The Architects' JOURNAL for October 16, 1958

THE ARCHITECTS' JOURNAL

standard contents

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

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[Vol. 128
No. 3320]

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Registered as a Newspaper.

★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ii one week, Il 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. L. Stevenson, College of Art, Hope Street, Liverpool 1. Royal 1826
ABS	Architects' Benevolent Society. 66, Portland Place, W.1. Langham 5533
ABT	Association of Building Technicians. 1, Ashley Place, S.W.1. Victoria 0447-8
ACGB	Arts Council of Great Britain. 4, St. James's Square, S.W.1. Whitehall 9737
ADA	Aluminium Development Association. 33, Grosvenor Street, W.1. Mayfair 7501/8
ARCUK	Architects' Registration Council. 68, Portland Place, W.1. Langham 5861
BAE	Board of Architectural Education. 66, Portland Place, W.1. Langham 5721
BC	Building Centre. 26, Store Street, Tottenham Court Road, W.C.1. Museum 5400
BCC	British Colour Council. 13, Portman Square, W.1. Welbeck 4185
BCCF	British Cast Concrete Federation. 105, Uxbridge Road, Ealing, W.5. Ealing 9621
BCIRA	British Cast Iron Research Association. Alvechurch, Birmingham. Redditch 716
BDA	British Door Association. 10, The Boltons, S.W.10. Fremantle 8494
BEDA	British Electrical Development Association. 2, Savoy Hill, W.C.2. Temple Bar 9434
BIA	British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2. Glasgow Central 2891
BID	Building Industries Distributors. 52, High Holborn, W.C.1. Chancery 7772
BINC	Building Industries National Council. 11, Weymouth Street, W.1. Langham 2785
BOT	Board of Trade. Whitehall Gardens, Horseguards Avenue, Whitehall, S.W.1. Trafalgar 8855
BRS	Building Research Station. Bucknalls Lane, Watford. Garston 4040
BSA	Building Societies Association. 14, Park Street, W.1. Mayfair 0515
BSI	British Standards Institution. British Standards House, 2, Park St., W.1. Mayfair 9000
BTE	Building Trades Exhibition. 32, Millbank, S.W.1. Tate Gallery 8134
CABAS	City and Borough Architects Society. C/o S. A. G. Cook, A.R.I.B.A., Borough Architect and Director of Housing, Town Hall, High Holborn, W.C.1. Holborn 3411
CAS	County Architects' Society. C/o S. Vincent Goodman, F.R.I.B.A., Shire Hall, Bedford. Bedford 67444
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1. Belgravia 6661
CCP	Council for Codes of Practice. Lambeth Bridge House, S.E.1. Reliance 7611 Ext. 1284
CDA	Copper Development Association. 55, South Audley Street, W.1. Grosvenor 8811
COID	Council of Industrial Design. 28, Haymarket, S.W.1. Trafalgar 8000
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.1. Sloane 4280
CUC	Coal Utilization Council. 3, Upper Belgrave Street, S.W.1. Sloane 9116
CVE	Council for Visual Education. 13, Suffolk Street, Haymarket, S.W.1. Reading 72255
DIA	Design and Industries Association. 13, Suffolk Street, S.W.1. Whitehall 0540
EJMA	English Joinery Manufacturers' Association (Incorporated). Sackville House, 40, Piccadilly, W.1. Regent 4448
EPNS	English Place-Name Society. 7, Selwyn Gardens, Cambridge.
FAS	Faculty of Architects and Surveyors. 68, Gloucester Place, W.1. Welbeck 9966
FASS	Federation of Associations of Specialists and Sub-Contractors, 14, Bryanston Street, W.1. Welbeck 1781
FBBDO	Fibre Building Board Development Organization Ltd. (Fidor), Stafford House, Norfolk Street, W.C.2. Covent Garden 3008
FBI	Federation of British Industries. 21, Tothill Street, S.W.1. Whitehall 6711
FC	Forestry Commission. 25, Savile Row, W.1. Regent 0221
FCMI	Federation of Coated Macadam Industries. 37, Chester Square, S.W.1. Sloane 1002
FDMA	The Flush Door Manufacturers Association Ltd. Trowell, Nottingham. Ilkeston 623
FLD	Friends of the Lake District. Pennington House, nr. Ulverston, Lancs. Ulverston 201
FMB	Federation of Master Builders. 33, John Street, W.C.1. Tel.: Chancery 7583 (6 lines)
FPC	The Federation of Painting Contractors, St. Stephen's House, S.W.1. Whitehall 3902
FRHB	Federation of Registered House Builders. 82, New Cavendish Street, W.1. Langham 4341
GPDA	Gypsum Plasterboard Development Association. 11, Ironmonger Lane, E.C.2. Monarch 8888
GC	Gas Council. 1, Grosvenor Place, S.W.1. Sloane 4554
GG	Georgian Group. 2, Chester Street, S.W.1. Belgravia 3081
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1. Whitehall 2881
IAAS	Incorporated Association of Architects and Surveyors. 29, Belgrave Square, S.W.1. Belgravia 3755
ICA	Institute of Contemporary Arts. 17-18, Dover Street, Piccadilly, W.1. Grosvenor 6186
ICE	Institution of Civil Engineers. 1, Great George Street, S.W.1. Whitehall 4577
IEE	Institution of Electrical Engineers. Savoy Place, Victoria Embankment, W.C.2. Temple Bar 7676
IES	Illuminating Engineering Society. 32, Victoria Street, S.W.1. Abbey 5215
IGE	Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1. Sloane 8266
IHVE	Institution of Heating and Ventilating Engineers. 49, Cadogan Square. Sloane 1601/3158
IIBDID	Incorporated Institute of British Decorators and Interior Designers. 100, Park Street, Grosvenor Square, W.1. Mayfair 7086

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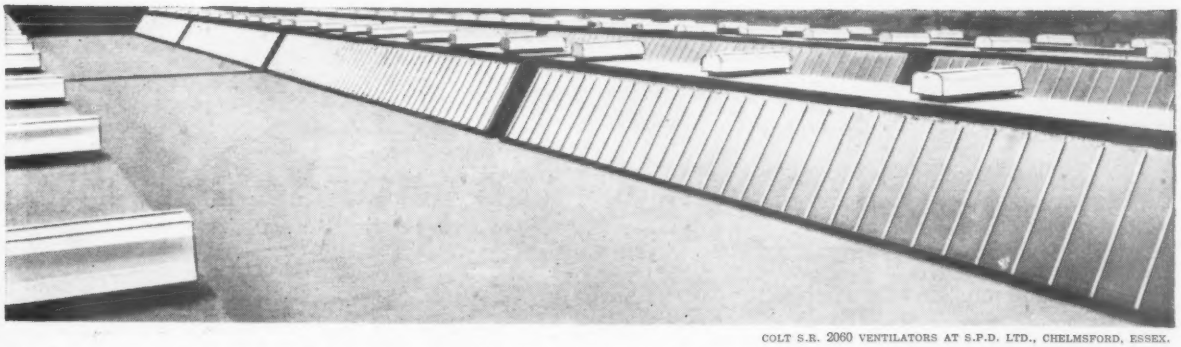

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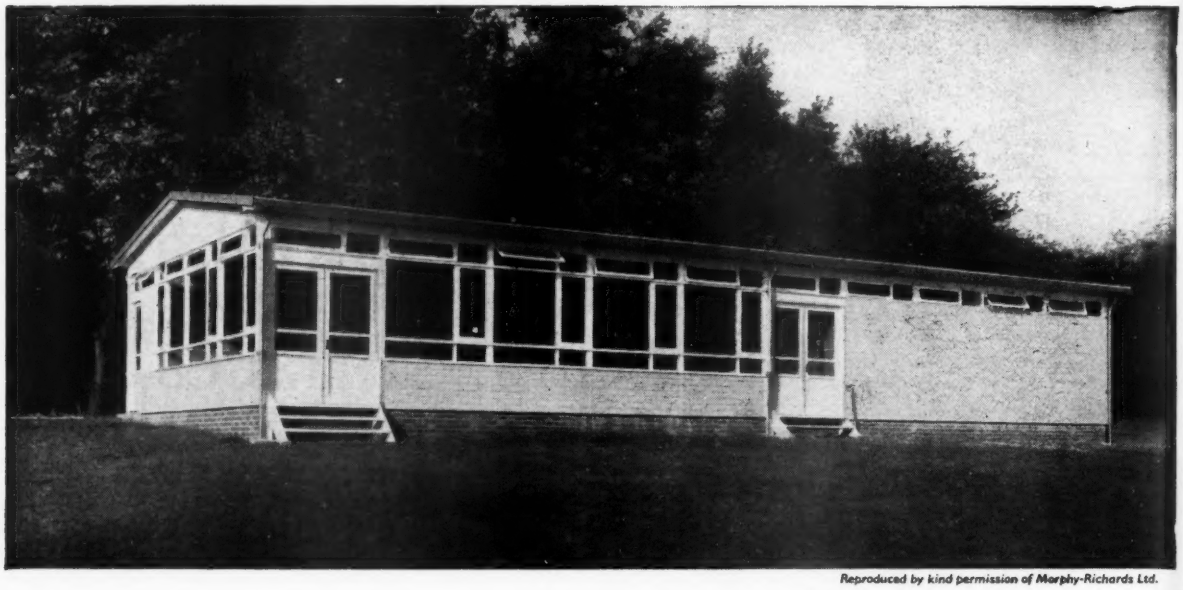

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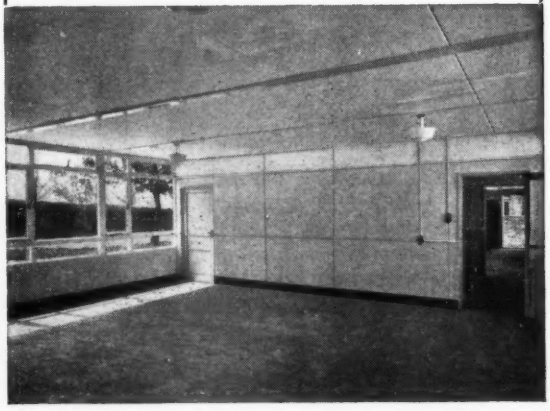

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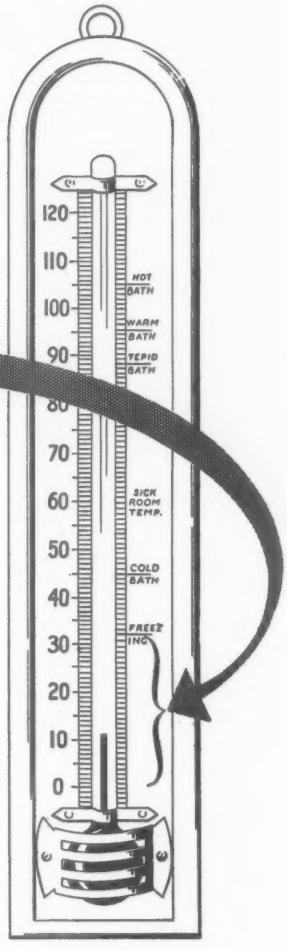

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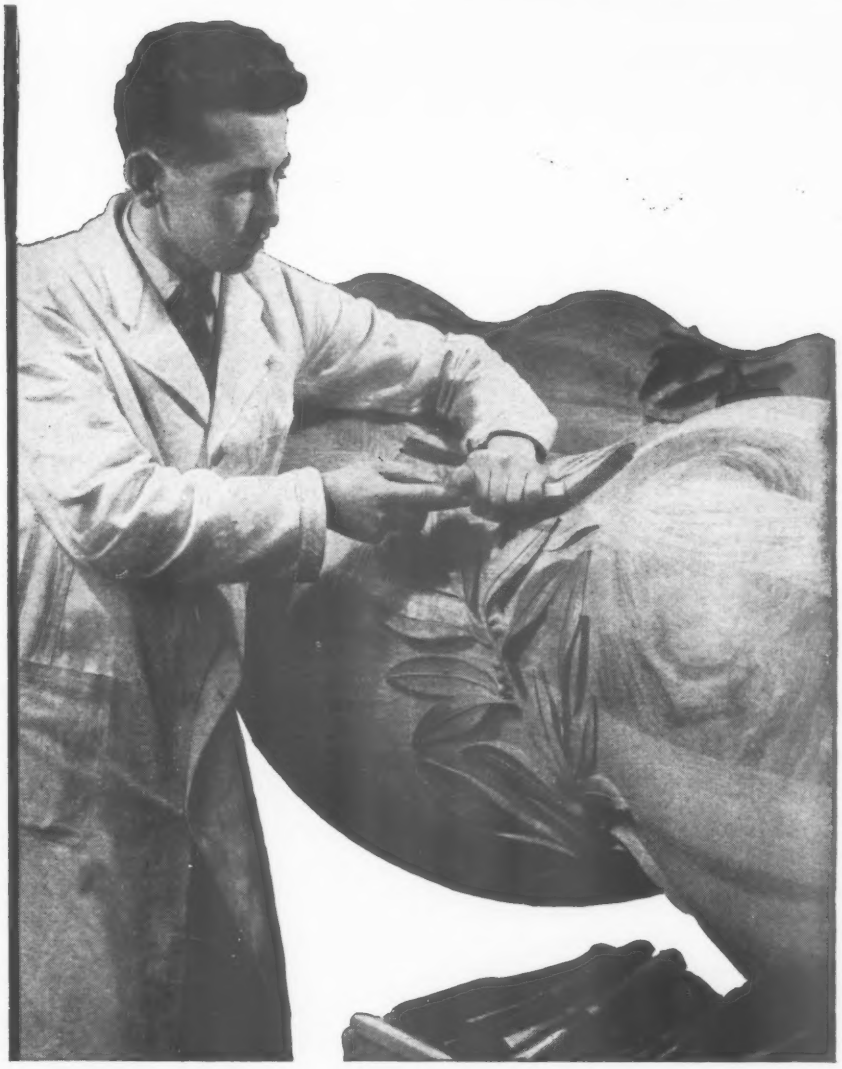

Wood carving of a column for the new altar canopy of St. Paul's Cathedral.

