THE ARCHITECTS' JOURNAL

standard contents

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

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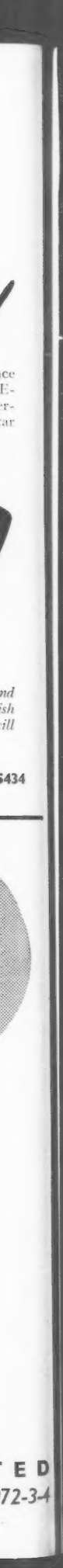
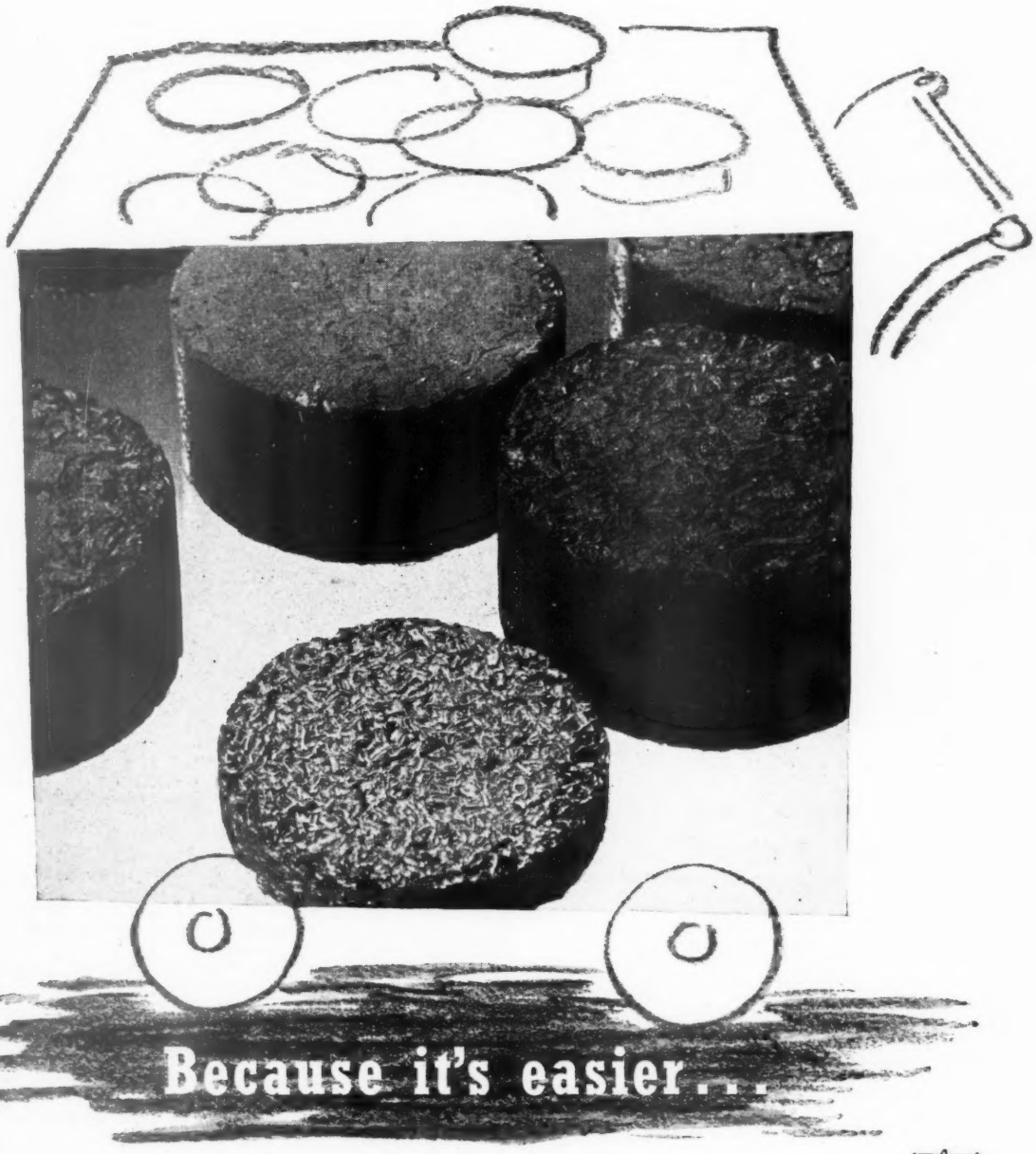
Registered as a Newspaper.

★ 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 Ie one week, Ig to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

AA	Architectural Association, 34/6, Bedford Square, W.C.1.	Museum 0974
AAI	Association of Art Institutions. Secy.: W. Marlborough Whitehead, "Dyneley," Castle Hill Avenue, Berkhampstead, Herts.	
ABS	Architects' Benevolent Society. 66, Portland Place, W.1.	Langham 5721
ABT	Association of Building Technicians. 5, 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
APRR	Association for Planning and Regional Reconstruction. 34, Gordon Square, W.C.1.	Euston 2158-9
ArchSA	Architectural Students' Association. 34/36, Bedford Square, W.C.1.	
ARCUK	Architects' Registration Council. 68, Portland Place, W.1.	Langham 8738
AScW	Association of Scientific Workers. 15, Half Moon Street, Piccadilly, W.1.	Grosvenor 4761
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. 17, Amherst Road, Ealing, W.13.	Perivale 6869
BCIRA	British Cast Iron Research Association. Alvechurch, Birmingham.	Redditch 716
BDA	British Door Association. 10, The Boltons, S.W.10.	Flaxman 7766
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
BIAE	British Institute of Adult Education. 29, Tavistock Square, W.C.1.	Euston 5385
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. Millbank, S.W.1.	Whitehall 5140
BRDB	British Rubber Development Board. Market Buildings, Mark Lane, E.C.3.	Mansion House 9383
BRS	Building Research Station. Bucknalls Lane, Watford.	Garston 2246
BSA	Building Societies Association. 14, Park Street, W.1.	Mayfair 0515
BSI	British Standards Institution. 28, Victoria Street, S.W.1.	Abbey 3333
BTE	Building Trades Exhibition. 4, Vernon Place W.C.1.	Holborn 8146/7
CABAS	City and Borough Architects Society. C/o Johnson Blackett, F.R.I.B.A., Borough Architect, Hall, Newport, Mon.	Newport 3111
CAS	County Architects Society. C/o F. R. Steele, F.R.I.B.A., County Hall, Chichester.	Chichester 3001
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1.	Sloane 5255
CCP	Council for Codes of Practice. Lambeth Bridge House, S.E.1.	Reliance 7611
CDA	Copper Development Association. Kendals Hall, Radlett, Herts.	Radlett 5616
CIAM	Congrès Internationaux d'Architecture Moderne. Doldertal, 7, Zurich, Switzerland.	
COID	Council of Industrial Design. Tilbury House, Petty France, S.W.1.	Abbey 7080
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.	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
DPT	Department of Overseas Trade. 35, Old Queen Street, S.W.1.	Victoria 9040
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. 8, Buckingham Palace Gdns, S.W.1.	Sloane 2837
FASSC	Federation of Association of Specialists and Sub-Contractors, 5, Arundel Street, Strand.	Temple Bar 6633
FBI	Federation of British Industries. 21, Tothill Street, S.W.1.	Whitehall 6711
FC	Forestry Commission. 25, Savile Row, W.1.	
FCMI	Federation of Coated Macadam Industries. 37, Chester Square, S.W.1.	Sloane 1002
FDMA	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	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 4041
FS (Eng.)	Faculty of Surveyors of England. Buckingham Palace Gdns., S.W.1.	Sloane 2837
GC	Gas Council. 1, Grosvenor Place, S.W.1.	Sloane 4554
GG	Georgian Group. 27, Grosvenor Place, S.W.1.	Sloane 2844
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1.	Whitehall 2881
IAAS	Incorporated Association of Architects and Surveyors. 75, Eaton Place, S.W.1.	Sloane 5615
ICA	Institute of Contemporary Arts. 17-18, Dover Street, Piccadilly, W.1.	Grosvenor 6186
ICE	Institution of Civil Engineers. Great George Street, S.W.1.	Whitehall 4577
IEE	Institution of Electrical Engineers. Savoy Place, W.C.2.	Temple Bar 7676
IES	Illuminating Engineering Society. 32, Victoria Street, S.W.1.	Abbey 5215





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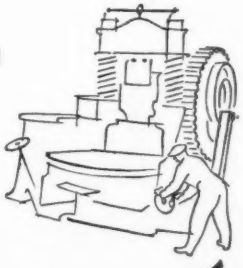

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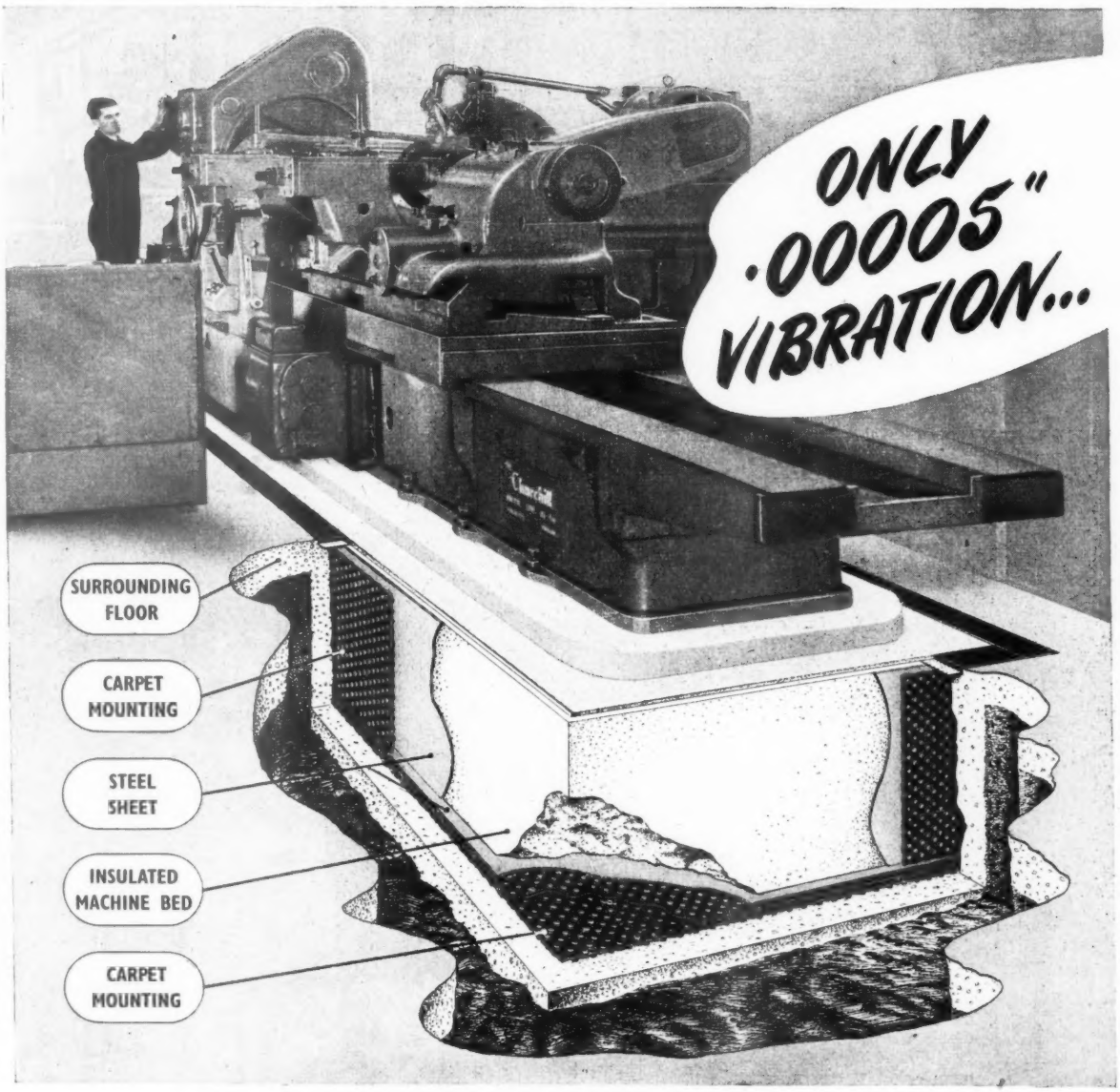

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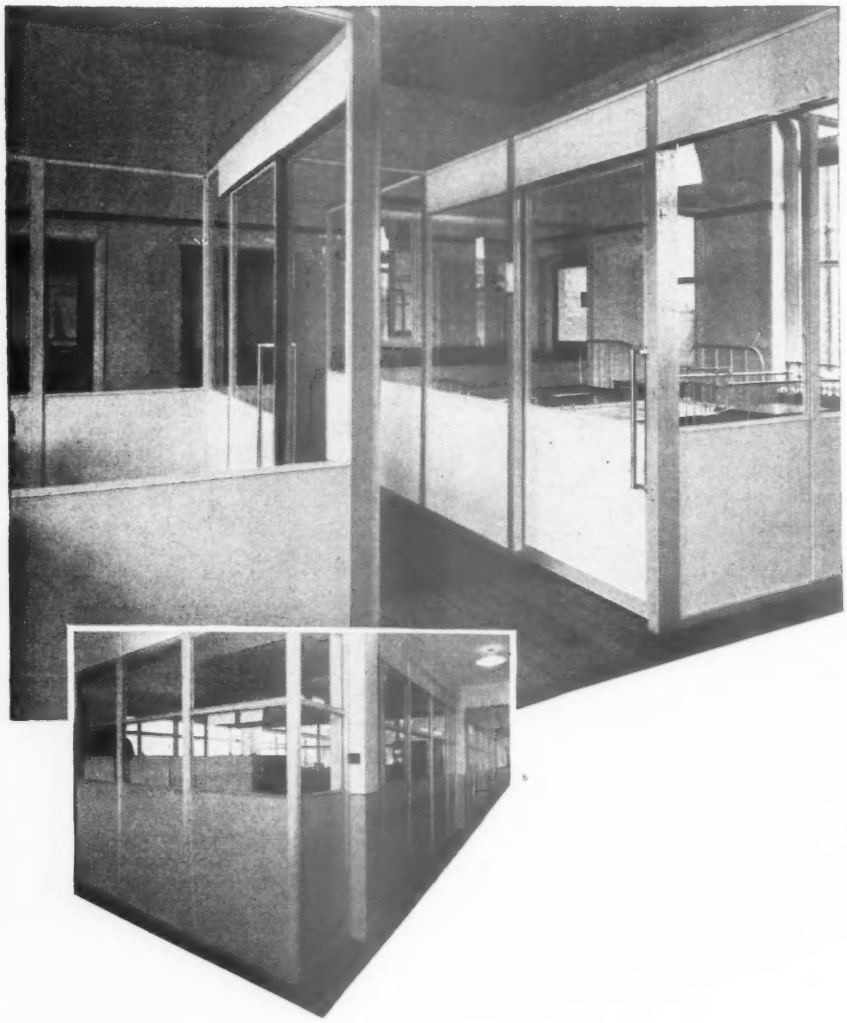

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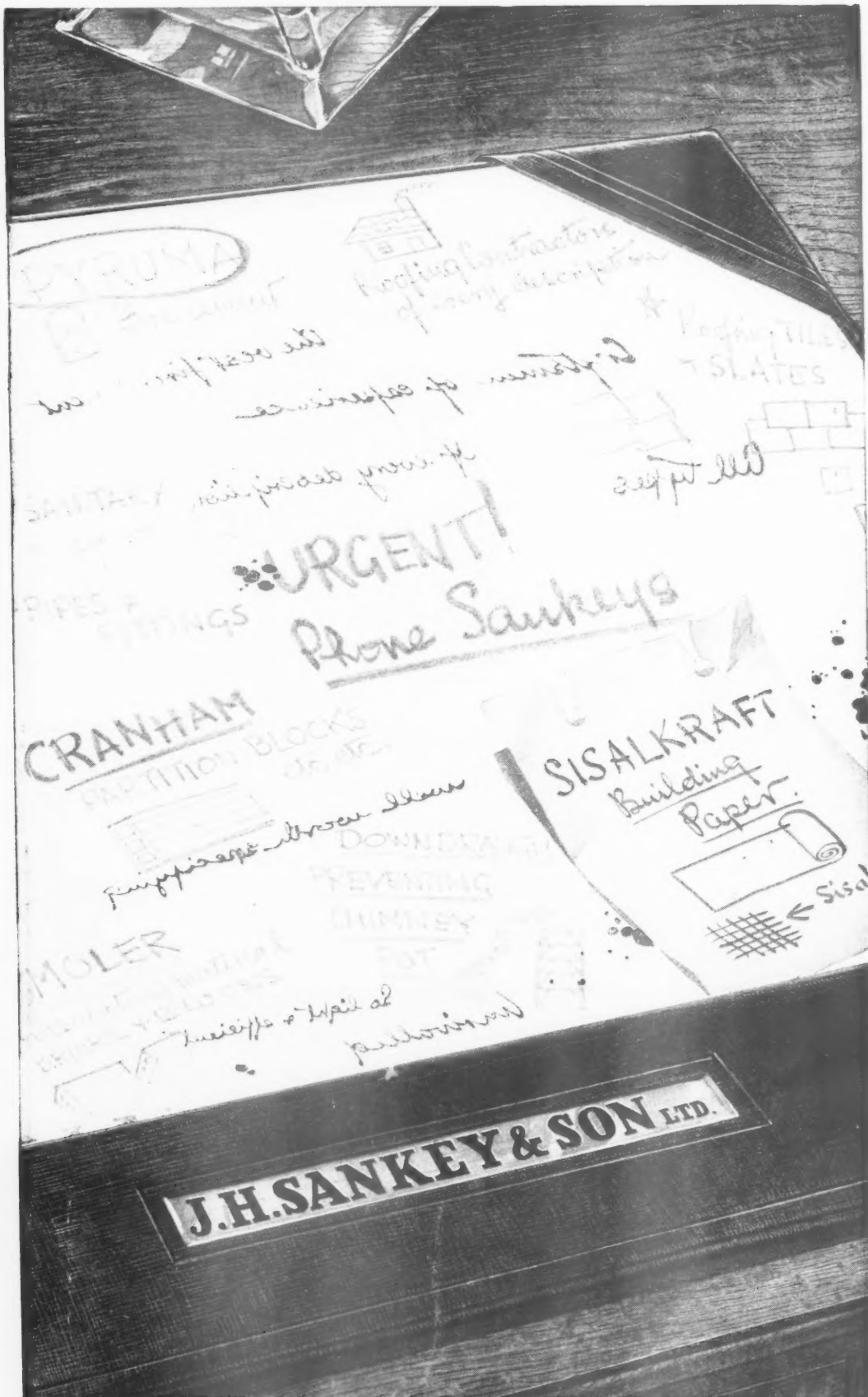

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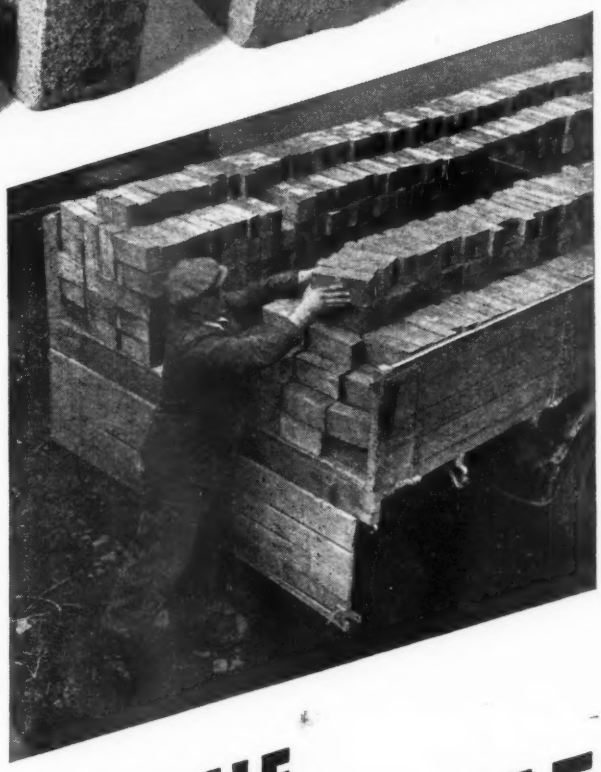

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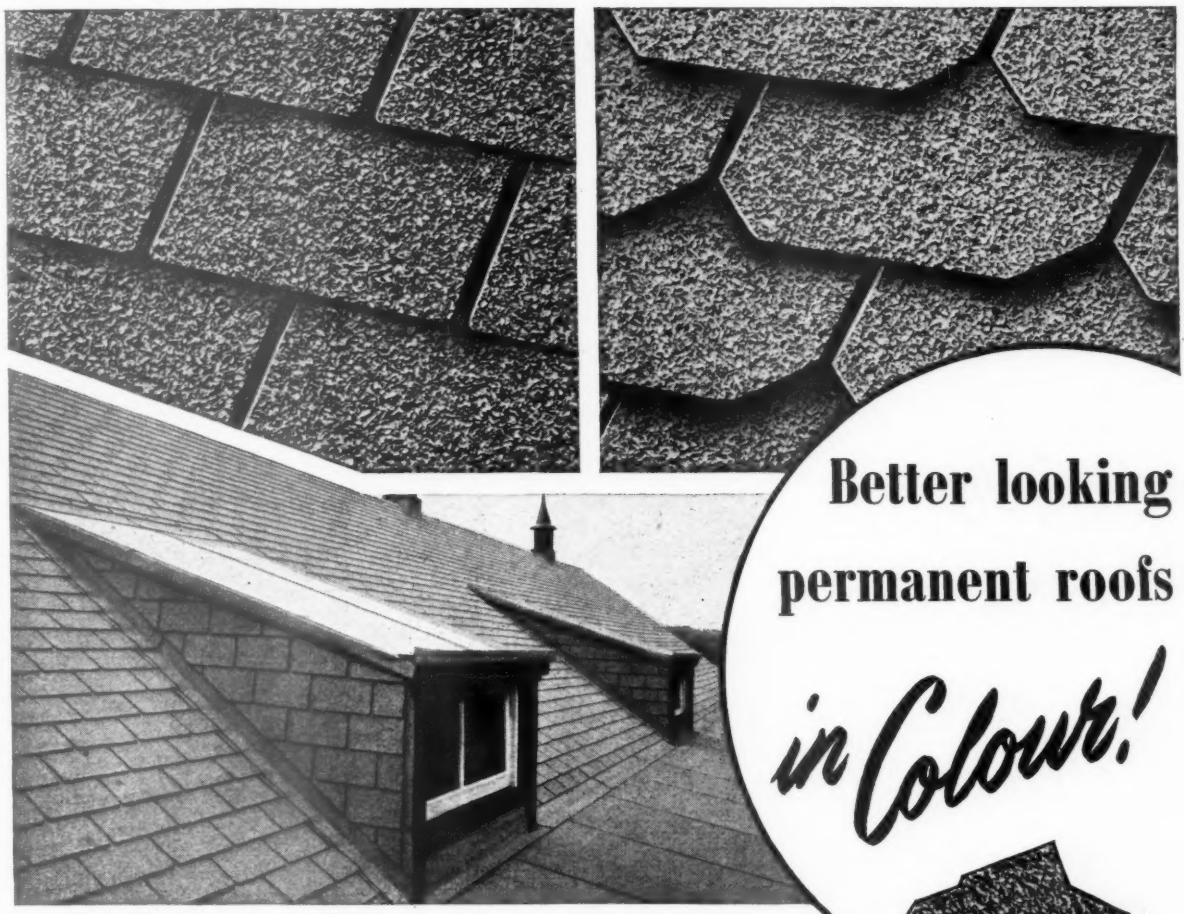

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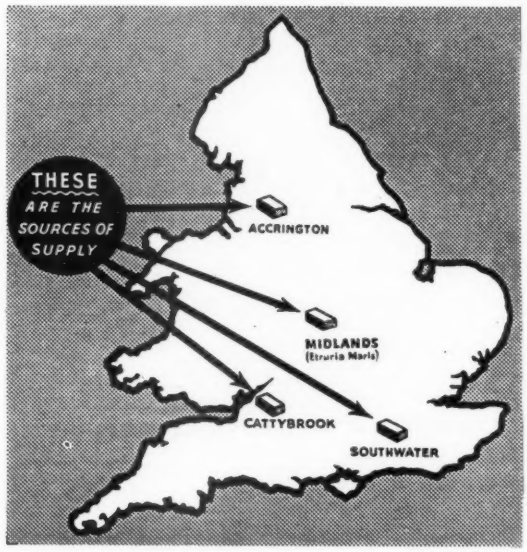

★ "Structural Recommendations for Loadbearing Walls." British Standard Code of Practice, CP 111 (1948). Published at 5s. by the British Standards Institution, 24-28, Victoria Street, London, S.W.1.

