THE ARCHITECTS' JOURNAL

standard contents

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

No. 2962] [VOL. 114

THE ARCHITECTURAL PRESS

9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1. 'Phone: Whitehall 0611

Price 1s. 0d.

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.	Welbeck 9738
ASB	Architectural Science Board of the Royal Institute of British Architects. 66, Portland Place, W.1.	Langham 5721
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. 9, Conduit Street, W.1.	Mayfair 8641/6
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
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, Town 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.	Whitehall 6322
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.	Sloane 4280
CUJC	Coal Utilization Joint Council. 3, Upper Belgrave Street, London, S.W.1.	Sloane 9116
CVE	Council for Visual Education. 13, Suffolk Street, Haymarket, S.W.1.	Reading 72255
DGW	Directorate General of Works, Ministry of Works, Lambeth Bridge House, S.E.1.	Reliance 7611
DIA	Design and Industries Association. 13, Suffolk Street, S.W.1.	Whitehall 0540
DOT	Department of Overseas Trade. 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	The Flush Door Manufacturers Association Ltd. Trowell, Nottingham.	Ilkeston 623
FLD	Friends of the Lake District. Pennington House, nr. Ulverston, Lancs.	Ulverston 201
FMB	Federation of Master Builders. 26, Great Ormond Street, Holborn, W.C.1.	Chancery 7583
FOB 1951	Festival of Britain 1951. 2, Savoy Court, Strand, W.C.2.	Waterloo 1951
FPC	The Federation of Painting Contractors, St. Stephen's House, S.W.1.	Whitehall 3902
FRHB	Federation of Registered House Builders. 82, New Cavendish Street, W.1.	Langham 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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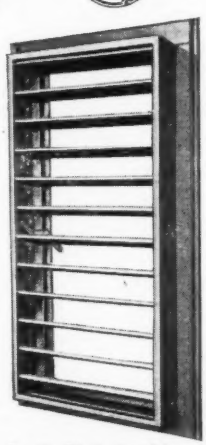

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The illustration shows the Ground Floor Entrance Hall. The wall linings are of marble, the main ground in Cream Travertine, filled and polished, the skirting and capping band in Ashburton. The paving is in 12" Cream Terrazzo tiles with borders in dark green. Similar Terrazzo tiles are used for all the main stair halls throughout the building. Terrazzo was also employed as step casing and dado, and for paving, walls, and precast partitions in lavatories on all floors.

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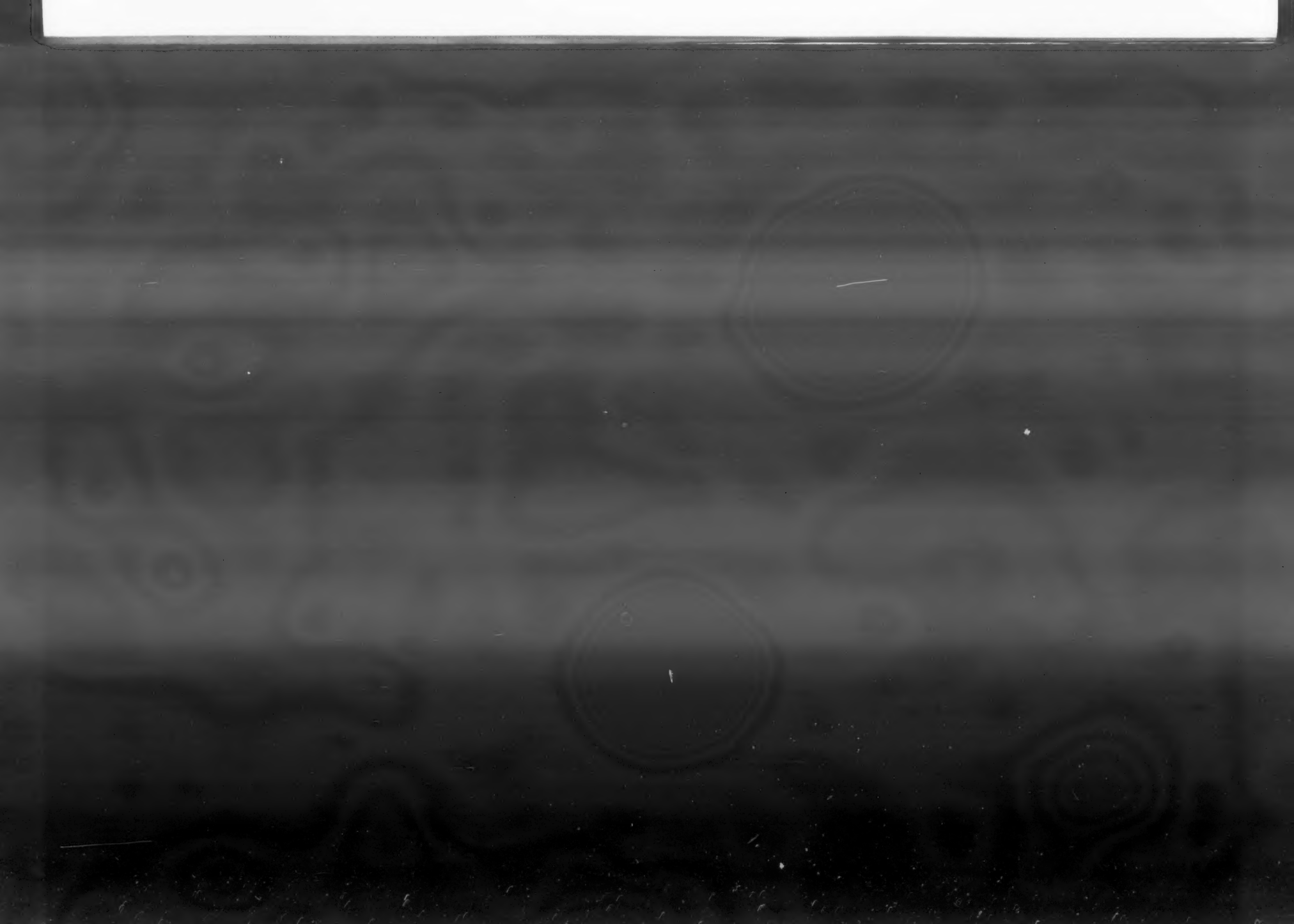

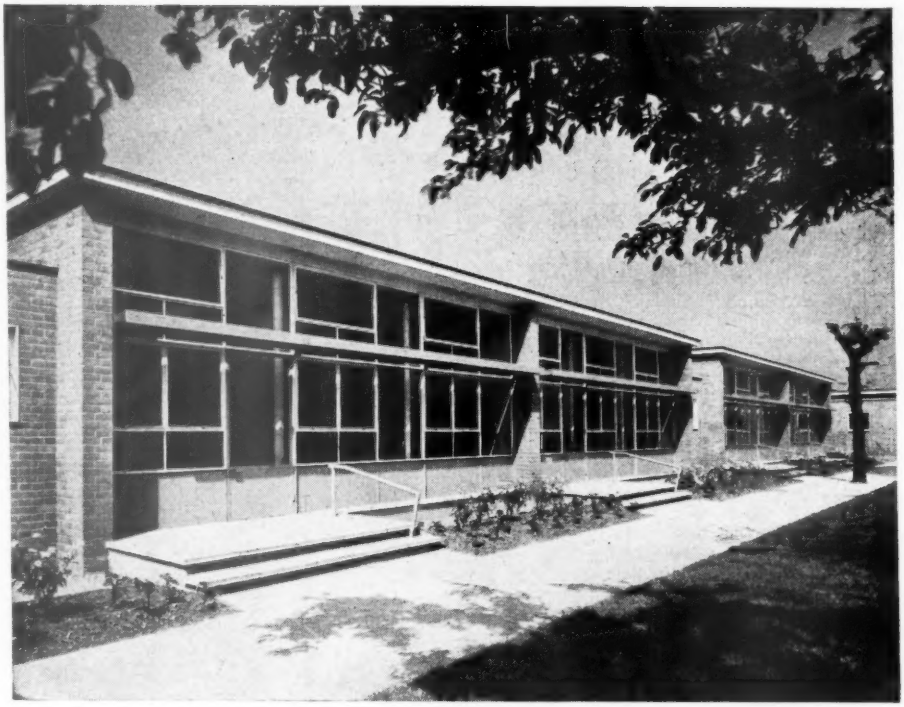

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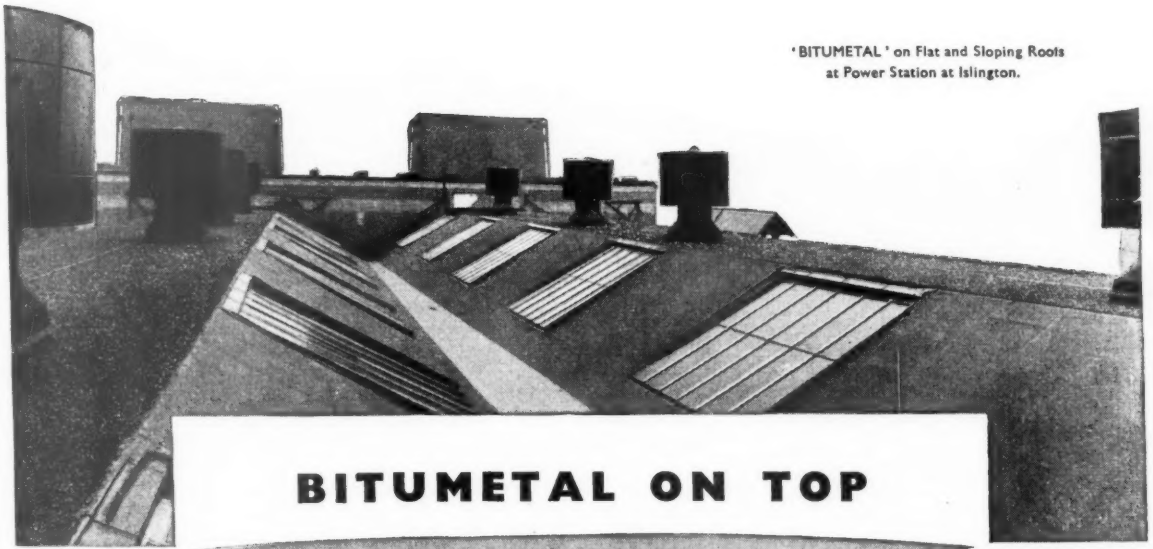
3 Ashley Place, S.W.1.



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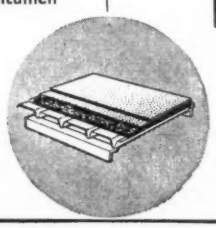

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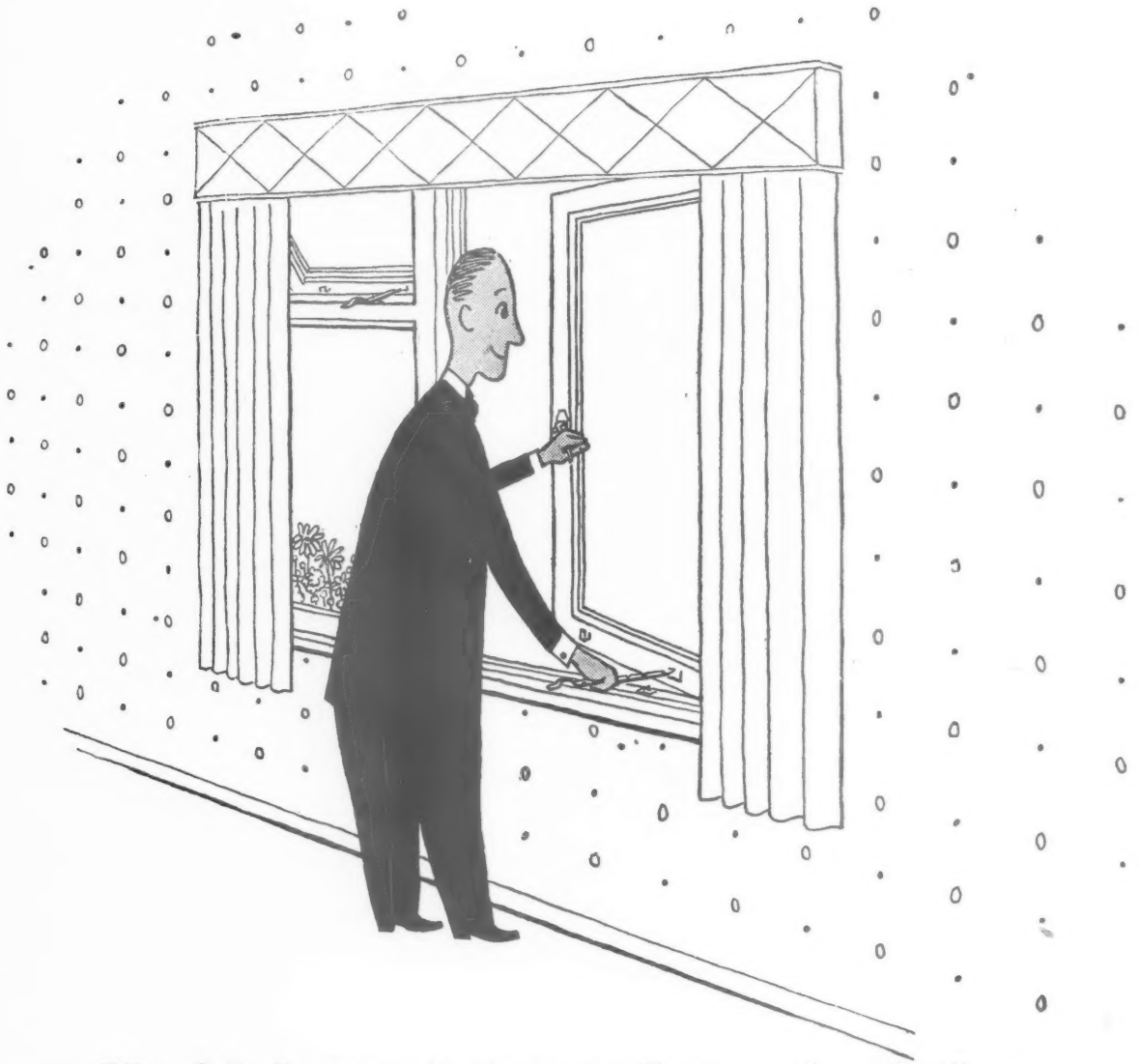

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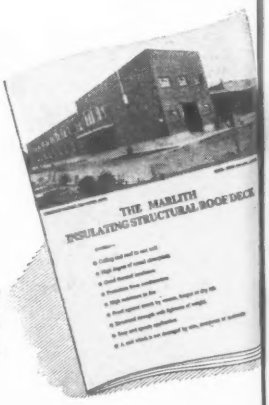

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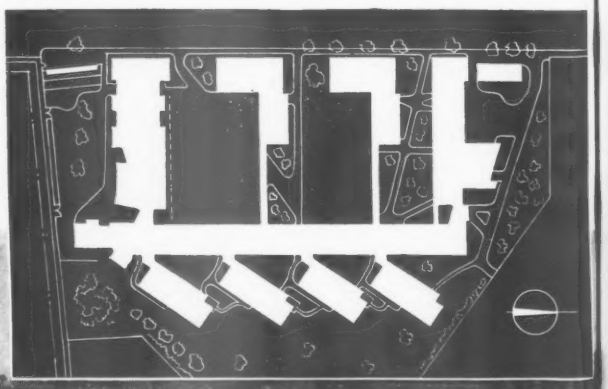

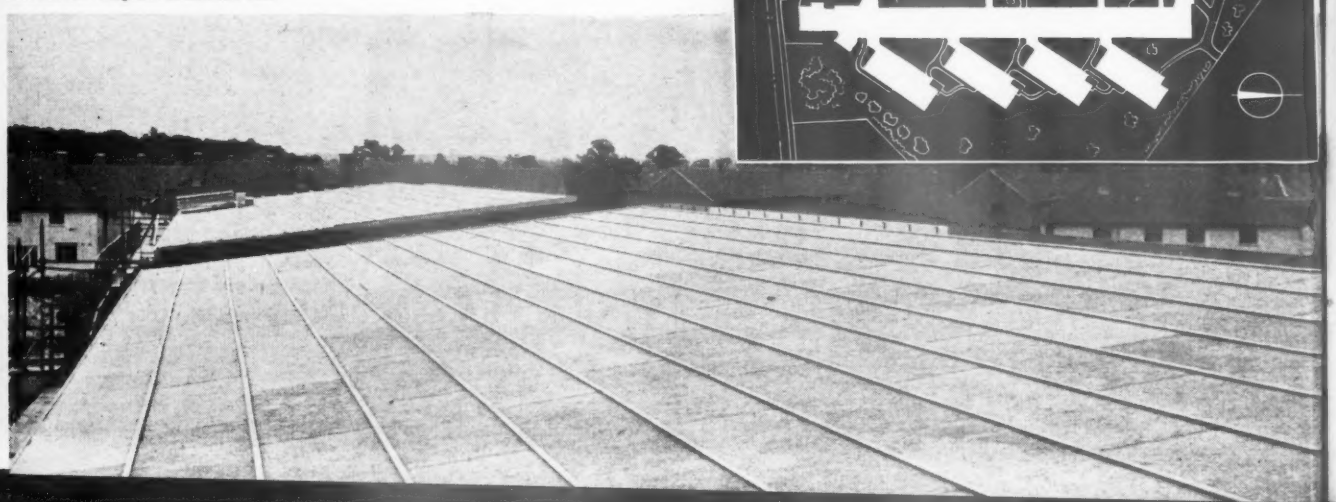

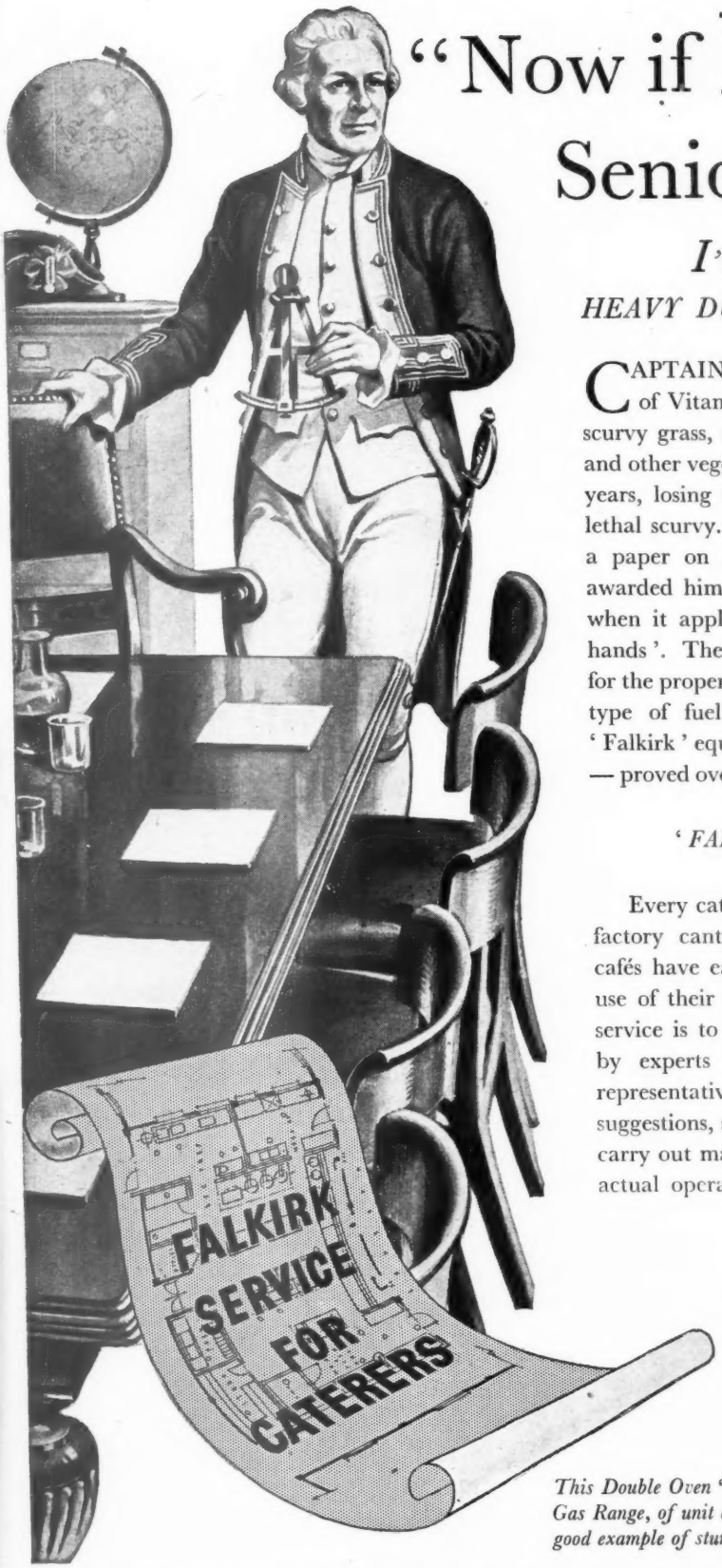

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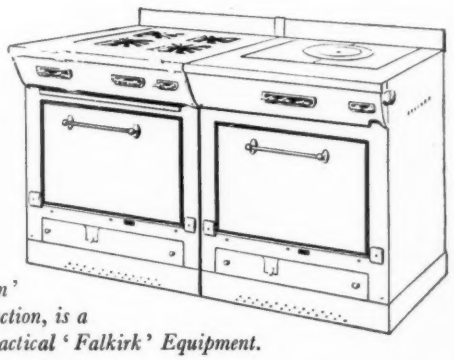

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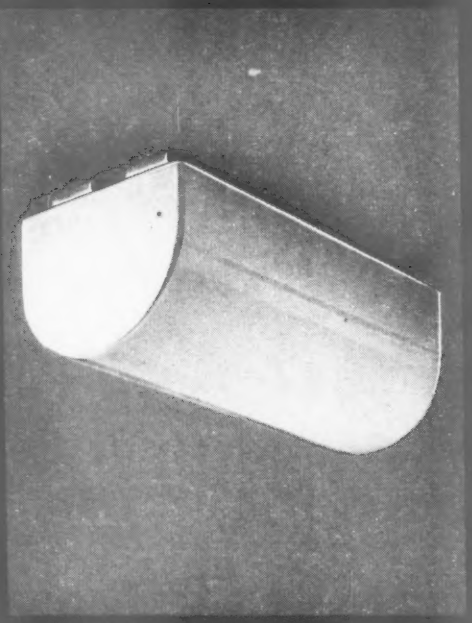
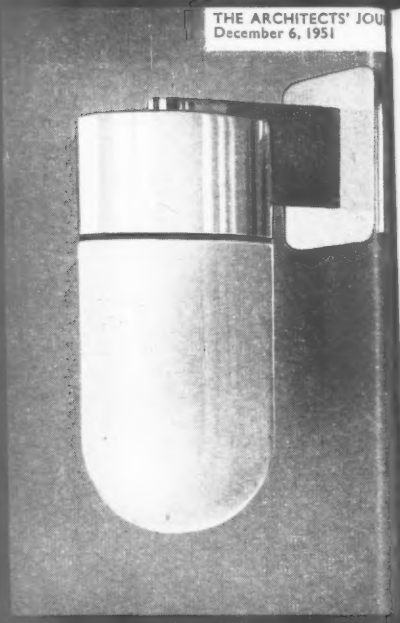


U.100 Ceiling. Trough. Finish: cadmium. Glass: white flashed opal. Lamp: up to 60 watts.



U.22 Bracket. Well-Glass. Finish: chromium or coinage bronze. Glass: white flashed opal. Lamp: up to 60 watts.

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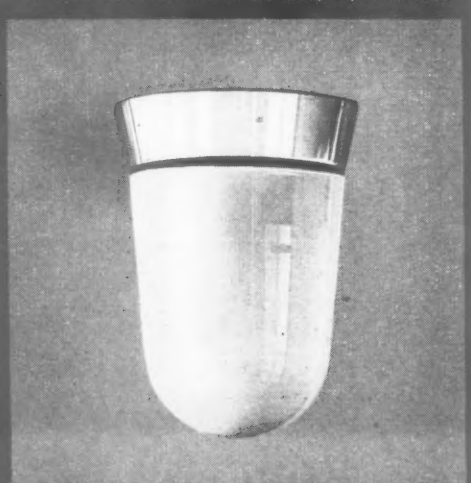
U.6 Ceiling. Small Conical. Finish: chromium or coinage bronze. Glass: white flashed opal. Lamp: up to 60 watts.



U.4 Ceiling. Bowl. Finish: chromium or coinage bronze. Glass: white flashed opal. Lamp: up to 60 watts.

