open to question.

10.101 design : building types
CHURCH ROOFS

Church Roof Coverings. Committee Report. (The Builder Limited. 1952. 2s. 3d.)

This report by a committee appointed by the Central Council for the Care of Churches commences with a one-page summary in which it is made clear that the Committee is rigidly opposed to the use of any non-traditional coverings.

It seems curiously illogical for the committee to insist that "substitute materials" should not be used, because they are of doubtful durability, yet to accept the use of thatch. It might be argued that thatch must be used sometimes to retain the character of a building—indeed, the Committee seems to regard changing the character of a building as the eighth deadly sin—yet it seems prepared to consider the substitution of copper for lead, in some cases. Aluminium is given a very grudging welcome. Zinc, asphalt, bituminous materials, and asbestos-cement are rejected, except for very limited uses.

In 28 pages, each type of roof covering is dealt with in detail, under the headings: History, Æsthetics, Suitability, Durability and Technical Notes. These sections are illustrated and form, in effect, a code of practice for church roofing. They contain useful information which would be difficult to find in any other single publication.

15.108 materials: applied finishes and treatments
PAINTING ASBESTOS CEMENT

Painting Asbestos Cement. MOW Advisory Leaflet No. 28. (HMSO, 1952. 3d.)

Difficulties in painting asbestos cement are due to the absorbent surface and the presence of alkalis. A completely dry sheet, which will be maintained in dry condition, is not likely to be difficult—but such conditions rarely occur. The leaflet describes clearly various types of treatment suitable for external, damp internal and dry internal conditions. It deprecates treatment with hydrochloric acid or zinc sulphate as an attempt to neutralize alkalis. Areas of unequal suction need equalizing and back painting is recommended when the back of sheets are exposed to moisture, especially if the front is to be decorated with an impervious paint. The painting of rainwater pipes is useless unless the insides of the pipes have been factory treated with a bitumen coating. A clear and useful guide.

18.113 construction: theory
PLASTIC THEORY

The Collapse Method of Design. (British Constructional Steelwork Association. Publication No. 5, 1952.

Second publication in the series explaining the plastic theory of design for steel members. 52 pp., 71 diagrams.

The BCSA Publication No. 3 (the subject of Information Centre Item 18.94 : 14.2.52) was a brief introduction to the plastic theory; it foreshadowed the release of further publications demonstrating the method of design in greater detail. Publication No. 5 is the first of these.

It covers the design of fixed and continuous beams and pinned-base portals under static forms of loading. Design is confined to simple joist and welded compound joist construction as built-up plate web sections have not yet been explored fully.

The theoretical cases considered are well explained and easily followed by anyone with a moderate knowledge of structures. A practical example is given of a ridge portal mill building with a travelling crane, which shows the slightly more complicated conditions arising from a variety of loading. Two points must be appreciated, though they are not by any means a cause for alarm: first, that with the lighter members used there will be greater deflections and, second, that in certain cases a slight permanent strain may develop under working load.

This booklet, along with others which are to follow, will do much to further the cause of plastic theory by bringing information which has hitherto been restricted to papers at professional institutions within easy reach of the designer.

18.118 construction: theory
WELDED DESIGN

Welding and Cutting of Metals. BS 499. (British Standards Institution. 1952. 21s.)

Revised BS giving glossary of terms and symbols relating to the welding and cutting of metals.

Since the 1939 edition of this standard there has been a considerable increase in the application of welding—partly as a result of the war, partly as a result of consequent development in technique. The Standard includes the publication known previously as BS 499, Part 2, which deals with terms relating to imperfections in welds which are appropriate for radiographic examinations. To enable related terms to be associated and to simplify reference, the glossary has been divided into a number of sections dealing with:

(*a*) Terms common to most types of welding;
(*b*) Welding with pressure;
(*c*) Fusion welding (welding without pressure);
(*d*) Brazing and bronze welding;
(*e*) Testing;
(*f*) Weld imperfections;
(*g*) Scheme of symbols;
(*h*) Cutting.

The publication is fully illustrated with sketches and line drawings; the section on radiographic examination includes reproductions of radiographs; and the scheme of symbols is profusely illustrated with examples showing its application. An interesting item is a chart showing the derivation of various welding and cutting processes. There is a fully cross-referenced index of all the terms dealt with in the Standard.

20.215 construction: complete structures
SHELL ROOFED STRUCTURES

Factory at Brynmawr. (Cement and Concrete Association. 1952.)

22-pp. booklet describing the Brynmawr factory, with emphasis on construction and the use of concrete.

The Brynmawr project has received sufficient publicity to make a detailed description here superfluous. The main features are the shell roofs of the main building, the drug and mill room roofs, and the south block. The nine domes of the main building each cover an area 82 ft. × 63 ft. and rise approximately 8 ft. from springing to crown. They are thin two-way curving slabs, for the main part 3 in. thick, reinforced by two layers of 6-in. square mesh, weighing about 3 lb./sq. yd. The drug and mill room roofs consist of multiple barrels; those over the former having a chord width of 12 ft. 9 in.; those over the latter, a chord width of 30 ft.

The entrance hall in the south block is of unusual design—a single vault spanning 57 ft. between the supporting solid wall end frames and cantilevering nearly 6 ft. beyond them. The chord width is 37 ft. 7 in.; the total rise, 7 ft. 2 in.

The booklet has over 40 illustrations and provides a convenient summary of the job for office reference.

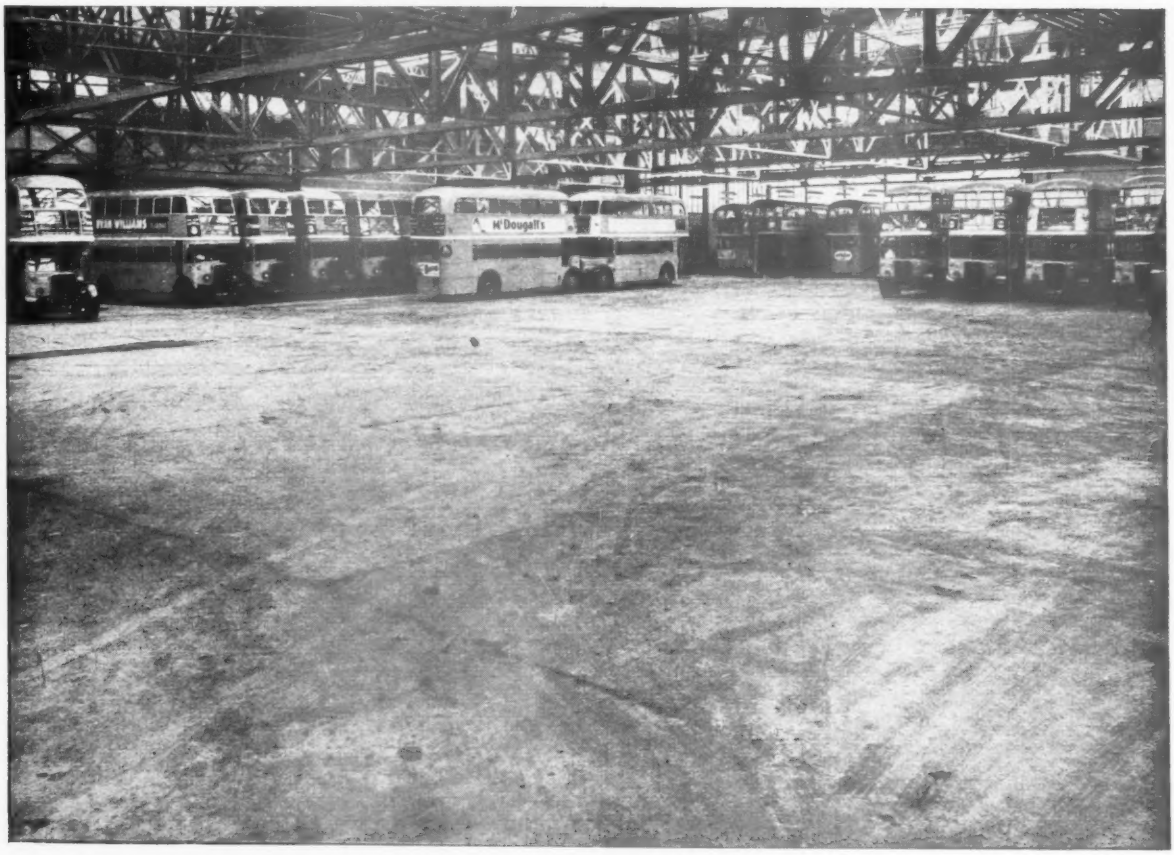
25.89 water supply and sanitation
WATER SUPPLY

Water Supply. BS C of P 310 (1952). (British Standards Institution. 6s.)