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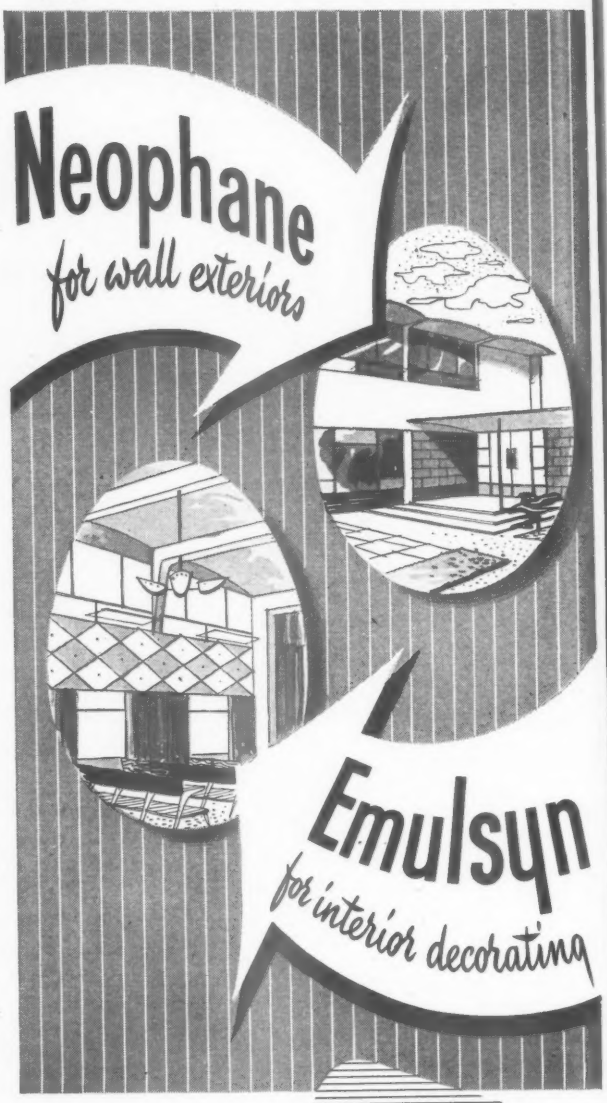

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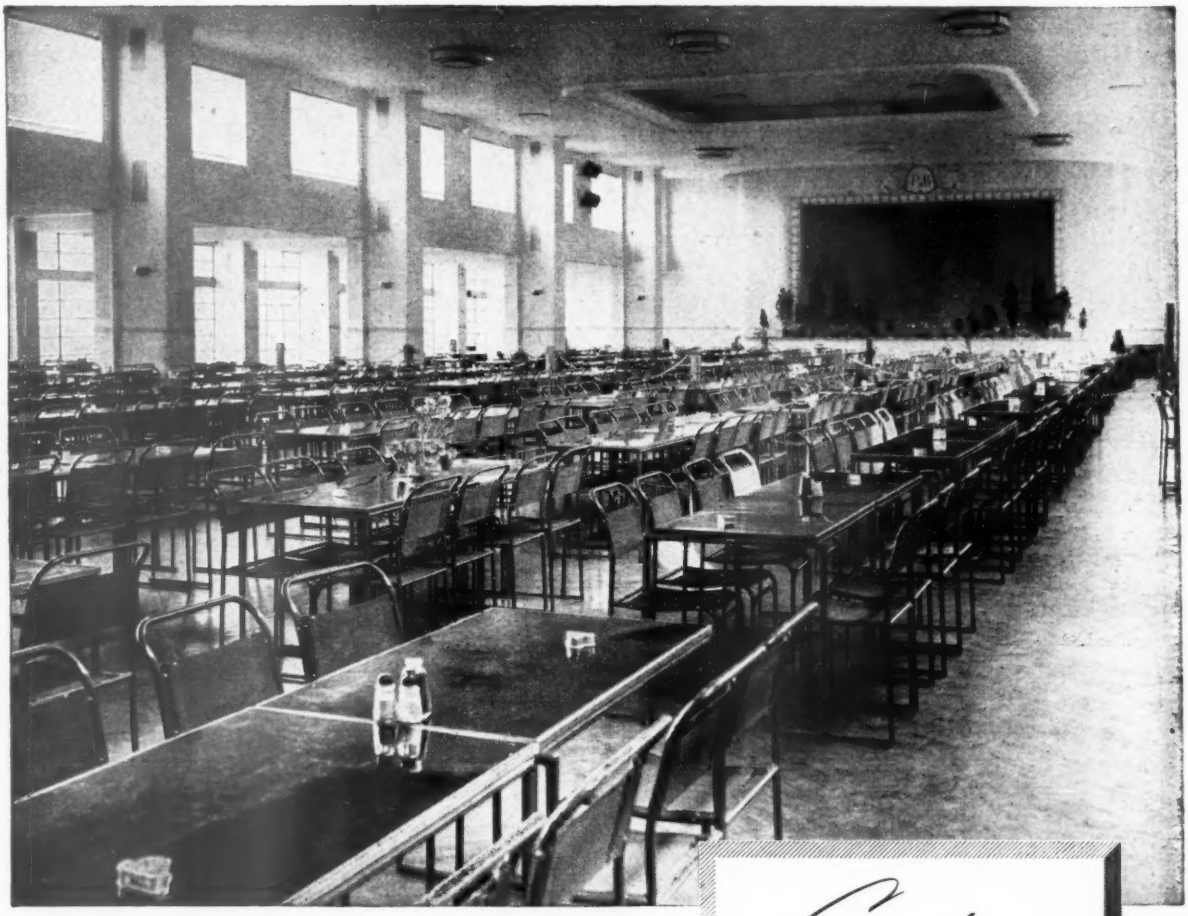

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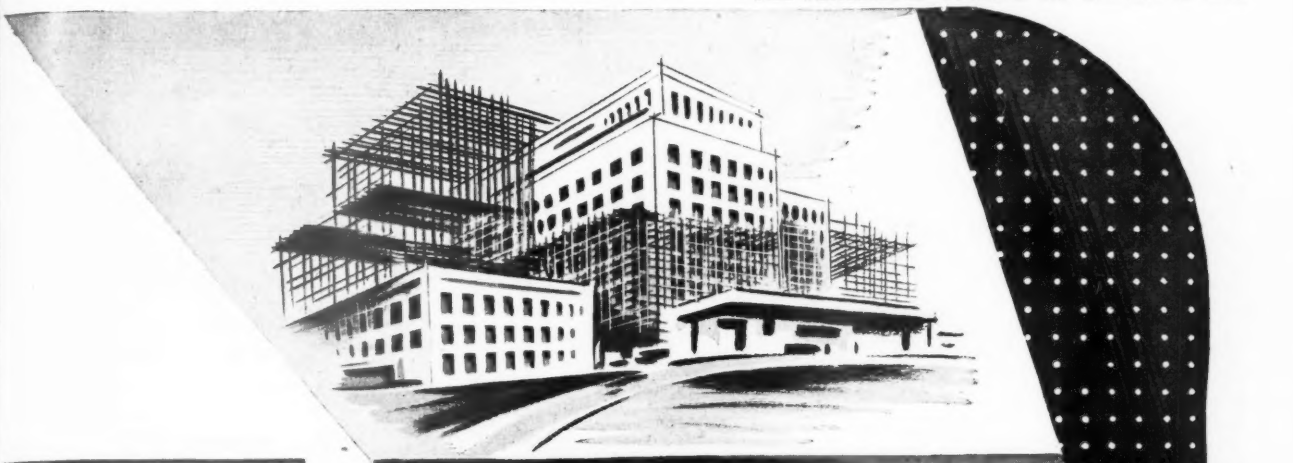

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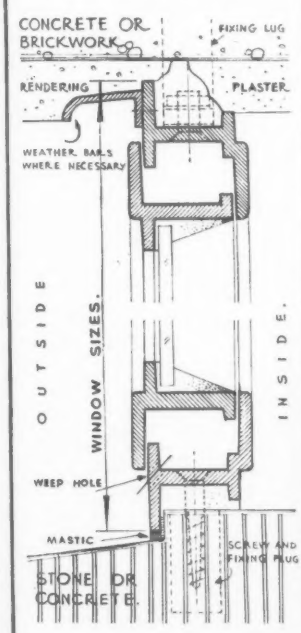

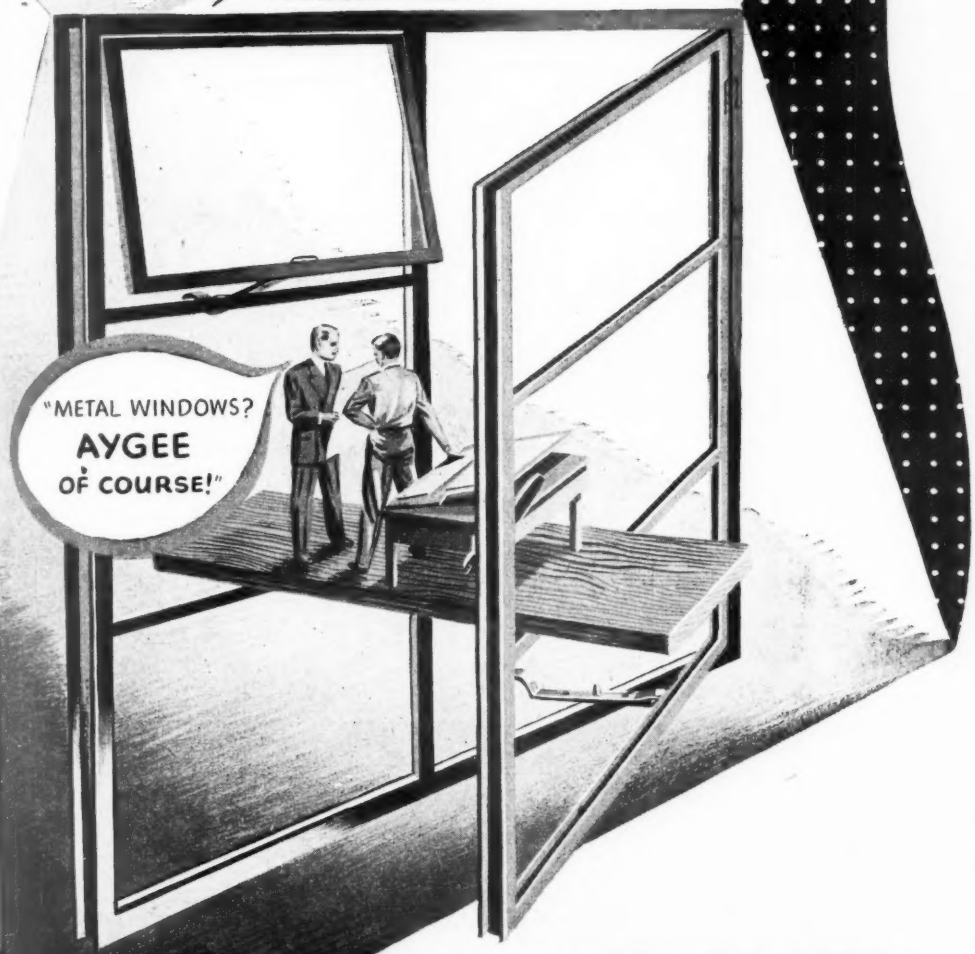

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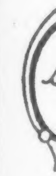

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THE ARCHITECTS' JOURNAL

9, 11 & 13, Queen Anne's Gate, Westminster, London, S.W.1 Whitehall 0611

No. 3006 October 9, 1952 VOL 116

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HOMEWORK

The City column of one of last week's evening papers reported a market survey for one of the paint groups, the conclusion being that whereas two years ago it was the £1,000 a year man who bought his paint locally and did his own work, the £2,000 a year man now does the same. This (if I may borrow the "told-you-so" technique of newspaper columnists) is what ASTRAGAL said six months or so ago. It is interesting to see that a more or less casual observation is confirmed by the statisticians, who no doubt interviewed a carefully chosen cross section in typical towns, with appropriate allowances for observational errors. On the other hand, the reasoning can be quite simple. As was remarked in the JOURNAL'S leading article the other day, £2,000 a year now is about the equivalent of £675 pre-war, and *that* group certainly had to do all its own work—external painting, too, if it could borrow a long enough ladder.

NEWEST OF NEW TOWNS

E. A. A. Rowse's paper at the TPI Summer School was bound to get a good press. Even to bad sailors "farming the seas" is a telling phrase, and there is something very glamorous in the idea of large populations roaming Kon-tiki-wise over the oceans searching for the lushest plankton.

*

Nor is there anything fantastic about it. Not to me. Compared with that aeroplane that went to America and back in eight hours (ASTRAGAL hasn't felt the same since) there are but trivial steps between Venice, the floating population of Hong-Kong, the "fleet trains" of World War II and Mr. Rowse's forecast. We can all see the primary schools, clinics and town centres swinging gently with the tide off Guadeloupe. The cries of children come from the coral sands, and the brave little woman looks out from Suite 2009 (Deck K) towards the far-off point where dear Walter picks his teeth and watches forty kinds of seaweed slide past the radar-scanner. How *right* he was to get away from it all.

COMMENT WITHHELD

And while we're (nearly) on the subject of the TPI, how's this for tact?

*

From the TPI Journal July-August, 1952, p. 229:—"Instead of the Annual Dinner a Luncheon was held on April 3rd at the Trocadero Restaurant. The principal guest was the Rt. Hon. Harold Macmillan, M.P., Minister for Housing and Local Government, who responded to the toast of "The Guests." Experiments having been made with both Luncheon and Dinner, it has been decided in future to hold an Annual Dinner.

AWFUL WARNING

"In Houston, Texas, the city council voted to accept a new $2,700,000 police headquarters and jail, but withheld $25,000 from Architect Kenneth Frankheim's fee because he had his name engraved in marble on the front of the building, put the names of councilmen on a bronze plaque inside." Well, well! Rather a drastic sort of punishment, or did the councillors suspect Architect Frankheim thought that inside was the place for them? The RIBA Code says letters not more than two inches high, and assumes that you'll have the sense to ask the client's agreement first. But could any cross client really withhold any more than 6 per cent. of the cost of the carving? Or make the architect pay for chiselling himself off?

MUSEUM PIECE

If you're anywhere near the Western edge of the Cotswolds make a point of looking in the waiting room at Chedworth Station—on the little single line running down from Andoversford to Cirencester. There you will find a White Star poster (varnished and framed) advertising the *Olympic* and —astonishingly enough—the *Titanic*. So it's been there for at least forty years. I'm the most amateurish of photographers and a slow exposure is more than my hands can manage, but there, over the page, is an all too untouched photograph to say if I lie. In the past I've sometimes been very cross with the shortcomings of British Railways, but I beg them not

to take this as a veiled insult. This poster *must* stay, please, as must the one on the opposite wall (*RMS Clyde* —two funnels and three masts—only just not square rigged).

RUMOUR CONFIRMED

The rumour mentioned on this page two weeks ago that Guest Editor Robert Matthew, architect to the LCC, is leaving to become Professor of Architecture at the University of Edinburgh and Head of the School of Architecture in the College of Art, can now be confirmed. I understand that he will not be taking up the Chair until the next summer term.

*

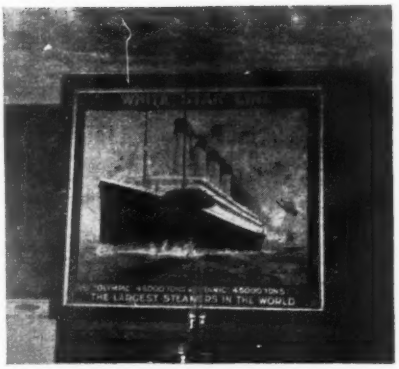
Thus the post vacated by Gordon Brown two years ago has at last been filled. Since Gordon Brown left the school has been patiently and most capably administered by Ralph Cowan, a senior member of the staff, who also has a practice in partnership with Alan Reiach—forming one of the handful of contemporary-minded architectural firms in Edinburgh.

*

The Edinburgh University degree in architecture (unlike the diploma course in the College of Art) is a well-nigh impossible one—architecture is only one of six subjects which have to be studied—and I believe that only one student has survived the course so far (it has only been running for four years). A more preposterous situation would be hard to devise, and it is to be hoped that Robert Matthew will be able to persuade the university to introduce a more reasonable course in architecture.

*

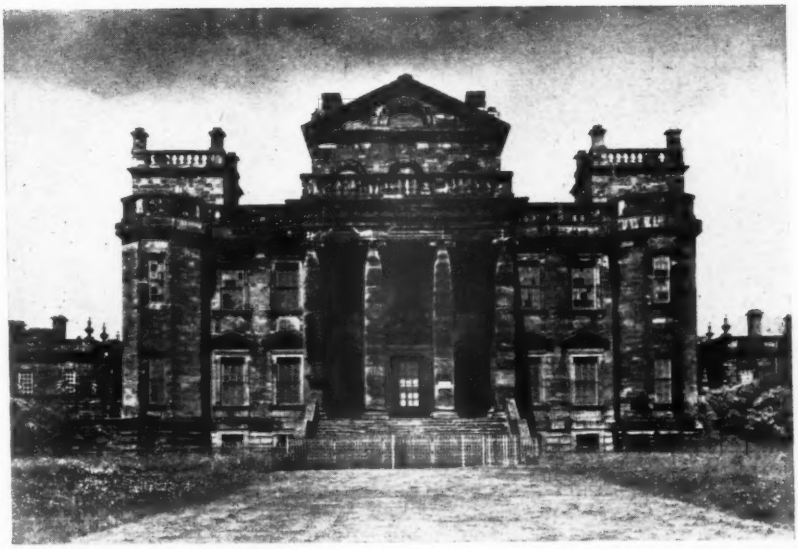
While all will regret the loss of Robert Matthew from the sphere of public architecture, no doubt the supporters of schools of architecture will be glad to add such an eminent newcomer to their ranks. There are strange rumours current of a growing antagonism towards architectural schools by the more die-hard members of the profession—an antagonism which may well coincide with a demand from within the schools for a change in curricula towards a broader and more practical approach to training. Altogether a potentially extremely delicate situation. But just the kind of situation which the two newcomers to the educational fold—Robert Matthew and Robert Gardner-Medwin (recently appointed Professor at the Liverpool School) are eminently suited to handle.



The curious subject of this photograph is discussed by ASTRAGAL *in his note, on page 421, "Museum Piece."*

LINEAR RECREATION

An architect who has been doing some end-of-season sailing in Essex tells me, rather savagely, that he is living for the next time he has to criticize students' designs for *A Yachting Centre on the East Coast.* I gather that the Chinese white and blue sunshine, the flagstaff, clubhouse, Commodore's balcony, and all usual trimmings will be completely wasted on him. The prize will go to the design which shows well-made footpaths, each two miles long, on top of all sea walls within the chosen area, with jetties at quarter-mile intervals. At each central point there will be a pub.



Above : top, Coleshill, Berks., has now been added tragically to the list of burned-out country houses of which Seton Delaval, beneath, is an outstanding example. See frontispiece on page 424. (Photos by Eric de Maré.)

Photograph : Country Life

National Loss

Coleshill is no more. Roger Pratt's Berkshire house, whose main staircase is seen here, caught fire recently and—in spite of swift attention by the fire brigade—was destroyed. This fact has ceased to be news. But before the matter is forgotten we wish to draw attention to an important aspect of the tragedy. According to a representative of the National Trust, failure to save the building was due to lack of adequate fire precautions. The local fire brigade soon exhausted the water supply from a duck pond and then stood by, helplessly. We repeat a plea made recently in the correspondence columns of *The Times* that a fire-prevention committee should be formed for the protection of houses of architectural or historic importance. This is not the first time architectural splendour has been needlessly lost. Will someone ensure that it is the last?

PROPRIETARY BRANDS

One of the sprightliest and most elegant of our contemporaries, *House and Garden*, a magazine that is devoted—the word is carefully chosen—to the cause of modern design, has recently darted down what in ASTRAGAL'S view is the wrong turning. It has chosen a range of colours—about a score or so—and named them "House and Garden Green," "House and Garden Yellow" or whatever it may be. As you would expect they are very pretty colours, with which it would be almost impossible for the most insensitive user to go wrong. Also, from the publicity point of view it all helps, I suppose, if every time you order a pot of paint or a length of material you are forced to say the words "House and Garden"; while from the customer's point of view there's something to be said certainly for knowing that "House and Garden Green" is exactly the same colour in Lincoln as it is in Totnes.

*

But there, in ASTRAGAL'S view, the virtues of the scheme cease. First, it is not *necessary*, because the BCC already issues a splendid dictionary of standard colours, all most suitably catalogued by numbers. Secondly, it's irritating to have colours—which are, after all, as free and universally used as air—taken over as the private property of some outfit, however enlightened. (I think architects would not take it kindly if every time they used a space frame it had to carry the word "Domus" in front of it, or if cobblestones were always preceded by the words "Architectural Review.") Thirdly, it doesn't really seem in the end to be good publicity.

*

A hostess boasting of her new bedroom curtains—chosen with great care—would be annoyed rather than pleased to hear her guest exclaim "Oh! I see you've got 'House and Garden Pink' curtains." Maddening that would be. We all crib from magazines from time to time, but we don't like our design clearly tagged with its source, do we? No. Devoted—the word is carefully chosen again—as ASTRAGAL is to *House and Garden* he views this scheme—as he views radio "captive audience schemes"—with jaundiced eyes. [The yellow of the jaundice, please note, is his own.]

ASTRAGAL

POINTS FROM THIS ISSUE

Robert Matthew appointed **Professor of Architecture**, Edinburgh University .. .. page 423

MOHLG Report on **Residential Density** .. .. .. page 427

Guest Editors discuss **Building Controls** .. .. .. page 428

The Editors

STUDENTS AND RIBA

WE must refer once more to this matter, which we dealt with in our leading article of September 18. As we went to press last week ASTRAGAL noted that the Secretary to the RIBA Board of Education had written, on September 24, to the heads of the schools concerned to say that those students who had passed their Professional Practice Examination in March, 1952, "shall be eligible to apply forthwith for election as Associates RIBA."

No one will want to crow over this "surrender." The RIBA has—in the end—done the right thing; it will thereby gain the respect of us all. That is important, for in our view the most serious aspect of the whole matter has been the alienation of a generation of students. Bitterness was being created which might not be felt at Portland Place for ten years or more, but would be felt in the end. It now only remains to pre-date the election to associateship of those concerned to compensate for the considerable time lost. We assume that this will be done.

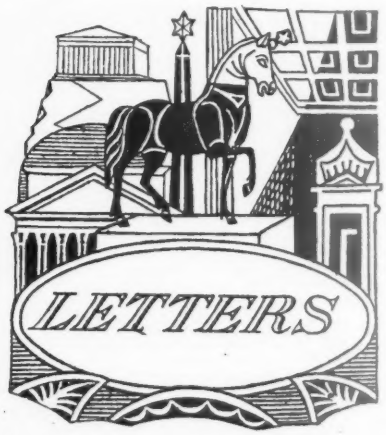
All those architects who remember with affection Howard Robertson as a friend of students will detect, in the events of last week, the firm presidential hand. It was nobody's fault that the decision, when it did come, came too late; many students had, three days earlier, sat for a Professional Practice Examination that they had passed last March. Others—sure of their ground and with legal advice—had fortunately refused to sit.

On another page we publish letters from Pembroke Wicks, Registrar ARCUK, and from Everard Haynes, Secretary, RIBA Board of Architectural Education. To some extent these letters explain the chaotic tangle of regulations and counter-regulations that have led to this debacle. On one point we must disagree with Mr. Wicks; he says that "Professional Practice has of course been part of the recognized examination for many years." Mr. Wicks may have been under that impression for many years, but the list of recognized examinations in Schedule 2 of ARCUK regulations has always referred only to the various diploma finals of the various schools. And, whether Mr. Wicks fully realized it or not, the Professional Practice examination was—in several cases—outside the diploma. It was only after resort to the Privy Council, and as from September 18, 1951, that the words "followed by Professional Practice and Practical Experience" were added to the title of each of the examinations listed. That may be a technical point, but Mr. Wicks does agree with

us that registration has taken place without Professional Practice, *i.e.*, for students who were " relegated in one or two subjects, including in some cases Professional Practice." In that case why could not the present group of students have been duly registered pending the Professional Practice examination this month ?

Mr. Haynes raises more serious issues. He says that the examination in question was not an RIBA examination, but purely the affair of the schools : if so, why did the heads of the schools—acting independently of each other in different parts of the country—nominate RIBA external examiners ? If they all made a mistake they would do so on the basis of information supplied from only one source. The Officers of the Board have—if we read Mr. Haynes's letter rightly—been fully aware all along that a number of students were going to be asked to sit a second time for an examination they had passed. That is bad. Moreover, the students were not told this until some weeks after this first examination. That is worse. And all the time the Officers had in their pockets the " escape " clause whereby the twelve months' post-graduate practical experience could be foregone in cases of hardship for those who started training before November 1, 1949. This, clearly, was just such a case; but only when shamed into doing so by public and legal pressure did the Officers invoke that clause. That was most unfortunate.

To non-students, this may not seem a major issue. But a great issue of principle is involved—it now remains for the Institute to take steps to ensure that this kind of thing can never happen again.



Students and the RIBA

SIR,—There are certain statements in your leading article " Students and the RIBA " of September 18 which are calculated to mislead. I refer in particular to the sentence " no Professional Practice Examination was then required for registration." That is not correct. Professional Practice has of course been part of the recognized examinations for many years. Presumably you intended to refer to the new examination in Professional Practice and *Practical Experience*, which must now be taken by all applicants for registration after passing the ordinary school examination.

Pembroke Wicks
Registrar, ARCUK

Everard Haynes
Secretary, RIBA Board of Architectural Education

Hugh Weeks
Deputy chairman, Trussed Concrete Steel Co. Ltd.