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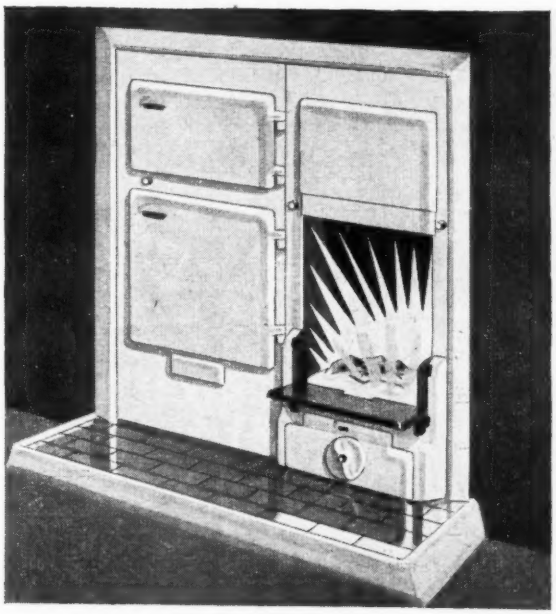

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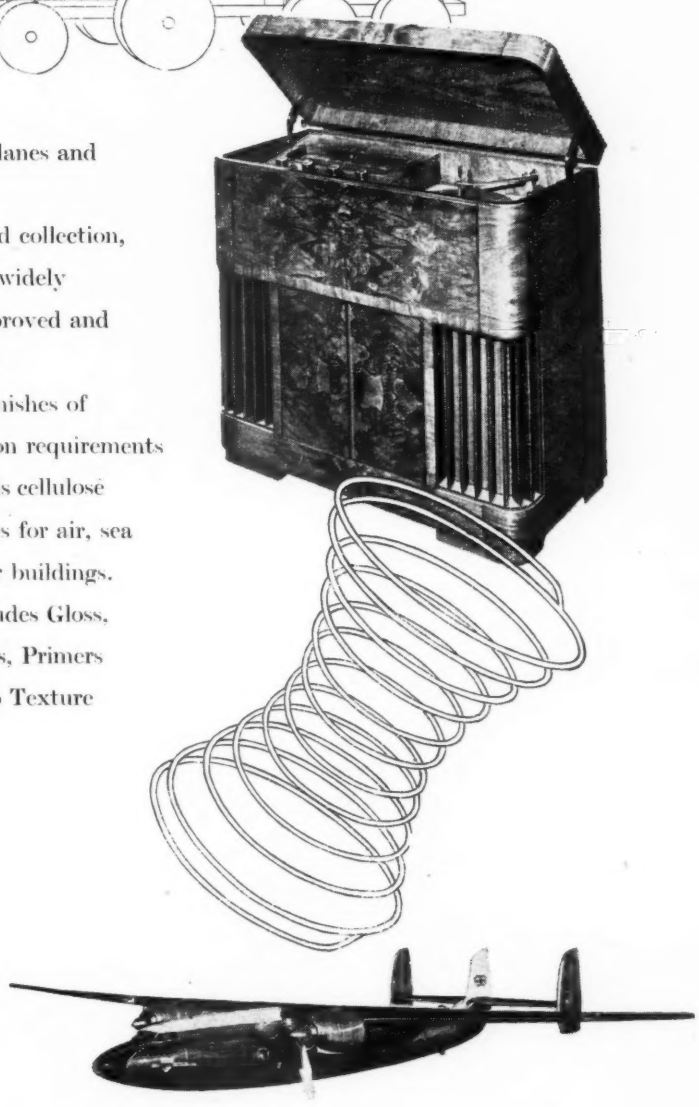

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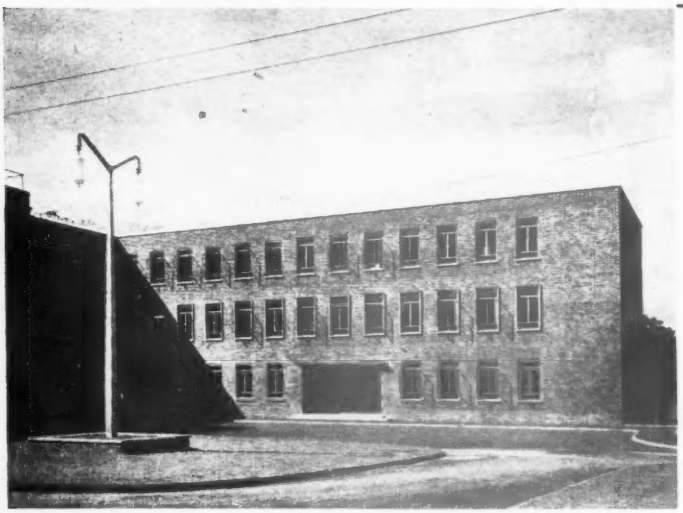

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See pages 684-686

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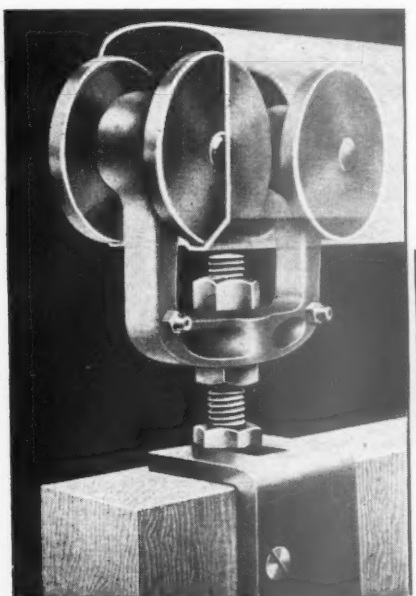

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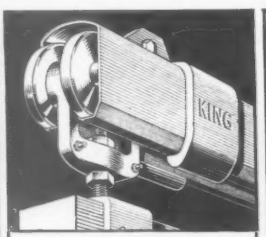

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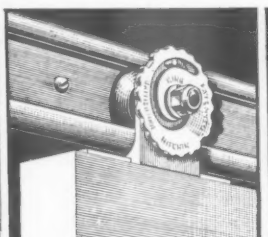

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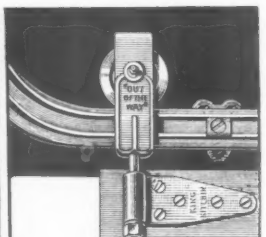

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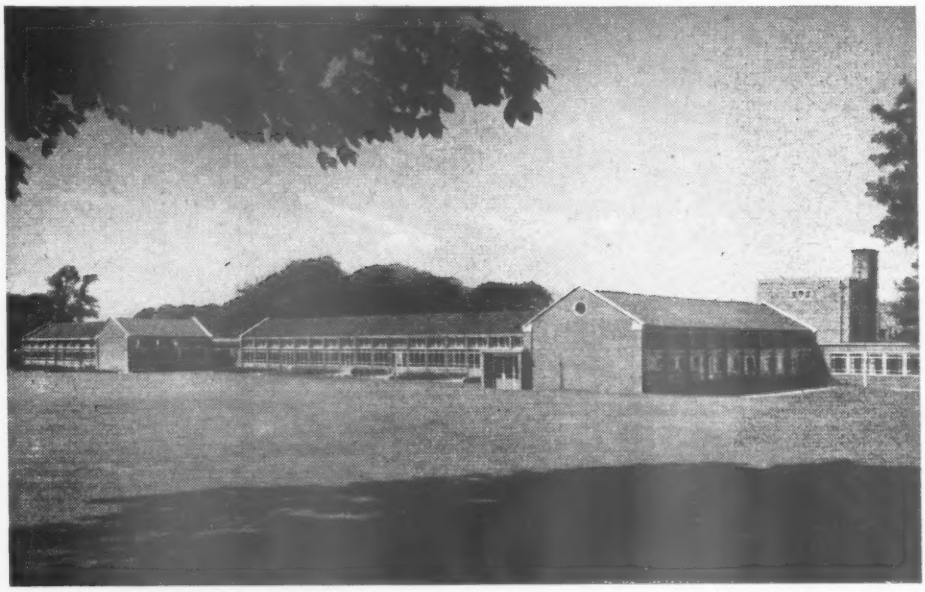

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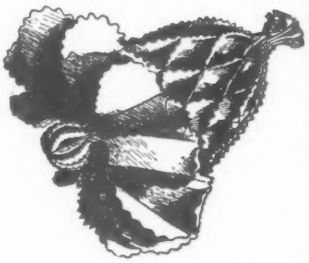

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THE ARCHITECTS' JOURNAL

No. 2962 6 DECEMBER, 1951 VOL 114

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Subscription rates: by post in the U.K. or abroad, £2 10s. 0d. per annum. Single copies, 1s. ; post free, 1s. 3d. Special numbers are included in Subscriptions ; single copies, 2s. ; post free, 2s. 3d. Back numbers more than 12 months old (when available), double price. Half-yearly volumes can be bound complete with index in cloth cases for 25s. 0d. ; carriage, 1s. extra.

JOB-LOTTERY

The editors have had the liveliest response to the recent leading article on the subject—admittedly delicate—of allocation of jobs by the RIBA. It will be remembered that reference was made to the lack of system and apparent regional ignorance pervading the matter. I am sorry, therefore, that the Institute has made no statement; letters in this office show that RIBA members would like the whole issue put on a proper basis, or at least to know what basis it is on—if any.

*

The Institute's relationship to its public (including of course its own members) is too vital to be left in any kind of ambiguity. That is why Mr. Orme's resignation from the Institute staff compels me to say again how important it is to find an able and strong-minded successor to George Marfell. The right man will not, however, be forthcoming if the identity of the job is sunk in a hierarchy of assistant-secretaryships, nor if it is bound by a multiplicity of threads—however gossamer-like each one may seem to be.

*

The RIBA is not, after all, a branch of Whitehall, even if it sometimes seems to think so. It is, or should be, a great and liberal institute of the arts. As such it can take pride in many of its former servants, even if it has also sometimes lost them. One remembers, for instance, the fine line of librarians: Roddy Enthoven was the best scholar the place ever had and Edward Carter dominated an era when the Institute held the respect of its younger members. Among secretaries, Sir Ian MacAllister positively commands respect—a really great man in his way. Few, I suppose, can now remember very much about W. J. Locke, secretary and novelist, who, like Sir Ian, had more than a nodding acquaintance with the art he served. I recall his account of the terrific Beaux Arts esquisse drawn by *The Beloved Vagabond* on the table-top in a Paris café. Those were, very definitely you know, the days; almost one might say The Beloved Days—and I am quite well aware—in case anyone wishes to remind me—that "The Days" referred to were as much more easy then for the RIBA and it's servants as they were for architects. They were the days—remember?—when the First Commissioner of Works probably had little in his in-tray except a report on the panelling at Hampton Court; a suggestion for next year's tulip-bed colour scheme, and a requisition for a female pelican. Even Ministers then had time to get to know something about the Arts.

*

All the more reason therefore that the RIBA today should keep a toehold at least on the slopes of Parnassus. We have, at least, now gained one more recruit to keep us there in the indefatigable and omniscient person of Dr. Nikolaus Pevsner, now Slade Professor at Cambridge and recently elected an Hon. Associate. Those of you who read "The Pursuit of Love" will remember that persons of special excellence and standing were elected as "Hons" and allowed to join the fraternity which met on the third shelf of the family linen cupboard. For fifteen years or so Dr. Pevsner has been happily crouched (off and on) in the linen cupboard at Queen Anne's Gate, his spectacles misting slightly, but his cheerfulness undimmed. We are delighted that another shelf awaits an occasional visit from him in Portland Place.

OFF THEY GO?

So the private builders are to have a chance to build half the new houses instead of the one-fifth they have been given in the past. And it *is* only a chance, for the one-to-one ratio is only permissive, and a local authority which doesn't like the private builder is under no compulsion to give him any licences at all. Private enterprise will moreover be allowed to build anything which will pass local byelaws but there *is* a strong recommendation that specifications should not be below the standards of the Housebuilders' Registration Council which, I would remind you, provides for regular in-

spections during construction and the making good of constructional defects for two years after completion. But is there anything to stop an outbreak of bye-pass Tudor? Only the firm application of existing town planning laws, as far as I can see, and this puts it all back on the overburdened and not always too competent local authority, who may recognize the old pre-war plans and layouts and pass them automatically.

*

From Mr. Macmillan's Press conference I gather that local authorities will be encouraged to be fairly tough. On the other hand the Minister did hint that, provided you kept clear of materials in short supply, there would be no objection in future to you spending a little more on such luxuries as, say, a hardwood floor, if you wanted to. Of Sir Percy Mills, who is to be a general and high-level adviser on the whole housing problem, I know almost nothing: let's hope he is the sort of gadfly who can do what Beaverbrook did to the aircraft makers in 1940.

ONE WAY TO START

I have heard rumours, perhaps you have too, that some of the housebuilding fraternity are hoping to be allowed to finish off much of the new town housing. Assuming the pre-war methods of dealing with 100 acres or so of land, "finish off" would no doubt be exactly right. But it might be possible, with proper safeguards, to hurry the new towns on quite a lot. I have little doubt that most of the planning is a good way ahead of the building and that several new towns have an area of say 500 houses already planned. It should be possible, therefore, to pass layouts and plans to a large house-builder and say: "Build these, and you shall have £x per house on completion." I don't imagine that this is an ideal method, but rise and fall clauses and two years or so before final accounts are settled have taken a lot of steam out of an industry which, pre-1939, had an immense amount of drive. If only we can point the builders in the right direction I don't think they'll need much of a shove.

LAMP-POSTS AND LINKMEN

Relationships between things, as the *Architectural Review* never ceases to remind us, are often just as important as the things themselves—or, to put it another way, we all know that a street of fine buildings won't necessarily be a fine street. This need to take the total view is found less often perhaps than it should be among archæologists, preservationists and amenity-conscious societies. The point, however, is well taken in the Georgian Group's 1951 interim report published last week.

*

From time to time it seems the Group has been consulted by local authorities about the design of the lamp standards they propose to set up. As the report remarks, "the design of lamp-posts might seem to have little to do with the preservation of Georgian buildings." But, of course, it really has quite a bit to do with it, because—I quote from the report again—"it is useless to preserve a building if its surroundings are to be disfigured by badly sited and unsuitably designed items of street furniture—lamp-posts, traffic signs, telephone kiosks, sand-bins and the like."

*

Brave words! And to be followed, perhaps, by even braver deeds; for the Group is thinking of holding a conference next year to discuss the whole problem of street furniture. An admirable project, and let's hope for some useful results.

Wirescape between Liverpool Street and Shenfield. A reminder of what may become a familiar sight in many parts of the country if the British Railways Executive carries out its plan to introduce overhead electrification on a large scale. *See frontispiece on page* 668.

A RUSSIAN WON'T TELL

As most of us know, "the Portugueses can't bend their kneeses, half so easily as a Russian." Not that Professor Vladimir Kemenov performed any Cossack dances on the platform at the Institute of Contemporary Arts last week; but he was mentally agile enough. The Professor, an expert on Russian 19th century painting and at one time Director of the Tretiakoff Gallery, is over here as leader of the Anglo-Soviet friendship delegation, and, as such, gave a talk at the ICA on art in Russia.

*

The closely-packed audience was fascinated by the Professor's charm and by his Russian discourse. It was fascinated, too, by his masterly evasions. Someone asked him what he thought of the contemporary paintings which hung on the Institute's walls. He replied that he had not had time to consider them. What did he think of the figure on the Soviet Pavilion at the 1937 Paris Exhibition? He said he admired the way the figure was related to the building. What did he think of the building itself, then? He could not say, as he had not seen it properly himself. Up rose the lean figure of Stephen Spender, the Apostate, to ask him point blank what the Professor thought of the Picasso hanging on the wall behind him. This time the evasion was unblushing. He could give no opinion,

This Can Happen Here

The type of scene shown in this photograph of overhead electrification on the Continent is not yet common in this country. But the article on wirescape in the December issue of *The Architectural Review*, from which the above picture was taken, is a timely warning that this sort of thing *can* happen here. As the *Review* points out the British Railways Executive intends to proceed with overhead electrification as soon as possible. Very soon the railway between Manchester and Sheffield will have overhead wires. And travellers on the Liverpool Street to Shenfield line are already familiar with the sky scribbling shown in the photograph on page 667. Perhaps the *Review* was wise not to call attention to the pleasing effects that are sometimes achieved by the use of overhead wire. Such effects are invariably happy accidents. And as it would obviously be impossible to set up any form of wirescape planning control it is better that electrification should be driven underground.

for, since the painting was behind him, he could not see it.

*

However, the Professor was able to offer one unequivocal idea which should get him into no trouble and on which we can all agree. It was the old call for the reuniting of the arts, especially of sculpture and architecture. On that question we can have rest, Uncle Vladimir, we can have rest.

. . . NOR WILL A MAYORESS

Before brushing the snow off my boots I had hoped also to report this week on the visit of the Deputy-Mayoress of Stalingrad to the AA, where she was to have talked about the reconstruction of her city. The talk, however, was cancelled at the last minute. I understand that there was nothing sinister about this; the Deputy-Mayoress was taken ill after a heavy day touring British industries, and the cancellation of the AA talk had nothing to do with the fact that someone suspected her of being a Communist.

*

Incidentally, it has nothing to do with architecture—but what a bad advertisement it is for all progressive movements that our left-wingers should so consistently dress like caricatures of themselves in *Punch*. At an SCR party last week the only normal looking people in the room were the Deputy-Mayoress and her Russian colleagues—rather like Welsh working folk in their Sunday blacks. I hope their reactions to our architecture—and they have seen industries, garden cities and new towns—will find their way into *Pravda* and that eventually SCR will pass them on. But of their view of us and of our appearance we shall probably never hear.

SWEDISH DRILL

Deprived of a talk on Russia by a Deputy-Mayoress, the AA was, however, rewarded last week by a lecture on Sweden by Mr. Goulden, who is not only the able deputy to Mr. Yerbury at the office, but also, it appears, can stand-in for him equally well on holiday. Mr. Goulden went through his Swedish drill with his customary confidence and high spirits, and a good time was had by all—or should I say ahl?

ASTRAGAL

POINTS FROM THIS ISSUE

The Editors

THE NEW HOUSING RATIO

LAST week Harold Macmillan, the new Minister of Housing and Local Government, made the first announcement on the Government's new policy for housing. The decision to increase from one-fifth to one-half the proportion of each local authority's housing allocation which may be built by private enterprise will come as good news to those many hundreds of young architects who are endeavouring to start out in private practice.

The opportunity to build a house for a private client is, almost by tradition, the young architect's first job—his first opportunity to show off his recently acquired knowledge and his first opportunity for making a reputation. Young architects, unlike other artists and professional men starting out on their careers, have, by comparison, suffered severely from lack of opportunities, due to the post-war restrictions on building. The increase of the ratio of private housebuilding to local authority building may do something to reduce this hardship. However, the interests of the architect apart, what else will this concession to private enterprise achieve? It is hard to see, on the little that Mr. Macmillan has said so far, how it will contribute much towards solving the nation's housing problem. It will, as the minister pointed out in the House, encourage the use of relatively expensive substitute materials and thus diminish the drain upon materials for local authorities' other needs. But there are, unfortunately, few techniques for housebuilding which do not use cement, bricks, steel and timber, and, of course, all such houses will require a certain minimum of those goods and materials which, in an economic crisis, are the first to become in short supply—for example, cast iron and metal goods, stoves, baths, rainwater goods, sanitary fittings, ironmongery, windows and doors.

The desire to own rather than rent a house is a laudable aim, provided that the owner's income is sufficient to maintain it in a good state of repair. If the Government's proposal will cause those comparatively wealthy families who have been on the local authorities' waiting lists for houses to attempt to solve their housing difficulties for themselves by building privately the prospects for those who remain on the waiting lists *may* improve. It is hard, on the little information which is available, to be more definite than that. The issuing of

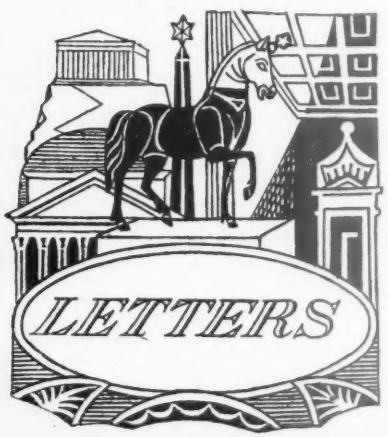
private licences to build would appear, on the face of it, to encourage what is one of the most extravagant forms of house building—the single, individually designed house. It is to be hoped that local authorities will take care to ensure that not too large a proportion of local builders' energy is devoted to what will tend to be a more profitable business than building minimum-cost local authority housing.

Perhaps of greater significance, as far as increasing house production is concerned is Circular No. 70/51, which was also released by the MOHLG last week, on the reduction of the superficial areas of houses. We shall discuss this next week.

OFFICIAL CRITICISM

The latest MOE Building Bulletin, No. 6, is a most original and enterprising publication to have appeared from an official source. It takes the form of a critical report on the planning of twenty primary schools which are being built or, in one or two cases, have been built, in the 1950-51 programme. The schools illustrated have been chosen to illustrate "different solutions to the problem of planning various types and sizes of schools," and the comment is confined solely to the educational function of the buildings. Its purpose, as stated in the foreword, is to "bring administrators, teachers and architects together to discuss and advance the science of school planning." However, in addition, it achieves another purpose. It marks a further step in the development of critical comment on building. The faint-hearts and mealy-mouths can take encouragement from the fact that enlightened comment now comes even from official sources.

To attempt, however inadequately, to complete the critical study of these schools we are shortly going to publish a comment on some of them from a purely architectural point of view. The Bulletin deals only with the educational quality of the buildings. The JOURNAL's article will add to this comments on the schools as regards construction, costs and æsthetics.



D. Cole, A.R.I.B.A.

John T. Lewis, A.R.I.B.A.

D. Jennings Smith, A.R.I.B.A.

Housing Subsidies in Northern Ireland

SIR,—There is a sorry state of affairs in Northern Ireland, where a Conservative government much opposed to controls is in office. A small amount of housing is done on sound principles by public bodies, notably the Northern Ireland Housing Trust, but the bulk is in the hands of the builder, usually small, usually speculative, and punctuated by frequent bankruptcies, often two or three on the same site. Thus planning problems are posed which are frequently insoluble under the weak planning acts in force here, and, since houses are more often built for sale than for letting, terraces or multi-storey flats are "out," and gratuitous bow windows, leaded lights and so on appear, as they are selling points which appeal to an ignorant clientele. A subsidy is paid from public funds for new houses which conform to certain detailed requirements of arrangement and construction, but for three reasons the scheme has gone badly awry. Firstly, though an exhaustive list of requirements has been drawn up, no type plans appear ever to have been issued, and in fact it is difficult if not impossible to plan a satisfactory house within the subsidy regulations. Secondly, the greatest subsidy is given for a house of five rooms and kitchen, a lesser for four rooms, and so on, with the result that the majority of houses being built have five rooms irrespective of the fact that their occupants prefer to live almost wholly in the kitchen and rarely use the two downstairs rooms. We know how this unbalance of house sizes wastes material and land, and causes sociological problems. Thirdly, too much building for the number of skilled men available is going on, and since there is some unemployment the building trade gets diluted with the lowest quality of labour, with the corollary that workmanship is too poor to be described in mere words. For instance, in one such house the rain not only enters round the back door but also through it. Internal joinery is mostly only fit to be condemned, rain water pipes discharge down the wall rather than into the heads, and the w.c. trap is apt to siphon unsealed. It all takes one back to the merry days, before the war, of Mrs. Borders. But the serious aspect of the matter is that subsidies appear to be paid out of public money for an article of inferior workmanship, and one concludes that there is no adequate inspection of these houses. It is earnestly to be hoped that the new Government will at once review the situation in Northern Ireland in order both to bring pressure to bear upon the Government there to give housing more serious thought and to learn what mistakes it should itself avoid.

D. COLE.

Northern Ireland.

Heavy Relief

SIR,—I would refer to ASTRAGAL'S comments on the new technical college proposed for Croydon and to the letter from "Croydon Architect" in your issue of November 15.

While I do not support the line of thought which produced the design concerned it seems to me that horror can be expressed with equal facility over designs of a more contemporary nature. Whether we like the design or not, and frankly I don't, it at least provides a sudden and unexpected relief from the perpetual round of light welded steel structures tied together with string, space frames, and egg boxes on stilts which have come to be regarded as architecture.

JOHN T. LEWIS.

Dudley.

New Town Economics

SIR,—I have recently been studying the master plans of our new towns in order to, perhaps, obtain a few pointers for the design of some new neighbourhoods for which I am responsible. I am rather perturbed by the economics of some layouts as applied to the present day.

First, there are many major roads, not through traffic routes, which will be very expensive as there are no frontagers to contribute to the cost of construction. They

are flanked by large areas of open space which presumably will be maintained by the local authority. A 'bus service, in order to operate economicaliy, would require to pass through the residential areas and every mile along a "parkway" would be "dead" mileage. Passenger transport, as a public service, does not seem to have received due recognition by contemporary planners, but if a road designed as a minor estate road becomes a 'bus route its function surely changes to that of a major road with its attendant perils to small children. While it is desirable to keep through traffic out of residential areas and segregate it into parkways, to do so with local traffic is probably a luxury which we cannot afford, either by subsidizing the transport undertaking, maintaining the open space or paying for the roads.

I am inclined to the view that in the design of a neighbourhood of, say, 10,000 persons, an attempt should be made to divide the area into two parts by a major estate road. off which is located the shopping centre. Each half of the neighbourhood would contain 5,000 persons and a primary school so that the children need not cross a main road to get to school, the 'buses would eliminate much "dead" mileage and the shopping centre is convenient to the 'bus route. The "green wedges" between neighbourhoods would contain the secondary schools, playing fields, parks, etc., and quiet walkways and/or cycle tracks could weave an independent course from the motor traffic.

D. JENNINGS SMITH.

Swindon.

[Have other readers any ideas about the important subject of economic and sensible road layout in new towns?—ED.]

MOHLG

The Fifty-Fifty Ratio

Local authorities are being given discretion to issue licences for the building of houses by private enterprise up to a maximum of one-half—instead of one-fifth—of their 1952 allocation. Announcing this in the House of Commons last week, Harold Macmillan Minister of Housing and Local Government, said: "These houses will be for sale or letting to families on their waiting lists or to other applicants in equally urgent need of a home. The houses to be built under licence will be controlled as to maximum size and sale or resale price and rent. The sale of municipal houses is being permitted, subject to suitable safeguards.

"For their own 1952 programmes, local authorities are being encouraged to follow specimen designs prepared in the Ministry of houses to existing Dudley standards of room sizes and living space, but of smaller superficial areas."

In reply to a question concerning private building, Mr. Macmillan said: "Each applicant will have to satisfy the local authorities that he is in urgent need of a home. That is the first pillar on which this stands. Secondly, the size of the type of house will be dependent on the size and composition of the applicant's family, subject to a maximum size of 1,500 sq. ft. Thirdly, the maximum sale price will be what the local authority considers a fair price for the completed house. The house will allow for more expensive substitutes for scarce materials, because I want to encourage the use of the substitutes and thus diminish the drain upon materials available to local authorities for their other building plans."

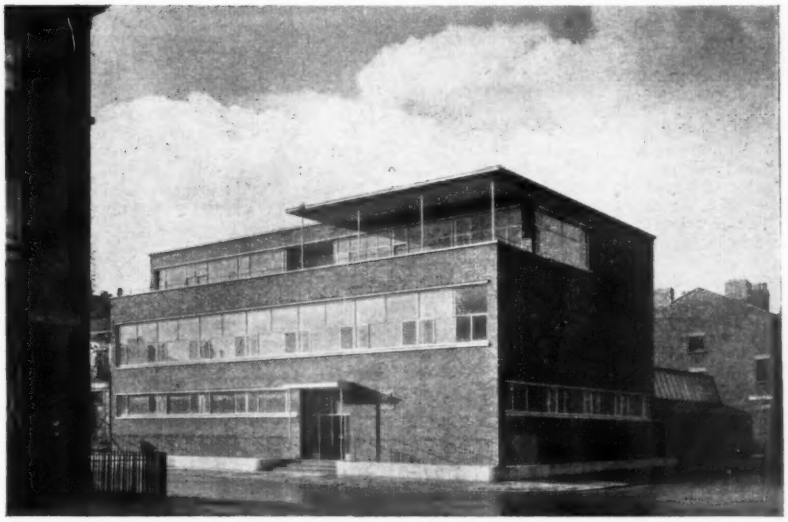
At a Press conference later, the Minister announced that he had appointed Sir Percy Mills as his honorary adviser on methods to increase the rate of house building. Sir Percy Mills is the managing director of W. & T. Avery Ltd., and chairman of the National Research Development Corporation, where his task is to develop and exploit inventions which are likely to benefit the community.