Long list of relevant BS, with some notes on supply from sources other than company main. On the whole this section is disappointing as almost all difficult points are covered by mentioning "the need to get expert advice."

This BS contains useful information on water storage and piping in building and there are some useful tables of water requirements, weights of pipes, fixings, etc. Some of the limited information on hot water and heating is largely a repetition of parts of fuller descriptions given in other Codes.

Where somewhat involved descriptions are given about good or bad arrangement of piping, it is an effort to follow the text, and it would have been helpful to have included some diagrams.



ARCHITECTS: Adie, Button & Partners, F./F.R.I.B.A.
CONTRACTORS: M. J. Gleeson Limited. Sub-contractors: Plastering Limited,

THORNTON HEATH BUS GARAGE

ANOTHER COLEMANOID FLOOR

THE LIQUID WATERPROOFER & HARDENER

This is the interior of the new Thornton Heath Bus Depot where the concrete floors have been made dustless and exceptionally resistant to the wear and tear of heavy vehicles by the use of Colemanoid as have two other new garages in the London area. Incidentally, Colemanoid has been used for public transport garages since 1921.

Colemanoid not only adds to the strength of concrete and makes floors oil, grease and waterproof, but avoids the long delays waiting for frosty weather to disappear. **Make it an integral part of the concrete to avoid the ill effects of frost.**

For further details write to me for Bulletin No. 3.

Cecil Kahn

THE ADAMITE COMPANY LTD., Manfield House, Strand, W.C.2. **Temple Bar 6233/6**

THE INDUSTRY

From the Industry this week, Brian Grant reports on a form of thermostat now available for the control of all electrical devices up to 3-kW. loading, two new refrigerators, and an Australian sliding window now being produced in this country too.

CONTROLLED HEAT

Before the war, all but the very cheapest of gas cookers had an adjustable thermostat, and the makers of electric cookers rather lagged behind. Now practically all electric cookers have their oven temperature (and perhaps one or more hotplates as well) controlled by "Simmerstat" switches. These are not true thermostats, but are, in effect, the equivalent of the infinitely variable gas taps and, therefore, an enormous improvement over the older type of three-heat switch. The control ranges from off to full heat, and the "Simmerstat" switches on and off so as to give an even heat at the dial setting.

These "Simmerstat" controls are now being produced in switched-socket form, both in 15-amp. 3-pin form, to BS546, and to 13-amp. (3-kW.) rectangular pin form, to BS1363; both types being produced for flush- and surface-mounting. They can be used to replace the normal switched socket for many purposes. In the house, for instance, they can be used to control any heating device not fitted with a thermostat—fires, convector heaters, irons or hotplates; while in factories, they can also be used for controlling the temperature of such things as electric glue pots or soldering irons. They can, in fact, be used with any device not rated at more than 3 kW.

Prices vary from 54s. 8d. to 63s. 4d. each, according to the type and the finish. (*J. H. Tucker & Co. Ltd., Kings Road, Tyseley, Birmingham* 11.)

TWO NEW REFRIGERATORS

Two new domestic refrigerators, both of 7-cu. ft. capacity, have been produced by G.E.C. One, the "DMM 71," includes all the essential features at a minimum price, the other, the "DMJ 71," is a more expensive type. The latter includes a full-width freezer, to cater for the growing number of people who make a practice of using quick-frozen foods.

Care has been taken in the design of the new models to save floor space and both types occupy no more than the company's 5·3-cu. ft. model. The height of the cabinets has, however, been increased by 2 in. Both have sealed refrigerator units which require no attention and cause no radio interference. Like the smaller model, they have welded steel cabinets, with interiors finished in white acid-resistant vitreous enamel. The exteriors are stove enamelled, and no screws or bolts are visible whether the cabinets are open or shut.

Shelf area of the "DMJ 71" is 13·4 sq. ft. and of the "DMM 71" 12·5 sq. ft. External dimensions of both refrigerators are: height, 4 ft. 7$\frac{1}{16}$ in.; width, 2 ft. 3$\frac{1}{2}$ in.; depth, 2 ft. 0$\frac{1}{2}$ in. Internal dimensions are: height, 3 ft. 1$\frac{1}{2}$ in.; width, 1 ft. 9$\frac{3}{16}$ in.; depth, 1 ft. 2$\frac{15}{16}$ in.

Standard voltage is 200/250 at 50 cycles, but motors wound for any voltage and any frequency from 40-60 can be supplied at no extra cost. Price of the "DMJ 71," including purchase tax, is £147 7s. 7d., and of the "DMM 71," £137 10s. There is a five-year guarantee against faulty material and workmanship in the sealed refrigerator system. (*The General Electric Co. Ltd., Magnet House, Kingsway, London, W.C.*2.)

CATALOGUES NOT RECEIVED

One so often finds leaflets badly set-out or un-informative that it is a refreshing change when a manufacturer sends out a prototype catalogue and asks whether it is what one wants or whether it could be improved. The only trouble, of course, is that it's very much easier to say a catalogue is bad than to prepare a sensible list of improvements. Fortunately, perhaps, the provisional effort submitted by "Econa" hasn't anything much wrong with it. The firm, as most readers will know, are pretty deft manipulators of copper tube, and make traps, bent flush and waste pipes and lavatory basin ranges for hospitals and schools, not to mention pre-formed soil and waste disposal pipework for individual jobs.

In general, the data are clearly presented with dimensions, type numbers and brief comments. The only criticism I would make is that the brief contents should stay at the front and the much longer index might go to the back, where most people would expect to find it. I would also omit the large pale blue "Econa" across each page; it can only be of use if a page gets torn out, and the same thing could be done less stridently—and supersede hasn't got a "c" in it. (*Econa Modern Products Ltd., Aqua Works, Warwick Road, Tyseley, Birmingham* 11.)