Architects: S. E. Dykes Bower, M.A., F.R.I.B.A., and Godfrey Allen, M.A., F.R.I.B.A.

Contractors for the woodwork: Rattee & Kett Ltd., Cambridge.

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AP435

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Chief Architect: R. G. Thomson, Dip.Arch., A.R.I.B.A.
Architect-in-Charge: D. D. Glennie, B.Arch., A.R.I.B.A.
Contractors: Welwyn Builders Ltd.

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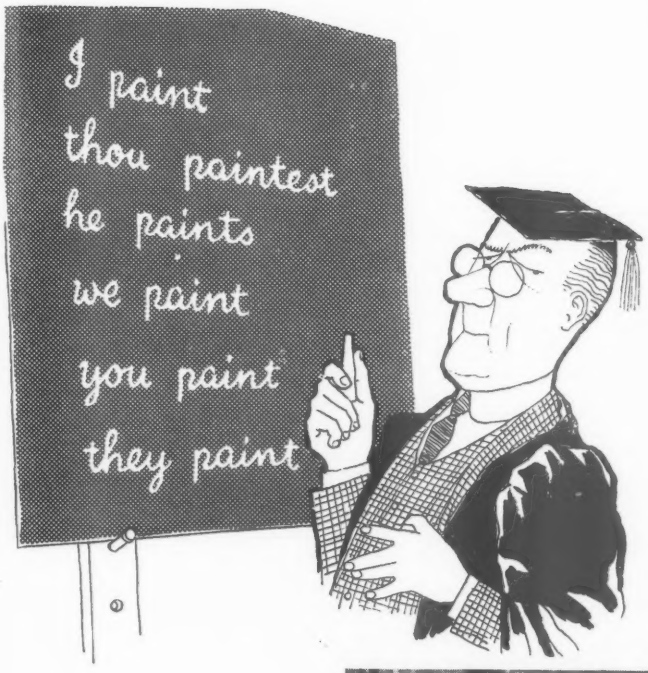
AP127



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" Will it ever corrode? "

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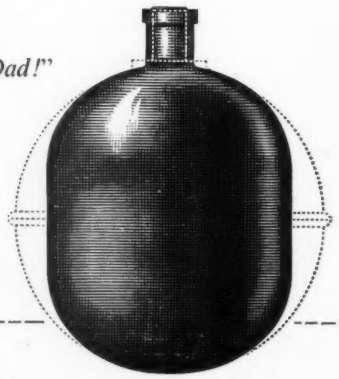

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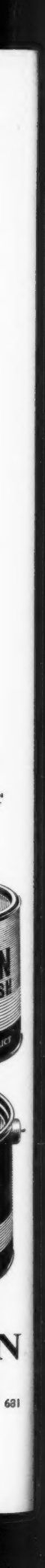

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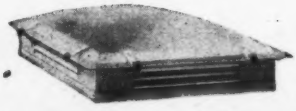
At the new Wimbledon covered courts a central ventilator was needed 14 ft. in diameter. Greenwood-Airvac engineers designed and built a special fitting, shown above, photographed from inside, and, below, from the outside.

Spectacular tasks of this kind broaden the experience which helps Greenwood-Airvac build a *Standard Range* of roof ventilators to meet, efficiently and economically, the vast majority of demands for ventilation and daylight. The cut-out illustrations below are two examples, both of which carry standard glass or ' Perspex ' domes. Circular ventilators from 18 in. to 6 ft. diameter, rectangular from 2½ ft. square to 4 ft. x 6 ft.



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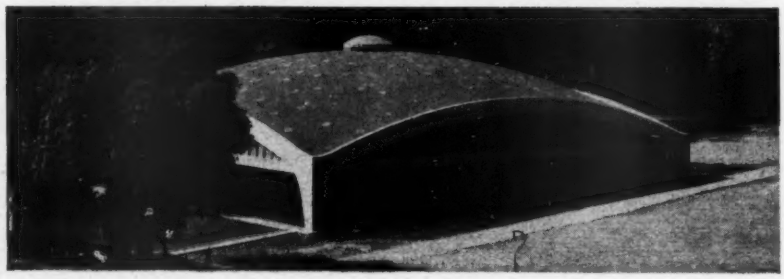

New covered courts at Wimbledon for the All England Lawn Tennis and Croquet Club.

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Greenwood-Airvac *ventilation*

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monthly review by WILLIAMS & WILLIAMS

'WALLSPAN' FOR EASTBOURNE LUXURY FLATS

1 The new 7-story Park Gates flats overlooking the sea at Eastbourne is, as far as we can trace, the first block of luxury flats in this country to have glass curtain walling. Wallspan was specified by the architect who was largely influenced by the detailing and way in which 'Wallspan' is designed for precision construction. This choice was amply justified in a trouble free installation.

The infilling panels are sprayed with a special paint which gives a multi-colour effect from one spraying.

Williams & Williams Standard Metal Windows to BS.990 have been used extensively both in the 'Wallspan' grid and also in the brick facades.

Park Gates present a very elegant face on every side—no pipes are visible on the exterior of the building. Single stack plumbing is used and this is thought to be the first time that it has occurred in a seven-story building outside the L.C.C. area. The interior is equally carefully detailed—for instance television and telephone wiring is laid on to every flat and apparatus merely needs to be plugged in.

A novel feature is an annexe of ten bedrooms with private bathrooms which can be rented by tenants for their visitors' occupation.

BRITAIN'S TALLEST OFFICE BLOCK HAS ALUMINIUM WINDOWS BY WILLIAMS & WILLIAMS

2 Eastbourne Terrace, Paddington, has already been in the news for the fantastic speed at which construction has gone on. The 18-story tower block was 'topped out' almost exactly a year after work started on the site. Williams & Williams contribution to this notable achievement was the supply of 2698 double hung windows in aluminium. In the tower block from the 8th story upwards, the windows are double glazed for additional thermal insulation.

The steel windows used in the lift halls of the tower block etc. were also supplied by Williams & Williams while the links between the tower block and the wings are in 'Wallspan' infilled with clear glass.

The balustrading which runs round the cornices of the wings is also a product of the Williams & Williams group. The upstands are made of steel and the rails are aluminium.

'ALUMINEX' GLAZING GIVES IDEAL WORKING CONDITIONS AT NEW PERMUTIT FACTORY

3 The extensive use of 'Aluminex' Patent Glazing combined with the wide uncluttered floor space resulting from the use of portal frame construction gives exceptionally good working conditions on the floor of Permutit Company's new factory at Ealing. Great importance has been attached to this aspect of the new building and the whole project including the interior colour schemes was planned in detail by the architects and engineers. The factory floor area of approximately 36,000 sq. ft. is divided into three bays, two of which have electric travelling cranes running the full length. Canteen and toilet facilities including showers and lockers are grouped together as an extension of the adjoining office block where Williams & Williams provided the purpose made windows and lantern lights as well.

'WALLSPAN' CURTAIN WALLING AT LEEDS GRAMMAR SCHOOL

4 As can be seen from the photograph, interest is added to the long facade of the main classroom block by a 'picture window' treatment of the staircase wells using clear-glazed 'Wallspan'. The use of individual staircase access to the blocks of classrooms rather than corridors running through the building from end to end is an unusual feature. It comes about because the north/south facing block has to be built two classrooms 'thick'. The north facing rooms open on to terraces on the first floor and at the top of the building receive a measure of sun through roof glazing. 'Wallspan' is used also in the south-east elevation of the foyer linking the classroom and assembly hall blocks.

A WILLIAMS & WILLIAMS 'CO-OPERATIVE' CONTRACT

5 Everything in the new St. Helen's Co-operative Society store which Williams & Williams could supply—they supplied. 'Wallspan' Curtain Walling, purpose made aluminium windows, standard steel windows, 'Aluminex' Patent Glazing, 'Aluminex' Lantern Lights and pressed metal work. Quite an impressive list—and it had the added advantage that all these products could be integrated by the architect on one schedule so as to ensure a logical and easy-to-control sequence of delivery.

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1 PARK GATES FLATS, EASTBOURNE
Architect: H. Hubbard Ford, F.R.I.B.A.
Architect-in-Charge: S. Hoyer, M.A.A.
A *General view showing the 'Wallspan' installation.*
B *Detail showing the Williams & Williams Standard Metal Windows.*

2 EASTBOURNE TERRACE DEVELOPMENT, LONDON
Architects: Cecil H. Elsom & Partners.
Consulting Engineers: Clarke, Nicholls & Marcell.
Quantity Surveyors: Cyril Sweett & Partners.
Contractors: Tersons Limited.
Some of the 2698 Williams & Williams aluminium double-hung windows.

3 THE PERMUTIT CO. LTD., EALING
Architects and Consulting Engineers: Husband & Co.
'Aluminex' Patent Glazing in one of the portal framed bays.

4 TEMPLE MOOR GRAMMAR SCHOOL, LEEDS
Architects: F. R. S. Yorke, E. Rosenberg, C. S. Mardall, F./F.R.I.B.A.
North-western facade of the classroom block note the detailing of the staircase cladding.

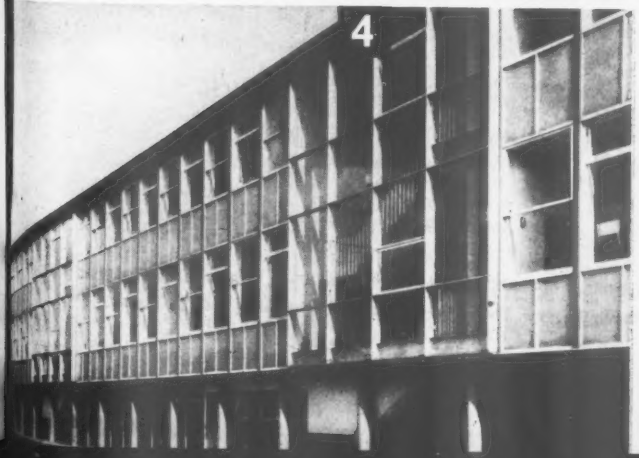
5 C.W.S. STORE, ST. HELEN'S, LANCASHIRE.
Architect: G. S. Hay, A.R.I.B.A., *Chief Architect, C.W.S. Architect's Department, Manchester.*
Architect in design: J. Douglas, A.R.I.B.A
Six Williams & Williams products have been used in this building.

1A

3

1B

2



4

5

Time and Space and Robert

Time's thrall he seeks to coincide
with every form of homicide.
And when, in "Operation Cat",
the burglar tries to reach the flat,
Master of space "Bob" stands just where
Bill Sykes descends, and cops him fair.
Back at the "Shop" he takes his ease
in showers equipped with L.T.V's ✱

✱ Short for Leonard *thermostatic* valves which won't scan but nevertheless are used by discerning architects all over the world for showers and basins. More about them in pamphlet No. ZA/2.

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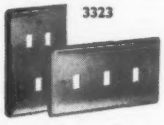
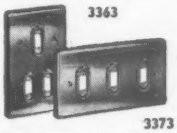
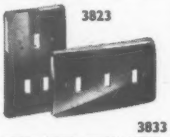
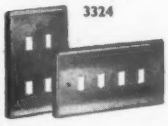
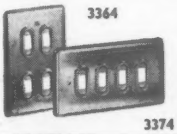
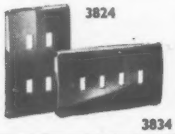
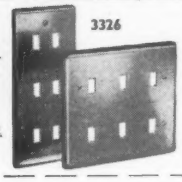
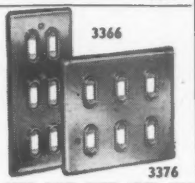
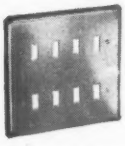
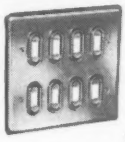
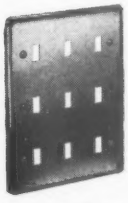
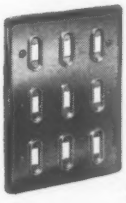
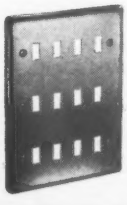
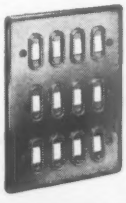
The GRIDSWITCH

FLUSH PLATES			SURFACE PLATES	
Brass plates Finish—BMA or Matt Chrome	Protected Brass plates Finish-BMA or Matt Chrome	Insulated plates Finish—Brown or Ivory	Brass plates Finish—BMA or Matt Chrome	Steel plates Finish—Aluminium Stove Enamel
 3331	 3371	 3831	 3341	 3381
 3332	 3372	 3832	 3342	 3382
3323  3333	3363  3373	3823  3833	 3343	 3383
3324  3334	3364  3374	3824  3834	 3344	 3384
3326  3336	3366  3376	*6-gang available December, 1958*	 3346	 3386
 3338	 3378	*8-gang available December, 1958*	 3348	 3388
 3339	 3379	*	 3349	 3389
 3340	 3380	*	 3352	 3392

MK158DHB

An interior view of the Corrugated 'Perspex' installed over 8 years ago at the works of Henry Smith (Constructional Engineers) Ltd., of Winsford, Cheshire.

Corrugated 'Perspex' as efficient as ever after 8 years continuous use in steelworks

OVER 8 YEARS ago Henry Smith (Constructional Engineers) Ltd. installed Corrugated 'Perspex' in their works at Winsford, Cheshire. To-day it is still giving as efficient service as when it was installed.