Mr. Macmillan stressed that the local authorities are responsible for making the new ratio work and for seeing that it is not abused. He pointed out that in the case of private building the local authority would have to agree to the maximum price and, if a purchaser wished to use more expensive materials readily available in place of less expensive, but scarce materials, he should be allowed to do so. He hoped that his general policy would increase the total of houses built, partly because he expected that it would attract builders who, in the past, had to leave the house building trade in order to make a living out of repair work.

Mr. Macmillan felt that the increased ratio of private building would have a deflationary effect, for each private house would relieve the local rates of £5 10s. a year, and the taxpayer of £16 a year, as well as being an investment to the purchaser.

Mr. Macmillan remarked that between the last quarter of 1948 and the third quarter of 1951, there had been a reduction in the building of three-bedroom houses from 75 per cent. to 49 per cent. of the total, that two-bedroom houses had risen from 16 to 39 per cent., and that bungalows had risen from 5 to 8·6 per cent. He said that young people today wanted a two-bedroom house quickly, and, perhaps, to move to a larger house later. This demand would influence the private builder who had only to comply with local bye-laws.

In Circular No. 73/51, which the MOHLG has sent to local authorities, it is stated that the total number of houses which can be allocated to local authorities will be reviewed from time to time in light of actual building progress. Also, that house ownership can be encouraged by local authorities by the exercise of the powers which have



The new building for the Department of Civic Design at the School of Architecture, Liverpool University, was opened last week by the Chancellor of the University, the Marquess of Salisbury. This first permanent building to be completed under the post-war development scheme of the university was designed by Professor Gordon Stephenson (assistant architect, Norman Kingham). The site is at the junction of Bedford Street South and Cambridge Street, and was formerly occupied by houses which were destroyed by bombing. It is hoped to illustrate this work more fully in a later issue of the JOURNAL. *The general contractors were William Tomkinson & Sons.*

Enrico de Pierro, a 32 year old Canadian, who has won the Poole College Competition (illustrated, pages 673 to 682). He has been teaching at the AA School for three and a half years. He has also taught at the McGill University, where he qualified. When told of the assessors' report on his winning design he denied that he had omitted a flue for the boilers and pointed out that he had provided a huge duct for this purpose. He agreed that other criticisms were justified.

D

been given to them under the Small Dwellings Acquisition Acts and the Housing Acts. These powers have already been used by many local authorities and the Minister hopes that all local authorities will give sympathetic consideration to applications made to them by persons who desire to build or acquire their own houses for the use of these facilities. He will be ready to sanction loans to enable local authorities to exercise these statutory powers.

The circular (70/51) which deals with the reduction of the superficial areas of houses, and has been sent to local authorities by the MOHLG, will be the subject of a leader in next week's JOURNAL.

BC

New Premises

The Building Centre, having moved from Conduit Street, opened at 26, Store Street, Tottenham Court Road, W.C.1, on December 3. New telephone no.: LANgham 5075.

FRANK PICK

Plaque Unveiled

The plaque shown below was unveiled at St. Peter's School, York, recently by Lord Latham, chairman of London Transport Executive. The plaque is the gift of London Transport to the school where Frank Pick

was educated. The plaque was cut in plain Welsh slate by Reynolds Stone.

Lord Latham said that Frank Pick was remarkable for his ability to apply beauty to business. He was the first great industrialist to apply the principles of good design to a great business undertaking.

TOWER CRANES

Experiments on London Sites

Recently a press visit was arranged by the Operational Research Unit of DSIR to a housing site at Denmark Hill, where Wates, Ltd., are making use of a large mobile tower crane, and to the Thatched Barn Experimental Station, where experiments are being carried out on the use of small tower cranes.

On the Denmark Hill site four six-storey blocks of flats, with reinforced concrete frames and floors, are being erected for the Camberwell Borough Council. The crane handles all materials used on the job and can deposit them anywhere on the site. The control cabin travels up and down inside the mast so that the driver can see exactly what he is doing. The crane, which can be erected in three days, is completely electric and revolves through 360 degrees. Its use enabled the entire concreting of the flats to be carried out without scaffolding, runways, planks, boards, barrows, etc., and with a 25 per cent. saving in the size of the concreting gang. Even the fact that the site is on a hill was no obstacle. A little levelling was done inexpensively with a bulldozer.

Col. Fryer, of the Operational Research Unit, pointed out that this type of crane first appeared in Germany 25 years ago and that it was now used extensively all over the continent, although the tendency now was to use smaller cranes than the one on the Denmark Hill site. He emphasized the importance of handling materials which, he said was responsible for 10 per cent. of the total labour costs of the average house. He said that the majority of building sites consist only of 5 to 10 houses and the small builder builds on an average only 50 houses a year. Such a man could not afford a large crane. At the Thatched Barn, experiments are being carried out on the use of tower cranes for the small builder. These are not mobile in the sense that they are self-propelled, but they can be moved about the site, say from one pair of houses to another and it has been calculated that their use for terrace or semi-detached houses could, with an increased proportion of skilled labour, save nearly 50 per cent. of the man-hours required until the "roofed-in" stage was reached—a saving of approximately £186 per pair of houses. Nor could the cost of hiring the crane increase the total plant costs. For a site with 13 pairs of houses, there would be a reduction of £12 per pair of houses.

RIBA

Acoustics Discussion

A discussion on the acoustics of the Royal Festival Hall was held at the RIBA on November 23 under the chairmanship of W. West, Vice President of the Acoustic Group of the Physical Society. P. H. Parkin of BRS introduced the subject with a short description of the acoustic aspects of the Hall illustrated by slides. Members of the audience were then called upon to speak. Geoffrey Sharp (*The Musical Review*) said that the great clarity of the Hall will discourage "cloth-eared" listening. He pointed out that at the back of the terrace stalls under the grand tier definition was "very poor indeed—as if a thick blanket was suspended from the grand tier." He added that in Manchester's Free Trade Hall the blanket was even thicker. In the "texture of orchestration" he thought that there was something missing; "a hole in the middle of the texture—when one wants to hear the violas and lower flute notes one cannot."

Hope Bagenal then spoke and referred to criticism of the Hall's acoustics for the works of the later romantic composers, Wagner and Strauss. The Hall could not get their atmospheric effect, and he compared it with the Prince Regent theatre in Munich—a Wagner theatre—in which the orchestra is sunk in a pit and the sound of the instruments is blended and subdued before escaping from the pit into a hall with considerable reverberation. This was an extreme case of blending and it was interesting, he said, to note that the theatre was quite hopeless for repertory. "Mozart's music was impossible." He proposed that a hall should be built with "cubicular shapes" for Bach's music; a hall where a rapid tempo would not be possible—a modified church instead of a modified opera house.

Comments from Sir Adrian Boult were: After about twenty concerts he was getting to like it very much indeed; "although it frightened us at first." He thought increasing reverberation slightly would be a good thing, and that the orchestra canopy should be lowered. Malcolm Sargent sent six comments. First: general impression very good. Second, he regretted the cement floor to the upper platform which makes it unusable for double basses. He suggested a hollow timber platform. Third: he regretted the slate bed in front of the violins which caused shrillness—he proposed polished wood. Fourth, he proposed lowering the acoustic canopy and putting the console notes not in the middle but at floor level near the conductors' entrance. Fifth, he needed more middle and bass resonance. Sixth, he thought the Hall had a good affect on performers.

Professor Black said that there were two factors which had effect—the shape of the hall and the quality of the resonating walls. The Hall had not got a shape. Too many things were put there to interfere with the natural tone. It was often impossible to tell what the clarinets were playing.

A record of Leopold Stokowski's comments was played to the audience. He said that it was the most progressive and finest hall in the world. It could be made better by increasing the reverberation period.

Denis Mathews pointed out that London ears had had ten years of the Albert Hall. The lack of balance and blend of music should be blamed on the players. He would like a little more resonance. Josef Krips said he was delighted with the Hall. The acoustics were the most perfect he had ever heard in his life. It encouraged careful rehearsal.

William Allen of BRS, concluding, said that the reverberation time was nearly as long as it could be. Almost only the audience was left as an absorbent. The "hole" in the middle register could be removed by the orchestral arrangement. Stokowski put all his strings on the left and put the wind on the right. He said that all the comments had been recorded and he promised the critics—nothing.

DIARY

Some Landscape Aspects of the Development Plan. A lecture by James W. R. Adams. (Sponsor, TPI.) At Caxton Hall, Caxton Street, S.W.1. At 6 p.m. DEC. 6

The Future of Local Government. Sir Malcolm Trustram Eve. (Sponsor, Students' Planning Group of TCPA.) At 28, King Street, Covent Garden, W.C.2. 6.15 p.m. DECEMBER 6

The Architect's Approach to Artificial Lighting. R. G. Cox. (Sponsor, IES, Birmingham Centre.) At Imperial Hotel, Temple Street, Birmingham. 6 p.m. DECEMBER 7

Some 17th Century Houses in Great Yarmouth. B. H. St. J. O'Neil. At 55, Great Ormond Street, W.C.1. (Sponsor, SPAB.) 8 p.m. DEC. 10

Schinkel. Nikolaus Pevsner. At RIBA, 66, Portland Place, W.1. 6 p.m. DEC. 11

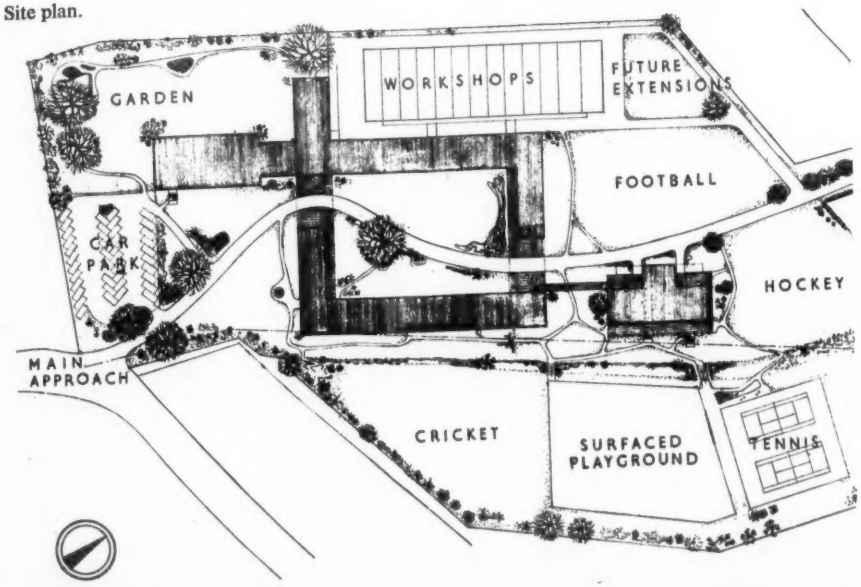
Speed the Job: Who's to Blame for the Muddle? Whitfield Lewis, D. E. Woodbine Parish, D. H. Green, G. R. Millhouse and J. Ryan. At Dennison House, Vauxhall Bridge Road, S.W.1. (Sponsor, ABT.) 7.15 p.m. DEC. 12

POOLE COLLEGE COMPETITION

FIRST PRIZE-WINNING DESIGN BY ENRICO DE PIERRO

The first prize of £1,000 for a design submitted in the competition for a college of further education to be erected at Poole, Dorset, sponsored by the Dorset County Council, has been won by Enrico de Pierro, B.Art. (McGill University), who is on the staff of the AA School. The second prize-winners chosen by the assessors (J. Leatheart, S. A. W. Johnson-Marshall, H. E. Matthews, J. Haynes and H. J. Shelley) are T. C. Ralph, A.R.I.B.A., of London, S.W.10 and H. J. Gordon, A.R.I.B.A., of Putney. They have won £500. The winner of the third prize of £300 is S. C. Halbritter, A.R.I.B.A., of Maidstone. The two highly commended competitors are: Martin J. Slater, F.R.I.B.A., and Birkin Haward, A.R.I.B.A., of Johns and Slater, of Ipswich, and Patrick Coles, A.R.I.B.A., and Ronald Sims, A.R.I.B.A., of Frederick Lawrence and Partners. Following is the assessor's report of the first winning design :—"The building is well placed on the site, leaving the maximum residual area for outdoor recreation. The site-layout and landscaping are competently contrived and will enhance the prospect of the school when completed. The planning fulfils the accommodation conditions : the circulation is economic, simple and direct, and the association of the class-room, laboratory and workshop areas is particularly well-conceived. The first instalment is compact and well-arranged and will be of good appearance as a separate entity until future instalments are added. The elevations are a straightforward, unaffected expression of the constructional system adopted and the component units of the plan. The total estimate of cost is based on a fair assessment of building values ruling in May last and the first instalment can be built for the stipulated amount of £120,000. The compactness of the planning is reflected in the low cubic content of the scheme compared with other designs, which has enabled the winner to estimate at an adequate cubic rate figure. The following points in planning require further consideration :—(a) Access to dressing rooms and access from dressing rooms to stage need improving : the stairs to stage are too close to the proscenium opening. (b) Access to fuel store is inadequate and a boiler flue is required." All designs submitted will be exhibited at the Secondary Modern School, Coburg Road, Dorchester, from December 31 to January 5.

Site plan.



THE FIRST PRIZE-WINNER'S REPORT

Following are extracts from the first prize winner's report:—In view of the fact that the building is to be built in instalments, it is necessary to make a few changes to that part shown on the drawings which is to be built first. A cantilevered canopy is to be added over the main entrance, and a draught lobby at the north-east end where the fire doors to the staircase occur. Light metal bicycle parks will also be placed near both entrances, which will later be moved to their permanent positions. Only that part of the service road leading to the service area which is between the workshops and the main block is to be laid at first.

Although not required in the first instalment, the bakery and one classroom which appear on the drawings are to be used at first as common rooms for staff and students respectively. A further re-arrangement would involve shifting a second classroom into the bakery, should the staff desire a location nearer the main entrance. Cloakroom accommodation is to be included with the temporary staff room. Students may go to the dining room for their tea, or it may be delivered from the kitchen on trolleys and served from the multi-purpose counter near the common rooms.

The two shop display cubicles are placed next to the students' common rooms, away from their department, so that all students may become familiar with each other's work. Where the column footings at the southern corner of the building come too close to the 12-in. sewer, it would appear simpler to bridge it rather than to move the sewer.

Construction.—The main through-road, service road, service area, and car park to be of concrete. Footpaths to be tar macadam, and garden paths to be gravel. The boundary fence and fences separating the car park and service area are to be of welded mesh steel. Retaining walls are of reinforced concrete and brick. Hard-surfaced playing space is to be tar macadam. Other paved areas to be precast concrete paving slabs.

The frame of the main part of the building is to be of reinforced concrete column and beam construction, with hollow block floors, generally in 20-ft. square bays and rubbed finished externally.

The auditorium and gymnasia are similarly constructed in concrete up to 1st-floor level, with steel stanchions and trusses above this, spanning two ways, trusses to be asbestos sprayed for fire-proofing. The roof is concrete ho'low block, with glass bricks in concrete mesh for top-lighting in the gymnasia. The three gymnasia are treated as one large space divisible by movable partitions. The workshops have light steel stanchions and two-way triangular trusses spanning a bay 20 by 40 ft., glazed on their northerly slope, with corrugated asbestos on the south. Stairways to be reinforced concrete with non-slip tile surface and enclosed in wire-glass for fire-protection.

POOLE COLLEGE COMPETITION: FIRST PRIZE-WINNING DESIGN BY ENRICO DE PIERRO

The exterior wall infillings to be of cavity construction, the inner-skin of lightweight concrete blocks, plastered and painted, and the outer skin of face brick, grey in colour, with engineering blue brick on return walls and recesses formed by terraces and covered passages. Purpose made window frames to be corrosion resisting aluminium alloy, with fixed plate-glass, flat-drawn in opening lights, and Georgian wired cast glass where the glazing comes to floor level.

Doors are to be of wood, flush and painted. Partitions generally to be of hollow block, plastered and painted. Workshop partitions to be single thickness grey brick. Openings to be framed in metal, with hollow core flush wooden doors. Lavatories and kitchen to have 6-in. by 6-in. glazed wall tile dado. Movable partitions to be folding in gymnasia, and equipment stores to have collapsible gates. The tutorial room to be divided by "accordeon pleated" folding doors. Roofs to be flat and with two inches of insulating roof screed, finished with four layers of felt and mastic topped with gravel or preformed tar macadam tiles where exposed to traffic.

Finishes.—Floors to be finished mainly with 9-in. square asphalt tiles laid on screed. Workshop floors of exposed cement screed. The main entrance hall floor to be of stone slabs. The gymnasia and auditorium to be wood strips laid on sleepers fixed to concrete slab in the gymnasia and sprung in the auditorium. Private offices and staff rooms to have wood block. Plaster surfaces to be finished in gloss finish water paint or enamel. The choice of applied colour to be controlled by orientation (light reflection of colour) and the function of the particular areas being considered.

Services.—Natural lighting:—Top lighting to be of solid glass bricks in concrete mesh. North lights in workshops to be light-diffusing glass. Lavatory window-glass to be translucent. Control of natural light is generally by venetian blinds, and curtains in common rooms and offices which may require them. Total exclusion of light in lecture room and auditorium to be by black pleated blinds and curtains.

Artificial light to be provided by tungsten light fittings in all rooms, in ceilings for general illumination and drop fittings over work benches and desks.

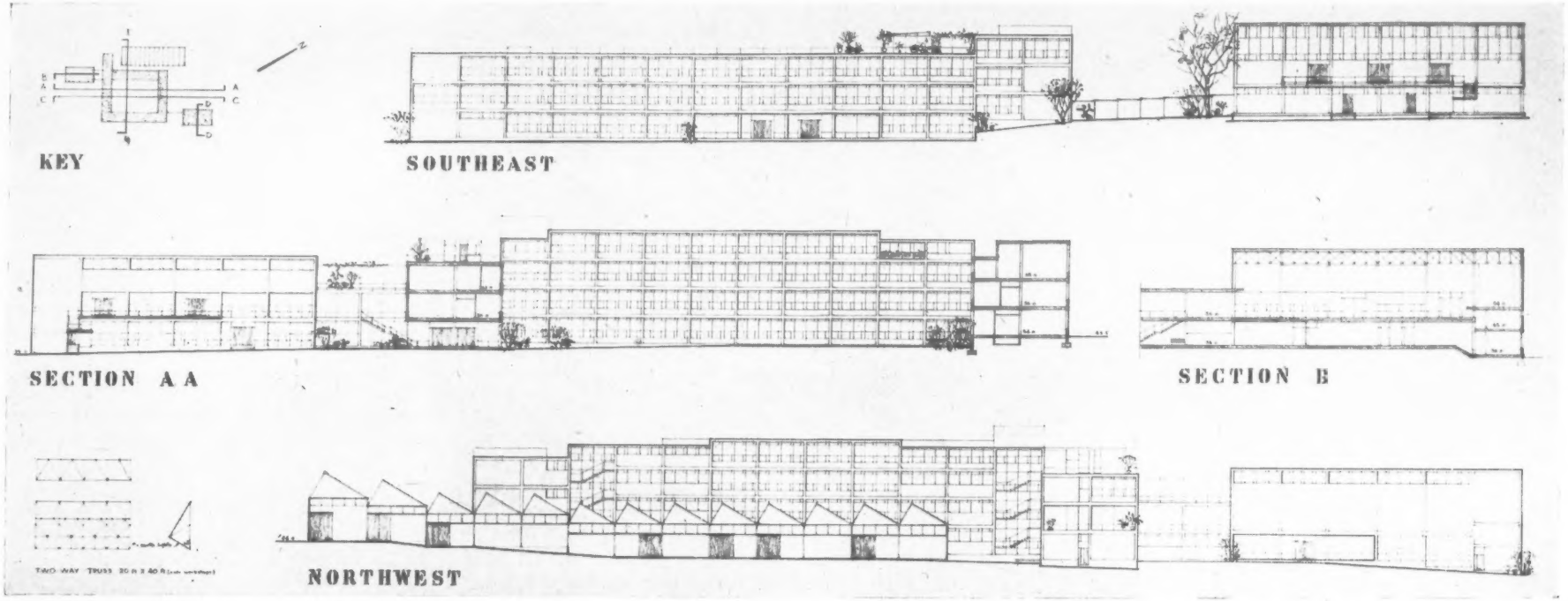
All rooms are to be equipped with one or more "heater units" which circulate warm air, the source of heat being hot-water pipes. Heat is generated in the heating-chamber in the basement, and the hot water pipes are carried through the building in an underground tunnel and above suspended ceilings in the corridors. The large vertical duct from the heating chamber feeds these horizontal ring ducts with underground off shoots to auditorium, gymnasium and workshops.

Natural ventilation:—The topmost section of the windows to be fitted with louvres for permanent ventilation where desired, or generally of hinged lights. The large centre sections are fixed, and the continuous opening lights at cill height to be pivoted and side hung.

Artificial ventilation, where required (science labs.), to be by means of ducts above the suspended ceilings in the corridors, connecting to mechanical equipment which discharges through the main vertical duct. Kitchen and shower rooms and workshops to have electrical extract fans connecting directly to the open air. The auditorium to have natural ventilation through openings near the floor and roof ventilators.

Acoustics.—Where necessary for absorption, perforated fibre-board tiles to be applied to ceilings. The music department and all workrooms with noisy activities or machines to have absorbent ceilings, and where the sound is to be kept from neighbouring rooms the partitions to be double skin. The rear wall of the lecture room to be treated acoustically.

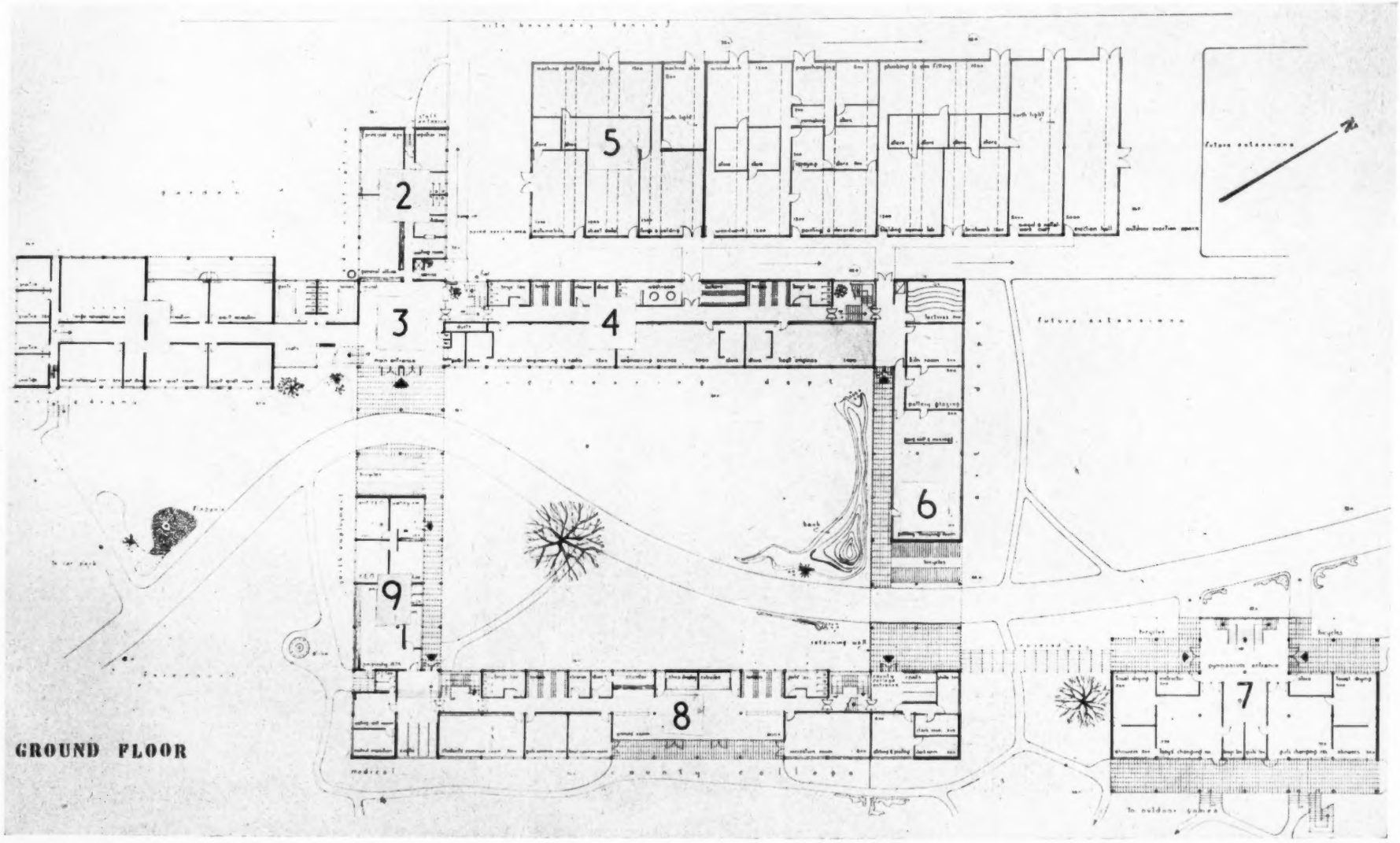
The cost of the first instalment is estimated at £118,898, including site work. The total estimate for the whole scheme is £569,467.



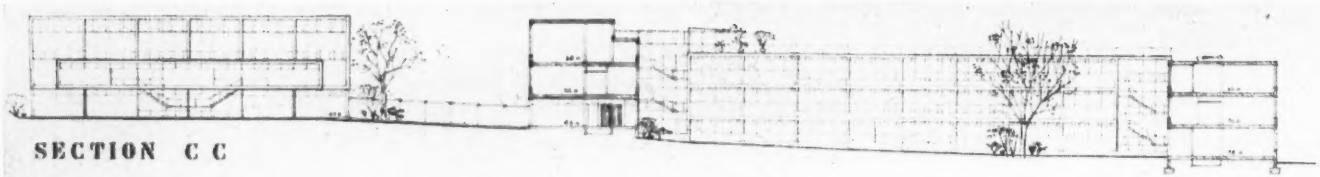
NORTHWEST

Key

1. Music and drama, comprising 4 practice rooms, a large and small rehearsal room, 2 adult recreation rooms and 2 adult quiet rooms.
2. Principal's and registrar's rooms. Cloaks, bookshop, waiting space and general office.
3. Main entrance with cloakroom accommodation on the left.
4. Engineering department, comprising electrical, radio, heat engines and engineering science. Also cloakrooms.
5. Workshops. From left to right: Top: machining and fitting shop, machine shop, woodwork, paperhanging, plumbing and gas fitting. Bottom: automobile, sheet metal, forge and welding, woodwork, painting and decoration, building science, brickwork, wood and metal work, erection hall.
6. Art department, kiln room, pottery glazing and pottery throwing rooms.
7. Gymnasium changing rooms.
8. County College, with cloaks, recreation and common rooms.
9. Youth employment offices and geography room.