ANTI-STARLING

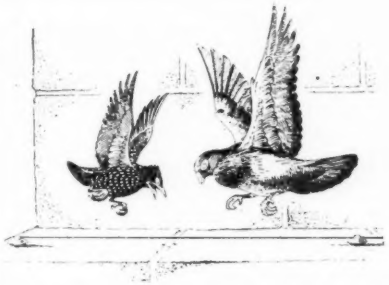
There has been quite a lot of general discussion recently on how to keep starlings and pigeons off all-too-convenient cornices and other roosting places. Various methods have been suggested, including stuffed snakes and/or owls at strategic poin's, but a leaflet from a Scottish firm with the odd but perhaps logical name of De-Birding Ltd. suggests a modified version of the electric fence which has been in use for some years to keep cattle where they are wanted. A single wire on small insulators is run along any ledges where birds normally perch and a control box automatically transmits an electric impulse every second or so. The shock does no harm to the birds, but is enough to scare them, and current consumption is very small. (*De-Birding Ltd., 8, Drumlanrig Square, Hawick, Roxburghshire.*)

SLIDING WINDOWS

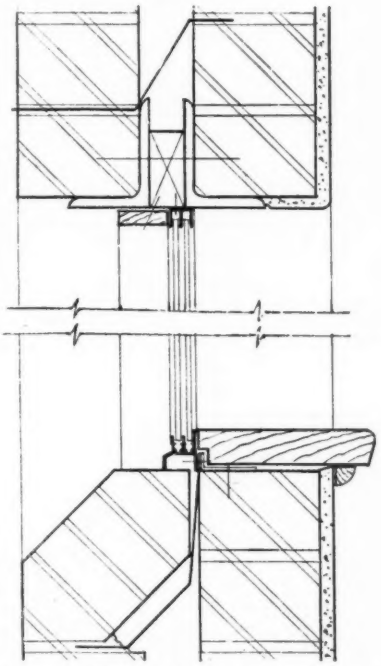
A sliding window which has been in production for some time in Australia is now being produced in this country. The panes are held in a double channel at the top, and at the bottom there is a further pair of channels, each of which contains a groove for ball bearings, these grooves having a further slot below for the removal of dust and water. The track shown in the diagram is suitable for plate glass windows up to 7 ft. high and should be splay cut at each end to allow rain water to drain away. The glass panels, which should be overlapped at least 3 inches at the centre to ensure that they are weatherproof, are locked by end wall fittings entering the finger slots of the glass panels. These locks also prevent the complete panels from being removed bodily from the grooves.

For smaller windows, up to 3 ft. high, there are simple channels without the ball bearing groove. (*P. G. Allday & Co. Ltd., Northwood Street, Birmingham* 3.)

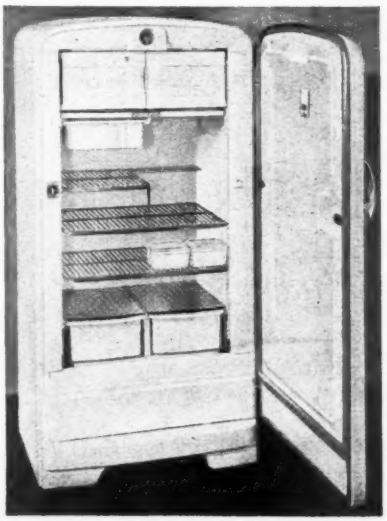
BRIAN GRANT.



The "De-Birding" device—a single wire on insulators, transmitting electric impulses to scare birds off ledges, etc.



A new sliding window, in production for some time in Australia, now being produced in this country too.



GEC's new 7-cu. ft. capacity domestic refrigerator. Above, the "de luxe" model.

Buildings Illustrated

Flats in Beehive Lane, Ilford, Essex, for the Ilford Borough Council. (Pages 157-162.) Designer: L. E. J. Reynolds, O.B.E., M.C., M.INST.C.E., M.INST.MUN.E., Borough Engineer and Surveyor; Senior Assistant Architect, H. B. N. Nixon, L.R.I.B.A.; Assistant Architect-in-charge, R. C. Edleston, A.R.I.B.A., A.M.T.P.I. Quantity surveyors: Walter W. Green & Partners. Clerk of works: A. N. Sherring, B.SC., M.INST.STRUCT.E. Contractor's site agent: J. Warren. General contractors: Gee, Walker & Slater Ltd. Sub-contractors: Reinforced concrete structure, Trussed Concrete Steel Co. Ltd.; central heating installation, plumbing, Z. D. Berry & Sons Ltd.; "Spruce-Thrower" units, sanitary fittings, B. Finch & Co. Ltd.; lifts, Hammond & Champness Ltd.; metal windows, Williams & Williams Ltd.; metal door frames, Morris Singer Co. Ltd.; glass louvred windows, staircase handrailing, G. Johnson Bros. Ltd. r.c. treads, r.c. staircase windows and r.c. rear balcony grilles, J. A. King & Co. Ltd.; wood louvres to balcony grilles, kitchen equipment, Peerless Built-in Furniture Ltd.; water heaters, Ascot Gas Water Heaters Ltd., Ewart & Son Ltd., and De la Rue (Thomas) & Co. Ltd.; rubbish chutes, Broads Manufacturing Co. Ltd.; flush doors, Trudoors Ltd.; dome lights, T. & W. Ide Ltd.; expansion joint and cover strip in anodized aluminium, The Morfax; cork floors (in flats), Mundet Cork Products Ltd.; "Accotile" floor (landings), Neuchatel Asphalte Co. Ltd.; roofing felt, Macartney Ltd.; curtain tracks, H. J. Smith; ironmongery, Lockerbie & Wilkinson Ltd.; electric fire travertine surrounds, A. Pilgrim & Son; refuse containers, Walkers & County Cars Ltd.; washing machines, Thor Appliances Ltd.; gas installation, N. Thames Gas Board; terrazzo window sills, surrounds, edging, copings, Venton Terrazzo & Mosaic Co. Ltd.; painter's cradle, Scaffolding (G.B.) Ltd.; flower baskets, Frank Bros.; electrical installation, L. Power & Son Ltd.; garage doors Bolton Gate & Shutter Co. Ltd.; bricks, autumn facings and brick tiles, Marston Valley Brick Co. Ltd.; paints and distemper, Thos. Parsons & Sons Ltd.; tiling to entrances, Langleys London Ltd.; paint on concrete exposed structures, Silexine Paints Ltd.; floor insulation, Fibreglass Ltd.; valves, F. H. Evans & Co.

Bus Garage in Whitehall Road, Thornton Heath, Surrey, for the London Transport Executive. (Pages 163-166.) Architect: Adie, Button & Partners, F./F.R.I.B.A., in association with T. Bilbow, F.R.I.B.A., Architect to the L.T.E.. Consulting engineers: A. E. Beer, A.C.G.I., M.I.STRUCT.E. (Structural); Ronald Edgar & Partners (Electrical); L.T.E. New Work Engineer (Heating & Ventilating Section), (Heating). Quantity surveyors: Harris & Porter, F./F.R.I.C.S. General contractor: M. J. Gleeson (Contractors) Ltd. Sub-contractors: demolition, St. Mary's Demolition & Excavation Co. Ltd.; asphalt, E. H. Smith (London) Ltd., General Asphalte Co. Ltd.; reinforced concrete, Triad Floors Ltd.; bricks, E. H. Smith (London) Ltd. (Tuckers rustic, brown facings, engineering bricks, sand limes), Eastwoods Ltd. (stocks), J. H. Sankey & Son Ltd. (Swindons); stone, Damar Bros. Ltd.; tiling terrazzo, Jaconello Ltd.; structural steel, Octavious Atkinson & Sons Ltd.; tiles, H. & G. Thynne Ltd., and Dennis Ruaben Ltd.; special roofings, E. H. Smith (London) Ltd. (supplying and fixing Turner's Astbestos Cement Cavity Decking); roofing felt, General Asphalte Co. Ltd., and Permanite Ltd.; partitions, patent glazing, casements, Mellowes & Co. Ltd.; glass, Leay Glazing Service Ltd.; paint, Walter Carson & Sons Ltd.; "Formica" panelling, Merchant Trading Co. Ltd.; waterproofing materials, Arcunum Ltd.; central heating, C. W. Evans & Sons Ltd.; sprinklers, Mather & Platt Ltd.; electric wiring, Tanjan Ltd.; electric light fixtures, Troughton & Young Ltd., General Electric Co. Ltd.; sanitary fittings, door furniture, W. N. Froy & Sons Ltd.; duct covers, Dover Engineering Co. Ltd.; balustrading, Geo. Wright (London) Ltd. (metal), D. Burke & Son Ltd. (wood); oil tanks, John Bellamy Ltd., Tecalemit Ltd.; vacuum plant, British Vacuum Cleaner & Engineering Co. Ltd.; folding doors, Geo. W. King, Ltd.; rolling shutters, John Booth (Bolton) Ltd.; fireproof doors, Light Steelwork (1929) Ltd.; iron staircases, Geo. Wright (London) Ltd.; grilles, Potter Rax Ltd.; granolithic and plaster, Plastering Ltd.; metalwork, Light Steelwork (1929) Ltd., Potter Rax Ltd. and T. Holland; joinery, D. Burkle & Son Ltd.; linoleum, Cellulin Flooring Co. Ltd.; painting, City Constructions Ltd.; paving stones, Wettern Bros. Ltd.; kitchen equipment, Benham & Son Ltd.; office fittings, D. Burkle & Son Ltd.; c.i. drainage goods, Burn Brothers Ltd., Broads Manufacturing Co. Ltd., and Thames Bank Ironworks; hoist, Acrow Ltd.; cat ladders, H. & C. Davis Ltd.; floor hardener, Adamite Co. Ltd.; water supply, Stanton Ironworks.

