The Architects' JOURNAL for January 30, 1958

THE ARCHITECTS' JOURNAL

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HE ARCHITECTURAL PRESS

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Registered as a Newspaper.

★ 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 Ig one week, Ih to Z the next. In all cases where the town is no mentioned the word LONDON is implicit in the address.

AA	Architectural Association, 34/6, Bedford Square, W.C.1.	Museum 0974
AAI	Association of Art Institutions. Secy.: W. L. Stevenson, College of Art, Hope Street, Liverpool 1.	Royal 1826
ABS	Architects' Benevolent Society. 66, Portland Place, W.1.	Langham 5721
ABT	Association of Building Technicians. 1, Ashley Place, S.W.1.	Victoria 0447-8
ACGB	Arts Council of Great Britain. 4, St. James' Square, S.W.1.	Whitehall 9737
ADA	Aluminium Development Association. 33, Grosvenor Street, W.1.	Mayfair 7501/8
ARCUK	Architects' Registration Council. 78, Wimpole Street, W.1.	Welbeck 2915
BAE	Board of Architectural Education. 66, Portland Place, W.1.	Langham 5721
BATC	Building Apprenticeship and Training Council. Lambeth Bridge House, S.E.1.	Reliance 7611, Ext. 1706
BC	Building Centre. 26, Store Street, Tottenham Court Road, W.C.1.	Museum 5400
BCC	British Colour Council. 13, Portman Square, W.1.	Welbeck 4185
BCCF	British Cast Concrete Federation. 105, Uxbridge Road, Ealing, W.5.	Ealing 9621
BCIRA	British Cast Iron Research Association. Alvechurch, Birmingham.	Redditch 716
BDA	British Door Association. 10, The Boltons, S.W.10.	Fremantle 8494
BEDA	British Electrical Development Association. 2, Savoy Hill, W.C.2.	Temple Bar 9434
BIA	British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2.	Glasgow Central 2891
BID	Building Industries Distributors. 52, High Holborn, W.C.1.	Chancery 7772
BINC	Building Industries National Council. 11, Weymouth Street, W.1.	Langham 2785
BOT	Board of Trade. Whitehall Gardens, Horseguards' Avenue, Whitehall, S.W.1.	Trafalgar 8855
BRS	Building Research Station. Bucknalls Lane, Watford.	Garston 4040
BSA	Building Societies Association. 14, Park Street, W.1.	Mayfair 0515
BSI	British Standards Institution. British Standards House, 2, Park St., W.1.	Mayfair 9000
BTE	Building Trades Exhibition. 32, Millbank, S.W.1.	Tate Gallery 8134
CABAS	City and Borough Architects Society. C/o Johnson Blackett, F.R.I.B.A., Civic Centre, Newport, Mon.	Newport 65491
CAS	County Architects' Society. C/o S. Vincent Goodman, F.R.I.B.A., Shire Hall, Bedford.	Bedford 67444
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1.	Belgravia 6661
CCP	Council for Codes of Practice. Lambeth Bridge House, S.E.1.	Reliance 7611 Ext. 1284
CDA	Copper Development Association. 55, South Audley Street, W.1.	Grosvenor 8811
CIAM	Congrès Internationaux d'Architecture Moderne. Doldertal, 7, Zurich, Switzerland	
COID	Council of Industrial Design. 28, Haymarket, S.W.1.	Trafalgar 8000
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.1.	Sloane 4280
CUC	Coal Utilization Council. 3, Upper Belgrave Street, S.W.1.	Sloane 9116
CVE	Council for Visual Education. 13, Suffolk Street, Haymarket, S.W.1.	Reading 72255
DGW	Directorate General of Works, Ministry of Works, Lambeth Bridge House, S.E.1.	Reliance 7611
DIA	Design and Industries Association. 13, Suffolk Street, S.W.1.	Whitehall 0540
DOT	Department of Overseas Trade. Horseguards Avenue, Whitehall, S.W.1.	Trafalgar 8855
EJMA	English Joinery Manufacturers' Association (Incorporated). Sackville House, 40, Piccadilly, W.1.	Regent 4448
EPNS	English Place-Name Society. 7, Selwyn Gardens, Cambridge.	
FAS	Faculty of Architects and Surveyors. 68, Gloucester Place, W.1.	Welbeck 9966
FASS	Federation of Associations of Specialists and Sub-Contractors, 14, Bryanston Street, W.1.	Welbeck 1781
FBBDO	Fibre Building Board Development Organization Ltd. (Fidor), 47, Princes Gate, Kensington, S.W.7.	Kensington 4577
FBI	Federation of British Industries. 21, Tothill Street, S.W.1.	Whitehall 6711
FC	Forestry Commission. 25, Savile Row, W.1.	Regent 0221
FCMI	Federation of Coated Macadam Industries. 37, Chester Square, S.W.1.	Sloane 1002
FDMA	The Flush Door Manufacturers Association Ltd., Trowell, Nottingham.	Ilkeston 623
FLD	Friends of the Lake District. Pennington House, nr. Ulverston, Lancs.	Ulverston 201
FMB	Federation of Master Builders. 26, Great Ormond Street, Holborn, W.C.1.	Chancery 7583
FPC	The Federation of Painting Contractors, St. Stephen's House, S.W.1.	Whitehall 3902
FRHB	Federation of Registered House Builders. 82, New Cavendish Street, W.1.	Langham 4341
GPDA	Gypsum Plasterboard Development Association, 11, Ironmonger Lane, E.C.2.	Monarch 8888
GC	Gas Council. 1, Grosvenor Place, S.W.1.	Sloane 4554
GG	Georgian Group. 2 Chester Street, S.W.1.	Belgravia 3081
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1.	Whitehall 2881
IAAS	Incorporated Association of Architects and Surveyors. 29, Belgrave Square, S.W.1.	Belgravia 3755
ICA	Institute of Contemporary Arts. 17-18, Dover Street, Piccadilly, W.1.	Grosvenor 6186
ICE]	Institution of Civil Engineers. 1, Great George Street, S.W.1.	Whitehall 4577
IEE	Institution of Electrical Engineers. Savoy Place, Victoria Embankment, W.C.2.	Temple Bar 7676
IES	Illuminating Engineering Society. 32, Victoria Street, S.W.1.	Abbey 5215
IGE	Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1.	Sloane 8266

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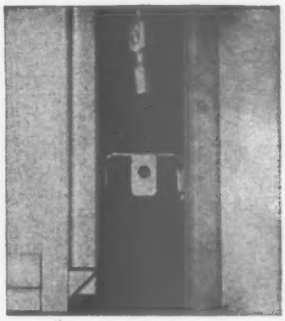
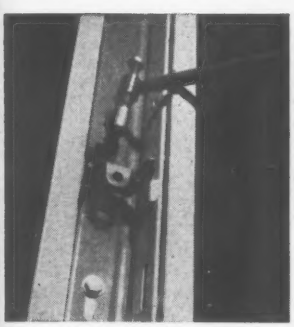
Roften Modular Partitioning is as easy as this to put up — or rearrange

1 Two steel sole plates for each unit of partitioning are screwed to the floor with wood screws.

2 The 40" wide, modular units are bolted to the sole plates. All units are interchangeable.

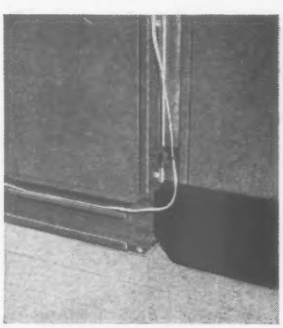


3 Five link plates, at 15" centres, drop into ready pressed out pockets and fix each unit to the next.

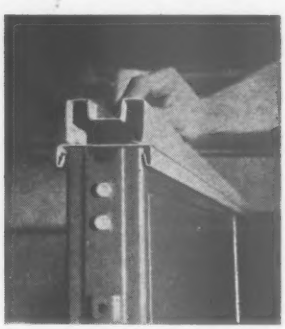


4 Link plates are also used for 3-way fixing — but in this case they are finally bolted in for extra strength.

5 The 40" wide modular door frame, linked in with the rest of the system, is firmly anchored at the foot by a cleat.



6 Electric wiring runs down between partitioning units and along specially provided channels at the bottom.



7 A head channel, cold rolled like all Roften Modular Partitioning sections, finishes off the top of the free-standing screening.

8 Pilasters are clipped on to the notches of the link plates to finish off the joins between units.

9 Skirting is clipped on to the bottom of each unit. Plinths cover the joins in between.

10 Four rubber-buffered glazing beads clip in. Special beads are available for double glazing.

11 Any type of 32 oz. glass slips into the opening, followed by the second set of four glazing beads.

The partitioning installation is now finished. Although it is easy to rearrange, Roften Modular Partitioning is permanent in appearance, all joins are flush, there are no uncovered bolts or screw heads. 13 standard colours are available, and contrasting schemes can be easily arranged at no extra cost. Roften Modular Partitioning will give your client quiet, warm, well laid out offices — of sumptuous appearance.

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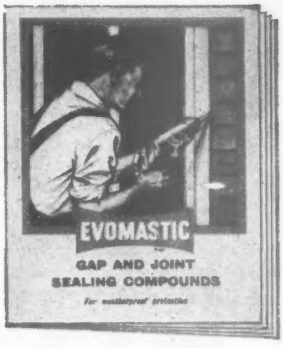

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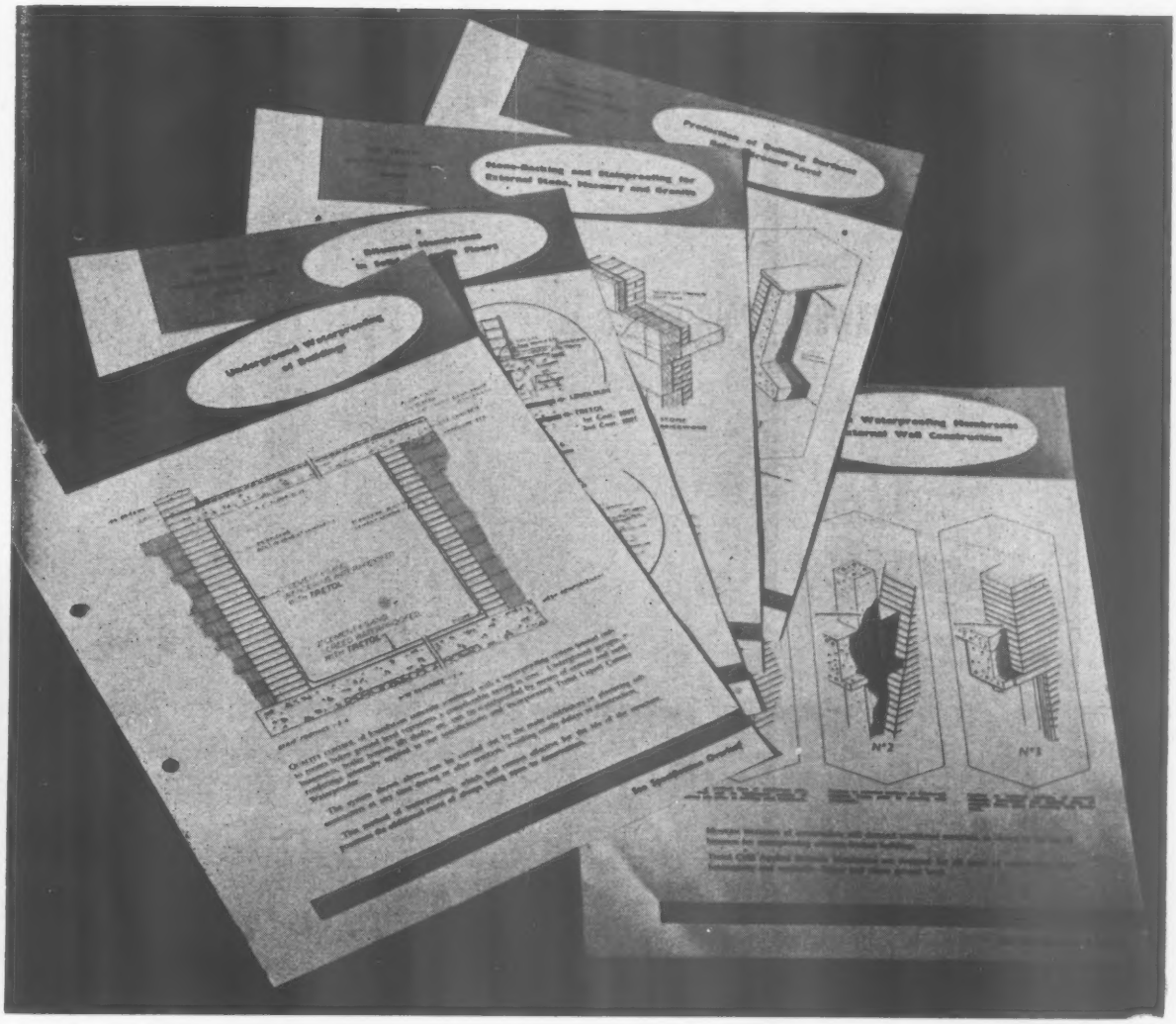

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THESE five specification sheets deal with various aspects of waterproofing structures. They cover the use of cold-applied bitumen solutions as both horizontal and vertical damp-proof membranes. One sheet is devoted entirely to the correct application of internal waterproof renderings as an alternative to tanking. When used in conjunction with the wide range of Tretol specialised building products, the treatments described will ensure an effective solution to many waterproofing problems.

The techniques illustrated in these specification sheets have been utilised for a number of years in many important building projects throughout the country and the sheets are a further extension of the Tretol technical advisory service.

If these sheets are not already in your files, we shall be glad to send you a set and also place you on our mailing list for further sheets which will be issued from time to time. Filing will be no problem, since they are designed to the recommended British Standards size for technical literature.

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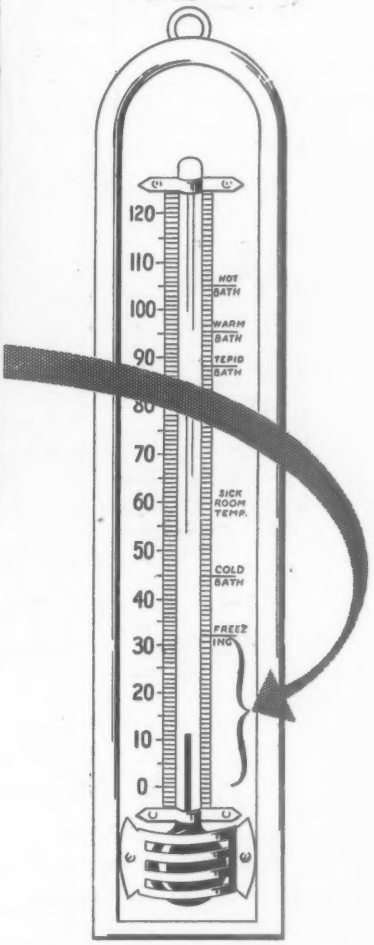

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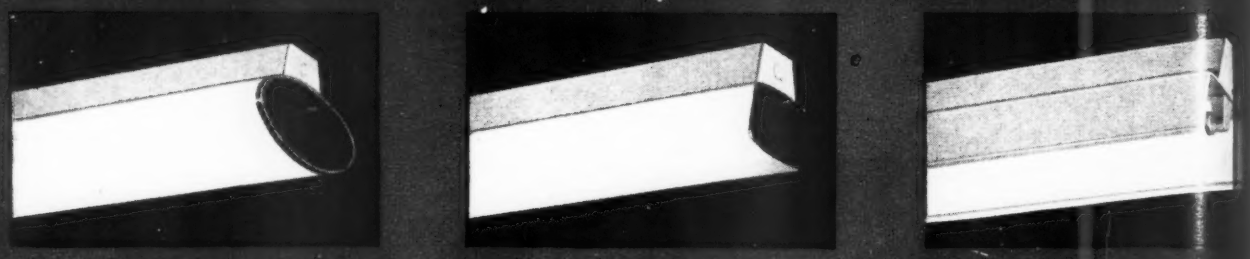
Unfortunately, this passion for the medieval meant that the principal keys were fully fourteen inches long, and the locks, though doubtless proof against erring monks, were no match for modern picklocks.

After the sudden resignation of the night porter, following the loss of Lady Porterhouse's diamonds, the Manager sent for the Man from Chubb. The locks he proposed were inconspicuous but well-nigh impenetrable, and he arranged a simple system of master keys which will make future scandals, to say the least, unlikely.

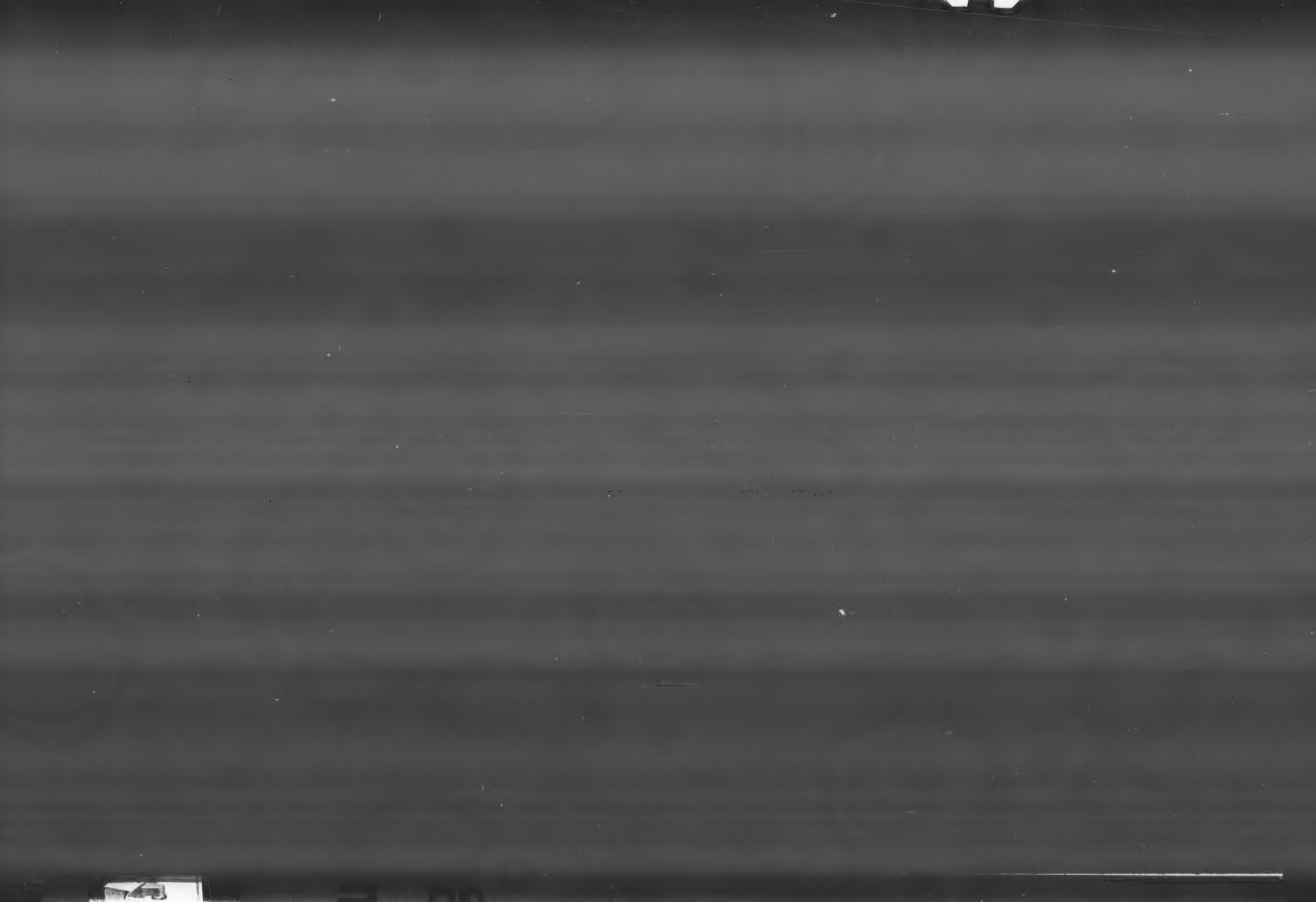
Leaving nothing to chance, the Manager has also acquired, for his own and his guests' valuables, one of those Chubb safes which no burglar has ever succeeded in opening. There is now no safer place for a holiday than the Ruskin Hotel.

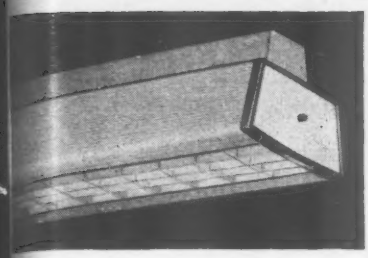
If you haven't got a Chubb catalogue (or can't find it), why not ask for the latest one? It makes an excellent door stop or paperweight, and you never know when you'll have a client who wants the best security there is. Write or telephone Chubb & Son's Lock and Safe Co. Ltd., 175-176 Tottenham Court Road, London, W.1 (MUSeum 5822).

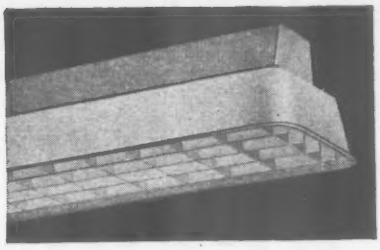
DON'T LEAVE IT TO CHANCE—LEAVE IT TO CHUBB

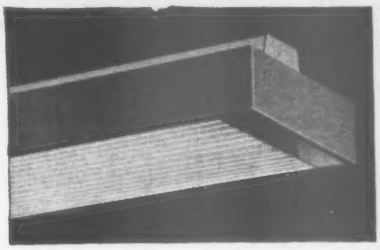


what's so new abou
fluorescent fitting









these anyway?

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new adaptability

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G.E.C. 101 range

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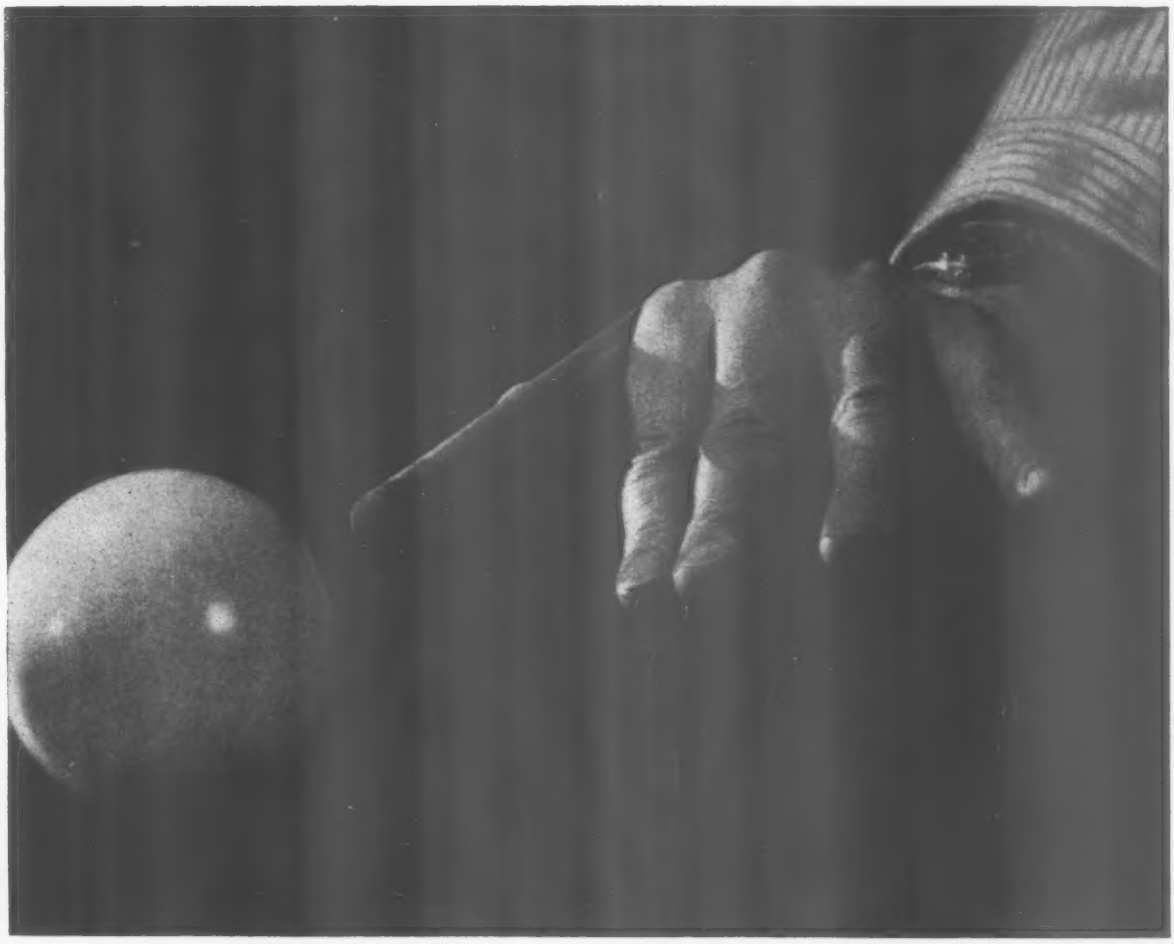

A kind of mathematics that plays a part in making electric cables.

Given the elasticity and weight of the balls, the resilience of the cushion, the rolling friction of the cloth, it must be possible for a billiards player to calculate exactly where and how hard to strike the cue ball. But you never see him doing sums. Somehow his knowledge is instinctive, the result of much experience.

Similarly it ought to be possible to specify a product such as cable. Perhaps it is. But in practice, as everyone knows, it doesn't work like that: manufacture involves hundreds of decisions that are made on experience. Like the expert billiards player, a Company with years at the job is able to sum up rapidly and almost unconsciously the combined effect of a large number of variables: it has, in fact, something analogous to his 'skill', which comes out in the quality of its products.

That's why the name on a product can mean so much.

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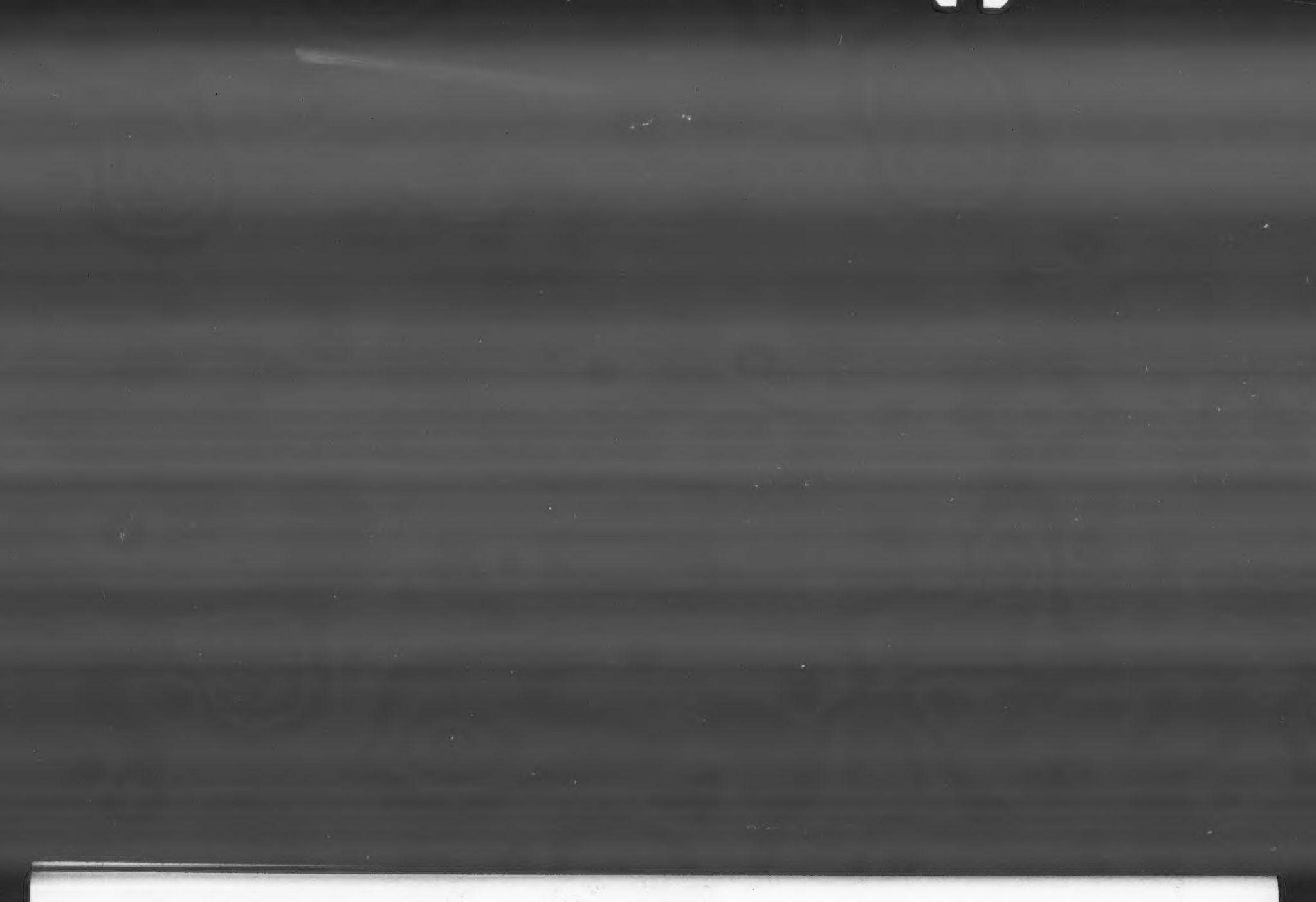

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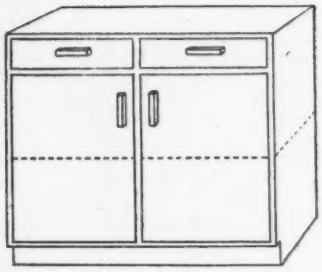

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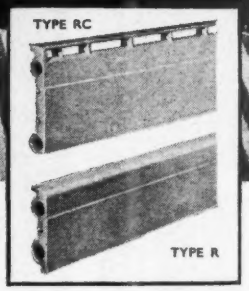

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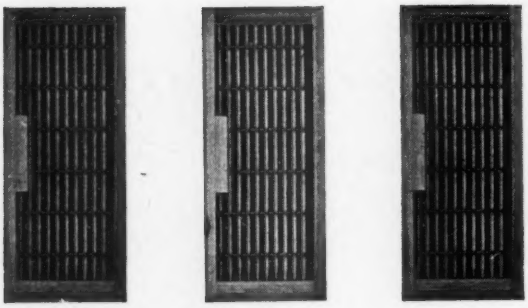

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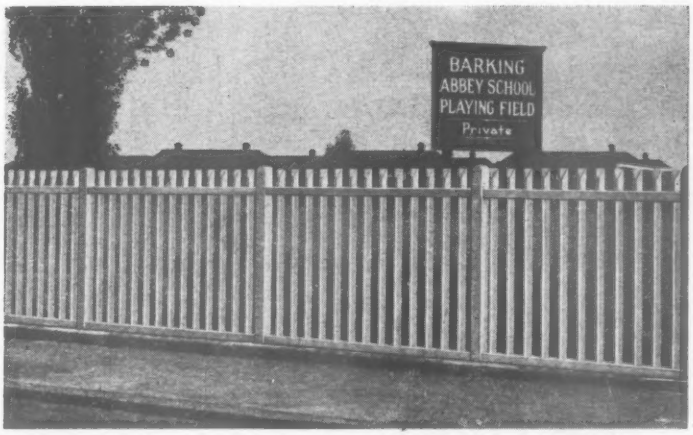

"Winslot" REGD. DESIGN UNIT FENCE

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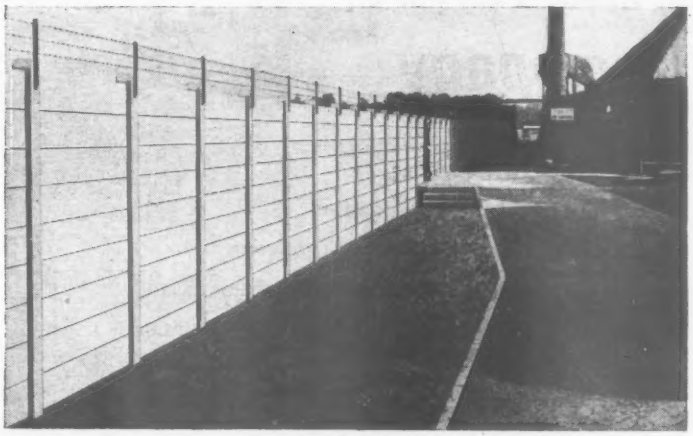

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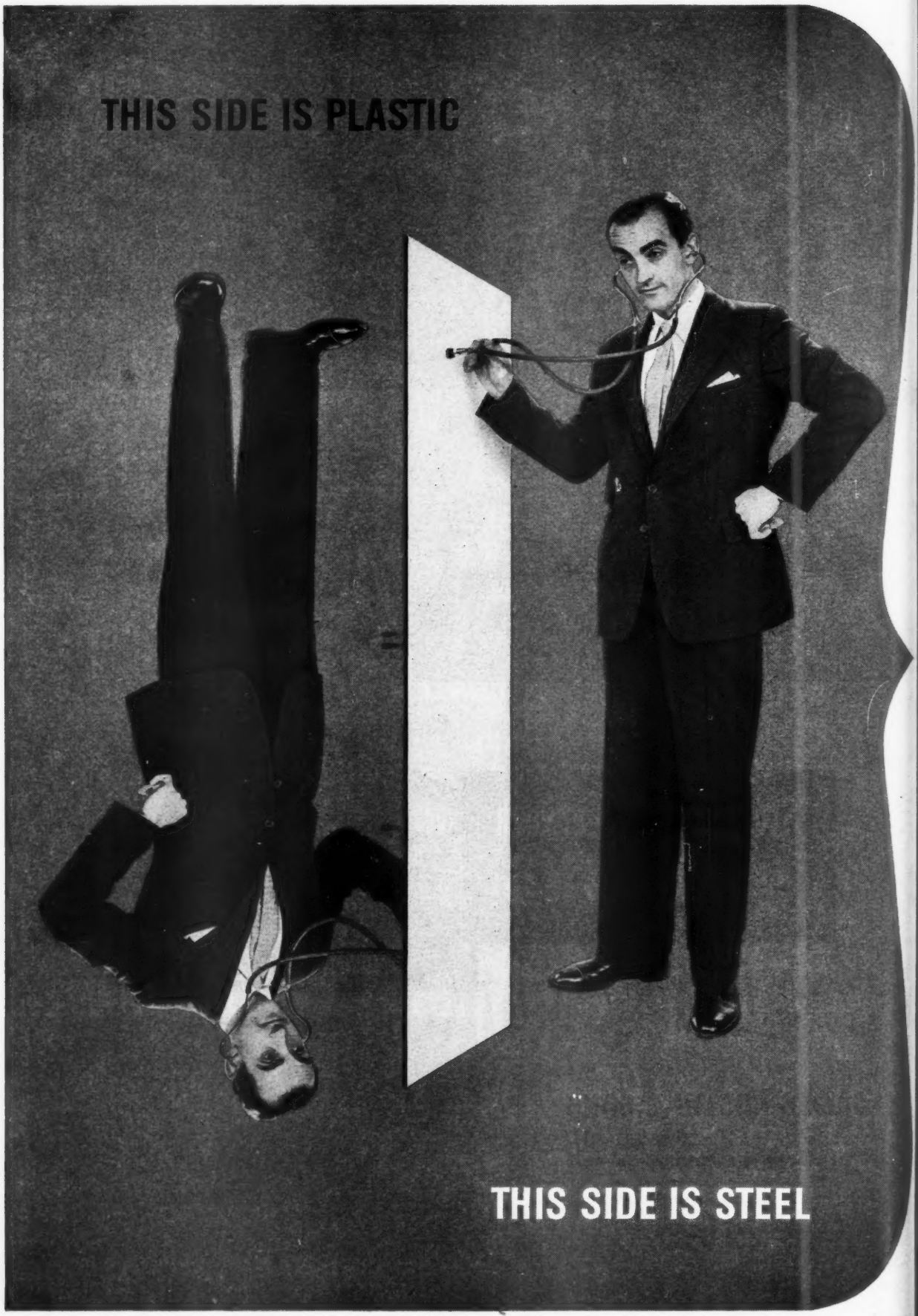
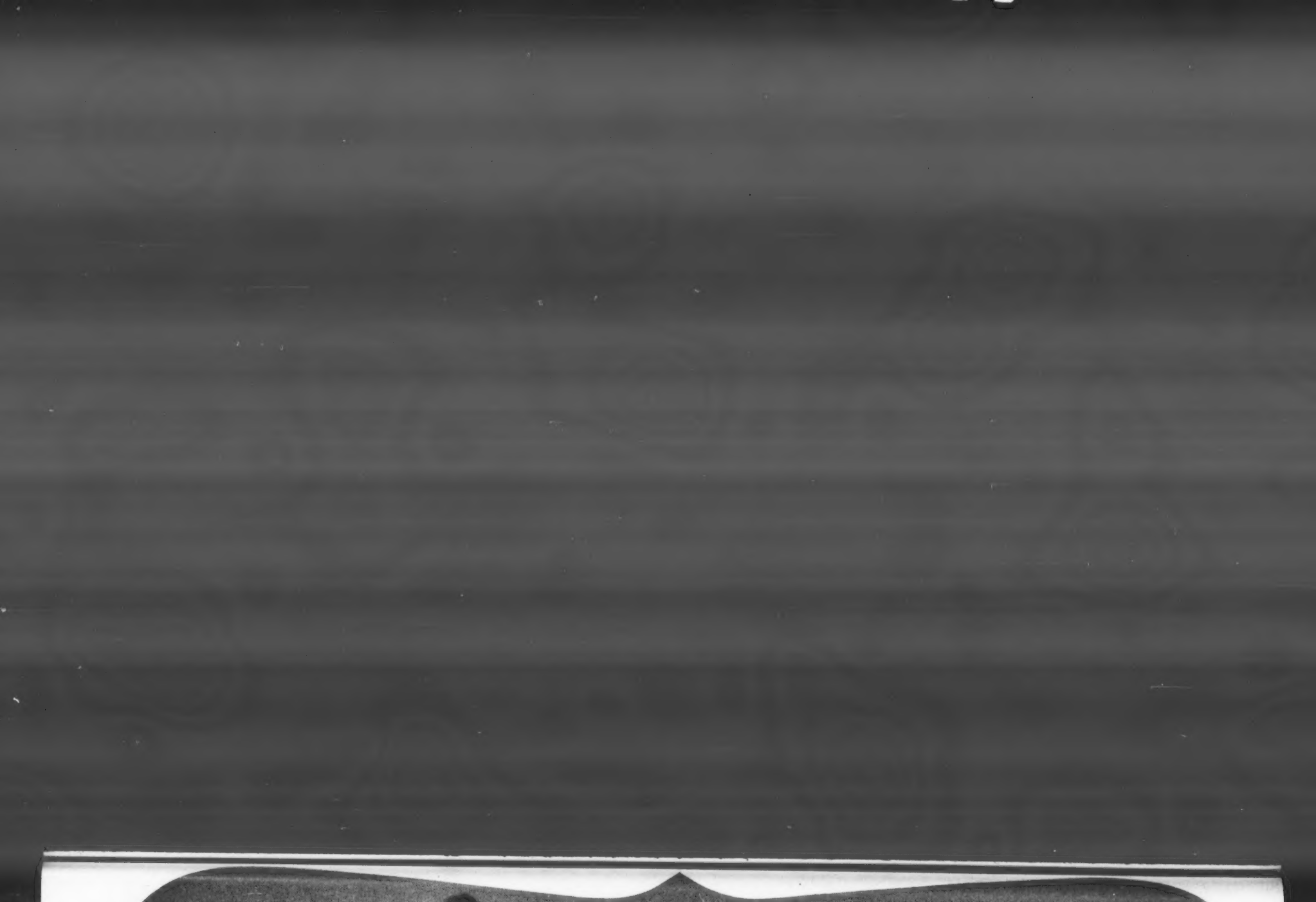
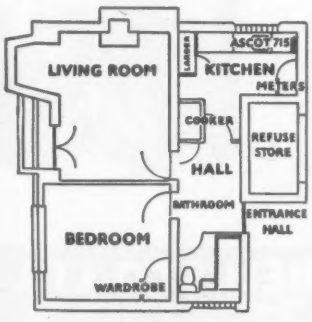

THIS SIDE IS PLASTIC
THIS SIDE IS STEEL



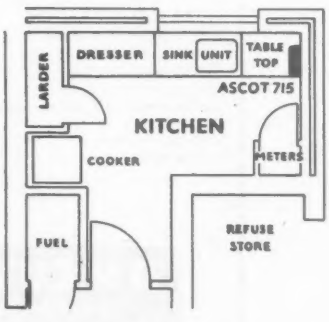
ASCOT IN NEW HOUSING (5)

As part of its redevelopment scheme for The Drive, Walthamstow, the Walthamstow Borough Council, has recently built 28 flats in two, three and four storey blocks. To provide an instantaneous hot water service Ascot 715 "Balanced Flue" Multipoint Gas Water Heaters were installed in the kitchens of all the dwellings which vary in size from bed-sitting-rooms to two-bedroom flats.