POOLE COLLEGE COMPETITION: FIRST PRIZE-WINNING DESIGN BY ENRICO DE PIERRO



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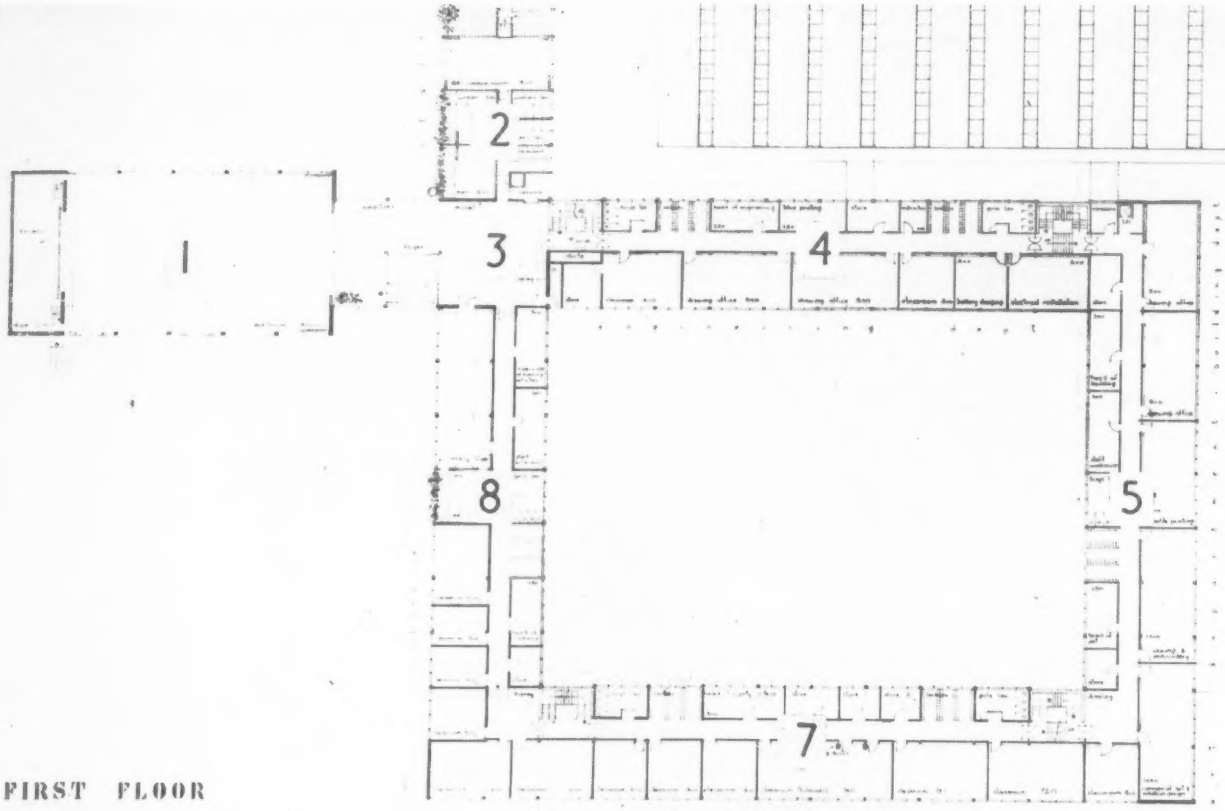
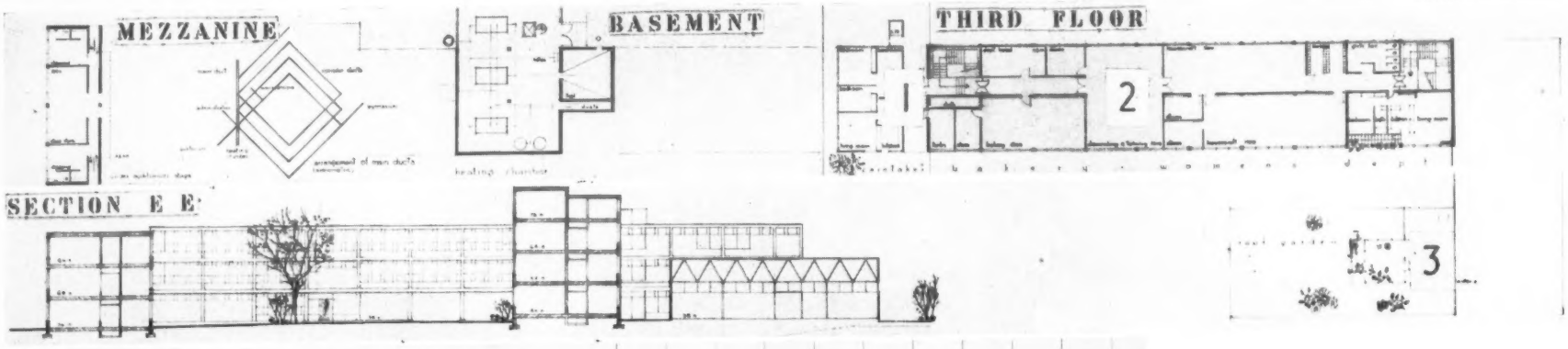


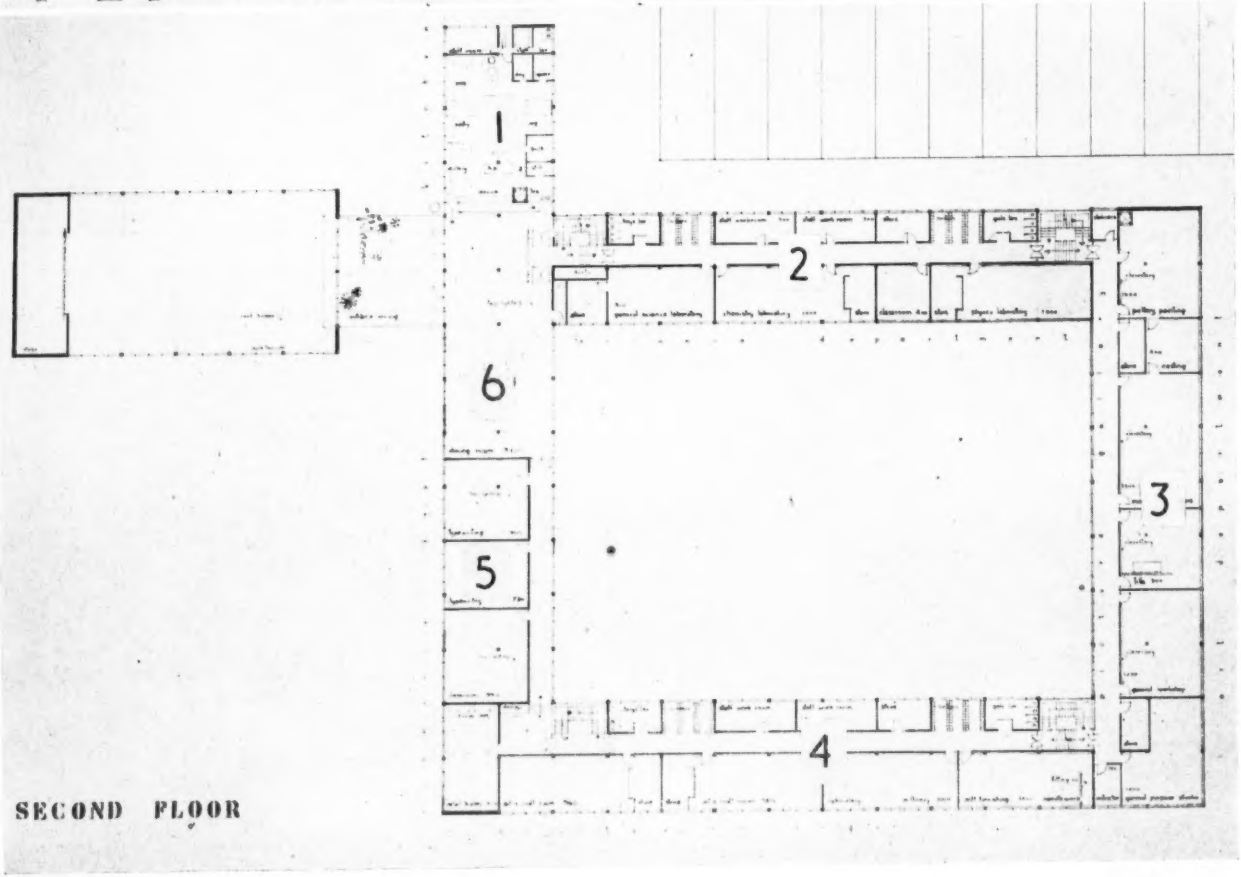
FIRST FLOOR

Key. First floor plan

1. Auditorium.
2. Staff rooms.
3. Foyer and exhibition space.
4. Engineering department, comprising 2 drawing offices, 2 classrooms, battery charging, electrical installation, and blue printing rooms, Head's office and cloakrooms.
5. Art and building department. Two drawing offices, textile printing, weaving and embroidery, commercial art and industrial design.
6. 3 gymnasia.
7. 9 classrooms of the county college.
8. Commerce. 3 classrooms and library.

(The figures shown were not on the original drawings.)



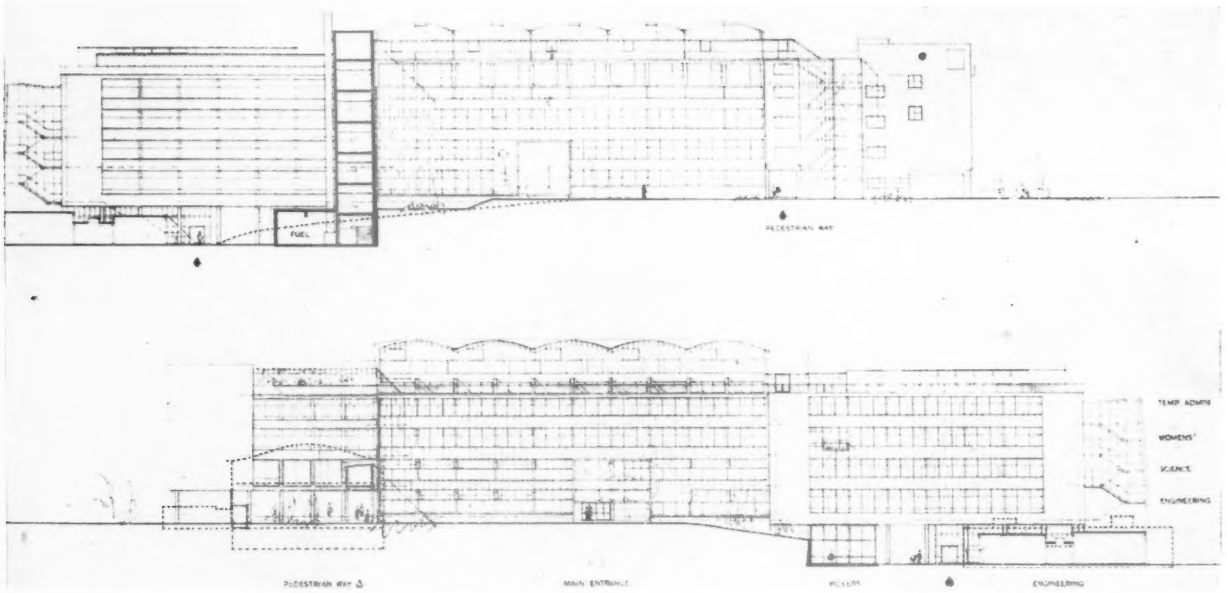


Key to plans above.

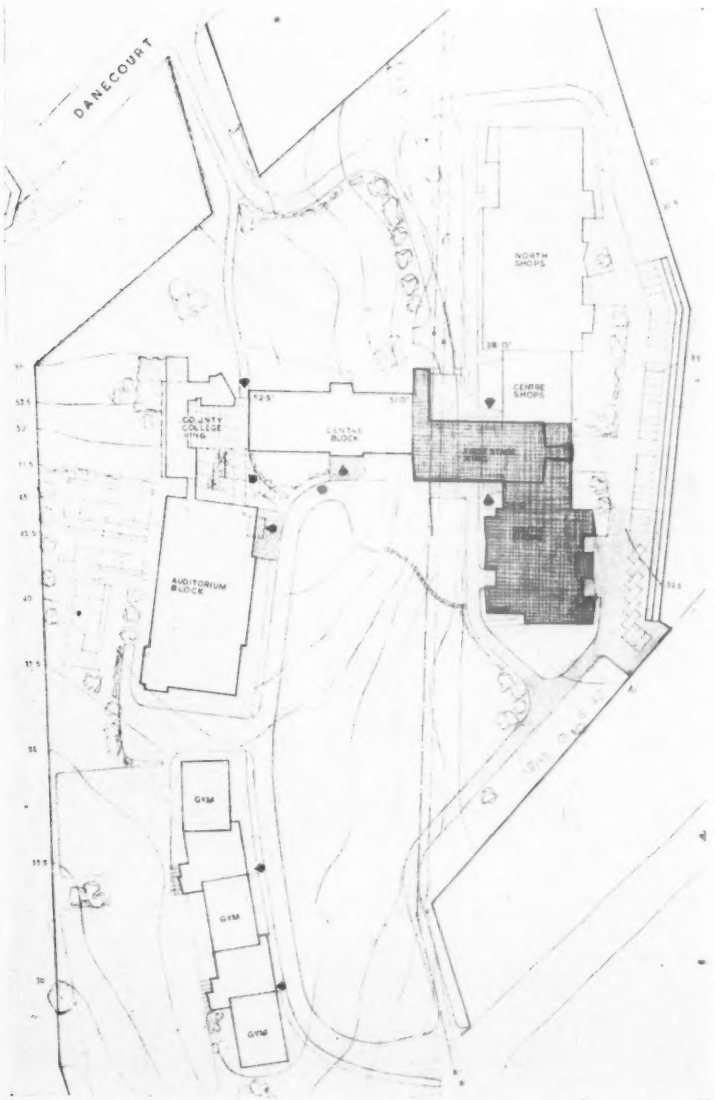
1. Caretaker's flat.
2. Bakery, women's department, and demonstration flat.
3. Botany.

Key to second floor plan.

1. Kitchen.
2. Science department. General science, chemistry and physics laboratories. 2 staff workrooms, 1 classroom and cloakrooms.
3. Art department. Pottery and painting, casting, modelling and sculpture, and life studios, general workshop and general purpose studio.
4. County college. 2 art and craft rooms, upholstery, millinery, soft furnishing and needlework rooms. 2 staff work rooms and cloakrooms.
5. Commerce. Retail trades room, classroom and 2 typewriting rooms.
6. Dining room.



Top, north-east elevation. Above, south-west elevation. Left, site plan. Opposite page, lower ground floor plan and section through auditorium.

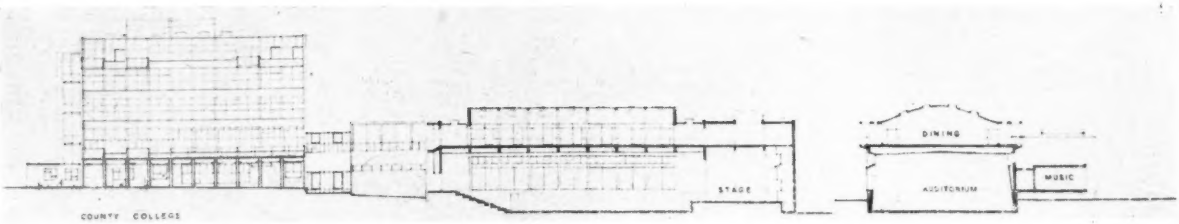


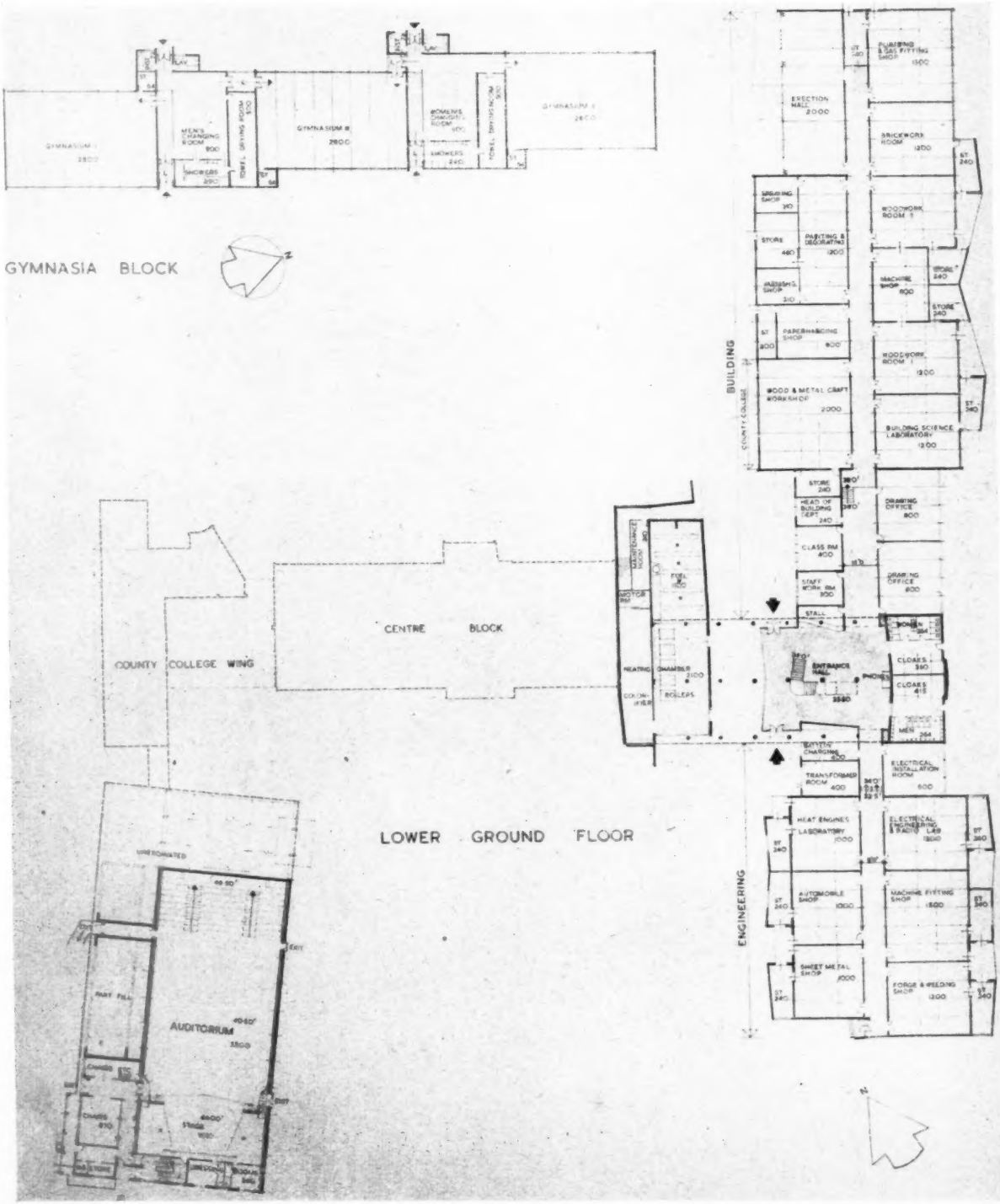
POOLE COLLEGE COMPETITION

SECOND PRIZE-WINNERS' REPORT

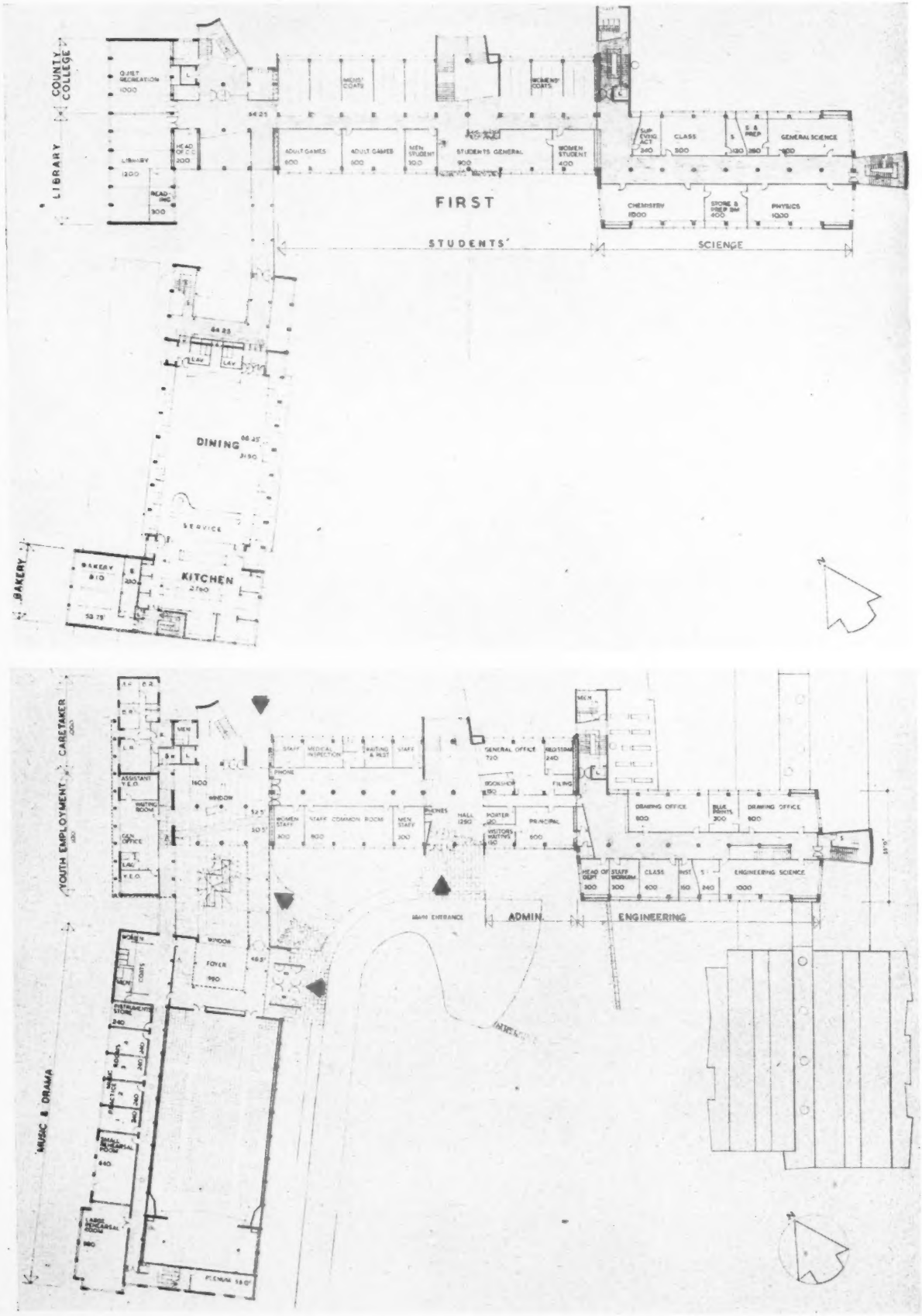
Following is an extract from the report of the second prize-winners, T. C. Ralph, A.R.I.B.A., and H. J. Gordon, A.R.I.B.A.: To avoid the future need for the re-allocation of teaching rooms in the first stage the rooms built in the first instalment are in their permanent positions. Construction : workshops and gymnasia—light frame of steel columns and lattice beams on 8-ft. 3-in. modules, clad with precast concrete units and roofed with metal decking ; centre block and east wing—reinforced concrete with hollow tile floors, a 15-ft. grid, clad with reconstructed stone or exposed-aggregate concrete units ; auditorium—concrete frame supporting ribbed shell roof. Heating : by low-pressure hot-water boilers automatically fired, except for the auditorium, which has plenum air-conditioning. Services : in the workshops services will pass through lattice beams without ducts, elsewhere carried by vertical ducts.

Of this design the assessor wrote :—" The building occupies more of the site than is necessary, to the consequent curtailment of the outdoor recreational area. It is set too far to the north of the site, thus extending the main approach road to an excessive length. It is shown built in part over questionable sub-soil which the competitor has acknowledged in his report. The planning is more dispersive than in the winning design, but circulation and inter-departmental arrangements are well done. The first instalment is compact and would present a unified appearance pending future extension. The elevations, although not very well presented, are of a high quality in design. Although the estimate of cost for the total scheme is slightly more than the maximum stipulated sum, the cube rates are adequate, but it is unlikely that the first instalment could be built within the figure of £120,000. The following are points of criticism:—(*a*) Cleaners' stores are not shown on each floor as required. (*b*) Students' common room, cycle sheds and porter's room in first section are omitted. (*c*) Housecraft stores are half the stipulated area. (*d*) The temporary accommodation of the administrative department on the third floor is very unsatisfactory."