Flight Hangar for the Comet, Hatfield, Herts., for the de Havilland Aircraft Company Ltd. (Pages 169-170.) Architects: James M. Monro & Son. Consulting engineer for foundations: J. Bak, B.SC., M.I.STRUCT.E. Consultants for materials: Fulmer Research Institute. Quantity surveyors: A. L. Currie and Brown. Main contractor, Structural & Mechanical Development Engineers Ltd. Sub-contractors: Erection, Carter-Horseley (Engineers) Ltd.; foundations, Gilbert Ash Ltd.; aluminium structural sections, Southern Forge Ltd., T. I. Aluminium Ltd.; corrugated aluminium sheeting, British Aluminium Co. Ltd.; doors, Esavian Ltd.; roofing, William Briggs & Sons Ltd.; insulation, Eastwoods Specialists Ltd.; glazing, Helliwells Ltd.; apron flashings, The Warwick Production Co. Ltd.

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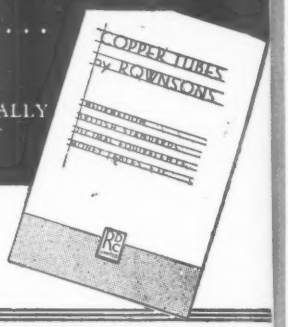

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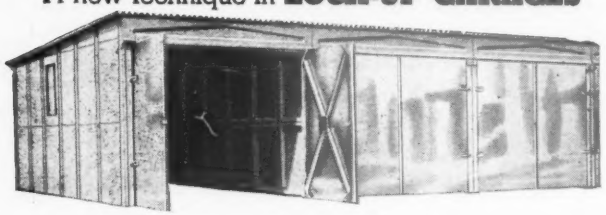

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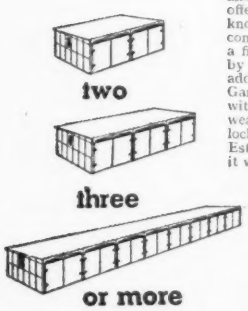

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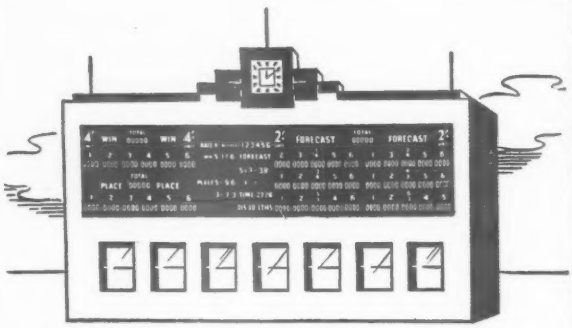

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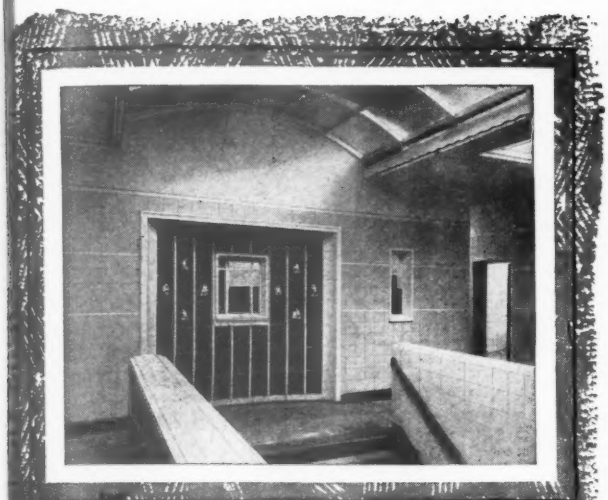

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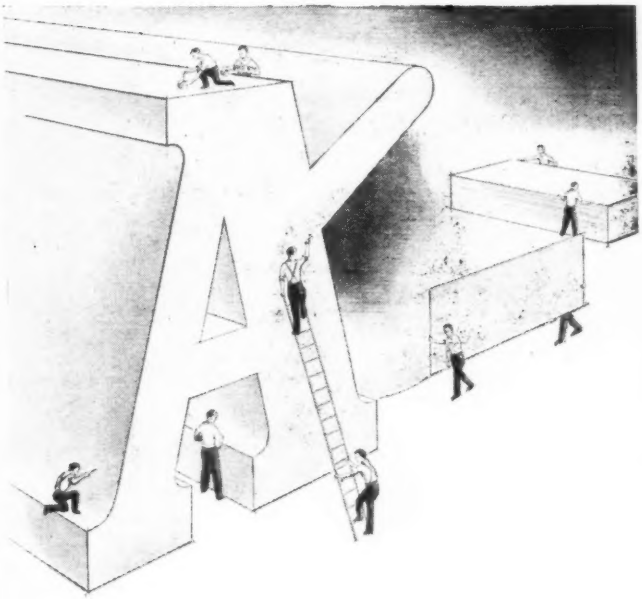

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CLASSIFIED ADVERTISEMENTS

Advertisements should be addressed to the Advt. Manager, "The Architects' Journal," 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1, and should reach there by first post on Friday morning for inclusion in the following Thursday's paper.

Replies to Box Numbers should be addressed care of "The Architects' Journal," at the address given above.

Public and Official Announcements

25s. *per inch; each additional line,* 2s.

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she, or the employment, is excepted from the provisions of the Notification of Vacancies Order, 1952.