A. P. Mason, B.Sc., M.I.C.E., M.I. Struct. E.
Reinforced Concrete Engineering Co. Ltd.

W. E. J. Budgen, B.Sc., M.I.C.E.
Chief engineer, Twisteel Reinforcement Co. Ltd.

The approval of the Privy Council to the new regulation by which the change was made was dated September 18, 1951, and the regulation took effect from that date. Students who qualified in July, 1951, were consequently admitted to the Register under the old regulation.

There were, however, certain students who had sat for the School examination in July, 1951, but were relegated in one or two subjects including, in some cases, Professional Practice.

The Statutory Admission Committee decided that if a student had substantially passed his Final Examination in July, 1951, and was relegated in not more than two subjects, he might be admitted to the Register under the old regulation provided that he passed the subjects in which he had been relegated at the next available opportunity.

No doubt for this reason some of the Schools held an examination in Professional Practice of the former type in March, 1952, for the benefit of students who had been relegated in that subject—and that is the examination to which you refer in your article—but it has nothing to do with the new examination in Professional Practice and *Practical Experience*, which need only be taken by a person who is admitted under the new regulation.

PEMBROKE WICKS.

London.

SIR,—The Registrar of the Architects' Registration Council has shown me the letter which he has addressed to you in regard to your leading article of September 18. He points out that certain statements are misleading. It is evident also that the writer of the article is not accurately informed in some of his references to the RIBA.

The Professional Practice examinations held in certain schools of architecture in March, 1952, were not the examinations in Professional Practice and Practical Experience required by the RIBA; they were school examinations and may or may not have been attended by External Examiners appointed by the school. The Honorary Officers of the RIBA Board of Architectural Education were quite clear that such examinations were held for registration purposes only unless the applicants had complied with the Practical Experience regulation then in force.

Subsequent to the announcement of the revised requirements in regard to the examination in Professional Practice and Practical Experience made in October, 1949, the only advice given by the RIBA to the recognized schools was in October, 1950. The schools were then informed that students who had begun the final year of their course could take the school examination in Professional Practice in 1950 and, if successful, would not be required to submit evidence of Practical Experience after completing the course or sit for the subject of Professional Practice again. The examinations held in Professional Practice at the recognized schools are school examinations and the responsibility of the schools themselves.

When applications for the associateship were received from individual students, it was observed that some of them had completed the courses at their schools of architecture in July, 1951, and had been admitted to an examination in Professional Practice in March, 1952, without having had six years' practical experience before the completion of their courses. Such experience was necessary before the completion of their courses to enable them to be exempted from the necessity of gaining twelve months' post-graduate experience. It was, therefore, necessary to inform them that in such cases the Professional Practice examination held in March, 1952, could not be accepted for the associateship.

One student who passed the Professional Practice examination in March, 1952, was permitted to proceed with his application for the associateship. He had completed his school course in March, 1951, and had satisfied the school authorities that he had the prescribed twelve months' post-graduate practical experience.

However, in order to avoid further hardship, it has been decided to accept for the purpose of associateship the examination in Professional Practice which the students concerned have passed to secure registration, and not to ask them to sit for a further examination in Professional Practice and Practical Experience.

It should, however, be made quite clear that this concession is confined strictly to those who have passed the examination accepted for registration.

EVERARD HAYNES.

London.

[See leading article on this subject on page 425.—ED.]

Steel Economy

SIR,—Your leader (AJ, Sept. 25) suggested that architects who employ a consulting engineer instead of a firm of reinforced concrete engineers might be more likely to get a licence since the consultant, through more complicated calculations, would design the same building with less steel.

I feel I should protest against this statement on behalf of this company and of the other reputable and well-established companies in the same type of business. In our design work we operate with the same detailed and careful approach as a good consultant—we are indeed consultants in all but name. We like to think that we have the further advantages of being highly specialized and having continuing practical experience in construction problems. There is certainly nothing in our experience that would support your charge; we should indeed be very upset if the comparison were not the other way round.

London. HUGH WEEKS

SIR,—In your leading article on the subject of "Steel Economy" in the JOURNAL for September 25 you refer somewhat disparagingly to the designs prepared by Reinforced Concrete Contractors.

If your comments were directed against the average Building or Civil Engineering Contractor who has very little knowledge of the design of reinforced concrete work we should agree, but if you had in mind the specialist firm of Reinforced Concrete Designer who contracts to supply reinforcement, then your statement is very far from the truth.

The specialist firms, such as ourselves, who have been doing nothing else but design reinforced concrete structures for the last forty years, must inevitably know more about this branch of structural engineering than engineers who deal with a greater variety of problems. They are able to make their calculations by the simplest and quickest methods because they have the experience which enables them to obtain very close approximations with a minimum of effort. On the other hand, the engineer with a wider practice must approach his reinforced concrete design by the more difficult path involving accurate calculations, and we have found that the tendency in such cases is to be more liberal in the amount of steel used because he has less confidence in the results of his analysis of the problem.

The specialist designer, who is often in competition with another similar firm, cannot afford to be extravagant in the use of steel, and it is in his own interest to make the available supplies of steel spread over as much construction work as possible.

London. A. P. MASON

SIR,—It is unfortunate that your specialist editor has chosen in his leading article (September 25)—which ostensibly deals with the vital subject of steel economy—to advertise one branch of a profession and to revive a very ancient controversy, *i.e.*, consultants versus specialist designers.

There is little point in discussing this question in detail. There are obviously jobs where there are advantages in employing a consultant and other jobs where it is of distinct advantage to employ a specialist designer who is more likely to be up to date in his particular line of country than the consultant with a more general outlook.

As regards steel economy, however, the sole argument advanced in the article is that consultants are more likely to use more complicated types of calculation than specialist designers and therefore use less steel.

This argument assumes two things: (1) That consultants use more complicated methods of design than specialist engineers; and (2) that these more complicated methods result in less steel being used. Neither of these things is necessarily true. As mentioned above, the specialist working with his particular medium will probably have produced suitable methods of calculation which result in the maximum economy of steel since, being generally in competition, the specialist's existence, *in the long run*, depends on his producing more economical designs than his rivals, whoever they are.

As regards the second argument, it does not necessarily follow that more complicated methods of design result in economy. In the case of a method of structural steel design advocated in a report of the Steel Structures Research Committee the opposite was found to be the case and the method was therefore little used.

Finally, descending to the level of your leader, while all will agree that there are in some cases advantages in employing consultants, the suggestion that one of these advantages is that their designs are more economical in steel than those of specialists will raise at least a smile in the majority of the building profession.

London. W. E. J. BUDGEN

[Our statement that design staff of contractors "in general . . . tend to calculate stresses by the simplest . . . methods," was of course, a generalization. There are, no doubt, good firms who do not waste steel in order to save design staff man-hours. Nevertheless, with steelwork in particular, there is a tendency to treat the component parts of the structure in their simplest state, and to use tables rather than consider each job more or less empirically. It would be naïve to suggest that this tendency does not exist.—SPECIALIST ED. No. 13.]

MOHLG

Handbook on Density of Residential Areas

A handbook entitled "The Density of Residential Areas," produced by the MOHLG, is published today (HMSO, price 1s.). This handbook, which is extensively illustrated with plans and photographs, deals with the problems of the amount of land required for different projects in residential areas, and in particular for housing.

In a foreword to the book the minister of Housing and Local Government, Harold Macmillan, states:—"In putting out this book I am not intending to suggest that desirable standards must be cut; but rather that, with more flexible ideas about the use of terraces and with better layout, land can be saved without any sacrifice of desirable standards."

Chapter I deals with the general physical background of the subject. The first section distinguishes four different aspects of density—a classification which is fundamental to the rest of the book and indeed to a proper understanding of the whole subject. These four aspects, which are dealt with in more detail in subsequent sections of Chapter I, are:—

(i) The question of sufficiency of accommodation. There must be enough accommodation for all the various households. The best housing can become unsatisfactory if it is overcrowded, or if, in other words, the density within the dwellings becomes excessive.

(ii) Density of dwellings on the ground, which is concerned with the proximity of dwellings to one another and which involves questions of daylight, sunlight, and space for access and amenity.

(iii) Density of residential neighbourhoods, involving consideration of the space required for land uses ancillary to housing.

(iv) Density over towns as a whole, in which the major issue of compactness *versus* sprawl is involved.

Section II explores the subject of density within dwellings.

Section III deals with the density of dwellings on the ground, or "net accommodation density," as it is defined.

Section V deals with density in relation to the town. Consideration is given to the classification of land uses in towns and the relative importance of the main groups of users of land, and a comparison is made between the conditions in a number of existing towns and certain New Towns.

Section VI examines the important question of the relationship between density and the cost of development. To keep the analysis within bounds only two aspects are considered: first, the cost of urban rehabilitation in terms of consumption of land, and, secondly, the effect which increases of density have on the actual financial costs of development.

Chapter II relates the groundwork of Chapter I to the process of making a Development Plan for a town.

Chapter III deals briefly with some density problems likely to arise in connection with the day-to-day administration of planning control.

The book concludes with a brief summary and appendices containing the Ministry's Schedule of Minimum Street Widths, details of permissible height indicators for testing the daylighting of residential buildings from block plans, and a list of definitions. A review of the book will appear in the JOURNAL shortly.

BSI

Up-to-date Handbook

Twenty per cent. of the British Standards which are summarized in the BS handbook (no. 3) for building materials and components have been substantially revised, or modified in important detail, since the book was published in January, 1950. A number of completely new standards affecting the building and allied industries has also been issued.

These are the natural consequences of the British Standards Institution's traditional policy of replacing or revising specifications as often as may be desirable in the light of trade requirements and advancing knowledge.

In order to bring the Building Handbook up to date, the BSI has therefore published a separate addendum volume running to some 165 pages.

Nearly a third of the book is devoted to summaries of fourteen new standards issued

(continued on page 430)

The restrictive tyranny of building controls could be alleviated if they were concerned only with specifying principles of design, and not with specifying the precise and detailed requirements of actual products, and if architects were treated as fully responsible, on their own integrity as professional men, for ensuring that the buildings they designed conformed to Government controls and to all building regulations. Then, instead of having official checks that designs conform to controls at every stage in designing and erecting a building, only spot checks, or checks on the finished building need be made. Such a policy, properly applied, would reduce controls to a minimum, give the architect the responsibility and status due to him, and reduce the large numbers of non-productive official "checkmen" to a minimum. This, in brief, is the view put forward below by the JOURNAL'S *Guest Editors in the first of two articles on building controls.*

The Guest Editors

BUILDING CONTROLS AND PUBLIC ARCHITECTURE

Whenever the words "Building Controls" are mentioned, architects, public and private, tend to reach for their guns. Controls, however necessary in theory, are things which come between the architect and getting his building built. Generally, the more reasoning architects will agree that while some controls are necessary and sensible, some are necessary but badly administered, and others are not only unnecessary but a waste of time. What we want to do in this article is to sort them out and see where the trouble lies and why. We will, therefore, try to examine the requirements which underlie controls, and we will attempt to see whether the controls as devised are appropriate for meeting them. We can't expect for a moment to deal with them all, and we want to encourage others to write in and remedy any serious omissions.

First, we think that controls can be divided into three main types. There are those imposed by local authorities, which include byelaws, town planning,* fire regulations, etc. Then there are those imposed by government departments: these are of two kinds, first, those which were caused by the war and its aftermath, such as capital investment restrictions, and, stemming from these, the allocation of priorities and materials; and second, the controls which accompany grants or loans to local authorities. The third type consists of controls imposed by various public bodies such as the Metropolitan Water Board, British Electricity Authority, and other statutory undertakings.

In this article we propose to deal with control imposed by government departments and by other bodies, and to make local authority byelaws the subject of our next article.

CONTROLS BY GOVERNMENT DEPARTMENTS

As we pointed out, controls by government departments fall under two headings. Taking first those caused by the war and its aftermath, namely the restrictions and the allocation of priorities, we are agreed that such controls are socially necessary, if the community is to be properly housed and educated, and generally catered for in a civilized way. One has only to see the state of affairs in other countries where luxury buildings are given a free run, whilst urgently needed housing is almost neglected, to realize how important such controls are.

The difficulty is caused, not so much by the controls themselves, but by the methods in which they are often applied. For convenience these could be said to be either negative or positive. Under *negative* application the architect is not given a clear indication of his ration of materials, site, manpower, etc., *before* he starts work.

When controls are positive, the architect works to a programme which should be known at least two years, or more, in advance and indicates the approximate quantity of money, of materials, of labour and of the availability of sites, as well as the type of buildings, with which he will be allocated. This approach gives him an incentive to design appropriately from the beginning of his work. This type of control is aimed at, for instance, by the MOE.

The other kind of controls by government departments are those which accompany grants or loans to local authorities. Quite rightly, the government department concerned takes the view that since it has a considerable financial stake in any particular type of local authority building, it should at least see that money from the national exchequer is used to the best advantage.

The point is, of course, how the various departments go about it. We feel strongly that there is a right and a wrong way. The wrong way is to make

* Controls concerned with town planning are in a category by themselves, and are part of the complex and developing job of town planning to which we propose to devote a special article.

every local authority submit almost every drawing of every building, first at sketch design stage, and later, working drawings; and then to go over them with a tooth-comb so as to be quite sure that everything is exactly in line with Ministry requirements, which probably have not been clearly set out at the beginning anyway. This way is *negative* again, as it almost invariably involves re-doing the whole of the working drawings, specifications, etc., which wastes a considerable number of man-hours and, inevitably, slows down production.

If the architect is told from the outset the maximum amount of money he must spend and the minimum amount of accommodation he must provide for the money, the architect can then design with these requirements in mind from the beginning, and, if he wants, discuss his design at sketch design stage. At that time, alterations will be easy to make, and, after that, he can go ahead with his working drawings, confident that he will not be asked to alter them at that late stage.

It is far better, we consider, to assume that the local authorities have thoroughly responsible architects (even if this is not invariably true) who know what they are doing; and for the Ministry concerned to prepare a guide of its requirements, based on principles, which make general intentions clear, but which leave a great deal of latitude in the hands of the actual designer. On the completion of his working drawings, the architect deposits these, together with a signed document stating that the building has been designed to the requirements of the Ministry concerned. Thereafter only occasional spot checks of the drawings and of the finished buildings would be necessary.

An important point arises here to see that the people responsible for checking drawings are capable of judging these designs, and it seems absolutely essential for this purpose that the Ministry architects who have the duties of controlling the building of others, should do some experimental building. They would then be better able to judge the designs of other more enlightened architects, in the light of their own experimental building.

Two years ago the Government set up "Man Power Committees" which resulted in considerable reduction of control of local authority housing and schools projects, notably by the two Ministries in England, and by the Department of Health in Scotland. The general principles, which we have suggested, now apply to some extent, but there is no doubt that the idea could be further extended, even if it means taking the risk of producing bad designs with a few local authorities.

The central advisory body should be *primarily a research organization* devoted to improving techniques and developing standards for general application in the local authorities. Nothing is more important for the success of national planning, housing, and building programmes, than a spirit of technical co-operation between local and central authorities. Not only private architects, but architects in local authorities have been prone to criticize their civil servant colleagues because they regard them as frustrating their efforts. They have also been called "academic," which presumably implies contempt on the part of the "practical man." Under the negative system of control, this is in fact likely to happen.

Research and building experiment is vital to the health of a central authority technical organization. Without it, technical experience atrophies, and the quality of the staff is bound to deteriorate. No able architect will spend all his days checking and controlling the work of his local authority colleagues. A live research programme, on the other hand, will attract the best brains: and if creating, and building is the basis of the work the standard of competence of the advisory staff is likely to remain high, and there is every opportunity for the Chief Architect to engender a spirit of enthusiasm and high endeavour.

CONTROLS BY PUBLIC BODIES

In general these controls consist of a mass of detailed points concerned with the various components of building. As we have no intention of examining building techniques in detail, we do not intend to say more than a few words about them.

They are usually operated by statutory undertakers supplying some essential service such as gas, water and electricity. Although they do not operate statutory controls within this category, we would also place the British Standards Institution as having an ever increasing influence on component design throughout the building industry, and should therefore be conveniently placed in this category.

Our chief complaint against these bodies is the tendency to draw up regulations on an "end product" basis; that is, recommendations which apply to existing and often antiquated products and techniques and which in many cases prevent the adoption of more enlightened technical ideas. This will always happen unless controls and standards concern themselves with principles and not with end products.

Let us take one or two examples. First, many Water Boards state that low down flushing cistern for water closets should have a minimum capacity regardless of the size of the water closet which they flush. Because of this, infants' closets of perhaps one-third the size and volume of those of adults have to have a full-sized cistern, causing a gross waste of materials and water.

Second, the British Standards Institution booklet on cloakroom equipment for schools (BS/MOE 28: 1947) set out the equipment recommended very much on the "end product" basis, with the result that it has more or less produced a finalized design, which is now quite difficult to depart from. As it is not a very satisfactory design as a finished product, it merely makes one more problem for the school architect to surmount. In fairness to the Institution, however, it is well aware of this difficulty. During the recent RIBA discussion on "British Standards and the Architect," the Technical Director stated:—

"As a general principle, we agree wholeheartedly that it is preferable every time to define your standard in terms of performance—what you want the material to do, on the performance you require from the article. You then leave the manufacturer free to use his own initiative in the design and the method of achieving performance. The snag is that there are two essential requirements before you can do that. First, you must know the methods of test by which you are going to determine the particular characteristics that you want. Then you must know the criterion you fix for the result given by your methods of test. Alas! all too frequently that information is not available. (*If this is not available it is doubtful whether it is worth having a BS at all—Guest Editors.*)

"Apart from that point, we have to recognize that for many of the more simple components it is easier to define your standard in terms of a material and a dimension. . . . We are continually giving this point serious attention and as far as possible it is our endeavour to work to performance tests rather than design requirements, because we are very well aware of the serious criticisms against trying to crystallize design."

If only all those concerned with building controls were thinking along these lines our work would be greatly simplified.

DIARY

Royal Photographic Society: Annual Exhibition. At 16, Princes Gate, S.W.7. Monday to Friday, 10 a.m. to 8 p.m., Saturdays, 10 a.m. to 5.30 p.m. Sundays 2.30 to 5.30 p.m. The exhibition will close at 6 p.m. on Tuesdays, so that miniature colour transparencies can be projected, with commentary, at 7 p.m.

UNTIL OCTOBER 12

Irish Architecture. Exhibition. 66, Portland Place, W.1. (Sponsor: RIBA.) Daily: 10 a.m. to 7 p.m. Saturdays: 10 a.m. to 5 p.m. OCTOBER 14 TO 31

The International Federation of Landscape Architects and the Stockholm Conference. Brenda Colvin, Judith G. Ledeboer and H. F. Clark. At 13, Suffolk Street, S.W.1. (Sponsor: ILA.) 6 p.m.

OCTOBER 16

Revised Designs for Coventry Cathedral. On view at 26, Store Street, W.C.1. (Sponsor: BC.) Daily: 9.30 a.m. to 5 p.m. Saturdays: 9.30 a.m. to 1 p.m.

UNTIL OCTOBER 25

Ceramics in the Home. Exhibition at Charing Cross Underground Station.

UNTIL NOVEMBER 2

Works by Sir Frank Brangwyn. At Royal Academy Diploma Gallery.

UNTIL NOVEMBER 30

ELECTRICAL SECTION AT BUILDING CENTRE

The electrical section for the new Building Centre in Store Street, London, was designed by Hulme Chadwick. Above is a general view looking down the lighting section. The fitting in the foreground is for comparing the effects of various types of lamp on a standard range of colours. Coloured light can also be "mixed" and the reflective power of colours measured. Below left, the reference room. The desk is of beech. The pamphlet rack can be adapted to take different sized pamphlets. The design on the glass panel—in four colours on a neutral background—is by Miss Granville Barker. Ceiling, vermillion with white stripes; wall, lemon yellow. Below right, part of the display dealing with school kitchens and cafeterias. The threefold display boards can be turned; they carry additional planning data. The dioramas were designed by Warner Cooke. The panels are covered with woven raffia, the platforms with dark green rubber. Metalwork is satin-finished aluminium and polished beech is used throughout. The general contractor was David Esdaile & Co., Ltd. The electrical contractor was Troughton & Young, Ltd.

(continued from page 427)

between January 1, 1950, and August, 31, 1952. In the next 100 pages are to be found new summaries of thirty more standards which have been extensively revised in the same period. These summaries must replace those contained in the 1950 handbook. The addendum includes gummed amendment slips affecting 26 further summaries of standards, to which significant detailed changes have been made.

Since the value of any reference book depends entirely upon its accuracy, the addendum is necessary to all users of the 1950 edition of the building handbook. Its full title is "Addendum No. 1, 1952, to BS handbook No. 3." It is available at 12s. 6d. from the sales branch of the BSI, 24, Victoria Street, S.W.1.

For the benefit of those who may still be using one of the earlier editions of the handbook, which are now dangerously obsolete and should be scrapped, copies of both the 1950 edition and the new addendum may be obtained at the special combined price of 31s. 6d., compared with the published prices of 37s. 6d.

ABT

Protest against BRS staff cuts

A few weeks ago the editors of the JOURNAL protested against the proposed cuts in the staff of the Building Research Station. The proposed cuts have now been deplored in a resolution sponsored by the ABT. The resolution, which was passed unanimously by the Joint Executive Council of unions affiliated to the NFBT's recent meeting in York, includes the following statement:—

"The proposed reductions represent an infinitesimal saving compared with the total annual expenditure on building and cannot be justified on grounds of commonsense or economy. A full and continuing programme of research is essential to achieve greater efficiency in the industry and to develop its resources to meet modern needs, and we call upon the Government to reverse its present policy in order that the programme of research undertaken by the Building Research Station may go forward unimpaired."

CHURCHES

Preservation Trust Set Up

A Historic Churches Preservation Trust has been set up on the recommendation of the Repair of Churches Commission appointed in June, 1951, by the Church Assembly. The report was received by the Church Assembly on June 19 this year and resolutions were passed unanimously agreeing to its main recommendations. The main task of the Trust will be to raise the sum of £4,000,000 needed over the next ten years to supplement the efforts of parishes in putting their churches into good repair.

LCC

Coronation Decorations

People who own or occupy buildings in the County of London may be interested in the following information about Coronation decorations and stands. It has been issued jointly by the LCC and the Metropolitan Boroughs' Standing Joint Committee:—

Normally the consent of the London County Council would be required before signs and decorations which are in the nature of a structure could be erected on the outside of buildings but this requirement will be waived in regard to Coronation decorations provided that they do not remain for more than one month from June 2,

1953, and provided that the following conditions are observed:—

(i) Decorations must be in positions well clear of any electrical installations.

(ii) Only hardboard, or plywood treated by a recognized impregnation process, may be used externally. (Cardboard or woodwork treated with a fire-resisting paint is not suitable as the treatment is rendered ineffective by rainfall.)

(iii) Cloth decorations must be confined to non-inflammable materials so far as supplies will allow.

(iv) Any electrical work must be carried out in accordance with the Wiring Regulations issued by the Institution of Electrical Engineers.

(v) The decorations must be of a non-advertising character.

(vi) Window openings must not in any way be obstructed so as to interfere with rescue work in case of fire or emergency.

(vii) Any decorations at ground level must be so placed as not to obstruct access to a fire hydrant, dry riser or foam inlet.

If it is desired to depart from any of these requirements, the District Surveyor should be consulted in advance. Decorations in the nature of a structure must in any case be constructed and fixed to the satisfaction of the District Surveyor so as to avoid possible danger to the public.

The consent of the Metropolitan Borough Council is needed if any bunting or flags are to be extended across the street.

The Metropolitan Borough Council Surveyor should be consulted about any work affecting the public way.

If the building being decorated is licensed for public entertainment, the decorations must conform to the rules of management attached to the licence.

Applications for permission to erect stands outdoors should be made to the Metropolitan Borough Council Surveyor if the stands are constructed wholly of wood and to the District Surveyor (LCC) if they are constructed wholly or partly of metal. Stands wholly indoors or on the roof may generally be erected without permission being sought, but the District Surveyor should be consulted so that he and the owner or occupier can be satisfied that means of egress from the building are adequate and that the floors or roof of the building can carry the extra weight.

Subject to any conditions imposed to meet individual circumstances, stands may be erected on private forecourts and in similar positions, but in general no part of a stand will be allowed to encroach on or project over the public way or to obstruct any access to any fire hydrant, dry riser or foam inlet. Normally, permission for the erection of stands will be conditional on their removal not later than two weeks after the Coronation.

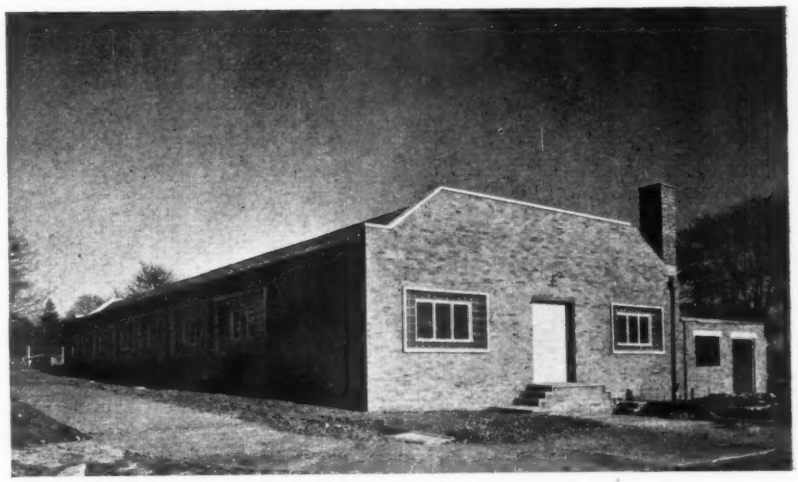
The consent of the licensing authority (*i.e.*, the LCC or the Lord Chamberlain) must be obtained beforehand for any stand in or on or adjoining any place licensed for public entertainment, or adjoining its exits or exitways.