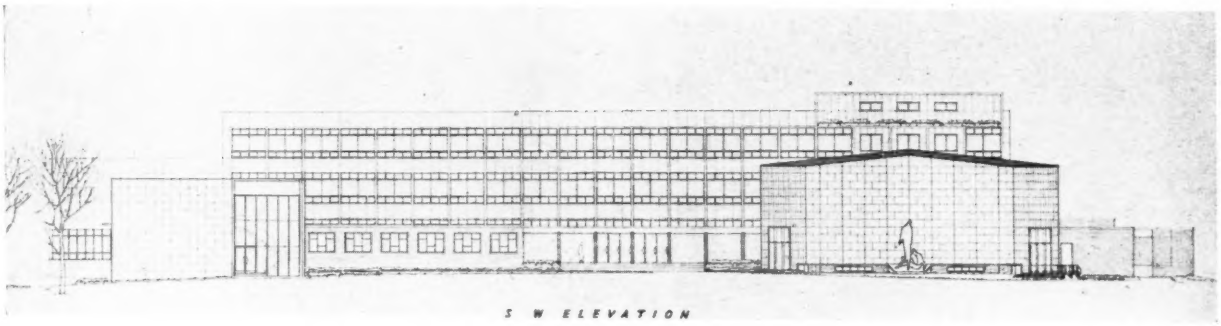

COUNTY COLLEGE
STAGE
DINING
AUDITORIUM
MUSIC


GYMNASIA BLOCK
CENTRE BLOCK
COUNTY COLLEGE WING
BUILDING
ENGINEERING
LOWER GROUND FLOOR
AUDITORIUM
ENTRANCE HALL
ERECTION HALL
BRICKWORK ROOM
WOODWORK ROOM
PAINTING & DECORATING
MACHINE SHOP
DRAWING OFFICE
CLASS RM
HEAT ENGINES LABORATORY
AUTOMOBILE SHOP
SHEET METAL SHOP
MACHINE FITTING SHOP
FORGE & WELDING SHOP
BUILDING SCIENCE LABORATORY
WOOD & METAL CRAFT WORKSHOP

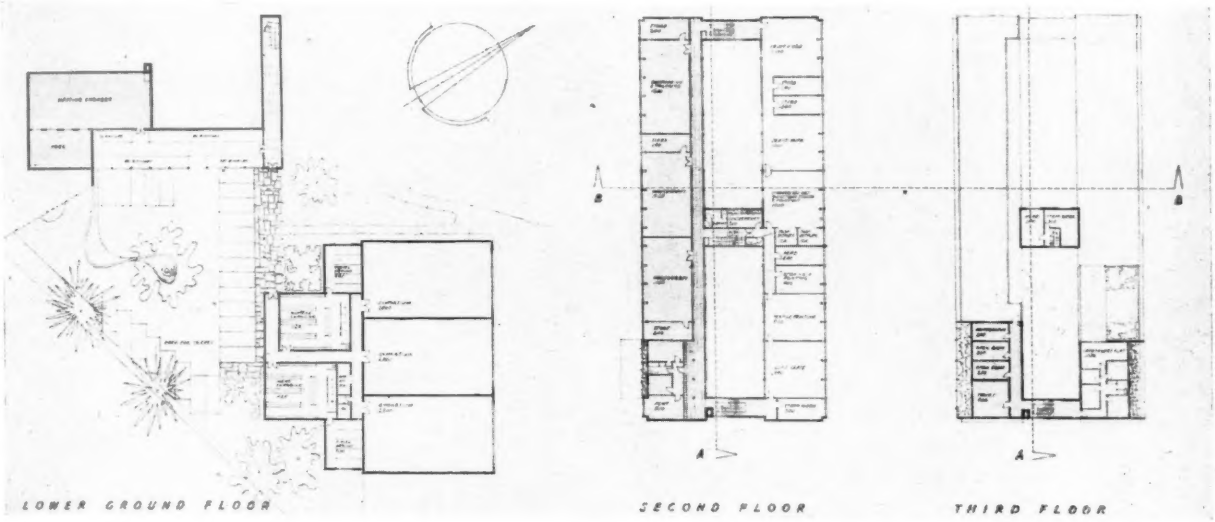
POOLE COLLEGE COMPETITION: SECOND WINNING DESIGN



Ground floor plan and, top, first floor plan



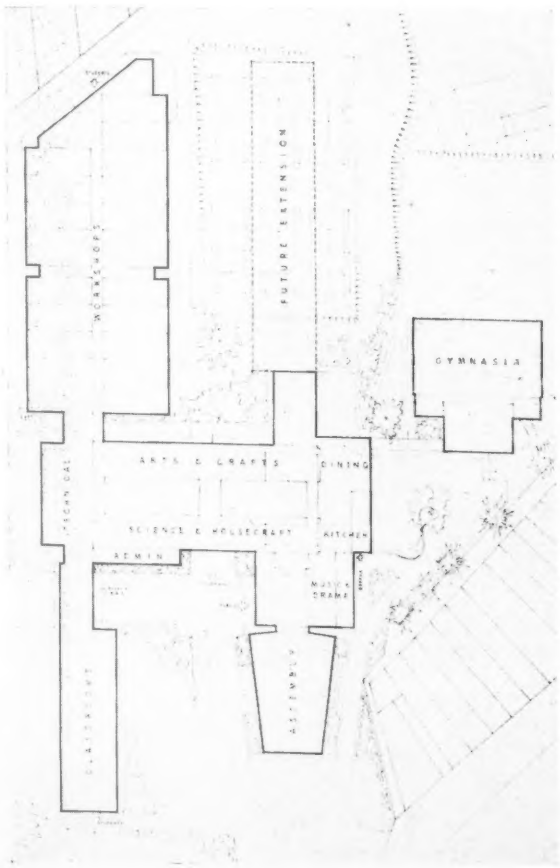
S W ELEVATION



LOWER GROUND FLOOR

SECOND FLOOR

THIRD FLOOR



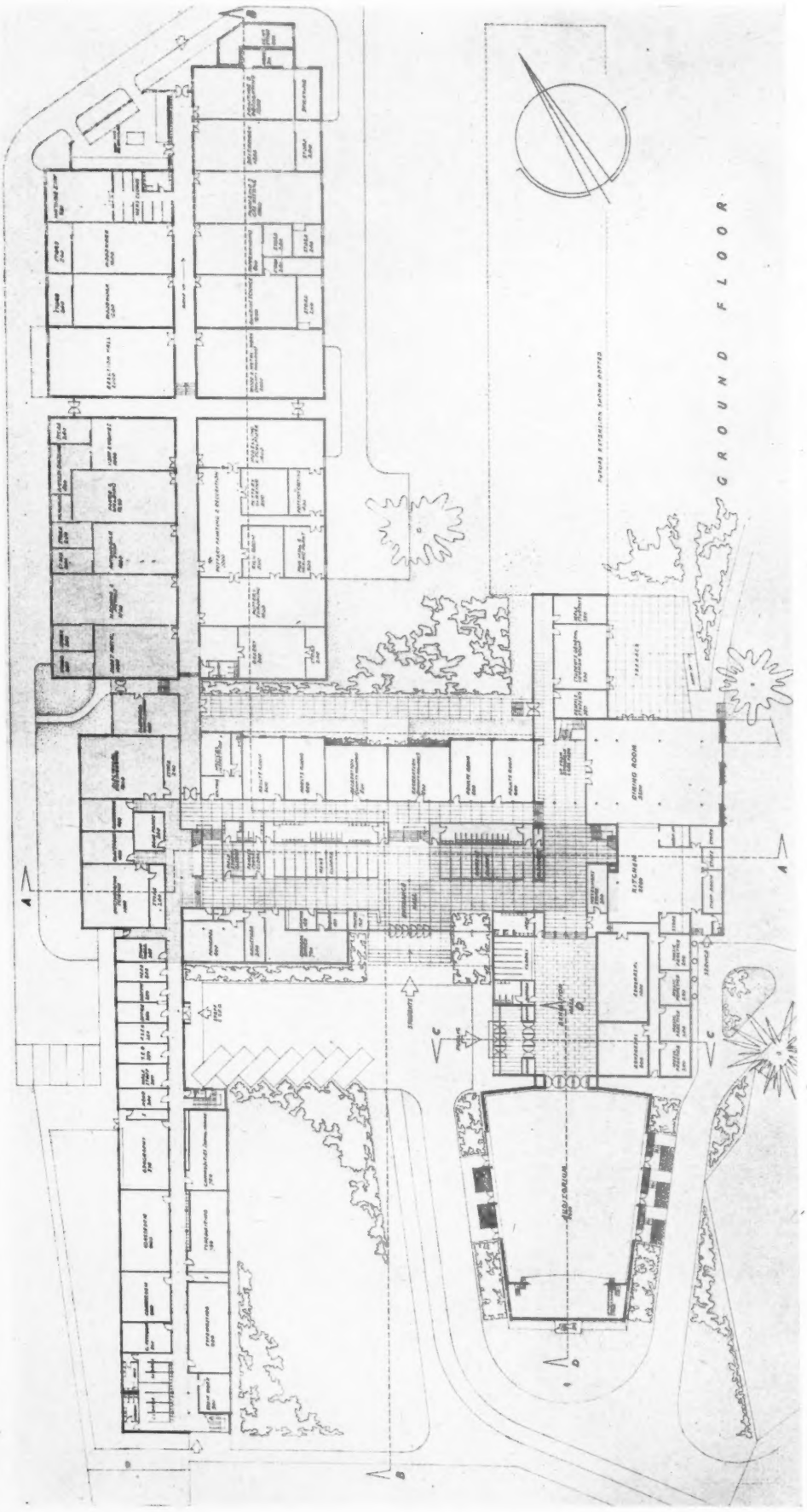
POOLE COLLEGE COMPETITION

THIRD PRIZE-WINNER'S REPORT

Following is an extract from the report of the third prize-winner, S. C. Haltbritler, A.R.I.B.A.: The first phase of building has been planned as a connected group to which the remaining departments of the college can be added at intervals. Several rooms included in the shaded areas on the plans will, in the first phase, be put to temporary use as follows: the library will be the staff common room; reading room, the students' common room; drawing offices, the head's (engineering and women) staff workroom; and a classroom will be the blueprint room. For flexibility of re-arranging teaching accommodation to suit changing needs, a 10-ft. module has been adopted which may be further divided by the use of windows with centre mullions. Floor to floor heights are generally 12 ft., with 14 ft. in the workshops and 18 ft. in the erection hall and workshops. Construction: workshops—concrete, with light shell construction in 25-ft. bays on raft foundation; 1-in. cork insulation on soffites of vaults; floor finish, granolithic. Hollow tile reinforced concrete flat roof to erection hall and workshops. Classrooms—welded steel frame and hollow tile floors; outer walls of precast concrete panels set 12 in. forward from face of stanchions to give continuous ducts under cills. Auditorium—welded steel frame and trusses with copper on insulation board roof; walls, external, precast concrete panels on brick backing with inner leaf of foam slag blocks; ceiling, fibrous plaster on wood wool.

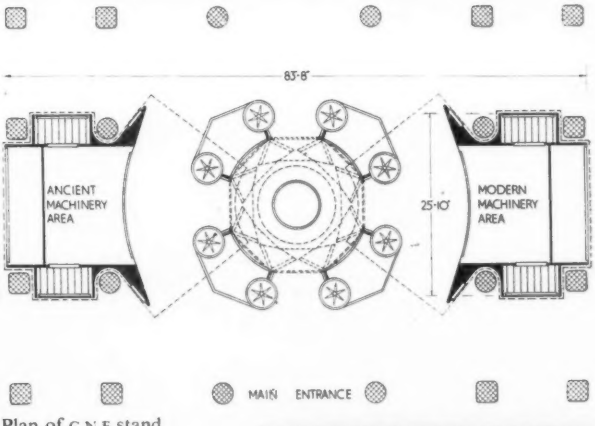
Of this design the assessor wrote:—"The building is well sited, but the main southerly approach is cramped in comparison with the winning design. The site-layout and landscaping are very well done. The planning fulfils the accommodation conditions except for a few minor omissions of stores and an instructor's office. Circulation is direct but ground floor hall areas are unnecessarily extravagant. The entrance-assembly-dining hall group is competently planned. The workshops unit is well segregated and is good in plan arrangement. The first instalment is compact but there would have to be a considerable length of temporary external walling on the ground floor to enclose the circulation areas. The elevational design is particularly commendable and is among the first six of the best designs. The estimate of cost indicates that this scheme is not as economic as the winning and 2nd designs; it would be difficult to build the first instalment for £120,000, but with strict economy the whole scheme could be built for the stipulated total cost."

POOLE COLLEGE COMPETITION: THIRD PRIZE-WINNING DESIGN (continued)

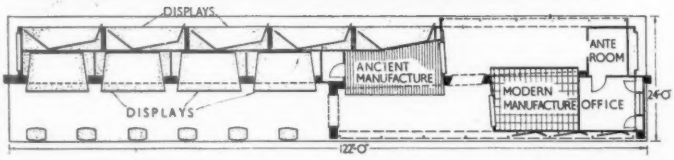


EXHIBITION STANDS FOR THE WOOL TEXTILE CORPORATION IN CANADA

This year the National Wool Textile Export Corporation has aimed at reaching the widest possible public in Canada through the medium of three types of exhibitions, all designed by Neville and Mary Ward. The first, the Canadian International Trade Fair, Toronto, is comparable to the BIF in the character of the visitors it draws. The CITF exhibit, seen in the photograph below, had nine main displays, back to back and six smaller double-sided displays. All solid surfaces were of stud and hardboard, either papered or distempered. The second, the Canadian National Exhibition, includes stage shows and appeals to a more general public. The stand, seen right, was interrupted by eight large columns and in the centre a 36-ft. high truncated skeleton cone was constructed. Thirdly, the Prairie Fairs are a combination of rodeo and fun fair with a few trade exhibits thrown in, and tour the more remote towns. The small travelling exhibit, seen bottom right, is 12 ft. by 3 ft. and could be unpacked and assembled by unskilled labour in two hours. The models were designed by Ethelwyn Baker. The displays for the CITF and CNE stands were by Alec Heath.



Plan of C N E stand
[Scale : $\frac{1}{16}$" = 1' 0"]



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

OFFICE EXTENSION

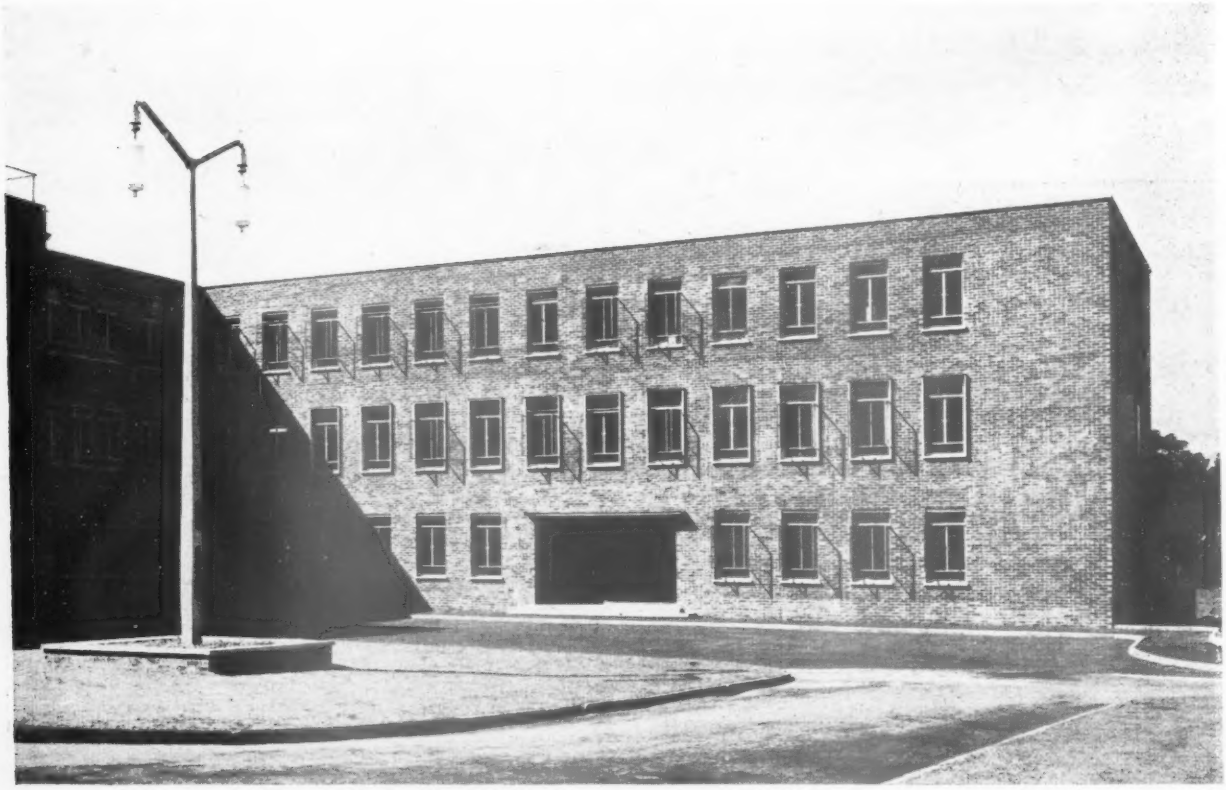
at SALFORDS, REDHILL, SURREY

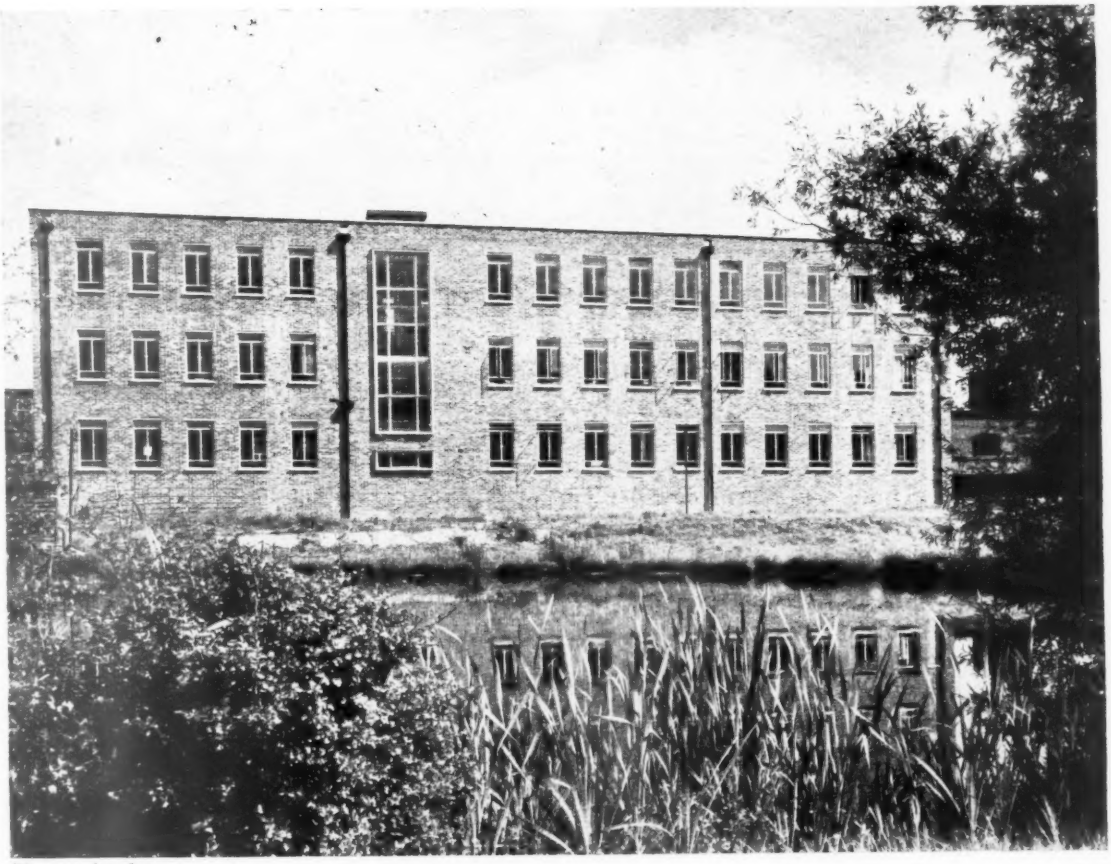
designed by LEO O. L. HANNEN AND JOHN H. MARKHAM

assistant architect, O. M. W. NAYLOR

Additional office accommodation was required by the Monotype Corporation, Ltd., who manufacture type-setting machinery, for the technical and administrative staff of their works. This accommodation has been provided by an extension to their existing office block; the new building is on three floors and has a floor area of 14,640 sq. ft., which includes general offices, manager's suite, board room and library and cloakrooms.

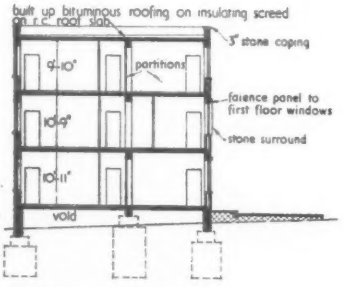
Looking west at the new office block.



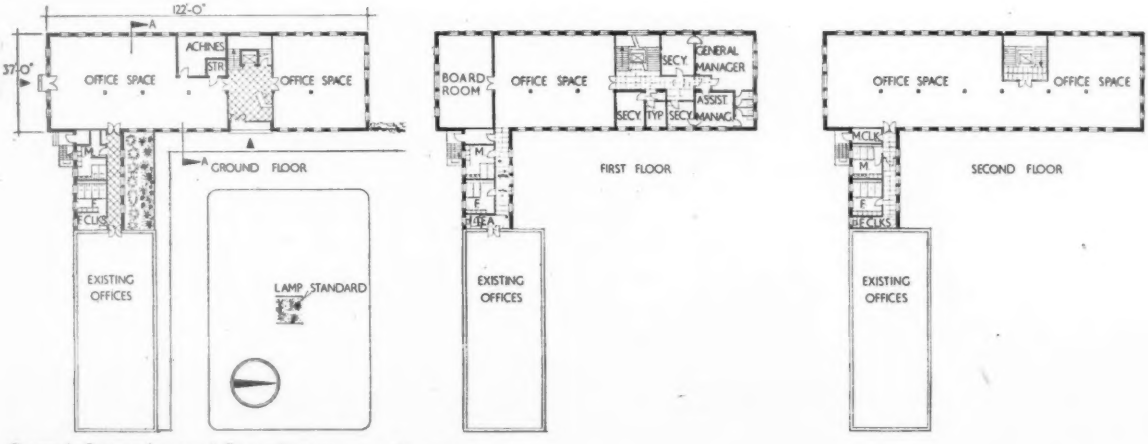


The west facade.

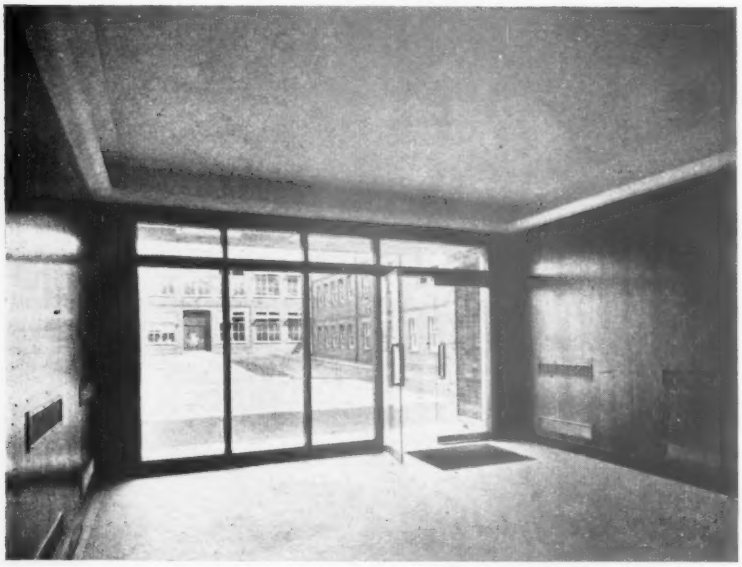
PLAN.—The extension has been designed with the maximum amount of unobstructed floor space in order that possible future reorganization could be undertaken easily. Apart from the board room and managers' suite, all offices are provided with removable steel partitioning. The clients wished that the new building should harmonize with the original offices and so individual windows have been used in preference to strip windows. Floor to floor and cill heights were also controlled by those in the old building as access had to be provided on all floors.



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



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



Top left, looking through the main entrance doors. Above, the main entrance hall, stairs and lift.

CONSTRUCTION.—The new building has a reinforced concrete frame, floor slabs and roof. The brick infilling is in two skins of 4½ in. thickness with a 4½-in. cavity. This system enabled the inside faces of the wall columns, which are all 9 in. deep, to be on the same plane as the general inside wall face, thus avoiding the necessity for setting radiator and service pipes around projecting columns.

FINISHES.—The office floors generally are finished with rubber tiles and the manager's suite and board room with muhuhu blocks. Cloakroom floors are in red quarry tiles and the walls are lined with cream glazed tiles. The board room joinery is in light oak and that in the entrance hall is in Australian walnut with ebonized skirtings. Acoustic tiles are used on board room and entrance hall ceilings and a specially sound proofed room, lined down to dado height with these tiles, is provided on the ground floor to house the Hollerith accounting machines. These machines stand on anti-vibration mountings to prevent noise being transmitted to the structure.

SERVICES.—Heating generally is by low-pressure hot water radiators, which, together with the domestic hot water supply are fed from the main works boiler house. A complete system of underfloor ducting and special skirting ducting carrying telephone, bell and power cables is provided to allow for maximum interchangeability of office space. Contract price was £45,313 or 4s. 3½d. per cub. ft. The general contractors were H. Bacon & Son, Ltd. For sub-contractors, see page 694.

Below, the board room on the first floor.

OFFICE EXTENSION

at SALFORDS, REDHILL, SURREY
designed by LEO O. L. HANNEN
and JOHN H. MARKHAM

WORKING DETAIL

WINDOWS :

SHOPFRONT : GOWN SHOWROOM IN LONDON, W.1.

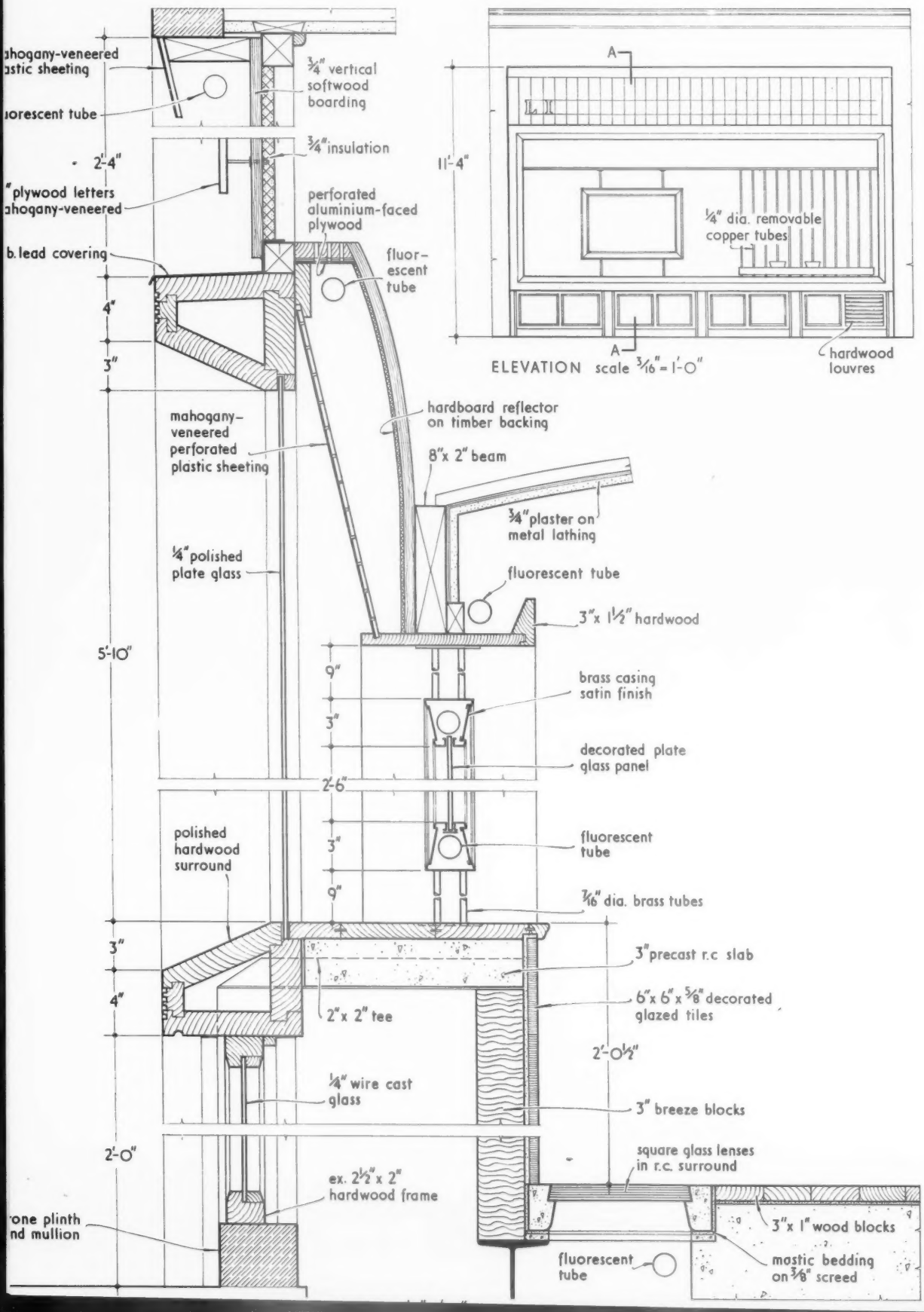
Douglas Stephen and Partner architects ; Bernard Gold and Partners, architects to the fabric

The principal feature of the deeply-recessed window is a decorative glass panel on fine brass supports lighted from above and below by fluorescent tubes in the frame.