GOVERNMENT OF THE UNION OF BURMA.
Applications are invited for a post of ARCHITECT for the Architectural Branch, Buildings and Roads Department. Minimum qualifications — Associateship of the Royal Institute of British Architects or its equivalent. Pay £225, fixed per mensem. Contract for 3 years. Free passage. Provident Fund. Gratuity. Full terms and conditions with forms of application obtainable on request from the Embassy of the Union of Burma, 19a, Charles Street, W.1. Applications received up to 15th February, 1953. 8058

CITY OF PLYMOUTH.
CITY ARCHITECT'S DEPARTMENT.
Applications are invited for the following appointments on the established staff. The appointments are subject to the Conditions of Service of the National Joint Council for Local Authorities Administrative, Professional, Technical and Clerical Services; the Local Government Superannuation Act, 1937; a satisfactory medical examination, and one month's notice on either side for termination:—
(*a*) SENIOR ASSISTANT ARCHITECT. Grade A.P.T., VI (£670 to £735).
(*b*) ASSISTANT QUANTITY SURVEYOR. Grade A.P.T., V (£595 to £645).
(*c*) ASSISTANT QUANTITY SURVEYOR. Grade A.P.T., II (£495 to £540).
(*d*) ASSISTANT QUANTITY SURVEYOR. Grade A.P.T., I (£465 to £510).
Candidates for appointment (*a*) should be experienced in the design and construction of schools, municipal housing or general work, must be Registered Architects, and preference will be given to members of the R.I.B.A.
Candidates for appointment (*b*) should be Members of the Royal Institution of Chartered Surveyors (Sub-division III Quantities).
Candidates for appointment (*c*) should have had experience in the measurement of works on site, and preference will be given to persons who have passed the Intermediate Examination (Quantities Sub-division) of the Royal Institution of Chartered Surveyors.
Candidates for appointment (*d*) must be capable of squaring and abstracting dimensions, and will be expected to give general assistance in the preparation of Bills of Quantities and the settlement of accounts. Preference will be given to those who have passed the First Examination of the Royal Institution of Chartered Surveyors.
Applicants must not be over 40 years of age, but this condition may be released in the case of a person up to 45 years of age employed by another Local Authority.
Applications on forms obtainable from the undersigned, accompanied by copies of not more than three recent testimonials and/or names of persons to whom reference may be made, should be received at my office not later than the 9th February 1953.
THE CORPORATION MAY MAKE HOUSING ACCOMMODATION AVAILABLE TO THE SUCCESSFUL MARRIED CANDIDATES IF REQUIRED.
H. J. W. STIRLING, A.R.I.B.A.,
City Architect.
Seymour Road, Plymouth. 8063

DERBYSHIRE COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.
Applications invited for appointment of ARCHITECT (permanent staff), on A.P.T., Grade VII (£710×£25 to £785 per annum), for work in connection with the improvement and extension of school buildings.
Forms and particulars to be obtained by 4th February, 1953, from F. Hamer Crossley, County Architect, St. Mary's Gate, Derby.
January, 1953. 8064

BEDFORDSHIRE COUNTY COUNCIL invite applications for SENIOR PLANNING ASSISTANT, A.P.T., VIII, from Fellows or Associates of the R.I.B.A., and preferably Corporate Members of the T.P.I. Experience in preparation of housing layouts essential. N.J.C. service conditions; car allowance; post pensionable; medical examination. An allowance of 25s. a week may be paid to a married officer unable to obtain housing accommodation who has to maintain his family away from Bedford. Application forms from County Planning Officer, 61, High Street, Bedford, to be returned by 14th February. 8071

STEVENAGE DEVELOPMENT CORPORATION.
Applications are invited for the following posts in the Chief Architect's Department:—
(*a*) ASSISTANT ARCHITECTS. Salary Grade: £655×£30—£825.
(*b*) JUNIOR ARCHITECTS. Salary Grade: £475 ×£25—£540, £540×£25—£600, £605×£25—£645.
(*c*) LANDSCAPE ASSISTANT. Salary: £475-£645.
(*d*) MEASURING SURVEYOR. Salary Grade: £625×£30—£700.
(*e*) SENIOR CLERK. Salary Grade: £475× £25—£540.
(*f*) MODEL MAKER. Salary Grade: £470× £15—£515.
(*g*) SHORTHAND TYPIST. Salary: £177-£363.
Applicants should have qualifications as follows:—
(*a*) Be fully qualified Architects, with experience of large building contracts.
(*b*) Have completed a degree or diploma course at a recognised School of Architecture or have passed the Final Examination of the R.I.B.A.
(*c*) At least Intermediate I.L.A. standard, with experience of tree and shrub planting and preparation of ornamental grass.
(*d*) Some taking off experience necessary.
(*e*) and (*g*). Some experience in an Architect's office desirable.
(*f*) Must be able to construct models from drawings.
Housing accommodation will be available in due course in appropriate cases.
Applications, stating post applied for, and giving details of experience and names of two referees, to be sent to the Chief Administrative Officer, Stevenage Development Corporation, Aston House, near Stevenage, Herts., not later than Monday, 9th February, 1953. 8062

MIDDLESEX COUNTY COUNCIL—COUNTY PLANNING DEPT.
PLANNING ASSISTANTS required, A.P.T., IV (£585, rising to £630 p.a. if 26 years or over). Capable of undertaking statistical and territorial analysis. Pref. given if possessing qualifications, in Town Planning, Geography, Economics, or Commerce, but other appropriate qualifications considered. Prescribed conditions. Application forms from County Planning Officer, 10, Gt. George Street, Westminster, S.W.1, returnable to the undersigned by 12th February (quoting L.616 AJ). Canvassing disqualifies.
C. W. RADCLIFFE,
Clerk of the County Council.
Guildhall, Westminster, S.W.1. 8070

HAYES AND HARLINGTON URBAN DISTRICT COUNCIL.
ARCHITECTURAL ASSISTANT.
Applications are invited for the above-mentioned permanent appointment in the Department of the Engineer and Surveyor, at a salary in accordance with A.P.T. Division, Grade IV, of the Scales of Salaries, i.e., commencing at £555 per annum and rising to a maximum of £600 per annum, plus London "weighting," amounting to £20 p.a. at 21-25 years and £30 p.a. at 26 years and over.
Preference will be given to applicants who have had experience of housing work and have passed the Intermediate Examination of the R.I.B.A.
Forms of application may be obtained, upon receipt of a stamped addressed envelope, from the Engineer and Surveyor, Town Hall, Hayes, Middx., to whom completed applications must be returned by 16th February, 1953. The envelope containing a request for a form of application should not be endorsed.
A. E. HIGGINS,
Clerk of the Council.
8076

LONDON COUNTY COUNCIL.
ARCHITECT'S DEPARTMENT — DISTRICT SURVEYORS SERVICE. Vacancies for TECHNICAL ASSISTANTS (salaries up to £696), A.M.I.Struct.E., A.R.I.B.A., or A.R.I.C.S. Structural knowledge essential. Particulars and applications forms, for return by 18th February, from Architect, AR/EK/DS/4, County Hall, S.E.1. (58) 8079

BUCKS COUNTY COUNCIL.
ARCHITECT'S DEPARTMENT.
APPOINTMENT OF CHIEF MAINTENANCE SURVEYOR.
Applications are invited for the post of Chief Maintenance Surveyor in the County Architect's Department, at a salary in accordance with Grade X (£895—£1,025 p.a.).
The duties of the post comprise the administration and supervision of the Section responsible for the repair and maintenance of County Buildings.
Applicants should possess a sound knowledge of all building trades, should have had considerable experience in a similar capacity with a local authority, and should preferably possess some recognised professional qualification.
The successful applicant will be required to report to and attend at appropriate Committees.
The appointment is superannuable and subject to medical examination.
A weekly allowance of 25s. 0d. and return fare home once every two months may be paid for six months to newly appointed married officers of the Council unable to find accommodation.
Further particulars and form of application may be obtained from the County Architect, County Offices, Aylesbury, to whom applications must be delivered by 9th February, 1953. 8089