The photograph above shows a three and a four storey block at The Drive and the plans below show details of a single-bedroom flat in one of the three-storey blocks.



SINGLE-BEDROOM FLAT



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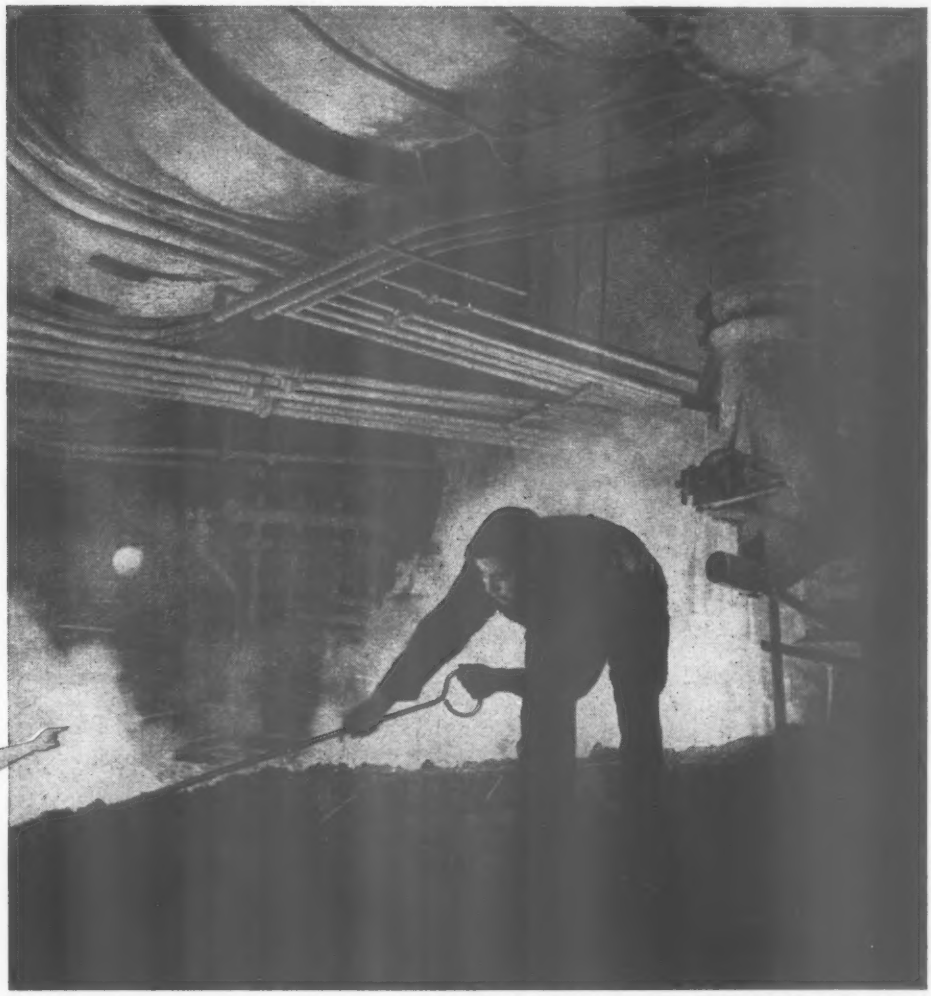

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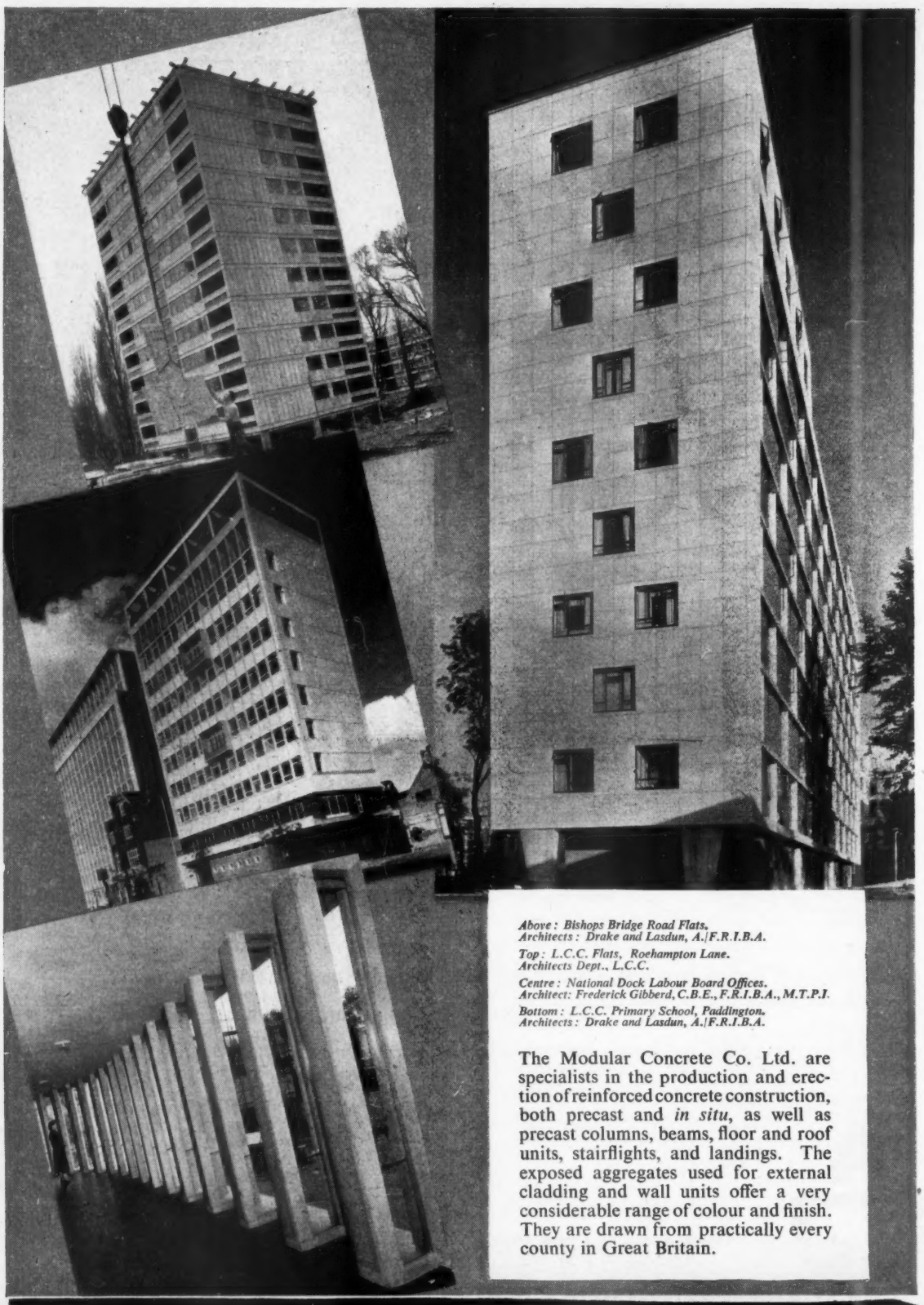

Above: Bishops Bridge Road Flats.
Architects: Drake and Lasdun, A.|F.R.I.B.A.

Top: L.C.C. Flats, Roehampton Lane.
Architects Dept., L.C.C.

Centre: National Dock Labour Board Offices.
Architect: Frederick Gibberd, C.B.E., F.R.I.B.A., M.T.P.I.

Bottom: L.C.C. Primary School, Paddington.
Architects: Drake and Lasdun, A.|F.R.I.B.A.

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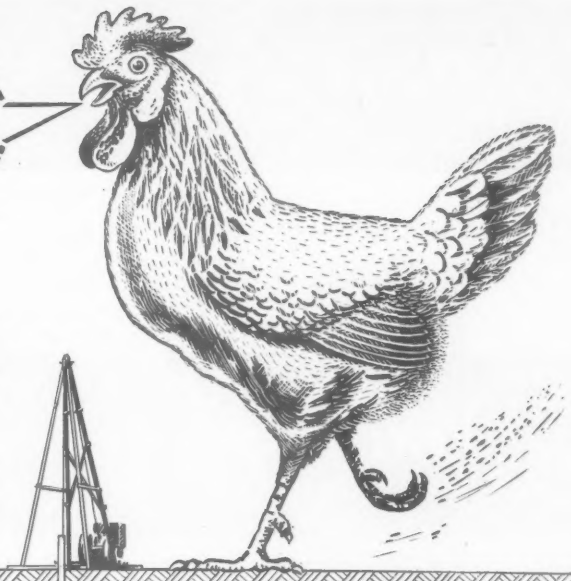

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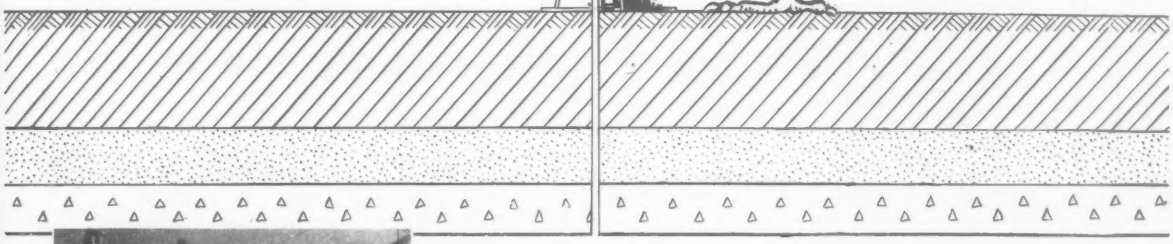

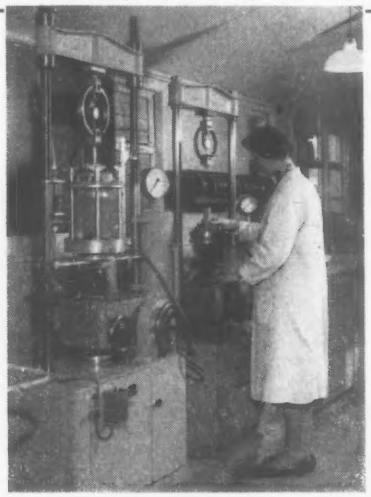

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This test accurately measures the shear strength of soils under known stress conditions. On this information can depend the whole foundation design.

INDEX PROPERTIES OF SOILS

The two illustrations below show apparatus used to provide information on the state of materials in the field and to assess their probable behaviour under various conditions. Another vital factor when considering foundation engineering.

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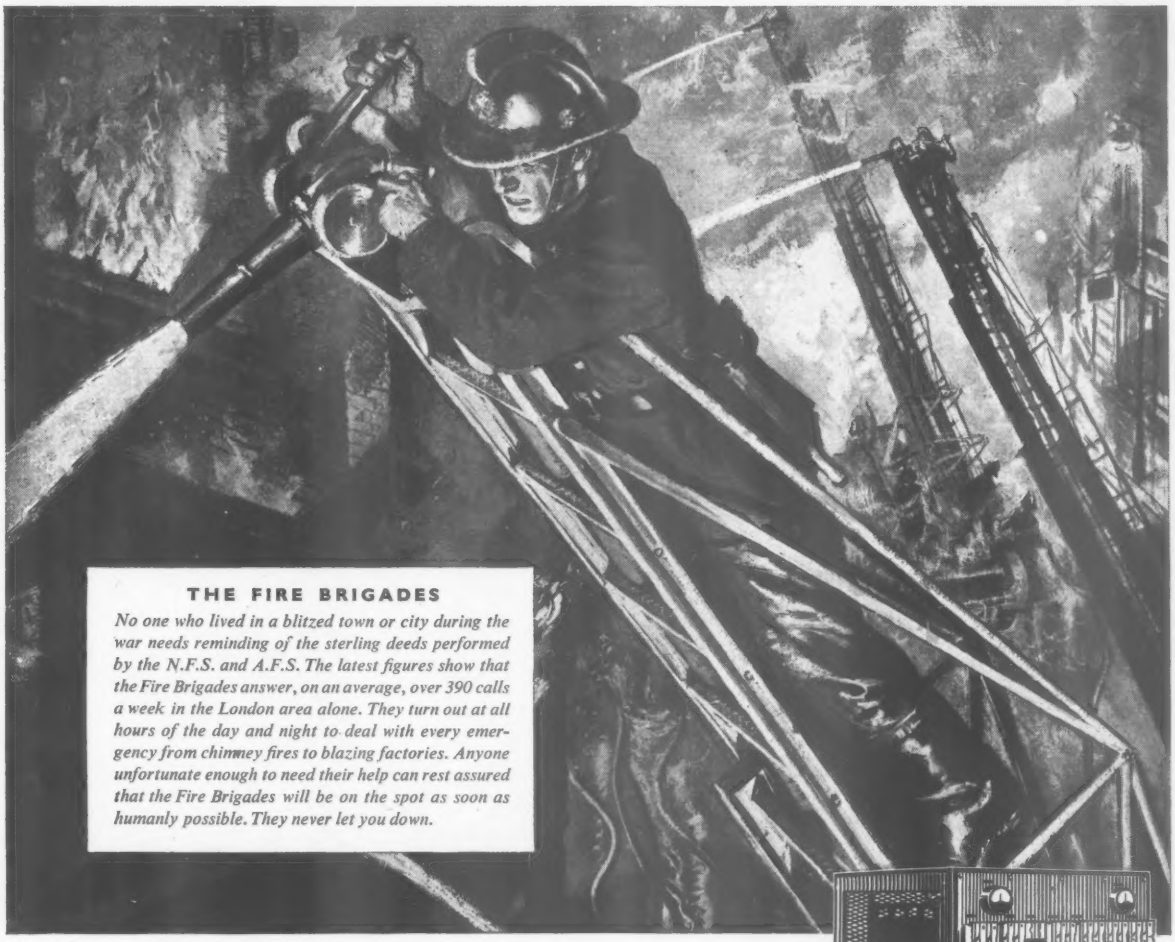

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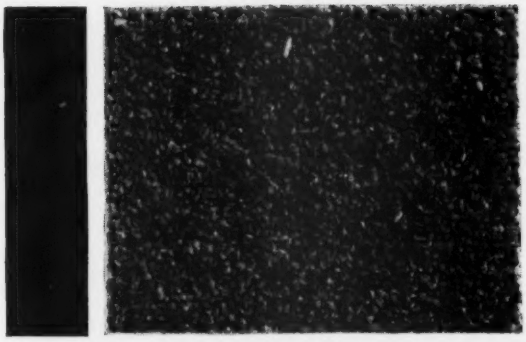

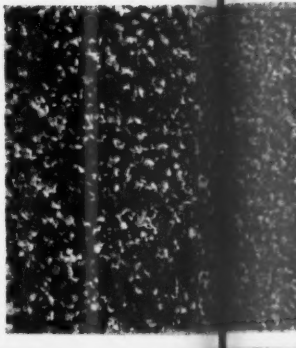

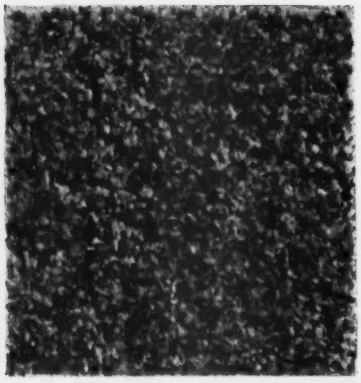

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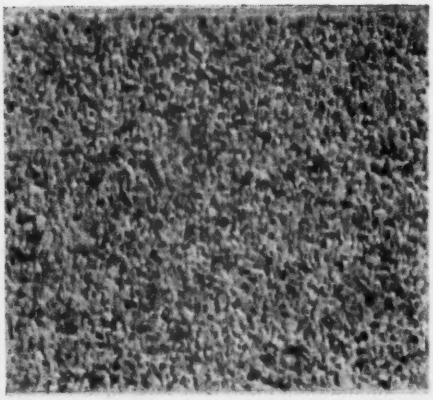

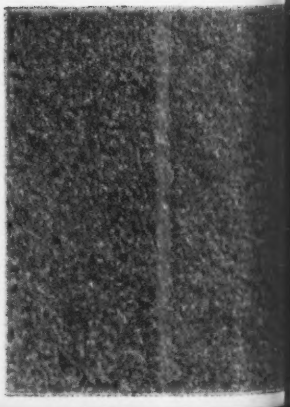

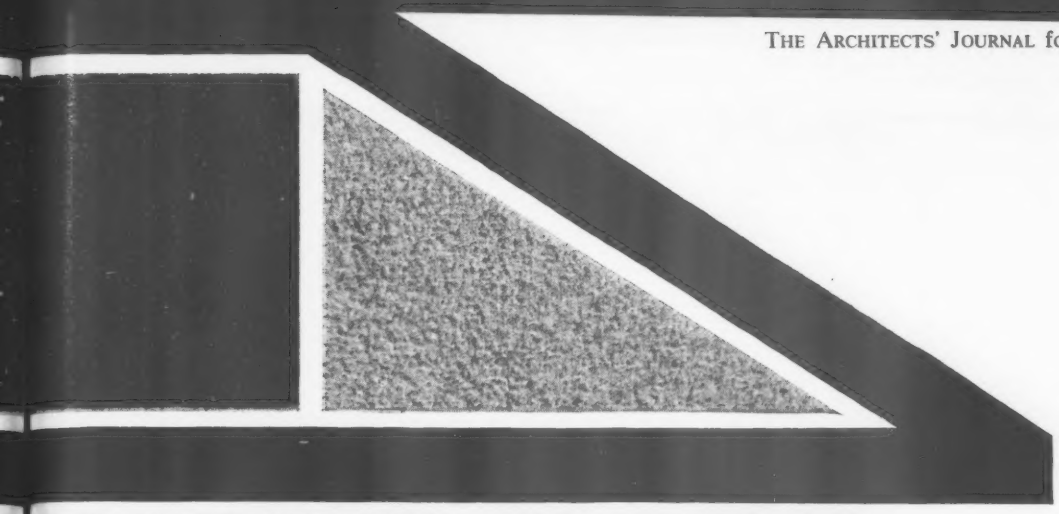

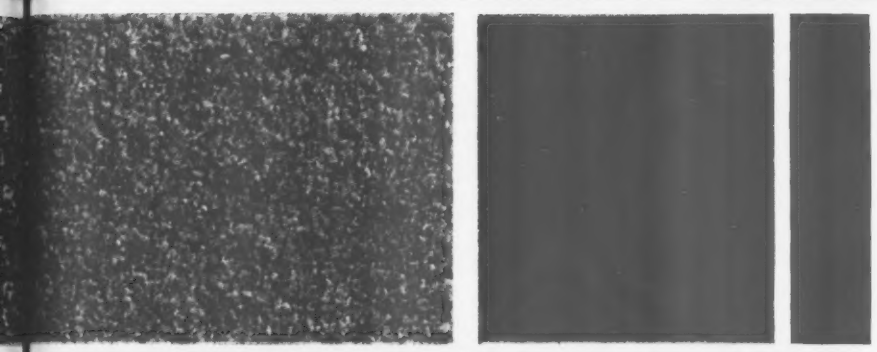

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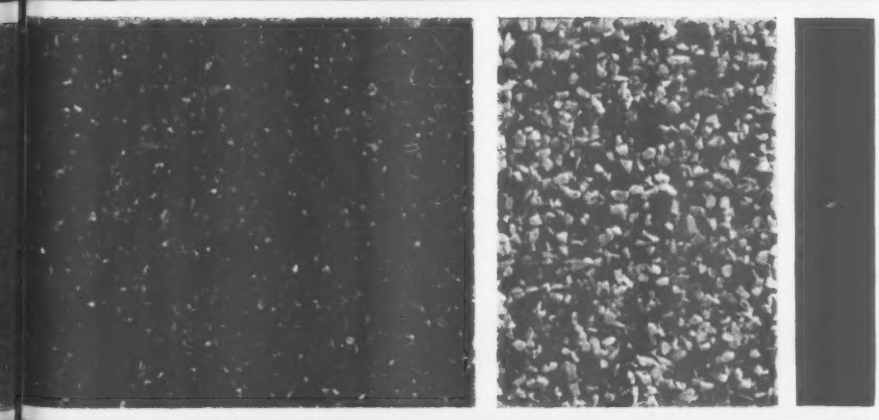

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THE ARCHITECTS' JOURNAL

No. 3283 Vol. 127 January 30, 1958

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NOT QUITE ARCHITECTURE

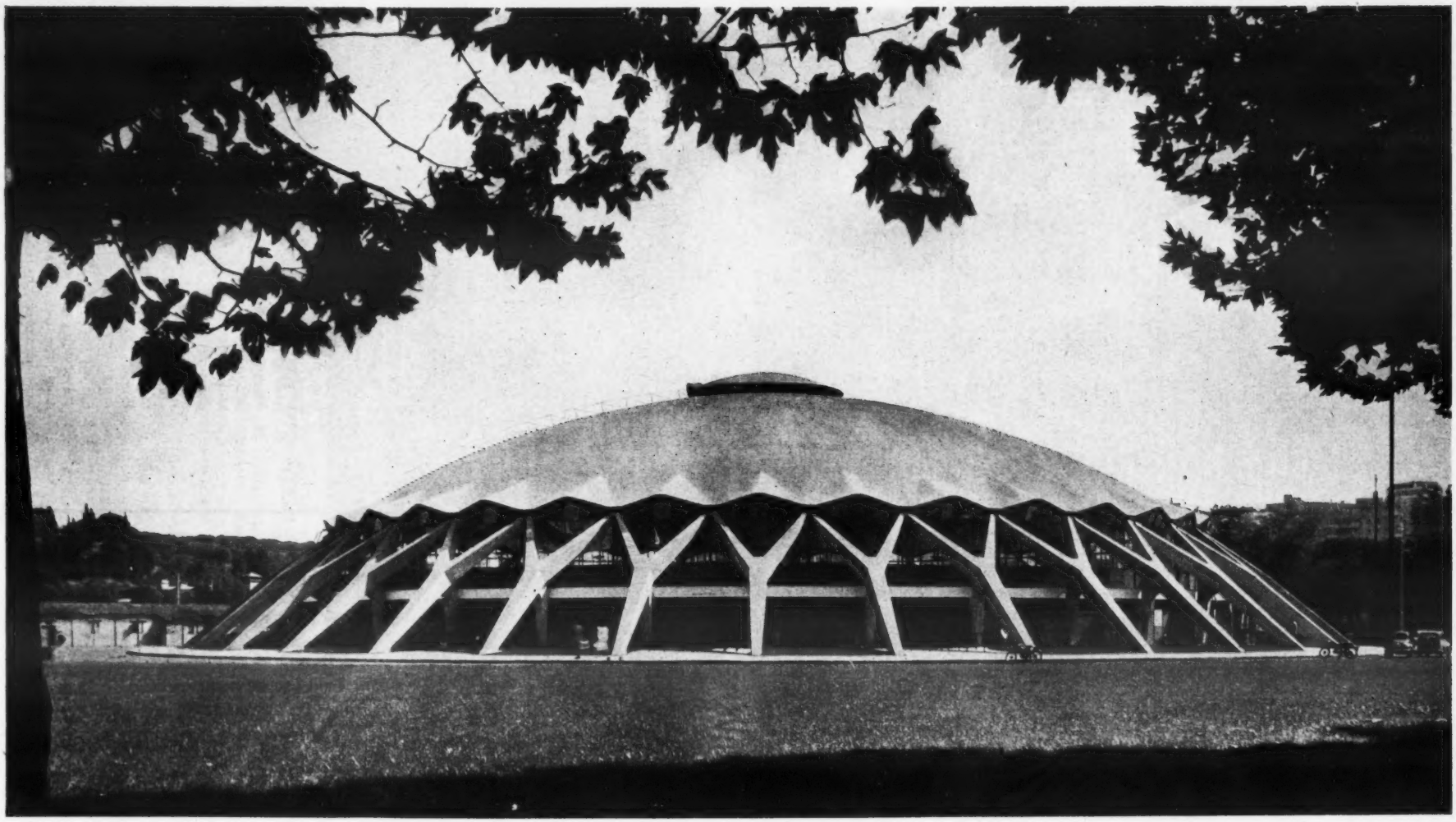
CLIMBING ON THE BAND WAGON

(with one hand on the brake)

There are three types of furniture on view at the Furniture Exhibition at Earls Court, "reproduction" (this means attempts to imitate various historical styles of furniture) which is in the minority; "traditional" and "contemporary." The bulk of the furniture being sold today is called by the trade "traditional." It differs from "reproduction" because it is largely non-traditional, and does not hesitate to borrow motifs from all the styles. Although the major money-spinner for the furniture industry, it has, for the first time, been given a back seat in the Furniture Exhibition. The reason is the third type, "contemporary." Most manufacturers (though it is interesting to see that there are some producers of "reproduction" who are still convinced that "contemporary" is a passing fad) are certain that public taste is continuing to swing towards "contemporary." The majority of newly-weds are buying it, unless Mother is footing the bill and bringing her influence to bear. That is one reason for, on balance, giving the emphasis to "contemporary" on the exhibition stands. The other reason is, quite simply, the power of the Press. Outside the trade journals it is becoming more and more difficult to persuade editors to publish articles on traditional furniture and therefore to get any free publicity for it. No wonder, therefore, that at an exhibition, most prominence is given to "contemporary." The furniture lives up to the word. It all but stands on its neck to be up-to-date. No twist or turn or gimmick, two-tone or multi-tone, is spared to drive home the lesson that this is "contemporary."

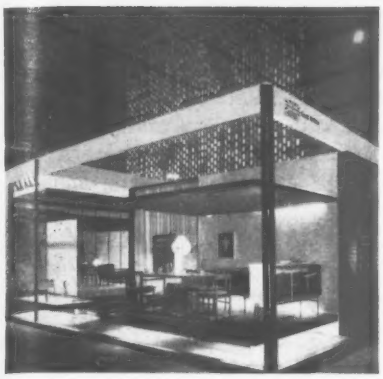
*

In the centre of the exhibition are four national stands: British, Italian, Danish and Finnish. The British stand, top, p. 165, by the COID, is smart, splendidly earnest, but has the beginner's failure of trying too hard —everything that could be done, has been done. The Italian stand, second on p. 165, was designed by Studio BBPR, and



Nervi's Palazzetto dello Sport at Rome

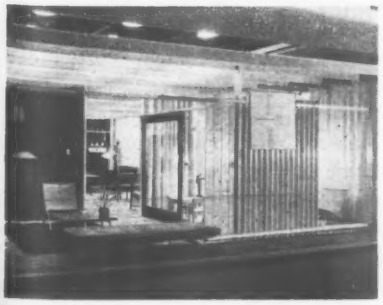
The new Palazzetto dello Sport at Rome was designed by architect Anniballe Vitellozzi and engineer Pier Luigi Nervi, and built by Nervi's own contracting firm. In an article in this month's *L'architettura* (to which we are indebted for photographs of the building) Nervi gives the reasons why, in his opinion, the building is a success: (*a*) That there was a very clear programme drawn up by the clients, who wanted a building which would contain nothing that was not functionally necessary. (*b*) That the main preoccupation of the architect was to find a solution which would fit the programme exactly, by means of close co-operation with technical specialists. (*c*) That a lump sum type contract was used which forced all concerned to give more attention than usual to every detail, so that " variations " could be eliminated. (*d*) That the employment of a contractor who had already specialised in this type of structure avoided the numerous difficulties which would have been experienced with the usual kind of contractor who undertakes every type of work. (Further photographs and a short description of the building appear on page 174.)



Peressatti himself supervised the final touches. The display is bad, because there is no screening to stop the eye becoming confused by neighbouring stands, but the exhibits, standing on marble squares over a bed of granite chips, are confirmation that the Italians, even more than other nations, have failed to understand the meaning of modern design. Barely aware of anthropometry, the designers have hideously overdesigned the luxury of hand-craftsmanship.

In contrast, below, are the Scandinavian stands: the Finnish, designed by Artek with Aalto's guidance, top, and the Danish, bottom. Both are almost painfully restrained exercises in white, light wood, and natural finishes, but they have assurance, and, particularly in the case of Aalto, the conviction that theirs is no ephemeral phase. They have been there before.

SPARAFUCILE.



The Editors

CASTE-MAKING BY ARCHITECTS

EVER since architectural schools were started some architects have complained that the graduates of the schools were bad assistants. This criticism was answered by the argument that the function of the school was to produce architects, not assistants. The complaint until recently has only been made by the most reactionary members of the RIBA, the die-hards who depended on articled pupils until the supply dried-up. They have never ceased to hope that the schools could be bullied into producing malleable draughtsmen, who could be relied on to detail, and to work up rough sketches into final designs, for a very small cut from the architects' six per cent.

The startling new situation which is forming before the puzzled eyes of the editors of the JOURNAL is that a number of well-known school-trained architects are now taking up a very similar attitude to that of the old die-hards. Their argument is simple: many so-called architects, they say, show in their last years at school that they are not really fit to be architects. They obviously have not the personality, the breadth of knowledge, the efficiency and the drive to be architects in the true sense of the term—that is, head builders—the much-needed "leaders of the building team." These people, the argument shows, could be turned into very competent technical advisers, possibly qualified in their own right, but at an inferior level. They could be given a shorter course, perhaps of only three years, and the five-year course would remain for the student destined to be that superman, the Architect with a capital A.

This argument is being put to members of the Board of Architectural Education; it is referred to, obliquely, in Sheppard's latest *ad hoc* committee report, and it is constantly being discussed whenever architects meet. Despite the fact that many respected modern architects are advocating this change in architectural education; or something similar, the proposal seems to be a thoroughly bad one.

What are the fallacies in the argument being made against the school system of training? The first, obvious, if small point, is that after the initial selection of students (if it is efficiently carried out), it is impossible to draw, within the five years of a course, a clear line between the potential architects and the assistants, partly because people develop and mature at different rates, and partly because there are so many different kinds of architect. It would be easy to guess the few who would be likely to climb a long way up the ladder of success, and those who would probably stay on the lower rungs, but who could devise a just and reliable method of sorting out the average?

The only fair method is on the lines of the present one: set a high minimum standard (the present standard probably is not high enough) and work the students hard on a sound, broad,

of the architect was to find a solution which would fit the programme exactly, by means appear on page 174.)

curriculum (and we would be the first to agree that the present curriculum should be drastically revised) and hope that 90 per cent. pass their final examination (any lower figure would suggest that something was radically wrong with the method of entry or of training). The graduates would then be able to decide, according to their nature, how far their ambition was going to take them within the profession.

What, then, asks the indignant proposer of a two-tier profession, will distinguish the principal of a big office, or the leader of a design team, from the dreamy, uncouth, complacent young man in the drawing office? Why should both be called Architects? Leaving aside the fact that the former probably earns at least double the income of the latter, it does at first sight, seem rather unfair. The answer, of course, is not to try and create a lower, less educated, underprivileged, mass of assistants, but to introduce a higher examination for the would-be elite. The Fellowship of the RIBA might once have served such a purpose, if entry to this class had been properly controlled in the past.

There remains the argument: if the head of the office carries the responsibility for the work, organizes the contract and so forth, and is therefore the Architect in name and fact, why should his assistants also be called architects? We have not space to answer this involved problem here, but there is one point which we would like the advocates of this argument to consider: if the architect is concerned with giving his client *value for money*, as well as producing a *work of art*, what part of the design process can be delegated to non-architects?

IS YOUR AUTO MOBILE?

"I like your little cars," said Frank Lloyd Wright last time he was over here. "They give you a feeling of motion. Back home they're just great platforms, and you don't really know if you're moving or not." Probably not, judging by the desperate plea put out last week by the mayor of New York, who asked the leading manufacturers to make their cars smaller so they would fit into garages and into the spaces left between parking meters.

*

It seems that the average saloon has grown 19 in. longer and 7 in. wider in 20 years; and the most expensive American car now has a wheelbase of just over 19 ft. Things are getting so bad that some car parks in America are refusing to accept sports models because they are "too small to be seen." Fortunately our own road system is so outrageous that no one has yet thought of stretching the British car. Nevertheless the amount of space taken up by this modest vehicle is ridiculous, as Sir Herbert Manzoni pointed out last week. Sir Herbert, who was reading a paper on "Public Parking Garages" at the RIBA, estimated that a city with a hundred thousand cars, like Birmingham, needs a square mile for parking facilities. And all because 4 cu. ft. of humanity are allowed some 400 cu. ft. of vehicle. Or, to put it another way, because it takes one ton of metal to move 2 cwt. of flesh and bone.