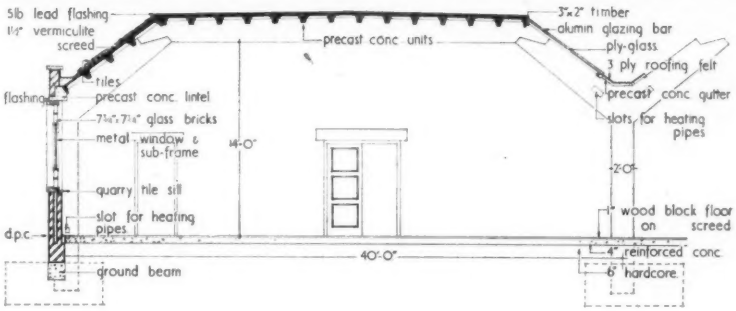
The LCC has power to ensure public safety by demolishing any stand which is itself dangerous, or which renders dangerous any part of the building where it is erected.

An Appeal Against Wandsworth Flats Dismissed

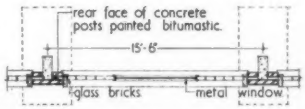
The appeal of two Wimbledon residents against the proposed construction of three eight- and nine-storey blocks of flats by Wandsworth Borough Council has been dismissed by the tribunal set up under the London Building Act. When the appeal was heard, it was stated, on behalf of one of the residents, that the proposed buildings would "overshadow and dominate" his house. As a result of the tribunal's decision the original consent to the buildings now stands.

FACTORY AT AMERSHAM, BUCKS



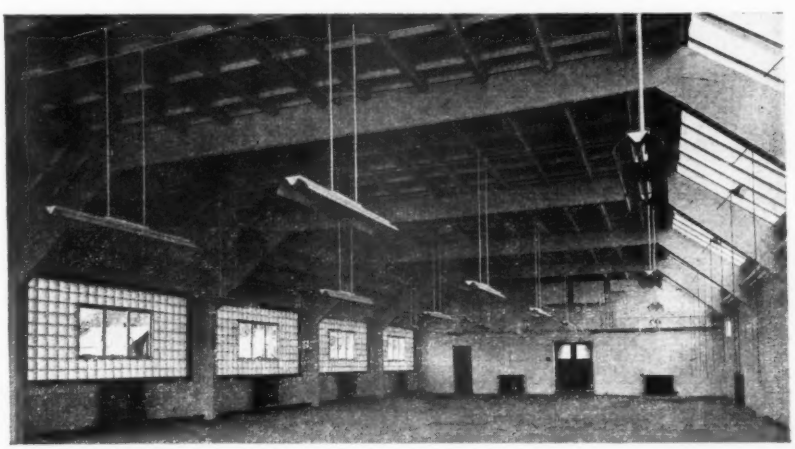


Cross section [Scale : ⅛" = 1' 0"]



Part plan of west wall

The factory building, illustrated above, looking north (below, an interior view also looking north) forms the first part of a scheme for 12 *bays in four groups and is designed by Clive Pascall for D. R. Collins, Ltd. The factory area is to be used for the filling and packing of cosmetics by female labour, working at long tables. Very light working conditions are required. The client specified a clean finish for the internal section, which, together with the steel shortage, suggested the use of precast concrete portal frames. These frames were cast on site, on the floor slab and hoisted into position. They support precast concrete slabs of patented design, which have a web ¾-in. thick. The general contractors are R. Brazil & Co., Ltd.* *Sub-contractors on page* 450.



The photograph above shows examples of ceramic sculpture designed by Susan Sanderson in white-glazed porcelain with lemon yellow, delft blue or lustre decorations. These designs, which are being submitted to the COID for approval as Coronation souvenirs, are produced by Richard Parkinson and Partners, a small country pottery in Kent built in an old stable and oast house

PARIS

UNESCO Building's Plans Completed

Plans for the new Unesco buildings in Paris have been approved by an international panel of five architects and will be submitted to the next general conference of Unesco, opening November 12, in Paris, which will be asked to give approval to the project.

The plans are drawn up by architects Bernard Zehrfuss (France) and Marcel Breuer (United States) together with an engineer, M. Pier Nervi (Italy).

The site chosen for the new Unesco Headquarters Building is in the western part of Paris, bordering the Bois de Boulogne between the Porte Dauphine and the Porte Maillot. It measures approximately 2,200 by 280 ft. and is enclosed by the Avenue de la Division Leclerc and the Boulevard Thierry de Martel, which continues as the Boulevard de l'Amiral Bruix.

There will be three buildings—a 16-storey office building; a central conference building; and an auditorium for general conference plenary sessions with an amphitheatre The form of the office building will be that of an elongated rectangle in harmony with the basic plan of Paris. It will be about 200 ft. high, 305 ft. long, and 55 ft. wide.

In their report, the architects point out that, despite its proposed height, the 16-storey building will be lower than the principal monuments along the great transverse axis of Paris. For instance, it will be 35 ft. lower than the Arc de Triomphe at the Etoile.

The building has been set parallel to this axis. Thus, occupants of neighbouring buildings will not have their view of the Bois de Boulogne obstructed. The distance between the proposed building and the nearest buildings will be about 270 ft. as contrasted to its height of 200 ft.

The central building will include rooms for conferences and for the executive board, the conference secretariat, and press, radio and television facilities. It will be about 30 ft. high, 220 ft. wide, and 370 ft. long.

The auditorium has been conceived to serve as a meeting room adaptable for presentation of concerts and theatrical and cinema performances. It will be about 60 ft. high, 128 ft. long, and 175 ft. wide.

CORONATION

Sir Hugh Casson's Plans for Westminster

The coronation committee of Westminster City Council will today recommend the authority to adopt in principle the proposals of Sir Hugh Casson for decorating the routes of the coronation procession and the royal drives in the City of London. The cost has been set provisionally at £50,000.

Sir Hugh Casson has sought to relate his suggested displays to the historical and architectural character of the street or square in which they will be set. Each thoroughfare will be decorated with a theme in mind. Parliament Square, like the junction of Whitehall and Trafalgar Square, will have the Dominions and Commonwealth as its motif, and a triumphal arch may be placed where Parliament Street meets Parliament Square to heighten the effect of the Abbey approach.

Most of Whitehall will have for theme "Her Majesty's Government." The Government buildings will be decorated with flags and window boxes, and the street displays will follow the centre line of the Cenotaph, statues, and traffic islands, so that they are not lost against the tall office blocks and stands for sightseers.

The decorations in Cockspur Street, which houses the offices of many shipping lines, will tell of the sea, with a suggestion of the dressing of ships in the lavish use of signal flags and pendants.

The key to Waterloo Place, where the Crimean monument stands, will be the armed services, with symbolic devices of the Royal Navy, Army, and Air Force suspended across the entrances; and the decorations in Pall Mall, with its classical architecture, will suggest the churchman, scholar, and administrator. St. James's Street, which is dominated by the palace, will be dressed in the rich red, purple, black, and gold of ceremony, with the theme of "Tudor Royal," and it has been suggested that canopies over the street should carry galaxies of gilt crowns. Property owners here may be asked to fly only heraldic flags.

The trees of St. James's Park will set a countryside mood for Piccadilly; and Oxford Street, with a theme of industry and commerce, may be lined with masts carrying enlarged reproductions of eighteenth-century signs—such as those of the hatters, shoemakers, and jewellers—alternating, perhaps, with the Arms of St. Marylebone and the City of Westminster.

Oxford Circus is to have the theme of "Tudor Rose," which will be repeated in Regent Street, where the colours are to be blue, white, dark green, and pink. It has been proposed that in Piccadilly Circus the London County Council should protect the Eros statue not with the usual grey hoarding, but with an elegant gilded cage, wreathed perhaps in artificial flowers. That light-hearted note may be emphasized by the hanging of lanterns on lamp standards.

Bearing in mind the historical atmosphere of the Haymarket, Sir Hugh Casson suggests that the theme for shop-window displays might well be the Restoration.

The adornment of the Strand, which will form part of the route of the royal drives to St. Paul's Cathedral and Guildhall, may include two giant statues of Gog and Magog set each side of the thoroughfare near Charing Cross Station, and the placing of a maypole in a floral setting near the Gaiety Theatre, which, according to tradition, was the site of a maypole in mediæval times. On the Victoria Embankment it is suggested that the decorative treatment should be carried out only from Westminster Bridge to Waterloo Bridge, and that it should take the form of a canopy of flags or "boxes" carried upon the lamp cables.

Among his miscellaneous proposals, Sir Hugh Casson suggests that "the road sweepers, who are by tradition popular figures on coronation day, might be issued with roses or tricolour cockades for their buttonholes or hats."

YORK

Success of Summer School

The fourth annual York Summer School of Architectural Study has recently been held at St. John's College, York. It is said to have been the most successful one to date. It was attended by forty-eight students from all over Britain, including eight students from overseas (Sudan, Malaya and West Africa).

The 1953 Summer School of Architectural Study has been arranged for August 8 to 22 at St. John's College, York. The prospectus will be available early in the year. An additional feature will be a special section of the School allotted to town-planning students.

COID

Street Lamp Committee

The COID Committee set up recently to maintain a list of approved designs for street lamp standards aims to extend its interest to all kinds of street equipment. For this purpose a section of Design Review, the Council's photographic index of good current British products has been opened for items such as bus shelters, outdoor seats, bollards, litter bins, etc.

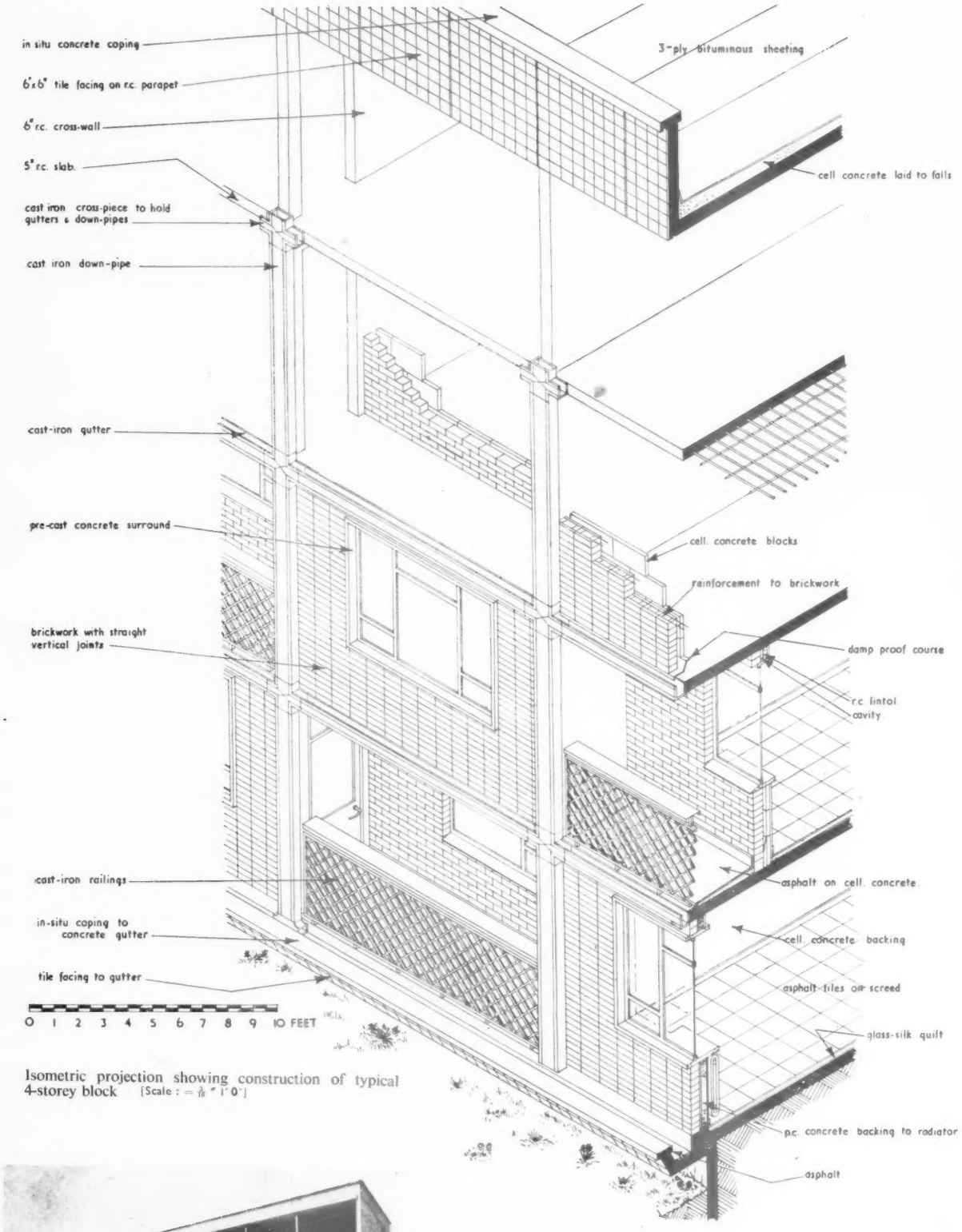
FLATS

on the PRIORY GREEN ESTATE, LONDON, N.1
for the BOROUGH of FINSBURY
designed by TECTON
executive architects, SKINNER, BAILEY and LUBETKIN
chief assistant, A. GREEN
consulting engineers, OVE ARUP and PARTNERS

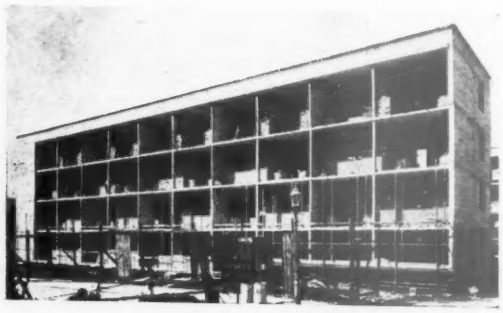
Although development of this area was proposed before the last war and demolition of houses on the site had been completed, work was not begun at that time and when the Borough's post-war plans were prepared the site area was increased to 8·75 acres. The pre-war plans proved unsuitable and a new scheme was prepared consisting of three 8-storey and four 4-storey blocks.

View from the south-west.

Aerial view from the north-west.

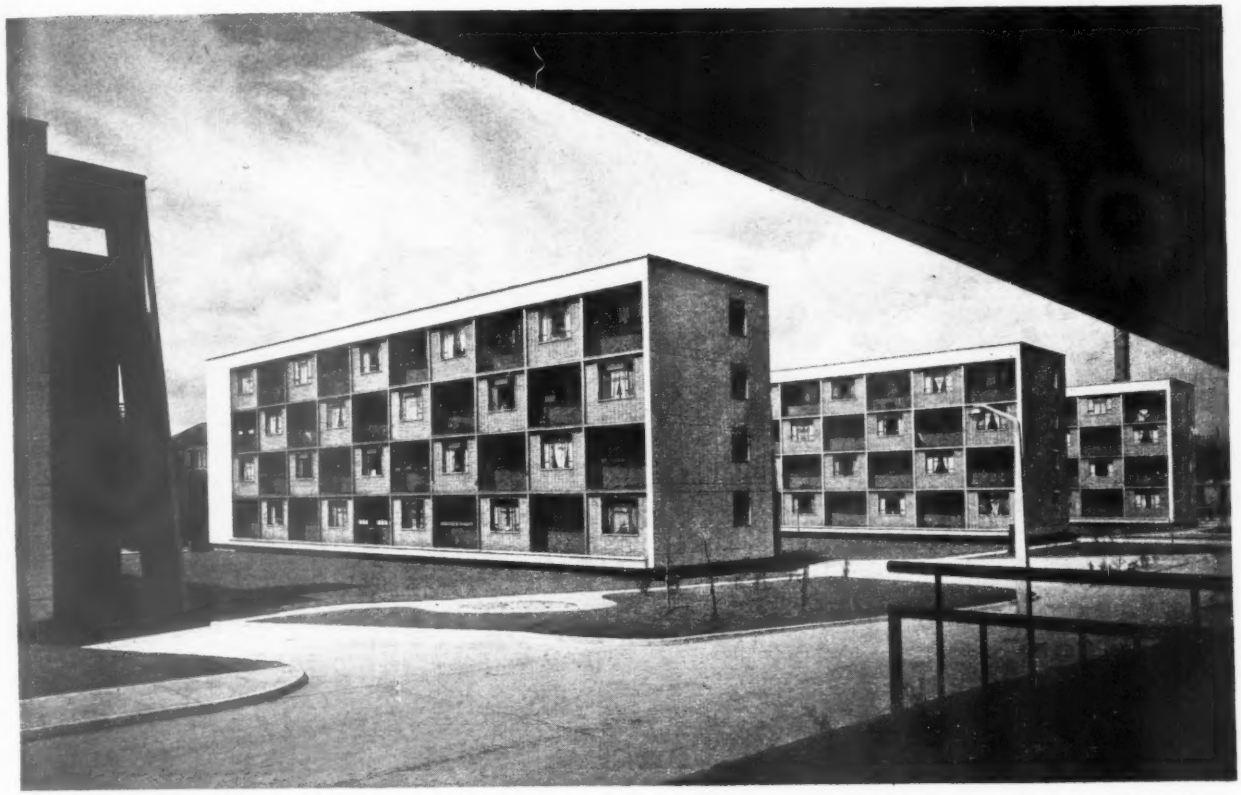


Isometric projection showing construction of typical 4-storey block [Scale : = $\frac{3}{16}$" 1' 0"]

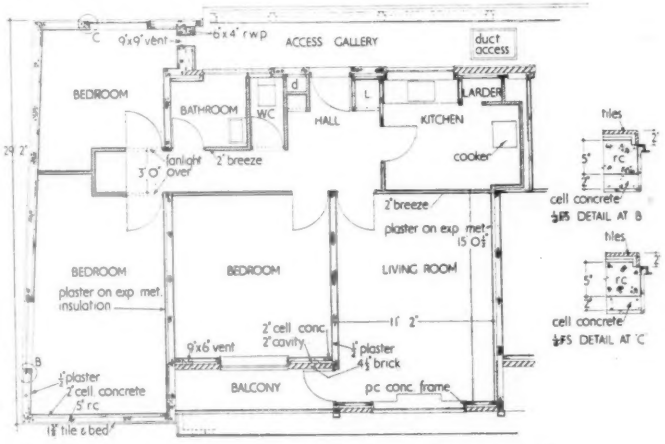


Left, the RC frame in position on a typical 4-storey block.

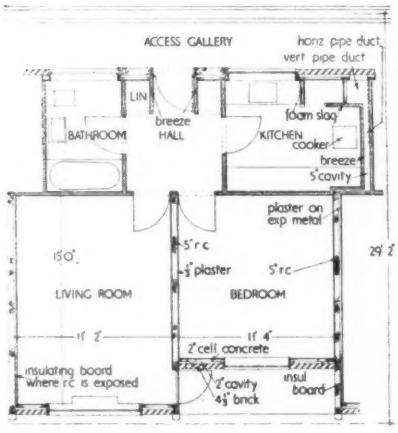
SITE.—The area is about 200 yards square, bounded by Colliery Street on the south, Southampton Street (now Calshot Street) on the west, Wynford Road on the north and Rodney Street on the east. The only building remaining on the site, when the Borough s post-war plans were made



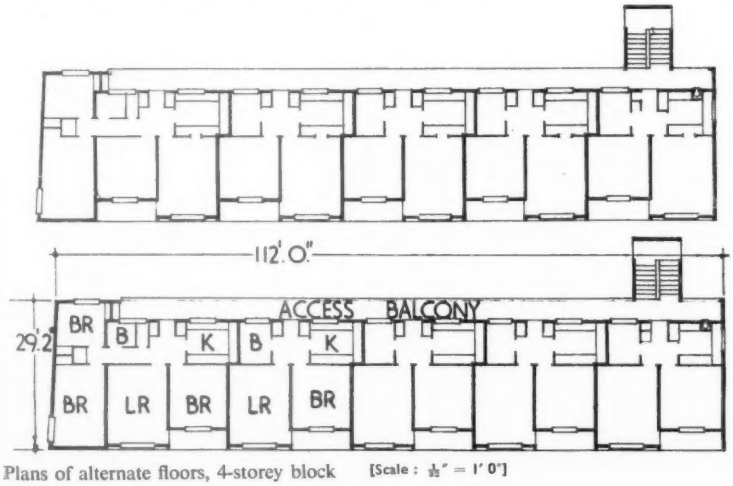
The four 4-storey blocks from the south-east.



Typical 4-room end flat, 4-storey block [Scale : $\frac{3}{32}$" and $\frac{1}{4}$" = 1' 0"]



Typical 2-room flat



Plans of alternate floors, 4-storey block [Scale : $\frac{1}{32}$" = 1' 0"]

FLATS

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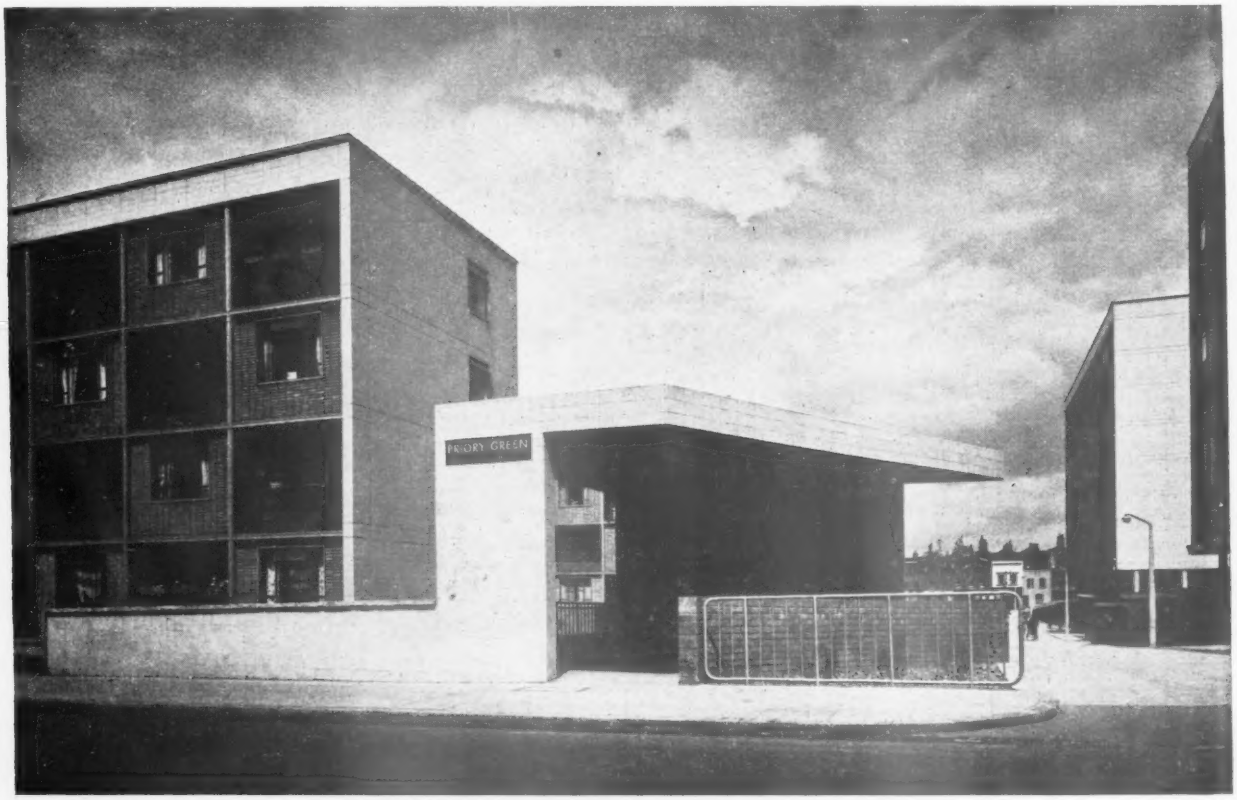
was to be a 5-storey block of Council flats in the north-west corner of the site. The scheme, when completed, will include a third 8-storey block to the north of the site and, in addition, a nursery school, community centre, communal laundry, caretaker's house, and a public house in place of one that has to be demolished. Two of the 8-storey blocks, the 4-storey block and the laundry

are now completed and it is expected that work will shortly begin on the third 8-storey block. The proposed community centre and public house are planned in the north-west corner of the site and the nursery school on the southern boundary.