WEST MIDLANDS GAS BOARD.
APPOINTMENT OF ARCHITECT.
Applications are invited from Associates or Fellows of the Royal Institute of British Architects for appointment as Architect to the Board. Candidates must have high ability in design and be capable of preparing and supervising schemes of construction connected with the erection of industrial and commercial buildings.
The post is pensionable and will carry a commencing salary of £2,000 per annum.
Applications, giving details of age, qualifications and experience, and accompanied by the names of two referees, should reach the Industrial Relations Officer, West Midlands Gas Board, 6, Augustus Road, Edgbaston, Birmingham, 15, within fifteen days of the appearance of this advertisement.
F. H. CURETON,
Secretary to the Board.
8069

SEDGEFIELD RURAL DISTRICT COUNCIL.
HOUSING ARCHITECT'S DEPARTMENT.
The Council invite applications for the following posts:—
(1) DEPUTY ARCHITECT.
Applicants must have passed the Final Examination of the Royal Institute of British Architects.
They should have experience in the Housing Department of a Local Authority, and be able to take charge in the absence of the Head of the Department.
The salary will be in accordance with Grade A.P.T., VI, commencing at £670 per annum, and rising in accordance with scale to £735 per annum.
(2) JUNIOR TECHNICAL ASSISTANT.
Applicants should have served their Articles with a Registered Architect, and be able to carry out general technical work in the Housing Architect's Department.
The salary will be in accordance with Grade A.P.T., I, of the National Scale, commencing at £465 per annum and rising in accordance with scale to £510 per annum.
The Terms and Conditions of appointment in both cases will be in accordance with the National Scheme for Local Government Officers; will be subject to the Council's Superannuation Scheme, and to one month's notice an either side.
Applications for either of the posts must be on forms obtainable from my office, and should be completed and in my hands by Wednesday, the 11th February 1953, at 10 a.m. at the latest.
F. J. DAVISON,
Clerk to the Council.
Sedgefield, Stockton-on-Tees.
January, 1953. 8075

CANNOCK RURAL DISTRICT COUNCIL.
APPOINTMENT QUANTITY SURVEYING ASSISTANT, GRADE A.P.T., VI-VII (£670-£785).
Applications are invited for the above appointment on the permanent staff of the Engineer and Surveyor of the Cannock Rural District Council.
Applicants for the post should be fully capable of taking off and preparing Bills of Quantities for housing schemes, measuring builders' works, and checking and agreeing interim and final accounts, and should preferably have passed the Final Examination of the R.I.C.S. (Quantities Sub-Division).
The appointment will be subject to one month's notice on either side, to the provisions of National Joint Council Conditions of Service and the Local Government Superannuation Act, 1937, and to the passing of a medical examination.
A travelling allowance in accordance with the National Joint Council Scale for casual users will be paid to the successful applicant for the post, who will be required to provide a car or motor-cycle.
Applications, giving full particulars of age, qualifications, experience, etc., together with copies of two recent testimonials, should reach the undersigned not later than Tuesday, 3rd February, 1953.
JOHN P. ROBERTS,
Clerk of the Council.
Council Offices, Penkridge, Stafford.
19th January, 1953. 8082

COUNTY BOROUGH OF BOURNEMOUTH.
BOROUGH ARCHITECT'S DEPARTMENT.
Applications are invited for the following appointment:—
ASSISTANT ARCHITECT—Established Post—Salary Grade A.P.T.V.(*a*), £625—£685 per annum.
Applicants must be Registered Architects and have had some experience in Local Authority Housing Schemes.
The successful candidate will be appointed at his present salary if such salary is within the incremental scale of the advertised post.
The above appointment will be terminable by one month's notice, in writing, on either side, and subject to the provisions of the Local Government Superannuation Act, 1937, also to the conditions of service in accordance with the National Scheme.
The successful candidate will be required to pass a medical examination.
No assistance can be offered regarding housing accommodation.
Applications, on forms to be obtained from the Borough Architect, Town Hall, Bournemouth, accompanied by copies of three recent testimonials, to be returned to the undersigned in envelopes endorsed "Staff Architectural," not later than 10 a.m. Saturday, 14th February, 1953.
A. LINDSAY CLEGG,
Town Clerk.
8091

SOLIHULL URBAN DISTRICT COUNCIL.
APPOINTMENT OF ARCHITECTURAL STAFF.

Applications are invited for appointments as ASSISTANT ARCHITECT and ARCHITECTURAL ASSISTANT in the Engineer and Surveyor's Department. The salary payable in respect of the first appointment is in accordance with A.P.T., Grade V(a) (£625×£20—£685), and, in respect of the position as Architectural Assistant, is in accordance with A.P.T., Grade IV (£555×£16—£600).

The Engineer and Surveyor is responsible for the erection of houses, schools, libraries and other public buildings in this rapidly developing district, and brief particulars as to the work of the Architect's Section of the Department may be obtained on application to the Engineer and Surveyor, 90, Station Road, Solihull.

The appointment will be subject to the provisions of the Local Government Superannuation Act, 1937, to the terms of the National Scheme of Conditions of Service, and to one month's notice on either side. It may be possible to offer housing accommodation to the successful applicant.

Applications, giving full details as to age, present position and salary, qualifications and experience, together with the names and addresses of two referees, should be delivered, in envelopes appropriately endorsed, to the Engineer and Surveyor at the above address not later than the 9th February, 1953.

W. MAURICE MELL,
Clerk of the Council.
8083

NORTHAMPTON RURAL DISTRICT COUNCIL.
GENERAL ARCHITECTURAL ASSISTANT (UNESTABLISHED).

Applications are invited for the post of General Architectural Assistant at a salary within the range of £465 to £540, per annum, according to qualifications and experience.

Applicants must be experienced in general building work, be neat draughtsmen, have had a good architectural training and with Planning and Byelaw experience.

The appointment which is unestablished will be for a period of three years at least and will be subject to one calendar month's notice, in writing, on either side.

Applications, in candidate's own handwriting, stating age, whether married or single, qualifications and experience, accompanied by copies of two recent testimonials, are to reach the undersigned not later than Saturday, the 21st February, 1953.

Applicants must disclose whether they are related to any Member or senior Officer of the Council. Canvassing, either directly or indirectly, will disqualify.

CLIFFORD E. JONES,
Clerk of the Council.

Council Offices,
1, Cheyne Walk, Northampton.
22nd January, 1953. 8090

CITY OF SHEFFIELD.
CITY ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments on the staff of the City Architect (Mr. J. L. Womersley, A.R.I.B.A., A.M.T.P.I.):—

(*a*) SENIOR ASSISTANT ARCHITECT (HOUSING), Grade IX. Salary: £815 to £935 per annum. The person appointed will be required to design, prepare working drawings, and supervise to completion Multi-storey Flats and the more complex buildings on housing estates.

Preference will be given to applicants with considerable experience of this type of work.

(*b*) SENIOR ASSISTANT ARCHITECT (HOUSING), Grade VIII. Salary: £760 to £835 per annum. The person appointed will be required to prepare initial designs for housing layouts and to work them up in detail. Preference will be given to those having a planning qualification or with a particular interest in town planning, the grouping of buildings and landscaping.

Candidates for each post must be Associate Members of the R.I.B.A.

The City's Housing Programme consists of (i) estates in outer areas comprising mixed development of houses and flats, (ii) estates in inner areas containing a substantial proportion of high flats, and (iii) the redevelopment of outworn central areas. The appointments offer considerable scope to progressive architects possessing the requisite qualifications, design ability and experience.

Superannuable posts; N.J.C. Conditions of Service; medical examination.

Applications, stating age, education and training, qualifications, present and past appointments (with dates and salaries), experience, and the names of two referees, should reach me by the 2nd February, 1953.

JOHN HEYS,
Town Clerk.
Town Hall, Sheffield, 1. 8084

COUNTY BOROUGH OF BARNSLEY.
BOROUGH ENGINEER AND SURVEYOR AND PLANNING OFFICER'S DEPARTMENT.
APPOINTMENT OF SENIOR PLANNING ASSISTANT.