*

This is all rather terrifying, and ASTRAGAL has a feeling that a country which will probably turn down the Bossom committee's monorail (Germany, of course, has already built one) will almost certainly fail to tackle the problem. In fact, it will not be a bit surprising to hear that in spite of America's predicament our own manufacturers have expansion plans up the sleeves of their draughtsmen's overalls.

*

It is a bold architect who can cheerfully design a housing scheme (as Norman and Dawbarn have done) on the cheerful assumption that garages will not be needed in "this bubble age." But maybe the old law of averages will help us out on our already crowded roads. Perhaps those of you who drive home in your bubble cars to watch the telly will leave a clear road for your clients, who will be driving the other way, in their ever-wider cars, to look at the ever-wider screens—of the ever-dearer cinemas.

WHAT'S RIGHT WITH NEW TOWNS?

ASTRAGAL has never heard a more persuasive talk on the new towns than the Alfred Bossom lecture given at the RIBA last week by Frederick Gibberd. Mr. Gibberd, who feels that most of us are indifferent to an achievement which foreigners envy, was more willing than the garden-city extremists to face criticism. Although he defended the towns for their revival of the English landscape tradition, he admitted that they had architectural weaknesses. These, he said, were due both to the lack of height and to the width of the space pattern. But he put most of the blame on the social set-up, not on the architects. The architects, he said, were not designing for a single class (as in Georgian days) but for all classes; and they were providing an individual house with a garden for nearly every family.

To those who think the architect should give the people what they ought to want, Mr. Gibberd said that the human personality was best developed by being given more freedom, not less. Nevertheless, he seemed to agree with many of the criticisms made (though he completely mis-read Colin Boyne's Third Programme comments). He thinks that the new towns (where socially balanced) can take from 20 to 30 per cent. flats; he agrees that spine roads are often too wide, and he believes that much closer development would have been possible. And those, of course, are the very things that most critics have complained about.

DON'T HAVE ANY MOOR!

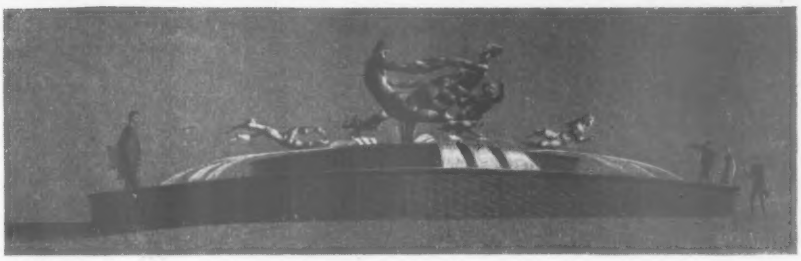
When the Cornish china clay companies have finished with a piece of land they are not obliged to patch up the mess they have made. It is not surprising, therefore, that the Dartmoor Preservation Association is trying to stop them from digging up another 6,005 acres of the moor—most of which is in the National Park. A public inquiry has been held and the Association, which has the backing of the Civic Trust, is hoping that the Minister will make the right decision.

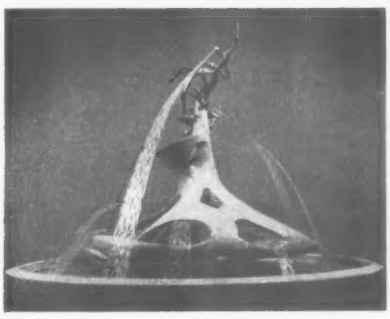
*

The Civic Trust, incidentally, has suggested that wherever minerals have been worked the land should be restored, with the advice of a landscape consultant. Such restoration should, of course, be a condition imposed when any planning consent is given for the extraction of minerals. After all, the National Coal Board has to spend nearly as much on putting things in order as it does on getting the coal. And this obligation is given permanent statutory form in the recent second reading of the Opencast Coal Bill.

PYLON THE AGONY

The same Bill says that the right to give planning permission will be transferred from the local planning authority to the Minister of Power. It is true that the need for opencast coal is national rather than local (an argument that could also justify the formation of a real Ministry of Planning), but who can have any confidence in the Ministry of Power as a planning Ministry? Have *you* seen those advertisements which glorify the use of overhead transmission lines? The advertisements themselves must cost as much as putting quite a length of transmission line underground.





The Hyde Park Fountain Competition. Top: the winning design by T. B. Huxley Jones (sculptor) and C. Handley-Read (architect). Above left: 2nd prize by Bainbridge Copnall. Joint 3rd prize by J. de Vasconcelles above and E. J. Clack left. The competition was promoted by the Constance Fund—founded in the memory of Sigismond Goetze—which has already provided fountains in Queen Mary's Garden, Regent's Park and in Green Park. £15,000 has been allotted for the Hyde Park Fountain, which has yet to be approved by the Minister of Works and the Royal Fine Art Commission. See "Another Little Squirt" (p. 168).

*

Incidentally, has the Ministry got a propaganda man working in British railways? ASTRAGAL was shocked to see that one of the latest water-colours to appear in the railway carriages on the Eastern Region featured a glamorized stretch of power lines in an otherwise truly-rurally Suffolk scene.

17TH CENTURY SUBTOPIA?

The other night, on the BBC's Home Service, art critic Basil Taylor decided to disagree with Sir Hugh Casson's broadcast of last *September* on American subtopia. You may remember that Hugh Casson paid a proper tribute to the United States' contributions to good building, and then bemoaned suburban blight, squalor and decay, and the Americans' blindness to the untidy spaces between their good buildings. It was the reasonable reaction of an Old World man, aware of the mess he has inherited, to the mess being made by New World inhabitants who refuse to learn from history.

*

In his naïve talk Basil Taylor (who styles himself as a critic of the "Subtopian Standpoint") condemned the approach to the problem which seeks to solve subtopia in visual terms—which he calls "a pictorial, a picturesque, a two-dimensional response to a problem which is not just three-dimensional but six-, seven, eight-

dimensional." This is four more dimensions than most people are used to, but, allowing for a little art-critic's licence—what is wrong in meeting a visual problem with a visual answer? Surely that is the only short-term solution. We all know that the long-term answer lies in a more educated public, better designers in responsible positions, and a less wasteful economic system—but need we wait for all that to come about before doing something?

*

Mr. Taylor, who disagreed with Sir Hugh's statement that "a building, even a great building, is not an island," said that the "great town houses of the 17th and 18th centuries were just that, islands in the midst of all kinds of subtópian mess and muddle." The mess we all observed in Canaletto's paintings for instance?

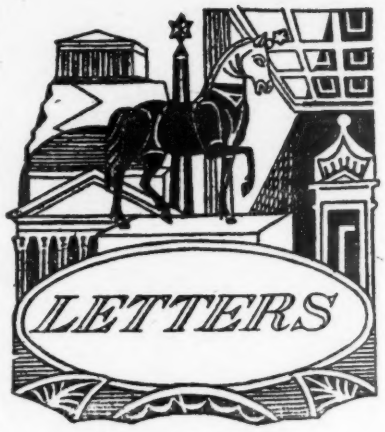
ANOTHER LITTLE SQUIRT

The models and drawings submitted for the Hyde Park Fountain competition (see illustrations) are either the sort of thing an enterprising suburban cinema manager might put in his foyer lounge, or sad attempts at flogging a murmur out of the dead language of neo-classicism. The winning design, by T. B. Huxley Jones (sculptor) and C. Handley-Read (architect), will replace the Dolphin Fountain opposite the Mount Street Gate—unless someone can stop it. The promoters, who were also responsible for the 1954 Green Park Fountain, are the Constance Fund: they really must try some different assessors next time.

SIR ALEXANDER GIBB

Sir Alexander Gibb has died. He was one of the last of the engineers to change over in mid-career from contracting to consulting practice. (It seems that civil engineering and consultancy go together far more easily than building and architecture—possibly because members of the Civils are allowed to direct contracting firms.) You can see the hand of Gibb's architectural staff in nearly all his firm's work. Compare, for example, the straightforward honesty of the loading dock at Guinness's Park Royal brewery with the trimmings provided by the eminent architectural consultant.

ASTRAGAL



Anthony Pott, A.R.I.B.A.
Chief Architect, MOE
John Basing
Peter Scher, A.R.I.B.A.
Alex J. Gordon, A.R.I.B.A.
Margaret H. Kidston
Paul Ritter, A.R.I.B.A.
"Chartered Architect"
Noel Moffett, A.R.I.B.A.

Professional Status

SIR,—I read "Some thoughts on Professional Status" with admiration and pleasure; admiration for the wide sweep of the Ad Hoc Committee's survey, pleasure from the liveliness of its style. No doubt, as the report itself says, the subjects dealt with are not new; standard of entry, practical training, research, higher degrees and management studies have all been widely discussed. Into these discussions, and others on professional topics, creeps sooner or later the word "Status." But the value of this paper is in its first-class attempt to survey the wood as a whole instead of myopically examining each tree in isolation.

No doubt also, the captious will enjoy themselves, each picking his little hole. Doesn't the Fellowship deserve more than one sentence and less complacency? Hasn't the Committee burked the main problem in the management of building projects in the present set-up? Need we be quite so defeatist about the chance of arriving at a more rational basis for fees?

The paper has forestalled this kind of criticism by its modesty. The ideas put forward are "reflections," "speculative" and "a background" published to stimulate discussion. This absence of dogmatism will make it the easier to discuss the broad issues without getting bogged down in detail. The essence of the matter, as I see it, is this: implicit in the paper is nothing less than a grand strategy for the profession. It is on this strategy that we must make up our minds and, if we accept it, act.

ANTHONY POTT.

London.

SIR,—The Ad Hoc committee suggests that it may be advisable to raise the standard of entry into the profession to university level. It has been a matter of extreme urgency for the last 10 years to raise the standard and cut down the intake, but with the RIBA greedy for subscriptions on the one hand and the schools greedy for pupils on the other we have now got a most elaborate obstacle race lasting anything up to 10 years and a qualification that the stupidest hack draughtsman can obtain if he has persistence enought.

At the other end of the scale most pre-war draughtsmen have now presumably passed through the Licentiate class to a Fellowship without taking so much as an eleven-plus examination in their lives.

All of which amounts to saying that the present architectural register must contain a very high proportion of people who should never have been admitted and if we are to regain any sort of status for the architect before 20,000 more A.R.I.B.A.'s flood the profession we must introduce a qualification *now* that is worth having and restrict it to new and existing members who genuinely merit it. I suggest that the nearest approach to a qualifying examination at the moment is the RIBA Special Final and that the title "Chartered Architect" should be restricted to those who are properly qualified.

JOHN BASING.

London.

SIR,—The Ad Hoc Committee is to be congratulated, for its paper not only raises vital issues but is so badly written that it is itself an illustration of one reason why architects have lost so much public esteem recently. For example: "Given that what is hardest to get into so often attracts the best material, we look at the moment to be heading for quantity rather than quality in the coming contest." This is appalling English and I can only guess from its context that the Committee is recommending the profession to concentrate on attracting *more* rather than *better* entrants. If I guess rightly, this recommendation is even more appalling than the form in which it is expressed. How can this quotation be reconciled with one from the second paper:—"The outflow from the architectural schools over the next two or three years will continue regardless of current events and there may be temporary difficulty in absorbing all the architects who qualify in 1958." "Temporary difficulty" is a euphemism for the acute disappointment which young architects fresh from the enthusiasms of student work will experience; not to mention assistants already working who will doubtless have "temporary difficulty" in securing increased salaries. But can one trust the generalizations in these papers? The preceding paragraph begins: "With the existing difficulty of recruiting good assistants . . ." Is it difficult to get good assistants? The Committee must give some evidence to support generalizations which appear to contradict common experience.

As far as we know the RIBA does not exercise any control whatsoever over the numbers entering the profession despite the recommendation of the Hankey Report: ". . . the employment position within the profession should be closely and constantly studied in order that recruitment should not seriously exceed demands, and that in any case a tendency towards further increase in the number of entries should be discouraged . . ." The enormous uncontrolled growth in intake combined with the low standard of training is surely the basic reason for the surplus of Associates and a serious drop in the status of architects generally.

The subject of architectural training is only dealt with vaguely and not mentioned at all in the programme of work the Committee have outlined for themselves, though they acknowledge that quality of training is a basic ingredient of professional status.

Will they persuade the Education Committee to investigate this?

Other points need discussion but the many highly dubious and unsupported generalizations will mislead and do great harm unless the document is read with extreme care. Here are two more passages which should never have been allowed: "A sense of vocation and an element of selfless service, varying in degree from one extreme characterised perhaps by the Church to what, at the other, may be not much more than a rationalization of quite other motives." Pompous nonsense and a perfect textbook example of how not to write English. Finally: "The 18th century court musician was commanded to produce a quartet as imperiously as the cook to produce an omelette; and did so about as promptly." Utterances like these are an insult to read, and I fervently hope that no one outside the profession will read them.

PETER SCHER.

London.

The Universities

SIR,—In your editorial survey of British universities (on which you are to be congratulated) the question is asked—"Is the money being spent wisely or not?" As you say, the answer will not be known for sure until the UGC's own Architects Department is working properly. Even now, however, one might hazard a guess that the available money could be made to go further if the UGC's building policy were more in line with that of the Ministry of Education.

The school building programme has shown that where there is repetition which permits the making of fair comparisons, costs can be and have been kept down successfully. This has been achieved from guidance (not dictation) from the Central Authority, as to scales of accommodation, etc., and by competition amongst the various architects (both official and private) engaged on school building.

[*The letter then quotes a speech at the Scottish Design Congress in May,* 1954, *by Sir John Maud and continues :*]

If for Ministry, one substitutes UGC and for Local Authority, University, and if one accepts that standardization will be possible only to a lesser degree, there is surely a possibility that central guidance as to costs and accommodation should lead in University construction, to equally successful economies, and incidentally, improved design standards. No doubt, however, it may be a long time before the Universities themselves are prepared to look upon such guidance as help, rather than interference.

ALEX J. GORDON.

Cardiff.

SIR,—The article on St. Andrews University (AJ, January 2) holds many inaccuracies which call for correction and makes one wonder if Miss Beazley took the trouble to verify any of her statements.

1. St. Andrews University was founded in 1411 not in the 12th century.

2. The minute map is completely inaccurate and misleading, as only main University buildings are shown, and not even all of them, and the actual ground area and houses owned by the University in the centre of the town are omitted. Nor is it made clear that the alternative sites for extension, one of which is not shown, are almost entirely owned by the University, are clear of existing buildings and are less than a mile from the centre.

3. Five halls of residence are in the centre and five on the perimeter, so there is no validity in the argument that the teaching sites should be central and the residences on the out-skirts.

4. The unions are not between the United College and the Westburn Lane site.

5. The University has not even yet overtaken its post war space problem and is overcrowded at present. Obviously the Westburn Lane site will prove inadequate in the foreseeable future and further demands for adjacent sites will be made.

6. The students themselves state that even with 1,200 to 1,300 their numbers are too great for true corporate life and that, except in the residences, they only meet and consort with those in their own faculties.

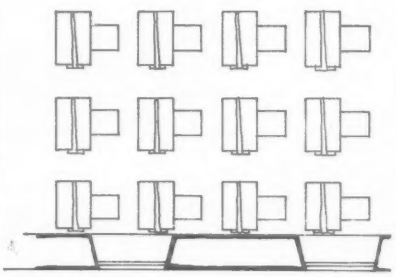
Finally, I take exception to Miss Beazley having commented on the bitter and unhappy controversy and disparaged the viewpoint of those who disagree with the policy of the University. A town with a live residential area in the centre would loose its heart to give way to academic occupation whose organ beats for little more than half the year.

It is indeed unfortunate that Miss Beazley did not meet those who are anxious to preserve the balance of the town, academic, schools, commerce, golf and holiday resort, and who consider that large scale extension of any kind should now be sited on the perimeter. She has also obviously only heard the official view in Edinburgh where many, both within the University and in the city, consider the George Square site inadequate for future needs.

MARGARET H. KIDSTON.

Fife.

Like Sardines ?



[Scale: $\frac{1}{8}$" = 1' 0"]

SIR,—Could the very high-level conference on architectural education, to be held in the spring, consider the very low level of the standard of accommodation at external design examinations?

As anyone can see through the glass screens at Portland Place, the students have poor light, poor ventilation, and, unless you sit at a window sill, the sole working area is the imperial board balanced precariously on a smaller desk underneath. Inks, six other sheets of drawings, instruments, etc., have to go on the floor, which in itself is a problem, because there is hardly any floor area between the boards.

I think that the idea of an examination in design is a bad one, particularly unnecessary when students have done the same design programme at a full-time school successfully for five years. But if we do have them they must be regarded as an extreme test and conditions must surely be nearly ideal to give a fair chance in an examination where the major trouble seems to be lack of time. Good light, and a little elbow room is not much to afford our future colleagues during a test which most associates and fellows might well fail the first time of taking.

I append a scale drawing of arrangement of boards at the RIBA during a recent examination.

PAUL RITTER.

Nottingham.

Credits For Work

SIR,—Careful reading of the Code of Professional Conduct suggests to me an alternative approach to the problem of status for the employed architect.

It is significant, and presumably deliberate, that the only reference to an architect in this capacity refers to the method of his remuneration—clause 2. Everywhere else it is assumed that an architect, or indeed student, is responsible for, and receives due acknowledgement of, his work—clause 9. How is it possible, therefore, that in large organizations, such as local authorities, all building work is attributed, as a polite fiction, to the chief architect or even engineer; with a passing acknowledgement sometimes to the man actually responsible as "architect in charge"? Surely this man in fact is the architect: the most the chief architect of the organization could claim would be that of consultant architect, and in many instances not even that. For the chief architect to claim as his own work that which he has not in fact done is a direct contravention of the first part of clause 10; further, the authority who employs both may, in fact, be guilty of aiding and abetting.

Whether the question of copyright has been fully examined in this context I do not know, but presumably the copyright of a design would, in fact, be vested in the employer if not in the actual architect; certainly the chief architect cannot have any claim either in equity or law.

The logical consequence of this hypothesis is self-evident so far as the assistant architect is concerned. This is turn would mean that his claim to better remuneration would be much more difficult to rebut.

"CHARTERED ARCHITECT"

Notts.

Elevational Control

SIR,—I would like, to support the plea made by ASTRAGAL and ably elaborated by Dennis Berry in your issue of December 26 that the RIBA should take action on the serious question of the attitude of local authorities toward architects who submit plans to them for their approval.

I am one of a numerous band of architects who have suffered obstruction, prejudice, hesitancy, unnecessary delay and infuriating procrastination at the hands of a local authority to whom I have submitted plans of small houses for approval. Mr. Berry's suggestion that the RIBA should form a committee to report such behaviour to the Ministry, who could then issue a corrective, if it was thought necessary, to the authority concerned, is one constructive idea; if the RIBA Council is seriously interested it will think of others.

NOEL MOFFETT.

London.

DIARY

Film on Coventry Cathedral. Presented by Basil Spence. *Criticism* by Peter Shepheard. *Presentation of Prizes* by the President. At the RIBA, 66, Portland Place, W.1. 6 p.m. FEBRUARY 4

Design in Tomorrow's Industry. SIA Design Oration by Christian Barman. At the RSA, John Adam Street, W.C.2. 7 p.m. FEBRUARY 7

IAAS Annual Dinner and Dance. Held by the London and Home Counties Branches at the Park Lane Hotel, W.1. Tickets (2 gns. each) from the General Secretary, IAAS, 29, Belgrave Square, S.W.1. FEBRUARY 14

NATIONAL PARKS

Annual Report

The National Parks Commission, in its annual report, once more expresses its concern at the effect on the Parks of the nuclear power programme, seeking sites in isolated places and where there are large quantities of cooling water. It says that this anxiety arises not only from the location of the stations themselves (the first nuclear-power station in Wales is to be situated in the Snowdonia National Park), but also from the siting of the connecting pylons and transmission lines. The Commission holds that the siting of large-scale industry in National Parks should be sanctioned only on over-riding and inescapable national necessity, and after alternative sites outside National Park areas have zealously been sought.

The Commission has continued to make progress during the year with the designation of areas of outstanding beauty, and the designation of the Brecon Beacons National Park brings the total area of the parks to one eleventh of the land area of England and Wales. But progress on the ground in improving the areas of the National Parks is disappointing, the principal obstacles being the continuing ban on capital expenditure, which has restricted the work to land acquisition, some tree planting and the provision of car parks. While the Commission has been able in some instances to secure concessions from the Government, the report does suggest that the Government does not give the Commission a great deal of support. It turned down both the Commission's suggestions for securing a well planned industrial development at Milford Haven, it has rejected the Commission's repeated requests for the National Land Fund to be made available (as was originally intended) to finance developments in the National Parks, and it holds out no hope of Parliamentary time being available for amending legislation that would give the Commission the additional powers it urgently requires.

In Brief

A one-week course in timber has been arranged by Dr. H. E. Desch at Oxford from March 24-29. The fee is 18 gns., and further information is obtainable from Dr. Desch at 11, Haymarket, London, S.W.1.

The Arthur Louis Aaron V.C. Scholarship at the Leeds School of Architecture and Town Planning will be of the value of £250 for 1958. It is a travelling scholarship for post-diploma study in architecture.

Robert Matthew and Johnson-Marshall have been appointed architects for the new building to be erected for the Imperial Institute (to be renamed the Commonwealth Institute) at Holland Park, Kensington.

The Town and Country Planning Association has accepted an invitation from the Soviet authorities for a three weeks' tour by six town-planners, from May 20 to June 5 next, in return for the recent visit to Britain of a distinguished party of planners from Soviet cities.

The British party will be led by Sir Frederic J. Osborn, Chairman of the Town and Country Planning Association, and will include R. Edmonds, Chairman of LCC Planning Committee, E. G. S. Elliott, Chief Technical Officer of the Ministry of Housing and Local Government, H. W. Wells, Chairman of Hemel Hempstead New Town Development Corporation, Professor H. Myles Wright of the Civic Department of Liverpool University, and a County Planning Officer. Their tour is being arranged by the USSR Ministry of Construction, and the visit promises valuable exchanges of experience on problems common to both countries.

Fellowships and Scholarships for graduate study in Landscape Architecture at Pennsylvania University are open to application. These range in value from a maximum of free tuition, free board and a stipend of $500 per annum to a minimum of free tuition. Only persons holding a diploma in architecture or landscape architecture are eligible. The programme offers one curriculum specifically directed to architects wishing to study Landscape Architecture. This covers four semesters—18 calendar months. The closing date for application is March 1, 1958. Enquiries should be made to the Chairman, Department of Landscape Architecture, University of Pennsylvania, Philadelphia 4, U.S.A.

Have our new towns fulfilled the promise of the early planners? This question will be discussed in a series of talks to be broadcast in the Town and Country programme at 6.15 p.m. on the Home Service from Monday, February 3 to Friday, February 7. In his introductory talk, Sir Frederic Osborn declares that "London has taken an international lead in a new and revolutionary movement that can give far better working and living conditions for hundreds of thousands." J. M. Richards takes a critical view of achievements up to now, and Peter Self, of the London School of Economics, will deal with financial aspects of the new towns. Mr. Brook-Taylor, of Hemel Hempstead, speaks about the social aspects of communities with predominantly young populations.

Because of the major contribution which it makes to capital investment, it is inevitable that building should be one of the industries most affected by changes in economic policy. The annual report of the National Federation of Building Trades Employers states that in the course of 1958 the latest Government measures are expected to have serious repercussions on the building industry. It emphasizes that if the anticipated diminution of work proves to be so substantial as to deprive building firms of much of their financial resources, they will not be in a position to develop their plans with regard to training, mechanization and research.

ULSTER NEWS LETTER

James Munce, an architect in Belfast, writes the following account of recent events in Ulster:

An erstwhile Professor of Economics in Queen's University—who wisely fled to the Antipodes before publishing date—drew up a vast and learned treatise on our economic situation here in Ulster. This document may also explain to some degree our architectural predicament—local industry and commerce too closely tied to a conservatively-minded farming community.

Once as remote and unknown to the average Englishman as Samarkand, Northern Ireland is now as accessible to the London architect as anywhere west of Old Sarum. The consequent invasion of somewhat mixed talent has caused much heart burning—though not, I'm afraid, enough heart searching—amongst our local brethren. This malaise has not been lessened by the emergence from a dreadful pit on the Stranmillis Road of a truly amazing building. This new College of Engineering for Queen's University could equally well have been built in the days before Watt & Boulton, and the details have a great similarity to those of the same firm's recent efforts in Oxford.

The same spirit would appear to have inspired the latest efforts of the city officials to solve the traffic problem, a mere £9,000,000 trifle for an underground tunnel, a veritable Pluto through Belfast's liquid sub-soil. It is hoped that this will obviate the necessity for a new bridge which might interfere with the berthing of the steamers plying nightly between Belfast and Glasgow, Heysham and Liverpool; but no one seems to have seriously considered the possibility that after 10 years and an expenditure of £9,000,000 there may no longer be any cross-channel steamers. The present bridges are not so inadequate as the tangle of streets which enmesh their approaches.

We had an excellent conference on slum clearance in November which we hope will produce something more inspiring than the recent visit of three anonymous city officials to the mainland. Three weeks of hard travel and sightseeing produced a novel solution to the slum problem—the sub-division of existing tenement buildings into flats, the refurbishing of delapidated three-storey buildings, and the provision of thousands of prefabs. The one honourable facet of the whole miserable set-up is the refusal of the delegation to divulge which three English cities served as their inspiration.

On the credit side, however, we are not lacking. Four quite good fire stations have appeared out of some 30 built since 1950 by the Northern Ireland Fire Authority, and some good-mannered though rather uninspired factories offset a fair sprinkling of contemporary housing. The Housing Trust has failed to fulfil its early promise because of its loyalty to too few types of house: and at least two of their peripheral estates would be much the better for a few well-sited 10- or 12-storey point blocks.

The Belfast Education Architect, Donald Shanks, is struggling manfully against conservative tradition, and in Ulidia P.S. we can catch a glimpse of the Promised Land.

Then, we have advance intelligence of an approaching Messiah. After years of mental massage, the City Fathers are about to bring forth their first born City Architect. True, this healer of all diseases is not yet in sight, but his advent cannot be long delayed; we trust his work will rid us of the plague of architectural municipalism, bless us with three-dimensional planning, and even divest the Ulster Hall of its insanitary coloured coating.

CRITICISM

1. the architect doesn't reply

Mr. David Aberdeen, architect of the TUC memorial building discussed by J. M. Richards in his article published on December 19, has not furnished the customary reply to the points raised, and now says he prefers not to do so. The JOURNAL, while accepting that no architect is under an obligation to participate in these discussions on new buildings, regrets that Mr. Aberdeen should be the first since the articles began to refuse a reply. The practice of regular criticism of architecture which the JOURNAL is trying to establish depends to a large extent on architects welcoming criticism and accepting it cooperatively.

2. the architect replies

Last week J. M. Richards discussed the offices for the Area Traffic Manager of British Railways, Eastern Region, at Cambridge, designed by H. H. Powell, architect to the Eastern Region. Below we print the architect's reply to some of the points made by Mr. Richards.

We decided to use intergrid construction on this, and certain other buildings, after a careful study of a number of systems and of the organizations behind them. We knew that office buildings would be needed, and that each project, once decided upon, would have to be designed and built with speed. We had already discovered that if you first choose a good system of prefabricated components, and then set up a team consisting of architects, engineers, quantity surveyors, the main contractor and the principal sub-contractors,

The British Railways offices at Cambridge.

all of whom know each other and thoroughly understand the job, many of the usual delays of building can be avoided. If you can arrange it so that the same team takes over the next similar job, the results are even better.

We also think that, once you have decided to use a particular system of components, the best thing is to take it as it stands, and to accept any limitations it may impose on you. If you find that the system is too restrictive, it is better to abandon it than to try to alter it to suit some special need. This is what happened with the ground floor of the building at Cambridge, and how we came to have an opportunity of expressing the difference in function between the ground floor and the rest of the building.

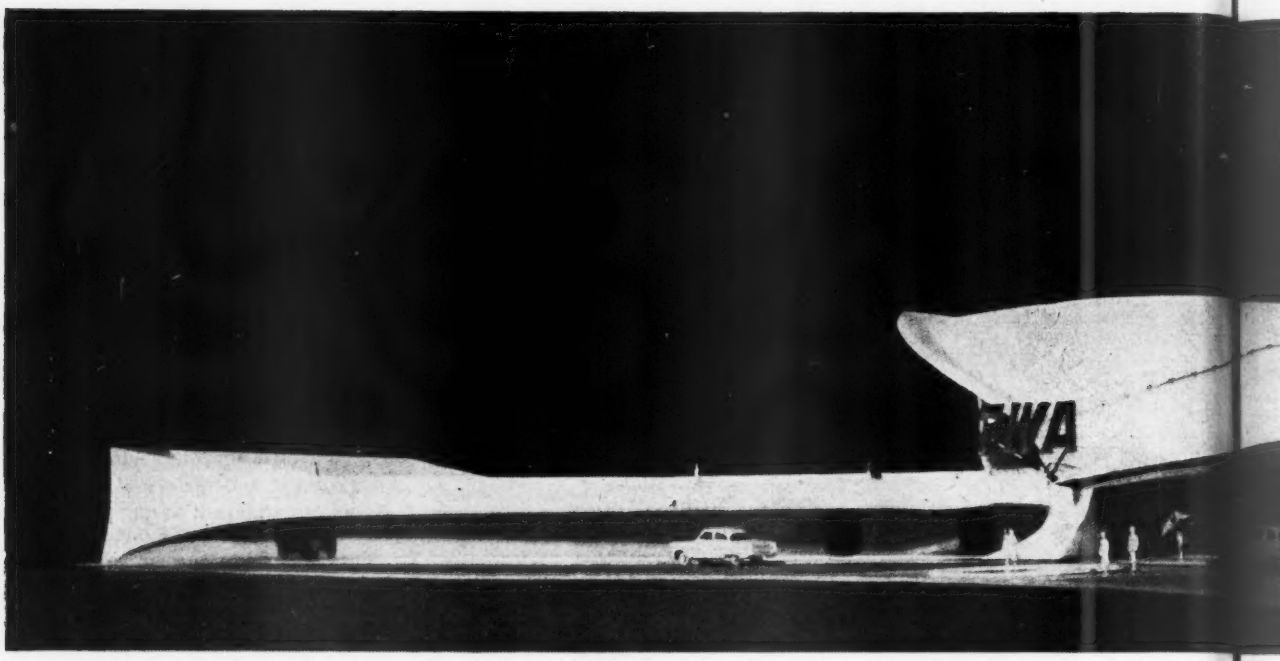
The Institute is a social club, largely run by railwaymen themselves, and has no real connection with the offices, except that it is in the same building. It was originally planned to have a door from the entrance hall, and the bar was intended to be in an open recess off the main club area. Construction was under way when the architect's brief was modified, and at least one of the columns to which Mr. Richards refers was left free-standing as a result.

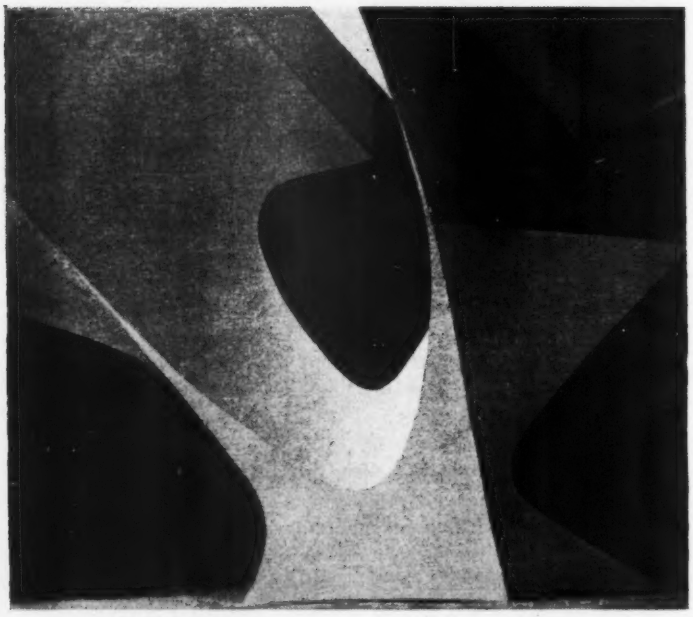
About the radiators behind the big glass windows; we really rather like them. We did not want to break the continuity of space between the club area and the lawn outside by having a wall under the windows. Some form of heat source was needed to prevent down draught and condensation, and we felt that the radiators might as well be frankly expressed as expensively hidden below ground.

The front elevation of the tank and motor room is not satisfactory. The height of this room was governed by the lift machinery. Having related it to the rear elevation by the hardwood vertical screen, we would have done better to have treated the front elevation in the same way. But, even so, we would probably still have wished it was not there. Perhaps, in such cases, some deliberately contrasting shape should be chosen for the enclosure of tanks and motors, of a form independent of the rest of the building.

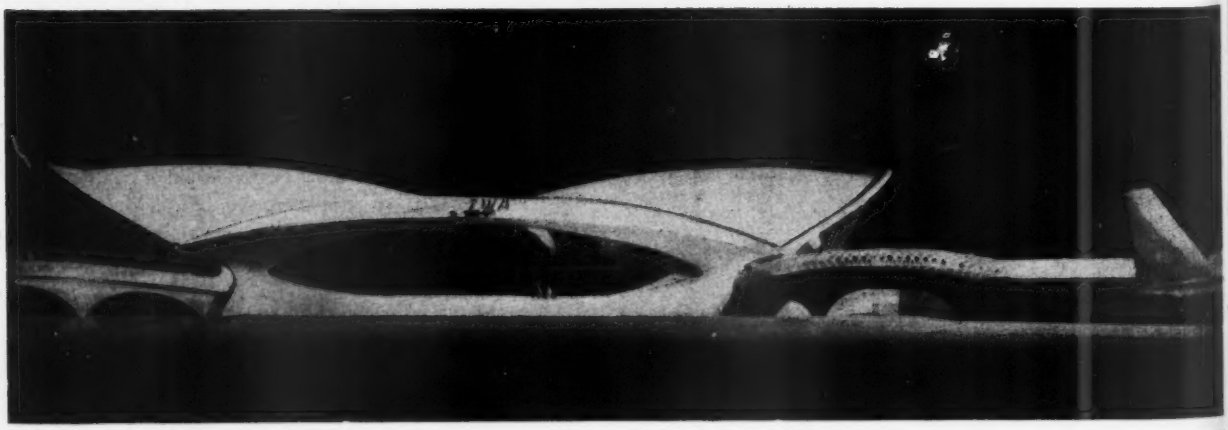
I would like to thank Mr. Richards for the kind things he has said about this building, and for his uncanny perception in criticizing just those points which we feel could have been done better.