PLAN.—In order to reduce cost, balcony access was adopted in preference to staircase access and for the 269 flats completed the number of staircases are only twelve and there are four lifts. The 4-storey blocks are intended to link up with the predominant height of the surrounding buildings and to give architectural variety. These blocks contain mainly 2-room flats, with living rooms and bedrooms facing south. The 8-storey blocks, on a north-south axis, contain 4-room flats on every floor except the ground floor, where there are a few flats of different sizes. A single-storey structure on the west side of Kendal House (the west 8-storey block) contains a 3-room caretaker's flat, office, small workshop and electrical sub-station. Bicycle and pram stores are accommodated in the lower ground floor of Kendal House and in two small blocks on the west side of Redington House (the east 8-storey block). The laundry consists of 16 cubicles each equipped with an electric washing machine and there are five steam-heated drying tumblers placed radially. A lavatory and w.c. a provided near the entrance and there is also a small store. The heating chamber, supplying the whole scheme, is situated under the laundry and has a 90-ft. chimney serving the heating boilers. There are two areas on the south side, one containing an access staircase and the other an ash hoist and emergency staircase. Between these areas is the fuel store, fed from four coal holes placed along the service road.

Left, the caretaker's 3-room flat, situated to the west of Kendal House, the west 8-storey block. Below, the south entrance to the site from Collier Street. On the back wall of the entrance shelter is a coloured relief map of the scheme.



WORKING DETAIL

BAY WINDOW: SCHOOL AT CHISWICK

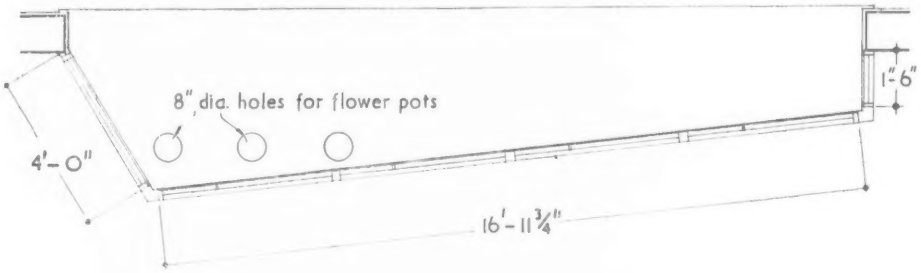
C. G. Stillman, Architect to the Middlesex County Council; C. E. Hartland, L. T. Channing, assistant architects.

The reinforced concrete cantilever carrying the window forms a wide sill with holes to take flower pots.

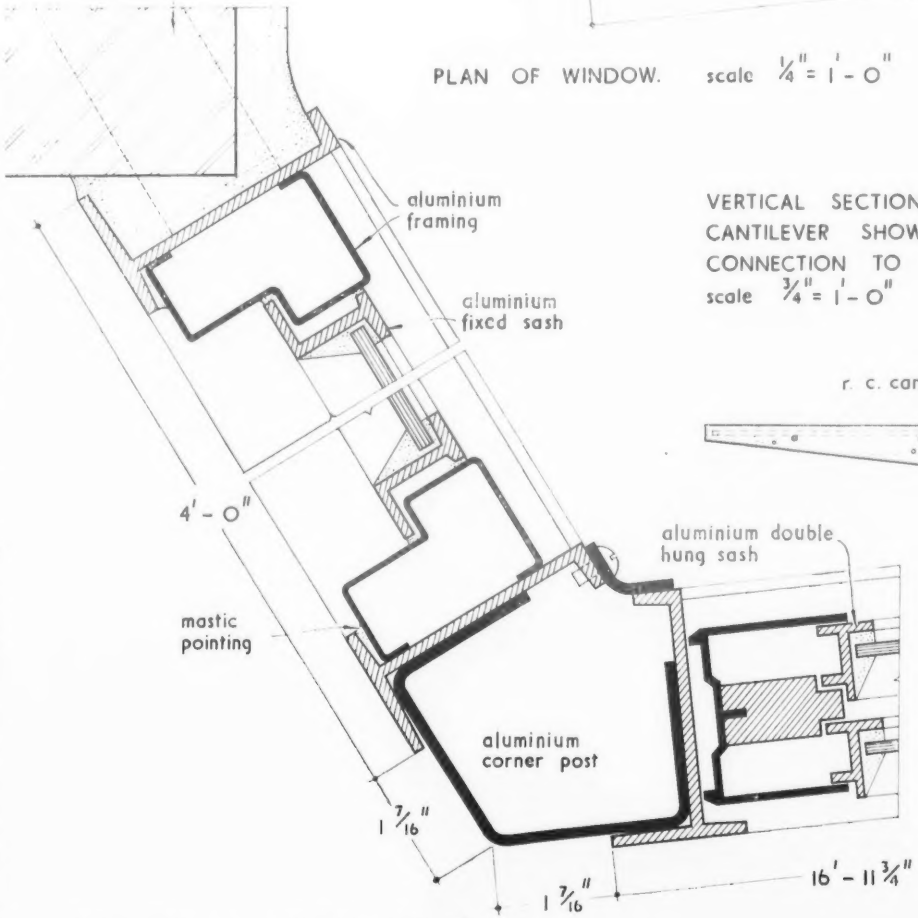
WORKING DETAIL

BAY WINDOW: SCHOOL AT CHISWICK

C. G. Stillman, Architect to the Middlesex County Council; C. E. Hartland, L. T. Channing, assistant architects.

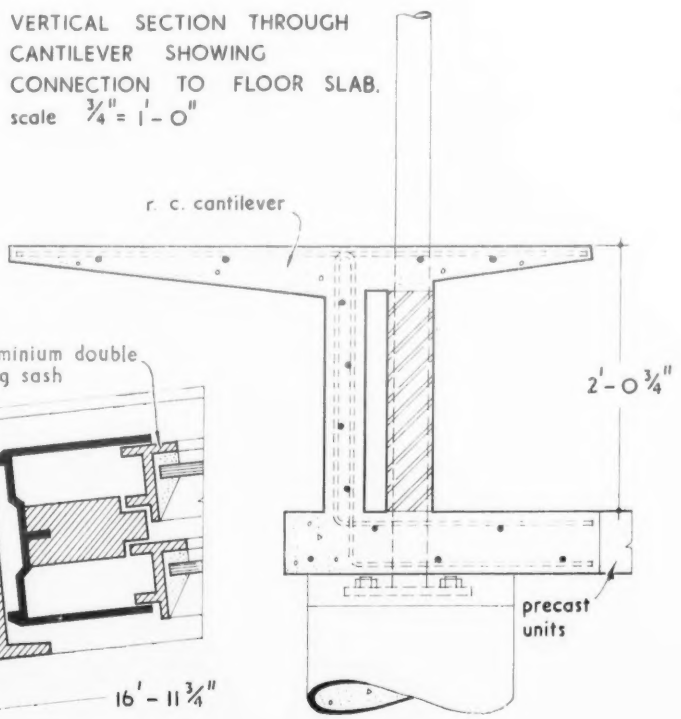


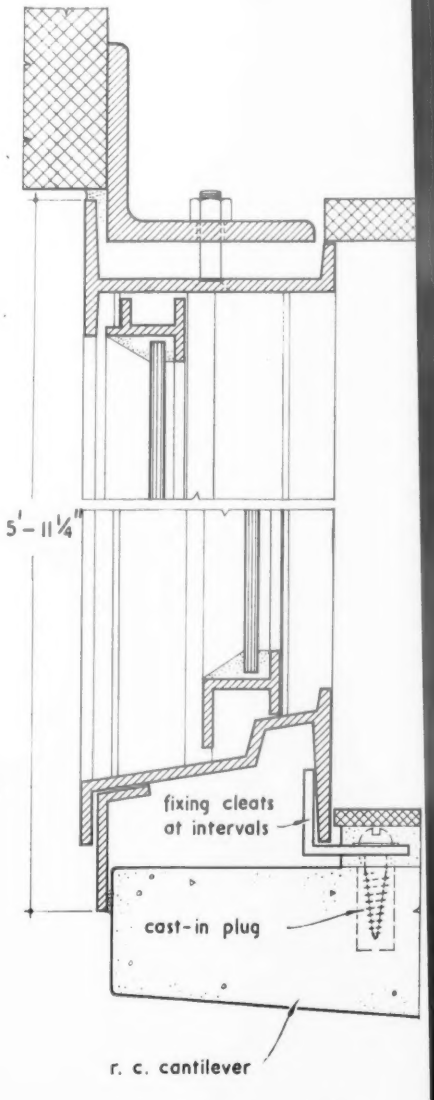
PLAN OF WINDOW. scale ¼" = 1'-0"



PART PLAN OF WINDOW. scale ½ full size

VERTICAL SECTION THROUGH CANTILEVER SHOWING CONNECTION TO FLOOR SLAB. scale ¾" = 1'-0"





VERTICAL SECTION THRO' WINDOW.

Architects' Journal 9.10.52

WORKING DETAIL **FURNITURE AND FITTINGS: 28**

PRACTICAL LECTURE BENCH: EXTENSIONS TO UNIVERSITY OF DURHAM

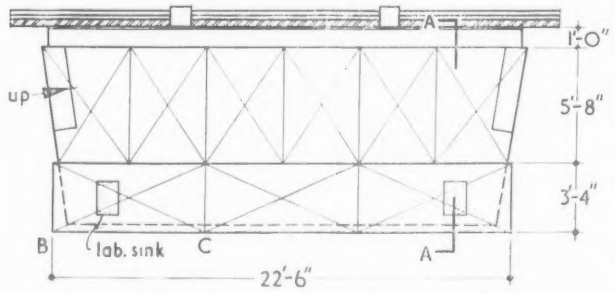
J. S. Allen, architect; Oscar Faber and Partners, consulting engineers.

The dais and bench are built in sections so that they may be completely removed.

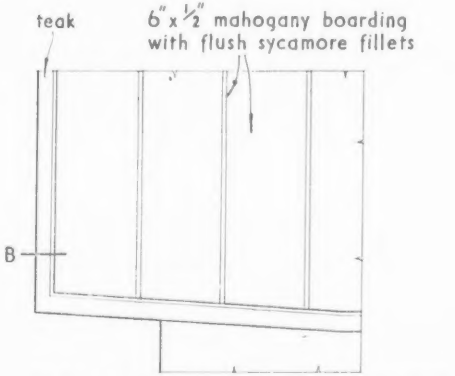
WORKING DETAIL

PRACTICAL LECTURE BENCH: EXTENSIONS TO UNIVERSITY OF DURHAM

J. S. Allen, architect; Oscar Faber and Partners, consulting engineers.

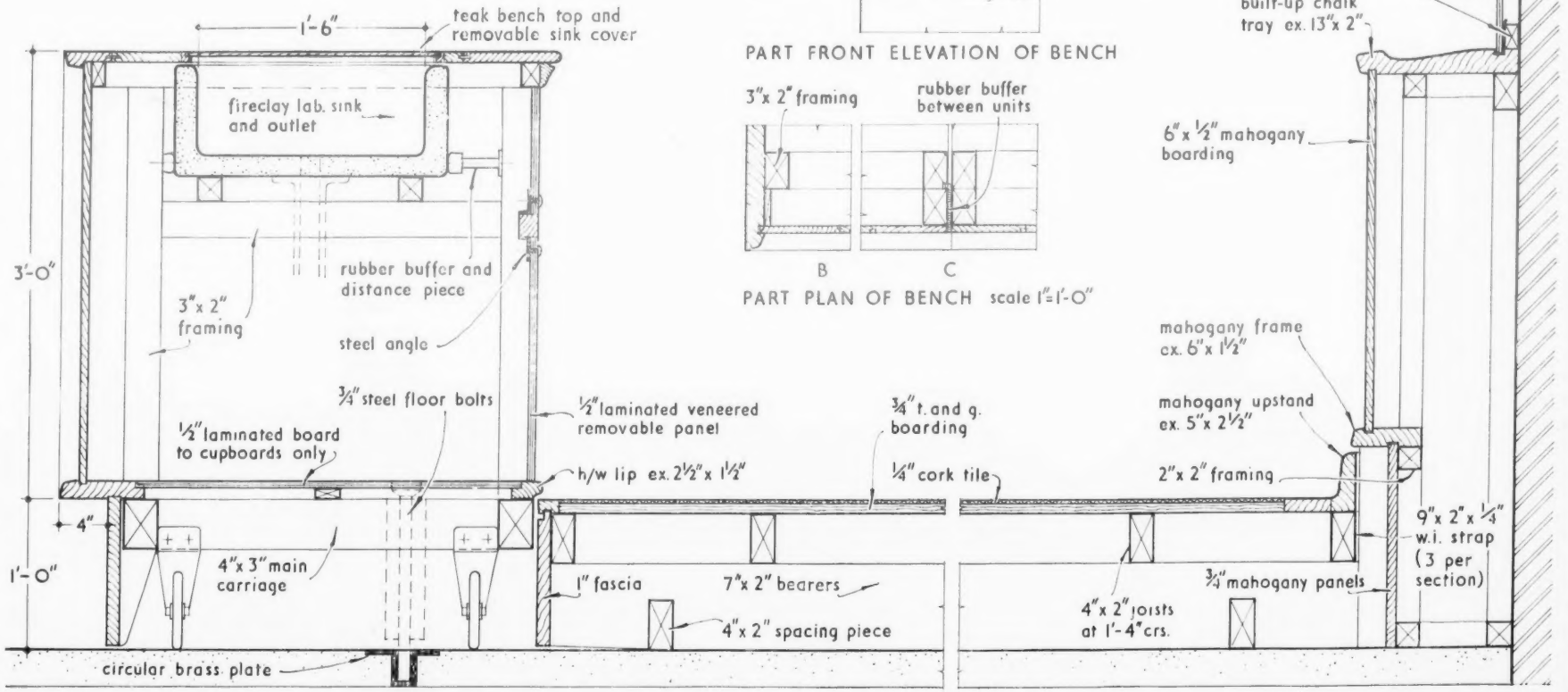


KEY PLAN OF BENCH AND DAIS scale 1/8"=1'-0"



PART FRONT ELEVATION OF BENCH

PART PLAN OF BENCH scale 1"=1'-0"



SECTION THRO' BENCH, DAIS AND CHALKBOARD AT A-A. scale 1"= 1'-0"

Architects' Journal 9.10.52

CONSTRUCTION.—A similar system is used in all the blocks, namely reinforced concrete cross walls varying from 5 in. to 7 in. thick according to the load, and flat RC floor slabs 4½ in. thick. After the first two blocks had been constructed, one 4- and one 8-storey, with foundations formed by carrying down the cross-walls to footings, it was decided to use piled foundations owing to the difficult nature of the site, which is made up ground to a considerable depth. RC piles were used in rows, the top of each row being connected with an RC beam, which carries the cross wall over. Two systems of shuttering were used for the RC work, one consisting of laminated steel sheets for the walls and floors similar to those used in the Rosebery Avenue flats designed by the same architects (AJ April 26, 1951). The other system, used on the first two floors of the 4-storey blocks, consisted of shuttering for each side of the cross walls made up in one section from timber and erected by means of cranes. This system was limited to the first two floors due to the type of crane that was available. Access balconies are constructed with cantilevered RC floor slabs with a balustrade consisting of pre-cast units faced with Portland stone carried by RC posts poured in situ. The laundry has an RC floor and roof and walls of cavity brickwork. The 90-ft. boiler house chimney is constructed of RC, carried on piles and has a molar block lining.

FINISHES.—The main elevations are divided into panels with an infilling of 4½-in. brickwork, a 2-in. cavity and an inner lining of 2¼-in. cell. concrete. The brickwork of living room elevations is laid with straight vertical joints and, in order to comply with the bye-laws, every third horizontal course is reinforced. The ends of the cross walls are covered by cast iron downpipes of rectangular section, and the edges of the slabs are covered by horizontal gutters, which also drain the private balconies. The downpipes take the water from these gutters and the roof and discharge into large asphalt-lined RC gutters running the whole length of the buildings at ground or first floor level. The cast-iron work serves the treble purpose of facing the ends of walls and slabs,

Top, entrance porch to Kendal House (the west 8-storey block) with wall paintings by Feliks Topolski on the interior walls. Above, entrance to Redington House, the other 8-storey block, showing service road and car park.

Above, Kendal House, seen from the south-east, with a 4-storey block behind.

FLATS

on the PRIORY GREEN ESTATE, LONDON, N.1
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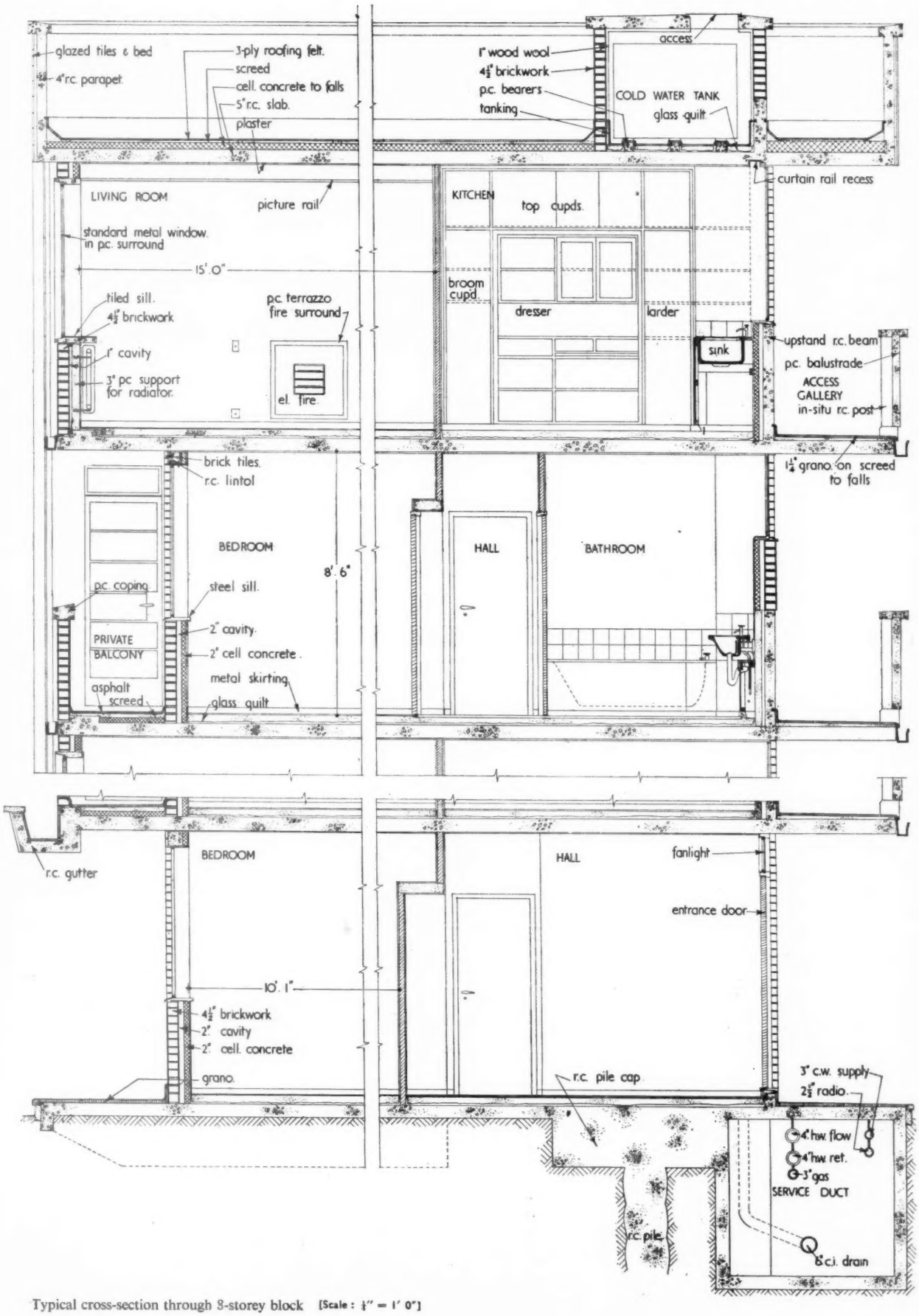
covering the joints between brick panels and the concrete frame and disposing of rain water. Living room windows are fixed in precast concrete surrounds, which have an internal projection forming a wide window sill covering the radiators. The private balconies in 8-storey blocks are protected by brick panels under RC beams and in the 4-storey blocks with cast iron railings. The gable ends, lift enclosures and staircases are all faced externally

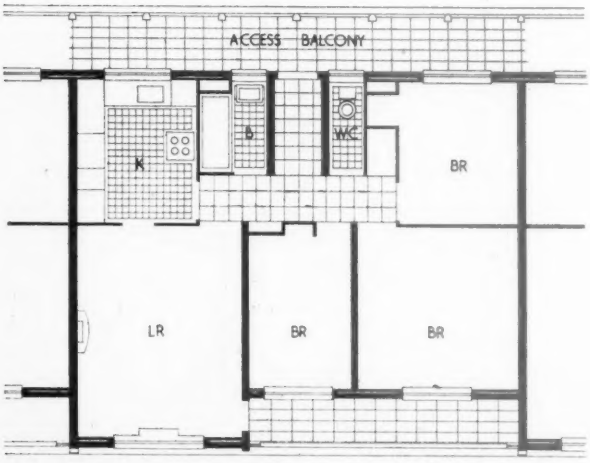


Typical cross-section through 8-storey block [Scale : ¼" = 1' 0"]

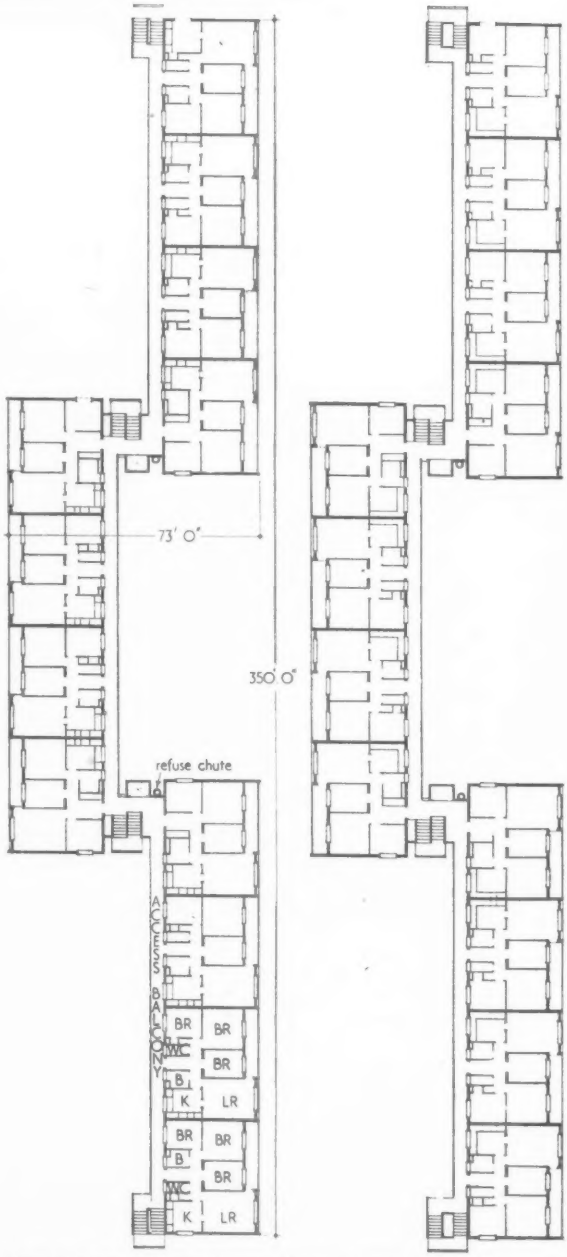
Left, Kendal House seen across the playground with the boiler house and laundry on the right.

with 6-in. square glazed tiles, divided into panels by wide joints. There are no untreated exposed concrete surfaces. Where concrete surfaces are recessed and protected from the weather they are treated either with cement paint or with a slurry composed of lime, size and cement. Floors consist of a cement screed floating on a layer of glass silk quilt, and finished with pressed asphalt tiles in living rooms and bedrooms and with granolithic in kitchens and bathrooms. Roofs are finished with 3-ply bituminous sheeting on cell. concrete screed, laid *in situ* to suitable falls. In Kendal House the interior walls of the entrance porches are decorated with wall paintings depicting the history of London by Feliks Topolski.