Applications are invited for the appointment of Senior Planning Assistant, at a salary in accordance with A.P.T., Grade VII (£710-£785 per annum). A car allowance will be paid in accordance with the prevailing scheme for essential users.

The appointment will be subject to the Scheme of Conditions of Service for A.P.T.C. Services, to the General Conditions of Service within the Corporation as varied from time to time, and to the provisions of the Local Government Superannuation Acts.

Candidates must have had extensive experience in Town Planning and be Corporate Members of the Town Planning Institute or hold an equivalent qualification. The person appointed will be in charge of the Town Planning Section of the Department and directly responsible to the Borough Engineer for all planning matters.

The successful applicant will be required to pass a medical examination, and the appointment will be subject to one month's notice on either side.

Applications, stating age, present and previous appointments, experience, qualifications, etc., together with the names of three referees, should be addressed to the Borough Engineer and Surveyor and Planning Officer, Town Hall, Barnsley, to reach him not later than Wednesday, 18th February, 1953.

Canvassing will disqualify, and applicants should disclose in their applications whether to their knowledge they are related to any member or senior officer of the Council.

A. E. GILFILLAN,
Town Clerk.
Town Hall, Barnsley.
January, 1953. 8078

FIFE COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for appointments as:—

(*a*) CHIEF QUANTITY SURVEYOR, on salary Grade £750, rising by £50 to £1,000 per annum.

(*b*) ASSISTANT ARCHITECTS, on salary Grade £730, rising to £840 per annum.

(*c*) ARCHITECTURAL ASSISTANTS, on salary Grade £530-£650 per annum.

(*d*) ARCHITECTURAL DRAUGHTSMAN on salary Grade £480-£600.

Candidates for appointment (*a*) must be Corporate Members of the R.I.C.S. (Quantities Division), and thoroughly experienced in the preparation of Bills of Quantities, Specifications, Estimates and Final Accounts in connection with schools and housing (traditional and non-traditional), and other architectural work undertaken by the County Council.

Candidates for post (*b*) should be Associate Members of the R.I.B.A. or hold equivalent qualifications, and have considerable experience in design and construction of Schools and Local Authority Housing and Contract administration.

Applicants for (*c*) should have passed the Intermediate Examination of the R.I.B.A., and should be able to prepare Surveys, Working Drawings and Details, etc., with a minimum of supervision.

Applicants for (*d*) should have had several years' experience in the preparation of Working Drawings, Details and Lay-outs for Schools, Housing Schemes and General Architectural work.

Successful candidates under 45 years of age will be considered for admission to the Council's superannuation scheme, subject to satisfactory medical reports being received. Consideration may be given to meeting housing requirements.

Applications, stating age, experience, qualifications, etc., and accompanied by copies of recent testimonials, to be lodged with the undersigned not later than 7th February, 1953.

MATTHEW POLLOCK,
County Clerk.
County Buildings, Cupar, Fife.
20th January, 1953. 8099

Tenders for Contracts

6 lines or under, 12s. 6d.; each additional line, 2s.

COUNTY BOROUGH OF EAST HAM.
WELLINGTON ROAD AMBULANCE STATION.

Tenders invited for construction of above building. Form of tender and further particulars from Borough Engineer, Town Hall, East Ham, E.6. on payment of £2 2s., returnable on receipt of *bona fide* tender. Tenders returnable in envelope provided by 12 noon, 16th February, 1953.

The Corporation do not bind themselves to accept the lowest or any tender.

R. H. BUCKLEY,
Town Clerk.
Town Hall, East Ham, E.6.
January, 1953. 8077

Competition

6 lines or under, 12s. 6d.; each additional line, 2s.

COMPETITION.
HOSPITAL AT DOHA, PERSIAN GULF.

The Government of Qatar, Persian Gulf, invite Architects to submit designs for a 100-bed hospital, complete with staff quarters, at Doha.

Assessor: Mr. Alexander S. Gray, FF.R.I.B.A., of Messrs. W. H. Watkins, Gray & Partners.

Premiums: £1,250, £1,000, £750.

Last day for submitting designs: 15th August, 1953.

Last day for questions: 31st March, 1953.

Conditions may be obtained on application to: Captain J. E. Stone, C.B.E., M.C., F.S.A.A., Hon. Secretary and Treasurer, International Hospitals Federation, 10, Old Jewry, E.C.2.

Envelopes to be marked "Doha Competition."

Conditions will not be available until after the 30th January. Deposit: 3 guineas. 8068

Architectural Appointments Vacant

4 lines or under, 7s. 6d.; each additional line, 2s.

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she, or the employment, is excepted from the provisions of the Notification of Vacancies Order, 1952.

JUNIOR ARCHITECTURAL ASSISTANT (single) required for country office in Norfolk. Experience in surveys and levelling; car driver preferred. Details of experience and salary required to Box 8013.

TWO experienced ARCHITECTURAL ASSISTANTS required for work on large and varied contracts. Apply in writing in first instance, stating age, experience and salary required, to Cordingley & McIntyre, F./A.R.I.B.A., The College, Durham. 8037

ARCHITECT'S CHIEF ASSISTANT required. Good salary and prospects. Applicants must be fully qualified and have had not less than 5 years' experience. Apply in writing, with full details, to Willink & Dod, Cunard Building, Liverpool. 8035

ARCHITECTS, Piccadilly, busy small office, require keen assistant, capable of preparing working drawings under supervision. Particulars of experience to Box 8054.

SENIOR ARCHITECTURAL ASSISTANT required in large Birmingham office. Design and perspective drawing ability an advantage. Please reply, stating details of experience and salary required. Box 8065.

ARCHITECTURAL ASSISTANT required, of R.I.B.A. Intermediate standard, with experience in preparing working drawings, details, specifications and supervision, for small general practice. Write, stating full particulars, to Box 8081.

ASSISTANTS, fully qualified, required for Birmingham and Stratford-on-Avon offices. Apply Francis W. B. Yorke, 191, Corporation Street, Birmingham, 4. 8072

ASSISTANT, intermediate standard, required. Apply in writing to Bridgwater & Shepheard, 42, Bruton Place, Berkeley Square, W.1, giving details of age, experience and training. 8092

ARCHITECTURAL ASSISTANT, R.I.B.A. Final Standard, for general Town and Country Practice. Must be neat, quick Draughtsman. Please apply, giving all particulars and salary required and sending a specimen of recent work, to George Brown & Partners, Architects, 1, Unity Street, College Green, Bristol, 1. 8093

ARCHITECTURAL DRAUGHTSMAN required in the London Co-operative Society Works Dept., Whitta Road, Manor Park, E.12. General Architectural drawing experience necessary, and preference will be given to applicants with experience of structural detailing. Commencing salary, £442 per annum inclusive. Write, stating age, details of career and technical qualifications, to Staff Officer (AJ), 54, Maryland Street, London, E.15. 8097

INTERMEDIATE R.I.B.A. standard ASSISTANT required, Brighton/Hove area office. Preferably office trained. Sketches, working drawings, etc. Notify details and salary required. Box 8096.

ASSISTANT required for short period. Preparation working drawings. Part or full time. Write, stating full particulars, Box 8095.

ARCHITECT FOR DEPARTMENT STORE.—A leading London Store requires an ASSISTANT STAFF ARCHITECT, aged 35 to 45, to train under the existing Staff Architect with a view to succeeding him when he takes up other work at the end of 1953. Previous experience of Store layout and fixture design and Intermediate standard for R.I.B.A. is essential; full qualifications preferred. This position offers first-rate opportunity for an applicant with the right experience, imagination and energy. Salary according to experience, but not less than £1,000 a year on appointment. Write, giving full particulars of previous and present experience, which will be treated in confidence, to Box 8086.