SAARINEN DESIGNS AN AIR TERMINAL FOR TRANS WORLD



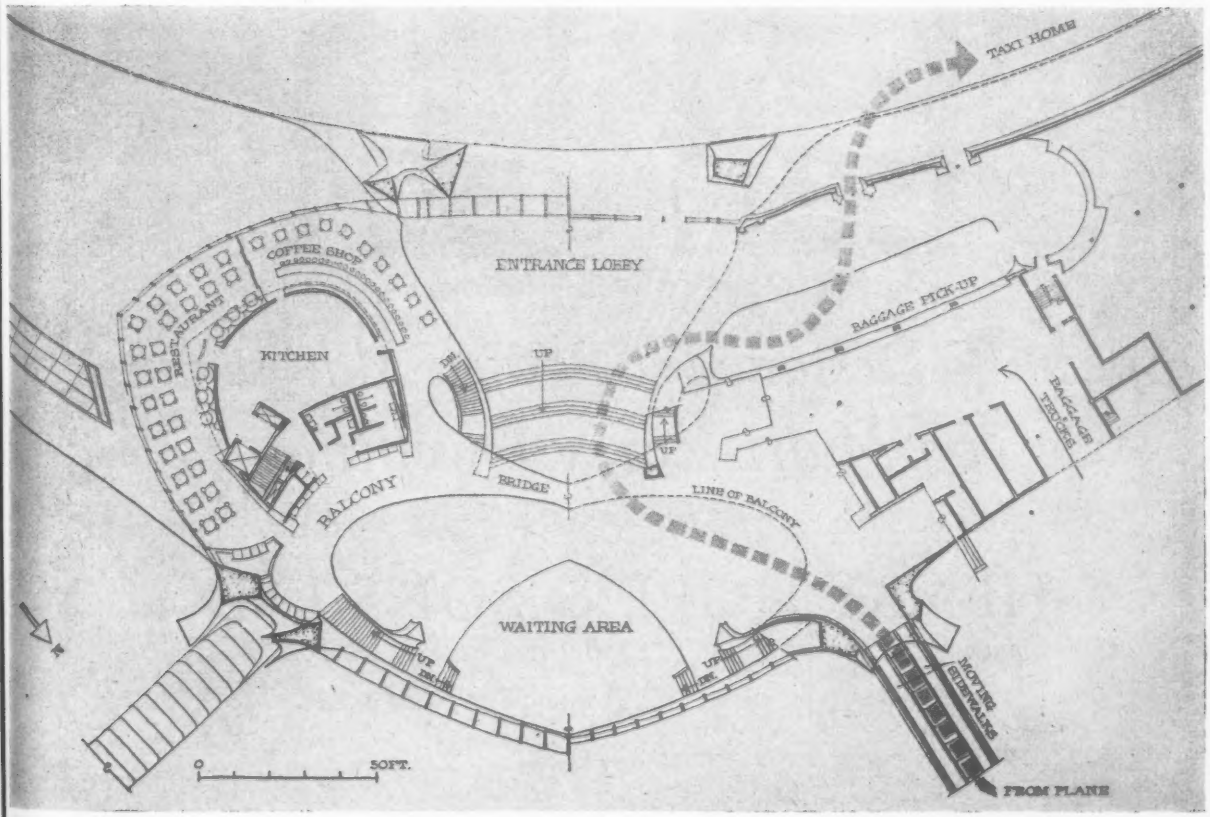


Eero Saarinen & Associates have recently completed their design for the TWA air terminal at Idlewild Airport. The photographs on this page show the final model of the design, which was worked out entirely in model form and drawn up afterwards. Above, a view from the entrance road, with the long baggage hall on the left. The main part of the building is roofed with four concrete shells separated by strips of glazing. Adjacent shells share supports, so that the entire roof is carried on four points. The design of the supports on the roadway side was the subject of much modelling work; the solution arrived at is shown in the photograph, left. On the airport side, a wall of glass enables passengers to obtain a view of the whole airport while waiting for their plane, below, and bridges carrying covered moving pavements connect the main building to "boarding rooms" out on the field.

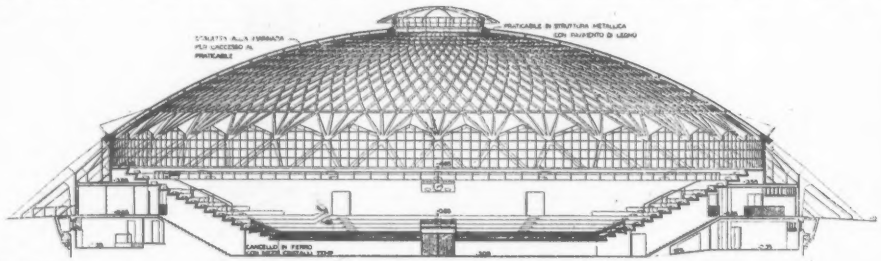


AIRLINES INC. AT NEW YORK

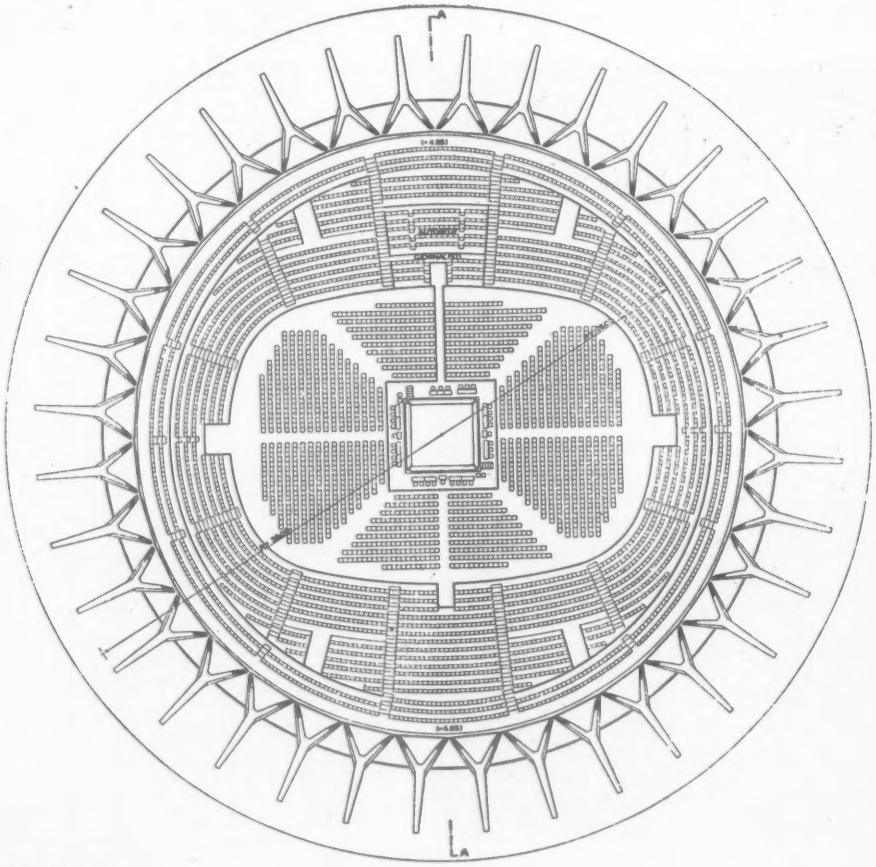
In choosing the concrete shell form, the designers say that they wished to produce a building which would be appropriate as the symbol of an airline and would express the movement of people from ground to air transport. The structural engineers are Ammann & Whitney, the mechanical engineers are Jaros, Baum & Bolles and the consultants are Stanley McCandless (lighting) and the Aviation and Engineering depts., the Port of New York Authority. Below, a plan showing the position of the four main supports. (*From* Architectural Forum).



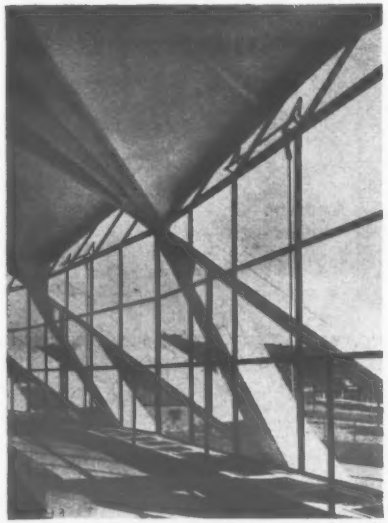
PIER LUIGI NERVI'S PALAZZETTO DELLO SPORT AT ROME



Section



Plan of arena



The diameter of the enclosed space of Pier Luigi Nervi's new Palace of Sport (see also frontispiece) is 58·5 metres. The plan shows the arena arranged for boxing matches, when it will hold 5,000 spectators. When the whole floor is used (for basket-ball, tennis, etc.), 4,000 people can be seated. The dome construction consists of in situ *concrete ribs and topping poured into precast coffer units, similar to Nervi's earlier domes. At the perimeter the thrusts are concentrated at points and transferred to the flying buttress supports. Small shells, which do not contribute to the main structure, span the triangular spaces left over.*

"No jokes about Admirals please . . .

To a man in my position dignity is essential—dignity with perhaps a dash of colour. Similar considerations apply to the décor of the foyer—especially the floor which is one of the first things patrons notice. And incidentally my advice to architects and people who design floors is—'always insist on rubber flooring.' It's easier for my charladies to clean, keeps its colours longest and stands up to really rough treatment. It's quiet underfoot too and that's very important in a place like this . . ."

Having decided on Rubber; *insist* on Runnymede Rubber and ensure superlative quality in every respect. Runnymede offers a wide choice of plain and marbled colours to harmonize with every kind of interior. Available in 9", 12" and 18" squares or 3' wide rolls in maximum lengths of 6' for plain colours and 80' for marbled colours. Standard gauge is 3.75 mm. but all patterns can be supplied in $\frac{3}{16}$" and $\frac{1}{4}$" thicknesses for orders of 50 sq. yards or more.

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technical section

THE INDUSTRY

From the industry this week Brian Grant describes a mortar plasticizer, plastic cisterns, a pipeline protector, a new cement, sheet steel coated with p.v.c., an Italian electric fan, beams for underpinning and an electric refrigerator.

Dehydrated mortar plasticizers

A dehydrated mortar plasticizer is now being produced by FEB for those who prefer a powder additive to a liquid. Known as Febmix DeHydrated, the makers claim that this is the cheapest plasticizer on the market. As with the liquid plasticizer, the new compound has a resin base and rapidly disperses through the mix, providing a high degree of workability in the mortar. It is supplied in kegs up to 200 lb. weight. (*Feb (GB) Ltd., 102, Kensington High Street, London, W.8.*)

White plastic cisterns

Fordham Pressings have just produced a lightweight unbreakable cistern made of white polythene. The cistern weighs only 6 lb. complete with polythene siphon, float, ballvalve and lever. (*Fordham Pressings Ltd., Dudley Road, Wolverhampton*).

Protecting pipelines

Denso grease type wrappings have been used for many years to wrap pipework in corrosive atmospheres, although they have the disadvantage of a sticky surface which tends to collect dust. A new type known as Densopol is now available and consists of a glass fibre felt filled with Denso petrolatum grease and backed with a film of p.v.c. This provides a tough outer skin to resist damage from abrasive soils which would make the ordinary soft Densotape unsuitable and, when used on pipes above ground, the p.v.c. provides a hard dry outer surface. The tape is supplied in widths up to 36 in. (*Winn & Coals Ltd., Denso House, Chapel Road, London, S.E.27.*)

New brand of Ketton cement

A cement especially designed for the production of aerated mortars for rendering, plastering and bricklaying is now being produced by Ketton Cement under the name of Green Band. It has characteristics similar to ordinary Portland cement, but it entrains air bubbles to lubricate the mix and make it more easily workable, and also eliminates the need for lime in mortars. It will spread easily with a minimum of trowelling. In general, it is recommended that a 1:6 mix with good clean, sharp sand should be used instead of the usual cement-lime-sand mixes, while plasticizers and other additions should not be used though there is no objection to the addition of calcium chloride up to 2 per cent. of the cement weight. (*The Ketton Portland Cement Co. Ltd., Ketton, Stamford, Lincs.*)

Plastic coated steel

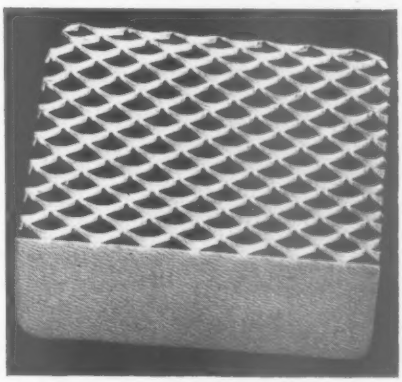
Most readers will no doubt already have seen advertisements for Stelvetite, a new type of sheet steel coated on one side with a special type of p.v.c. The process has been evolved by John Summers the steelmakers and BX Plastics, and the coating is produced in a wide range of colours and embossed patterns. Somewhat astonishingly, this faced sheet can be worked as ordinary steel sheet, and can be bent, formed, seamed, and even deep drawn, while it can also be welded without damaging the coating. The photograph on the right shows how completely the coating adheres to the sheared edges of the expanded panel. The material should be of considerable use in the design of steel office furniture and other equipment, and for many types of domestic appliance, as the coating is resistant to acids, alkalis and greases, and can be easily cleaned. The steel face of the sheet can be bonderized or electro-zinced and the material is produced in steel thicknesses from 16 to 26 gauge in sheets up to 12 ft. by 4 ft.; the p.v.c. coating is 0·014 in. thick. (*John Summers & Sons Ltd., Dept. MRD/21, Shotton, Chester.*)

Italian electric fan

An English firm, Wilec Limited, are marketing an Italian-made electric fan. There is a range of table, wall and ceiling fans, and fans for cabins and coaches, but the one illustrated is for mounting in windows or panels. Its characteristic Italian simplicity is matched by good performance. The 8 in. dia. runs at 1,400 r.p.m., moves 10,500 ft. cu. per hour, weighs 3 lb. and has a loading of 20 watts. The 10 in. fan moves 21,000 ft. cu. per hour and has a loading of 35 watts. Prices are £10 19s. 3d. and £15 2s. 6d. respectively, including the hemispherical plastic hood for exterior protection. Internally there are adjustable louvres operated by a dangling cord which is also the control wire with the switch in it. (*Ercole Marelli and C.* (*British agents: Wilec Ltd., 90/96, City Road, E.C.1*).

Beams for underpinning

A firm of bridge builders and constructional engineers is about to market a new type of steel underpinning beam which avoids the



Above, an example of Stelvetite sheeting, made by John Summers & Sons Ltd. Below, an Italian-made electric fan marketed in this country by Wilec Ltd.

technical section

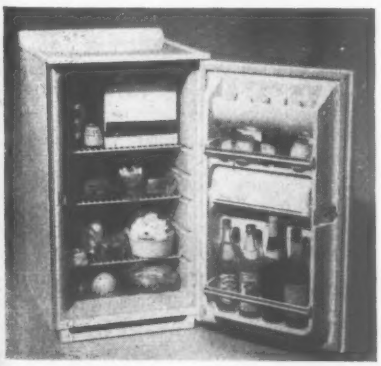
use of props and needles. The beam is supplied in short lengths of 3 to 5 ft., the joints being of a simple design with high strength bolts which are tightened with a torque spanner to give a predetermined tension, the design of the joints being such that the full strength of the section is developed and the beam can be calculated as though it were a homogeneous unit.

When an opening is to be provided in a wall, a horizontal slot is cut in the wall where the end of the girder is to be and a short length is placed in position, packed above and below so that the wall continues to take the load. Another slot is then cut and a further length of girder inserted and packed, the process being repeated until the whole length of girder is in position, after which the bolts are tightened and the individual sections become a single beam. The wall below can then be removed to give the required opening. The cost of temporary shoring is saved and the difficulty of handling a large complete beam, which may well be in an awkward space, is avoided. (*Joseph Westwood & Co. Ltd., Napier Yard, Millwall, London, E.*14.)

New electric refrigerator

Following rapidly on the recent announcement by Electrolux, English Electric have just introduced a 3·6 cu. ft. capacity Model 17503, which sells at £69 6s. The new model has been kept quite slim and measures only 20 in. wide by 22½ in. deep, with a height of 36 in., the compressor unit being tucked away at the back of the bottom of the cabinet and occupying very little space. The grid type shelves are polythene coated, and, as the illustration shows, they can be fitted in several different positions. The evaporator unit, which incidentally is of the roll-bonded aluminium mentioned recently in these notes, will hold up to ten frozen food packets, and 16 ice cubes, and a detachable rack separates the ice tray from the packets so that both are readily accessible. The cabinet has a vitreous enamel top and the rest is stove enamelled. Insulation is by fibreglass. (*The English Electric Co. Ltd., Marconi House, Strand, London, W.C.*2.)

The English Electric table top refrigerator.



CLASSIFICATION FOR TECHNICAL ARTICLES AND INFORMATION CENTRE

1 Sociology. 2 Planning: General. 3 Planning: Regional & National. 4 Planning: Urban & Rural. 5 Planning: Public Utilities. 6 Planning: Social & Recreational. 7 Practice. 8 Surveying & Specification. 9 Design: General. 10 Design: Building Types. 11 Materials: General. 12 Materials: Metal. 13 Materials: Timber. 14 Materials: Concrete. 15 Materials: Applied Finishes & Treatments. 16 Materials: Miscellaneous. 17 Construction: General. 18 Construction: Theory. 19 Construction: Details. 20 Construction: Complete Structures. 21 Construction: Miscellaneous. 22 Sound Insulation & Acoustics. 23 Heating & Ventilation. 24 Lighting. 25 Water Supply & Sanitation. 26 Services & Equipment: Miscellaneous. 27 Furniture & Fittings. 28 Miscellaneous.

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.

3.32 planning: regional and national
REGIONAL PLAN

Sydney's Great Experiment—The Progress of the Cumberland County Plan. Denis Winston. (Angus & Robertson. 37s. 6d.)

The "Great Experiment" which Professor Winston describes in his book is the attempt which is now being made to carry into effect a regional planning scheme for a large area in New South Wales, consisting of the city of Sydney and its immediate hinterland. This area, some 1,630 sq. miles in extent, is a rapidly growing metropolitan region and in 1954 contained almost two million people—one quarter of the total population of Australia.

The particular interest of this scheme lies in the means chosen to carry it into effect. This involved the creation of a special body—in effect a Regional Planning Authority—charged with the task of preparing and administering the plan. This body, known as the *Cumberland County Council* (in Australia a county council is a functional authority for doing a special job or jobs over a specified area, not a normal local government body) was set up in 1945 and submitted its plan to the Minister in 1948. The amended plan has been in operation since 1951.

The objective of Professor Winston's survey is twofold. He attempts to provide, for the ordinary reader, a clear statement of why a plan is needed and what its provisions are, together with an account of what has been achieved so far and how much more needs to be done. He has succeeded well in both these objectives. The book itself is divided into three parts. The first deals with the administrative background to the plan, describes the county area and the history of its development. The second describes the provisions and objectives of the plan itself. The last shows how the scheme is being implemented and provides a thoughtful criticism of the project as a whole. Clearly written and well illustrated with photographs and a series of excellent maps (one of them, depicting development trends in and around Sydney, is of considerable technical interest) it provides one of the most useful popular accounts of the progress of a regional plan that has been produced for some time.

From the technician's point of view the plan itself appears to be a sound but strictly orthodox handling of the problems of an expanding conurbation. Almost all the usual difficulties with which British and American planners are familiar are touched upon—peripheral sprawl, blight, decay and mixed uses in the central area, traffic congestion, lack of co-ordination between different authorities and so on. The remedies proposed in the plan are equally familiar—green belts, expressways, control of floor space in the central areas, decentralization of population and employment, new towns. While it seems a pity that the authors of the plan do not seem to have attempted to move away from these standard solutions, it would be wrong to criticize their judgment without a detailed knowledge of local conditions which could not be provided in a book of this kind. The plan is only intended to provide a broad general framework for further development and in the sections dealing with the proposals themselves Professor Winston, with the needs of the general reader, not those of the specialist in mind, concentrates upon general objectives rather than details. He attempts to fill in some of these gaps in the appendices, but these are concerned with legal and administrative rather than technical matters.

The author's main concern is to point out the significance of this attempt, now five years old, to plan on a regional scale for a great city and devise administrative machinery suitable for the task. Quite properly, he lays great stress on the importance of popular support and understanding for the ultimate success of the scheme. His book is an excellent example of one of the ways in which this support can be achieved, one which might profitably be followed by British planning authorities, who rarely make any effort to report to the public on the progress of their schemes in popular language. For planners, the Sydney experiment is an interesting instance of regional planning in practice and provides a further reminder of the scale on which we must act if the problems of great cities are to be overcome. All those who are concerned with this type of work will profit from a study of Professor Winston's account of work in progress.

technical section

15.141 materials: applied finishes and treatments
PLASTERING ON DENSE CONCRETE

Miscellany. BRS Digest 104. (HMSO. 3d.) Though this Digest treats also the use of lightweight aggregates for reinforced concrete (all right if the concrete is not exposed to the weather) and how to deal with rusted steel windows, the most important note informs us how to plaster on dense concrete so that the plaster does not fall down afterwards. The BS Code of Practice on Plastering advised that you should provide a mechanical key by using rough shuttering or retarders. This, as the Digest points out, is splendid if you know in time; but so often the decision to plaster is only made after it is found that the concrete finish is not smooth enough without it. Ceilings fall because of the weight of the plaster, but also because of differential thermal movement between plaster and concrete. The main outcome of BRS work on this is to affirm the usefulness of "proprietary bonding liquids, based on polyvinyl acetate emulsion" and to establish that plaster must be *thin*. Ceiling shuttering should be true enough to allow one coat plasterwork if possible and a total thickness of not more than $\frac{3}{8}$ in. if two coats must be used.

19.210 construction: details
IRONMONGERY

Specification 1958. (Architectural Press Ltd. 35s.) New section on *Ironmongery* by Robert Maguire and Peter Whiteley.

Every issue of *Specification* normally contains a few new or recast sections. The 1958 edition is notable for a monumental re-writing of the Ironmongery section by Robert Maguire and Peter Whiteley, which is certainly the most useful and illuminating reference to be got anywhere. Drawing, as it does to some extent, on the JOURNAL'S special issue on this subject (September 9, 1954) it goes further and is, of course, more up-to-date. It also makes *Specification* history by attempting to approach the subject in hand in the way that the architect himself must approach it, *i.e.*, by rehearsing so far as possible the mental processes the architect must use in order to make his choice. The unpruned and random growth of our ironmongery industry does not make this easy; and the application of so much thought to the subject suggests that the time has come for a reappraisal of our harvest of locking, latching, fixing and sliding appliances in terms of each separate function. If this were done, how many thousands of lines could be shown to be redundant? In the meanwhile this review can serve very well, and in its description of sliding gear (to quote one particularly masterly section) is irreplaceable. Usefulness is further increased by interpolated lists of the manufacturers and factors who supply each class of goods.

22.86 sound insulation and acoustics
ACOUSTICS FOR THE ARCHITECT

Harold Burris-Meyer and Lewis Goodfriend. (1957.) Reinhold.

This subject has always been a difficult one for writers who wish to hit just the right level of technical complexity to suit the profession. Here is a book which is clearly dedicated to the architect and we should, therefore, expect to find the whole, or the greater part of it assimilable. The authors have attempted to cover the very wide field of acoustics, from designing and planning solutions of noise problems involving buildings, mechanical equipment, etc., to auditorium acoustics, with and without electronic sound amplification. To encompass this in a matter of some 120 pages (many of which are photos, charts, diagrams and data sheets with limited information content) even allowing for the restricted audience, is a formidable task.

It cannot be said that the major principles are not stated, but unfortunately many aspects of the subject are hardly carried beyond this. On the other hand there are parts, such as Chapter 6 "Electronic Devices" where the subject is carried to a stage well beyond the interest of the average architect. Even so this chapter gives very little detailed information on the use of delayed sound systems for high quality speech reinforcement and none on column or line source loudspeakers which have proved so effective in a number of difficult problems in Europe. The designs shown seem in fact to be mainly concerned to absorb some of America's overproduction of electronic gadgets.

To return to more serious matters, the book is on the whole free from technical and aesthetic mumbo-jumbo although the statement that the spectrum of music "is not limited even by the response of the human ear" is a lapse, especially after a commendable earlier remark that "structures can be built in which the acoustical conditions approach optima so closely that any error is well within the limits of the ear's discrimination. What more do you want?"

The chapter on "Structure" gives some details of different wall and floor constructions with figures for sound insulation. Apart from the increase of up to 3 dB in the average value which results from taking the frequency range 125 to 4000 c/s instead of the internationally agreed range of 100 to 3,200 c/s, all the values quoted seem too optimistic. This is probably the result of relying entirely on measurements made in a test laboratory and not taking into account that in a normal building the values are usually anything up to 10 dB less due to transmission by indirect paths. A similar criticism can be levelled at the values of sound insulation given in Chapter 4 "Materials." It seems unwise to allocate an insulation value to a material as opposed to a construction made up of certain elements, as the insulation can vary appreciably depending on how the material is used. Sound absorption coefficients are given for a great number of materials—some in altogether too great detail (three places of decimals) and others delightfully vague, *e.g.* ·05 to ·2, presumably to cover different methods of mounting the material. A "free" copy of the American Acoustical Materials Association's bulletin of sound absorption coefficients is included with the book. This refers principally to the hundred and one different varieties of proprietary materials available in the USA. As no more than a handful of these are obtainable in this country the list is of limited use. The coefficients given for non-proprietary materials do not uniformly agree with the values given in the book.

Chapter 7, "Surveys, Computations and Tests," describes methods of calculating room acoustics and noise reduction. The method for room acoustics follows conventional lines, but that for insulation is based on a complete measured octave analysis of the noise sources. This is an excellent idea, although little warning is given of the difficulty of getting such an analysis of an intermittent noise, and one wonders whether a client would be prepared to wait a year before even deciding to acquire a site for a new development. It is recommended that a noise survey occupying this period is made before it can safely be assumed that the site is suitable. Detailed design of the structure for the various rooms is done by a lengthy process involving a number of tables and two design charts. The upper part of Chart II provides for rooms with absorption contents of 100,000 and up to 100,000,000 units. Such rooms are very rarely, if ever, met with. The final noise levels are to be compared with criteria given for a number of different types of room and building. An alternative method of determining the merits of auditoria for speech is given employing intelligibility and noise factors, but this demands estimating speech levels, a task that needs considerable experience.

Summing up, it is questioned whether the British architect would agree that this book "provides him with the tools requisite to handle acoustics and noise control in structures he designs without requiring him to examine the complex physics fundamental to the science of acoustics," although no doubt he could learn something from it.

22.87 sound insulation and acoustics
NOISE CONTROL IN SCHOOLS

R. N. Lane (Noise Control Vol. 3 No. 4. July, 1957).

The results of some measurements of sound-insulation in schools in Texas are presented and comments on "open plan" are given. Measurements of reverberation time in classrooms (about 24 ft. by 30 ft. by 9 ft. giving between 0·45 and 1·1 seconds and all described by teachers as "satisfactory" are compared with a classroom having no absorbent treatment and a reverberation time of almost 2·0 seconds. A more serious

technical section

problem was found to be low insulation between classrooms. In some schools with an "open plan" *i.e.* no wall separating the classrooms and access corridor, the average insulation between classrooms was as low as 15 dB. (Classroom and corridor ceilings were entirely of absorbent materials.) It is said that few of the teachers complained that this low insulation caused them difficulties, but the author recommends that an insulation of at least 25 dB should be provided, and goes on to say "it is our belief that after a few years when the newness of the open-plan school wears off, the teachers will probably insist that something be done about noise control." This article prompted some correspondence in the following issue of this journal. This drew attention to the fact that in kindergarten and first grade classrooms as much absorption as possible should be provided so as to bring the reverberation time down very low. The writer also claimed that in schools in the more Northern States he had found that insulation less than 35 dB was not acceptable. He suggests that this may be because ventilation and cooling are predominant requirements in the Southern States probably to the exclusion of good sound-insulation.

26.129 services and equipment: miscellaneous

DOMESTIC ELECTRICAL EQUIPMENT

Domestic and Non-Industrial Electrical Installations and Appliances. BS Handbook No. 9. (BSI. 25s.)

This handbook contains summaries of the British Standards relating to Domestic and Non-Industrial Electrical Installations and Appliances. It is the second edition, the first having been published in 1949. With two exceptions, the summaries are quite adequate for those who *use* equipment, as opposed to those who make or test it. Unfortunately, the two exceptions are those of greatest interest to architects, BS 476 and 738, relating respectively to the fire resistance, etc., of building materials and of electrical insulating materials.

The descriptions of the tests have been omitted from the summaries of both these standards, and they therefore contain little more than the very reasonable statements that materials which pass the tests for resistance to fire may be called fire resistant.

Certain tables from the Regulations of the Institution of Electrical Engineers have been included, and it is a great pity that the BS Codes of Practice for electrical installations were not also brought together in this volume. Although the Codes are far too vague, they are the only ones available, and had they been included the book would have been, as it claims, a real companion volume to the IEE Regulations.

The defect of all British Standards is that they tend to set the seal of approval on current practice, rather than to define a goal at which to aim, but it is difficult to see how this can be avoided.

In any case, so long as the current Standards are in force, architects should know what they are, and for this purpose the handbook will prove immensely valuable.

10 DESIGN: BUILDING TYPES
children in hospital

Children in hospital pose a very different problem from grown-ups. We publish below the text of a talk on this subject given last summer by Richard Llewelyn Davies, of the Nuffield Division for Architectural Studies, to an International Summer School on Hospital Design held at Zurich.* In this talk the author sets out some of the findings of a survey which his Division has been making and describes a "children's unit."

In the more highly developed countries of the world advances in medical knowledge, a general rise in the standard of living, and accompanying changes in social thinking, have in recent years led to a drop in the number of children needing hospital care in the *medical* specialties. For instance, improved housing and improved feeding are eliminating such diseases as rickets and joint tuberculosis; and the infectious diseases are now so far under control that the total number of children suffering from them is smaller, and many more can be nursed at home. This reduction in the number of medical cases, while not yet fully apparent in under-developed countries, is still to be expected wherever social and economic conditions are improving. There is less reason to expect a comparable reduction in *surgical cases.* Indeed in the highly developed countries there is evidence that accidents—particularly road accidents and burns—are not decreasing, and the incidence of surgical conditions such as appendicitis shows no signs of falling off. In Great Britain, for example, children up to 12 years old still form a substantial proportion (about 10 per cent.) of all patients in hospital—and this figure takes account of the reduction in childhood illness. Thus it may well be that in less developed countries children's beds form and should continue to form a still higher percentage of the total hospital provision.

There is a real need for medico-social surveys designed to throw light on the demand for beds. Such a survey is in progress in Puerto Rico under the ægis of the Rockefeller Foundation, and may well form a model for other areas.

The problem of the forms in which hospital accommodation for children should take in various circumstances may be tackled in several ways. It is possible to build children's hospitals completely independent of other institutions; or to build self-contained children's units either within adult hospitals or as smaller separate buildings on the same site; or to set apart groups of beds for children in certain wards primarily intended for adult patients. But the common practice of

* Sponsored by the International Hospital Federation and the IUA.

This modern, attractive, 4-bedroomed house is the home of Mr. C. R. Lindsey, member of C. H. Lindsey and Son Ltd., a leading firm of Heating Engineers. The central heating system is oil-fired, with fuel supplied by Shell-Mex and B.P. Ltd.

Heating engineer chooses oil-fired central heating for his own home

'KINGSDOWN', GALLOWS GREEN, near Colchester, owned by Mr. C. R. Lindsey, stands on land which was used as a burial ground during the Great Plague, when it was known as 'The Great Orchard'. A gallows at one time stood on the common land in front of the house.

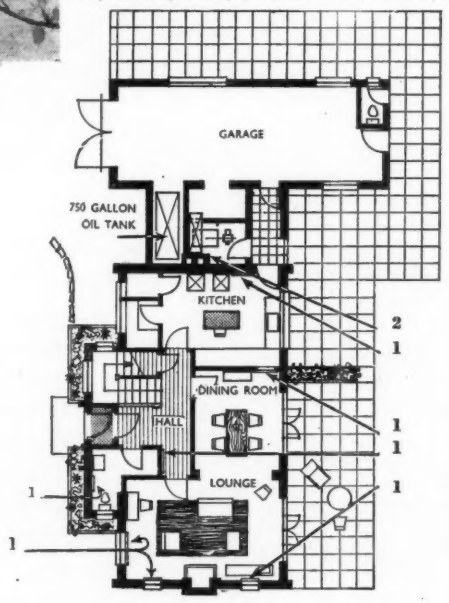
Mr. Lindsey is an expert in house heating. He was careful to install the most efficient form of heating he knew – oil-fired central heating. Central heating and hot water at 'Kingsdown' are provided by an oil-fired boiler using fuel stored in a 750-gallon tank. His expert knowledge is also responsible for refinements in the choice of radiators; for instance, the radiator in the hall backs on the part of the cloakroom where the coats are hung up, providing a gentle warmth to dry wet raincoats.

Oil-fired heating is clean, labour-saving, and economical. Automatic controls can ensure steady, even warmth and ample hot water whenever it is wanted. There is no fuel to carry, no stoking to be done and no ash or clinker to clear away.

Boiler and burner manufacturers have now produced special oil-fired units for every requirement, from hot water supply in the smaller home to full central heating in the large country house. Shell Domestic Fuel Oil is used for the larger installations. BP Domesticol has been specially developed for the smaller boilers with vaporising burners and has been thoroughly proved in use.

If you are designing or modifying almost any kind of building, public or private, you may well find it worth your while to make provision for this modern, efficient heating method. To find out more about oil-fired heating write for a copy of 'Oil Fuel at Home' to Shell-Mex and B.P. Ltd., Fuel Oil Dept. D2L, Shell-Mex House, Strand, London, W.C.2.

Reproduced by courtesy of STANLEY BRAGG, A.R.I.B.A., A.I.Hsg.



1. *Dunham convector type radiator*
2. *Boiler room*

technical section

admitting children to any beds which happen to be available in adult wards is generally unsatisfactory—particularly from the psychological and nursing points of view. Nevertheless there are a few kinds of highly specialized adult unit to which children are admitted because it is considered impracticable to reproduce the necessary medical conditions and to duplicate the technical equipment in a children's ward.

The children's unit

Except in fairly large centres of population it is uneconomical to provide separate children's hospitals, and it may be difficult or impossible to staff and equip them for the necessary range of specialties. There are many advantages, therefore, in linking a more or less self-contained children's unit to an adult hospital, so that it can share all or some of the facilities offered by the special departments, for instance radiology, pathology, and operating theatres, and can share also the ordinary maintenance services—kitchens, boiler-house, laundry, and so forth. The extent to which the children's unit makes use of the main hospital services will depend largely on the number of children to be provided for. For example, a 40-bedded children's unit might conveniently be associated with a 400-bedded general hospital, but such a unit would be too small to carry its own X-ray department, pathological laboratory, and operating theatre. It would, therefore, need to be planned with easy access to those departments in the main hospital. On the other hand a children's unit of 100 beds, such as might be associated with a large hospital of 1,000 beds, could be provided with certain services of its own: for instance, it might have its own X-ray room and operating theatre.

Even for small units sharing facilities with the main hospital it is generally desirable and convenient to house the children's wards in a separate block rather than in the main block—particularly a multi-storey block. This is because the size and shape of children's wards ought to be different from those of adult wards, and so the same plan cannot properly serve for both. And it is perhaps even more important for children than for adults that domestic proportions and a comfortable and cheerful atmosphere in the wards should soften the clinical arrangements for diagnosis and treatment.

Children in hospital should be housed at ground-floor level so that they can go in and out to a garden or playground. And it is important that they should enter their block without first having to pass through the main hospital. All these arguments point to the advantages of planning children's units as a separate block, preferably a single-storey building with its own precinct.

Planning: the play space

When we come to consider the internal planning of children's units we have several conflicting factors to consider. While creating surroundings which are gay and friendly the design must also aim at facilitating the control of cross-infection. Such control has long been a major objective in hospital planning for children. In the United States and in Scandinavia it has indeed been an overriding consideration which has led to a preference for children's wards made up of a number of small rooms, for, say, not more than four children, with a substantial proportion of single cubicles.

Today many children need not spend all their hospital stay in bed: they do better medically and psychologically if they can get up and dress and run about, and so play-spaces are a vital part of children's wards. Observations made by the Nuffield Division for Architectural Studies in a variety of children's wards suggest that a play-room at the end of a corridor is often not used because the nurses find difficulty in keeping an eye on it. Play-space is probably better placed near the centre of the ward unit; and can well be an open area through which the nurses pass as they go about their work. There is quite a lot to be said for play-space opening directly off areas where there are children in bed—children requiring isolation or who are very ill and in need of quiet being nursed in single cubicles. Children who are up will then play with children who have to remain in bed, and so the latter feel less lonely and out of things. This kind of play-space is also useful for gathering children together to see the television programmes which, in England at any rate, have now become an established feature of life in children's wards.

Ancillary accommodation

In recent years pædiatricians and other people responsible for children in hospital have increasingly accepted Sir James Spence's teaching that mothers should often be brought into hospital with their sick children to look after and comfort them. This means providing a new type of accommodation: rooms suitable for mother and child, and certain amenities for the mothers themselves—a sitting-room with some kitchenette facilities, and their own toilet accommodation, for example.

The ancillary rooms needed in a children's unit are generally similar to those in an adult ward, but with certain additions. One of these is a room where babies' woolly garments can be washed and dried; for although these can be sent to the ordinary laundry the nurses usually prefer them to receive more careful handling under their direct supervision. The milk kitchen for the preparation of infants' feeds may either be part of the ward unit or may be entirely separate from it.

The plan of the children's unit must strike a balance between all these different needs. It must provide a proportion of the beds in single cubicles which are quiet and which will make barrier nursing* easy; a proportion must be in rooms to be shared by a mother and child or—when they are not so needed—by two children, and the rest may be arranged in small groups associated with play-spaces. The beds must be served by sufficient, conveniently placed ancillary rooms.

*Barrier nursing means nursing in strict isolation to prevent cross infection.