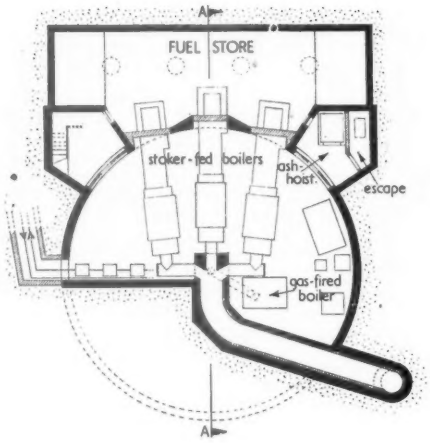
SERVICES.—The heating chamber below the laundry contains three solid fuel boilers fed by automatic stokers, three circulation pumps connected to the hot water flow pipe, a gas-fired steam boiler to serve the laundry and a calorifier and storage cylinder for laundry hot water supply. The boilers are connected to the buildings by underground ducts. Convection radiators are provided in living rooms



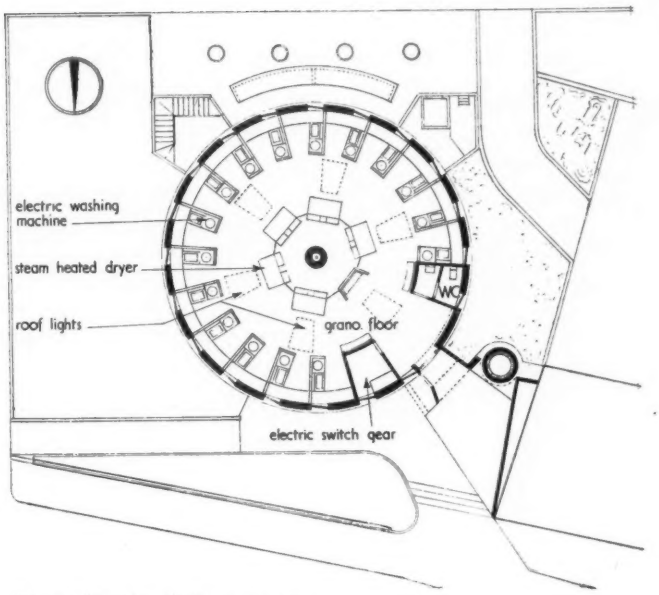
Typical 3-bedroom flat, 8-storey block [Scale : $\frac{1}{32}$" = 1' 0"]



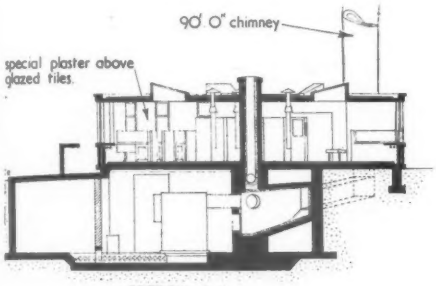
Plans of alternate floors, 8-storey block [Scale : $\frac{1}{64}$" = 1' 0"]



Plan of heating chamber



Plan of laundry [Scale : $\frac{1}{16}$" = 1' 0"]



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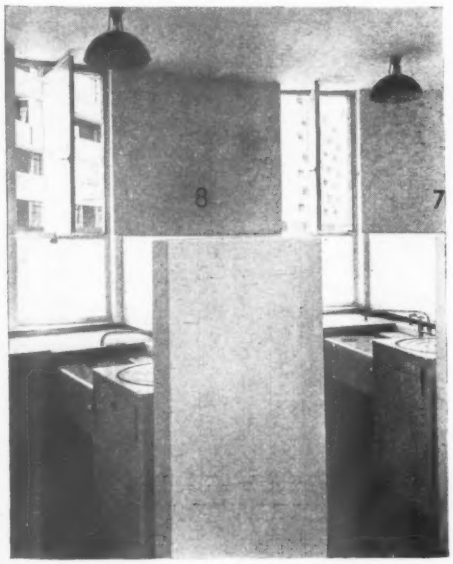
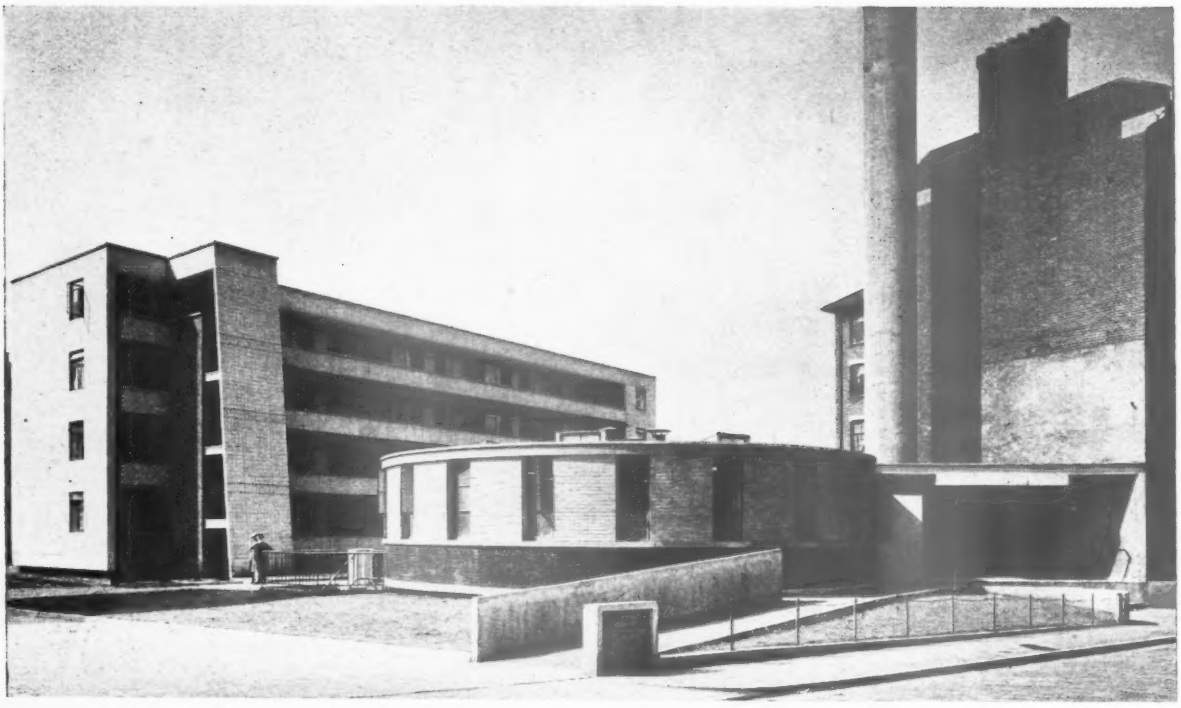
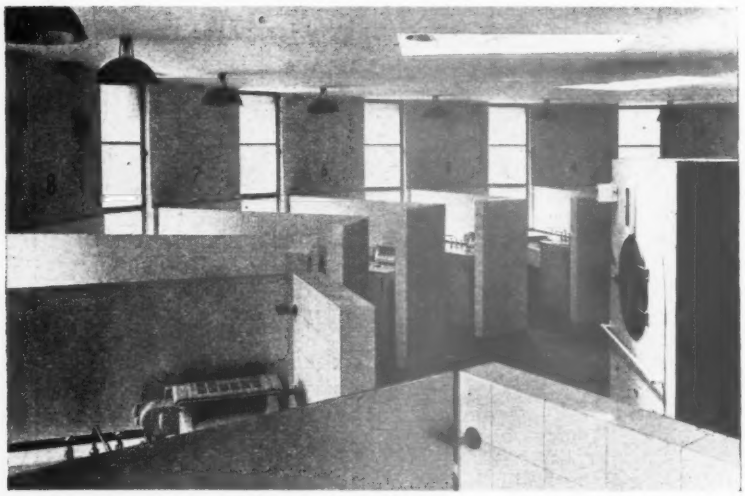
and halls in each flat, and a 30-gall. calorifier in the linen cupboard supplies the hot water. The laundry contains 16 cubicles, each containing an electric washing machine with automatic wringer, a sink and a shelf. There are five steam-heated drying tumblers and a few gas coppers for those who wish

Below, cubicles in the communal laundry. Right, the laundry and boiler house from the south-east.







to boil their laundry. The floor is of red granolithic. The walls of the cubicles are faced with white and yellow glazed tiles up to a height of 5 ft. and the cubicles are separated by screens of aluminium faced plywood. Above this level the walls and ceiling are finished in a special plaster incorporating vermiculite to reduce condensation. Each cubicle has its own opening window and there are six opening roof lights.

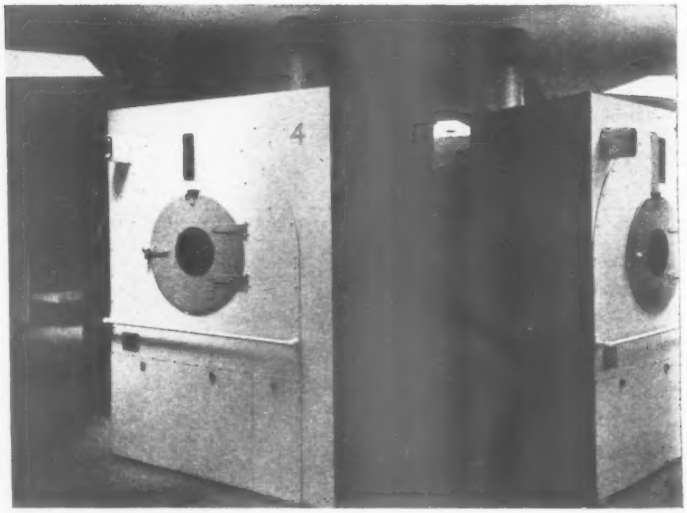
The general contractors are F. O. Minter, Ltd. For sub-contractors see page 450.

FLATS

on the PRIORY GREEN ESTATE, LONDON, N.1

designed by TECTON

executive architects, SKINNER, BAILEY and LUBETKIN



Top, the communal laundry from the north-east. Above, general view of the laundry interior. Right, two of the steam-heated dryers in the centre of the laundry.

TECHNICAL SECTION

A letter in last week's issue of the JOURNAL (page 393) raised a perennial problem. A reader quoted, without comment, three tenders he had received for 3-ply roofing, which were all within one penny for a £2,000 job. It is difficult to believe that this is not another example of a " price ring " at work. The Monopolies Commission revealed recently the fact that restrictive practices take place in the electric wire and cable industry. And two weeks ago, at a " private " meeting to which the Press was not admitted and of which no report is to be issued, Sir Alfred Hurst addressed the County Architect's Society on the " aims and objects " of the London Builders' Conference—widely regarded as a " price fixing " organization, but still, doubtless, very active.

What Sir Alfred said we shall, presumably, never know, but justifications for the activities of the LBC which have been put forward in the past were rejected in the Simon Report, and described by the RIBA, some time before the war, as not in the interest of the building owner.

At a time when every effort is being made to cut the cost of building, including regrettable reductions in standards, should price rings, in any form, be tolerated ?

This week's special feature

14 MATERIALS : CONCRETE
cement symposium

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

Portland cement was originally a British invention ; it was encouraging, therefore, to note the substantial contribution made by British scientists at the recent symposium on cement, organized by CCA and BRS. Below is a general report of the symposium, by Dr. T. W. Parker (Deputy Director of Research, BRS), followed by extracts from the paper by Dr. A. R. Collins (Technical Director of CCA) on recent developments in the design and construction of concrete structures.

A symposium was held in 1918 to discuss " the setting of cements and plasters." It was sponsored by the Faraday Society, it met in London, and the reasons for holding the meeting were " the difficulties experienced in inaugurating research into the question of cement and setting generally." By 1938, research on Portland cement had advanced considerably, so that at a second international symposium held in Stockholm in that year, sponsored jointly by the Royal Swedish Institution for Engineering and the Swedish Cement Association, good progress in research was reported. The published proceedings of this symposium became a valuable source of reference for research workers and, undoubtedly, inspired much of the research work which was subsequently carried out.

It was intended to hold a third symposium in the USA in 1948, ten years after the one at Stockholm, but economic conditions necessitated a change in plans, and the third symposium took

place recently in London, the sponsors being the CCA and the BRS.

OPENING SESSION

This symposium had about 250 members, from 23 countries. At the opening session, held at the Royal Institution, the president of the symposium, Sir Ben Lockspeiser, drew attention to the present size of the industry and of the value of its products. While recognizing the considerable effort in research which had been and was being made, he emphasized the necessity for even greater efforts and for continuing long-range and fundamental research work on cement. Sir Francis Meynell, Director of CCA and vice-president of the symposium, supported this view but supplemented it with a reminder of the need to apply the results of research to the practical problems of building.

The session concluded with addresses from overseas visitors and an interesting lecture by Messrs. Gooding and Halstead of the CCA on the early history of cement in England. The remainder of the symposium took place at the headquarters of the Royal Society of Arts. One day was devoted to papers on the constitution of Portland cement, one to papers on setting and hardening, and one to papers on special cements, *i.e.*, to aluminous cement, slag cement, oil-well cements, masonry cements and expansive cements. The final session dealt with applications of research to manufacture and to use, and ended with an address by Dr. F. M. Lea, Director of Building Research, BRS, on cement research in the future.

STRUCTURE OF CEMENT

It is unlikely that any aspect of building science has, so far, been the subject of such detailed study as has Portland cement. Many of the papers presented at the symposium dealt with refinements of experimental technique and theoretical treatment which must be the most advanced that have yet taken place in connection with the pure science studies to which they are related.

Chalk or limestone and clay, the basic materials used in making Portland cement, become, after burning, a complex mixture of silicates, aluminates and alumino-ferrites, held together in a matrix of glassy material. The size of the crystals of these compounds in Portland cement clinker seldom exceeds $\frac{1}{50}$ mm. By various experimental devices it is now possible to "grow" bigger crystals in the laboratory, these crystals being about $\frac{1}{10}$ mm. in size. They have been used in experiments using X-rays to determine a complete picture of the arrangement of atoms in cement crystals. Models of them have been made, similar to those which were shown (and were the theme of many of the lighting and decorative patterns) at the Science Exhibition during the Festival of Britain.

When the clinker is ground into a powder and mixed with water, chemical actions take place which result in the setting and hardening normally associated with the use of cements. The chemical products which are thereby produced have not yet been fully analysed, but advances in experimental technique have led to a considerable increase in our knowledge of these products. The use of recent advances in X-ray technology has helped the scientist in this work, and even the new radio-active isotope techniques are being used to study the activities of atoms during chemical actions.

THE USE OF CEMENT

Architects, civil engineers and building contractors, all have their particular problems in using cement mortar and concrete. There is a wide variety of problems, such as the problem of avoiding shrinkage cracking; the problem of producing concretes with a pleasant appearance and with good durability during weathering; the problem of placing large quantities of concrete in dams; the problem of placing cement in the casings of deep oil wells; the problem of using cement as a binding material for heat-insulating concrete or in slender structural members. One hundred years of cement technology has produced an enormous change in the degree of accuracy which is possible in the use of cement, and a vast increase in the variety of purposes for which it is used; most of these developments have taken place during the last 30 or 40 years.

Our increased knowledge of the constitution of cement has two main applications: Firstly, it is a great help in the attempt to produce a uniform product and, therefore, in refining design. Secondly, it helps us to understand the relationship between the composition of cement and the properties of concrete made with it.

Unfortunately, the cures of some of the apparently simple defects are sometimes more difficult to find than those of apparently more complex faults. The problem of the shrinkage of set cement resembles that of the common cold. Whereas the author of a paper on oil-well cements, dealing with conditions under which cements have to be poured, kept fluid for a reasonable time before setting, and prevented from losing their liquid to the surrounding media, at temperatures over 200° F. and pressures of several thousand lb./sq. in., was able to show how cements could be modified successfully to meet these conditions (and was able to predict confidently that cements could be produced that would cope with even more rigorous conditions), shrinkage problems remain unsolved.

MASONRY CEMENTS

Research into the fundamental properties of a material pays dividends when the scientists produce a new material for use in the industry. In recent years there have been rapid developments in the USA of special "masonry cements." These may be compared with the cement-lime mortars normally used for brickwork, although their composition is different from that of a cement-lime mix. Development work on these cements is taking place in this country, but it remains to be seen whether "masonry cements" suitable for use in bricklaying will find favour here.

DR. T. W. PARKER

Dr. A. R. Collins, Technical Director of CCA, in the paper he presented to the recent cement symposium, summarized below, dealt with developments in the making of concrete, in concrete structural engineering, in the use of precast concrete and in the surface treatment of concrete. He concluded with a plea for more fundamental research on the physical structure of hardened concrete.

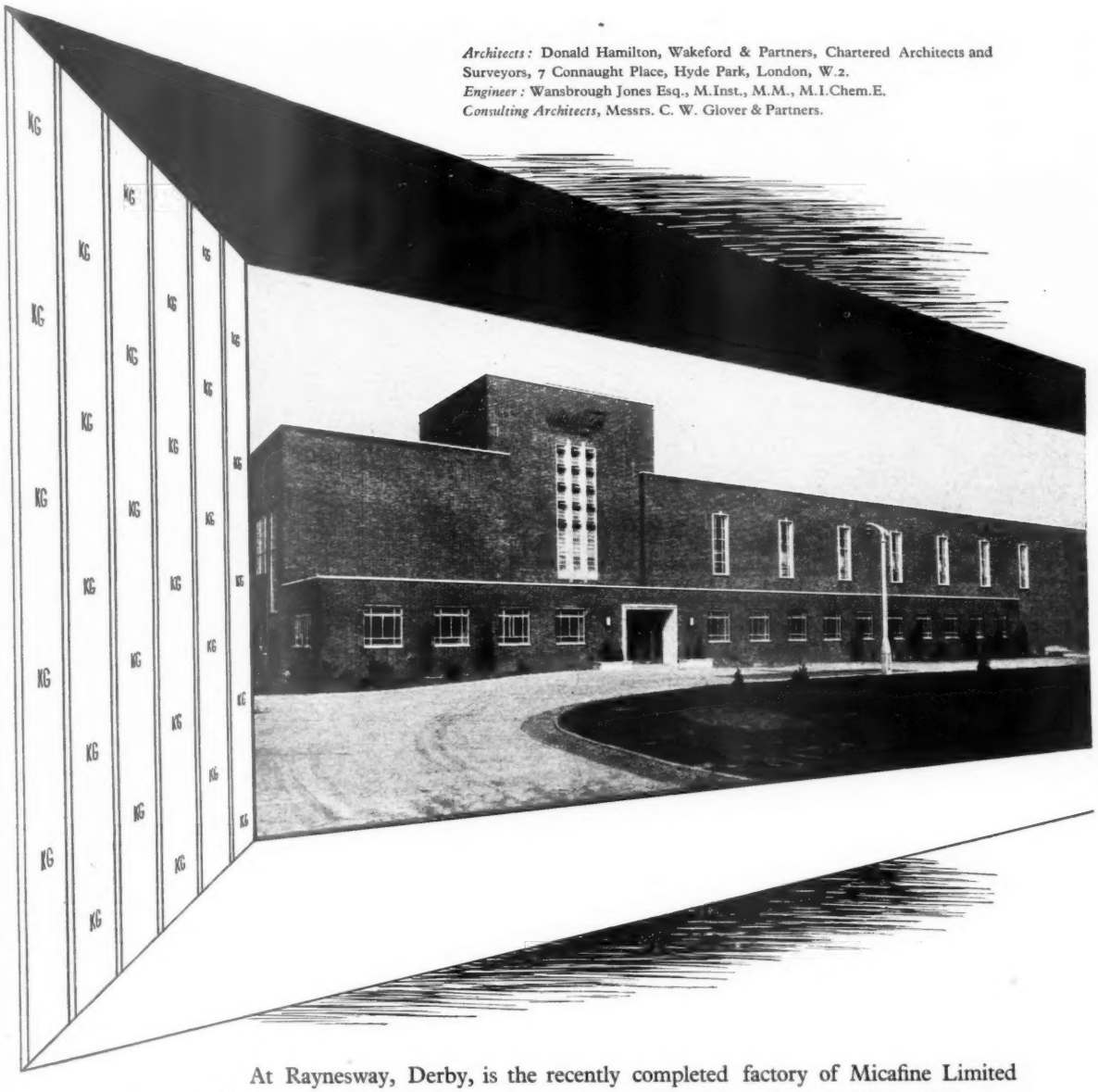
RECENT DEVELOPMENTS IN THE DESIGN AND CONSTRUCTION OF CONCRETE STRUCTURES

By Dr. A. R. Collins

The most important development in concrete manufacture in Britain in recent years has been the rapid increase in the use of mixing methods based on scientific data and a wider application of quality control.

The method of mix control now commonly used in Britain is based on that developed at the BRS and the Road Research Laboratory. It is based on the assumption, not strictly true but sufficient for practical purposes, that the quality of concrete can be measured in general by the crushing strength of test cubes; that the strength depends within certain limits on the water: cement ratio alone and that with a given water: cement ratio the mix proportions can be varied to obtain any desired degree of workability without greatly affecting the strength. The Road Research Laboratory publication *The Design of Concrete*

Architects: Donald Hamilton, Wakeford & Partners, Chartered Architects and Surveyors, 7 Connaught Place, Hyde Park, London, W.2.
Engineer: Wansbrough Jones Esq., M.Inst., M.M., M.I.Chem.E.
Consulting Architects, Messrs. C. W. Glover & Partners.



At Raynesway, Derby, is the recently completed factory of Micafine Limited —the only factory in the United Kingdom manufacturing Wet Ground Mica. This raw material is used extensively in many and varied industries throughout the Continent, the Dominions and the Commonwealth. 'PUDLO' Brand Waterproofer was specified for the concrete mix in the construction of many items of plant and the dust extractor basement, as well as in the screeds to the barrel vault roofing to the main factory, and the flat roofs to the office block.

'PUDLO'
BRAND

CEMENT WATERPROOFING POWDER

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

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*Mixes,** includes graphs and tables from which the water : cement ratio can be chosen and tables from which can be obtained the mix proportions for any of four standard degrees of workability, with aggregates of various size, particle shape and grading. This method of mix design, though not taking all relevant factors into account, provides a good basis for trial mixes in the field and its simplicity has not only encouraged general application but has helped in giving a wide understanding among engineers of the principles underlying the making of good concrete. Most of the large civil engineering contracting firms, and many smaller ones, now have central testing laboratories which control the technical aspects of concrete production in the field and sometimes undertake research.

The practical effect of increased knowledge in the concrete construction industry can be seen in the success with which standards of concrete quality set in specifications are met. Before the war, the minimum specified cube crushing strength of high-grade concrete of about 1:6 proportions was often no more than 3,000 lb./sq. in. at 28 days. At the end of the war, when a minimum strength of 4,000 lb./sq. in. was set for airfield runways, there was some doubt whether it could be consistently met with mixes leaner than 1:6, but the specification was in fact satisfied with a mix of 1:6·25 by weight (530 lb. per cu. yd.) which gave an average strength of 5,750 lb./sq. in. at 28 days. In 1952 similar strengths are being obtained with mixes of 1:7·25 (475 lb. per cu. yd.).

*Road Research Note No. 4 (second edition). (HMSO, 1950, 9d.)

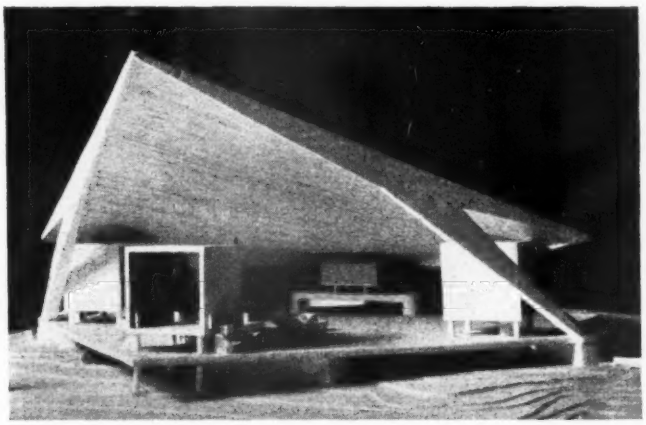


Fig. 1, model of "anticlastic" shell roof submitted for the competition for Coventry Cathedral by Alison and Peter Smithson. (Engineers, Ove Arup and Partners.)

STRUCTURAL ENGINEERING

Although the centenary of the invention of reinforced concrete has already been celebrated, it is only in recent years that the possibilities of the material have been well exploited. For the first three-quarters of the century of reinforced concrete the structures for which is was used were in general little different from those employing older materials. During the period between the wars a number of new forms of structure and new methods of using reinforced concrete were developed in which the inherent properties of the material were more fully used. One of the most important of these new structural forms is the thin shell.

Vaults and domes of brick or masonry and even of materials like concrete have been used for many centuries. In these structures, however, the vault or dome always exerted a thrust on its supports, which required heavy resisting buttresses. In the modern concrete dome or vault there need be no external thrust and the structure may be supported on thin columns or walls.