ORKING DETAIL

IOPFRONT: GOWN SHOWROOM IN LONDON, W.1·

uglas Stephen and Partner architects ; Bernard Gold and Partners, architects to the fabric



WORKING DETAIL

DOORS:

ENTRANCE DOORS: OFFICES AT WALLSEND

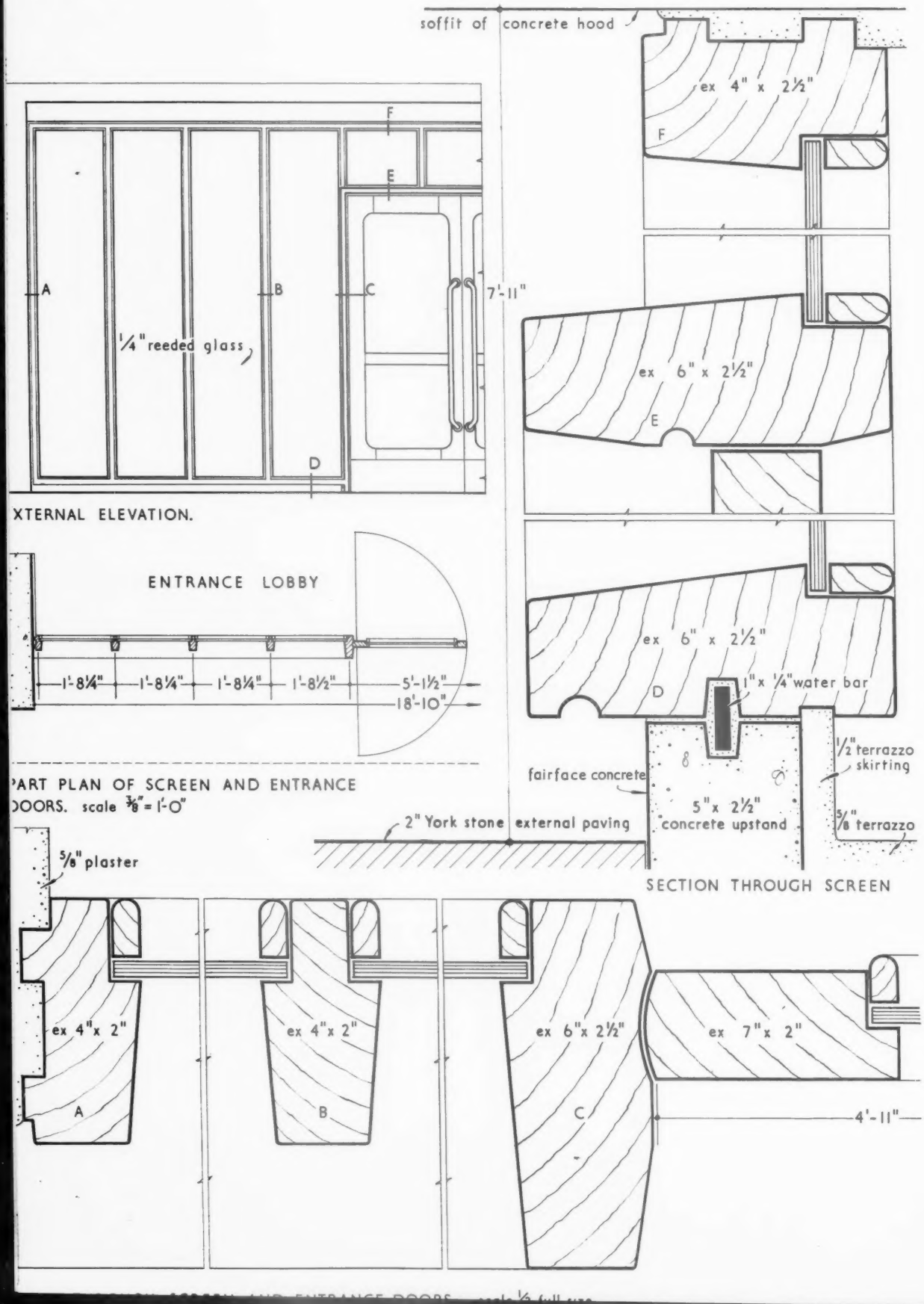
Richard Sheppard and Partners, architects

The panels of reeded glass forming the screen are framed in teak, as are also the plain plate panels of the door.

ORKING DETAIL **DOORS: 6**

NTRANCE DOORS: OFFICES AT WALLSEND

chard Sheppard and Partners, architects



INFORMATION CENTRE · INFORMATION SHEETS
QUESTIONS AND ANSWERS · CURRENT TECHNIQUE
THE INDUSTRY · PRICES · TECHNICAL ARTICLES

TECHNICAL SECTION

In this article an account is given of the conditions existing in Northern Ireland which led to the design of the "Ulster Cottage." (Shown below right: prototype, above.) This fully-subsidized dwelling, without a bathroom, is being built in large numbers in remote country districts to replace the derelict cabins of agricultural workers. The "Ulster Cottages" are being built rapidly as a result of prefabrication and good site organization. The house is described here, as are the methods of erection and site work. It is reported that although some local authorities hesitated to give orders for a house of such unusual construction, many have decided to have them built after seeing the completed building.

LOW-COST HOUSING IN N. IRELAND—THE "ULSTER COTTAGE"

In County Tyrone, at the ends of long winding lanes, houses are springing up in little groups at a speed never before seen in these remote parts of Northern Ireland. In towns where building labour is more readily available the rate of erection might be even greater, but the feat is all the more remarkable on such scattered rural sites, the very names of which indicate their remoteness—Derrygortreavy, Mullaghadrolly, Gortnagola, Fasglashagh, Killymoyle and Ballyvaddy. How is this great speed being achieved? Simply by careful design, the maximum use of pre-fabrication and skilful site organization. However, before going into details, it is necessary to describe the conditions which form the background to this venture.

THE PROBLEM

In 1943 the Northern Ireland Planning Advisory Board, after having carried out an extensive survey, estimated that the housing needs of the six counties were 100,000 new dwellings; 23,000 of these were required in Belfast, a further 20,000 in other towns and the remaining 57,000 in rural areas. (The estimate of rural requirements was not entirely reliable, being based on a sample survey, whereas in urban areas house-by-house investigations had taken place.)

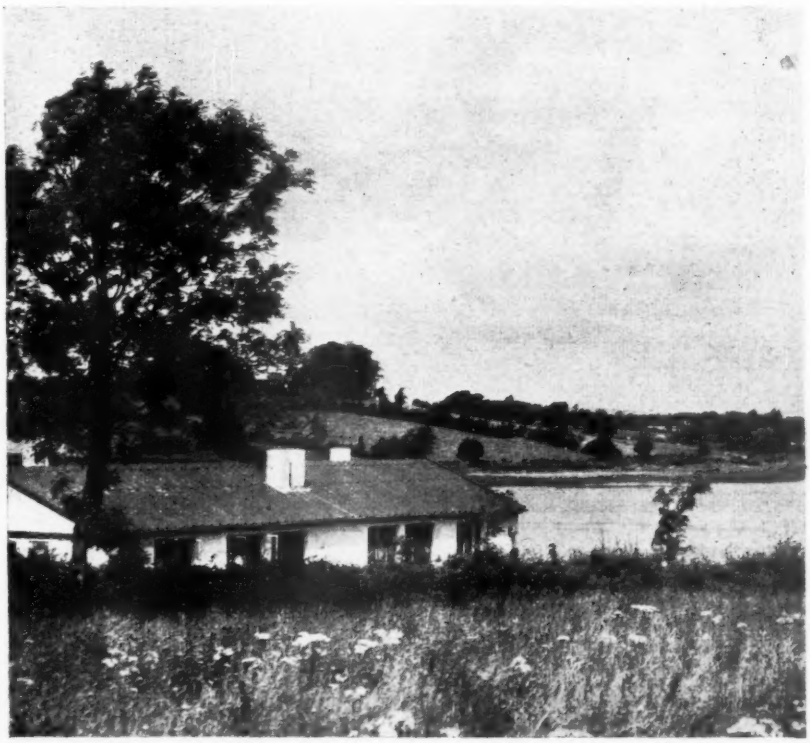
The housing programme started slowly, but the annual rate gradually improved until, in 1950, the total number of houses built per head of the population exceeded that of Great Britain. The rate was greatest in the small towns and, except for the areas around Belfast and on the fringes of some of the more prosperous market towns, the rural districts lagged behind.

The Water Supplies and Sewage Act of 1945 encouraged the planning of a number of regional water schemes and, to take advantage of these, a policy was adopted whereby houses in rural areas would be grouped, the smallest number on any site being twelve. In spite of some opposition from agricultural interests, this policy was pursued fairly successfully. In 1949, however, it became fairly evident that the housing situation in the more remote areas had hardly improved.

There were several reasons for this. Skilled building labour was not available, and the average agricultural labourer could not afford to pay the rents of normal post-war houses (he was accustomed to paying only from 2s. 6d. to 6s. per week). Furthermore, the "grouping policy" did not seem to work in these remote areas. A glance at a large scale map of counties Armagh, Tyrone and Fermanagh reveals a widespread patchwork of small holdings of from 5 to 20 acres—anathema to some planners, but a pattern dictated by the terrain and its history and a way of living which appears to suit the country man very well.

In 1949, it was evident also that many years would elapse before regional water schemes would send out their small "feeders" and many more years still before water would be brought to the remote areas where houses were urgently needed to replace the derelict cabins of the agricultural workers. The decision to build fully-subsidized houses without bathrooms in these areas,

Fig. 1.



announced by the Minister of Health, Dame Dehra Parker, was, therefore, a realistic one. The problem was then to find a method of building these houses, which was sufficiently rapid to relieve rural distress.

The Ministry of Health invited a number of building firms to submit solutions to the problem and, in the summer of 1950, it was announced to the rural authorities that the "Ulster Cottage" could be erected in remote areas, in very small groups, and yet be let at a rent of 7s. 6d. per week. It was felt that a total of 2,000 of these houses would go a long way towards solving the problem but, at first, orders were slow to come in, due to local prejudices against the unusual form of construction. However, now that some of these houses have been built, many of the hesitant authorities have decided to take part in the scheme.

The plan of the house (see Fig. 2) was designed largely to simplify the erection process. A central spine partition divides the timber-floored bedrooms from the living and working rooms, which have a coloured granolithic floor finish. A side entrance, in *lieu* of the more usual back and front doors, was chosen for economy, and the general plan arrangement suits the rural way of living. The utility room near the entrance would be used for storing rubber boots and working clothes. The multi-purpose living room is traditional and to have one bedroom leading off of it was not considered a great disadvantage.

In appearance, the house is simple and fits well into the countryside, as can be seen from Fig. 1. The external finish is tyrolean textured in pale cream. The asbestos-cement roofing sheets are russet coloured. The houses are made in "handed" pairs, this giving them a length which resembles that of the traditional cottages of Northern Ireland.

CONSTRUCTION

The shell of the house consists of precast reinforced concrete units, spanning from floor to eaves. These units are recessed at the top and joined at eaves level by a reinforced concrete beam cast *in situ*. The wall panels are alternately wide and narrow and the vertical joints have been designed with a double anti-capillary gap which gives complete immunity from damp penetration. The houses stand on standard concrete rafts, formed in standard shuttering, which at the same time acts as a jig. The roofing consists of asbestos-cement sheets, with felt underlay on wood purlins, carried on prefabricated light wooden trusses. The gable ends are filled in with plain asbestos cement sheeting.

Thus far, there is no important departure from many post-war, non-traditional forms of house-shell construction. The main innovation, and the feature which is contributing most to the success of these houses, is the manner in which the interiors are finished. Readers will have noted from previous articles on the subject, that one of the most important requirements of new methods of construction is that they should include a quick and cheap method of finishing. There is much more labour used and money spent in finishing a house than there is in constructing its shell. The large programme of controlled experiments carried out by the Research Unit of the MOW (now the Building Operational Research Unit, BRS) led irresistibly to this conclusion. The lead in the matter of prefabrication of finishes came first with the "Reema" house and then with the "Hawksley" development of the "Schindler-Göhner" system, which was described in the JOURNAL for August 16, 1951. It can be seen clearly that *this is the only direction in which any significant progress in the speed of house-building can be hoped for.* The "Ulster Cottage" was designed on this principle. The designers may have had some doubts at first, but now the advantages of working on this principle are apparent and they are attempting to extend the amount of factory work and reduce the amount of site work.

The inner linings of the external walls and the internal partitions are made in the factory in large panels. They are made of plasterboard on light wooden framing. Factory joints are filled and taped and site joints are taped. Most of the site joints occur at intersections (see Fig. 2) and are covered with quadrant fillets. The wooden floors are in large prefabricated panels and are laid over a cold bitumen membrane on the surface of the concrete raft. (One of the problems on the job is to ensure that this dampcourse is thick and continuous, and that it is not damaged during the course of erection.) The granolithic flooring is almost the only large job which is done on the site, after the houses are erected, and it is an object lesson in the inefficiency of traditional methods to see the mess which the floor layers make on the finished partitions.

ERECTION

As mentioned above, the "Ulster Cottage" is being built in remote rural areas. The components are made in factories near Belfast and transported in house sets to the various sites. Synchronization of site preparation and delivery of components is most important and, as is usually the case, the site preparation has been slower than the actual erection of the cottage. Whereas it takes only a few weeks to build the cottage, it takes as many months to obtain and prepare

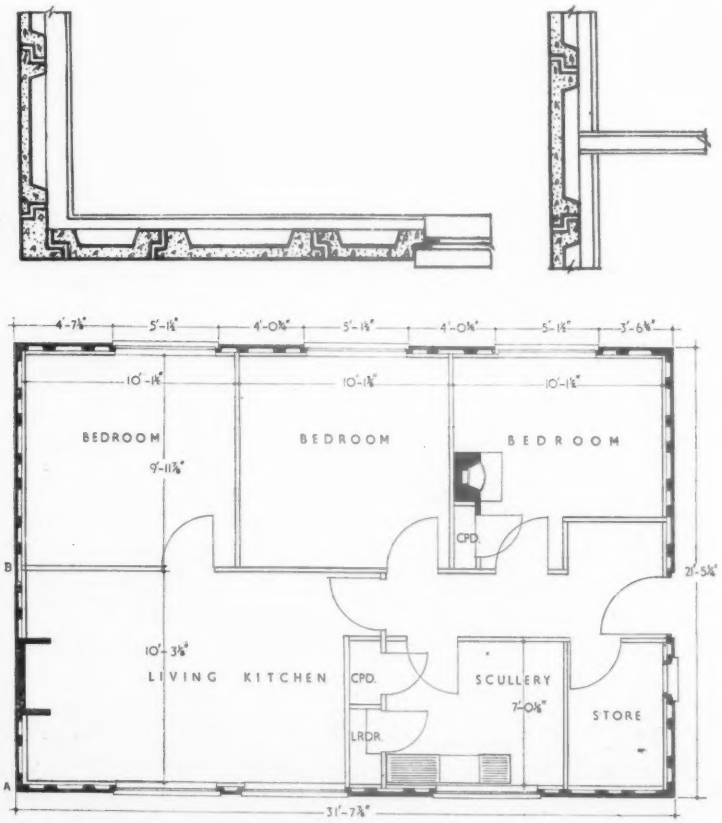
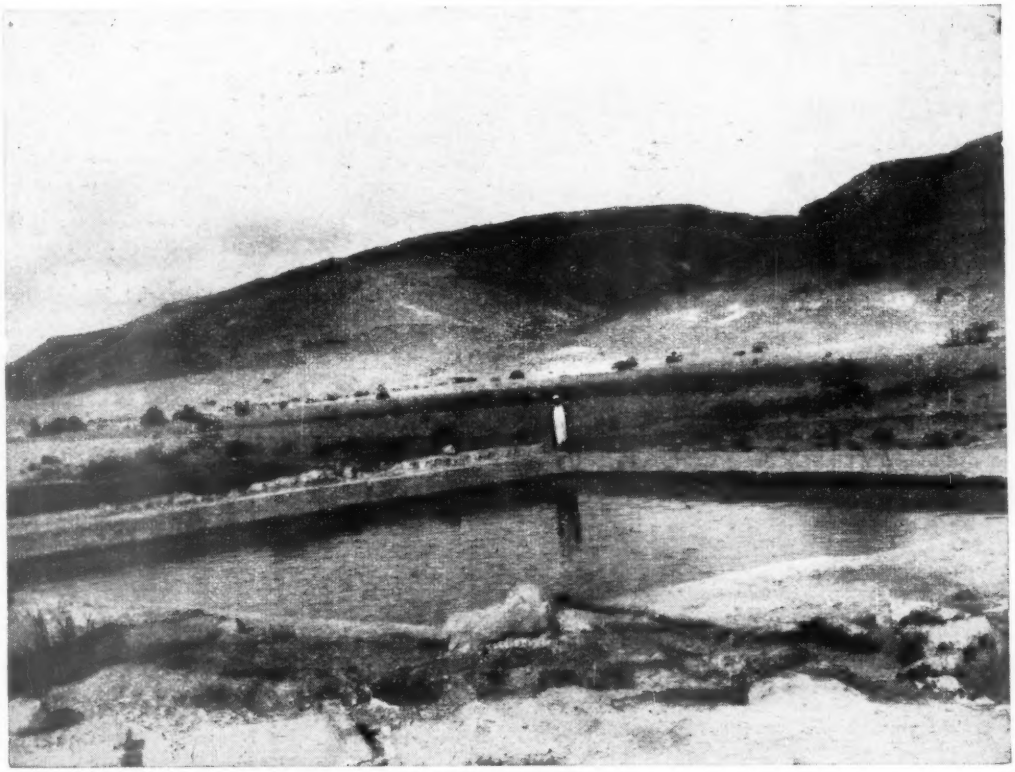


Fig. 2. Above, plan of the "Ulster Cottage" (scale ⅛" = 1' 0"). Top, left, detail "A"; right, detail "B" (scale ½" = 1' 0").

ROMAN RESERVOIR RESTORED TO USEFUL SERVICE



". . . the old Roman plaster lining was stripped off and a layer of twentieth-century concrete substituted. The concrete was later faced with a lining of cement and 'Pudlo,' a patent waterproofing mixture, and the reservoir was probably far more watertight than when the Byzantines constructed it somewhere about the third century A.D."

" Desert & Delta " by Major C. S. Jarvis, C.M.G., O.B.E.

IN giving us permission to reproduce the photograph of this 350,000 gallons reservoir, and the above extract from his most interesting book, the author—who was, for thirteen years, Governor of Sinai—states that he used 'PUDLO' Brand Cement waterproofer extensively for a number of cisterns and reservoirs in Sinai, some of which he made, and others, particularly those underground, being of late Roman origin. The one here illustrated is in Wadi Gedeirat which, in the opinion of Major Jarvis, is probably the Kadesh Barnea of Exodus, mentioned in the Wanderings of the Israelites.

a site. Erection is carried out by a number of mobile working teams—one for each of the major operations. The first team prepares the site and lays the rafts. The second team erects the pre-cast concrete wall units, using a simple wooden jig, which is shown in Fig. 3. The eaves beam is then concreted and the joints pointed. A very small team (the third) then erects the roof framework and the roof is erected. The trusses are prefabricated and the purlins pre-cut.

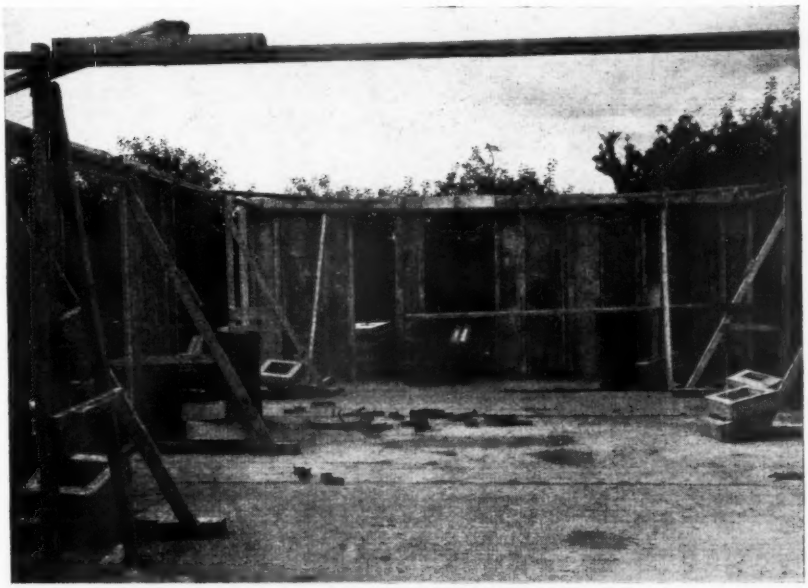
The internal panels are then delivered and can be stored in one of the finished shells, out of the rain which descends so frequently in Ulster. (See Fig. 4.) The fourth team erects the internal panels, which line the external walls, and the internal partitions, and places the wooden floor panels. A fifth team completes the second fixings and installs the equipment, and then there remains only the granolithic flooring to be placed *in situ* and the painting. The concrete panels are finished in single coat tyrolean.

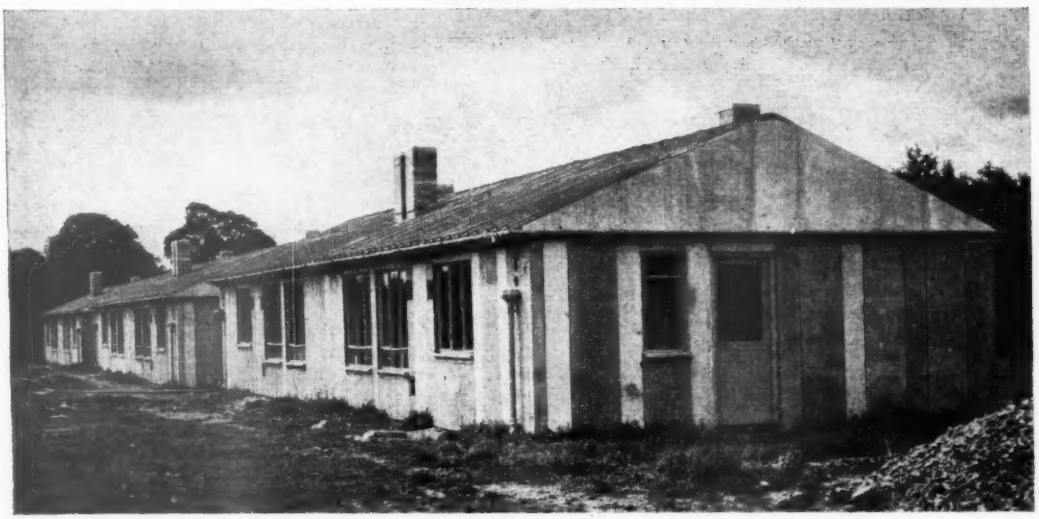
GENERALLY

The first groups of cottages took just over 800 site man-hours to complete. When it is realized that they were erected in the most out-of-the-way localities, with no local building labour to call on, it will probably be conceded that this is very promising. There can be no doubt that as the teams gain experience the time required will drop.

A two-storey house designed on the same principles is now under development, and an English version of the "Ulster Cottage," to be known as the "Wessex Cottage," is also being developed.

The "Ulster Cottage" is produced by Orlit (Northern Ireland), Ltd.; managing director, Jan Korbel; general manager, Eric Nichols. The erection contractors for the houses illustrated in this article were Logans, Ltd. Consulting engineer, R. Fitzmaurice. The contract price was £833 (July, 1950), which included rafts, paths, and outhouses and fences. But for rural or semi-urban authorities who have piped water and sanitary services, Orlit (Northern Ireland), Ltd., offer a similar bungalow, but with a full range of equipment and services, etc., for approximately an extra £50.





The "Ulster Cottage," Top, Fig. 3, a simple wooden jig for erection of wall units. Above, Fig. 4, the external shell completed, with prefabricated roof trusses. The internal panels are being stored out of the rain. Left, Fig. 5, a group of completed houses awaiting application of tyrolean finish.

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

INFORMATION CENTRE

2.118 planning: general
LAND-USE RESEARCH

Land-Use Planning, A Programme for Social Studies. (Planning, Vol. xviii, No. 33, Sept., 1951. PEP.)

Following its pamphlet entitled *An Approach to Land-Use Planning* (June, 1951), PEP has now published a "programme of social studies." One of the conclusions of the first pamphlet was that social scientists must share with administrators and planners the blame for not acknowledging the difficulties involved in land-use planning, and for not making more effective efforts to resolve them. The September pamplet is devoted to a more detailed consideration of the types of sociological and economic research which seem to be needed most urgently. A long list of research proposals is made.

In the pamphlet is discussed, in an unbiased manner, the relationship between research and the policy of government departments. It is suggested that political indecision and administrative difficulties, rather than lack of technical ability, are responsible both for the differences between the policies of different departments, and for the wide gap between the need for, and the provision of, research. This gap could best be filled by the establishment of an independent research institution, whose members should normally have free access to the information collected by all government departments and agencies.

16.77 materials: miscellaneous
PLASTICS

Glossary of Terms used in the Plastics Industry. BS 1755:1951. (British Standards Institution. 6s.)

It is, undoubtedly, useful to a new industry to have a multitude of terms classified and standardized. To architects, these 50 pages are a terrifying exposition of his ignorance on subjects related to his craft. Only the specialist can hope to understand this document, which, nevertheless, should fulfil a useful purpose.

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

18.90 construction: theory
PRESTRESS APPLIED TO STEEL STRUCTURES

Possibilities of the Prestressing of Metallic Constructions. Prof. Ir. W. Soete. (Paper delivered to International Welding Congress, Oxford, 1951, under group heading "The Welding of Bridges & Structures.")