Henry Smith (Constructional Engineers) Ltd. are one of the many firms who have proved the tremendous lasting qualities of Corrugated 'Perspex'. This tough, light material withstands weather conditions in any part of the world. It is unharmed by the corrosive atmosphere of most industrial areas.

Corrugated 'Perspex' has other advantages. It has a very high light transmission. It is easy to handle and economical to install. It gives better light, which means better working conditions, better work. Money is saved on artificial light.

Corrugated 'Perspex' is made in a wide range of profiles. If diffused daylight is desired, Opal Corrugated 'Perspex' is available.

It's as clear as daylight — it must be

CORRUGATED 'PERSPEX'

'Perspex' is the registered trade mark for the acrylic sheet manufactured by I.C.I.

CP.148

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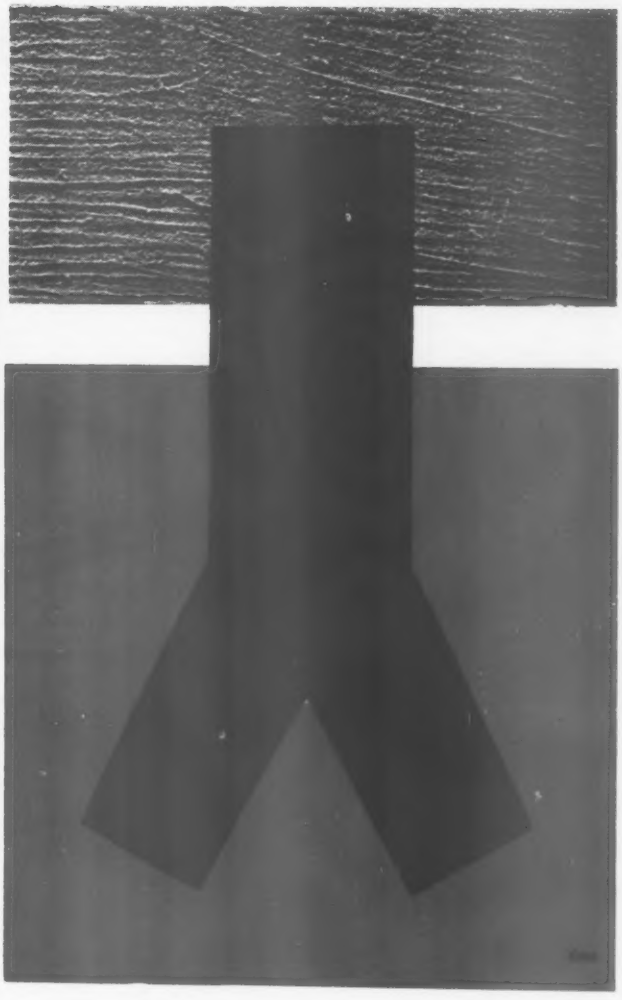

is now textured as well as smooth. A sound inert material with a permanent blue-grey precision eminently suited to modern detailing. It's easy to fix, needs no maintenance, and lasts as long as the building.

WINCILATE slate cladding

Architects' Journal Information Sheet 5. B2 describes Wincilate cladding, and can be obtained, together with other data, from the manufacturers: The Bow Slate & Enamel Co. Ltd. B.R. Bow Depot, Old Ford Rd. E.3. tel: ADVance 2203, proprietors of the Aberllefeni Slate Quarries.

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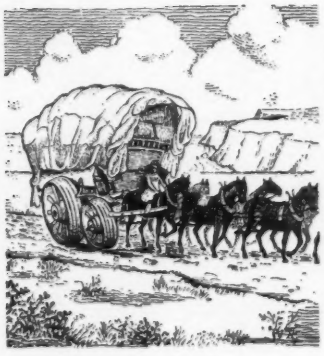
Ferodo Non-Slip Stairtreads blend with any interior decorations and even after years of constant use they give a reassuring foothold. Staircases in many kinds of public buildings and factories are fitted with Ferodo Stairtreads because they prevent accidents and are easy to clean.

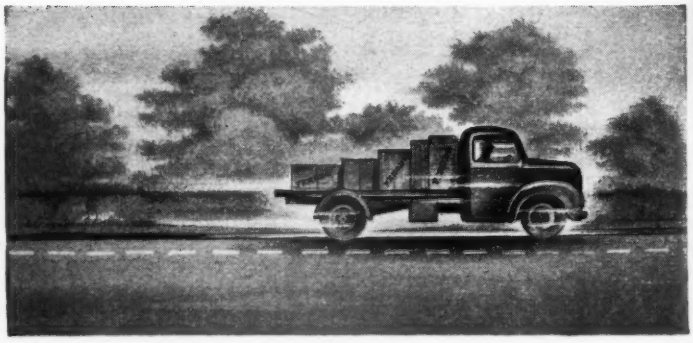
Ferodo Stairtreads are available in 7 colours, 3 types of metal channel and 39 types of tread to suit any stair.

A Ferodo technical advisory service is available and a technical representative is in your area.

TEN MILES A DAY BY STAGE-WAGON



Sir Christopher Wren waited so long for deliveries of materials, but he expected nothing better. It was tough going for the teams of horses that drew the slow wagons of the 17th Century—the roads were deeply rutted and the wagons often overloaded.



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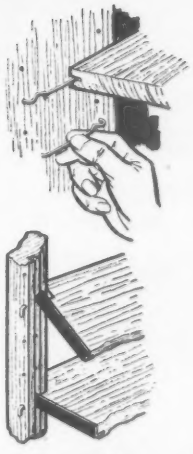

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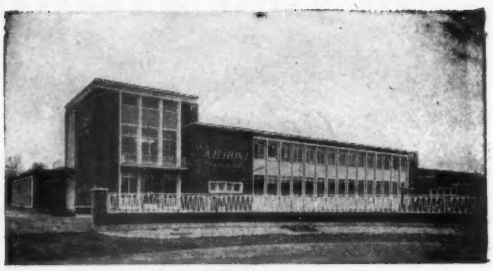

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Architects:
Douglas White & Furniss, F/F.R.I.B.A
Bradfords were responsible for the frame, floors and staircases.

Men are wise in proportion, not to their experience but to their capacity for experience.
George Bernard Shaw

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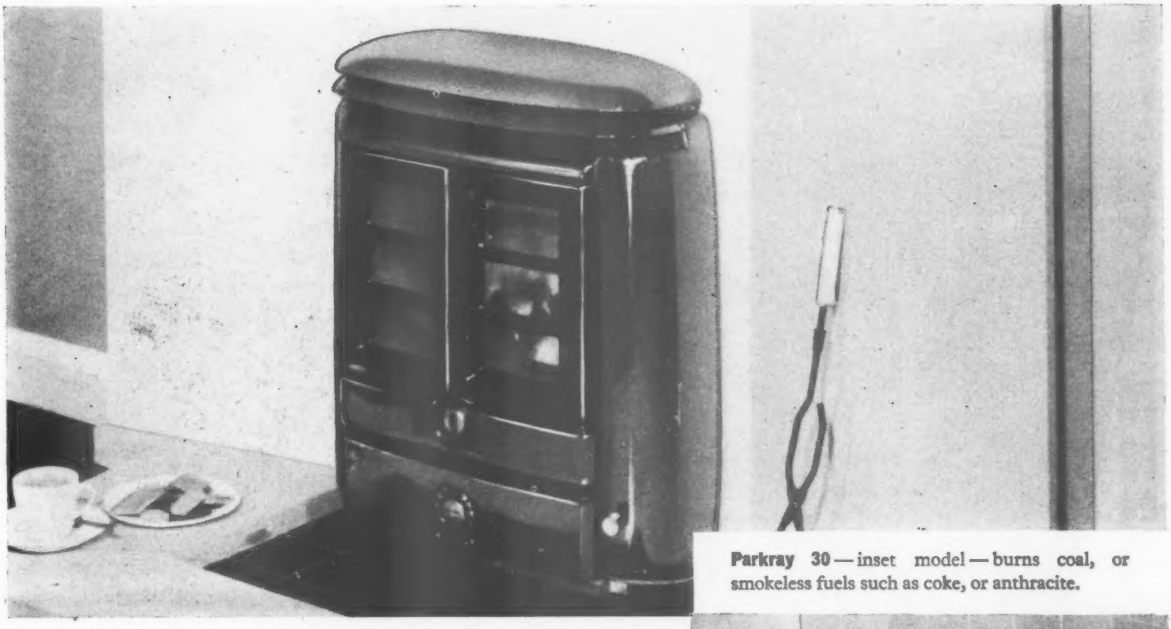

Parkray 30 — inset model — burns coal, or smokeless fuels such as coke, or anthracite.

Parkray 32 — freestanding model. Both have special Parkray air control—idling fire springs to life in a moment—burns for hours unattended.

Trend-setting new design from Radiation

The **Parkray 30,** latest thing in inset stoves, fits almost any fireplace opening yet *projects only 7″ on to the hearth.* The heater will fit any existing fireplace opening 16″ to 18″ wide and 20″ to 24″ high—a particularly useful point if you are seeking to replace an old inefficient fire.

The focal point of many living rooms today is the television set rather than the fire. Thus a highly efficient yet unobtrusive source of heat like the Parkray 30 is doubly welcome. It carries convected heat to every corner of the room, makes all space *living* space. And, of course, when the occasion demands an open fire, all you have to do is open the doors. A further practical advantage is that the Parkray 30 does not have to be disconnected for the flue to be swept.

The **Parkray 32** is a freestanding room heater—another elegant design from Radiation that has taken all the boxy look out of the traditional stove. Both room heaters will provide full heating for rooms of up to 3,000 cu. ft.

Needless to say, both heaters effect considerable fuel saving compared with open fires or old fashioned stoves. Accessories, incorporating flue sockets and sweeping doors for building into chimney breasts or surrounds, enable the flue to be swept without moving the room heater. Prices range from **£22.12.6.** upwards for the inset Parkray 30 and from **£26.17.6.** for the freestanding Parkray 32.

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PARKRAY

ROOM HEATERS

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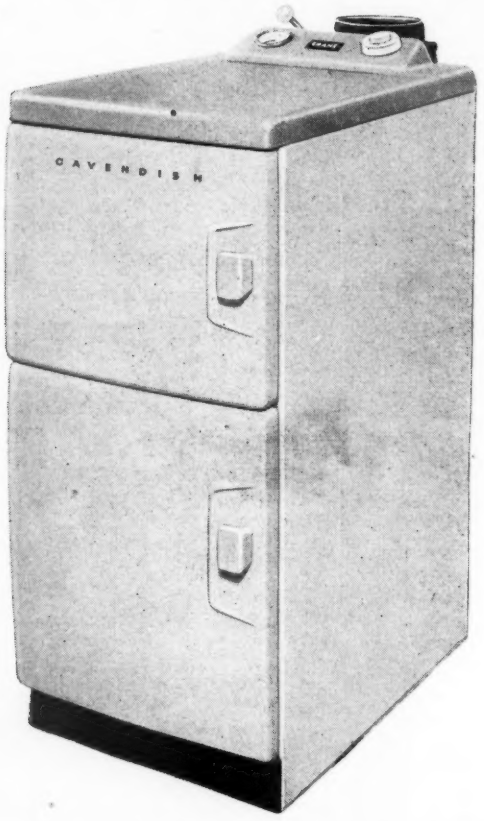

- A range of solid fuel burning boilers* for whole house warming and indirect hot water supply.
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- Rocking grate of new design (patent applied for).
- Ultra-sensitive thermostat (on solid fuel models only) and thermometer sensibly placed near flue control.
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- Large capacity ashpan effectively dust-sealed.
- Doors opening to wide angle.

**Also available for oil burning.*

RATINGS		OUTPUT B.t.u. PER HOUR
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	No. 4	47,000
	No. 5	61,000
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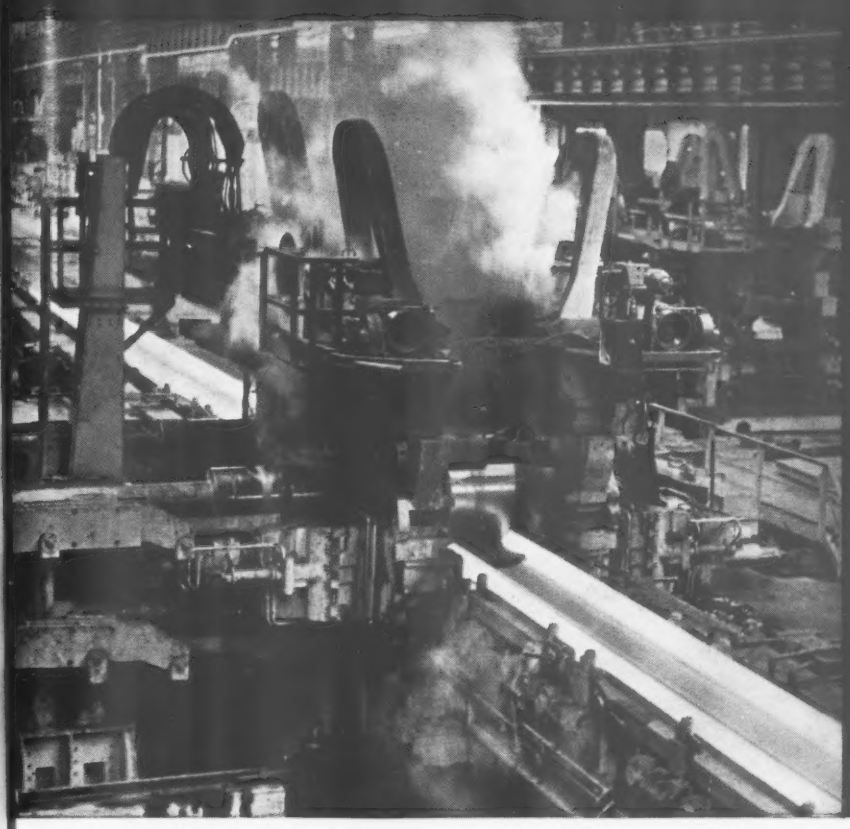

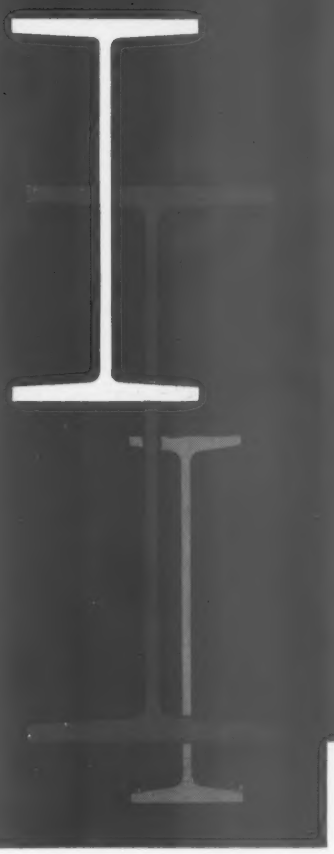

'UNIVERSAL' BEAMS

IN MANUFACTURE AND IN USE

Here is a 36″ x 16½″ 'Universal' beam passing through the finishing rolls of our new Universal Beam mill at Lackenby.