A shell roof may have one of many shapes, including simple cylindrical shells with edge beams, multiple cylinders joined edge to edge and circular or square domes. Multiple shells may be tilted to give north-light roofing or two or more shell shapes may be combined. The membrane need not be curved, but can consist of flat sections set at various angles. Shell roofs may be supported along their edges or at their corners or may be cantilevered from single supports. (Examples of roofs of some of these types were illustrated in

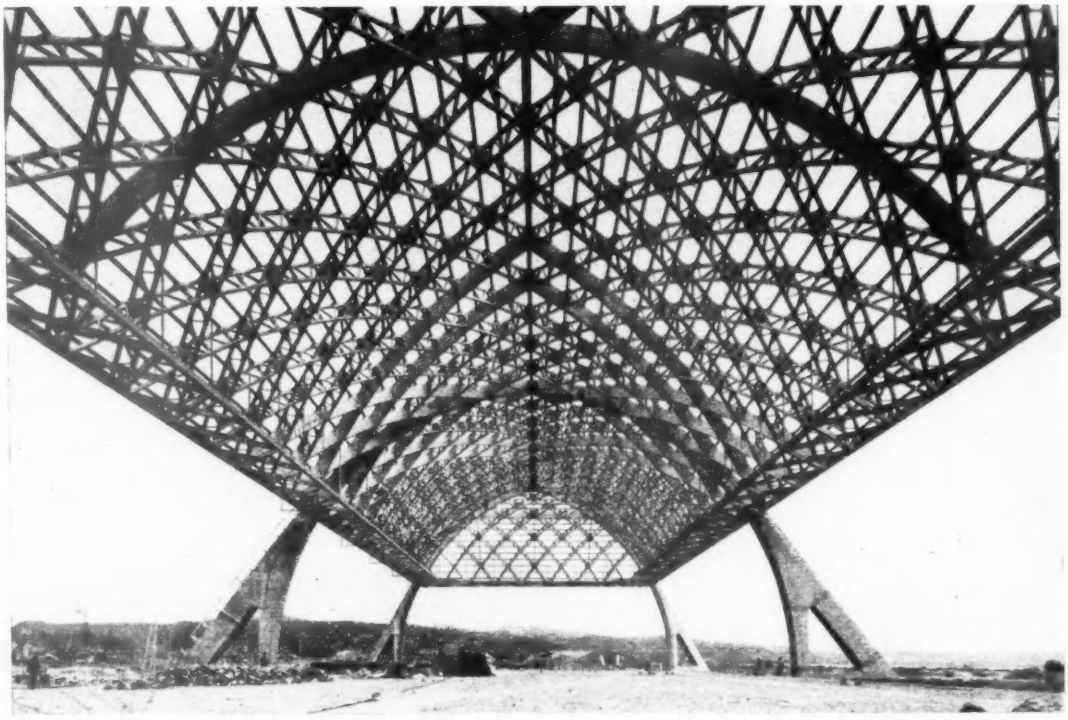
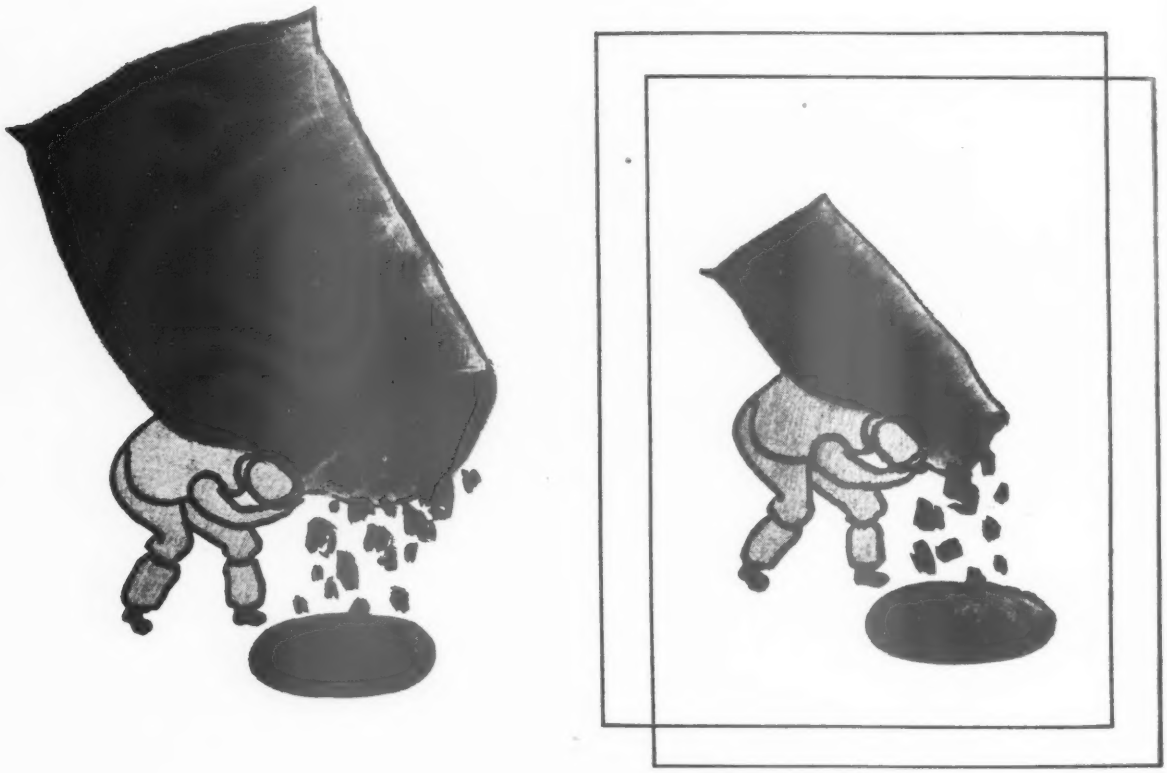


Fig. 2, precast concrete "Lamella" type roof construction at Orvieto, near Rome. (Engineer: Professor Nervi.)



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the JOURNAL for August 14.) Clear spans of 100 to 150 ft. are comparatively common and even greater spans have been constructed, though they are economically less justified.

A further shape that has not yet been widely used, but which has certain advantages, is the anticlastic shell. In this the roof membrane is curved in two directions at right angles to each other with the centres of curvature on opposite sides of the membrane. The resulting shape is similar to, but not quite the same as, that obtained by twisting opposite edges of a flat slab. It has the advantage that all lines parallel to the edges are straight so that the main supports of the shuttering may be made straight. A photograph of a model of one of the entries for the Coventry Cathedral competition incorporating an anticlastic shell roof 200 ft. square, is shown in Fig. 1.

Similar to the shell roof in outside appearance, though structurally different in that it is a space frame and not a membrane, is the "Lamella" roof, as used by Nervi in Italy. This is constructed of small precast concrete elements set in a diagonal pattern and supported at a small number of points by sloping buttresses (see Fig. 2).

The development of prestressed concrete occurred almost contemporaneously with that of shell construction. Its origins go back almost to the beginning of the century, when various attempts at applying pre-tension to the steel of reinforced concrete were made without success. It was the work of Freyssinet, in the period from about 1925 to 1940, that made prestressing a practical structural process. The importance of Freyssinet's contribution lies in the fact that he realized the fundamental difference between reinforced and prestressed concrete. The earlier workers had merely tried to increase the stress in the steel, but Freyssinet thought of the stress as being applied to the concrete; the steel being merely a convenient, but not the only way, of doing this. He also appreciated the importance of creep and shrinkage, and realized that prestressed concrete could be successful only if both the concrete and the steel were of very high strength.

In Britain the output of prestressed concrete is already about 10 or 15 per cent. of that of reinforced concrete, and prestressing steel is used at the rate of about 12,000 tons per year. The new hangars at London Airport represent one of the most efficient uses of concrete in spanning large distances that has so far been achieved. The roof beams have a span of 110 ft., with a T-section 4 ft. wide, 6 ft. deep and only 4 in. thick. They were made in sections at a products works and assembled and prestressed on the site, before being lifted into place.

PRECAST STRUCTURAL CONCRETE

It might perhaps be thought with some justification that one of the chief advantages of reinforced concrete as a structural material is its ability to be cast in the position it is finally to occupy. This was, in fact, the chief characteristic of reinforced concrete for many years and is still one of the most important properties of concrete when used in many kinds of structure. It is, therefore, something of a paradox that the development of precasting should become a worthwhile improvement in technique, but the precasting of structural members has important advantages in simplifying and speeding up construction in certain fields, and developments in general construction methods have overcome most of its disadvantages.

There are many reasons why the technique has made such progress in recent years. Among the most important are the shortage of materials for formwork, the complexity of shape of many structural members, the general reduction in weight of concrete structures resulting from the use of high stresses and the availability of efficient cranes and other lifting apparatus. By using precast concrete, work can begin on

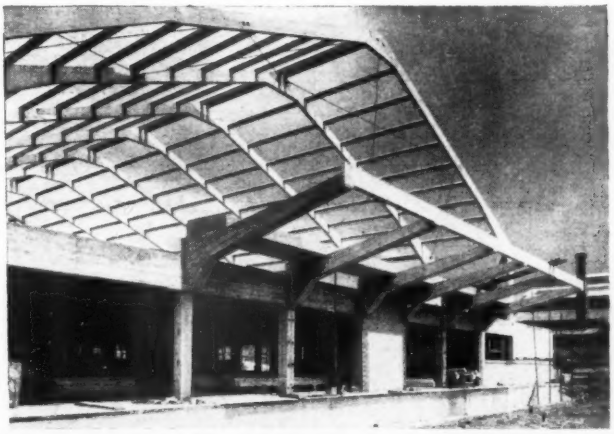


Fig. 3, precast concrete framing for kiln house and store for pottery factory at Stoke-on-Trent. (Engineers, W. S. Atkins & Partners; architect, L. Erdi.)

Fig. 4, shell roof at Marignane, France precast on ground and lifted into position (span, 300 ft.). (Photo: Ray Delvert.)

many parts of the structure at the same time and one mould can be used in place of the many that would be required for normal *in situ* casting, without any diminution in speed of construction. As a consequence, elaborate formwork does not become uneconomic when the requirements of the structural design call for it, resulting in greater freedom for the designer.

During the war structural precast concrete was used on a large scale in standardized buildings for army camps. These buildings were usually single-storey huts consisting of a series of portal frames covered with light sheeting. Since the war many buildings of a similar type, but often much larger, have been erected in Britain for use as factories (see Fig. 3), but precasting has also been used in multi-storey framed buildings of many kinds. Notable examples are the power station at Acton, London, where columns and beams with weights of up to 30 tons each were precast, the shell roof of the hangar at Marignane, with a span of 300 ft., which was cast on the ground and lifted into place by means of jacks (Fig. 4), and the "Lamella" roof shown in Fig. 2. The American "tilt-up" method of construction, and the process in which floors are cast at ground level and then raised by jacking them up the columns, also developed in the USA, are other good examples.

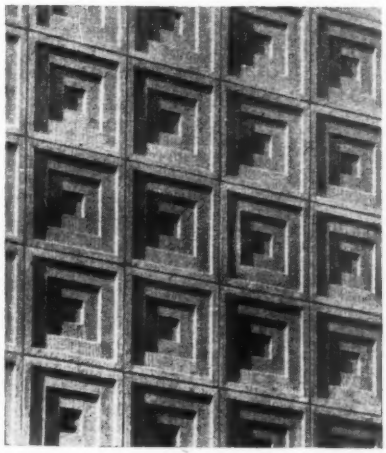
In combination with prestressing, which allows structural continuity to be easily obtained with separate units, precasting makes it possible to construct complicated structures with ease and economy.

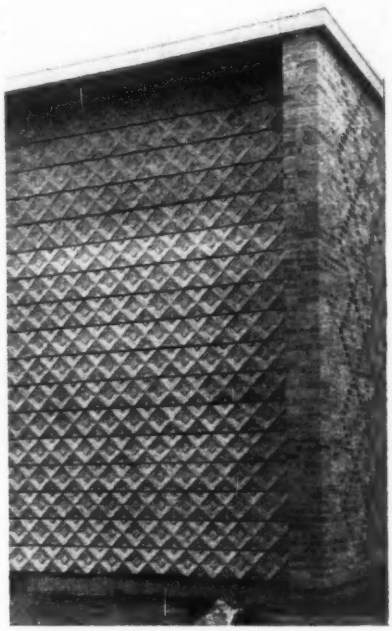
SURFACE TEXTURE

The name of Portland cement was chosen by Aspdin because of the similarity in appearance between concrete made with it and the famous stone used for St. Paul's Cathedral and so many other important buildings in London. Concrete has suffered from this similarity almost ever since because architects and others have used it as if it were a limestone—without taking those precautions normally employed in a stone building to deflect rain.

If concrete is treated correctly, however, its appearance can be quite satisfactory, and a range of colours and textures can be produced which is not obtainable with other building materials.

Many different treatments can be used with success but those generally employed are variations of three processes: exposing the aggregate, tooling the surface (which also exposes the aggregate but in a different way) and casting the concrete in special moulds to produce fine or coarse textured or boldly patterned surfaces. Examples of surfaces of these kinds are shown in Figs. 5 and 6.





Above, Fig. 5, moulded concrete facing slabs on a school building at Ipswich (architects, Johns and Slater). Right, Fig. 6, precast moulded and tooled facing slabs, each 2 ft. square on a building at Nancy, France.

With these kinds of treatment many of the difficulties met with ordinary concrete surfaces are overcome, but certain problems still remain. In *in situ* concrete the treatment often has to be carried out after the concrete has hardened, with resulting high costs. Difficulties arise from variations in the colour of aggregates and cement paste, and efflorescence may affect the surface. These difficulties may be largely overcome by the use of precast surfacing slabs, but not all structures are suitable for this kind of finish. Sometimes the use of textured renderings provides a solution but efflorescence may again cause uneven changes in colour and apparent fading.

THE INDUSTRY

From the industry this week, Brian Grant reports on a useful booklet on asphalt work, an improved method of manufacturing boxwood scales, a new, inexpensive lead trap, and some impressive data on weatherstripping.

ASPHALT WORK

The National Asphalte Mine-Owners and Manufacturers' Council has just issued a second booklet in its series on the applications of mastic asphalt. This deals with damp-proof coursing and tanking, and contains a number of diagrams showing how this work is carried out in different types of building. The example below shows details of tanking to a basement and steel stanchion grillage, while other details are of retaining walls, simple basements, swimming baths, water towers and reservoirs.

In the foreword to the booklet are briefly set out simple precautions which should be taken; for example, as soon as the asphalt coat has been laid it should be given a 2-in. screed to prevent damage. Vertical surfaces should be protected by the erection of skin walls as soon as possible, for asphalt is a plastic material and can be displaced easily by external water pressure. On wet sites it is essential that pumping should be continued until the inner skin walls are completed and fully set. Since not all building operatives are as careful as they should be, some care should be taken to prevent the more obvious forms of maltreatment, such as strutting direct off the asphalt or hammering nails through the membrane.

This is a useful booklet; copies may be obtained from: The Secretary, *National Asphalte Mine-Owners and Manufacturers' Council*, 94/98, *Petty France, London, S.W.*1.

BOXWOOD SCALE IMPROVEMENTS

A new process, developed for the production of highly accurate plastic-based scales ("Pressrules"), has now been extended to the manufacture of precision boxwood scales. Boxwood scales have normally been made by engraving the boxwood blank directly by means of a dividing machine, which produces lines which, even when fine, are usually ragged and often irregular.

It has long been obvious that a better process would be to transfer the lines to the boxwood blank from a high precision master, cut under laboratory conditions. There are, however, many difficulties, and, until recently, only low quality scales had been made by this process.

The new technique has overcome these difficulties satisfactorily and enabled the theoretical advantages of the process to be realized under manufacturing conditions. Masters are cut on a dividing machine such as is used for the production of high-precision calibrating standards. The process takes about 6 hours, and the resulting master is accurate to within 0.001 in. in 1 ft.—a far higher degree of accuracy than can be obtained by dividing the rules directly under commercially practicable conditions. This scale is transferred to blanks of well-seasoned West Indian Boxwood, which has been found capable of maintaining the required accuracy under conditions of continual use. The finished rules have unusually clear and fine graduations, and an accuracy well above the British Standard Specification (BS 1347:1947), being guaranteed by the makers to be within ± 0·005 in. per foot.

Hitherto, boxwood scales have been sold under the names or trade marks of distributors. To prevent confusion between this product and those made by earlier processes, the makers are introducing these scales to the market under the brand name "Libra." Distributors will still, however, be able to have their own names stamped on as well as this trade mark. (*Hilger & Watts Ltd.*, 98, *St. Pancras Way, Camden Road, London, N.W.*1.)

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Per cent. reduction of infiltration	92·4	89·1	86·1	81·5	78·5	74·3

* In cubic feet per hour per foot of crack.

LEAD TRAPS

The new "Versatyle" lead trap is low in price and has been produced approximately to the dimensions of BS 1184 (*i.e.*, there is a clearance of $\frac{7}{8}$ in. from below the crown of the outlet to the top of the shoulder of the lining).

The inlet is fitted with cap and lining for connection to brass sink, bath or basin wastes, and the outlet normally has a brass tailpiece giving a male connection for iron barrel, or for use with "Dubois" compression fittings to copper tube. Alternatively it can be supplied with cap and lining to give a female connection for iron barrel, or a plain lead tail for use with lead pipe. It can also be supplied for use with baths with a cleaning eye on either the left- or the right-hand side, giving the maximum fitting clearance. (*The Du Bois Co. Ltd.*, 15, *Brittania Street, London, W.C.*1.)

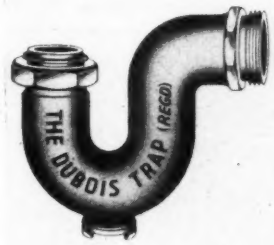
STOPPING DRAUGHTS

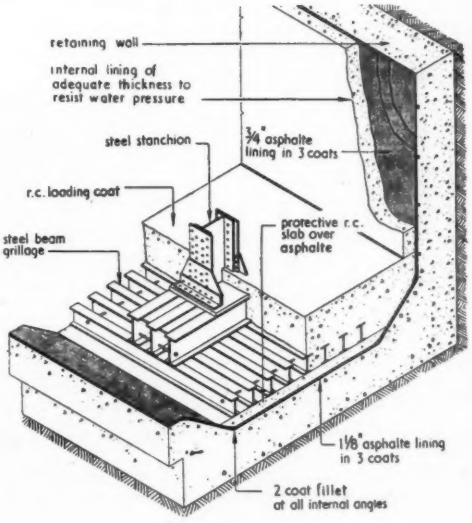
Heat losses due to draughts through the gaps around windows and doors can reach astonishingly high figures, and some data from British Hermeseal make out a convincing case for the use of an efficient form of weatherstripping.

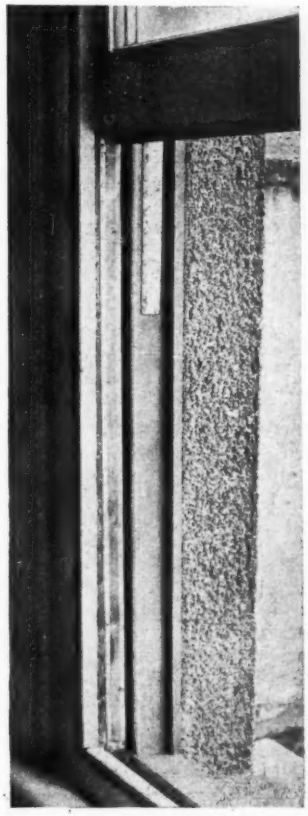
The table above shows the reduction in the volume of leakage and, hence, in heat loss for a window (wood) measuring 5 ft. 2 in. by 2 ft. 8 in. and having about $\frac{1}{8}$ in. gaps all round.

Messrs. Hermeseal's weatherstripping consists of a springy phosphor bronze strip which is made in various widths to fit any type of rebate, in doors, casements or sashes. No structural alterations are required, and the firm is prepared to give a ten year guarantee. They suggest that, in the average house, the proper weatherstripping of all doors and windows can save up to about 20 per cent. of all heat losses, so it would seem that this could be a very profitable investment. (*British Hermeseal Ltd.*, 4, *Park Lane, London, W.*1.)

BRIAN GRANT







Left, the new "Versatyle" lead trap. Right, the application of "Hermeseal" weatherstripping to a double-hung sash window. Below, an illustration from the NAMMC's latest booklet.

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Buildings Illustrated

Factory in Raans Road, Amersham, Bucks, for D. R. Collins Ltd. Page 431.) Architect: Clive Pascall, A.R.I.B.A. General contractor: R. Brazil & Co. Ltd. General foreman: A. Geary. Sub-contractors: reinforced concrete, The London Ferro-Concrete Co. Ltd.; bricks, The London Brick Co. Ltd.; artificial stone, Girlings Ferro-Concrete Co. Ltd.; roofing felt, Bitumen Industries Ltd.; partitions, Flexo Plywood Industries Ltd.; glass, J. Balmer & Sons (Glass Merchants) Ltd.; patent glazing, British Patent Glazing Co. Ltd.; woodblock flooring, Bennetts Wood Flooring (Tungit) Co. Ltd.; central heating, J. Wortner-Smith Gray & Co. Ltd.; boilers, Ideal Boilers & Radiators Ltd.; electric wiring, E. Bernard New; casements, Brunswick Metal Casement & Engineering Co. Ltd.

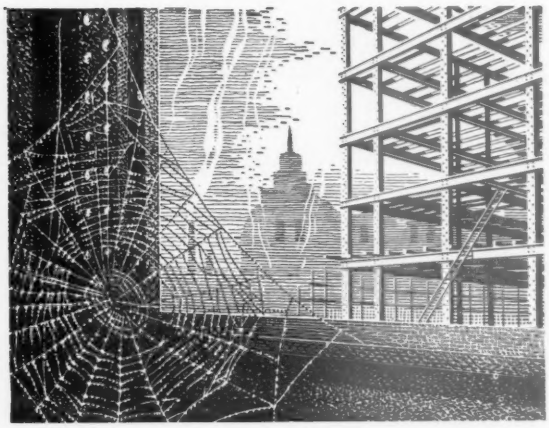
Flats on the Priory Green Estate, Finsbury, N.1, for the Borough of Finsbury. (Pages 433-442.) Architects: Tecton. Executive architects: Skinner, Bailey & Lubetkin, A./A.R.I.B.A. Chief assistant: A. Green, A.R.I.B.A. Consulting engineers: Ove Arup & Partners. Murals painted by Feliks Topolski. Quantity surveyors: Veal & Saunders. General contractors: F. G. Minter Ltd. Sub-contractors: reinforced concrete, J. L. Kier & Co.; heating, hot water supply and plumbing, G. N. Haden & Sons Ltd.; electrical work, Berkeley Electrical Engineering Co. Ltd.; lifts, Hammond & Champness Ltd.; windows, Williams & Williams Ltd.; sanitary fittings, Dent & Hellyer Ltd.; external tiling, A. H. Herbert & Co. Ltd.; cast iron work, Walter Macfarlane & Co. Ltd.; facing bricks, Dunbrik Ltd., Alphamstone Brick & Tile Co.; metal door frames, Morris Singer Co. Ltd.; metal trim, Joseph Sankey & Sons, Ltd.; concrete and terrazzo work, Orlit Ltd.; radio re-diffusion, Broadcast Exchanges Ltd.; roofing and asphalt, General Asphalte Co. Ltd.; flooring, Marley Tile Co. Ltd.; wrough iron work, Allen & Greaves Ltd.; door furniture, Parker, Winder & Achurch Ltd.; lightning conductors, R. C. Cutting Ltd.; refuse chutes, Broad & Co. Ltd.; refuse hoppers, Clark, Hunt & Co. Ltd.; cell. concrete blocks, Snodland Silica Brick & Stone Co.; wrought iron work, Albion Iron & Wire Work Co. Ltd., Ritson Construction Co. Ltd.; perspex signs, A. & G. Edgington Ltd.; skylights, Luxfer Ltd.; laundry sink fitting, General Light Castings Ltd.; laundry washing machines, Hotpoint Ltd.; laundry partition panels, Flexo Plywood Industries Ltd.; laundry drying tumblers, Macdonald, Milne & Freeman Ltd.; laundry plastering, Meta Mica Ltd.; light fittings, Merchant Adventurers of London Ltd.; garden work, Odd & Wagstaff; fencing, Peerless Fence & Products Ltd.; ash hoist, Bennie Lifts Ltd.; electrical sub-stations and rising mains, London Electricity Board; gas, North Thames Gas Board; street lighting, Tarslag Ltd.; cement paint, Stic B Paint Sales Ltd.; name panels, E. Pollard & Co. Ltd.

Correction

In the feature describing a water tower at Lusaka in the JOURNAL for September 25 (page 385), the consulting engineers' name was mis-spelt; it should have read Binnie, Deacon & Gourley. The capacity of the tower, given as 3,000,000 galls., should have been 300,000 galls.

Announcement

The death is reported of David H. Roberts, of Caernarvon. Until his retirement in March he had been architect to the Gwyrfai Rural District Council for 18 years. Mr. Roberts was 65 years of age.



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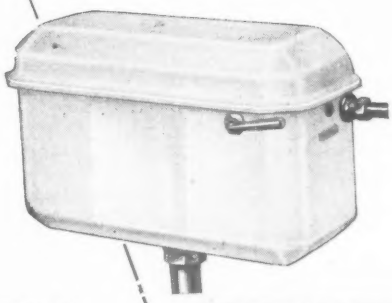

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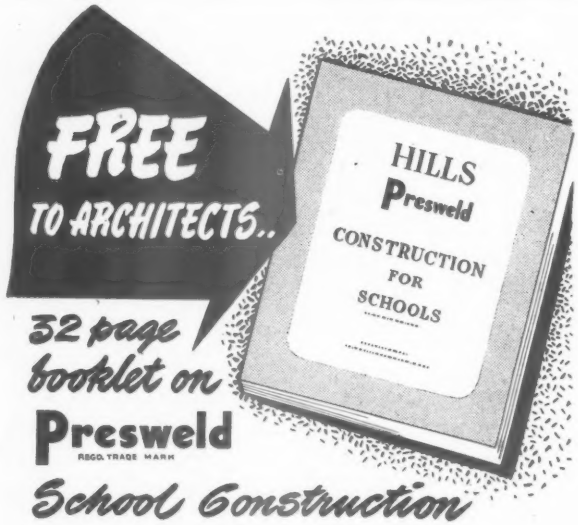

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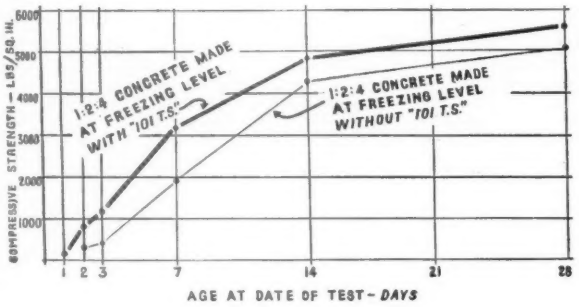

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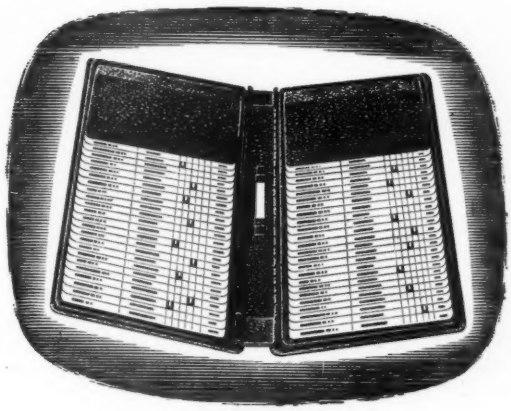

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J. W. PORTER,
Town Clerk.