Description of methods of applying prestress to elements of metal structures.

The proposed methods of prestressing fall into two categories: the application of an external force, as in prestressed concrete, and the treatment of the beam so as to set up a desired stress distribution which will fulfill a similar function under service loads. The three methods suggested by the author for applying an external force all rely on the use of a tensile or compressive component which takes up the stress of the deformed beam. The first consists of a variation of Magnel's prestressed wire stringer (tensile component) replacing the wire by a steel flange of the highest elastic limit compatible with weldability. This avoids the difficulty of anchoring the wires to the deformed structure. The second method is a variation of the composite concrete slab plus steel girder connected by welded shear blocks. Here the concrete is cast only when the beam is in a deformed state, so that when the concrete hardens and the beam is released the slab is in slight compression (compression component), the top flange of the girder in slight tension, and the bottom flange still in compression, a suitable condition for receiving the service load. The third method combines the previous two, except that, in this case, the bottom flange is again in tension but well capable of resisting the live load stresses. This is perhaps the ideal system, as the concrete slab provides stability.

The author does not suggest how the members are to be deformed, although for large-span bridges this must necessarily be a complicated and costly process. There is, however, a large source of information on the technique of jacking available as a result of work with, and research on, prestressed concrete.

Of the author's systems of predetermined stress distribution a typical technique consists of heating both flanges of a beam, while the web is subjected to cold douching. During heating the tendency of the flange to expand is impeded by the web, which remains cold, resulting in the plastic deformation of the flanges. During cooling the tendency of the flange to contract is impeded by the web, thus giving rise to compression forces in the web and tensile forces in the flange. By means of various combinations of heating and cooling alternate webs and flanges, the desired stress distributions, equivalent to prestressing, can be set up. The author admits that this technique is still in the laboratory stage, and it is hard to visualize the practical application of this treatment. Close control of the heat treatment is feasible in the laboratory, but for a large structure this control would also have to be extended to the site.

18.91 construction: theory
COMPOSITE CONSTRUCTION

La Poutre "Préflex." (The pre-deflected beam.) Baes & Lipski. (L'Ossature Métallique [Belgium], September 9, 1951, pp. 419-427.)

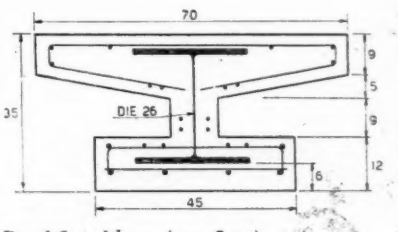
New-type composite beam in which concrete is cast around a pre-deflected steel girder. Authors claim carrying capacity increased to more than twice that of ordinary cased beam.

The article reviews the merits of steel beams and concrete-cased steel beams in which the concrete provides the main compression flange. The main objection to concrete-cased beams is that the concrete at the underside of the beam cracks as the deflection increases and the use of high tensile steel girders serves little purpose if the casing protects the steel. It is claimed that the "pre-deflected beam" avoids this disadvantage and tests are reported to substantiate the claim.

The composite beam is constructed in four stages. First, the steel girder is deflected (see Fig. 1) as it would be in use. Secondly, the lower flange is cased in high-quality concrete, which is allowed to reach a certain strength before the deflecting forces are released. Thirdly, when these forces are released, the steel girder attempts to resume its previous shape and causes the concrete to be compressed. (Mechanical bond is obtained by shear members welded to the lower flange; thus, most of the deflection is retained.) Lastly, the casing is poured to form the compression flange, which can also act as a service floor, bridge decking, etc.

In the two tests described in the article, identical steel girders were cased in almost identical concrete casings. In one test the pre-deflected method was used. The two beams were then subjected to loads as in Fig. 1. It is obvious that, with the concrete in compression in the lower flange of the pre-deflected beam, a considerable load can be applied before the compression is neutralised and the load can be further increased before the tensile stress of the concrete is exceeded. The curves in Fig. 2 show the range of extra loads which can be carried by the pre-deflected beam. When the concrete in the lower flange cracks the two beams are identical and will fail, therefore, at the same ultimate load.

It is interesting to compare this method with ordinary casing. It gives a greater working load for a similar deflection, without cracks occurring in the concrete of the lower flange. However, the economics of the method were not considered and no suggestion was given as to how the deflection should be applied. Perhaps it would be of greater value to deflect the steel girder in the opposite direction, after having strengthened the lower, or tension, flange.



Pre-deflected beam (*see* 18.91).

Fig. 1.

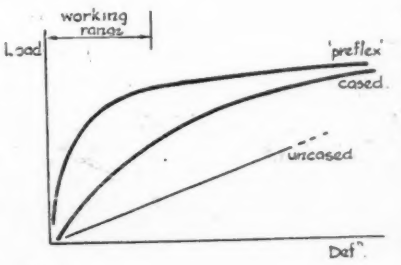


Fig. 2.

18.92 construction: theory
PRESTRESSED CONCRETE

First Report on Prestressed Concrete. (Institution of Structural Engineers. Sept., 1951. 3s. 6d.)

Comprehensive review of prestressed concrete materials and design by a committee convened by the Institution of Structural Engineers.

This thirty-one-page report deals with materials, stresses, design, manufacture and construction appropriate to prestressed concrete. While it was considered that a report expressing the views of some of the leading engineers concerned with prestressed work would be most useful, to issue a code of practice at this juncture might limit the development of prestressing. The committee intends to issue a further report when more experience has been gained.

The report covers pre-tensioned and post-tensioned systems, using small-diameter wire, but it makes no reference to the use of larger-diameter alloy-steel bars or to the various methods of applying prestress without tensioning cables, *i.e.*, by means of jacks.

An appendix sets out a comprehensive notation for calculations, which involve over 80 symbols. Another appendix deals at some length with various engineers' opinions on the behaviour of prestressed concrete under load.

18.93 construction: theory
PRESTRESSED CONCRETE

Fire Resistance of Prestressed Concrete. (Concrete & Constructional Engineering. Sept., 1951, p. 282.)

Summary of report on test of fire resistance of prestressed concrete beam, by G. Baar (Holland); of interest to architects and engineers.

A 38-ft. long prestressed tee-beam, 25 in. deep and prestressed by 24 0·2-in. dia. wires, was tested six months after having been cast. The beam was placed in a firebrick trough, loaded to the design load by concrete blocks and heated from the bottom by gas burners. The bottom of the rib reached a temperature of 1,310° F., the temperature at cable level was 450° F. and on the top flange, 212° F. Deflection of up to 7·6 in. was recorded, but the wires and anchorages were undamaged and the quality of the wire was unaffected.

The author concludes from this test and other investigations that a cover of 2 in. and efficient grouting provide adequate protection for the cable at temperatures of up to 1,475° F. The compressive and tensile strengths of high-quality concrete decrease considerably under these conditions, but the additional deflection which occurred during the fire test also varied with the load carried by the beam.

Complete failure of a prestressed concrete member is not to be expected in case of fire, but greater deflection will occur than in ordinary reinforced concrete members. The behaviour of a particular specimen under test is not a dependable guide as to the behaviour of a specimen of a different size.

20.206 construction: complete structures
LONG SPAN CONCRETE VAULTS

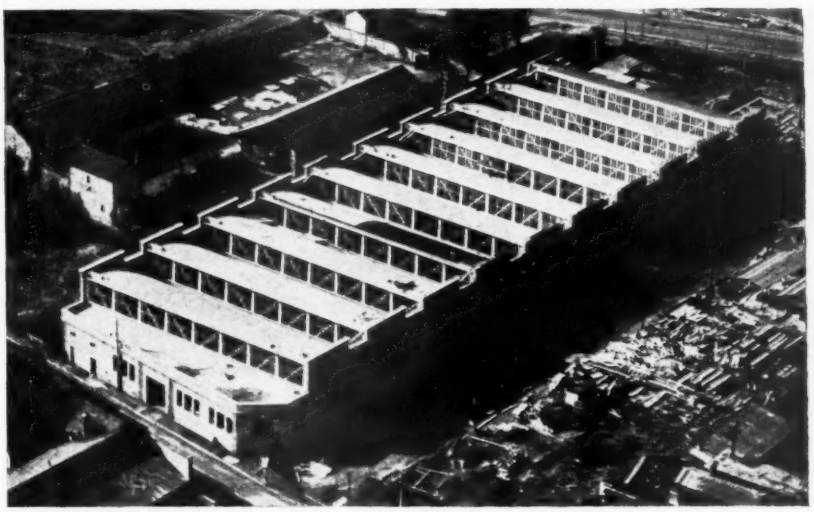
Reinforced Concrete Garage Building at Lyons with Long Span Roof Construction. (Travaux [France] Oct., 1951, pp. 578-583.)

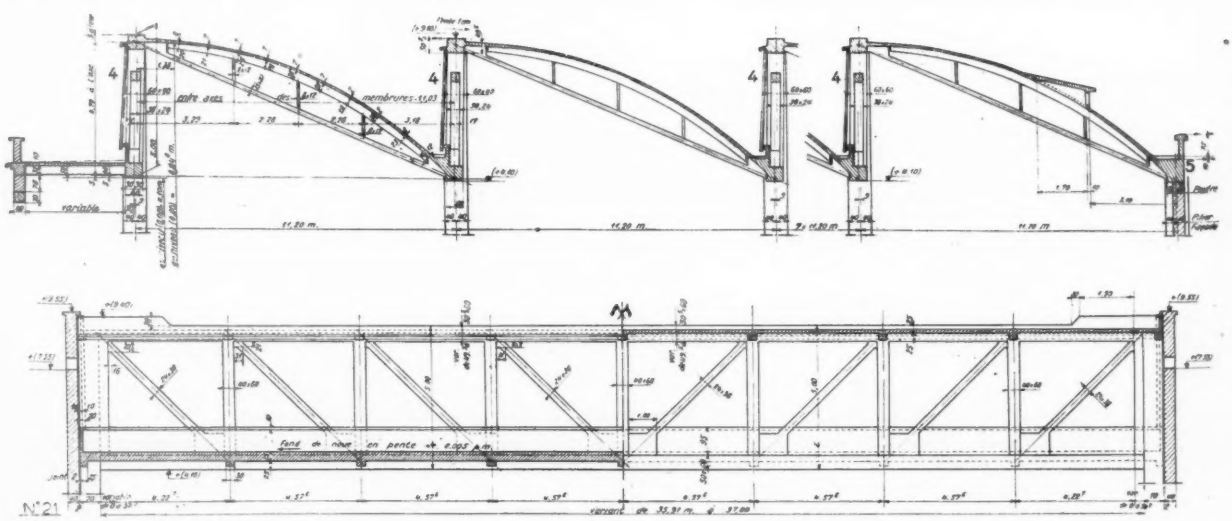
Building covering an area 128 ft. wide and 365 ft. long roofed entirely without columns.

The construction of this large garage at Lyons was undertaken for a transport firm. It was necessary to have the minimum number of columns in the interior in order to permit the free movement of vehicles. The roof consists of a series of "north-light" bays, with vertical lattice girders of reinforced concrete spanning the whole width of the building. Each bay is covered with a parabolic half-vault. The lighting is arranged in the plane of the vertical lattice girders (see illustration below). The lattice girders span 125 ft. and have a depth of 29 ft. The half-vaults span 37 ft. and have a thickness of 2¾ in. They were cast on wood-cement insulating board with tie beams under, at 14-ft. centres.

The shuttering for the lattice girders was made in eight panels and lined with sheet steel, and the shuttering for the vaults consisted of a number of sections each supported on telescopic trestles, which could be moved longitudinally on runners.

The roof is remarkably free from cracks and the whole structure was very economical in materials, considering the length of the spans. The quantities of material per sq. ft. of floor area covered were 10¼ lb. of steel and ¾ cu. ft. of concrete.





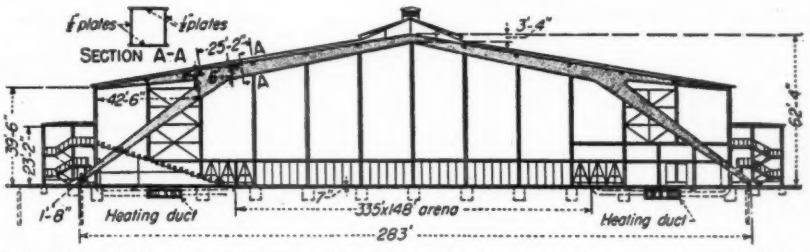
Garage at Lyons (*See* 20. 206). *Right, aerial view. Below, part longitudinal section. Bottom, lattice beam; left, view from outside; right, view from inside.*

20.207 construction : complete structures
STEEL FRAMED STRUCTURE

Germans use hangar-type construction. (Engineering News Record [USA] September 6, 1951. p. 66.)

Novel structural feature of Europahall at the Hanover Fair Grounds provides 140,000 sq. ft. of unobstructed floor space.

The hall is 525 ft. long and 263 ft. wide. Eaves are 39 ft. 6 in. from ground level and the roof is 62 ft. high. The roof is supported on seven hollow steel arches, at 65-ft. 6-in. centres, each spanning 283 ft. The arches have a box section and are welded. They were fabricated from ½-in. thick steel plates. Splices were bolted and expansion and contraction is stabilised at the apex of the arches with a play of 2½ in. The arches are supported on reinforced concrete bases, situated outside the walls, in the staircase blocks.



The Europahall at the Hanover fairgrounds. Section "A-A" shows the welded box arch. (*See* 20.207).

20.208 construction : complete structures
REINFORCED CONCRETE ARCHED ROOF

Thin shell arch hockey stadium for Quebec built in 10 months. R. Zaborowski. (Civil Engineering [USA] Oct., 1951, pp. 36-40.)

Large-span arch roof, spanning 240 ft., supported at 38 ft. above ground level on "A" frames. The remarkable speed of erection depended on good teamwork between architect, engineer and builder.

The roof consists of 6 units, each 60 ft. wide, separated by 1-in. expansion joints. Each unit has two arch ribs, 4 ft. deep and 2 ft. wide, spanning the 240 ft. onto concrete "A"-frame buttresses at 30-ft. centres. The roof skin is of reinforced concrete, varying in thicknesses from 6 in. to 4 in., cantilevered out 15 ft. from each rib. The edge of the slab is stiffened by an upstand beam at the expansion joint.

The thin-slab arch was designed for the following loads: the concrete dead load, a live load of 40 lb./sq. ft., roofing and insulation—10 lb./sq. ft. and wind pressure based on a 100 m.p.h. gale. Due regard was given to the temperature range of 70° F. and to the temperature differential between slab and rib, and between rib and "A" frame.

The arch-rib section of 4 ft. by 2 ft. is not the minimum section which would have satisfied the requirements of stability, but it was chosen in order to allow the rapid striking of forms in cold weather and normal field control of concrete quality.

The use of the upstand ribs made possible the use of a travelling centring unit, of timber towers and trusses on screw jacks, topped by a plywood skin on joists. The centring was re-fixed approximately 3 hours after striking commenced, and the concrete for each section was poured in 10½ hours, the crew of 95 men dealing in that time with 400 cu. yd. of concrete.

23.152 heating and ventilation
NATURAL VENTILATION

The Principles of Natural Ventilation of Buildings. BRS Digest No. 34. (HMSO, Sept., 1951, 3d.)

Wind effect, stack effect, design and calculation of simple cases.

The behaviour of natural ventilation systems is very complicated. Even in the ventilation of the simplest building, the direction of wind, the force of wind, the degree of exposure and the relative internal and external temperatures all play a part. In buildings which are complicated in shape or have internal dividing walls and floors there are many more ventilation problems.

In this digest is explained, in simple terms, the effects of wind and of temperature differences. The description of the design of ventilating systems and the calculations are not convincing. There is a simple and clear description of the method of calculating ventilation rate due to wind, and a table is given so that that figure may be adjusted according to the wind speed assumed. Similarly, there is a clear explanation of the method of calculating the rate of ventilation due to temperature differences. Unfortunately, however, the number of assumptions which have to be made is so great that it seems doubtful whether the figures are of much value. Following the explanation of the method there is given an example—for a simple rectangular building. The figures obtained are:—

Ventilation due to wind:—(*a*) exposed site, 400,000 cu. ft. per hour; (*b*) sheltered site, 120,000 cu. ft. per hour.

Ventilation due to stack effect from temperature difference:—(*c*) 160,000 cu. ft. per hour.

It is then pointed out that, as, in practice, both effects take place at the same time, there should be a total ventilation rate of either (*a*) plus (*c*), or (*b*) plus (*c*), but "it may be shown, however, that, considering the variability of the processes, the error involved in taking the larger of the estimates based either on wind or stack effect separately is generally small." In other words, the figures will not be 560,000 and 280,000 but 400,000 and 160,000.

So much for calculating the simplest case. Few buildings are, in fact, so simple, and it is not surprising, therefore, that ventilation calculations from different sources produce different answers. It seems that work on this subject has not yet arrived at a stage where calculations can mean very much to the architect.

Perhaps the most useful part of the digest is a brief reference at the end to ventilation in houses. A house is a small building too complicated in plan for calculation, but, on the other hand, capable of direct experimental measurement. BRS research workers have made a number of direct measurements and, as a result, are able to point out that heat loss due to ventilation in a small house costs approximately 5s. per week in fuel. Here, indeed, is a piece of real information giving designers much food for thought.

26.95 services and equipment : miscellaneous
FIRE ALARMS

Electrical Fire Alarms. BSC of P. 327.404/402.501. (British Standards Institution. 1951. 5s.)

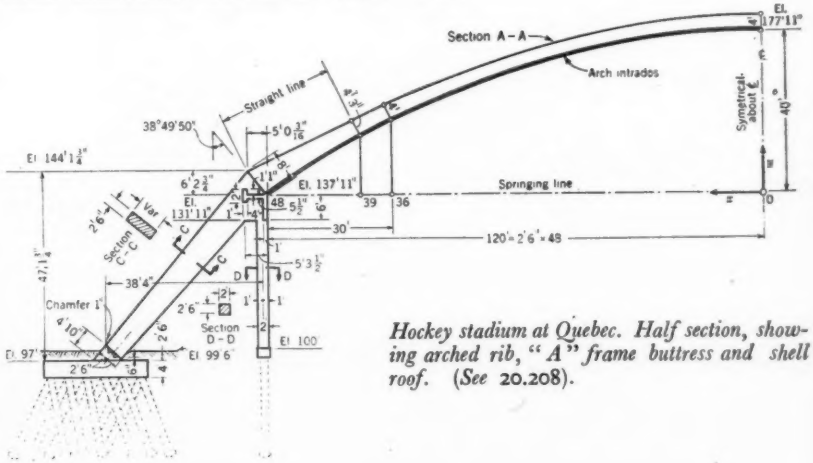
The Code deals with the installation of electrical fire alarm systems, including manual call points and automatic fire detectors, in buildings. It excludes public fire alarm systems and alarms forming part of automatic sprinkler installations.

Advice is given on the consultations required at the planning stage, and on the choice of materials, appliances and components. This is followed by recommendations regarding the design of various types of system, methods of wiring and providing power supply, and the provision of structural accommodation for the equipment and wiring. Sections on inspection, testing and maintenance are included, and, in an appendix, the performance and testing of heat-sensitive automatic detectors are dealt with.

28.17 miscellaneous
DIRECTORY OF RESEARCH

Directory of Building Research and Development. (United Nations, September, 1951. Available from HMSO. 5s.)

Chiefly of use to research workers. Lists 379 organizations connected with building research. The British list contains some useful references not to be found easily elsewhere.



Hockey stadium at Quebec. Half section, showing arched rib, "A" frame buttress and shell roof. (*See* 20.208).

Readers requiring up-to-date information on building products and services may complete and post this form to The Architects' Journal, 9, 11 and 13, Queen Anne's Gate, S.W.1

ENQUIRY FORM

I am interested in the following advertisements appearing in this issue of "The Architects' Journal." (BLOCK LETTERS, and list in alphabetical order of manufacturers names please).

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Please ask manufacturers to send further particulars to :—

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A.J. 6.12.51

Announcements

Sir Cecil Weir, K.B.E., M.C., has joined the Board of Directors of The Pyrene Company, Ltd.

Mr. Harold Macmillan, Minister of Housing and Local Government, has appointed Mr. J. E. Beddoe to be his principal private secretary, and Mr. G. W. Moseley his assistant private secretary.

A meeting of the Council of the EJMA was recently held, with the president, Mr. M. van Westerborg, in the chair, prior to their annual general meeting on November 21. The following firms were elected members:—G. W. & H. C. Knights, 361 Foxhall Road, Ipswich, Suffolk; Edgar Crowder Ltd., South Road, Handsworth, Birmingham, 19; R. W. Taylor & Co., Victoria Works, Victoria Street, Littleport, Ely, Camb. Certificates as licensed producers under the Association's Certification Trade Mark EJMA were granted to four members of the Association.

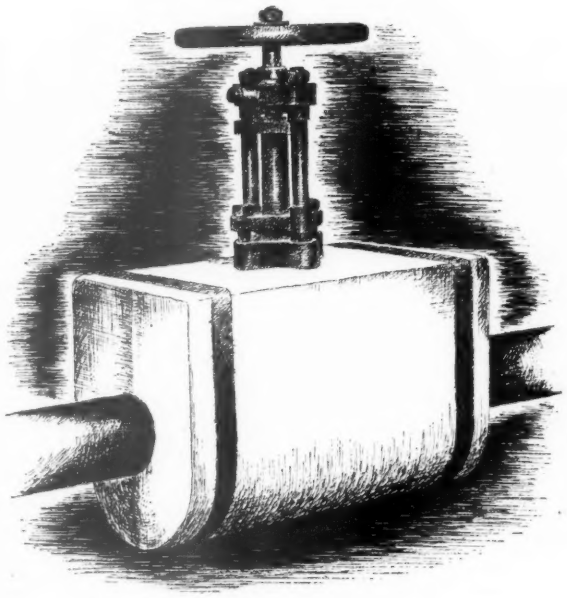
Buildings Illustrated

New office extension for the Montotype Corporation Ltd., Salfords, near Redhill, Surrey. (Pages 684-686.) Architects: Leo O. L. Hannen & John H. Markham, L./F.R.I.B.A. Assistant architect: O. M. W. Naylor. Quantity surveyor: Ronald T. Wise, F.I.Q.S. Consulting engineers for mechanical and electrical services: G. H. Buckle & Partners. Clerk of Works: D. Barke. General foreman: J. Bignall. General contractors: H. Bacon & Son Ltd. Sub-contractors: Excavation, roads, drains, reinforced concrete work, G. S. Faulkner & Sons Ltd.; reinforcement, "Twisteel" Reinforcement Ltd.; D.P.C's, George M. Callender & Co. Ltd.; art. stone, Croft Granite, Brick & Concrete Co. Ltd.; roofing felt, Ruberoid Co. Ltd.; vermiculite roof screed, E. E. Cheeseman & Sons Ltd.; partitions, Roneo Ltd.; glass and "Amourplate" glass doors, Pilkington Bros. Ltd.; wood block flooring, Horsley Smith & Co. (Hayes) Ltd.; rubber flooring, Britannia Rubber Installations Ltd.; terrazzo flooring, Standard Pavements Ltd.; waterproofing, Tretol Ltd.; asphalt sub-floor, Asphaltic (London) Ltd.; central heating, Z. D. Berry & Sons Ltd.; electrical work, Rashleigh Phipps & Co. Ltd.; sanitary fittings, Baxendale & Co. Ltd.; door furniture, Comyn Ching Ltd.; iron staircase, James Couper & Co. Ltd.; metal windows, Mellowes & Co. Ltd.; Venetian blinds and roller shutter, Sandford Bunnett Ltd.; lift installation, Keighley Lifts Ltd.; lift enclosure and staircase handrailing, Potter Rax Ltd.; external lighting standard, Tarslag Ltd.; veneered panelling and joinery in entrance hall, Veneercraft Ltd.; fibrous plaster lighting cove, H. E. Gaze Ltd.; joinery in board room, The Monotype Corporation Ltd.; acoustic tiling, May Acoustics Ltd.; paints and distemper, Arthur Sanderson & Sons Ltd.; special light fittings, Crompton Parkinson Ltd.

Corrections

In our issue for November 15, we mentioned Crittall's type "E" window. This should have read type "Z," that being the letter referring to their new 2-ft. wide types of window.

In the JOURNAL of November 22, the Building Exhibition stand of the Cement Marketing Co. was illustrated as a Working Detail. It was designed by Mr. Kenneth Bayes, A.R.I.B.A., M.S.I.A., *and* Mr. John B. Diamond, B.ARCH., A.R.I.B.A.



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Insulation need not mean isolation. The inspection of a valve or flange need not mean the expense of hacking away a bone-hard structure—and then making it all good again. Versil preformed valve and flange boxes provide a permanent insulation yet one which leaves equipment instantly accessible. After inspections and repairs, the two halves of the box are simply clipped back into position to make insulation perfect again. For full details of this neat and clean method please write to Versil Ltd., Rayner Mills, Liversedge, Yorks.

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Full particulars and prices gladly sent. Write or phone Leatherflor, Limited, *Wellington Works, Wellington Road, Forest Gate, London, E.7. (Tele.* MARyland 3786)—Leatherflor, Limited,; *Inch Mill, Hume Street, Arbroath, Scotland. (Tele.* ARBroath 3271)—Leatherflor, Limited—3, *Oldgate, Morpeth, Newcastle, (Tele.* MORpeth 463)

CLASSIFIED ADVERTISEMENTS

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

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

Public and Official Announcements

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

AIR MINISTRY WORKS DEPARTMENT.
HEATING AND VENTILATING DESIGNER/DRAUGHTSMEN required in Designs Branch by Air Ministry Works Department. Applicants should be capable of designing and detailing low and high pressure hot water heating installations or have had several years experience in the design of ventilation and air-conditioning installations. The appointments will normally be in London and salaries are on ranges up to £675 per annum according to age, qualifications, and experience. Applications stating age, qualifications, previous appointments (with dates) should be sent to the Air Ministry Directorate General of Works (W.9), Bush House, S.E. Wing, Strand, London, W.C.2, from which address details may be obtained. 4591

NORTH THAMES GAS BOARD.
A SENIOR ARCHITECTURAL ASSISTANT is required in the Architectural Section, Chief Engineer's Department, Westminster.

Applicants, who must be Registered Architects and who should have passed, or be studying for, the Final Examination of the R.I.B.A., should be capable of preparing working and detailed drawings and specifications, and supervising and controlling the work on contracts. Experience in design and planning of industrial buildings would be an advantage.

Starting salary, depending on age and qualifications, will be within the range £650-£800 per annum. The appointment is of a permanent nature and pension arrangements will be discussed with short list candidates.