ARCHITECTURAL ASSISTANT required in the Architect's Department of a Birmingham Brewery. Applicants should be at about R.I.B.A. Intermediate standard. Write, stating age, experience, and salary, to Box 8088.

ARCHITECTURAL ASSISTANT required immediately, with practical experience by general practice. Salary £400-£500 per annum, according to experience. Apply H. N. Jackson & Partners, Midland Bank Chambers, Nuneaton. 8098

Architectural Appointments Wanted

QUALIFIED ARCHITECT of wide experience needs full occupation either as Assistant or as Partner in London or district office. Capital available. Box 635.

R.I.B.A. (27), single, 7 years' private and L.G. experience, seeks change. North or East Yorks area preferred. Salary by arrangement. Box 8074.

R.I.B.A., Final taken Nov., 1952 (26), single, college trained, requires post in small or medium sized private office in West End or City. Office experience of varied schemes (working drawings, details, surveys, etc.). Contemporary outlook, with all round ability. Car available. Box 636.

SENIOR ASSISTANT with experience of factories, housing, licensed premises, shopfitting, exhibitions, etc., conversant various duties of general practice, seeks position in established official or commercial firm. Box 641.

OFFICE TRAINED and experienced Assistant requires post (provinces). Preparing for Final, Domestic, Commercial, etc. Surveying, levelling. Car driver. Box 640.

ASSISTANT (23) Final Standard; five years private practice, two years L.A. Mainly domestic, working drawings, details, specifications and supervision. Own car. Desires position Coventry area. Box 639.

A.I.A.S.; SENIOR ASSISTANT (31); R.I.B.A. Final Standard; 13 years' wide and varied experience in Industrial and Local Authority employ, desires position of responsibility and opportunity; excellent administrative ability; accommodation welcomed; present salary £645. Box 638.

SENIOR ASSISTANT (32) requires responsible situation in small office. Central or South London preferred. 15 years' comprehensive experience. Box 637.

ARCHITECTURAL DRAUGHTSMAN AND ASSISTANT (29), with experience in working drawings of domestic and industrial properties, requires post in Architect's office. Box 642.

Other Appointments Vacant

4 lines or under, 7s. 6d.; each additional line, 2s.

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she, or the employment, is excepted from the provisions of the Notification of Vacancies Order, 1952.

DRAUGHTSMEN for setting out, taking off details, site measuring and scale drawing required; good joinery experience essential. Compactom Ltd., Oxgate Lane, Cricklewood. Phone Mr. Hill at GLAdstone 2600. 8094

MANUFACTURERS' REPRESENTATIVES in the Midlands who do not at present have an agency for plumbers brassfoundry are required by established firm whose products are of interest to architects mainly. The advertiser's products would be a useful additional line to any man already calling upon architects and quantity surveyors with lines such as, for example, sanitary ware, rainwater goods, tiles, flooring or roofing materials. Box 8065.

CO-OPERATIVE WHOLESALE SOCIETY LTD., ARCHITECT'S DEPARTMENT, LONDON. Experienced Worker-up with thorough knowledge of Abstracting and Billing required in Quantity Surveyor's Section. Salary £400—£625 per annum. The appointment is permanent and offers prospects of up-grading. The successful candidate will be required to undergo medical examination for a compulsory superannuation scheme. Applications stating age, experience and qualifications to W. J. Reed, F.R.I.B.A., Chief Architect, Co-operative Wholesale Society Ltd., 99, Leman Street, London, E.1. 8061

BUILDINGS and Services Division, controlling building work for large group of factories, requires DRAUGHTSMAN, age over 25, for central London offices. Experience essential in general building and structural work, surveying for site layouts, obtaining site details for modifications to existing buildings. Write, giving age and full particulars, to Staff Division, The Metal Box Co., Ltd., The Langham, Portland Place, W.1, quoting reference BS/15. 8087

SHOPFITTING DESIGNER (SENIOR) for permanent progressive post, London. All replies, which will be treated in confidence, must state age, full details of experience, salary required, and when available for interview. Box 8080.

Services Offered

4 lines or under, 7s. 6d.; each additional line, 2s.

DUPLICATING AND TYPEWRITING, Bills of Quantities, Specifications, etc. All grades of Office Staff supplied. Trinity Bureau, 50, Bedford Street, Strand, W.C.2. TEM. 3002. 7606

SENIOR EXECUTIVE seeks responsible sales and administrative position in progressive company. Extensive personal connections with architects, Government Departments, and local authorities. Excellent references. Box 7880.

SURVEYING and Levelling of Building Sites and Measured Drawings undertaken by experienced Surveyor at moderate charges. Box 6583.

SMALL Group of qualified ASSISTANTS, with wide experience, free to undertake Architectural work of any description. Own transport and office facilities. Box 7964.

For Sale or Wanted

4 lines or under, 7s. 6d.; each additional line, 2s.

RECONDITIONED EX-ARMY HUTS, and manufactured buildings. Timber, Asbestos, Nissen type, Hall type, etc. All sizes and prices. Write, call, or telephone, Universal Supplies (Belvedere), Ltd., Dept. 25, Crabtree Manorway, Belvedere, Kent. Tel.: Erith 2948. 6803

AVAILABLE ex-stock at Sheffield: Galvanised Mild Steel Angles, in range of sizes from 1¼ in. by 1¼ in. by 3/16 in. up to 8 in. by 8 in. by ¾ in., and lengths from 3 ft. 6 in. to 30 ft. Unused, in excellent condition. Thos. W. Ward, Ltd., R/S Dept., Albion Works, Sheffield. 8073

RUTHURSTAT 3A Cabinet Model Photo-Copier, as new. Offers invited. May be inspected at Orient Line, 7, Bishopsgate, London, E.C.2. 8066

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4 lines or under, 7s. 6d.; each additional line, 2s.

A. J. BINNS, LTD., Specialists in the supply and fixing of all types of Fencing, Gates and Cloakroom Equipment. Harvest Works, 96/107, St. Paul's Road, N.1. Canonbury 2061.

OFFICES to let above Doctor's Surgery premises; main professional street, Poole; use of large waiting room; resident caretaker Doctor, Shalva House, Canford Cliffs, Bournemouth. 8067

Educational Announcements

4 lines or under, 7s. 6d.; each additional line, 2s.

R.I.C.S., I.A.A.S., and I.Q.S. Exams.—Postal Courses conducted by the Ellis School (Principal: A. B. Waters, M.B.E., G.M., F.R.I.B.A.), 103B, Old Brompton Road, S.W.7. KEN. 4477/8/9. Descriptive Booklet on request. 7020

R.I.B.A. and T.P.I. EXAMS.—Stuart Stanley (Tuton Sch. of Arch., Lon. Univ.) and G. A. Crockett, M.A./B.A., F./A.R.I.B.A., M./A.M.T.P.I. (Prof. Sir Patrick Abercrombie in assn.), prepare Students by correspondence tuition. 10, Adelaide Street, Strand, W.C.2. TEM. 1603/4.

BYAM SHAW SCHOOL OF DRAWING AND PAINTING, 70, Campden Street, Kensington, W.8. (Park 4711.) This School gives a thorough training in Drawing, Painting and Pictorial Composition, and specialised training in Lettering, Landscape Painting and Illustration. Life models pose every day and on two evenings a week. On Thursday evenings the school is open for those who wish to practice life drawing without instruction. Full particulars from the Secretary. 8085

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