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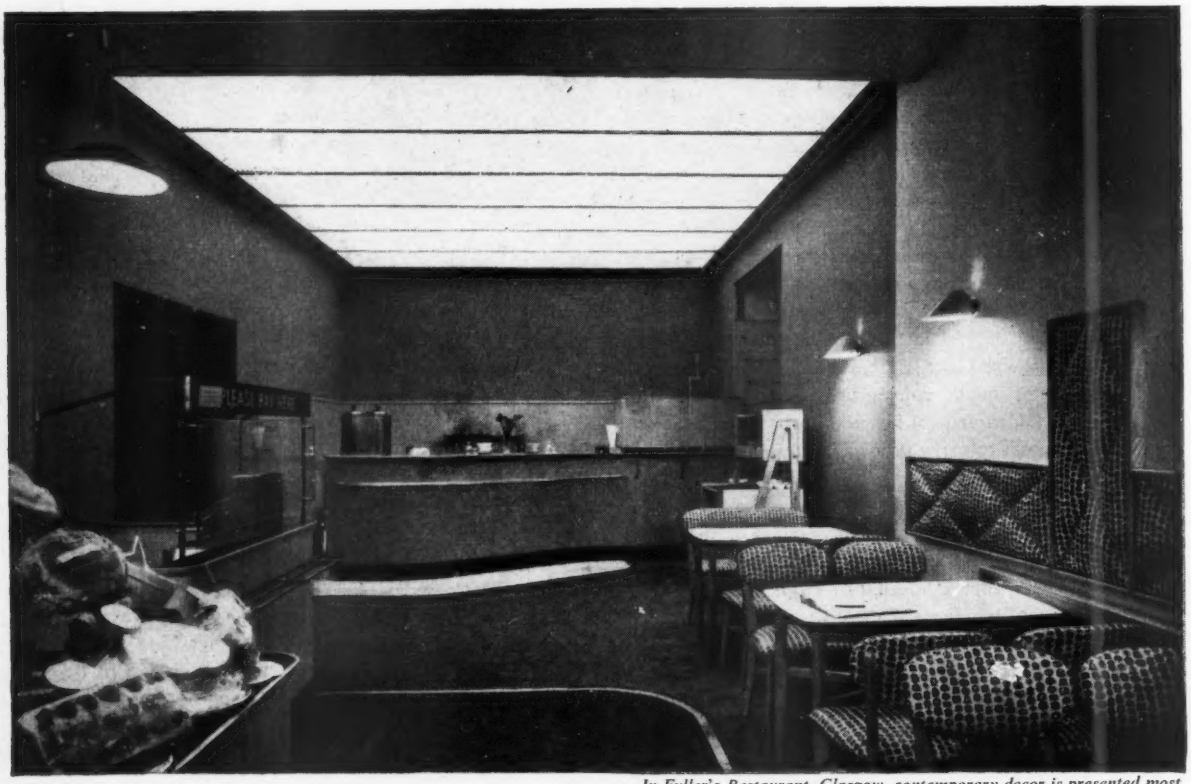

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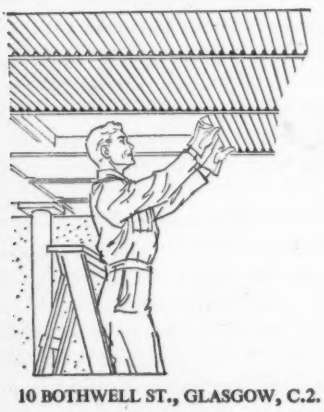

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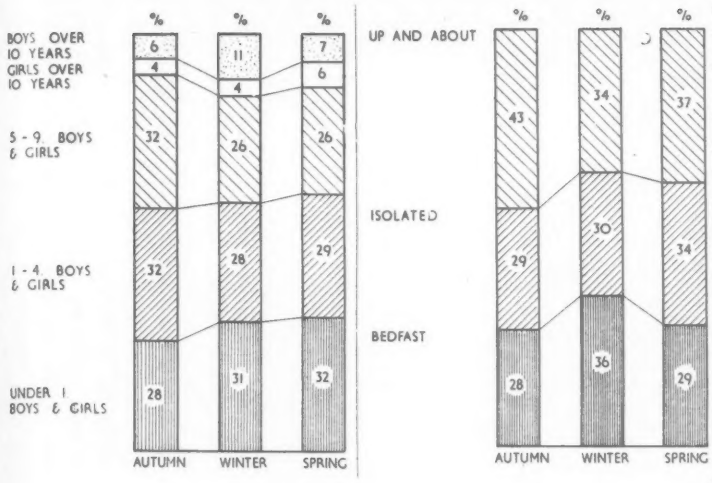


Fig. 1. (above left), diagram showing age distribution of the children's wards of a general hospital from autumn 1956 to spring 1957. Fig. 2. (above right), diagram showing the proportions of children bedfast, isolated and up and about in the same general hospital and during the same period as Fig. 1.

The Nuffield Survey

The Nuffield Division for Architectural Studies has been making surveys in a number of different English hospitals, to discover how the space in wards should be apportioned and the equipment arranged. When the surveys are completed it will be possible to forecast, for a unit of given size and character, how many children in different age groups and in different medical categories, will be likely to need isolation in single cubicles, how many may benefit by having their mothers with them, how many will be bedfast though without needing isolation, and how many may be up and about in a play-space for all or part of each day. This information will, in turn, throw light upon such aspects of design as the number of children likely to use the treatment room, and the number of w.c.s and baths which will be sufficient for their needs.

Fig. 1 shows a typical age distribution in the children's wards of an English hospital during the autumn and winter of 1956, and the spring of 1957. Fig. 2 shows the proportion of patients who were up and about, isolated, or bedfast but not requiring isolation. These data are taken from a survey conducted in a children's unit attached to a general hospital in a small town.

Table 1 is a schedule of the accommodation to be provided in the Children's Unit of a 400-bedded general hospital now under construction in Swindon.

TABLE 1. SCHEDULE OF ACCOMMODATION FOR CHILDREN'S UNIT IN A 400 BED HOSPITAL

Room	*Area (sq. ft.)*	*Total area*	*Remarks*
Per 40 beds.			
Entrance hall and waiting	400		
Nurses' locker room	80		
Doctor's room	120		
Visitors' w.c. and wash basin	24		
Interview room or overnight room	120		
Mothers' sitting room	150		
TOTAL	894	894	
Per 20 beds.			
Sister's room	120		
Sluice room	60		
Bathroom	250		Including 2 bath cubicles and 4 wash-basins
3 w.c.'s at 24 sq. ft. each	72		
Playroom	250		Including toy store, flower sink and vase store
Kitchen	120		
Clean store, lay-up and treatment room	144		
Dirty utility	100		
Linen store	50		
Equipment store	50		
TOTAL for 20 beds	1,216		
TOTAL for 40 beds	2,432	3,326	
2 20-bed units each comprising:			
4 single cubicles at 100	400		
4 large cubicles at 120	480		Mothers and children.
2 large cubicles at 200	400		Including wash-basin and w.c. for isolation.
2 6-bed wards at 400 (or 3 4-bed wards)	800		
TOTAL for 20 beds	2,080		
TOTAL for 40 beds	4,160	7,486	
Circulation, trolley park, cleaners, walls, etc.	3,000	10,486	

No milk room has been shown. This may be included here, in Maternity, Central Sterile Supply Department, or in central kitchen.

Group nursing

One children's hospital in England is at present testing a new way of nursing—group nursing—which divides all the patients in a ward into smallish groups, each group being cared for by its own team of nurses. The method (which is being used also in some adult wards) is believed to ensure more intimate and more understanding nursing care. Group nursing is perhaps particularly worth bearing in mind when planning the arrangement of beds in relation to ancillary rooms in children's wards. For example, a 20-bedded unit may be divided into two groups of 10 children, each group (under the general supervision of the ward sister) being in the care of a trained nurse assisted by an appropriate number of other nurses—the number varying with the age and degree of illness of the various children. Each team of nurses will need the use of single cubicles as well as open bed areas, and will work in all the ancillary rooms.

Child outpatients

Some children's units will include an outpatient department. In others the children's clinics will be held in the outpatient department of the main hospital. Where special outpatient clinics for children are provided, the accommodation should include a waiting-space for mothers and children which is large enough for the children to play in. Off this waiting-space there should be a room where children can be weighed. The doctors' consulting rooms should be big enough to accommodate doctor, mother, child, and nurse, and one or two other assistants may sometimes be needed. There is no need for separate undressing rooms and examination rooms, for it is good practice to undress and examine children in the consulting room during the course of consultation.

Besides the consulting rooms there should be the usual

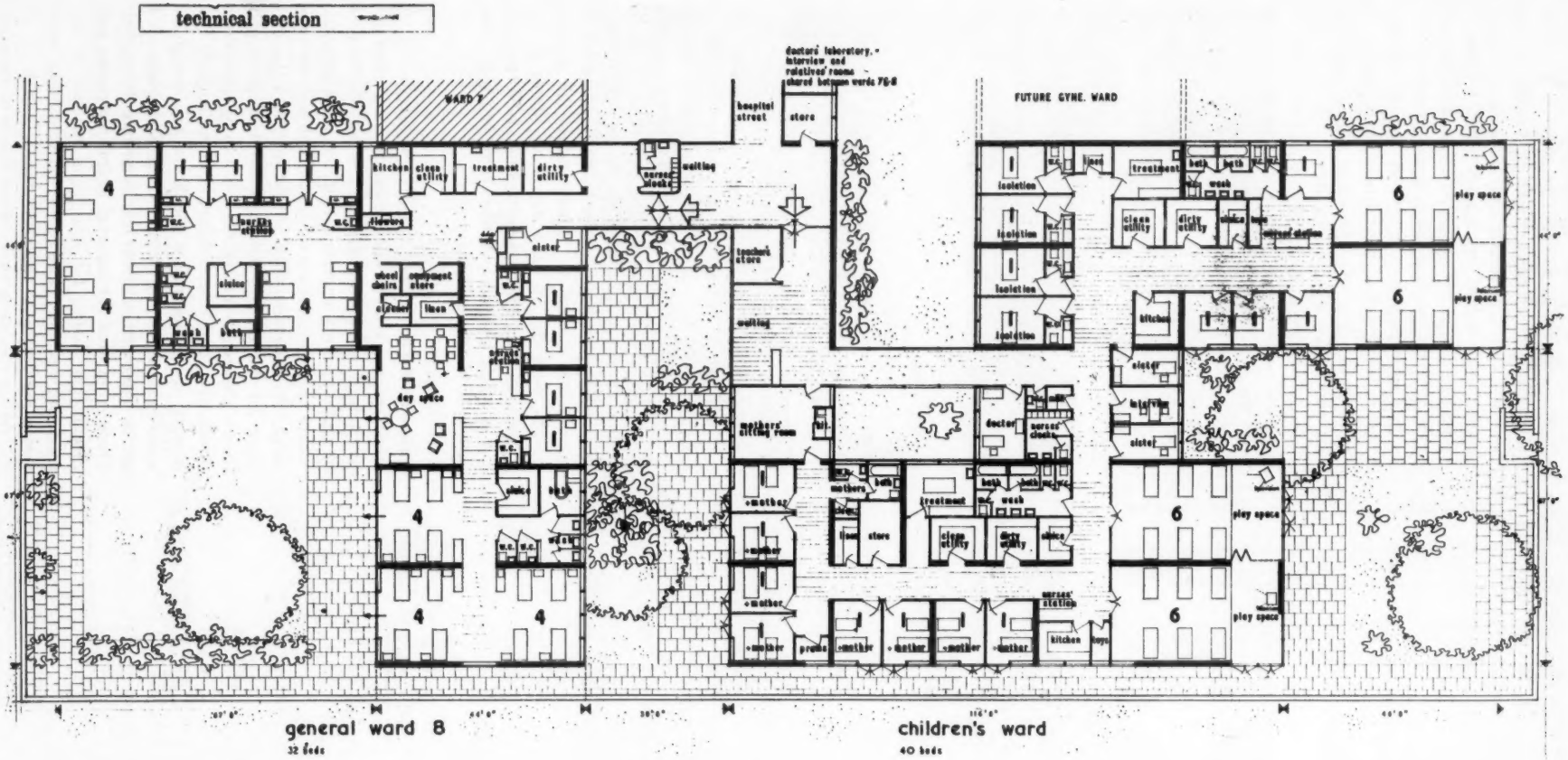


Fig. 3, plan (scale $\frac{1}{32}$" = 1' 0") showing the children's unit at Slough Hospital and its relationship to the adjacent general wards. Architects: Powell and Moya in association with R. Llewelyn Davies and J. Weeks. The numbers refer to the number of patients accommodated in each ward.

ancillary rooms found in outpatient departments, sterilizing room, nurses' room, toilet facilities for staff and for children and their escorts, and so on. Rooms will also be needed for secretarial staff, records clerks, and social workers.

Conclusions

The architecture of children's units calls for particular care and imagination. The surroundings need to be simple, robust, and cheerful; and it should be remembered that the children's ages will range from a few days' or weeks' old to 12 years or older.

In recent years school design has been developing architecture appropriate at one and the same time to the children themselves and to the particular purposes for which the various parts of the building are provided. These modern schools have some lessons for the architect who is designing hospital accommodation for children. There is need for real imagination in this work, and while the design of a children's hospital should be homely and attractive, it should not pretend to be a school or a house. A hospital is a hospital, and children are quite sensible enough to reject humbug in architecture.

FIRE STATION

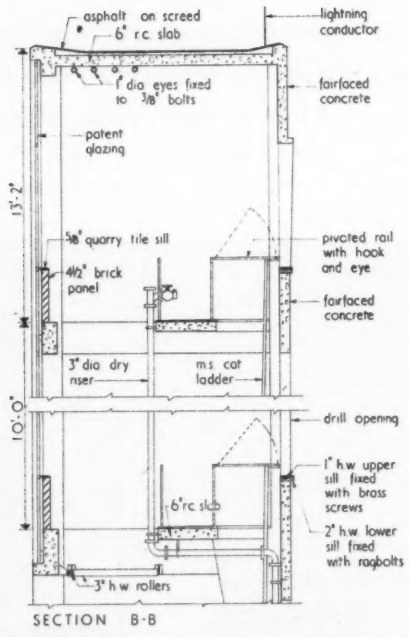
in HARLOW NEW TOWN; designed by H. CONOLLY, county architect; D. SENIOR, deputy county architect K. D. BOX, assistant county architect; S. L. GUNNING and A. J. G. KIRBY, architects-in-charge quantity surveyor, OSWALD E. PARRATT

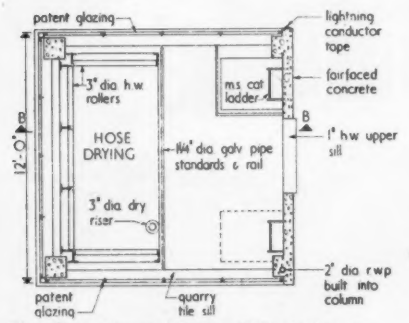
The fire station at Harlow was designed for the Essex County Council and forms part of the New Town Centre. Accommodation was required for four fire appliances, three other vehicles, a whole-time staff of 35, and living quarters for the station officer. This is the fourth fire station to be cost analysed, those previously illustrated being at Slough (AJ January 31, 1957), Gloucester (AJ July 18, 1957), and at Wythenshawe, Manchester, (AJ October 3, 1957).

Viewpoint 1: from the south, looking across First Avenue.

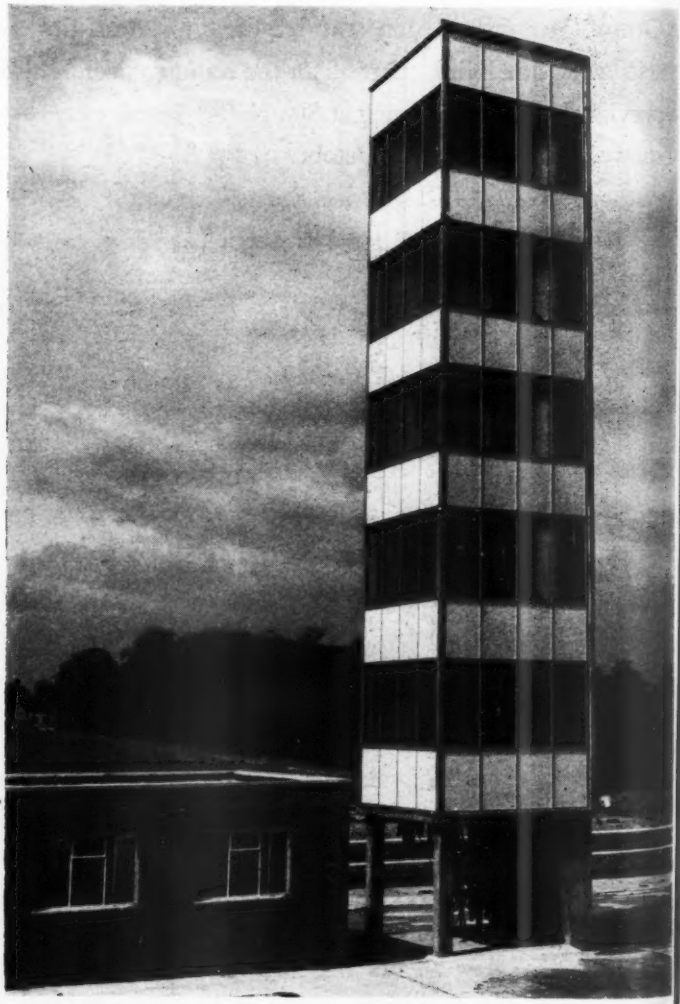
building illustrated

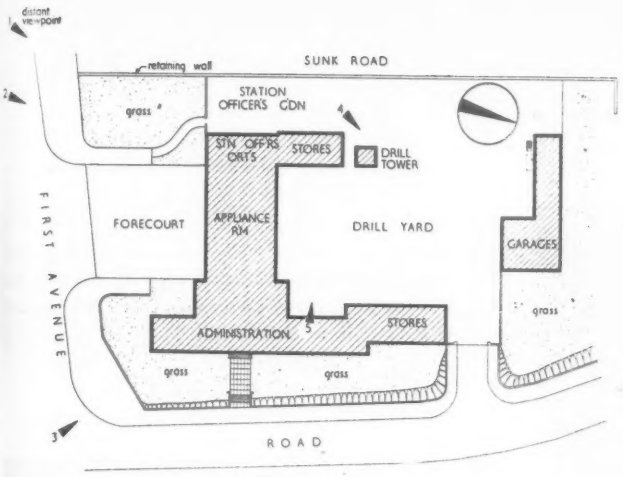
Viewpoint 2 (above left): from First Avenue. The drill tower and station officer's quarters on the left, the appliance room centre, and the administration block on the right. Viewpoint 3 (above): from the south-east. The appliance room, which is steel framed, on the left, and the administration and living quarters, in 13½-in. load-bearing brickwork, on the right. Viewpoint 4 (left): from the south-west, looking across the drill yard. Over the smoke chamber, left, is a viewing terrace, used by the public on demonstration days. Centre, the garage, and extreme right, the drill tower. Viewpoint 5 (below): the drill tower from the south-east. It is r.c. framed and clad on three sides by Georgian wired glass and yellow opaque glass.



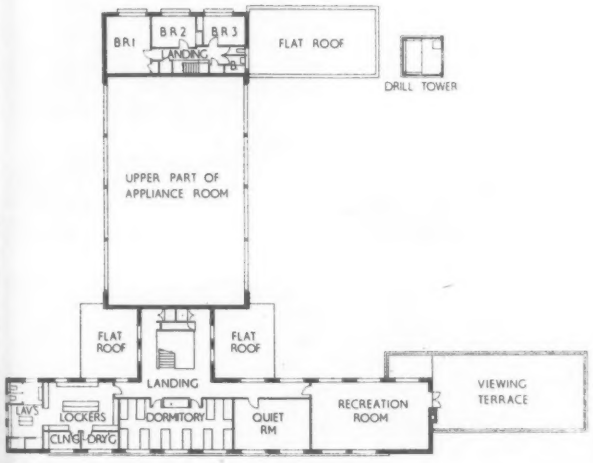


First floor plan and section B-B, drill tower
[Scale: ¼" = 1' 0"]

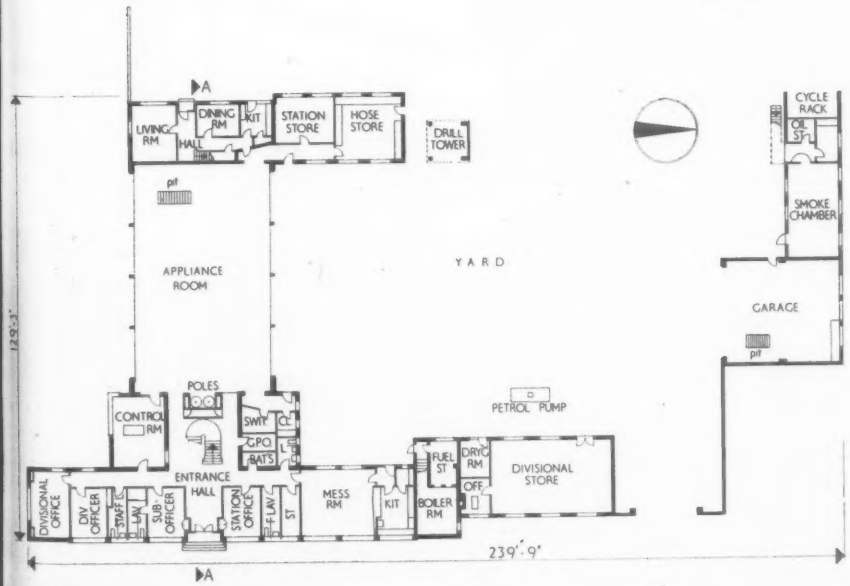




Key plan showing photographic viewpoints



First floor plan



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

analysis

CLIENTS' REQUIREMENTS

Divisional headquarters and fire station for four appliances and garage for three divisional vehicles.

Establishment :

Whole time (station)	*Division offices*
1 Station Officer	1 Divisional Officer.
2 Sub-officers.	1 Assistant Divisional Officer.
4 Leading Firemen.	4 Sub-officers.
28 Firemen.	4 Firewomen.

Male personnel: two shift system.
Firewomen: three shifts.
Drill yard at least 120 ft. × 120 ft.
Flat for the station officer attached to the Station. Viewing terraces for the public on demonstration days.

PLANNING AIMS

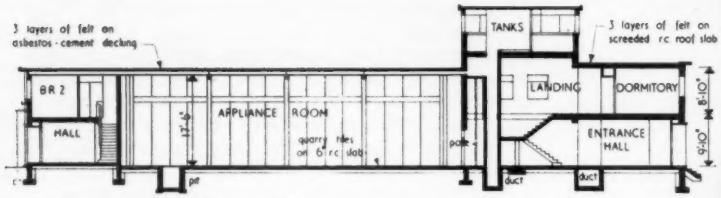
To design a fire station which in appearance would have an affinity with the buildings of the Harlow town centre, of which it forms a part.
Access for appliances from the appliance room to be direct to the main road. The return journey to be by way of the side street to the drill yard and the rear doors of the appliance room.
The provision of a station officer's flat within the building closely related to the appliance room and including a private garden. The concentration of essential operational and engineering services and vital avenues of circulation within one central area and as close to the appliance room as possible.
A break from the traditional brick drill and hose drying tower by adopting a reinforced concrete framework encased by glass walling.
Viewing terraces for demonstration days (finally provided over the divisional store and the smoke chamber).

	price per sq. ft.	s	d
	preliminaries and insurances	1	8½
	contingencies		8½
Work below ground floor level		6	7½

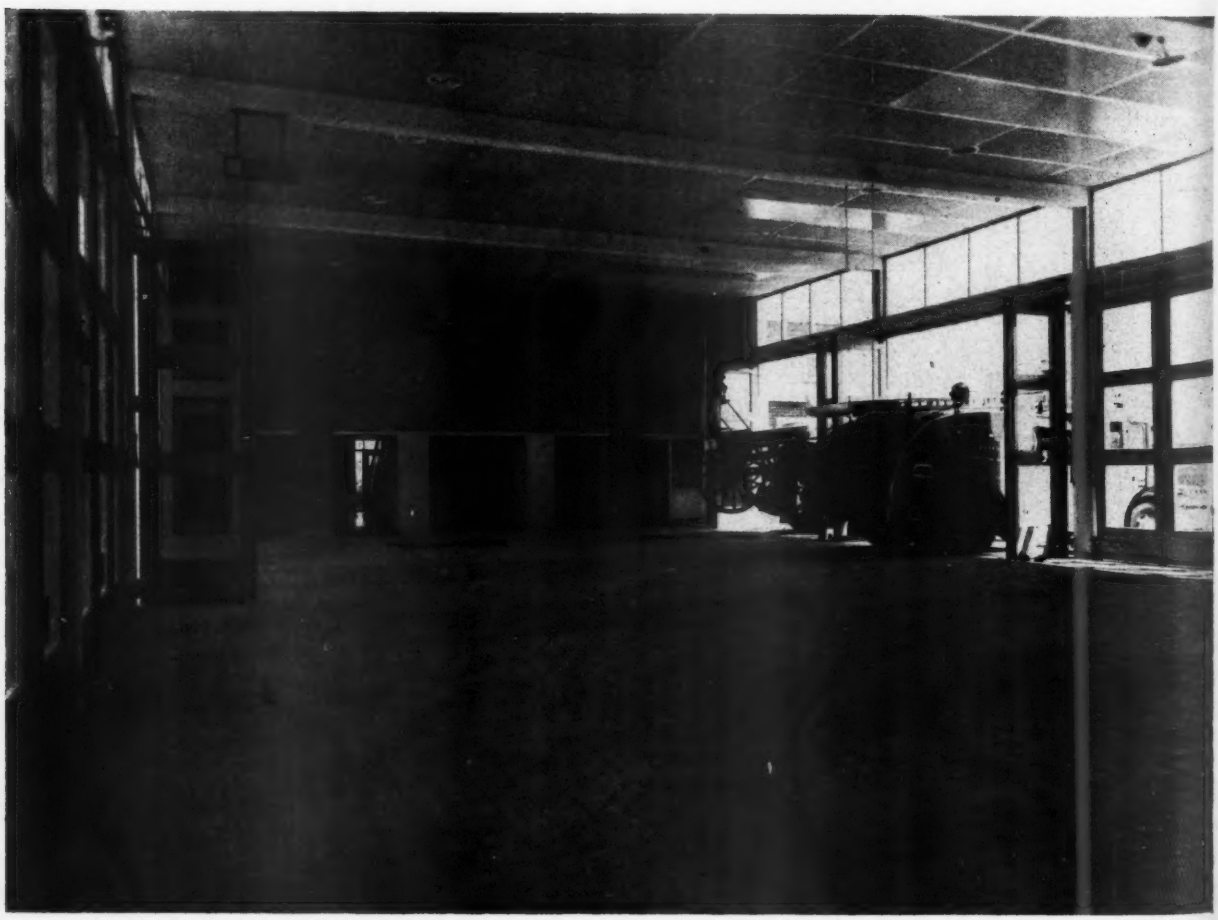
Reinforced concrete beam foundations on loose sand and gravel, concrete strip footings on gravel to outbuildings. Reinforced concrete bases under steel columns to appliance room.
Drill tower: four reinforced concrete bases under columns.

building illustrated

Left: the main staircase in the entrance hall of the administration block is in-situ r.c. with terrazzo finish. Below: the dormitory on the first floor of the administration block. The floor finish is thermoplastic tiles and the wall finish, plaster and emulsion paint. Doors are flush, plywood-faced. Bottom: the appliance room. The floor finish is buff quarry tiles, ceiling of fibreboard and the walls are fair-faced brickwork.



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



analysis

STRUCTURAL ELEMENTS

	s	d
Frame or load-bearing element Appliance room: steel stanchions encased in concrete. R.s.j. roof beams 40 ft. span. Remainder of buildings: brick load-bearing walls. Drill tower: reinforced concrete columns and beams.	6	5
External walls Office wing: 13½-in. brick. Station officer's flat: 11-in. cavity brick. Facing bricks throughout: Ibstocks. Station officer's flat, west wall: coloured rendering. Wall area: 11,363 ft.	3	11
Windows Generally hot dipped galvanised steel. Stone surrounds on office wing. Timber frames to clerestory lights over appliance room doors. Drill tower: glass walling with Georgian wired cast glass and yellow opaque glass in spandrels. Window area: 1,900 sq. ft.	3	10½
External doors Appliance room: timber, three-panel glazed sliding folding doors, painted. Divisional garage: metal concertina sliding-folding. Main entrance: hardwood double swing doors and sidelights. Generally: external quality plywood flush doors, painted. Door area: 2,016 sq. ft.	1	8¼
Upper floors Station officer's flat: first floor, 8-in. × 2-in. timber joists, elsewhere precast prestressed concrete beams of varying spans. Floor areas: Prestressed concrete 2,440 sq. ft., 19 ft. 6 in. span, 60 lb. per ft. Timber floors 520 sq. ft., 13-ft. span, 30 lb. per ft. Cost includes roofs.	8	2¾
Staircases The main central stair is *in situ* r.c. terrazzo finish. The stair in the flat is of timber. The outside stair to the viewing roof over the smoke chamber is of galvanised steel. Three stairs—main stairs 4 ft. 6 in. wide, 10 ft. rise.		11¾
Roof and upper floor construction The roof over the appliance room and station officer's flat is asbestos decking, elsewhere precast prestressed concrete beams of varying spans. Floor areas: asbestos decking 4,310 sq. ft., concrete 7,780 sq. ft. Cost included in upper floors.		
Roof lights One over landing in station officer's flat.		0½
Glazing Generally 24 oz. and 32 oz. glass. Georgian ¼-in. wired plate glass in appliance room doors and clerestory windows over. Drill tower: Georgian ¼-in. wired cast glass and yellow opaque glass in spandrels.	1	6
Total of structural elements	26	7¾

PARTITIONING

	s	d
Internal partitions Generally 4½-in. brick and 3-in. hollow clay blocks plastered. Metal faced plywood to w.c. cubicles. Partition areas: hollow blocks 233 sq. yd., metal faced plywood 34 sq. yd.	2	8¼
Internal doors Flush plywood-faced doors painted. Some glazed. Metal faced plywood to w.c. cubicles. No. of doors: single 46; double, 10 pairs.		9¼
Ironmongery BMA door furniture throughout. Special overhead equipment for sliding folding appliance room doors.	2	3¾

FITTINGS

		4¾

Sink units, kitchen counters and dresser, service hatch in officers' house, kitchen cupboard and mess room counter, seat, hat and coat rack, hose rack, flowerboxes, combined fire surround and bookcase in quiet room.

Total of partitions and fittings	6	2

FINISHES

	s	d
Floor finishes Appliance room: 6-in. × 6-in. × ⅜-in. grooved buff quarry tiles. Entrance hall, corridors, landing, lockers, lavatories, canteen kitchen: 6-in. × 6-in. buff quarry tiles. Main stair and showers: terrazzo: Divisional station and hose stores, divisional garage, smoke chamber, etc.: granolithic. Elsewhere thermoplastic tiles. Floor areas: Quarry tiles, 565 yd. at 31s. 3d. per sq. yd. Thermoplastic, 253 yd. at 20s. 1d. „ „ Granolithic, 440 yd. at 11s. „ „ Parquet wood block, 145 yd. at 30s. per sq. yd.	3	9¼
Wall finishes Appliance room, stores, divisional garage, smoke chamber, etc.: fair-faced brickwork. Entrance hall, main stair, corridors, lockers and lavatories: cement rendered with plastic surfaces. Elsewhere mainly plaster and emulsion paint.	1	2
Ceiling finishes Appliance room: suspended fibreboard ceiling undecorated. Mess room, control room offices, recreation room, quiet room and dormitory: fibreboard and emulsion paint. Elsewhere mainly plaster and emulsion paint. Stores, divisional garage, smoke chamber, etc.: cement rendered and emulsion paint.	1	2
Roof finishes Three layers bituminous felt and granite chippings, 10,272 sq. ft. Viewing terraces, ¾-in. asphalt 1,818 sq. ft. Tower, ¾-in. asphalt 150 sq. ft.		6

analysis

	s	d
Decorations	2	2½
Walls and ceilings mainly emulsion paint, except entrance hall, main stair corridors, lockers and lavatories, where walls have plastic surfaces. Woodwork mainly painted, three coats.		
Total of finishes	8	9¾

SERVICES

External plumbing		9½
Internal plumbing throughout. Rainwater pipes, cast iron, fascia to appliance room roof, dressed with copper. Plumbing services in galvanised iron tubes with first-floor sanitary fittings drained to a one stack system.		
Heating installations (including hot and cold water and ventilation)	6	8¾
Generally: accelerated L.P. hot water heating and direct hot water service.		
Boilers: cast iron sectional hand-fired solid fuel.		
Radiators: in appliance room flush type radiators incorporated in suspended ceiling. Hospital type radiators in all other rooms.		
" U " values: Cavity walls = 0·3.		
Roofs = 0·2.		
Design temperatures:		
Appliance room 55° F.		
Offices 60° F.		
Stores, corridors and lavatories 55° F.		
Dormitory 55° F.		
Heat loss 320,000 B.t.u.s per hour, the boiler rating 445,000 B.t.u.'s per hour.		
Hot water storage 125 gall.—hourly demand.		
Cold water storage 400 gall. in look-out tower.		
Sanitary fittings		6½
Basins 9		
Sinks 6		
W.c's 7		
Urinals 3		
Showers 3		
Gas installation		0½
Gas cookers in messroom kitchen and station officers' kitchen.		
Electrical installation	2	6½
Lighting points 139		
Socket outlets 32		
Tungsten lighting throughout. Installation consists of V.R.I. cable encased in steel conduit. Alert lighting system comprising half the appliance room lighting points and other essential points throughout the station, operates on alarm calls.		
Station alarm system 15 bells.		
Total of services	10	7¼
Drainage	1	11¼
Separate soil and surface water drains.		
Generally: salt glazed stoneware pipes with brick manholes, petrol interceptor and underground surface water tank for hose drill.		
Other elements not shown above		5¼
Telephone installation, galvanised iron balustrading to viewing decks.		
Lightning conductor		
Fences, roads, paths, petrol storage tank and other external works	7	0½
Net cost excluding external works	63	8½
£44,995		

14,130 sq. ft. (Floor measured inside external walls)

COST COMMENTS

Certain general comments can be made when comparing this fire station with those at Slough (AJ, January 31, 1957) and Gloucester (AJ, July 18, 1957).

The cost of the structural elements (totalling 33s. 3d., incl. work below ground) is greater than at Slough (28s. 6d.) and Gloucester (30s. 5d.). This is because the drill tower cost is included. The cost of this tower may have been afforded at the expense of one of the other elements such as " fittings " (4¾d. per sq. ft.). Comparison of the three analyses show some differences in preparation. At Harlow the special door opening gear is analysed under the element " ironmongery " whereas at Slough and Gloucester it was with the external appliance doors. At Gloucester the main block only is analysed, whereas at Slough and Harlow the cost of the drill tower and ancillary buildings are spread over all the elements.

In addition the differing requirements of each project become apparent. Some of these differences are matters of policy and some of local convenience but all affect the final cost of the work. For instance, Slough has a forced air hose drying chamber; Gloucester has glazed metal sliding folding doors which have permitted them to park 14 appliances into a nominal 6 bay station; Harlow has used curtain walling to the drill tower.