Applications, stating age, qualifications and particulars of previous appointments held, must be submitted to the Staff Controller, North Thames Gas Board, 30, Kensington Church Street, London, W.8, quoting reference 95. 4890

CITY AND COUNTY OF CANTERBURY.
CITY ARCHITECTURAL AND PLANNING DEPARTMENT.
APPOINTMENT OF CHIEF TOWN PLANNING ASSISTANT.

Applications are invited from qualified Architect-Planners for the above appointment, at a salary in accordance with A.P.T., Grade VII (£685 × £25—£760).

Candidates must be Associate Members of the R.I.B.A. and the T.P.I. with some experience of three dimensional design and planning administration. An interest in contemporary design is essential.

The successful candidate will be required to pass a medical examination.

Housing accommodation will be provided if necessary.

Applications, stating age, qualifications and experience, together with the names and addresses of three referees, should be sent to the City Architect and Planning Officer, L. Hugh Wilson, A.R.I.B.A., A.M.T.P.I., Municipal Buildings, Dane John, Canterbury, not later than Saturday, 22nd December, 1951.

Canvassing will disqualify.

J. BOYLE,
Town Clerk.

Municipal Buildings, Dane John,
Canterbury. 5003

BOROUGH OF EALING.
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.
APPOINTMENT OF DRAUGHTSMAN.

Applications are invited for the permanent appointment of a Draughtsman, at a salary in accordance with Grade IV of the National Scheme of Conditions of Service for the Miscellaneous Classes of Officers, commencing at £400 per annum, rising by annual increments to a maximum of £470 per annum, plus London weighting. The successful applicant will be engaged on work in connection with a survey of sewers.

The Council are unable to provide housing accommodation for the successful candidate.

Forms of application, together with conditions of appointment, may be obtained from the Borough Engineer and Surveyor, Town Hall, Ealing, W.5, and must be returned to me not later than the 17th December, 1951.

E. J. COPE-BROWN,
Town Clerk.

Town Hall, Ealing, W.5. 5004

COUNTY BOROUGH OF CROYDON.
SURVEYING ASSISTANT (BUILDING).

Applications are invited from suitably qualified persons for this appointment in the School Architect's Section. Salary A.P.T., III, £500 to £545 p.a., plus London weighting.

Applications, on forms obtainable from the Chief Education Officer, Katharine Street, Croydon (on sending stamped addressed foolscap envelope), must be returned to him by 31st December, 1951.

No living accommodation is offered.

Canvassing will disqualify.

E. TABERNER,
Town Clerk.
5012

NEW ZEALAND MINISTRY OF WORKS.
LAND PLANNING DRAUGHTSMEN.

Applications are invited from suitably qualified persons to fill vacancies for Land Planning Draughtsmen with the Ministry of Works in New Zealand.

Salary up to £632 10s. (N.Z.) p.a., according to qualifications and experience.

Applicants should have been educated to matriculation standard, and having passed the Intermediate Examination of the Town Planning Institute would be an advantage.

They should be competent draughtsmen, not more than about 25 years of age, and should have had at least three years' experience in a Town Planning Office engaged in the design and laying out of roads, reserves and other component parts and not merely the designing of buildings themselves.

Application forms, conditions of service, etc., may be obtained from

THE HIGH COMMISSIONER FOR NEW ZEALAND,
415, Strand, London, W.C.2,

mentioning this paper and quoting reference number A.3/74/59.

Completed applications to be lodged not later than 31st December, 1951. 5006

MINISTRY OF WORKS.

There are vacancies in the Chief Architect's Division for ARCHITECTURAL ASSISTANTS and LEADING ARCHITECTURAL ASSISTANTS, with recognised training and fair experience. Successful candidates will be employed in London and elsewhere on a wide variety of Public Buildings, including Atomic Energy and other Research Establishments.

Salary: Architectural Assistants, £340-£575 per annum; Leading Architectural Assistants, £570-£675 per annum. Starting pay will be assessed according to age, qualifications and experience. These rates are for London; a small deduction is made in the Provinces.

Although these are not established posts, many of them have long term possibilities, and competitions are held periodically to fill established vacancies.

Apply in writing, stating age, nationality, full details of experience, and locality preferred, to Chief Architect, Ministry of Works, Abell House, John Islip Street, London, S.W.1, quoting reference WG10/BS. 4304

EAST ANGLIAN REGIONAL HOSPITAL BOARD.

Applications are invited for the following appointments in the Architect's Department of the Headquarters Staff. The salaries stated are at present under review.

(*a*) SENIOR ASSISTANT ARCHITECT (£685 × £25—£760 per annum).

Applicants must be Associate Members of the Royal Institute of British Architects, possess good knowledge of construction and design, and be capable of handling large contracts. The successful applicant may be required to provide a car for his official duties, for which a mileage allowance will be payable.

(*b*) ASSISTANT QUANTITY SURVEYORS (£595 × £20 (2) × £25—£660 per annum).

Applicants must have had good experience in the preparation of bills of quantities, detailed estimates, settlement of final accounts, valuations for interim certificates, specifications, etc., and possess approved qualifications.

Preference will be given to candidates having previous experience of hospital work.

Applications, stating age, qualifications, training, experience, present appointment (with salary), and previous appointments (with dates), together with the names of three referees, should reach the undersigned not later than 17th December, 1951.

K. V. F. MORTON,
Secretary.

117, Chesterton Road, Cambridge. 5017

WEST SUSSEX COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the appointment of a JUNIOR QUANTITY SURVEYING ASSISTANT at a salary (according to age—Male, rising to £425 per annum at 30) in accordance with the General Division of the National Scales of Salaries.

Further particulars should be obtained from the County Architect, County Hall, Chichester, to whom detailed applications must be submitted not later than the 19th December, 1951.

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

County Hall, Chichester.
26th November, 1951. 5026

COUNTY BOROUGH OF WALSALL.
PUBLIC WORKS DEPARTMENT.
ASSISTANT ARCHITECT.

Applications are invited for an Assistant Architect at a salary in accordance with Grade A.P.T. VII.

Candidates, who should be Associates of the Royal Institute of British Architects, must have had a good general architectural experience, especially in connection with Schools and Housing.

A flat can be provided for a successful married applicant if this is desired.

Applications, giving age, details of qualifications and experience, together with the names of three persons to whom reference may be made, should be received by the undersigned not later than Monday, 10th December, 1951.

M. E. HABERSHON,
Borough Engineer and Surveyor.

Council House, Walsall.
27th November, 1951. 5025

NEW ZEALAND RAILWAYS.

There are vacancies in the New Zealand Railways for the following technical staff:—

DESIGNERS of Points and Crossings and similar Track Construction.
STRUCTURAL ENGINEERS.
STRUCTURAL DRAUGHTSMEN.
ARCHITECTS AND ARCHITECTURAL DRAUGHTSMEN.
CIVIL ENGINEERING DRAUGHTSMEN.
ENGINEERS' ASSISTANTS.
TECHNICAL ASSISTANTS (men of good education and technical knowledge, but inexperienced in draughting or surveying).
PLANT ENGINEERS (experienced in plant used in Civil Engineer's Department of Railways. Plant includes sleeper treating and rail welding).

Salary range, £558-£759 (N.Z.) per annum, according to age, qualifications and experience.

Further particulars and application forms may be obtained on request from:—

THE HIGH COMMISSIONER FOR NEW ZEALAND,
415, Strand, London, W.C.2,

mentioning this paper and quoting reference A3/36/19. Closing date, 31st December, 1951. 5015

URBAN DISTRICT OF FELTHAM.
ENGINEER AND SURVEYOR'S DEPARTMENT.

Applications are invited for the under-mentioned established posts in the Engineer and Surveyor's Department:—

(*a*) TWO ENGINEERING ASSISTANTS (Grade A.P.T., V. Salary £570, rising by two annual increments of £15 and one of £20 to £620 per annum, plus London "weighting"). Applicants must have passed the appropriate Examination of one of the recognised professional bodies qualifying the applicant for this Grade (*e.g.*, Parts A and B of the Institution of Civil Engineers), and have had at least 5 years' experience, including the period spent on theoretical training.

(*b*) ARCHITECTURAL ASSISTANT (Grade A.P.T., V. Salary as above). Applicants must be Registered Architects.

(*c*) BUILDING INSPECTOR (Grade A.P.T., II. Salary £470, rising by annual increments of £15 to £515 per annum, plus London "weighting"). Applicants must have a sound knowledge of building construction and of the application of the Building Byelaws, and should have had experience with a local authority in a similar position.

The appointments will be subject to (i) the passing satisfactorily of a medical examination, (ii) the National Scheme of Conditions of Service, (iii) the provisions of the Local Government Superannuation Acts, and (iv) one month's notice in writing on either side.

Forms of application may be obtained from the undersigned, to whom they should be returned, accompanied by copies of two recent testimonials, not later than 4th January, 1952. Canvassing, directly or indirectly, will disqualify, and applicants must disclose, in writing, whether, to their knowledge, they are related to any member of or the holder of any senior office under the Council.

M. W. COUPE,
Clerk of the Council.

Council Offices, Feltham, Middlesex. 5014

LONDON ELECTRICITY BOARD.
ENGINEERING DRAUGHTSMEN.

Applications are invited for the above positions in the East Ham and Walthamstow Districts of the North Eastern Sub-Area, although the successful candidates may be required to work in any drawing offices in the Sub-Area.

Candidates should have received good general education and general drawing office experience covering the preparation and maintenance of cable routes, plans and operational diagrams. Experience in preparing layouts of switchgear and building drawings for substations and transformer chambers would be an advantage.

The posts are graded under Schedule "D" of the National Joint Board agreement as Grade VI (£438 to £574 7s. per annum inclusive of London Allowance), and the commencing salaries will be dependent upon qualifications and experience.

Application forms obtainable from Establishments Officer, 46, New Broad Street, E.C.2, to be returned duly completed by 22nd December, 1951. Please enclose addressed foolscap envelope and quote reference V/1374/A on all correspondence. 5023

THE URBAN DISTRICT COUNCIL OF CWMBRAN.
ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of an Architectural Assistant in the Architect's Department of the above-mentioned Council in Grade IV (£530-£575) or Grade V (£570-£620) of the A.P.T. Division of the National Scheme of Conditions of Service. The commencing salary in either grade will be determined by the qualifications and experience of the successful applicant.

Candidates must possess at least the Intermediate Certificate of a recognised Professional Institute.

The Council will, if necessary, favourably consider granting the successful applicant the tenancy of one of its houses.

Within the urban area a New Town is being built under the provisions of the New Towns Act, 1946.

Applications, stating age, qualifications and experience, and giving the names of two referees, and endorsed "Architectural Assistant," must be delivered to me not later than the 29th December, 1951.

KENNETH G. S. GUNN,
Clerk of the Council.

Council Offices, Cwmbran, Mon.
28th November, 1951. 5022

BOROUGH OF SCUNTHORPE.
BOROUGH SURVEYOR'S DEPARTMENT.
TECHNICAL STAFF.

Applications are invited for the following permanent appointments:—
ASSISTANT ARCHITECT, Grade VI (£645-£710).
ASSISTANT ARCHITECT, Grade V (£570-£620).
Housing accommodation will be provided if necessary.

Applicants for the appointments should be Chartered or Registered Architects, and preference will be given to Associates of the R.I.B.A., with experience in Municipal Housing work, shops, preparation of specifications, estimates, and working drawings.

The appointments will be subject to the Local Government Superannuation Acts, and the successful applicants will be required to pass a medical examination.

Applications, stating age, present appointment, qualifications and experience, and giving names of two persons to whom reference may be made, should be delivered, suitably endorsed, to reach the undersigned not later than Friday, 14th December, 1951.

W. P. ERRINGTON,
Town Clerk.

Municipal Offices, 34, High Street,
Scunthorpe.
23rd November, 1951. 5011

BOROUGH OF BATLEY.
ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of Architectural Assistant in A.P.T., Grade VI (£645-£710 p.a.).

Candidates should be Registered Architects with experience in the design of Municipal Houses and Estate development, and should have passed the Final A.R.I.B.A.

Preference will be given to candidates with some Town Planning experience.

Forms of application may be obtained from the undersigned, to whom the same should be returned in a sealed envelope, endorsed "Architectural Assistant," not later than Monday, 17th December, 1951.

L. O. BOTTOMLEY,
Town Clerk.

Town Hall, Batley, Yorks. 5024

ROYAL BURGH OF KIRKCALDY.

Applications are invited for the post of SENIOR ARCHITECTURAL ASSISTANT in the Burgh Engineer's Department. Salary scale, £600 to £710 per annum with placing according to experience. Applicants should hold A.R.I.B.A. qualification and have good experience in large housing contracts and other associated architectural works.

The appointment is subject to the Corporation's Conditions of Service and Superannuation Scheme and the successful applicant will be required to undergo medical examination.

A house will be made available to the successful applicant, if required.

Applications, giving details of age, qualifications, experience, etc., together with copies of testimonials, should be lodged with the Burgh Engineer, Osborne House, East Fergus Place, Kirkcaldy, not later than 22nd December, 1951.

CHARLES D. CHAPMAN,
Town Clerk.
5038

HARROW URBAN DISTRICT COUNCIL.
ENGINEER AND SURVEYOR'S DEPARTMENT.

Applications are invited for the under-mentioned appointments in the Department of the Engineer and Surveyor:—

(1) ARCHITECTURAL ASSISTANT, A.P.T., Grades IV/V. Salary scale, £530-£620 per annum, plus London "weighting." Applicants should be students of the Royal Institute of British Architects and have had at least six years' full-time school and/or office experience. Duties comprise the preparation of drawings and specifications and the supervision of works on housing and general municipal schemes.

(2) ARCHITECTURAL ASSISTANT, A.P.T., Grade IV. Salary scale, £530-£575 per annum, plus London "weighting." Office experience is essential, and preference will be given to applicants holding recognised professional qualifications. Duties include the preparation of drawings and specifications, and supervision of works on new buildings and work of maintenance and repair.

(3) ARCHITECTURAL ASSISTANT, A.P.T., Grades I/II. Salary scale, £440-£515 per annum, plus London "weighting." Applicants should be students of the Royal Institute of British Architects or equivalent standard and must be neat and expeditious draughtsmen.

(4) QUANTITY SURVEYING ASSISTANT, A.P.T., Grades I/II. Salary scale, £440-£515 per annum, plus London "weighting." Applicants should be experienced in the preparation of bills of quantities, measurement of variation and settlement of final accounts.

The Council is unable to assist in obtaining housing accommodation for successful candidates.

The appointments will be subject to the provisions of the Local Government Superannuation Act, 1937, to the passing of a medical examination and to the National Joint Council's Scheme of Conditions of Service.

Canvassing will be a disqualification.

Forms of application may be obtained from the undersigned, to whom they should be returned not later than Friday, 28th December, 1951.

H. WELLS,
Clerk of the Council

Council Offices,
Harrow Weald Lodge,
Harrow, Middlesex. 5039

MINISTRY OF WORKS. ASSISTANT INSPECTORS OF ANCIENT MONUMENTS. The Civil Service Commissioners invite applications for at least three pensionable posts. Candidates must be at least 23 years of age on 1st August, 1951. They must have a University Honours degree and enthusiasm for archæology, preferably with some practical experience. An interest in and knowledge of mediæval or later buildings and their contents, particularly those of the Georgian period, will be an advantage. The posts require officers physically fit for active duties. Successful candidates may be required to reside anywhere in Britain.

London salary (provisional), £380 × £25—£750 (men). Rates for women and in the provinces are slightly lower.

Starting pay will normally be the minimum of the scale, but additional increments for Forces service and/or approved post-graduate experience is a possibility.

Further particulars and application forms from the Secretary, Civil Service Commission, 6, Burlington Gardens, London, W.1, quoting No. 4106/52. Completed applications must be returned by 3rd January, 1952. 5027

HERNE BAY URBAN DISTRICT COUNCIL.
ARCHITECTURAL ASSISTANT.

Applications are invited for the above appointment in the Department of the Engineer and Surveyor, at a salary in Grade V of the A.P.T. Division (£570-£620 p.a.). Applicants must be Registered Architects, and have had sound experience in architectural work.

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

Canvassing in any form will disqualify.

Form of application may be obtained from the undersigned, to whom application should be returned not later than Friday, 21st December, 1951.

A. C. BRADBURY,
Clerk of the Council.

Council Offices, Herne Bay, Kent. 5016

URBAN DISTRICT COUNCIL OF CORBY.
ENGINEER AND SURVEYOR'S DEPARTMENT.

Applications are invited for the under-mentioned appointments on the permanent staff of the Council's Engineer and Surveyor:—

(1) ARCHITECTURAL ASSISTANT. Salary in accordance with Grade VI, A.P.T. Division of the National Scale of Salaries commencing at £645 per annum (£645-£710). Applicants must have considerable experience of the design and execution of Local Authority housing, good general experience and be able to supervise contracts. Candidates must be Registered Architects and preferably possess the A.R.I.B.A. qualification.

(2) TRACER / DRAUGHTSMAN (Male or Female). Salary in accordance with Grade III of the Miscellaneous Division of the National Scale of Salaries commencing at £355 per annum (£355-£415). Applicants must be neat and expeditious draughtsmen, well experienced in the tracing of Architectural drawings and must be able, also, to undertake lettering thereon of a high standard.

Housing accommodation will be made available to the selected candidates (if married) after a period of three months' satisfactory service.

The provisions of the Local Government Superannuation Act, 1937, will apply to each appointment.

Forms of application can be obtained from the undersigned and requests therefore should indicate the position for which application is being made. Completed forms must be received not later than 12 noon on Friday, the 21st December, 1951.

G. B. BLACKALL,
Clerk of the Council.

Council Offices,
Corby, Northants.
29th November, 1951. 5035

LONDON ELECTRICITY BOARD.
ENGINEERING DRAUGHTSMAN, DRAUGHTSMAN.

Applications are invited for the following positions in the North Western Sub-Area at Aybrook Street, W.1:—

(1) Engineering Draughtsman. Candidates should have had a good general and technical education in building construction and architecture, and experience in the design of small buildings in brickwork and reinforced concrete would be an advantage. The post is graded under Schedule "D" of the National Joint Board agreement as Grade VI (£438-£574 7s. per annum inclusive of London Allowance), and the commencing salary will be dependent upon qualifications and experience.

(2) Draughtsman. Candidates should be experienced in the following in relation to distribution systems up to 11 kV.: (*a*) Plant and cable layout work; (*b*) diagrams; (*c*) cable surveys and wayleaves. The post is graded within the National Joint Council agreement (General Clerical Grade), and the commencing salary would be determined according to age and qualifications up to a maximum of £460 per annum inclusive.

Applications on forms obtainable from Establishments Officer, 46, New Broad Street, E.C.2, to be returned by 27th December, 1951, stating clearly the particular vacancy for which the application is made. Please enclose addressed foolscap envelope and quote reference 1382/316/A on all correspondence. 5036

LONDON COUNTY COUNCIL.
ARCHITECT'S DEPARTMENT.

A selection will shortly be made of an ARCHITECT, Grade II (£760 10s.-£918) to lead a group in the General Division in the construction of buildings other than schools and housing. Closing date, 15th January, 1952.

Forms and particulars from the Architect, County Hall, S.E.1, enclosing s.a.e. and quoting AR/EK/G/4 (1446). 5037

BOROUGH OF NUNEATON.

QUALIFIED ARCHITECTURAL ASSISTANT required. Grade A.P.T. V (£570-£620 p.a.). Housing accommodation provided. Particulars from Town Clerk, Council House, Nuneaton. 5040

Tenders for Contracts

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

BOROUGH OF BEXLEY.
TENDERS FOR THE INSTALLATION OF DOMESTIC HOT WATER SYSTEMS.

Tenders invited for installation of domestic hot water systems in 304 Council Houses on the Pickford and Highland Estates.

Drawings, Bills of Quantities, Specification and Form of Tender may be obtained from Borough Engineer and Surveyor, West Lodge, Broadway, Bexleyheath, Kent, on payment of £2 2s. deposit (by crossed cheque payable to Bexley Corporation), which will be refunded on receipt of *bona fide* Tender not subsequently withdrawn. General Conditions of Contract may be inspected at office of Borough Engineer and Surveyor.

Tenders on form provided to be delivered to Town Clerk, Council Offices, Bexleyheath, in special envelope provided and without any name or other distinguishing mark, by Friday, 21st December, 1951.

The Council do not bind themselves to accept the lowest or any Tender.

W. WOODWARD,
Town Clerk.

Council Offices, Bexleyheath. 5010

Architectural Appointments Vacant

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

ASSISTANT ARCHITECTS.—Imperial Chemical Industries Limited, General Chemicals Division, require one or two Assistant Architects in the Architectural Section of their Chief Engineer's Department, Runcorn. Applicants should have had good experience in design and the preparation of working drawings. Other factors being equal, preference will be given to those who have passed the Final Examination of the R.I.B.A. Salary dependent on age and experience. Membership of pension fund. Apply in writing, quoting E/81, to Staff Manager, Imperial Chemical Industries Limited, General Chemicals Division, Cunard Building, Liverpool, 3. 4678

ILFORD, LTD., require ARCHITECTURAL ASSISTANTS, capable of work up to Intermediate standard R.I.B.A., and experienced in industrial construction work. Five-day working week, with pension scheme and staff canteen in operation. Applications in writing, giving age, training and experience, to Chief Staff Architect, Ilford, Ltd., Romford, Essex. 4979

EXPERIENCED ARCHITECTURAL ASSISTANTS required by firm of Consulting Engineers in Warrington area. Reply, stating full particulars, Box 5028.

ASSISTANT, Intermediate standard, with some office experience, required for small general practice in London. Varied and interesting work. Telephone No.: Temple Bar 2804. 5030

ARCHITECTURAL ASSISTANT, not necessarily qualified, required for small country practice in North Essex. Reply, stating experience and salary required, Box 5018.

CADBURY BROTHERS LIMITED require an Architectural Assistant with knowledge of industrial design, able to assist with a large new factory on which construction is now commencing. Write, stating age, experience and salary required to E.M.A., Cadbury Brothers Limited, Bournville. 5041

Architectural Appointments Wanted

CAPABLE and versatile SENIOR ASSISTANT disengaged, 25 years' comprehensive experience. Salary by arrangement. Box 304.

A R.I.B.A. (35) seeks position in S.W. country practice, preferably with prospects of partnership. Own car. Box 311.

A R.I.B.A. (35), own small practice, seeks position with view to Junior Partnership in busy office, London to South Bucks. 14 years' wide experience, schools, industrial, hospitals, domestic, exhibition, agricultural. Box 4880.

ASSISTANT (34), 14 years' varied experience in N. Ireland and England requires position in contemporary office, Belfast or London. Box 316.

ASSOCIATE (32), 10 years' wide experience in schools, banks, industrial and domestic work, seeks position in busy office in South, preferably near coast.—Box 317.

AN administrative position in the South or West is required by a SENIOR ASSISTANT (aged 32), experienced in housing and industrial work and in the running of jobs. Box 315.

SENIOR ARCHITECTURAL ASSISTANT, with nearly 20 years' experience of industrial architecture, including the design of reinforced concrete and steel structures, requires change. Salary £900. Write Box 5029.

NEWLY QUALIFIED R.I.B.A. now working with Local Authority, seeks more work and smaller salary with private architect in London. Box 5033.

F. R.I.B.A. wishes to contact reputable firm of architects in either S. and E. Africa, Australia, New Zealand, Canada, with a view to obtaining a responsible position as Senior Assistant Architect, preferably with prospects of future partnership. Minimum salary required: £1,800. Able to take up appointment early in the New Year. Box 5031.

SENIOR ASSISTANT requires position with accommodation. Age 32. Married. Passed special Final. Private practice preferred. Box 319.

LADY ASSISTANT, 3 years evening class, 5 years' office experience, with secretarial capabilities, requires position in Architect's office. Box 318.

Partnership

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

PROFESSIONAL STRUCTURAL AND CIVIL ENGINEER, with own staff of competent assistants, and own office in London area, is prepared to enter into Partnership with Architect. Box 5007.

Services Offered

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

ARCHITECTURAL MODELS and Dioramas. Edward J. Ashenden, A.R.C.A., 15, Chenil Studios, 183, Kings Road, S.W.3. Tel.: Flax 6103. 2566

FREE-LANCE Surveyor offers Services to Architects requiring accurate surveys of land and buildings, levelling, contouring, etc.; own car and complete equipment. 2772

PART-TIME Services offered. Drawings of any description undertaken. Box 5020.

For Sale or Wanted

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

DRAWING BOARD STAND required. Box 5021.

COMPLETE Case of Architectural Instruments. May be seen by arrangement or details forwarded. Box 524, c/o Smith's Library, Torquay. 5013

VERY FINE OAK STAIRCASE for Sale in perfect condition. Also quantity Oak Panelling. Single flight branching into two flights. Removed from well-known Sussex mansion and easily adaptable for use elsewhere. For full particulars and arrangements to view apply E. Clifford Smith, F.R.I.C.S., Willowhayne Estate Office, Angmering-on-Sea. 5019

OFFICES wanted by Chartered Quantity Surveyor, in Central London or West End. Two or three rooms totalling about 350-400 sq. ft. Box 5032.

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, 99-107, St. Paul's Road, N.1. Canonbury 2061.

WINKFIELD MANOR NURSERIES, ASCOT, lay out Rock and Formal Gardens and Labourless "Allweather" Tennis Courts. Eight Chelsea Gold Medals since 1947. Contractors to the Festival of Britain. Winkfield Row 393. 1716

NO CHIMNEY, NO BOILERHOUSE needed with a B. & A. Electrode Boiler. Ideal for hot water and central heating . . . no smoke, no fuel-store, no ash removal. Most compact, can be fitted in any convenient position. Available from 102,000 to 4,080,000 B.Th.U. per hour. Write for leaflet 150, Bastian & Allen, Ltd., Ferndale Terrace, Harrow, Middlesex. 2210

BEST QUALITY SAVOIE ROOFING SLATES. Minimum order 12,000. Write at once for sample and price list to: T. F. Meehan, Lusted Lane, Tatsfield, Kent. 5034

ARCHITECT would like to contact British Architects intending development of activity in Australia, view local association or position of interest. Box 5042.

Educational Announcements

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

R.I.B.A. and T.P.I. EXAMS.—Stuart Stanley (Tutor 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. Postal Tuition in Mechanics and Simple Structural Calculations and Theory of Structures. D. A. Fowler, Dip.Arch.(Abdn.), F.R.I.B.A., Derwent House, Wressle, Selby. 4444

Alphabetical Index to Advertisers

For Appointments (Wanted or Vacant, Competitions Open, Drawings, Tracings, etc., Educational, Legal Notices, Miscellaneous Property, Land and Sales, see lxxv, lxxvi, lxxvii.

Printed in Great Britain for the Proprietors of "THE ARCHITECTS' JOURNAL" (The Architectural Press Ltd.), 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1, by HARRISON & SONS LTD., Printers to His Majesty The King, London, Hayes (Middx.), and High Wycombe.