It is the largest of our new range of sections — all carefully proportioned in the light of structural experience to simplify design and fabrication of steel structures.

The new mill has important features which considerably augment its productivity and service to the industry: one is its construction with alternative sub-assemblies having rolls and bearings already mounted in interchangeable stands, thereby facilitating rapid changes. Another feature is the mill arrangement by which a beam or column section can be rolled in different 'weights' to suit different loads—yet without substantially affecting the overall dimensions.

The photograph of the Catterick bridge (shown at right), by courtesy of R. Sawtell Esq., A.M.I.C.E., County Surveyor, North Riding, Yorkshire C.C.

Above in red, the new 36″ x 16½″ beam (shown in the rolling mill picture); in blue, the largest of the British Standard sections, 24″ x 7½″.

A bridge at Catterick (shown below) has just been built by Tees Side Bridge & Engineering Works Ltd., with spans of the new 24″ x 12″ Universal beams (shown in yellow) without plating.

EARLY DELIVERY OF ALL THE NEW SECTIONS

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County Architect: W. Usher, A.R.I.B.A. Flooring Specialists: James Beattie Ltd., Wolverhampton.

School days are busy days

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Armstrong Linoleum Flooring, manufactured in tile or sheet form, is available in a wide range of colours with plain or marble effects. In tile form it can be laid to any specified design. It is extremely durable, withstands the heaviest traffic, and is easy to keep clean and maintain. An example of the tasteful use of Armstrong Linoleum can be seen in the above photograph of the High School for Girls at Broadlands, Hereford. Armstrong Linoleum Flooring is equally suitable for public buildings, offices, shops and homes. Full details on request.

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The 272 feet 4 inches tall Californian redwood (Sequoia gigantea) tree named "General Sherman" in the Sequoia National Park, California, U.S.A., is the most massive living thing on Earth. It has a base circumference of 101 feet 7 inches and requires 17 men to encircle it with outstretched arms. Its mean base diameter is 32 feet 3 inches with a maximum of 34 feet. It has an estimated weight of 6,000 tons.

THE LONGEST TUNNEL

The longest underground railway tunnel in the world is on the Northern Line of the London Transport Executive between Morden and East Finchley—a total length of 17 miles 528 yards. The longest in the British Railways system is the Severn Tunnel. It is 4 miles 628 yards long and links Gloucestershire and Monmouthshire. The longest main line railway tunnel in the world is the Simplon between Switzerland and Italy—12 miles 559 yards long.

THE FASTEST RAILWAY

The world rail speed record is held jointly by two French Railway electric locomotives, the CC7107 and the BB9004. On 29th and 30th March, 1955, hauling three carriages of a total weight of 100 tons, they both achieved a speed of 205·6 m.p.h. The runs took place on the 1,500 volt D.C. Bordeaux-Dax line, and the top speed was maintained for nearly 1¼ miles. The CC7107, 106 tons, has a continuous rating of 1,500 volts of 4,300 h.p. The BB9004, 81 tons, has a continuous rating of 4,000 h.p.

THE DEEPEST WATER WELL

The world's deepest water well is that in the Blackall Ranges in Queensland, Australia, at just over 7,000 feet deep. The deepest well in the British Isles is a water table well in the Staffordshire coal measures at Smestow at 2,842 feet. The deepest artesian well in Britain is that at the White Heather Laundry, Stonebridge Park, Willesden, London, N.W.10, bored in 1911 to a depth of 2,225 feet.

THE MOST POISONOUS SNAKE

The toxicity of the venom of the Australian tiger snake (Notechis scutatus) is unsurpassed by any other serpent. These snakes, tawny with dark bands, commonly grow to 4 or 5 feet in length. The only poisonous British snake is the Adder or Northern Viper (Vipera berus). Though not vindictive, its bite has caused eight deaths since 1900.

THE LARGEST DIAMOND

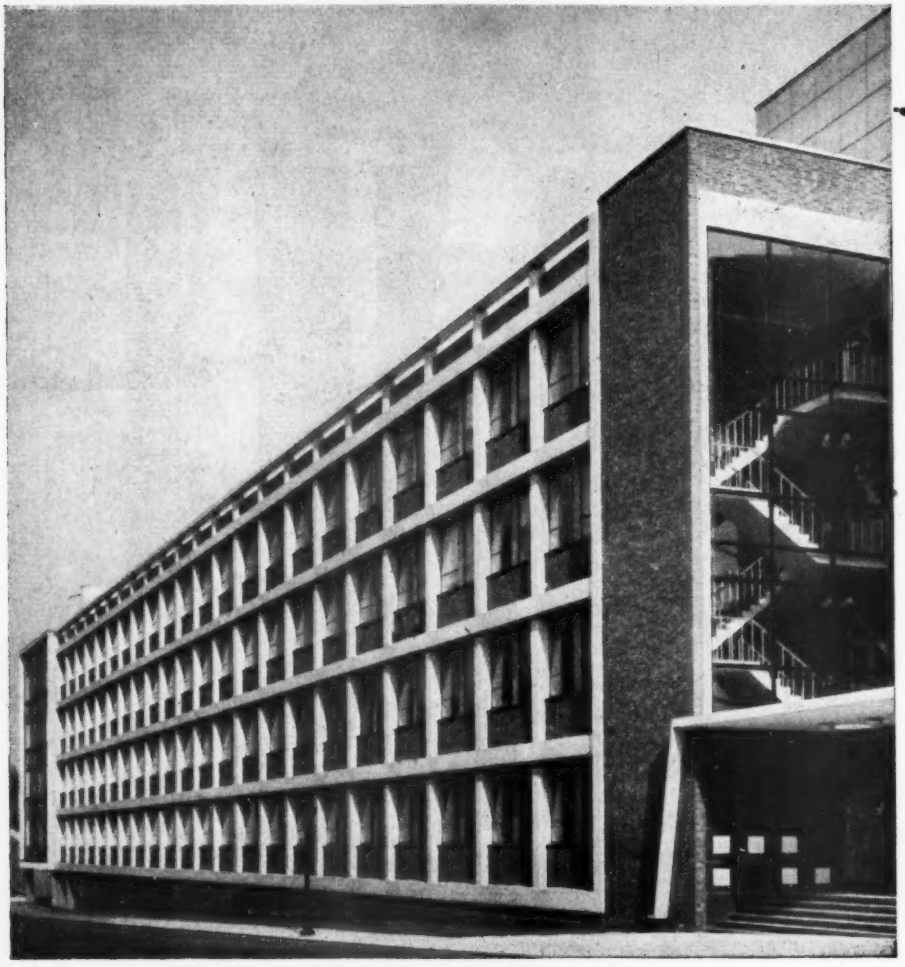
The largest white diamond ever discovered was a 3106 metric carat (over 1¼ lb.) stone by Captain M. F. Wells, in the Premier Mine, Pretoria, South Africa, on 26th January, 1905. It was named after Sir Thomas Cullinan, D.S.O., Chairman of the mining company, and was presented to King Edward VII. The Star of Africa, No. 1 in the Royal Sceptre, cut from it, is the largest cut diamond in the world at 530·2 metric carats with 74 facets.

THE LARGEST BIRD

The aepyornis titan of Southern Madagascar which may have survived into the 18th century was a large flightless bird standing-10 feet in height. Its eggs were also the largest of any bird, being 13 inches in length with a diameter of 9½ inches and a capacity of 2 gallons—six times that of an ostrich egg. The extinct flightless bird from New Zealand, the moa Diornis maximus was probably taller, attaining a height of over 11 feet.

THE FASTEST FLYING INSECT

Experiments have proved that widely published statements that the female deer bot-fly could attain 800 m.p.h. are widely exaggerated. Modern experiments have established that the highest maintainable air-speed of any insect is 27 m.p.h. rising to a maximum of 35 m.p.h. in short bursts.



Architects:
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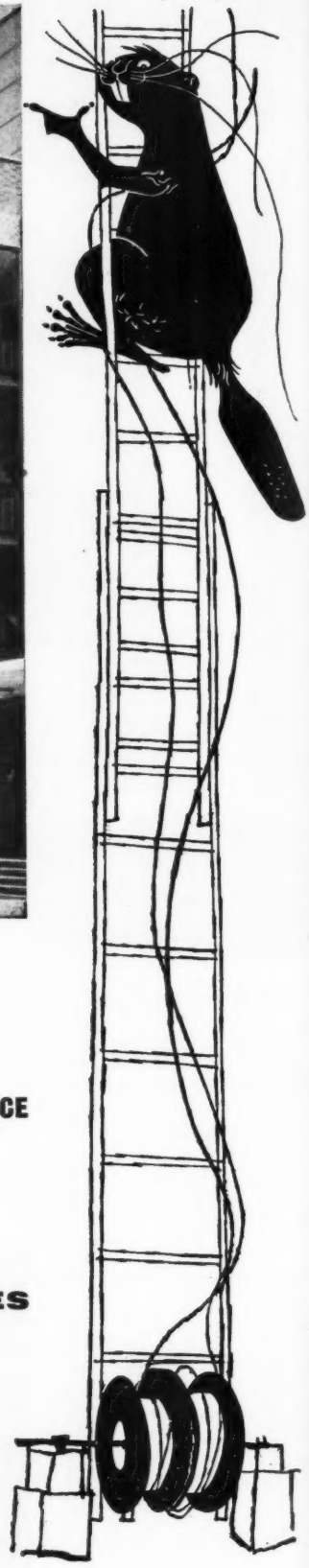
Electrical Contractors:
Messrs. McGoff & Vickers Ltd., Liverpool & London



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The impressive new School of Medicine building, Liverpool University. The wing shown here houses specialised research laboratories, photographic rooms, workshops and museums. One hundred miles of Henley cables thread their way through scores of orderly ducts to provide essential electrical services.

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The Case for the Local Brick

IT HAS BEEN STATED that our island is built on coal. It may with greater truth be said to be built on clay or brick earth, for brickworks are far more evenly distributed geographically than are coal mines. Some of them follow the "coal measures" up and down the country, but many others are located either on the main clay beds which cross the country or on isolated pockets of clay or other materials which are highly suitable for brick making.

Apart from a few large producers, most of the works are small or medium-sized, and for centuries many of them have largely sustained building operations in their respective areas. They are a great convenience to the builder, enabling him to pick up small loads at any time and to arrange deliveries in accordance with site requirements.

The local brickworks is an asset to its locality. The bricks produced are of varied kinds, which both reflect and mould the character of the region's buildings. In normal times, the works provide steady and healthy employment, and contribute on a substantial scale to the local rates.

The spectacular rise in brick production, which enabled the country to carry out its vast building programme during the last decade, was only made possible by the ready co-operation of hundreds of these small and medium-sized producers. New brickworks were built, and the capacity of old works increased, both at the cost of considerable capital. The whole approach to post-war building development has been imaginative and energetic, and the smaller manufacturers of the country may rightly feel that they have played an important part in the development programme.

The present curtailment of building is producing serious repercussions on the smaller works. Large stocks of bricks are accumulating and if, as appears likely, the slackening in demand continues, its impact on the less well-endowed units of an industry geared to a high level of demand will be very serious indeed.

Competition for the reduced volume of business has become intense, and local manufacturers are vying with producers outside their area. It is widely asserted that competition is good for trade, but it is a question whether, in the ultimate interest of the building industry and the community, some preference should not be given to the local producer. A healthy industry contributing to local prosperity is only possible if regional demand is addressed to regional supply, and a healthy local brick industry is essential to the building industry.

Any large-scale closing of brickworks at the present time would not only seriously curtail future supplies; it might well place the building industry in a difficult position both as to supply and prices of bricks when the present building restrictions are removed.