CONTRACTORS

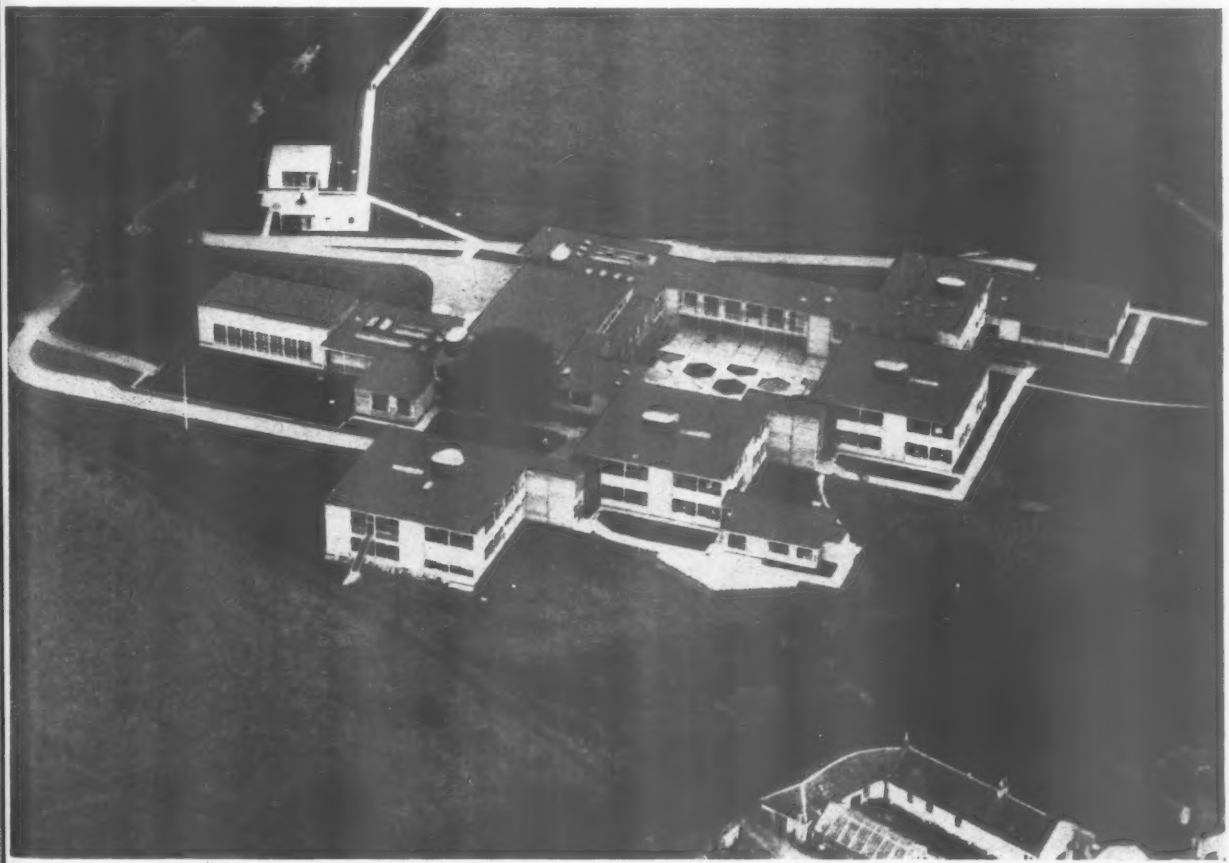
General contractors: S. B. Bridge & Co. *Sub-contractors: Artificial stonework:* Enfield Stone Co. Ltd. *Felt roofing:* Mells Asphalte Co. Ltd. *Floors, precast:* Concrete Ltd. *Terrazzo paving:* Art Pavements & Decorations Ltd. *Special glazing to drill tower:* Henry Hope & Sons Ltd. *Metal windows:* Crittall Manufacturing Co. Ltd. *Quarry tiles and wall tiles:* Summers & Co. *Appliance room doors:* Rippers Ltd. *Garage doors:* Bolton Gate Co. Ltd. *Appliance room door gear:* Comyn Ching Co. (London) Ltd. *Glazed wall finish:* Plastic Surfaces Ltd. *Asphalt roofs:* Cambridge Asphalte Co. Ltd. *Balustrades:* George Wright (London) Ltd. *Steelwork:* Dorman Long (Bridge & Engineering) Ltd. *Cat ladders and guard rails:* Bayliss, Jones and Bayliss Ltd. *Partitions:* Venesta Ltd. *Reinforced concrete tower:* Twisteel Reinforcement Ltd. *Sliding poles:* Merryweather & Sons Ltd. *Sanitary fittings:* B. Finch & Co. Ltd. *Suspended ceilings:* G. C. Horsbrough Co. Ltd. *Roller shutter:* G. Brady & Co. Ltd. *Handrail:* F. J. Lewis Ltd. *Oak flooring:* Onsite Flooring Co. Ltd. *Thermoplastic flooring:* Rowen and Bowden Ltd. *Drying racks:* J. Jackson, Son & Co. Ltd. *Ironmongery:* Nicholls and Clarke Ltd. *Facing bricks:* Ibstock Brick and Tile Co. Ltd.

SECONDARY SCHOOL

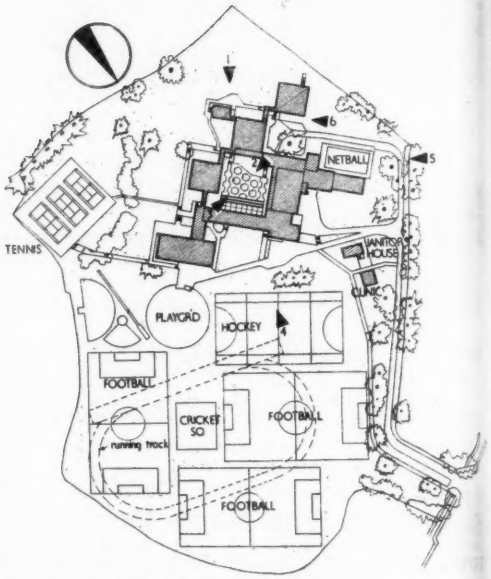
in HAMILTON, LANARK; designed by T. A. JEFFRYES, for the SCOTTISH EDUCATION DEPARTMENT BUILDING DEVELOPMENT TEAM

The Earnock School at Hamilton, completed in August, 1957, the first to have been built by the Scottish Education Department's School Building Development Team, is composed of administrators, H.M. Inspectors of Schools, architects and surveyors. The architects in the team are nominally employed by the Department of Health for Scotland, whose Chief Architect is T. A. Jeffryes. This school is the prototype in Scotland of the precast concrete system first used at Worthing Secondary School, designed by the Architect's Department, MOE (AJ, August 4, 1955) and also used for the first time in an office building in Cambridge, illustrated in last week's JOURNAL.

Viewpoint 1: aerial view from south. The layout of the building was considerably influenced by the nature of the site. House blocks are square and two-storey to give the maximum floor area for the minimum area of enclosing walls and are arranged in echelon to avoid overshadowing. Internal circulation is possible to all parts of the school.

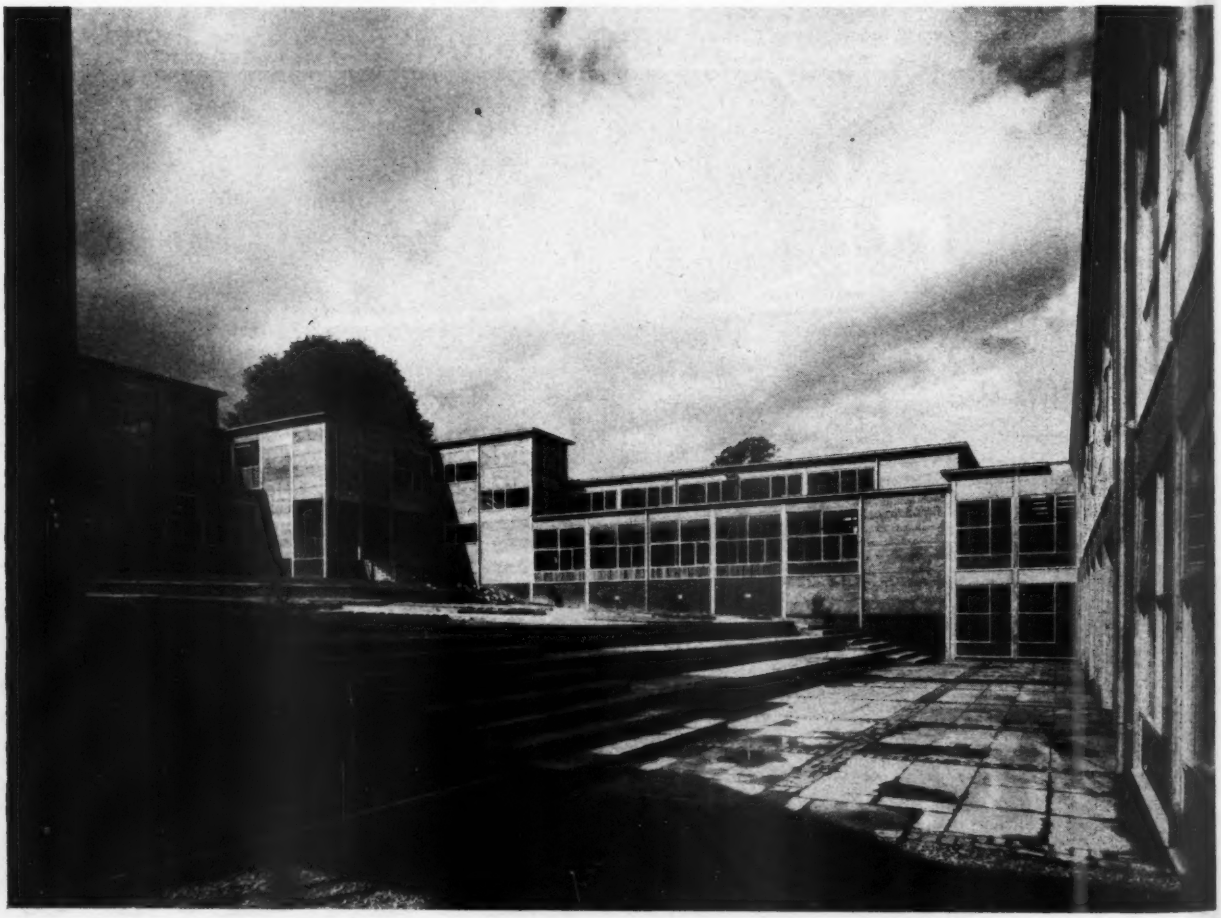


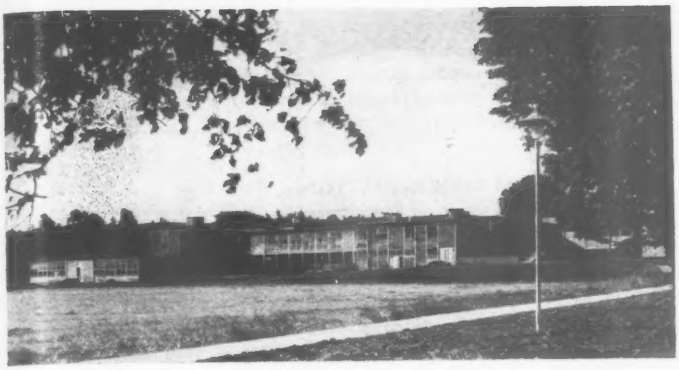
building illustrated



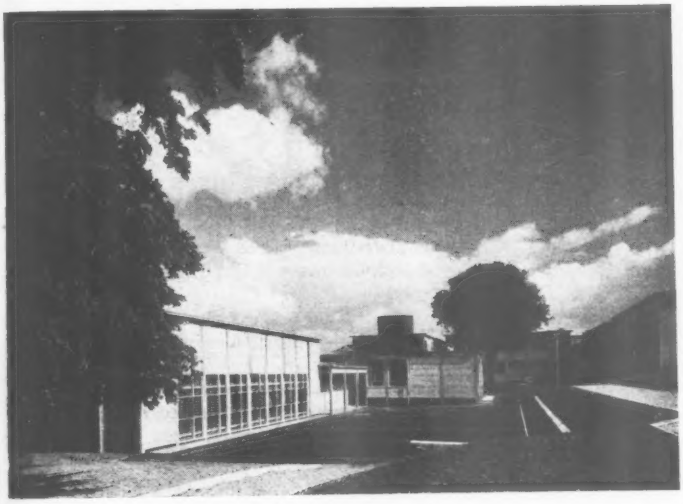
Site plan showing photographic viewpoints

Viewpoint 2 (above): the central courtyard from the west. On the right is one of the two-storey house blocks with classrooms and lavatories on ground floor and classroom and project space above. On left, commerce room on ground floor with library over and dining room over colonnade. Viewpoint 3 (below): central courtyard from the east looking across to assembly hall. Communal areas occupy three sides of the courtyard which provides a meeting place for pupils and access to various parts of the school in fair weather. Advantage has been taken of the contours to form terracing which enables it to be used as an open-air theatre. Cladding panels are faced with three aggregates—Dalbeattie granite, crushed fire and engineering brick.

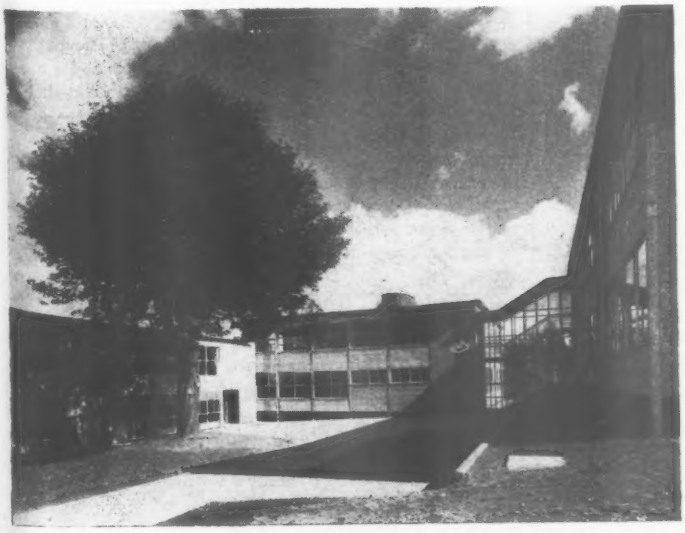




Viewpoint 4: view from the north. On the left are the technical subject rooms and on the right a two-storey block with boiler house, fuel store and electric sub-station on ground floor with kitchen over. Connecting these blocks are the dining room and library both of which enjoy an attractive and extensive view.



Viewpoint 5: the gymnasium from the north-west. In the centre is the music room, carefully isolated from other areas.



Viewpoint 6: the free-standing chestnut tree has been preserved to form a focus for the informal courtyard in front of the administration block. On the right are two-storey house blocks linked by a staircase, which has been so designed that the individuality of each block is maintained.

analysis

INTRODUCTION

The Scottish Education Department's School Building Development Team which was set up in April, 1953, has now completed its first building project. The Development Team includes administrators, H.M. Inspectors of Schools, architects and surveyors and its purpose is to consider problems connected with the planning and construction of schools and other educational buildings. The primary function of the Team is to formulate advice which will help educational authorities to provide these buildings with the greatest economy and efficiency.

It is clear, therefore, that the Team is modelled very closely on the MOE Development Group—its aims, method and organization are precisely the same. It will share the advantage of having the client, the administrator and the technician working as a team, jointly responsible for the success of the work and completely relieved of inter-professional formalities. So long as the slogan " The right building in the right time at the right price " coined by the MOE under the sharp edge of rising costs is to be pursued with vigour, the Development Group or Team will be essential. Further, if the slogan is to continue to mean anything, then what is " right " must be continuously reviewed and restated. This is the job the Development Group or Team is uniquely able to do and it is, therefore, most encouraging to find the Scottish Development Team accepting all the implications and discharging the complex task with such enthusiasm.

The Earnock Secondary School was designed and built in order that the Team might have first-hand experience of the kind of problem with which education authorities are faced in Scotland. Acting as private architects to the Lanarkshire Education Authority the Team were able to use the job as a vehicle for examining various methods of construction, for testing new educational ideas in the organization of the secondary school and for presenting their ideas and conclusions to other architects, educationalists and surveyors.

A description of the school is set out in a booklet, from which much of this article is drawn. (School Building in Scotland No. 4—*A Development Project*, HMSO, 2s. 6d.)

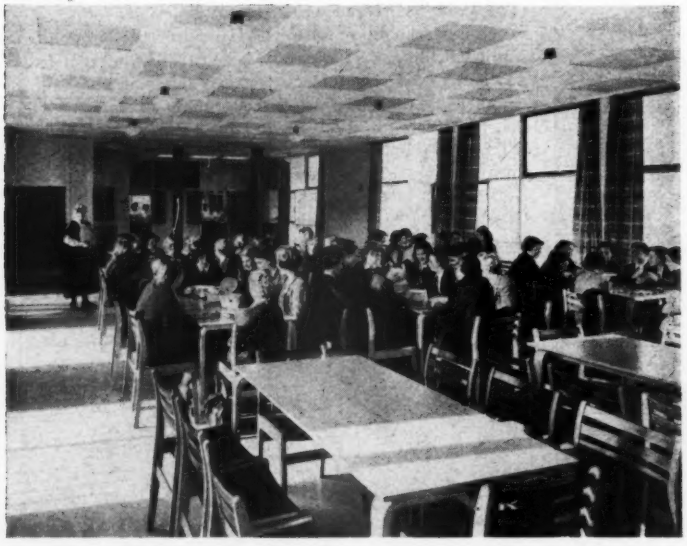
EDUCATIONAL CONSIDERATIONS

The Team has met the criticism—often levelled—that secondary schools are too departmentalized both in planning and curriculum, by achieving a layout that will encourage teachers of different subjects to co-operate with one another. To this end most of the teaching accommodation has been placed in three separate blocks, in each of which a group of six classes will receive instruction in English, history, geography, mathematics, sciences, arts and crafts and homecraft. Each block contains a year group under a Form Master who co-ordinates the year's studies. There should, therefore, be a tendency for different disciplines to be brought into closer contact with one another and since each block, besides having three ordinary classrooms, a science room, an art room, and a homecraft room, has also a space which can be used for independent work by small groups or for projects covering several different subjects the benefits of this close physical contact can be reaped.

SITE

The site of 13½ acres is part of the parkland of the former Earnock House Estate and lies about 1½ miles south-west of Hamilton. Sloping to the north, the site has gradients varying from 1 : 12 on the upper half to 1 : 45 on the lower. The lower half of the site was, therefore, used for the playing field in order to minimize earth moving. This has the additional advantage of allowing the school a good view across Hamilton and the Clyde Valley. The site is

The entrance hall. The stair leads up to dining room and assembly hall. Doors on half landing are to lavatories. Floor finish is of studded rubber.



The dining room seen from the library end and looking toward the kitchen servery. The room is furnished for family service with tables for groups of eight children and will accommodate 250 in two sittings. The floor finish is linoleum, windows are softwood with hardwood opening lights.

surrounded by trees and flowering shrubs and the line of the drive to the old mansion with its mature trees, has been used as the approach to the school.

ACCOMMODATION

The school is designed for 540 secondary pupils.
Calculation of the accommodation differs from the standard MOE method. The minimum number and areas of classrooms and other educational rooms is laid down and this area is then increased by 80 per cent. in order to provide for circulation and other essential accommodation (excluding boiler rooms, kitchens, stores and other special accommodation for after-school activities).
A maximum cost per square foot is laid down for the work, which, however, excludes the cost of special work arising from the nature of the site. Good planning is encouraged by the regulations, for once the total area has been calculated, the architect is free to plan within this total for rooms that are larger or more numerous than is shown in the original calculation. The Team were able to increase both the size and the number of rooms and to include a staff room of above average area.

ROOM PLANS

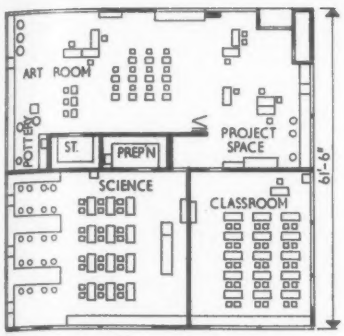
Several particularly interesting plans for individual spaces have been arrived at:
(*a*) Art rooms have been planned to serve also for crafts and allow different activities to be carried on simultaneously.
(*b*) Homecraft rooms are planned with cooking bays and the housewifery suite is delightfully intricate in plan and domestic in scale.
(*c*) Science rooms are most unusual, offering good conditions for demonstration, discussion, the carrying-out of experiments and writing up of notes. These conflicting activities are often ill-served in our traditional school laboratories.

STRUCTURE

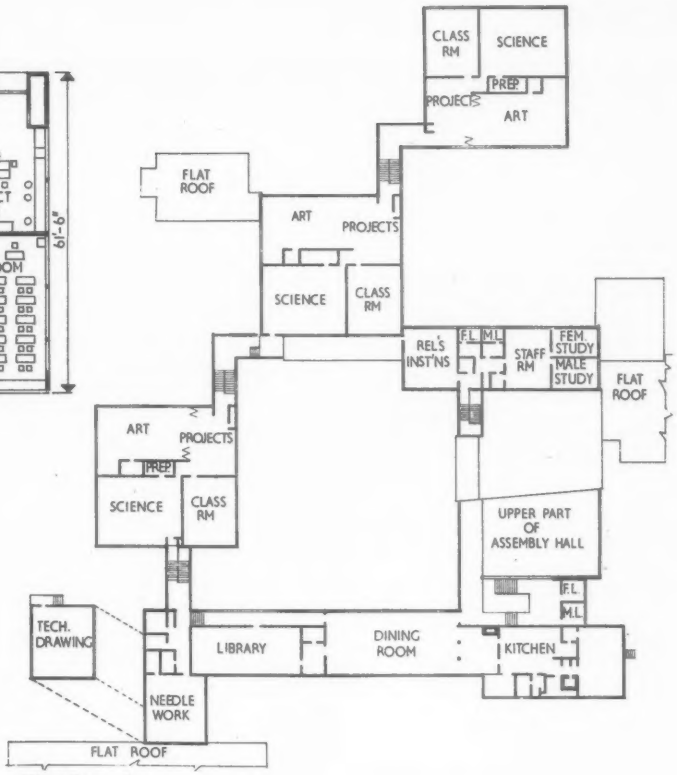
After surveying the field the Team decided to use the (then) recently developed " Intergrid " pre-cast, pre- and post-tensioned concrete system (for details of prototype school at Worthing by MOE Development Group, see the JOURNAL for August 4, 1955). The main difference in the system at the Earnock School from the prototype at Worthing is that in the original two differing depths of beam were used, 12 in. and 24 in. respectively, whereas in the latter school a universal depth of beam at 16 in. is used for all spans. Very little extra concrete is required for this greater depth and it is economical to reduce the number of different components being made.

SERVICES

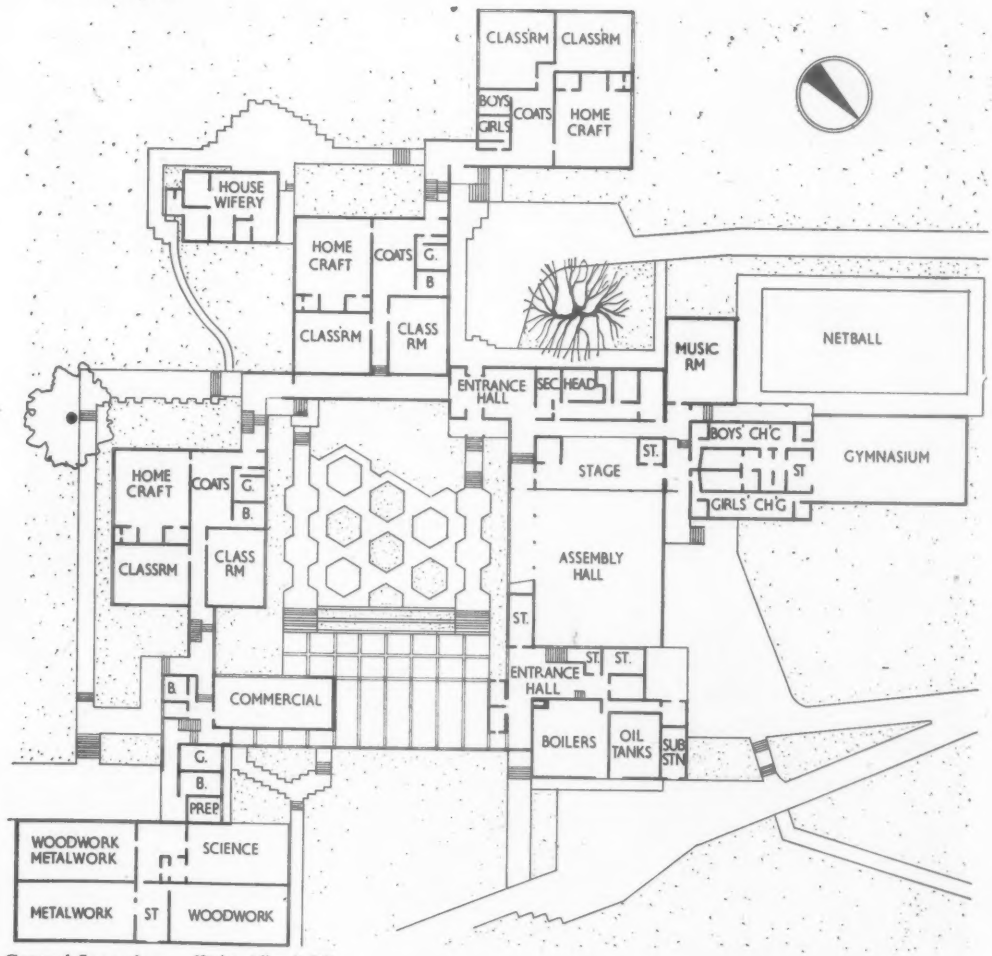
Services are normal, except for the drainage layout, which had to be adapted to the steeply sloping site, and heating is mainly by the well established re-circulated warm air system (heating standards are the same as required under the MOE regulations).
MOE/BRS standards are accepted for natural and artificial lighting.
Cost at tender stage was £309,000.
The building was occupied two years and four months after work started: April 25, 1955, to August 26, 1957.
The Earnock school is the prototype in Scotland for this system of construction, and the general contractors point out that the sloping nature of the site involved heavy



Detail first floor plan, typical classroom block
[Scale: $\frac{1}{32}$" = 1' 0"]



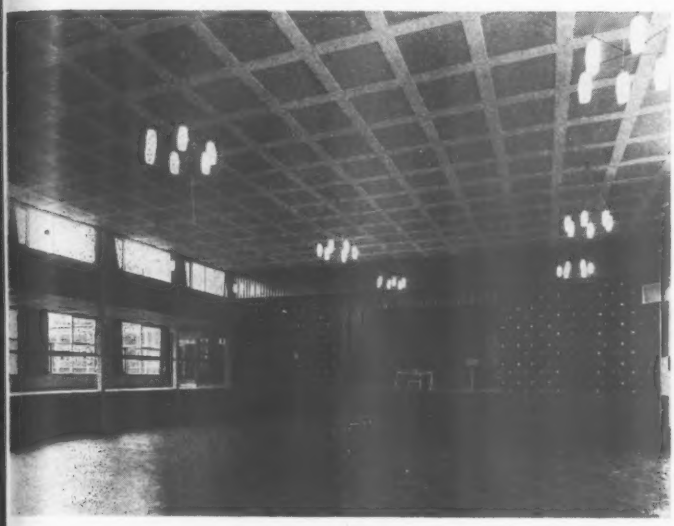
First floor plan



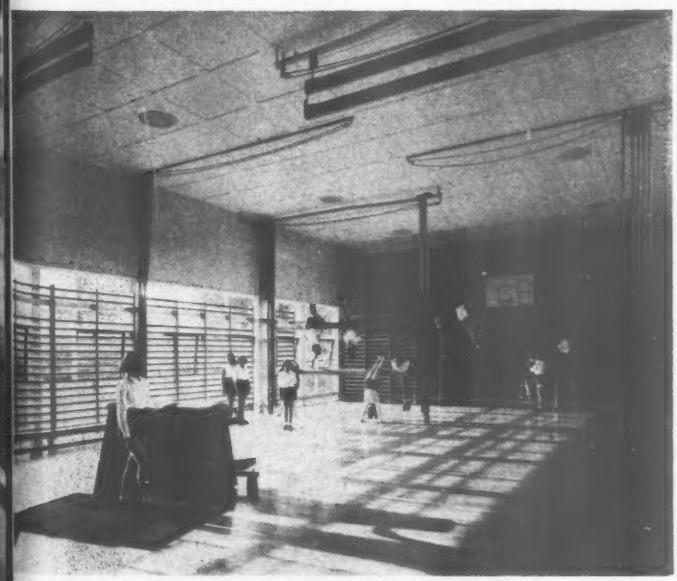
Ground floor plan [Scale: $\frac{1}{16}$" = 1 0"]

building illustrated

Below: the hall seats 600 and has an area of 3,153 sq. ft. (regulations demand a minimum of 3,000 sq. ft.). Behind the stage, and at a higher level, is a passage linking the entrance hall to the music room and gymnasium. This high level aisle may be used as an extension to the stage, but may also of course be separated from it by curtains or a cyclorama. The side aisle and stage front are faced with mahogany veneer with vertical sycamore fillets.



OPPOSITE PAGE: *assembly hall from the side aisle, which is on the same level as the stage. This aisle forms part of the circulation area but may be used for certain types of dramatic work, small orchestral groups and similar activities. Together with the stage, it may be used for seating when displays are given in the body of the hall. The back wall is made up of a glazed mahogany screen and panelling finished with Australian walnut and sycamore. The floor is of hardwood tile, columns and ceiling are painted.*



The gymnasium of 1,943 sq. ft. has a maple strip floor finish. Ceiling is of fibrous plaster bearers and plates. Artificial lighting is by eight 500 watt fittings, recessed and enclosed by a flush finish of fire resisting glass panels of toughened glass.

analysis

excavation work for foundations, retaining walls and levelling the playing fields, much in excess of the normal work for a school of this size. In addition, the factory at Kirkintilloch employed to manufacture the " Intergrid " units pioneered the making of standard moulds and the specialized factory processes for this precision precast work. Nevertheless, the whole of the structure (including columns, floors, roofs, staircases and external cladding) was erected in 56 weeks, and the school—from site excavation to finishings—was completed in 28 months.

COST SUMMARY

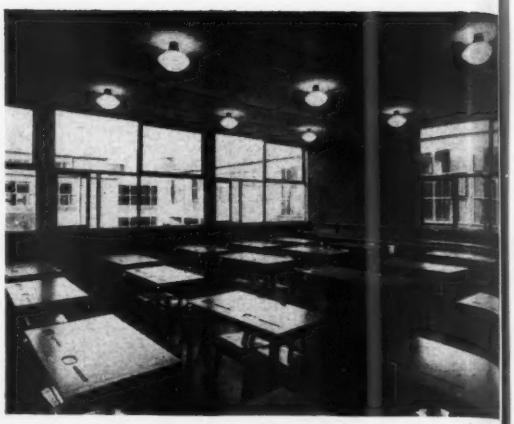
Elements	*Cost per sq. ft of floor area* s	d
Preliminaries and sundries	3	5·4
Contingencies	1	6·0
Work below ground floor level	2	8·3
Ground floor	1	8·8
External walls	5	4·7
Internal partitions	1	9·2
Upper floor	3	5·2
Staircases	1	5·9
External wall finishings		6·2
Frame	3	2·8
Roof	5	4·2
Roof finishings	1	3·4
Rooflights		9·4
External doors, windows and ironmongery	2	7·3
Stairlink screens		4·4
Glazing of windows and screens		5·0
Floor finishings	3	7·7
Internal wall finishings		10·7
Ceiling finishings	3	1·3
Internal doors and screens	1	3·9
Folding partitions		3·8
Ironmongery for internal doors		4·4
Cloakroom fittings		1·2
W.c. and shower cubicles		4·3
Fittings	1	1·6
Plumbing	3	9·5
Electric installation	3	2·0
Heating installation	5	7·8
Drainage	1	6·3
Decoration	1	4·5
Cistern houses		4·7
Chimney, flue, etc.		3·4
Increase for housewifery porch, additional flashings, etc.		5·0
Main contractor supervision	1	0·0
	64	10·3

CONTRACTORS

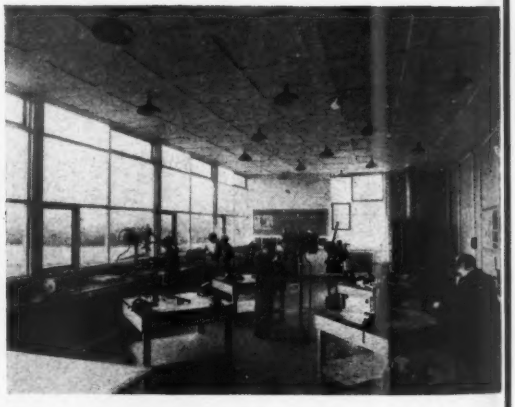
General contractor Gilbert-Ash Ltd., proprietors of Intergrid System used for the entire framework. *Concrete components:* Girlings Ferro-Concrete Co. Ltd. *Bellrock partitions:* Gypsum Construction (Scotland) Ltd. *Terrazzo and tiling:* Toffolo Jackson & Co. Ltd. *Hardwood block floors:* A. M. McDougall & Sons Ltd. *Floor covering:* Rowan & Boden Ltd. *Glazing:* The Scottish National Glass and Glazier Co. Ltd. *Rooflights:* Mellowes & Co. Ltd. *Roofing:* William Briggs & Sons Ltd. *Heating:* G. N. Haden & Sons Ltd. *Electrical equipment:* Siemens Bros. & Co. Ltd. *Steel railings:* The Star Architectural Iron Works. *Furniture and Furnishings:* The Educational Supply Association Ltd. Scandinavian Furnishings. The North of England School Furnishing Co. Ltd. Wilson & Garden Ltd. Grants Furnishings Ltd. (Contract Dept.). Gerald Holtom Ltd. Stage Furnishings Ltd. Hepburn Bros. Ltd.

building illustrated

Below: view from an upper landing of a stair linking house blocks. Stringers are of precast pretensioned concrete and treads of precast reinforced concrete. Finish is of studded rubber tiles with aluminium nosings. Right: first floor classrooms for 30 children in a house block. The team found that by careful overall planning the area of the ordinary classrooms could be increased from the required minimum of 555 sq. ft. to about 670 sq. ft., with obvious benefit to staff and children, particularly where "activity" methods of education are used. Storage is concentrated in wall benching and generous areas of pin up are provided. Natural lighting is from two directions and the colour scheme is linked to the scheme for the particular house. South windows are generally fitted with venetian blinds. The floor finish is p.v.c. sheet. The fibrous plaster ceiling is painted white.



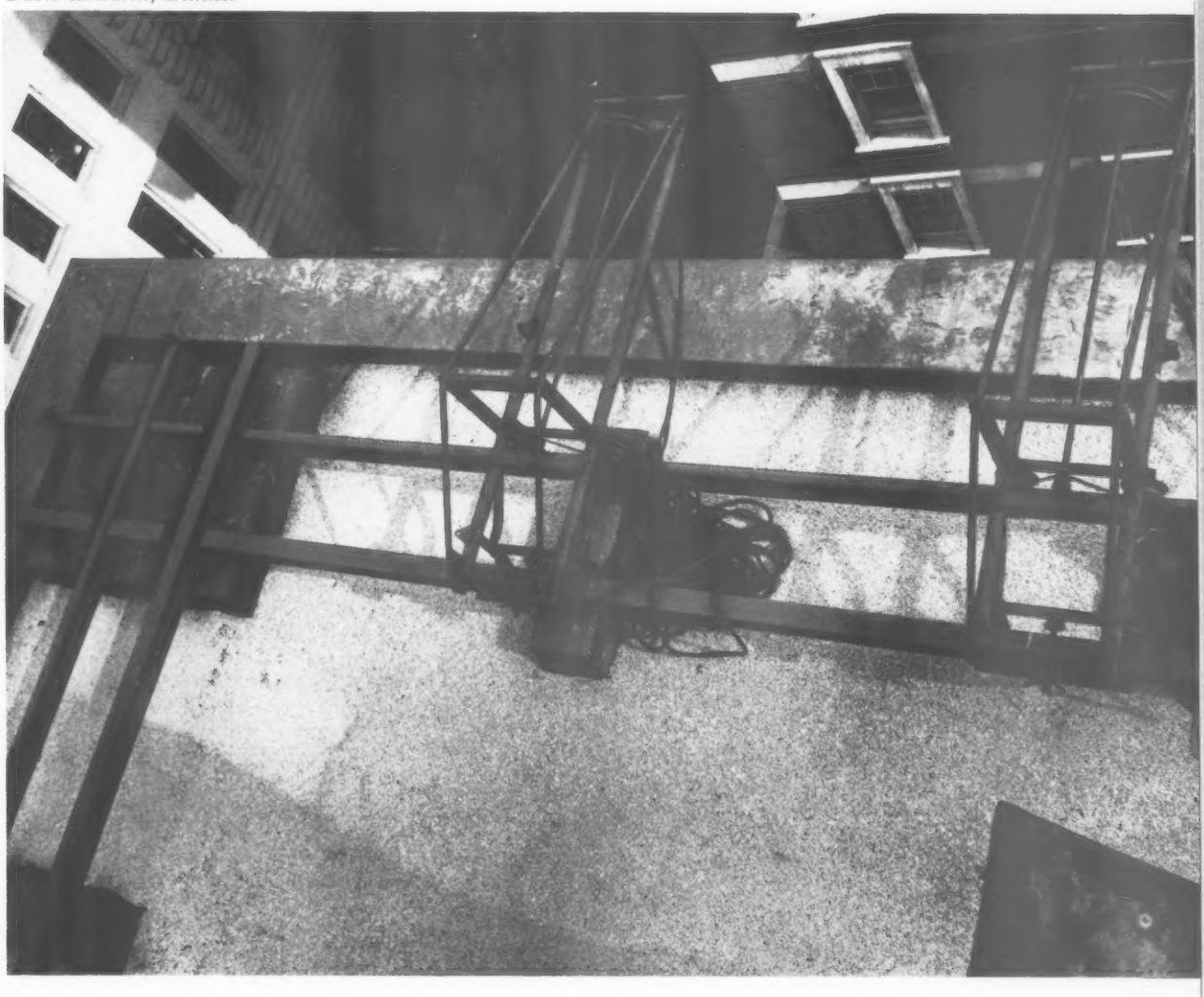
Above right: the science room has an unusual layout and is considerably larger than normal. It provides facilities for demonstration, experiment and note-taking. Again, natural lighting is from two sides, giving good distribution and (as throughout the school) is designed to give a minimum 2 per cent. daylight factor on the working plane. Windows have softwood frames with hardwood opening lights. Artificial lighting throughout the school is by specially designed opal glass fittings with 150 watt lamps. Right: metalwork room. In all benchwork rooms the benches are in the centre of the room while machine tools are placed near windows. The technical subjects rooms are connected to a common work space and metal and woodwork rooms have a section for reference books where children may read or sketch. A science room has been placed in the same block. Floor finish is granolithic. The normal maintained artificial illumination of 10 lumens per sq. ft. is increased in the technical subjects rooms (and needlework room) to 15 lumens per sq. ft. The choice of lighting fittings shows a surprising lapse from the high standard in the rest of the school, but it might be argued that they will not give rise to glare since most of the work is done looking downward and the fittings are closely mounted on a high ceiling. Bottom right: the living room of the housewifery suite.



working detail

RUNNING DAVITS: OFFICES IN LONDON, W.C.1

David Aberdeen, architect

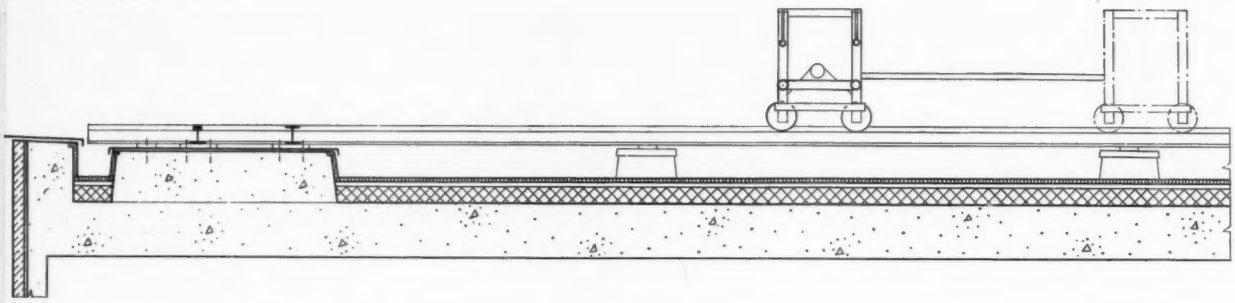


These demountable davits can be used either singly (to support a bosun's chair) or in pairs (to support a cradle). When used in pairs they are bolted at a fixed distance apart and connected by a strut (which is not, however, shown in the photograph): by pulling the rope which passes over the pulley wheel the men in the cradle can move their cradle horizontally across the face of the building. The distance between the centre line of the drop and the face of the building must, of course, be constant. To enable the external corner of the building to be covered the rails must extend to the inside edge of the parapet: hence the cross-over. The rails are welded to the plates which in turn are held down by sleeved bolts which are bedded in the upstand stools and are secured by capped nuts.