Town Hall, Gateshead, 8.
24th September, 1952. 7467

BOROUGH OF PRESTWICH.
APPOINTMENT OF ARCHITECTURAL ASSISTANT, BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

Applications are invited for the position of Architectural Assistant. The appointment, which is at present temporary with a guarantee of five years' duration and the prospect of a permanency, is on A.P.T. Grade VI (£670—£735). Applicants should hold suitable qualifications and have had some experience in housing.

The appointment will be terminable by one month's notice on either side, and will be subject to the provisions of the Local Government Superannuation Act, 1937.

Applications, stating age, qualifications, experience, etc., together with copies of two recent testimonials, should be sent to the undersigned in envelopes endorsed "Architectural Assistant," so as to be received not later than Saturday, 25th October, 1952.

Canvassing disqualifies and applicants must state whether to their knowledge they are related to any member or senior officer of the Council.

C. A. CROSS,
Town Clerk.

Town Hall, Prestwich,
Lancashire.
1st October, 1952. 7506

NATIONAL COAL BOARD, SCOTTISH DIVISION.

A vacancy exists at Headquarters in Edinburgh for a SENIOR ARCHITECT. The salary scale is £1,100×£35—£1,345—£1,450, the point of entry depending on the experience and qualifications of the successful applicant. In addition to holding the A.R.I.B.A., applicants should have wide architectural and building experience—ability and practice in organising and supervising a considerable staff is also essential.

Applications, giving full details of age, qualifications, experience (in chronological order), present post and salary, together with a copy of two recent testimonials, should be forwarded to the Establishments Officer, 1, Eglinton Crescent, Edinburgh, within seven days. 7489

WEST SUSSEX COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the appointment of a SENIOR ASSISTANT ARCHITECT, at a salary in accordance with Grade VI. A.P.T. Division (£670 to £735 per annum) of the National Scales of Salaries.

Applicants must be Associates R.I.B.A. who have had considerable experience in the design and construction of modern buildings. Previous experience with a Public Authority is not essential.

Further particulars should be obtained from the County Architect, County Hall, Chichester, to whom detailed applications must be submitted not later than the 23rd October, 1952.

T. C. HAYWARD,
Clerk of the County Council.

County Hall, Chichester.
23rd September, 1952. 7490

COUNTY COUNCIL OF THE WEST RIDING OF YORKSHIRE.
COUNTY PLANNING DEPARTMENT.

Applications are invited for the appointment of DEPUTY COUNTY PLANNING OFFICER, at a salary within the range of £1,300, rising by annual increments of £100 to a maximum of £1,500.

Applicants should be Corporate Members of the Town Planning Institute and should in addition possess a qualification in one of the allied professions. They should in particular possess organising and administrative ability, and have had considerable planning experience, preferably in a County Planning Office in a responsible position.

The appointment will be subject to the Local Government Superannuation Act, 1937, as amended by the West Riding County Council (General Powers) Act, 1948, and the successful candidate will be required to pass a medical examination.

Applications, stating age, qualifications and experience, and giving names and addresses of three referees, should reach the undersigned not later than 31st October, 1952.

ARTHUR BATES,
County Planning Officer.

County Planning Department,
7, Bond Street, Wakefield. 7488

STAFFORDSHIRE COUNTY COUNCIL.
ARCHITECTURAL ASSISTANTS.

Applications are invited for the following appointments in the Education Architect's Department; salaries in accordance with the A.P.T. Grades of the National Scales:—

ASSISTANT ARCHITECTS. Grade V and VI. Applicants should be Associates of the R.I.B.A., preferably with experience in construction of all types of school buildings.

JUNIOR ARCHITECTURAL ASSISTANTS. Grade II to IV.

Applicants must have passed the Intermediate Examination of the R.I.B.A. and have experience in an Architect's office.

JUNIOR ARCHITECTURAL ASSISTANTS. Grade I to II.

The County Council are prepared to grant a Lodging Allowance of 2s. per week for a period of six months where a candidate is married and has to continue to maintain his home outside the County whilst seeking housing accommodation.

Applications should state age, qualifications, training, present and past employment, enclose copies of two recent testimonials, and be submitted to Mr. A. C. H. Stillman, F.R.I.B.A., Education Architect, Green Hall, Lichfield Road, Stafford, to be received no later than the 21st October, 1952.

T. H. EVANS,
Clerk of the County Council.
7487

SOUTHAMPTON C.B.C.

Appointment of ASSISTANT PLANNING OFFICER, Grade V. Applicants should be A.M.T.P.I., and experience of development control will be an advantage. Application forms from Borough Architect, Civic Centre, to be returned by 20th October, 1952. 7500

BOROUGH OF SCUNTHORPE.
BOROUGH SURVEYOR'S DEPARTMENT.
ASSISTANT ARCHITECT.

Applications are invited for the above position. Salary will be in accordance with A.P.T., Grade III, £525 to £570.

Housing accommodation will be made available if necessary.

Applicants should have passed the Intermediate of the Royal Institute of British Architects.

Applications, together with the names of two referees, should be sent to the undersigned not later than 16th October, 1952.

W. P. ERRINGTON,
Town Clerk.

Municipal Offices, 34, High Street, Scunthorpe.
26th September, 1952. 7499

RURAL DISTRICT COUNCIL OF MARSHLAND.
RURAL DISTRICT COUNCIL OF WISBECH.
APPOINTMENT OF QUANTITY SURVEYOR.

Applications are invited for the appointment of Quantity Surveyor in the Architect's Department of the Councils, at a salary to be fixed according to qualifications and experience within Grade V of the National Scales of Salaries (£595—£645 per annum).

Applicants should have had considerable experience in the preparation of Bills of Quantities, the measurement of building and civil engineering works, and the preparation of statements for interim and final payments in connection with Contracts for housing schemes, and preference will be given to applicants who have passed the Final Examination of the R.I.C.S. (Quantities Section).

The appointment will be subject to the National Scheme of Conditions of Service, the Local Government Superannuation Act, 1937, the passing of a medical examination, and one month's notice on either side.

Canvassing will disqualify, and applicants must state whether they are related to any member of the Council or to the holder of any senior office under the Council.

Applications, stating age, qualifications and experience, together with two recent testimonials, should reach the undersigned not later than Wednesday, 15th October, 1952.

RONALD E. DIXON,
Clerk of the Councils.

Council Offices, Alexandra Road,
Wisbech, Cambs.
1st October, 1952. 7496

GOVERNMENT OF NORTHERN IRELAND.

Applications are invited for the unestablished post of ASSISTANT ARCHITECT. Candidates must be Registered Architects by examination, with experience in schools design.

Inclusive salary scale: £655-£970.

Preference will be given to candidates who served in H.M. Forces in wartime, provided that such candidates can (or within a reasonable time will be able to) discharge the duties efficiently.

Further information and application forms obtainable from Director of Establishments, Ministry of Finance, Stormont, Belfast. Completed forms to be returned not later than Tuesday, 14th October, 1952. 7498

COUNTY BOROUGH OF DONCASTER.
BOROUGH ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments in accordance with the National Scale of Salaries:—

TWO ASSISTANT ARCHITECTS (Temporary Staff) Grade A.P.T. VI £670 by £20 by £20 by £25 to £735. Applicants must be Associates R.I.B.A. and have had good experience in the preparation of sketch schemes and working drawings for school development.

The appointments will be subject to one month's notice in writing on either side and to the National Joint Council's Scheme of Conditions of Service and the terms of the Local Government Superannuation Act, 1937, and the successful applicant will be required to pass a medical examination.

Housing accommodation may be available if necessary.

Forms of application may be obtained from the Borough Architect, L. J. Tucker, A.R.I.B.A., F.I.Hsg., 15, South Parade, Doncaster, and must be returned not later than Monday, the 20th October, 1952, to the undersigned.

Canvassing directly or indirectly will be a disqualification.

H. R. WORMALD,
Town Clerk.

1, Priory Place, Doncaster.
October, 1952. 7495

SPALDING RURAL DISTRICT COUNCIL.
APPOINTMENT OF TECHNICAL ASSISTANT—ARCHITECT'S DEPARTMENT.

Applications are invited from persons having a sound and practical knowledge of architectural and quantity surveying work for the above appointment. Salary commencing £595 per annum rising to £645 per annum (A.P.T. Division V of National Scale).

Appointment subject to the Local Government Superannuation Act, 1937, and to a satisfactory medical examination. Canvassing will disqualify.

The Council are prepared to let a house in the Rural District to the successful applicant.

Applications giving the names of three persons to whom reference may be made to reach the Clerk to the Rural District Council, The Crescent, Spalding, within 14 days of the date of publication of this advertisement. 7494

LINDSEY COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.

There is a vacancy on the permanent staff for HEATING ASSISTANT, A.P.T. V, £595—£645. Duties will include taking off of heat losses, designing heating schemes, preparing specifications and obtaining tenders, and preparing estimates.

Allowance of 28s. per week and return fare home bi-monthly will be paid for up to six months to married men unable to find housing accommodation.

N.J.C. Conditions of Service. Canvassing will disqualify. Candidates must disclose in writing whether to their knowledge they are related to any member or senior officer of the Council.

Applications, stating age, qualifications and experience, with copies of two testimonials or the names of two persons to whom reference can be made, to be sent to the undersigned as soon as possible.

A. RONALD CLARK, A.R.I.B.A., A.M.T.P.I.,
County Architect

County Offices, Lincoln. 7485

BOROUGH OF CHATHAM.
APPOINTMENT OF ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of Architectural Assistant within Grade III (£525—£570).

Housing accommodation will be made available if required.

Conditions of Appointment and Form of Application may be obtained from Mr. H. D. Peake, M.Sc.(Eng.), Borough Engineer and Surveyor, to whom completed application forms should be returned not later than Monday, 20th October, 1952. 7486

WARWICKSHIRE COUNTY COUNCIL.
ARCHITECT'S DEPARTMENT.

Applications are invited for the post of ASSISTANT QUANTITY SURVEYOR, A.P.T. VI, salary £670—£735. The possession of the Final certificate of R.I.C.S. would be an advantage but not essential in the case of an otherwise well qualified candidate. The duties are mainly approximate estimating and final accounts.

The appointment is subject to the conditions of the Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a medical examination.

Application forms can be obtained from C. H. ELKINS, F.R.I.B.A., A.R.I.C.S., County Architect, Shire Hall, Warwick.

L. EDGAR STEPHENS,
Clerk of the Council.

Shire Hall, Warwick. 7510

BRITISH ELECTRICITY AUTHORITY.
EASTERN DIVISION.

Applications are invited for the following Superannuable positions in the Generation (Construction) Department at Divisional Headquarters. Salaries and conditions of service will be in accordance with the National Joint Board Agreement.

(*a*) SENIOR DRAUGHTSMAN (ARCHITECTURAL).

(*b*) SENIOR DRAUGHTSMAN (STRUCTURAL).

The commencing salaries (which include London Weighting) will depend upon experience and qualifications but will be within the following range:—

Grades 4—5, £574—£792 per annum.

Applicants should have had experience in one of the following:—

(*a*) Design and alteration of Industrial Buildings.

(*b*) Design of structural steel work and reinforced concrete structures.

Applications, stating age, qualifications and experience should be sent to the Divisional Controller, British Electricity Authority, Eastern Division, Northmet House, Southgate, N.14, by 18th October, 1952.

W. N. C. CLINCH,
Controller.

7509

CITY OF COVENTRY.
ARCHITECTURAL AND PLANNING DEPARTMENT.

Applications invited from good chaps only for Grade VIII posts in the Department. Forms from:

D. E. E. GIBSON,
City Architect and Planning Officer.
Bull Yard, off Warwick Row, Coventry.
9th October, 1952. 7519

THE UNIVERSITY OF MANCHESTER.

Applications are invited for the post of TEMPORARY ASSISTANT LECTURER AND STUDIO INSTRUCTOR in the Department of Town and Country Planning. Salary not less than £450 per annum with membership of Children's Allowance Scheme. Applications should be sent not later than 24th October, 1952, to the Registrar, the University, Manchester, 13, from whom further particulars and forms of application may be obtained. 7511

COUNTY BOROUGH OF DEWSBURY.
BOROUGH ARCHITECT AND BUILDINGS SURVEYOR'S DEPARTMENT.

Applications are invited for the following temporary appointment for a minimum period of eighteen months in the above department:—

ARCHITECTURAL ASSISTANT (Education Section). A.P.T., Grades II/III/IV. Salary, £495-£600 per annum.

The successful candidate will be placed on A.P.T., Grade II, III or IV, the appropriate grade being determined by his qualifications and experience.

The appointment is subject to one month's notice on either side and to the provisions of the Local Government Superannuation Act, 1937. The successful candidate will be required to pass a medical examination.

Applications, stating age, qualifications and full particulars of training and experience, together with copies of two recent testimonials, should be sent to me not later than Wednesday, 22nd October, 1952, in envelopes endorsed "Architectural Assistant."

A. NORMAN JAMES,
Town Clerk.
Town Hall, Dewsbury.
3rd October, 1952. 7518

BOROUGH OF BRIDGWATER.
BOROUGH ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments on the permanent staff of the newly formed Borough Architect's Department.

(*a*) CHIEF ASSISTANT ARCHITECT. Grade Va, A.P.T.

Applicants should be A.R.I.B.A., with wide experience in housing and general works, and be capable of taking charge of contracts, control of staff, etc.

(*b*) QUANTITY SURVEYOR. Grade V, A.P.T.

Applicants should be suitably qualified and have wide experience in the preparation of Bills of Quantities and estimates for works, site measurement, and the preparation and adjustment of interior and final accounts.

Consideration will be given to the provision of housing accommodation for successful candidates, if married.

The appointments are subject to the Local Government Superannuation Act, 1937, the passing of a medical examination, and one month's notice on either side.

Applications, stating age, qualifications, with full details of past and present appointments and experience, and the names of three referees, must be received by J. D. Blacklock, A.R.I.B.A., Borough Architect, Town Hall, Bridgwater, not later than the 24th October, 1952.

H. A. CLIDERO,
Town Clerk.
Town Hall, Bridgwater.
2nd October, 1952. 7526

BOROUGH OF ILFORD.
APPOINTMENT OF ARCHITECTURAL ASSISTANT, GRADE VII.

Applications are invited for the appointment of an Architectural Assistant on the permanent staff of the Borough Engineer's Department. Applicants should be Associate Members of the R.I.B.A. and should possess good general experience in a Municipal office. Salary in accordance with Grade A.P.T., VII, *viz.*, £710, rising to £785 p.a., plus London weighting.

THE COUNCIL IS PREPARED TO CONSIDER, IF NECESSARY, IN CONNECTION WITH THIS APPOINTMENT THE PROVISION OF A TWO-BEDROOM SELF-CONTAINED FLAT AT AN ECONOMIC RENT.

The appointment will be superannuable and subject to one month's notice on either side, to the National Scheme of Conditions of Service, and to medical examination.

Applications, on forms obtainable from the Town Clerk, Town Hall, Ilford, should be submitted not later than the 25th October, 1952. 7524

COUNTY BOROUGH OF EAST HAM.
BOROUGH ENGINEER'S DEPARTMENT.

Applications are invited for the under-mentioned appointments:—

TWO SENIOR ARCHITECTURAL ASSISTANTS. Grade A.P.T., VI. Salary, £670-£735 per annum.

TWO ENGINEERING ASSISTANTS. Grade A.P.T., V. Salary, £595-£645 per annum.

TEMPORARY ESTIMATOR for Building Works. Grade A.P.T., V. Salary, £595-£645 per annum.

London weighting (£10 per annum to £30 per annum, according to age) is paid in addition. Salaries in excess of the minima may be paid according to the qualifications and experience of successful candidates.

The Council will be prepared to consider applications for a subsistence allowance in appropriate cases from persons appointed should they be unable to obtain suitable housing accommodation.

Particulars of the terms and conditions of appointment and form of application (which must be returned by Monday, 27th October), obtainable from the undersigned. Candidates must state for which post they are applying.

R. H. BUCKLEY,
Town Clerk.
Town Hall, East Ham, E.6. 7523

Architectural Appointments Vacant

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

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

SENIOR ASSISTANT ARCHITECT urgently required at Head Office for leading work on design and working details for multistorey flats; sound prospects for suitable applicant; commencing salary according to experience. Other vacancies exist for Architectural Assistants experienced in preparation of working drawings and details for housing and flats. Write, giving brief particulars of experience, to Staff Architect, George Wimpey & Co. Limited, 27, Hammersmith Grove, London, W.6. 7479

ARCHITECTURAL ASSISTANTS, with 3 to 5 years' experience, required immediately. Good salary and prospects. 5-day week. Write to Messrs. J. M. Sheppard & Partners, 38, Bedford Place, W.C.1, giving particulars of age, qualifications, experience, and salary required. 7504

SCHERRER & HICKS, of 19, Cavendish Square, London, W.1, require an ARCHITECTURAL ASSISTANT, who has passed the R.I.B.A. Intermediate Examination. Write, stating experience and salary required. 7493

ARCHITECT capable of accepting responsibility and producing contemporary work required for general practice. Good office accommodation and working conditions, with group working. Salary according to experience. S. Morrison, A.R.I.B.A., Derwent House, Full Street, Derby. 7513

COMPETENT ARCHITECTURAL DRAUGHTSMAN of Intermediate Standard required. Must be capable of dealing with small Bills of Quantity. Salary according to experience. Apply Box 7514.

SURVEYOR, ENGINEER OR ARCHITECT, first class, resourceful executive, possessing initiative, for complete control of office, sales and large scale production. Salary within scale £800—£1,000 according to qualifications. Full particulars to Box 7520.

JUNIOR ARCHITECTURAL ASSISTANT required for Central London office. Apply, stating age, experience and salary required, to Box 7521.

JUNIOR ARCHITECTURAL ASSISTANT required, some office experience essential. State experience and salary required. Deane Skurray, 22, Minster Street, Reading. 7516

Architectural Appointments Wanted

A.R.I.B.A. (27) requires position as SENIOR ASSISTANT in Central London area. 7 years' varied experience in private practice and L.A. schools, including administration and supervision of contracts. Box 565.

YOUNG and energetic Qualified Architect and Surveyor requires a position, either permanent or temporary, in an architect's or surveyor's office; good knowledge of quantities. Seaside town only. Box 563.

ASSOCIATE R.A.I.A. seeks post in a London office, if possible for 12 months. Box 573.

ARCHITECT'S ASSISTANT, A.R.I.B.A., capable of handling medium contracts to final account; three years' varied experience; requires progressive position in small London office, preferably one with contemporary outlook. Box 571.

ARCHITECT A.R.I.B.A., with three years' post graduate experience in a varied private practice, requires post in provincial office—preferably Yorkshire. Box 572.

A.R.I.B.A., A.M.T.P.I., with 25 years' good general London experience, including central government, desires Partnership or responsible post with business firm or other organisation in England, Ireland or Overseas. Capital available for partnership. Box 7501.

SOUTH AFRICAN, final year student at University of Pretoria, 3 years' experience in a South African architect's office—mostly domestic work, proficient in working drawings, would like employment in London office (for November and December). Box 574.

ARCHITECTURAL ASSISTANT (34), responsible from initial scheme to completion, 14 years' varied experience, requires position in East Anglia. Box 575.

ARCHITECTURAL ASSISTANT (Intermediate Standard) requires position, Birmingham office. Experienced housing, industrial, schools and survey work. Good draughtsman on all working drawings and details. Box 578.

A.R.I.B.A. (35) requires permanent position in small provincial practice in Southern counties. Some capital available if necessary. Own car. Previous experience in large London office and abroad. Used to complete supervision of jobs. Box 576.

ARCHITECTURAL ASSISTANT (31) married. Requires suitable position on surveying and maintenance staff of large firm. Seven years' experience, including domestic conversions and levelling. Energetic and keen. Box 577.

LADY SECRETARY requires senior post in Architect's office W.C. district. Good previous experience with Architects. Bookkeeping. Box 7517.

Other Appointments Vacant

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

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

CIVIL ENGINEER required by The Steel Company of Wales, Ltd., to take charge in new Department at large modern Steel Plant. Good knowledge of Civil and Structural Engineering essential—general knowledge of building construction an advantage. The successful candidate should have recognised technical qualifications. Salary over £1,000 per annum, commensurate with experience and ability. Applications in own handwriting should be addressed to: The Personnel Superintendent, The Steel Company of Wales, Ltd., Box No. 3, Port Talbot. 7460

LADY TRACER required for Consultants in Westminster. Age range preferred 25 to 35. Previous experience in Civil Engineering work advantageous. Pensions scheme applies. Please state experience and previous employers, to Box 7492.

STRAMIT BOARDS, LTD., require a TECHNICAL REPRESENTATIVE for the Southern Counties. Essential qualifications are:—Sound building knowledge, ability to interview at all levels, keenness and residence on territory. Write, giving full details of previous experience and stating whether car owner, to The Manager, Packet Boat Dock, Cowley Peachey, Uxbridge, Middx. 7497

METAL Windows.—London MANAGER required by old-established company specialising in high grade purpose made metal windows, with established connection in London and home counties. Must be fully conversant with design and construction, with first-class connection London architects and Government departments. Central London office. Salary up to £1,000, according to qualifications, plus car, commission and expenses. Write Box 7503.

SECRETARY, Sh. Hd. Typist required three half days per week. Experience in Architect's office essential. Small office, Chancery Lane. State salary. Box 7525.

Services Offered

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

A.R.I.B.A., with good all round experience, requires part-time or free lance work to help his growing practice. MUSeum 9106. 7205

TYPEWRITING, DUPLICATING.—Bills of Quantity, Specifications, etc., expertly typed/duplicated. Express service. Work collected/delivered. JOSEPHINE HALL & PARTNERS, 501/2, GRAND BUILDINGS, TRAFALGAR SQUARE, W.C.2. WHI. 6411/2, and 87, High Street, Tunbridge Wells. Telephone: 1255. 7005

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

TYPEWRITING, Duplicating and Secretarial Work efficiently and promptly executed. Work collected and delivered. Willerson & Partner, 38, Bow Lane, E.C.4. City 3940. 7482

CHEAP scale prelim. Archit. MODELS from sketches promptly executed by a qualified Artist. A. V., 1, Colet Gdns., W.14. RIV. 6206. 7471

ARCHITECTURAL DRAUGHTSMAN seeks part-time work. Experience of Exhibition Design, Models, etc. Neat and efficient draughtsman. Box 7502.

ARTIST, specialising in Architectural Perspectives, any medium, seeks new contacts. Postal service outside London, Kent and Sussex area. B. Neil, 9, Warrior Square Terrace, St. Leonards, Sussex. Tel.: Hastings 6. 7515

R.C. DESIGNER-DETAILERS, several years experience, seek part-time work. Calculations and drawings prepared quickly. Box 7508.

HEATING, H.W.S., C.W.S., Ventilation and Air Conditioning, design service available to architects. Qualified Engineers will prepare estimates, reports, specifications, working drawings. Fees by arrangement. Work supervised where necessary. Box 7507.

ASSISTANCE is offered to Architects and others requiring sketch plans, working drawings, details, specifications and building surveys, etc., in the West Riding area. Box 7522.

For Sale or Wanted

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

FOR SALE.—A considerable quantity of Stone Mullions and Cappings. View near London. Box 7444.

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

1938 WOLSELEY 12 SALOON; dark green; one owner; excellent mechanical condition; reconditioned engine; relined brakes; 265 or near offer; inspection and trial run London by appointment. Box 7354.

ARCHITECT, wishing to retire, would sell well-established Provincial Practice, together with living accommodation, if required. Please reply in the first instance to Box 7470.

Miscellaneous

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

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

FIREPROOF SAFES.—Book Cabinets, fitted with drillproof sliding locks. Sizes, 24 in. to 72 in. high. Recognised by Insurance Companies. Wholesale prices. Monthly payments arranged. Illustrated price list. M. A. B., 2, Homefield Court, London, N.W.4. 7474

FURNISHING SCHEMES—whether for private homes, public institutions or board rooms—executed at keen prices by Contracts Dept., William Spriggs & Co., 238, Tottenham Court Road, London, W.1. Telephone MUSeum 3079. 7491

BROMLEY, Kent, facing Station on prominent corner site, Suite of Offices, on 1st and 2nd floors, with separate entrance, over old-established Estate Agency. Comprising 5 rooms, total about 670 sq. ft.; cloakroom. Rent £250 p.a., excl. Further details from Carter, Law & Leech, 58, East Street, Bromley. RAVensbourne 2217/8. 7512

Educational Announcements

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

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

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

R.I.B.A. EXAMS.—Personal tuition and coaching in Design and Construction Subjects by Lecturers with long experience at various London Schools of Architecture. Day or evenings at Studios in W.C.2 district. Box 7418.

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