(Reprinted from 'The Brick Bulletin')

THE FOUNDATION OF BRICK GOOD BUILDING

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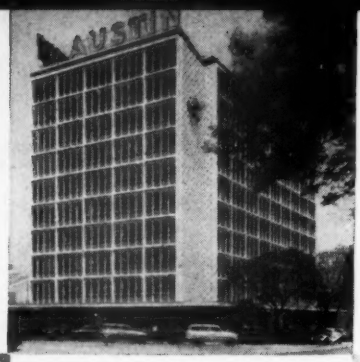

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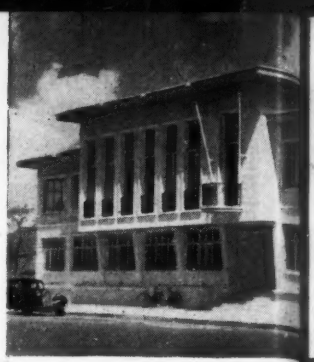

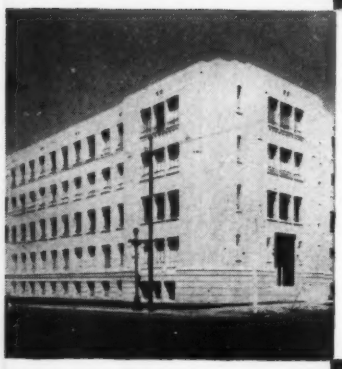

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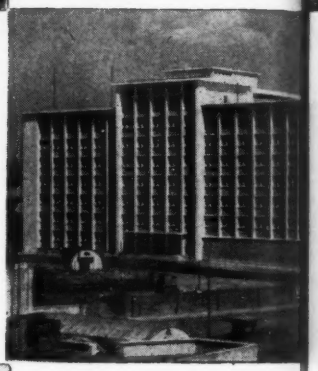

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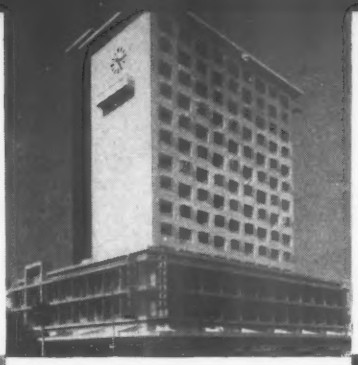

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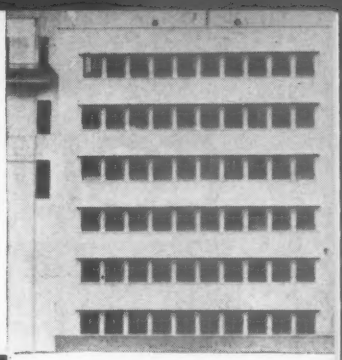

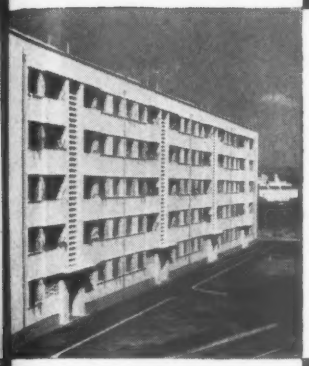

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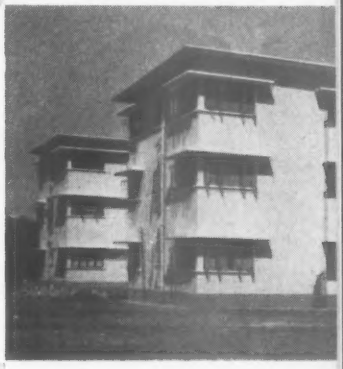

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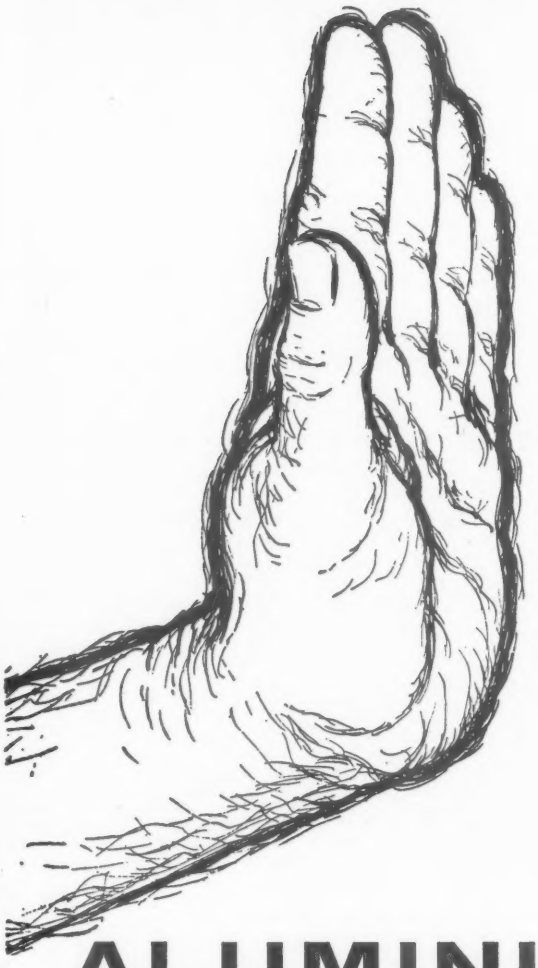

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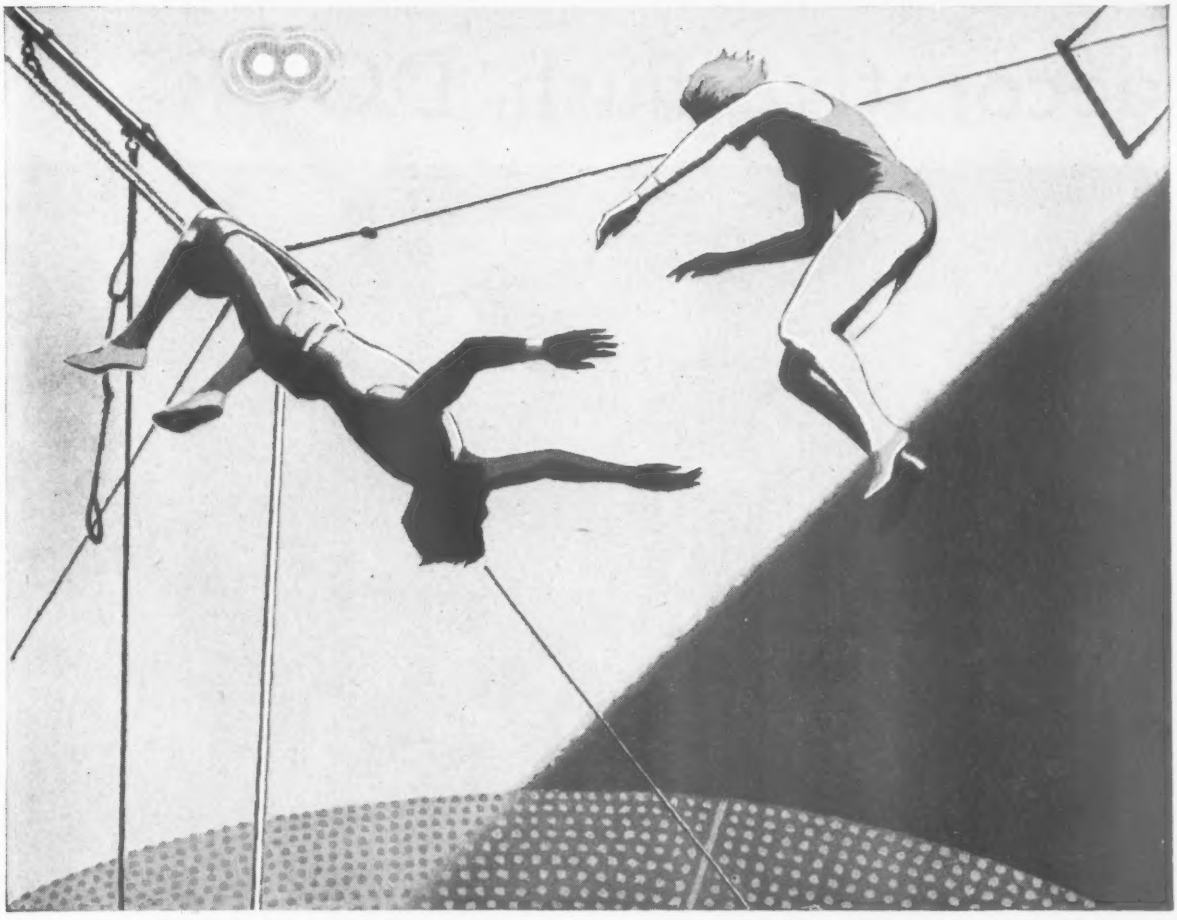

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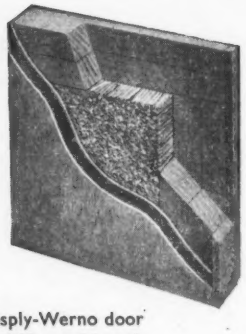

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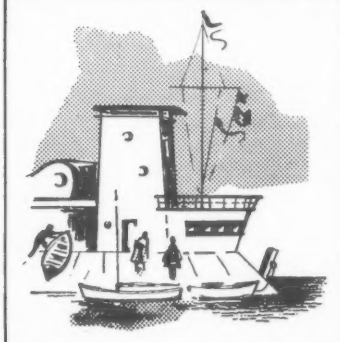

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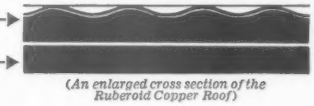

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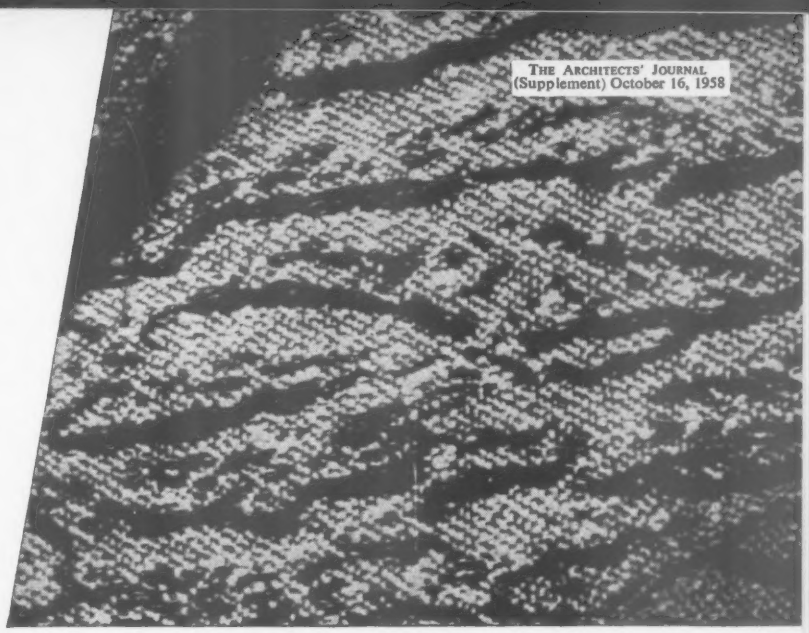

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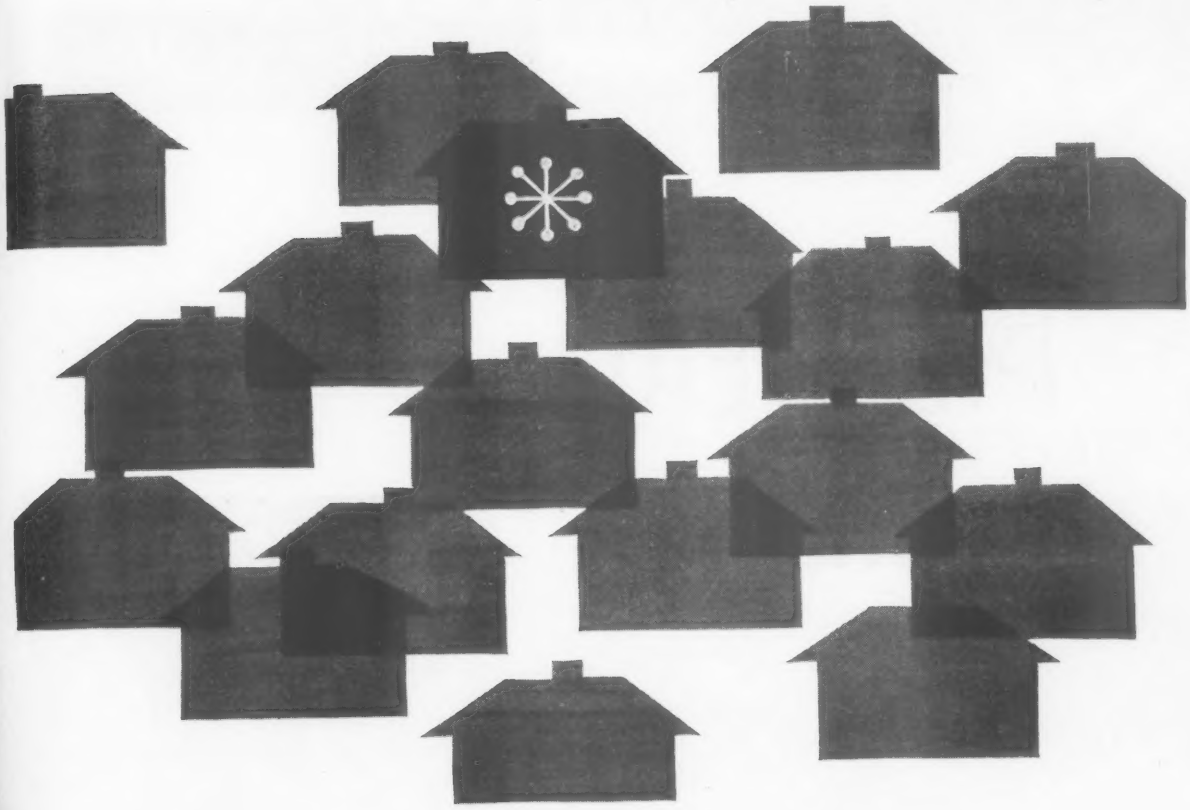