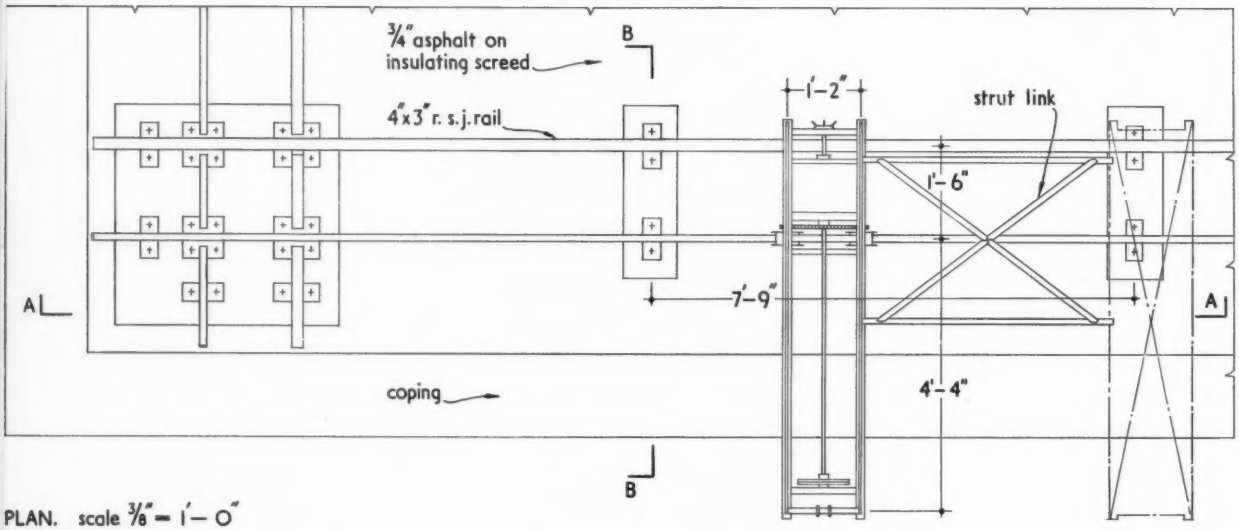
working detail

RUNNING DAVITS: OFFICES IN LONDON, W.C.1

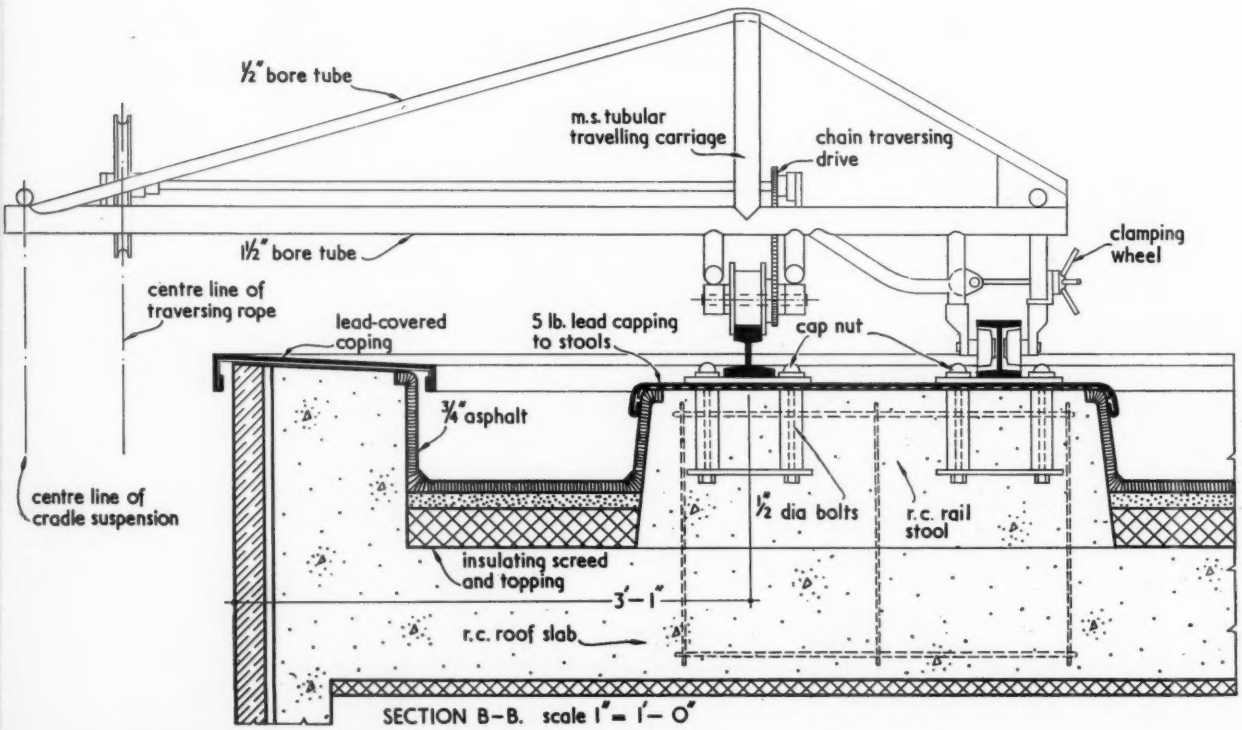
David Aberdeen, architect



SECTION A–A. scale 3/8" = 1'–0"



PLAN. scale 3/8" = 1'–0"



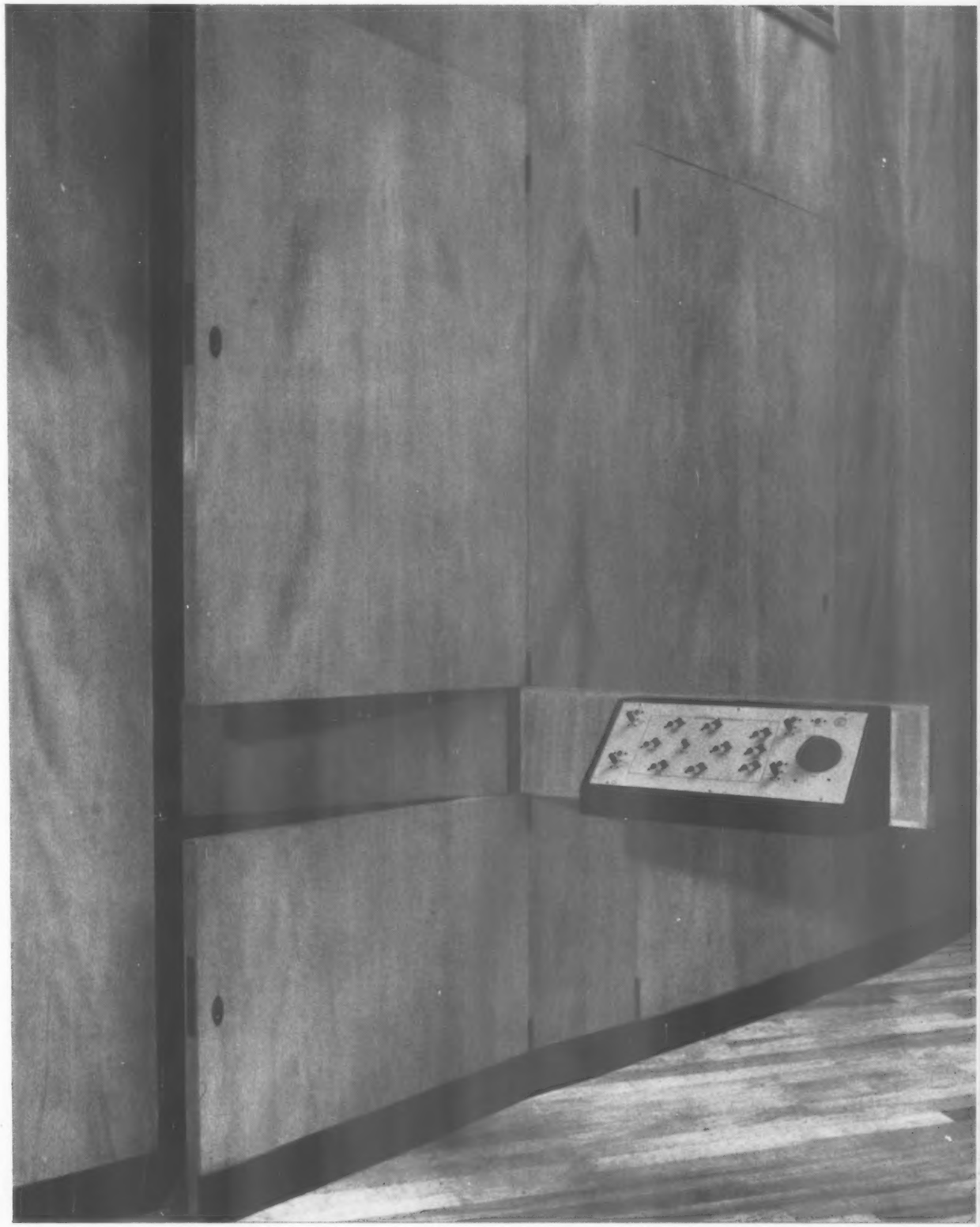
SECTION B–B. scale 1" = 1'–0"

working detail

MISCELLANEOUS: 20

HINGED INSTRUMENT PANEL: OFFICES IN LONDON, W.C.1

David Aberdeen, architect

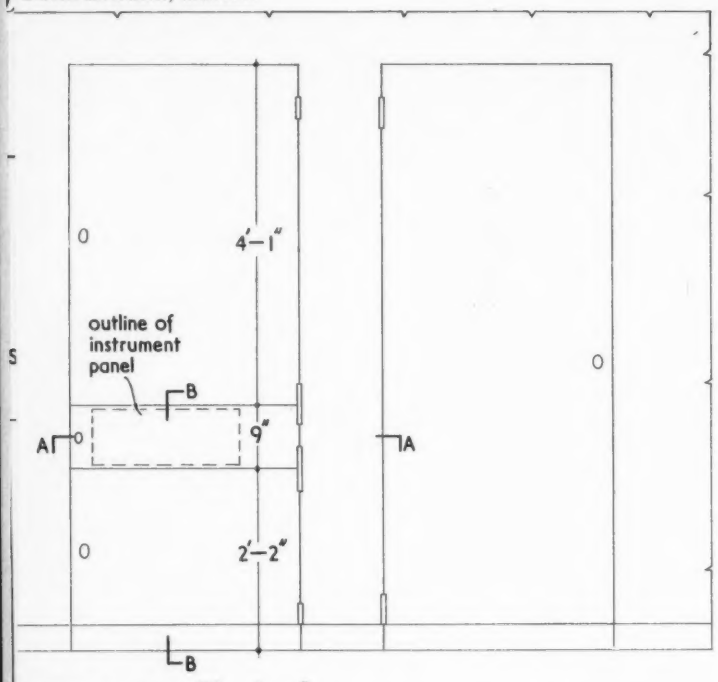


This panel contains the controls of the amplifier system in the assembly hall and is wanted only when the hall is in use. The conditions to be fulfilled were, first, that the panel when folded away be invisible, and second, that the screen from which it emerges be visually unbroken. These were achieved by a three-part "stable door" in the screen and a "baffle" leaf to close the gap when the panel leaf is swung forward. Another problem was ensuring that the cable leading to the panel is not pinched by any of the leaves. This was done by hinging the "baffle" leaf from a false jamb and ploughing an ample channel partly in this and partly in the main jamb. The screen wall and doors are curved to a radius of approximately 97 ft. 6 in.

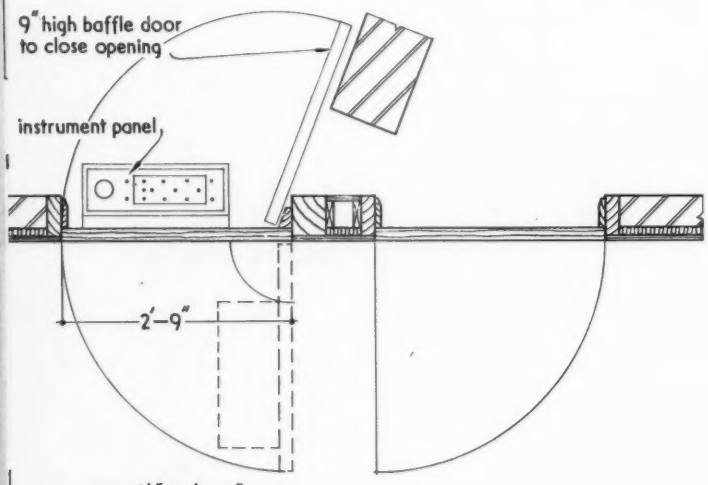
working detail

HINGED INSTRUMENT PANEL: OFFICES IN LONDON, W.C.1

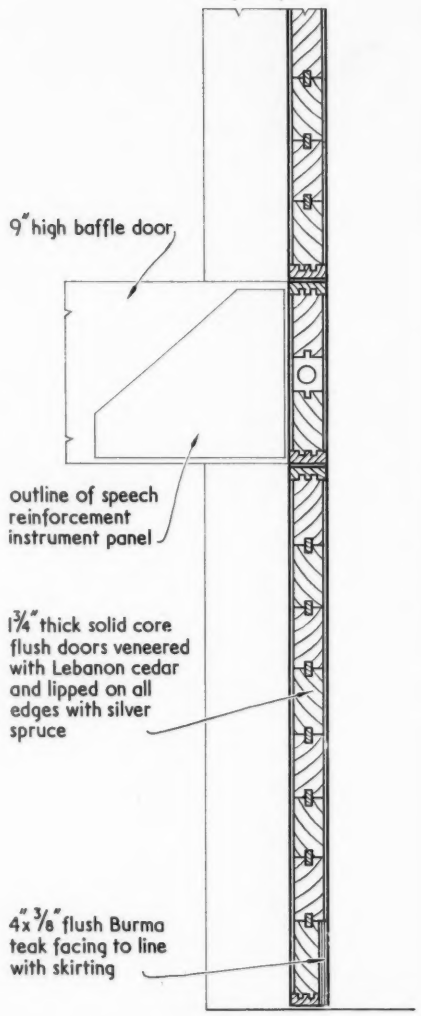
David Aberdeen, architect



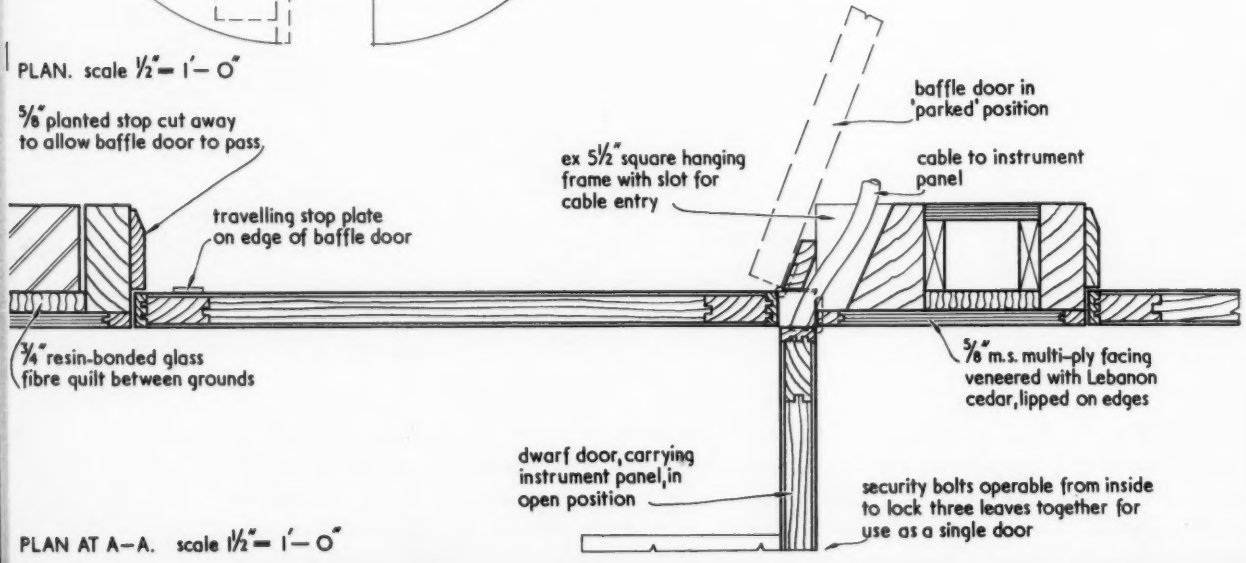
ELEVATION. scale ½" = 1'– 0"



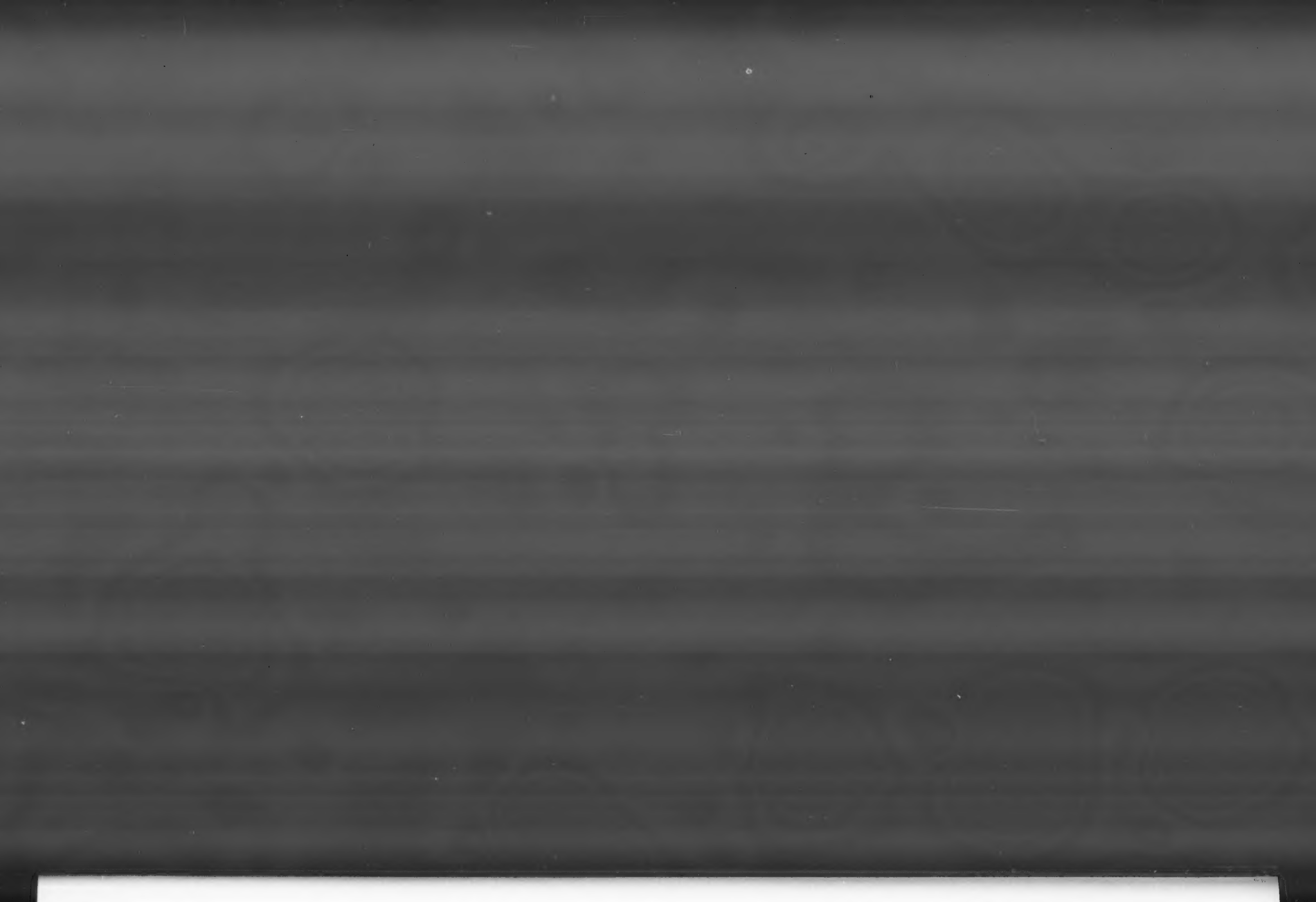
PLAN. scale ½" = 1'– 0"



SECTION B–B. scale 1½" = 1'– 0"

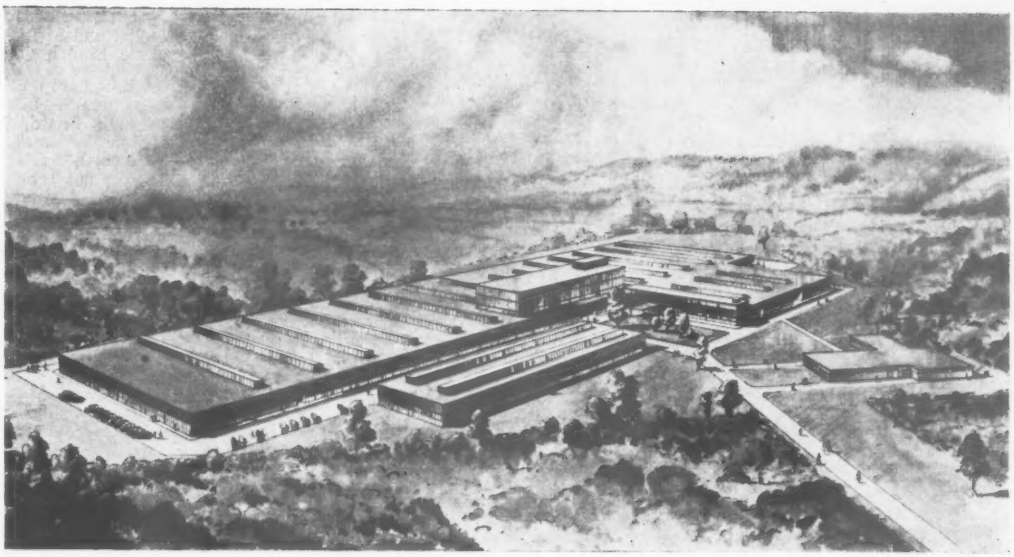


PLAN AT A–A. scale 1½" = 1'– 0"



PROPOSED FACTORY AND OFFICES AT FARNBOROUGH, HANTS

Work has begun on a 50,000 sq. ft. factory and office building on a 15-acre site at Farnborough, Hants. This will be the first stage of a £1,250,000, five-year plan, seen in the perspectives right and below, for the Solatron Electronic Group Ltd. The Arcon



monitor roof (seen left in another building) will be used extensively. Architects, Raglan Squire and Partners; general contractors, Taylor Woodrow Construction Ltd.

INFORMATION CENTRE INDEX FOR 1957

An alphabetical index covering Information Centre items and special articles published in the Technical Section during the twelve months ended December 31, 1957, is being prepared. Readers who wish to have a copy—it is free of charge—should complete the form below and post it to the Technical Editor, THE ARCHITECTS' JOURNAL, *not later than March 3, 1958. This form will not be acknowledged.*

Please send me the Information Centre Index for 1957 :

Name .....
(Block letters)

.....

Address.....
(Block letters)

.....

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AJ 30.1.58

Announcements

PROFESSIONAL

G. Trevor Edge, A.R.I.B.A., M.I.A. (S.R.), and M. J. Peto, B.A. (Arch.), A.R.I.B.A., M.I.A. (S.R.), have gone into partnership under the title of Edge and Peto at Farmers Mutual House, Moffat Street, Salisbury, Southern Rhodesia, where they will be pleased to receive trade catalogues, etc.

TRADE

C. F. Anderson & Son Ltd. announce that the telephone number for all departments is now Canonbury 1212.

Parker, Winder & Achurch Ltd., have appointed two of their Directors, H. E. Slaughter and R. L. Teare, A.C.A., to the Board of J. W. Rains Ltd., following the retirement of John Rains as Managing Director of that company.

British Titan Products Co. Ltd. have transferred their Head Office from York to 10, Stratton Street, London, W.1 (telephone Grosvenor 7822).

Martin Olsson & Sons Ltd., who are sole selling agents for Ankarboard Acoustic Boards and Tiles on behalf of the manufacturers, Svenska Cellulosa AB of Sweden, announce that their main distributor in Scotland is Scottish Speedwell Co. Ltd., and in Northern Ireland, James P. Corry & Co. Ltd., Belfast.

Harris Engineering Co. Ltd. have transferred their Harrow and Seven Kings offices to Universal House, Lincoln Way, Lincoln Road, Enfield, Middlesex (telephone Howard 4881-2).

Aerialite Ltd. have opened a Scottish office at 311, Bell Street, Glasgow, C.4 (telephone Bell 2014-5).

British Insulated Callender's Cables Ltd. have appointed two new Branch Managers: A. F. Miller to the Aberdeen Branch Office, and Mr. L. R. Cleworth to the Newcastle Branch Office.

A.E.I. Lamp & Lighting Co. Ltd. have appointed S. Hale and Dr. A. B. Whitworth to their Board, Mr. Hale as Director in charge of Lamp Manufacture and Dr. Whitworth as Technical Director. L. G. Lewzey has been appointed Assistant Secretary and Assistant Comptroller, and H. G. Lilley is now Manager, Lighting Department.

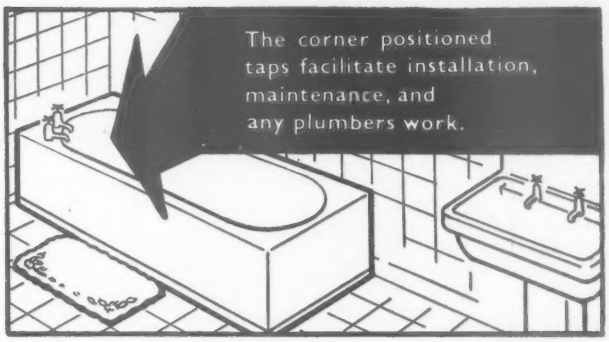
Bournville Village Trust, Bournville Works Housing Society Ltd. and National Trust (Chadwich Manor), have changed their address to Estate Office, Oak Tree Lane, Bournville, Birmingham, 30 (telephone SEL 2431).

The Cape Asbestos Co. Ltd. and Cape Building Products Ltd. have opened a new office at 19-20, Exchange Buildings, Quayside, Newcastle-upon-Tyne (telephone Newcastle 20488).

F. Hills & Sons Ltd. have opened a new southern depot at Sopers Road, Cuffley, Herts (telephone Cuffley 3028), which will be open from 8 a.m. to 5.30 p.m. Monday to Friday, and 8 a.m. to 12 noon on Saturdays.

Radiation Ltd. announce that A. J. Parker has been appointed Managing Director. They also announce the formation of a new company, Radiation Group Export Sales Ltd., with offices at 122, Kings Road, London, S.W.3. Mr. J. Ivan Yates has been appointed Managing Director.

Forson Design & Engineering Co. Ltd. have moved to a new factory and offices at Commerce Way, Lancing, Sussex (Lancing 2835-6).



The new style

BILSTON

'Atlanta' Bath

A BILSTON BATH

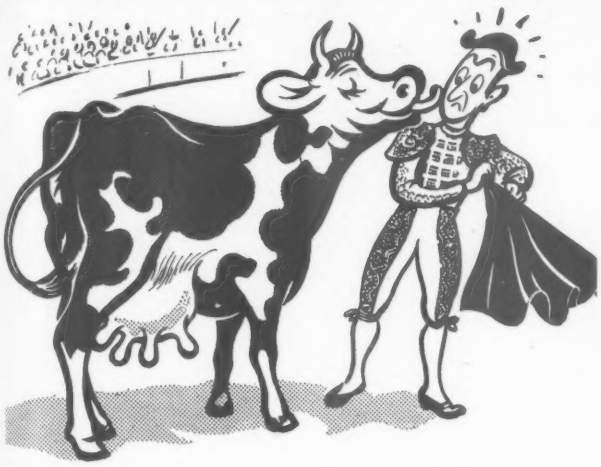
Since we introduced the "Atlanta" it has been gaining steadily in popularity. And no wonder, for the Bilston "Atlanta" is a 20th century bath in every respect. The revolutionary shape and extremely low step makes it ideal for children and so much safer for older members of the family.

The new corner-positioned taps do away with plumbing troubles—the pipes and the taps themselves are easily accessible, both for installation and later maintenance.

From its attractive appearance and the luxurious comfort it gives, the Bilston "Atlanta" would seem to be a rather expensive bath. Not so at all. It is very reasonably priced indeed.

BILSTON FOUNDRIES LTD., BILSTON, STAFFORDSHIRE

This is no BULL!



Uni-Bond

Bonds anything to anything

TRIED TESTED PROVED AND SPECIFIED BY LEADING ARCHITECTS CONTRACTORS AND GOVERNMENT AUTHORITIES.

NOW IN ITS FIFTH YEAR ON THE MARKET

Ample supplies of Uni-bond are available. It grips and holds two surfaces together—for good. There are a 1,001 uses for Uni-bond on building sites, in factories, offices, stores and around the home . . . inside and out.

- ★ **Ready for use. No mixing—no heating.**
- ★ **Dries clear. No mess—no waste!**
- ★ **Waterproof, weatherproof, mouldproof.**
- ★ **Resists petrol and oil—is non-brittle.**
- ★ **Does not crack, craze or deteriorate.**
- ★ **Backed by money-back GUARANTEE.**

For the PLASTERER—Bonding Plaster. Will bond plaster without keying to existing smooth plaster, cement, painted surfaces, timber, painted anaglypta walls and ceilings, hardboard, glazed tiled surfaces—and each to one another. In fact any surface.

For the CEMENT WORKER, CONCRETOR, BRICKLAYER, CEMENT BONDINGS. Will bond cement mixes to Plaster, Asbestos, Old Cement, Timber, Steel, Hardboard, Chipboard, Bricks, Quarry Tiles, Glazed Tiles, Slates, Flags, in fact any surface. A masterpiece for screeding.

For the FLOORING TRADE, TILE or BLOCK LAYER or IN-SITU LAYER. Unsurpassed for the fixing of all wood blocks, lino or rubber, plastic tiles, and making plastic levelling screeds that will lay from paper thickness up to 2in. over any base. For fixing without keying all types of composition floorings, such as Magnesite etc. A lasting floor seal against dusting surface.

For the CARPENTER and JOINER—Bonding Timber. For joinery use, it being possible to make grain end bonds that are almost impossible to break. Fixing pelmets, shelves, pads, etc.

The GLAZE TILER. A Uni-Bond cement/sand slurry will fix a tile for keeps, no bedding required. Tile over any level surface plaster, hardboard, painted surfaces, existing glazed tiles.

For PAINTER and DECORATOR—MAKING PLASTIC PAINT, FILLERS, PRIMERS. For priming timber, asbestos and all surfaces with suction. Sealing off efflorescence on plaster and brickwork. Making a permanent stopping. Making a Plastic paint from cheap distempers.

FOR WORKING INSTRUCTIONS
Cut out this slip—attach to your trade-card or letter-head—and post to us today.

Write for address of your nearest stockist.

THE LIQUITILE SUPPLY CO.
48 HIGH STREET, CAMBERLEY 7, SURREY

Telephone: CAMberley 2263

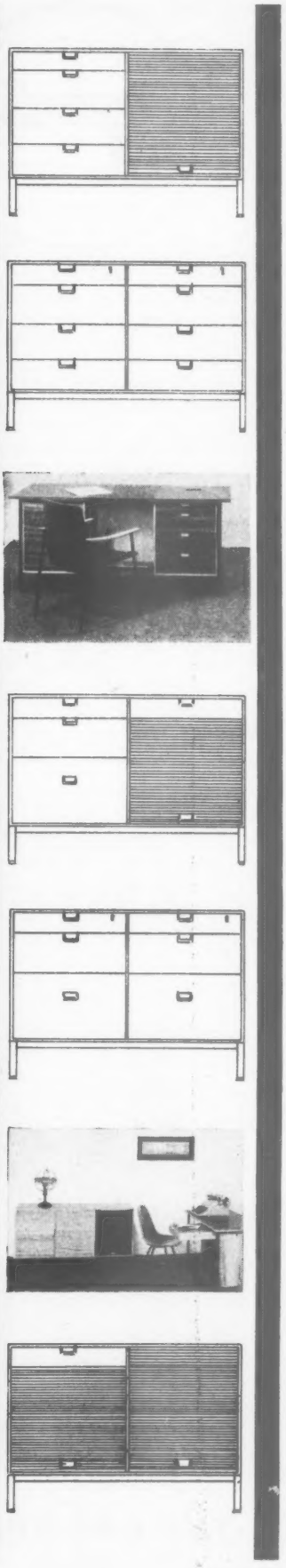
Engineered cabinets combine with simple frames and work surfaces to bring a million new permutations of planned furniture to offices. Logically devised to meet all requirements.

Pieces illustrated are:—
Top Photo:
Executive desk in Rosewood and African walnut with black leather writing surface
Ref No D6/CB
Bottom Photo:
Desk chair C14
Office cabinet SD3/CFE
Fibreglass chair C13B
Junior desk in African walnut, black lino top, black shuttering D4/D
Write for leaflet—"Office Furniture"

Conran Furniture
6 Cadogan Lane
S W 1
BELgravia 3161 and 3024

C

Drawings, reading from top to bottom:
Office cabinets SD2/BE, SD2/BB
SD2/FD
SD2/CC, SD2/DE



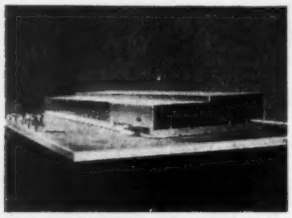
Preview

January Architectural Review

Each New Year, the Review devotes an entire special issue to a survey of what the leading architectural offices in Britain have in hand on the first day of the year.

Assembly Hall of a girls' comprehensive school at Southwark. Architects, Chamberlin, Powell and Bon.