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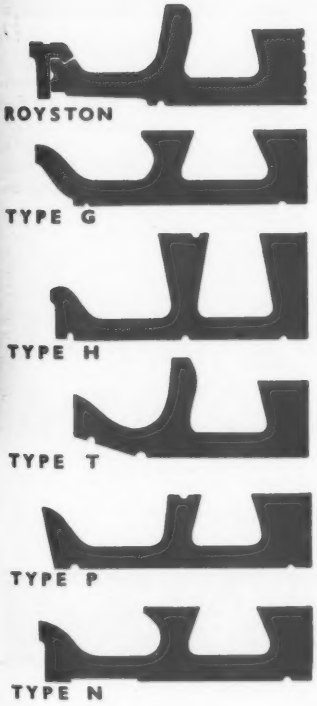

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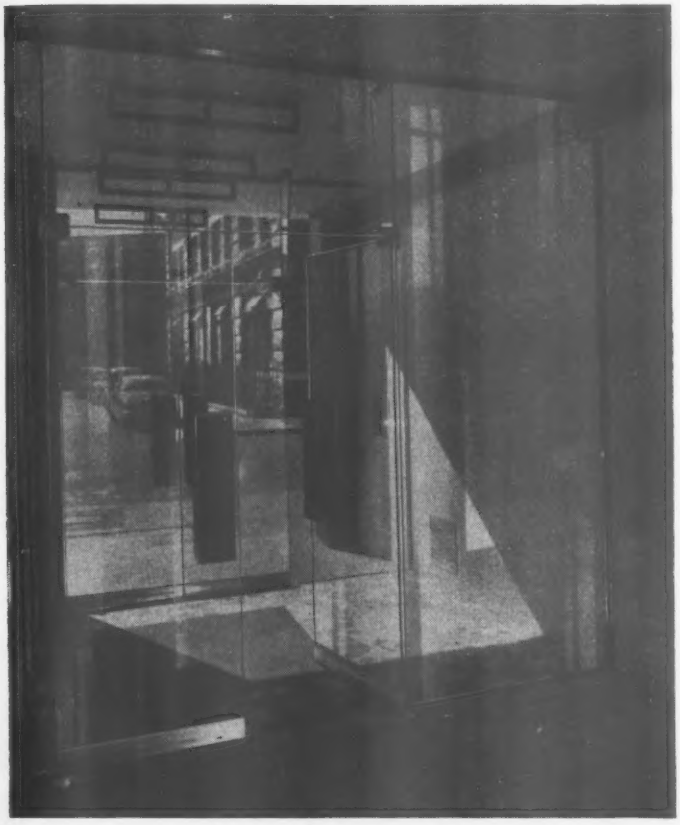

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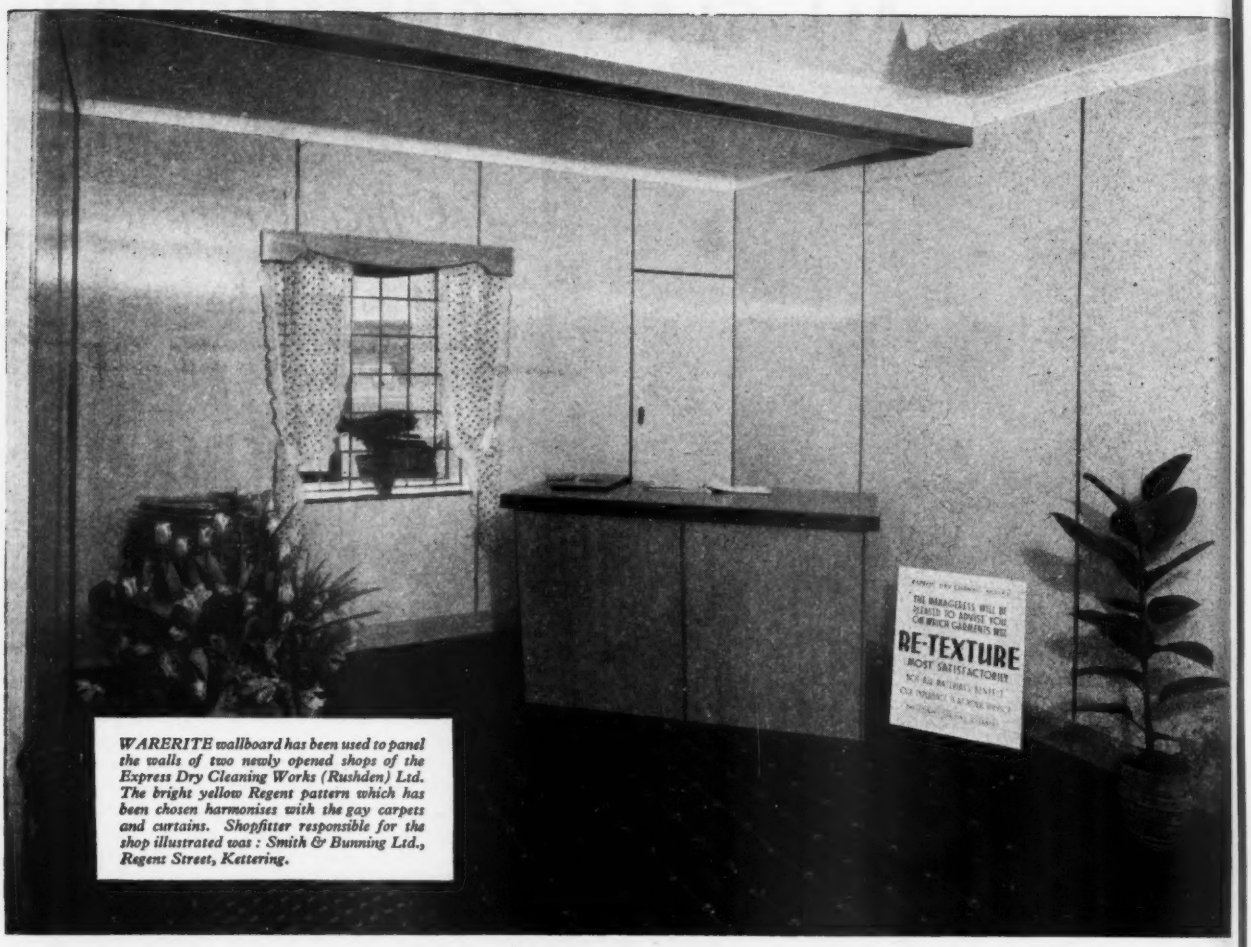

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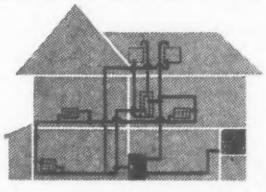

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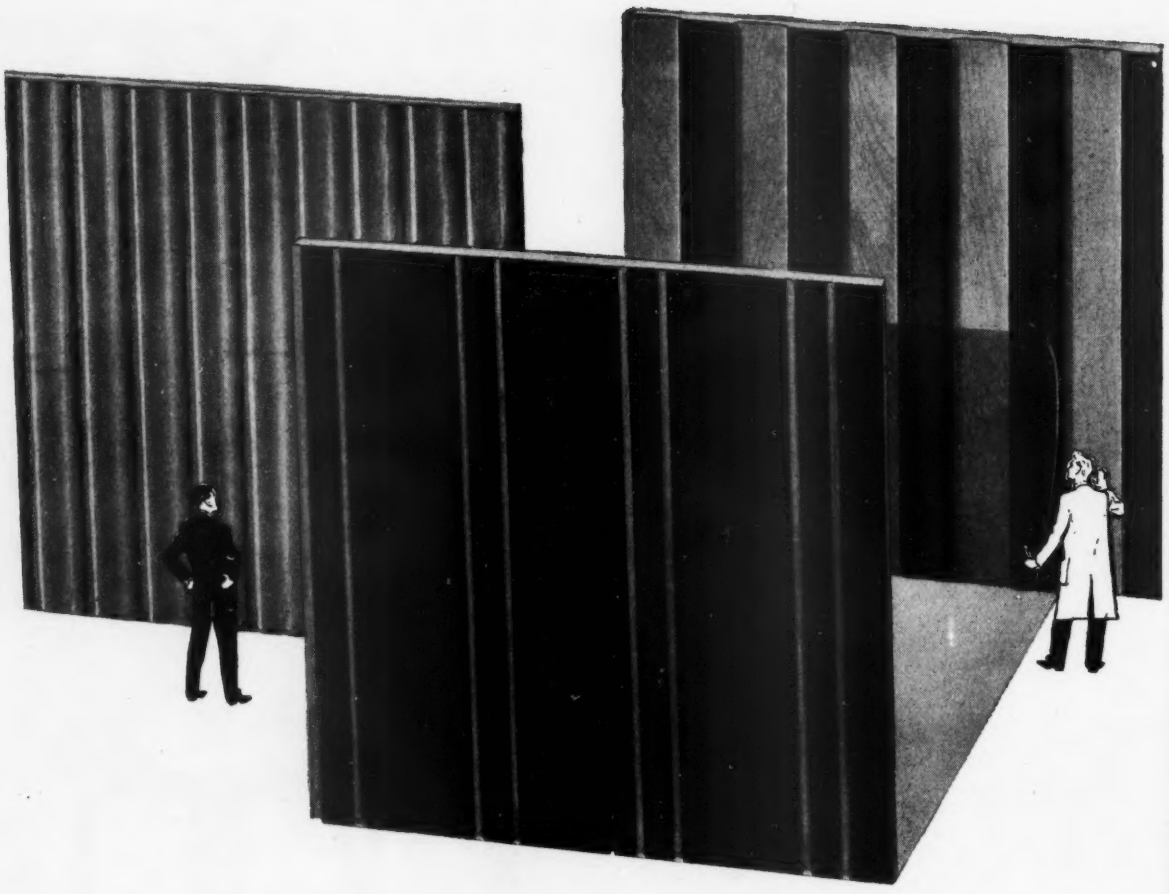

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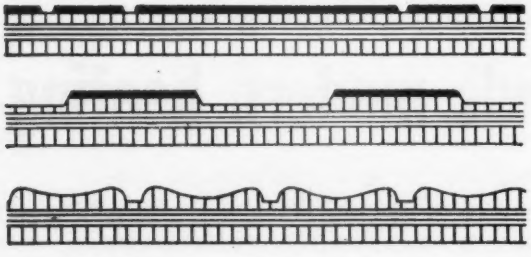

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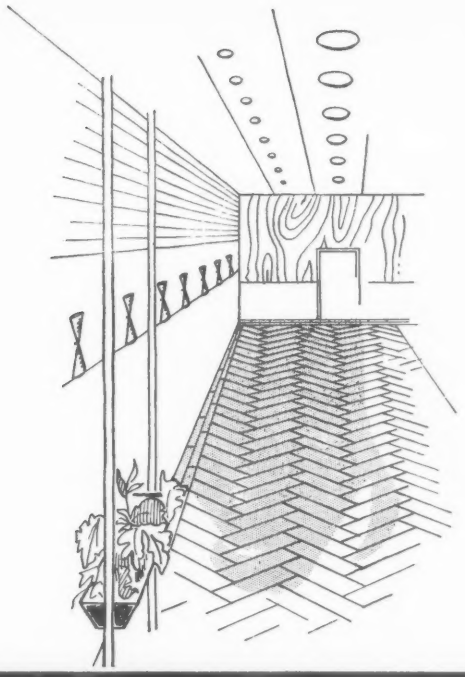

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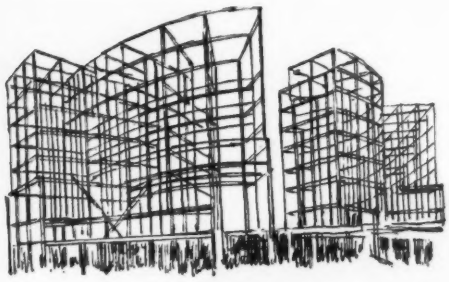

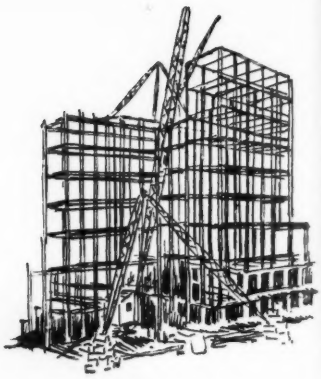

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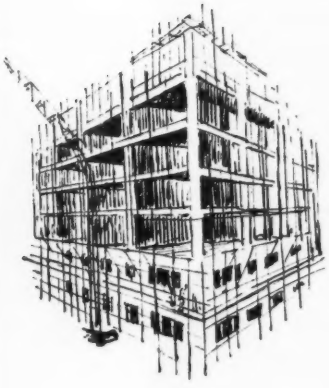

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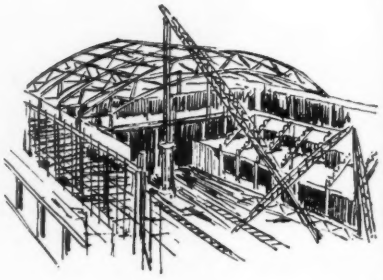

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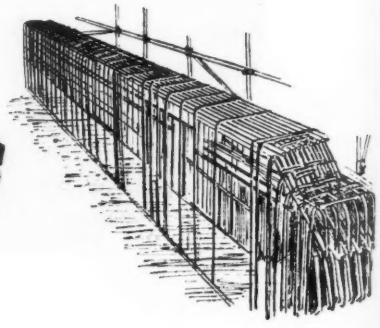

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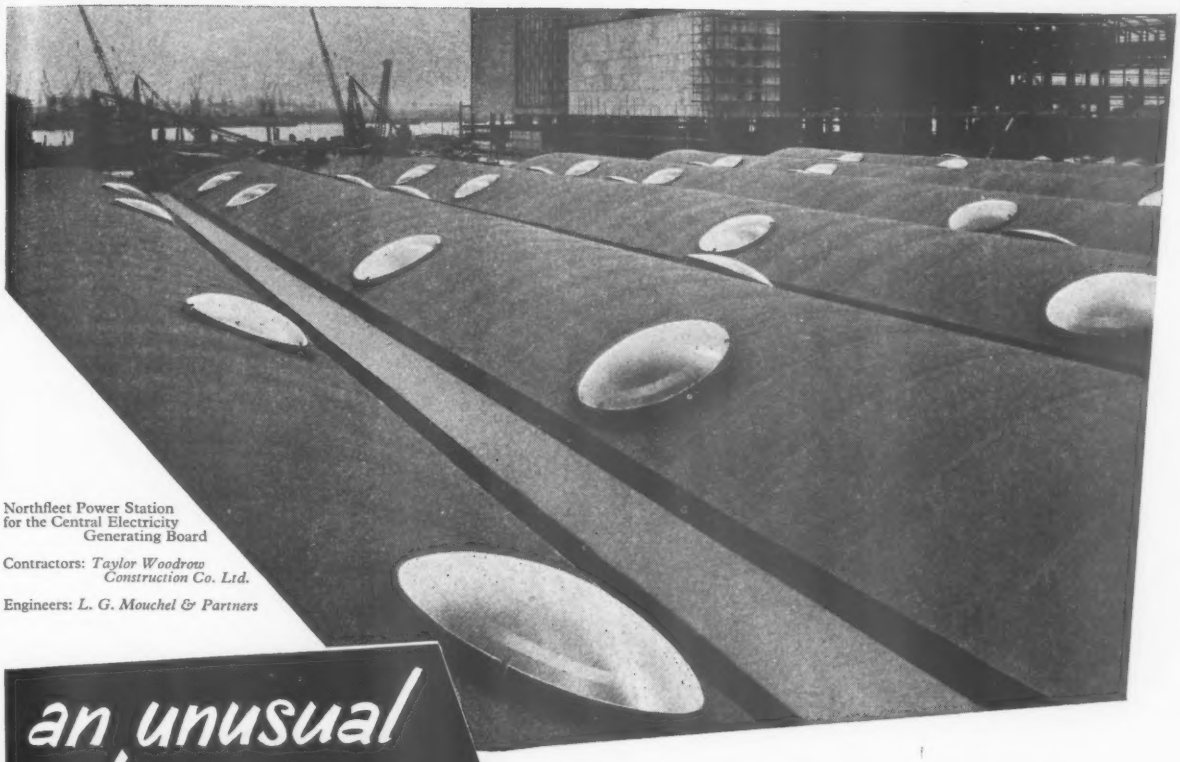

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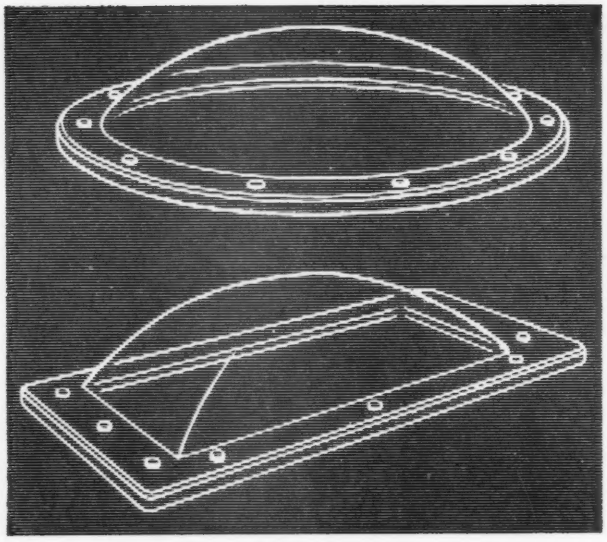

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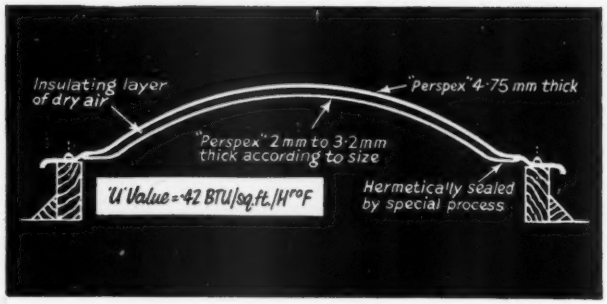

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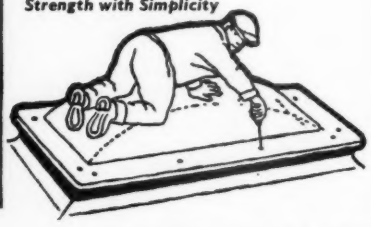

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THE ARCHITECTS' JOURNAL
for October 16, 1958

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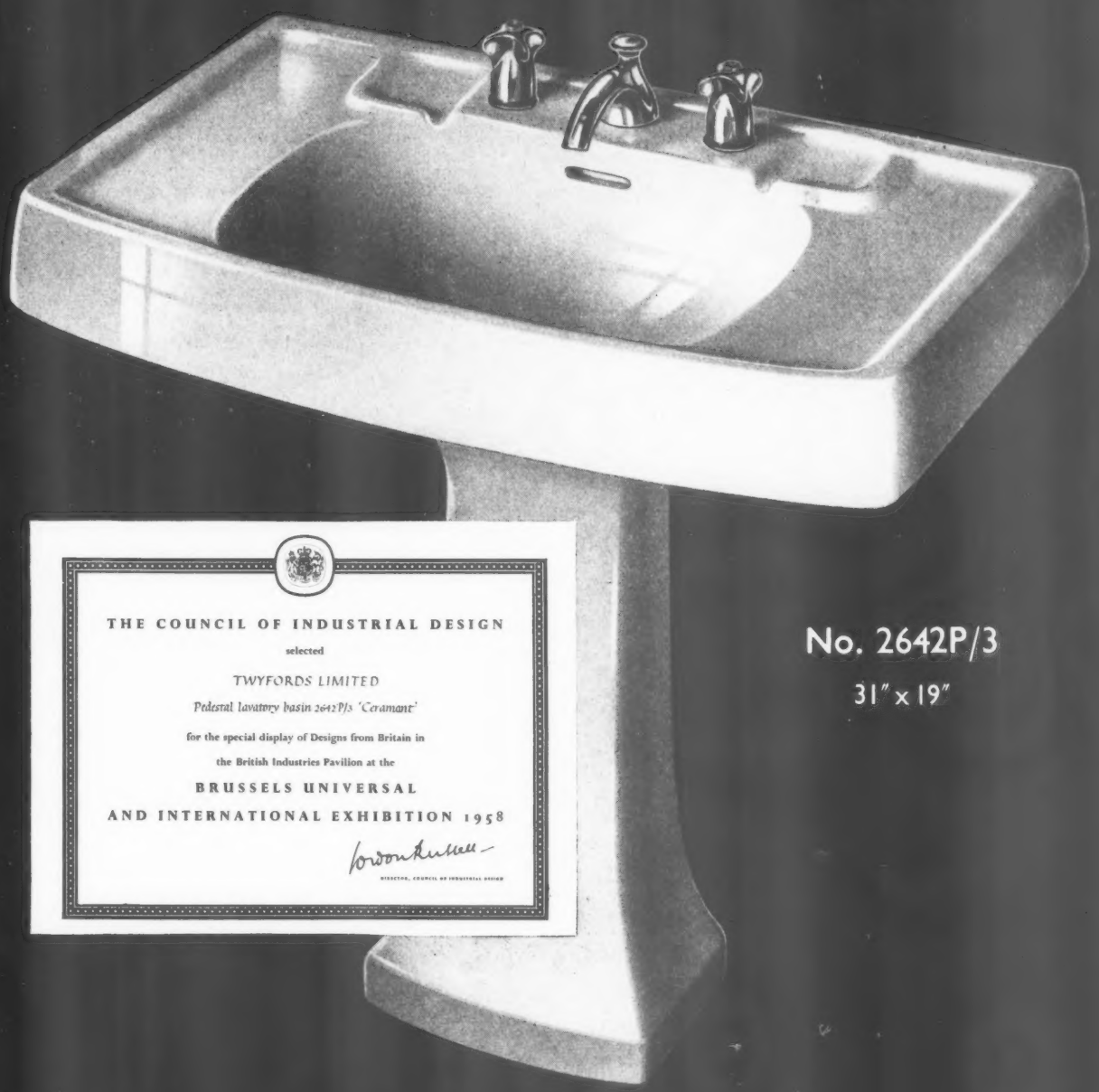

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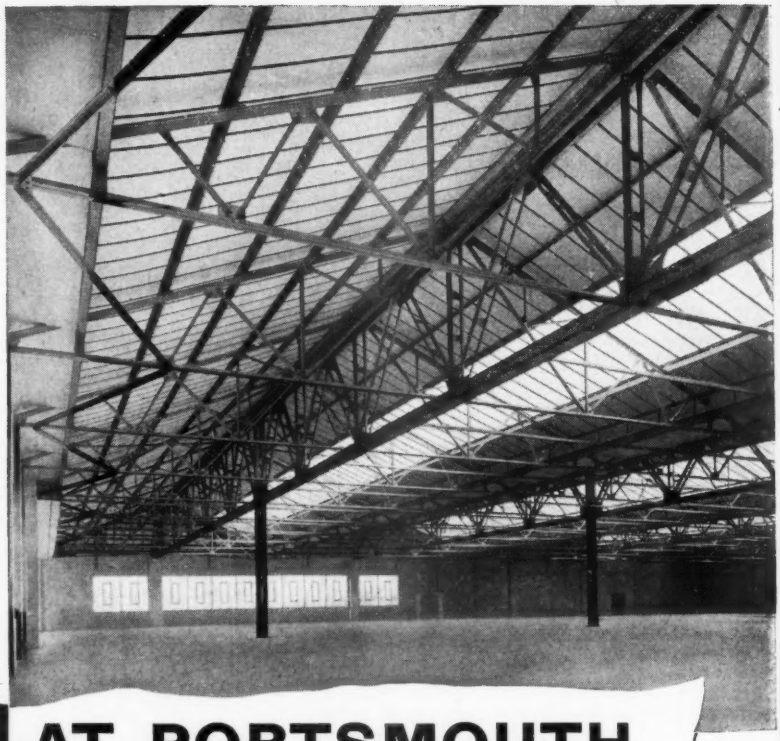

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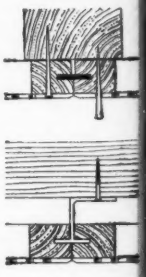

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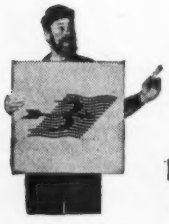

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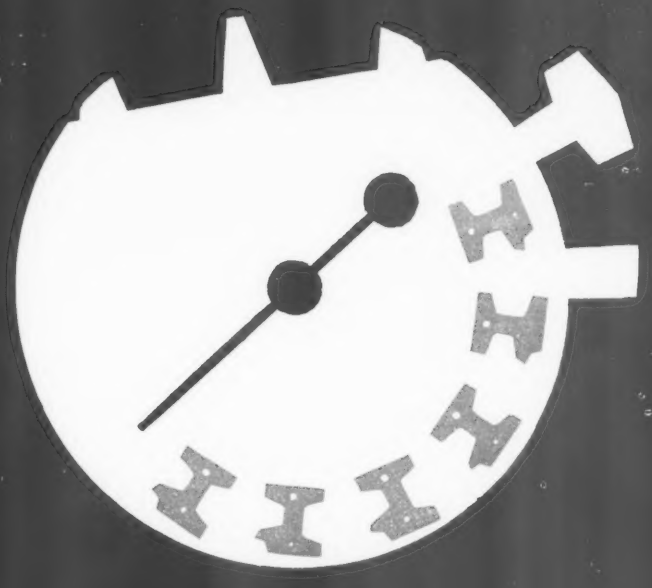

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THE ARCHITECTS' JOURNAL

No. 3320 Vol. 128 October 16, 1958

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NOT QUITE ARCHITECTURE

NIGHT THOUGHTS ON THE BALTIC

I have recently returned from a cruise in a 12-ton cutter to the Baltic and although architecture played only a secondary role to sailing, one cannot escape it. You find it approaching the harbour of Malmö, in Trelleborg, in Ystad, and in remote places like Rödvig in Denmark and on the island of Bornholm.

*

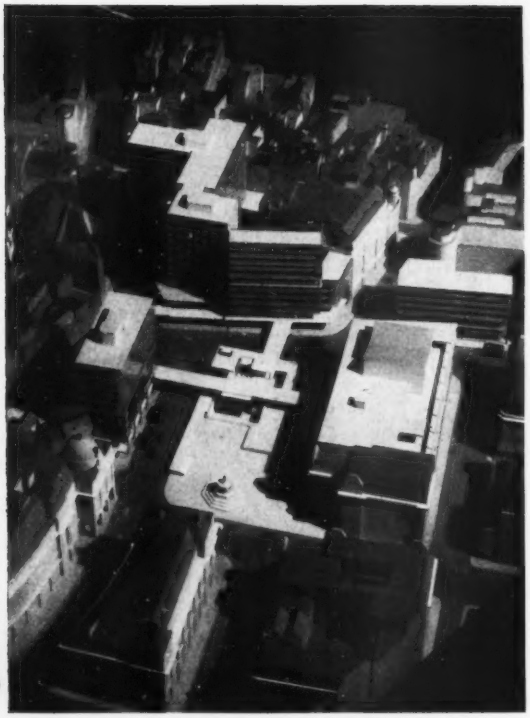
It confirms what one always suspects—in this country architecture has not even begun! Whoever says that Sweden or Denmark are standing still is talking through his hat. If this standard of architecture is "standing still" it is certainly worth stopping at. Here we have to go for miles as yet until we can afford *this* standstill.