The view presented by *Preview* is an extremely varied one; the buildings it covers range from a pub to a synagogue, by way of schools, universities, colleges, hostels, hospitals, factories, office blocks, churches, airports, planning schemes, housing layouts, a market and a seaside pavilion; and the offices and architects responsible for these projects-in-progress read like a directory of the country's top talent (as indeed they are)—the L.C.C., the Ministry of Works, ACP, T. P. Bennett and Sons, Bridgewater and Shepheard, James Cubitt and Partners, Llewelyn Davies, Easton and Robertson, Frederick Gibberd, Erno Goldfinger, Gollins Melvin and Ward, Sir William Holford, Arthur Ling, Sir Leslie Martin—and so on down the alphabet to Yorke, Rosenberg and Mardall.



Factory at Wokingham. Architects, Yorke, Rosenberg and Mardall.

The reflection in *Preview's* mirror may prove flattering or alarming, but even where there appear to be grounds for satisfaction at the design of the buildings themselves, the environments into which they are being fitted still leave much to be desired, and though this is beyond the architect's control, it is not exempt from the watchful eye of the *Counter Attack Bureau*, whose month by month vigilance will be maintained even in this special issue.

Churches
Adam & Berkeley
Lettering

February Architectural Review

The variety and scope of the buildings illustrated, and subjects discussed, in the February issue will be catholic, even for the Review. *Three Churches* around Coventry by Basil Spence will show what the imaginative use of a modicum of rationalisation can do even for a church building programme; the spectacular *Teatro de los Insurgentes*, designed by Alejandre Prieto exhibits Latin-American design at its most exuberant and effective; while Erno Goldfinger's precise *Office block in Albemarle Street* is the kind of building our cities sorely need. Historical studies will re-examine aspects of eighteenth-century architecture: *Bishop Berkeley's* contributions to architectural theory will be the subject of an article by Marcus Whiffen, while a sheaf of papers on *Robert Adam* by various hands will include some unknown Clérisseau drawings from Russia. Gordon Cullen will complete his set of townscape studies for Bristol University with an analysis of *Trowbridge*, and Jacqueline Tyrrwhitt will examine the planning of *Fatehpur Sikri*, the ideal city of Akbar the Great, somewhat in the manner of Sir Hugh Casson's memorable studies of Peking. In *Skill*, John Sharp will complete his survey of methods and materials in *Architectural Lettering*, *Design Review* will continue to note worthwhile new products and equipment.

Church at Bell Green, Coventry, by Basil Spence & Partners.

Offices Albemarle Street, W.1 by Erno Goldfinger.

Milford Haven
Lamp-Standards
Achthamar

March Architectural Review

The impending ruination—or transfiguration — of Pembrokeshire, by the proposed industrialisation of the Milford Haven area, will be the subject of an important *Counter-Attack* article by Ian Nairn in the March issue of the Review, while another *Outrage* problem of a more wide-spread (though no less acute) interest, will be surveyed by Peter Witworth —the design of street-lighting standards—in a special article in *Skill*. Among buildings of interest to be described and illustrated in the same issue, the most outstanding will be two industrial groups; further additions to the distinguished work already done for the *Technicolor Laboratories* by Gooday and Noble, and a complete set of *Pithead Buildings in Fifeshire* by Egon Riss, who has captured something of that sense of technological drama that has been missing from so much recent English industrial buildings. In complete contrast will be a *Weekend House* on the seashore at West Wittering by Wells Coates and Michael Lyell, and new *Showrooms for Troughton and Young* by Hulme Chadwick. A travelogue by three recent voyagers in Turkey will document and illustrate the extraordinary sculptured church at *Achthamar*, and two historical articles will explore the frontier between architecture and technology in the early nineteenth century, W. J. Sparrow writing on the ingenious and adventurous *Count Rumford*, inventor, man of action, and landscape architect, and Mary Eldridge examining the impact of plate glass in ever-larger sheets upon the design of urban *Shop-Fronts*.

Rothes Colliery, by Egon Riss.

Carvings at Achthamar.

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

30s. per inch; each additional line, 2s. 6d.

COUNTY BOROUGH OF SOUTHAMPTON requires under N.J.C. conditions of service:
(a) ARCHITECTURAL ASSISTANT, Grade A.P.T.II £725/£845.
(b) ARCHITECTURAL ASSISTANT, Grade A.P.T.I £575/£725.
Applicants must possess the appropriate qualifications and experience for special classes of officers under N.J.C. conditions of service.
Apply on application forms obtainable from the Borough Engineer and Surveyor, Civic Centre, Southampton, by not later than Monday, 10th February, 1958. 8567

METROPOLITAN BOROUGH OF BATTERSEA
Applications are invited for the appointment of ASSISTANT BUILDING SURVEYORS to the permanent staff in General and A.P.T. II Grades. Salaries from £500 to £845 per annum, plus London weighting (£30 per annum age 26 and over).
The commencing salary will in all cases be according to qualifications and experience. Preference will be given to students or probationers of the Royal Institution of Chartered Surveyors (Building Sub-division).
The appointments are subject to the Local Government Superannuation Acts 1937-53.
Further particulars and forms of application obtainable from the Borough Engineer and Surveyor, Town Hall, S.W.11. Closing date 8th February. 8528

BOROUGH OF GILLINGHAM
APPOINTMENT OF ARCHITECTURAL STAFF
BOROUGH ENGINEER'S DEPARTMENT
Applications are invited for the undermentioned appointments.
Two SENIOR ASSISTANT ARCHITECTS. Special Scale £750—£1,030.
Commencing salaries of persons appointed according to qualifications and experience. Applicants to be A.R.I.B.A. and should have experience of housing and school work.
The posts are superannuable and the National Conditions of Service will apply.
Application forms may be obtained from The Borough Engineer, Municipal Buildings, Gillingham, Kent. Closing date first post Thursday, 6th February, 1958.

FRANK HILL,
Town Clerk.

Municipal Buildings,
Gillingham, Kent.
23rd January, 1958. 8525

GOVERNMENT OF NORTHERN IRELAND
ASSISTANT ARCHITECT CLASS II
Applications are invited for pensionable posts in the Chief Architect's Branch, Ministry of Finance. Candidates must be Registered Architects by examination, with at least 2 years' experience in an Architect's Office in the preparation of working drawings. Salary scale £780 (at age 25)—£1,055 (age 34 and over)—£1,215. Transfer of existing Pension rights may, in certain circumstances, be approved. Preference will be given to ex-Servicemen. Application forms may be obtained from the Secretary, Civil Service Commission, Stormont, Belfast.
F33/2/25/10/57 8346

AIR MINISTRY require WORKERS-UP in Quantities Division, London. Must be fully experienced and competent to Work-up entire Bills of Quantities. Preference holders C. & G. (Quantities), O.N.C. or equivalent technical qualification. Salary range £695 at age 26 to £1,030; starting pay dependent on age, qualifications and experience. Opportunities may occur for competing for pensionable posts; promotion prospects. 5-day week. Over 3 weeks' leave a year. Applicants normally should be natural born British subjects. Write, stating age, qualifications and previous appointments, including type of work done, to P.E. 104, Manager, Professional and Executive Register, Ministry of Labour and National Service, Atlantic House, Farringdon Street, E.C.4. No original testimonials should be sent. Only candidates selected for interview will be advised. 8471

MONMOUTHSHIRE COUNTY COUNCIL
APPOINTMENT OF ARCHITECTURAL STAFF
Applications are invited for the following posts in the County Architect's Department under the N.J.C. Conditions as follows:—
THREE ARCHITECTURAL ASSISTANTS. Special Grade for Architectural Assistants at a salary from £830 to £1,030 per annum; applicants to be appointed on the grade according to ability.
TWO ARCHITECTURAL ASSISTANTS. Grade A.P.T. II. Salary £725 to £845 per annum.
Applications, together with details of experience and qualifications, to be forwarded to the County Architect, Queen's Hill, Newport, Mon., not later than Monday, 10th February, 1958.

VERNON LAWRENCE,
Clerk of the Council.

County Hall, Newport, Mon. 8606

WESTERN REGIONAL HOSPITAL BOARD
Applications are invited for the posts of SENIOR ASSISTANT ARCHITECT (one post) and ASSISTANT ARCHITECT (two posts). Candidates must be registered architects, having passed the requisite examinations. Previous hospital experience will be an advantage. Salary scale:—
Senior Assistant Grade: £1,010, rising by 6 annual increments to £1,195.
Assistant Grade: £700, rising by 10 annual increments to £1,015.
The appointments are superannuable and will be terminable on two months' notice on either side. Successful candidates may be required to pass a medical examination.
Applications, stating age, qualifications, and full details of previous experience, together with the names of three referees, should be addressed to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2, within 14 days of the appearance of this advertisement. 8618

COUNTY COUNCIL OF THE WEST RIDING OF YORKSHIRE
OFFICE OF THE COUNTY ARCHITECT
Applications are invited for the undermentioned appointments:—
ARCHITECTURAL ASSISTANTS and ASSISTANT ARCHITECTS. Grades A.P.T. I Special, or A.P.T. IV.
HEATING ENGINEERS. Grade A.P.T. IV.
PAINTING INSPECTOR. Grade A.P.T. I.
The salary ranges of the grades are:—
A.P.T. I (£575—£725).
Special (£750—£1,030).
A.P.T. IV (£1,025—£1,175).
The appointments of Architectural Assistants, Assistant Architects and Heating Engineers are for the central office at Wakefield, whilst that of Painting Inspector is at Skipton. The Central Office is a modern and attractive building, designed specifically as a large architectural department, and is sited in pleasant grounds in a residential area.
Applications on forms obtainable at this office should be delivered not later than the first post on Monday, 17th February, 1958.

A. W. GLOVER, F.R.I.B.A.,
County Architect.

Bishopgarth, Westfield Road, Wakefield. 8579

HARLOW DEVELOPMENT CORPORATION
Architect Planner—Frederick Gibberd, C.B.E., F.R.I.B.A., M.T.P.I.
Executive Architect—Victor Hamnett, B.Sc., Dip.T.P., A.R.I.B.A., A.R.I.C.S., A.M.T.P.I.
Applications invited from suitably qualified candidates for the following posts for work on varied and interesting programme of Housing, Commercial and Industrial buildings, which offers exceptional opportunities for candidates with good design ability
Posts A: ASSISTANT ARCHITECTS (£656—£907 per annum).
Post B: ASSISTANT ARCHITECT (£902—£1,107 per annum).
Salary dependent upon qualifications and experience. Housing accommodation available in approved cases.
Applications, giving full details and stating post applied for, to be sent, with names of two referees, to General Manager, "Terlings," Harlow, Essex, within 10 days. 8578

COUNTY OF LEICESTER
ASSISTANT ARCHITECT (£750×£40—£1,030)
Candidates must have passed Parts I and II of the R.I.B.A. Final and have had some office experience, preferably on large contracts. Lodging allowance and removal expenses may be paid to a married man. Apply by 19th February on form obtainable from County Architect, 123, London Road, Leicester. 8621

SURREY COUNTY COUNCIL
DEPUTY COUNTY PLANNING OFFICER
Applications invited for this post on Scale F (£1,625×£55 to £1,900 per annum) from persons with wide experience in Town and Country Planning, and good administrative and organising ability.
Applicants must be Corporate Members of the Town Planning Institute and preferably of one or more of the following:—
Royal Institute of British Architects
Institution of Civil Engineers
Institution of Municipal Engineers
Royal Institution of Chartered Surveyors.
Applications stating age, qualifications and experience with names and addresses of two referees to the undersigned by 21st February, 1958.

W. W. RUFF,
Clerk of the Council.

County Hall, Kingston-upon-Thames. 8634

AIR MINISTRY WORKS Design Branch require in London and Provinces ARCHITECTURAL ASSISTANTS, experienced in planning/preparation of working drawings and details for permanent and semi-permanent buildings. Salaries in London up to £1,015 per annum for men and £952 per annum for women. Somewhat lower in provinces. Starting pay dependent on age, qualifications and experience. Long term possibilities with pensionable and promotion prospects. 5-day week, 3 weeks 3 days leave a year. Liability for overseas service. Normally natural born British subjects. Write, stating age, qualifications, employment details, including type of work done, to any Employment Exchange, quoting Order No. Borough 100. 8582

COUNTY COUNCIL OF ESSEX
COUNTY PLANNING DEPARTMENT
Applications invited for following posts:—
(1) SENIOR PLANNING ASSISTANT, Special Grade (£750—£1,030), to take charge of Survey and Development Plan section of Area office at Chelmsford. Applicants should be Corporate Members of Town Planning Institute or other comparable professional institute, and have had experience in the preparation of development plans and control of staff in the office of a local planning authority.
(2) PLANNING ASSISTANT, A.P.T. Grade I (£575—£725) at Braintree. Applicants will be required to carry out duties in connection with both development plan and control aspects of work of office.
(3) PLANNING ASSISTANT at Romford. Temporary appointment for a period not exceeding two years at a salary within the range of £575—£725. Applicants must be capable draughtsmen, and previous experience in the office of a local planning authority will be an advantage.
(4) DRAUGHTSMAN at Broomfield. Miscellaneous Grades II-IV (£420—£620).
Medical examination. Appointments (1), (2) and (4) subject to superannuation.
Applications on forms to be obtained from County Planning Adviser, Broomfield Place, Broomfield, Chelmsford, to whom they should be returned not later than 10th February, 1958. 8612

CITY OF CANTERBURY
Applications are invited for the temporary appointment of a SENIOR ARCHITECTURAL ASSISTANT, Special Scale (£750×£40 to £1,030). Candidates must have passed the Final Examination of the R.I.B.A. and have good general experience in architectural design and construction. The successful candidate will be engaged primarily on the design and erection of a new Technical College. This project, which is in the early stages of design, offers considerable scope for initiative and experience in all aspects of the work. The design and erection of the College is likely to extend over a number of years. The commencing salary will be fixed within the scale according to ability and experience.
Applications, together with the names of two referees, must reach the City Architect and Planning Officer, Mr. J. L. Berbiers, F.R.I.B.A., A.M.T.P.I., not later than Saturday, 22nd February, 1958.
Canvassing will disqualify.

J. BOYLE,
Town Clerk.

Municipal Buildings, Canterbury. 8622

NATIONAL COAL BOARD, EAST MIDLANDS DIVISION
Applications are invited for the position of QUANTITY SURVEYOR, Grade II, in the Nottingham office of the National Coal Board, East Midlands Division.
Applicants should preferably be Members of the R.I.C.S. and have had considerable experience in all aspects of the work of a Quantity Surveyor's office.
Salary will be according to qualifications and experience within a scale of £815×£30—£1,125 per annum.
Applications, giving age, details of education, qualifications, experience, present position and salary, should be submitted within 7 days to:—
DIVISIONAL CHIEF STAFF OFFICER,
National Coal Board,
East Midlands Division,
Sherwood Lodge,
Near Arnold, Nottingham.
Envelopes and applications should bear the reference S.V. 857. 8581

STEVENAGE NEW TOWN
Stevenage Development Corporation invites applications for the appointment of ASSISTANT PLANNER in the Chief Architect and Planner's Department at a salary in accordance with New Town APT. Grade VI (£902—£1,107) p.a.
Candidates should be Members or Associate Members of the Town Planning Institute and should have had a general experience in planning.
The work consists of general and neighbourhood planning in the new town as well as dealing with statutory planning applications.
Housing accommodation will be available in due course in an appropriate case.
Applications giving full details and the names of two referees, to be sent to the Chief Administrative Officer, Aston House, Nr. Stevenage, Herts., not later than Saturday, 8th February, 1958. 8632

BOROUGH OF WEMBLEY
APPOINTMENT OF SENIOR TECHNICAL ASSISTANT (TOWN PLANNING)
Applications are invited for the above established appointment within salary scale A.P.T. Grade IV (£1,055—£1,205 p.a., inclusive of London "weighting" allowance), from persons possessing sound experience in Town Planning and development control and who have passed an appropriate professional examination.
Applications disclosing any relationship to a member or senior officer of the Council, giving the names and addresses of three referees, stating whether able to drive, and quoting Ref. B, must reach the Borough Engineer and Surveyor, Town Hall, Wembley, by the 15th February, 1958.

KENNETH TANSLEY,
Town Clerk.

Town Hall, Wembley.
21st January, 1958. 8619

CITY OF OXFORD

PLANNING ASSISTANT required in City Architect and Planning Officer's Department. Salary Grade II, A.P.T. Division (£725×£30—£845) or Special Grade (£750×£40—£1,030), according to qualifications and experience. Housing accommodation provided.

HARRY PLOWMAN,
Town Clerk.

Town Hall, Oxford. 8605

SOUTH-EASTERN REGIONAL HOSPITAL BOARD, SCOTLAND
REGIONAL ARCHITECT'S DIVISION

Applications are invited for the following permanent and temporary superannuated posts on the staff of the Regional Architect:—

SENIOR ASSISTANT ARCHITECT:
£1,010 × £30(5) × £35(1) — £1,195.

ASSISTANT ARCHITECTS:
£700 × £25(3) × £30(1) × £35(6) — £1,015.

ARCHITECTURAL ASSISTANTS:
£525 (at age 21 or over)
× £20(4) × £25(5) — £730.

DRAUGHTSMAN:
£425 (at age 21 or over) — £635.

The commencing salaries will depend upon the experience of the successful candidates. The posts offer an excellent opportunity to work on large scale Hospital projects.

Applications giving details of age, qualifications and experience, along with the names of two referees, should be sent to the REGIONAL ARCHITECT, 8 DRUMSHEUGH GARDENS, EDINBURGH, 3, within seven days of this advertisement. 8633

BOROUGH OF OLDBURY
BOROUGH SURVEYOR'S DEPT.—ARCHITECTS' SECTION

Applications are invited for the following appointments in the Architects' Section of the Borough Surveyor's Department:—

(*a*) ARCHITECTURAL ASSISTANT, A.P.T. Grade I (£575×£30—£725 per annum).

(*b*) ARCHITECTURAL ASSISTANT, A.P.T. Grade II (£725×£30—£845 per annum).

Candidates for appointment (*b*) should preferably have passed the Intermediate Examination of the R.I.B.A. and be capable of preparing working and detail drawings and specifications for work normally undertaken by a Local Authority, mainly housing and education work, and supervising the work on the site.

Candidates for appointment (*a*) should be competent draughtsmen with practical experience, under supervision, in the preparation of working and detail drawings.

Both appointments will be superannuable, subject to the National Conditions of Service and to the selected candidate passing a medical examination.

Applications, giving particulars of age, qualifications and experience, and giving the names of two referees, should be delivered to the undersigned not later than Tuesday, 18th February, 1958.

KENNETH PEARCE,
Town Clerk.

Municipal Buildings, Oldbury,
near Birmingham.
21st January, 1958. 8620

METROPOLITAN BOROUGH OF SHOREDITCH

Applications are invited for the appointment of ARCHITECTURAL ASSISTANT. Salary within Grade A.P.T. II (£755—£875 p.a.), according to experience and qualifications.

Applications, stating age, training and experience, and giving the names of two referees, to reach Borough Architect, Town Hall, Old Street, E.C.1, by 15th February, 1958. 8635

COUNTY OF ESSEX
BOROUGH OF WALTHAMSTOW—COMMITTEE FOR EDUCATION

Applications are invited for the appointment of ASSISTANT QUANTITY SURVEYOR in the office of the Education Architect, Mr. T. L. Rampton, A.R.I.B.A., A.R.I.C.S.

Salary Grade, Special Scale, £750 to £1,030 per annum, plus London weighting of £30 per annum if age 25 years or over.

Applicants should be up to the standard of the Final Examination of the Royal Institution of Chartered Surveyors and have experience in the preparation of Bills of Quantities and Specifications, Interim Valuations and Settlement of Final Accounts.

Forms of application to be obtained from and returned to the undersigned within three weeks of the appearance of this notice.

E. T. POTTER,
Borough Education Officer.

Education Department,
Town Hall, Forest Road,
Walthamstow, E.17. 8636

Tenders Invited

6 *lines or under*, 15*s.*; *each additional line*, 2*s.* 6*d.*

CITY OF BIRMINGHAM HOUSING-MANAGEMENT DEPARTMENT
CLEFT CHESTNUT FENCING

The Housing Management Committee of the Birmingham Corporation invites tenders for the supply and delivery of approximately 100,000 yards of 3 ft. cleft chestnut fencing, 20,000 yards of 3 ft. 6 in. cleft chestnut fencing and 40,000 4 ft. 6 in. stakes, to be supplied during the twelve months commencing 1st April, 1958.

The attention of persons submitting tenders is drawn to the following points:—

(1) Delivery will be required in 12 equal monthly instalments but deliveries can, if it suits the supplier, be made in advance.

(2) Tenders may be accepted for quantities less than the total amount specified but such tenders must not be for less than 20,000 yards of fencing and 6,000 stakes.

Forms of tender can be obtained from the under-signed at Bush House, Broad Street (corner of Cumberland Street), Birmingham 1, and should be returned by the 14th February, 1958.

J. F. MACEY,
Housing Manager.

8534

Architectural Appointments Vacant

4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra.

HARRY S. FAIRHURST & SON have a vacancy in Manchester for an experienced ASSISTANT. Please apply in writing to 56, Brown Street, 2, giving details of experience and qualifications. First class draughtsmanship is an important consideration for this appointment. 8406

CO-OPERATIVE WHOLESALE SOCIETY LTD. ARCHITECT'S DEPARTMENT, MANCHESTER

APPLICATIONS are invited for the appointment of ASSISTANT ARCHITECTS with experience of work on commercial and industrial projects, capable of preparing working drawings from preliminary details. Five-day week in operation. Applications stating age, experience, qualifications and salary required to G. S. Hay, A.R.I.B.A., Chief Architect, Manchester 4. 8276

WOKING. ASSISTANT required for general practice. Intermediate or Associate standard. Office experience essential. Particulars to H. A. Whitburn & Son, 12 Broadway, Woking 810. 8376

WILL any ASSISTANT who prefers to work in a small private office and is interested in the preservation of important historic buildings please apply to L. H. Bond & R. W. Read, 44, Castlegate, Grantham. 8389

ASSISTANT JUNIOR required, any age up to and including Intermediate standard for South-West London office. Reply with full particulars and salary required to Box 8479.

GEORGE WIMPEY & CO., LIMITED

The Architects' Department seek SENIOR and INTERMEDIATE ASSISTANTS, with experience and ability to apply their knowledge to new construction techniques covering Multi-storey Flats, Houses, Offices and Industrial Buildings for contracts in the U.K. and Overseas.

Appointments are on a permanent basis, with a 5-day week, at Head Office, Hammersmith.

Salaries will be commensurate with qualifications and experience and, subject to satisfactory service, there is a Pension Scheme available.

Applications, giving full particulars, to:—
E. V. COLLINS, A.R.I.B.A.,
Chief Architect,
27, Hammersmith Grove, London, W.6.

8580

LONDON BREWERY requires JUNIOR ASSISTANT. 5-day week.—Reply, stating age, experience and salary required, to Box 8638.

ARCHITECTURAL ASSISTANT required immediately for the West End Estate dept. of a large multiple organisation. To work under resident Architect. Splendid opportunity for young man with some experience, preferably in shop and commercial premises. Must be keen, quick, and a neat draughtsman. 5-day week, staff canteen, good salary, permanent position.— Telephone for appointment A.H., MUS. 4080. 8637

NATIONAL COAL BOARD
NORTH-EASTERN DIVISION

APPLICATIONS are invited for the following appointments in the Department of the Divisional Chief Architect at Conisborough, Nr. Doncaster.

ARCHITECTURAL ASSISTANT Grade I
Salary Scale: £715 × £25—£850 per annum and up to £1,000 in special circumstances.
Qualifications: Preferably Intermediate R.I.C.S. or considerable practical experience.

JUNIOR ARCHITECTURAL ASSISTANT
Salary Scale: 83s. per week to 150s. 6d. per week according to age, then to 205s. per week.
Qualifications: Applicants should have passed G.C.E. in five subjects and be eligible as Probationers of the R.I.B.A.
Five-day week. Staff Canteen.
Apply: Divisional Chief Architect, National Coal Board, P.O. Box No. 4, Denaby Main, Nr. Doncaster. By 7th February, 1958. 8608

BUCKINGHAMSHIRE firm of Architects within thirty miles of London with a varied practice, require an ARCHITECTURAL ASSISTANT at Final R.I.B.A. standard. Five-day week. Salary according to age and experience. Please write giving full particulars to Box 8624.

THE following appointments urgently required to be filled for work on overseas projects:—
1. Experienced ARCHITECT to work in West Africa to open and develop a branch office for an established practice.
2. ASSISTANT ARCHITECTS and ASSISTANTS, Intermediate to Final standard, to work in London.
3. ASSISTANT to ARCHITECT PLANNER for work mainly on site developments.
Salary in all cases by arrangement.

Box 8623

OPPORTUNITY for Architect (Associate level) to form part of development team of Medway Timber Building Systems at Rochester head office. Work will include development of new designs as well as application of existing systems to specific projects. Good draughtsman with sound training and modern outlook, preferably with experience on some modular building method. Post can be permanent/pensionable or can provide a few years of invaluable experience in this field. Write full details of training, qualifications, experience, salary level, in confidence to Personnel Manager, Medway Buildings & Supplies Ltd., Phoenix Wharf, Rochester, Kent. 8626

EXPERIENCED ARCHITECTURAL ASSISTANT required for working details of churches, halls, schools and houses. Salary up to £14 14s. per week. Please reply by letter to N. F. Cachemaille-Day, F.R.I.B.A., 85 Prince Albert Road, London, N.W.8, stating age, experience, etc. 8609

ASSISTANT wanted to work with five other assistants in busy office of private architect in West Midlands. Real opportunity to design and take responsibility. Interesting varied work. Five-day week. Box 8583.

H. T. CADBURY-BROWN requires ARCHITECTURAL ASSISTANT of Intermediate standard with office experience. Varied work. Reply stating experience etc. and salary required to 17 Clarges Street, London, W.1. 8625

ARCHITECTURAL ASSISTANT required by Public Property Company, must be good draughtsman, experienced in the preparation of detail plans for housing developments preferably studying for Final R.I.B.A. Write fully giving details of career to date and stating salary required to P. A. Bligh & Partners, 26/27 St. James's Street, S.W.1. 8627

ARCHITECTURAL ASSISTANTS of Final and Intermediate standard required for work on large and small projects at home and abroad. Salary according to qualifications and experience. Apply E. J. D. Mansfield, A.R.I.B.A., Sir William Halcrow & Partners, 47 Park Lane, London, W.1. 8564

NORTH WALES, SENIOR ASSISTANT ARCHITECT required in Mold Office of F. C. Roberts, B.Arch., F.R.I.B.A. Intermediate qualification and several years' practical experience essential. Approximate salary: £800 for suitable person. Write, giving details of experience and present salary to Earl Chambers, Mold. 8585

ARCHITECTURAL ASSISTANTS required. Intermediate and Final standards, for varied work. Practical experience essential. Salary between £500 and £1,000 per annum according to experience. Eric G. V. Hives, L.R.I.B.A., 46, Queen's Road, Reading. Telephone 55484. 8586

ARCHITECT'S ASSISTANT, Intermediate standard, required immediately for small London office. Interesting work on varied projects. Ability to use initiative and work with minimum of supervision distinct advantage. Salary by arrangement. Please write Box 8587.

ARCHITECTURAL ASSISTANT required of good experience, must be capable draughtsman used to detailing on large contracts, salary £750 per annum, according to experience. George Watt, A.R.I.B.A., 146, Mostyn Road, Merton Park, S.W.19. Liberty 8181. 8588

ARCHITECTURAL ASSISTANT required with some years' experience and preferably qualified, for varied contemporary work in medium sized office. Salary by arrangement. State full particulars to Hadfield Cawkwell & Davidson, 1 High Court, Sheffield, 1. 8589

MESSRS. IAN G. LINDSAY & PARTNERS require ARCHITECTURAL ASSISTANT. Apply in writing to 17 Great Stuart Street, Edinburgh 3, stating age, experience, and salary required. 8590

W. S. ATKINS & PARTNERS require ARCHITECTURAL ASSISTANTS, who are interested in working on large industrial projects such as atomic power stations.—Applications, stating experience, qualifications and salary required, to Personnel Manager, 158, Victoria Street, S.W.1. 8555

WESTON SUPER MARE. JUNIOR ARCHITECTURAL ASSISTANTS required. Intermediate standard. Minimum three years' experience. Interview London or Weston super Mare. Apply full particulars: R. H. Gallannaugh, L.R.I.B.A., 54, Queen Anne Street, London, W.1. 8508

ASSISTANT able to develop working drawings from sketch designs and to take complete control of small jobs required in small south-west country practice. Starting salary about £400 according to ability. Enthusiasm and reliability preferred before experience. Accommodation available for suitable applicant. Applicants requiring temporary employment would be considered. Write giving fullest possible particulars to Alec H. Joy, M.A., R.Arch., A.R.I.B.A., Victoria Place, Kingsbridge, Devon. 8570

SENIOR ARCHITECTURAL ASSISTANT required at once, salary £800—£1,000, with a view to partnership for qualified man.—Write, giving age and experience, Box 8511.

DONALD ROWSWELL requires capable ASSISTANT, of Finals standard, for small rapidly expanding practice in Croydon.—Apply, stating experience, qualifications and salary required, to "Ravenswood," Coombe Lane, Croydon, or telephone ADDiscombe 5458. 8540

ARCHITECTURAL ASSISTANTS, approaching Final standard, required in busy Birmingham office. Excellent prospects and salaries for men with initiative.—Box 8559.

ARCHITECTURAL ASSISTANT required for busy West End office. Salary according to age and experience. Apply in writing to Messrs. Sanders & Montague, F./A.R.I.B.A., 24, Harley Street, W.1. 8603

ARCHITECTURAL ASSISTANTS, Intermediate and Final standard, required for Coventry and London offices. Excellent opportunities in varied practice covering wide area. Good salaries, closely related to capabilities, and reviewed annually. Pension Scheme available. 5-day week. House available in Coventry if required. Travelling expenses to applicants selected for interview.—W. S. Hattrell & Partners, 1, Queens Road, Coventry—60668 and 14, Hanover Square, London, W.1. Mayfair 4992. 8558

ASSISTANT ARCHITECTS required immediately for busy office as follows:—
(A) SENIOR ARCHITECTS to be A.R.I.B.A. with considerable experience. Salary £1,400—£1,600 per annum.
(B) QUALIFIED ASSISTANT ARCHITECTS. Salary £1,150—£1,350 per annum.
(C) ASSISTANT ARCHITECTS, Intermediate/Final Standard. Salary £500—£650 per annum.
Excellent prospects for promotion, pension scheme in operation. Apply giving full particulars of age, education, experience, etc., to J. G. L. Poulson, L./F.R.I.B.A., Chartered Architects, Surveyors, 29, Ropergate, Pontefract. 8600

QUALIFIED SENIOR ASSISTANT required to lead a small group with direct responsibility to principal. For a man of suitable ability there are excellent opportunities but a desire to take responsibility is essential. Pension and Bonus Schemes. Salary in accordance with ability. Apply A. J. Elder, A.R.I.B.A., 65, Albert Road, Middlesbrough. 8604

EXPERIENCED ASSISTANTS required in small office of Architect in Bloomsbury Square, W.C.1. Part-time considered. Please write stating experience and salary required. Box 8599.

FREDERICK GIBBERD requires ARCHITECTURAL ASSISTANTS (£600—£750 according to experience) and JUNIOR ARCHITECTURAL ASSISTANT (up to £600) for private office in Harlow. Houses and flats available. Work includes technical colleges, public and commercial buildings and housing. Apply in writing giving full particulars to Frederick Gibberd, 19 The Rows, Harlow, Essex. 8602

ARCHITECTURAL ASSISTANTS required. Intermediate Standard or equivalent. Very good prospects for suitable applicants. Five-day week. Write giving full particulars to Johns, Slater & Haward, F./A.R.I.B.A., 32 Foundation Street, Ipswich. 8601

ASSISTANT required, up to Intermediate standard, busy office, initiative appreciated and used. Jack E. Dalling, L.R.I.B.A., Covent Garden 2942. 8615

Architectural Appointments Wanted

4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra.

ASSOCIATE, aged 32, educated Sherborne & A.A., 5 years' experience in London practice, in charge of handling projects, now looking for responsible post in provincial practice with view to partnership. S. or S.W. England preferred. Capital available. Box 8228.

ARCHITECT (30), Dip.Arch., is seeking interesting position of responsibility allied to interior decoration. All answers will be acknowledged. Box 8594.

ASSOCIATE, aged 32, Edinburgh trained, seeks responsible and interesting position in small or medium sized office, with modern and progressive outlook. London area. Salary £975—£1,025 p.a. Box 8616.

A. R.I.B.A. (39) wide experience of housing, factories and hospitals, seeks responsible position. London to Hertford area. Box 8629.

Other Appointments Vacant

4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra.

SHOP FITTINGS. Applications requested for position (in Scotland) of SHOP FITTINGS SUPERVISOR, conversant all aspects of Shop Fitting Work including details, Costing, and with outstanding ability in Contemporary Design, Lay-out and Presentation. Box 8354.

APPLICATIONS are invited for the post of DIOCESAN SURVEYOR, full time, salary range £1,100/£1,300, car allowance, superannuation scheme. For particulars of appointment apply by letter to "Secretary, S. & B.," c/o Joseph Rimmer & Son, 48, Castle Street, Liverpool, 2. 8607

ESTIMATOR. Old established S.E. London firm of laboratory furnishing specialists require experienced estimator to join design and estimating staff. Knowledge of rate-fixing an advantage. Pension scheme. Modern offices. Apply Box 8595.

CO-OPERATIVE WHOLESALE SOCIETY, LTD., Architect's Department, Bristol. Applications are invited for the appointment of a SHOPFITTING DESIGNER, with experience in Shop Fronts, Equipment, and Shop Interior Layouts. Applicants should be capable also of preparing specifications and constructional details of fittings, and fixtures, working in conjunction with and under the supervision of Senior Architectural Staff. The post is pensionable, subject to medical examination. 5-day week in operation.—Applications, giving age, details of experience and salary required, to the Branch Architect, C.W.S., Ltd., Broad Quay, Bristol, 1. 8544

DESIGN RESEARCH UNIT has vacancy for SECRETARY/SHORTHAND TYPIST to Senior Architect. Apply by letter to Business Manager, 37 Park Street, London, W.1. 8628

A SENIOR REPRESENTATIVE is required for the London area by leading nationally known manufacturers of prefabricated timber building systems. Sound knowledge of building construction is essential. Architectural background with experience of prefabrication or timber structures would be a considerable asset. This is an opportunity for a capable sales executive able to initiate, maintain and successfully finalise technical and commercial negotiations at high level. Send fullest details of qualifications and experience and career with age and salary levels in chronological order. Write Box 8611.

EXPERIENCED DRAUGHTSMAN wanted for Exhibitions, Showrooms and Interiors. Ring Putney 3800 or write Box 8610.

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THIS post is in the N.W.2 district of London. Duties are varied and are not without responsibility. A sound commercial background including some previous experience in an Architect's Office required. Five-day week. Own office. Permanent. Anticipated salary of £10 per week. Please write Box 8617.

DESIGN ASSISTANT required in London by Westminster consultants. A.M.I.Struct.E. or similar. Good design/detailing experience essential. Work mainly R/C. Permanency, staff pensions and a salary related to qualifications and experience. Box 8631.

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STEEL-FRAMED INDUSTRIAL BUILDINGS for Factories, Workshops, Storage, Garages, now in Stock. These are NOT Hangars. 100 ft. × 30 ft. 40 ft. and 50 ft. Single Spans. 200 ft. × 45 ft. 50 ft. and 60 ft. Single Spans. 275 ft. × 90 ft. 135 ft. and 185 ft. Double and Treble Spans. Other sizes also available. Complete Works carried out. Macks Structures (B'ham) Ltd., Belvedere Works, Feltham, Middx. Feltham 5761/2/3. 8546

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SUPPLIERS of pre-fabricated bungalows, suitable for permanent conversion. Approx. £1,000 per unit, pre-fabricated £500 per unit, 2-4 bed, kitchen, bath, living, etc., complete fittings. J. D'Arcy (Portable Builders), Ltd., Oak Village, London, N.W.5. Tel. Gulliver 3644. 8612

5,000 heavy asbestos slabs, 5 ft. 9 in. × 3 ft. 3 in. × 1⅜ in. Suitable garages, sheds, etc. 7s. 6d. each. Minimum quantity 10. J. D'Arcy (Portable Builders) Ltd., Oak Village, London, N.W.5. Tel. Gulliver 3644. 8613

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4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra.

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Educational Announcements

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R.I.B.A. and T.P.I. EXAMS.—Stuart Stanley (Ex. Tutor Sch. of Arch., Lon. Univ.), and G. A. Crockett, M.A./B.A., F./F.R.I.B.A., M./A.M.T.P.I., prepare Students by correspondence, 10, Adelaide Street, Strand, W.C.2. TEM 1603/4.

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