*

What is it? It is lightness and elegance, natural poise and freedom from the cramped and hamfisted contortions which pass here for individuality and imagination. Scandinavian architecture fits with grace into the old buildings which survived Russian bombing in Roenne on Bornholm—and even curtain walls there are free from that cast-ironness of their English counter-part—and modern blocks of flats live happily cheek by jowl with 19th century buildings. There is a happy absence of any self-consciousness and the non-architectural tourist may not even notice "modern" architecture, and so it should be. Good art must not scream at you.

*

During watch at night one's thoughts go on, why this deplorable gap? There may be many reasons. It is probably not lack



Just Not Good Enough

Piccadilly Circus, the heart of London, is known and loved (if largely by night) throughout the world, despite its ugliness. The property owners, or would-be owners, on the shabbier north and east sides are beginning to think about redeveloping the outworn sites, and with admirable foresight the LCC Planning Department has prepared two planning proposals on which to base negotiations with private developers. The third stage, left, of scheme A and of scheme B, above, by the LCC are shown here (for details, and plans of these schemes, see page 560). The most notable feature is the raising in height of the skyline to 130 ft. to the north and 160 ft. to the east. Now if postwar high density building has taught us anything, it has shown—as in the City—that a high, even skyline is disastrous for London. The answer (see Golden Lane housing, or the proposed New Zealand offices) is mixed, high-low development: low blocks in scale with old London, and towers to give contrast and good working conditions. In the proposed south block, in the scheme above, the LCC shows that this point is appreciated. But why cannot the principle be applied elsewhere? More serious still is the road engineers' approach to the traffic problem. If this is the solution proffered for smooth vehicular flow for the next century or so, it could hardly be more half-hearted. It is generally accepted that, in future, pedestrians and vehicles must be separated. This scheme attempts that, but not sufficiently wholeheartedly. The idea of upper-level pedestrian circulation—the only long-term answer to city centre congestion which has been discovered at present—which the LCC proposes here is excellent, but it does not go far enough. The success of upper-level pedestrian circulation depends on it being undertaken wholeheartedly and on a sufficiently large scale to attract, and keep, pedestrians at that level. The government, if it means to solve London's traffic problem, must help the LCC to persuade developers to take a long term, enlightened view on this.

of talent, there is plenty. It must be misguided talent and frustration.

*

Schools fostering individualistic expression at all cost from students who have nothing to express are run by teachers who have never expressed anything in their lives. Architecture is taught from books and magazines and intellectual preconceptions and there is still a premium on pictorial presentation. The European "professorial" system is being frowned upon, out of a fear that the brilliant architect must be a poor teacher, or alternatively would suppress individuality and create epigonies. As it is, students have nothing to look up to and in desperation take recourse to the "glossies." If we had the Rasmussens, the Jacobsens, or the Aaltos to teach, we might create a "School" based on experience of real building and "live" architecture need not be artificially introduced by mediocre architects.

*

Then frustration. It is perhaps no accident that the best contributions from British architects are made over-seas where no local councils and planning authorities interfere and clients perhaps have fewer preconceived ideas.

*

The clients? They are not always as bad as they are made out to be nor are they in Scandinavia necessarily so good, judging by the remarks overheard about some buildings we find so rewarding. Many a potentially good building in England was wanted by either appreciative clients or not interfered with by clients who simply wanted something good without knowing enough to prevent it. Good architecture is more often than not prevented by Committees consisting of sausage manufacturers and contractors and estate agents who hate architects.

*

And finally, a tendency, fostered by certain sections of the Press, to pursue intellectual riddles when visual imagination is all that matters.

*

Is there a cure?

Perhaps. Look at English tradition at its best when there was not so much "individualism," but a sense of civic harmony. Improve education by letting good architects teach and teachers be busy and successful architects. Remove ideas of misguided democracy from architectural education, by reducing drastically the number of places of training to a few truly "aristocratic" schools and attach these either to the finest universities or give them an equivalent status. Make membership of the RIBA a distinction, not a minimum qualification. And remove all control on design even if this would result in admitting occasionally a bad architect or builder. It could not possibly be worse than it is now and at least the good architect would have a chance—and perhaps be able to set a standard!

H. WERNER ROSENTHAL

A BRIGHT PROSPECT

GORDON RICKETTS, the present secretary for professional relations at the RIBA, has been appointed as Secretary of the Royal Institute and will take up his duties in July, 1959, on the retirement of C. D. Spragg. It is known that amongst the 200 or so applicants for this post there were a number of candidates with impeccable records and of considerable administrative experience, but it is fair to say that the selection committee were not just playing safe when they chose the devil they knew for this exacting and extremely important rôle of secretary to the Institute. Gordon Ricketts has already shown his ability to understand the issues which confront the architect and, particularly the assistant architect, in the mid-twentieth century; he has an immediately likeable personality, which is a great asset for a secretary; he is intelligent enough to realize that an enormous programme of overhaul in practically every sphere of building and architectural training and practice has to be carried out and reforms consolidated; and he is young enough to have the energy and powers of persuasion to get such a programme pushed through at the optimum rate.

On the other hand he is not so clever that he will get very far single-handed. It has become all too obvious in recent years that the RIBA and its system of committees is a relatively clumsy piece of machinery whose efficiency is dictated by the ability of the permanent officials. It is not necessarily a reflection on the present staff to say that more, skilled, assistance is still required to help solve some of the weighty conundrums that confront the Institute. It is good to see that Gordon Ricketts has six months while Mr. Spragg remains in office in which to make plans for the future administration of Portland Place. We are sure that architects everywhere will join with the JOURNAL in wishing him an enjoyable, if arduous, life at the Royal Institute, and good fortune in the work that lies before him.

THE PRESIDENTIAL TOUCH

Last week, President Basil Spence, with his customary good sense and flair for good public relations, held, for what is believed to be the first time, a press conference in which he explained to the architectural press the decisions taken by the Council at their last meeting. This is one of those imaginative actions typical of Basil Spence and the new era at Portland Place which he represents. A genuine attempt has been made to lift at least a corner of the largely superfluous curtain of secrecy which surrounds the RIBA and its committees. Nothing but good can come from the new policy.

KEEPING IT UNDER THEIR HAT

In the thirteenth Report of the Nuffield Foundation published today the announcement is made that "The collection and analysis of data on the design of research laboratories—the Division's second major research project—is now complete."

Remembering the fine work done by the Foundation on Hospital design, this is good news indeed. It prompts the question, however, "Why haven't these findings been published yet?" The Report, after all, was for the year ending March 31 last.

In fairness we must point out that a few of the findings have been published already: Musgrove and Petherbridge's "A Study of Laboratory Lighting," published in the Journal on September 5, 1957, formed part of the Foundation's study; and previously, in January of that year, Richard Llewellyn Davies read a paper summarizing interim results to the Royal Institute of Chemistry*. But there must surely be more to it than this.

We suspect that the answer, in broad terms, is that the findings are being published in a book, similar to the earlier book on hospitals, and that it is feared that publication of the meat in advance would steal the book's thunder. If so, we feel that this is a mistaken policy. Books take a notoriously long time to produce. The value of architectural research, on the other hand, is (other things being equal) in direct proportion to the speed with which it is made available. If it comes out only when a building programme is half complete, then the benefit which society can reap from it is much diminished. The Laboratory building programme is, of course, in full flood: it would be an immeasurable pity if most of our laboratories were to be built without the benefit of the advice of Richard Llewellyn Davies and his gifted team.

* Information Centre note, June 6, 1957.

NO SPENCES SPARED

It is possible that members of the RIBA will eventually question the wisdom of sending presidents on expensive overseas tours (with the secretary) to improve relations with allied societies. Among suggested alternatives are special courses and study programmes of Comonwealth problems, and even a Commonwealth Conference. But these would require a lot of preparation and, in the meantime, this year's tour cannot fail to be a huge success because the profession can't afford to waste the hot-gospelling talents of Basil Spence. Mr. Spence will be going to the opening of the South African architects' new headquarters, stopping on the way to see allied societies in East Africa, Rhodesia and Ghana. The cost has been budgeted for by the RIBA and the sour-natured may care to know that Mrs. Spence, who is going with her husband and the secretary, is not included in the budget. Those who know her will agree that the profession is fortunate to be so splendidly represented.

CROWDED OUT OR UP?

What is the answer to London's overcrowding? One answer is given on Charing Cross underground station, where an LCC exhibition urges the big business man to move his factory and workers to one of the expanded towns. Another answer is given at another exhibition, in County Hall, where the North East Development Group of the LCC Architects' Department shows post-war redevelopment, including slum clearance.

*

At the Charing Cross exhibition you enter a mock-up slum of realistic grisliness, move down a passage where flashing signs remind you of the nervous tension of irritating journeys to work, and finally reach a paradise of bright lights and fresh timbers where your taste buds are titillated by pictures of new factories and houses with gardens. This is a bit of well-produced propaganda, but is it sound propaganda to suggest that the house and garden in the expanded town is the only answer to the problem of overcrowding? I don't think so, and I hope a lot of people will nip over Hungerford Bridge to see the County Hall exhibition, which is the first of a regular series about current work by the LCC. The exhibition suffers from hurried preparation—and probably from lack of funds—but the layman will see an impressive picture of overall progress, even if he finds it a bit hard to follow.

PLANNING FEAT OFF THE GROUND

A two-dimensional plan at the County Hall exhibition (opposite page) shows that when the 40-acre Barbican site is complete, no pedestrian will be able to move at ground level—provided that the plan, with its system of overhead pedestrian ways, goes through unchanged. The overhead pedestrian circulation for the Route 11 area is to link up with a similar circulation system for the Barbican housing scheme being designed by Chamberlin, Powell and Bon. Route 11 has been built, and a lot depends on whether a pavement is now laid down on its north, or Barbican side. If pedestrians can get easily onto the ground level from Route 11, the pedestrian walks might be almost useless, and the whole conception compromised. The difficulties of introducing this scheme are immense: one problem is to persuade builders of new offices to put the front doors one storey up—to connect with pedestrian walks that don't yet exist. The same prob-

lem exists at Piccadilly Circus. In the Barbican, where the City is the ground landlord, the developers have been persuaded. But at Piccadilly, where the developers own the land, or hope to, they have rejected the idea of elevated walkways. There seems to be a moral here somewhere.

A WHIFF OF AMERICAN CULTURE

If the buildings of Colonial Williamsburg had been built in Britain we should regard them as very dull provincial work for their period. But they have an unrivalled place in the democratic conscience of the Western hemisphere, so ASTRAGAL is grateful for Marcus Whiffen's first volume of *The Public Buildings of Williamsburg* —which appears to be a work of deep and impeccable scholarship. Mr. Whiffen, who left us only a few years ago, has carved himself a probably permanent niche in the history of American culture. ASTRAGAL hopes it isn't too draughty up there.

HAM DISCUSSION

There were two remarkable things about the ICA's discussion on the Stirling/Gowan flats at Ham Common. No, I *don't* mean the Eric Lyons flats. If you don't know the later scheme it is time you did, because it has the devastating effect of making the Lyons flats—without whose precedent it would never have passed the planning boys—look almost pretty in comparison. As I was saying, there were two remarkable things about this discussion. The first was a round of applause for the client (*how* times have changed) asked for and obtained by chairman Reyner Banham. The second was the eternal spring—lush, dewy and sun-drenched —in which the flats had been photographed for colour slides. Where did anyone find weather like that in 1958?

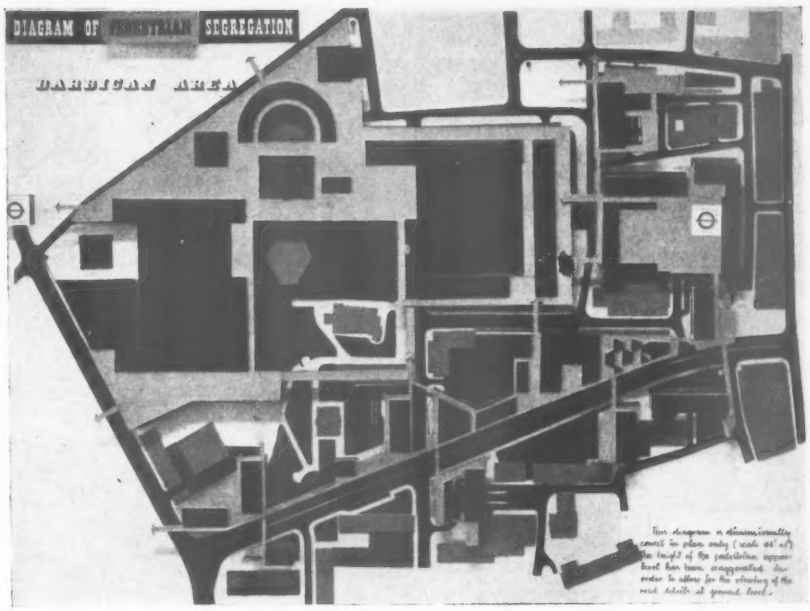


Diagram of the elevated pedestrian circulation system for the Barbican. The double-track road on the southern boundary is Route 11. See note on page 552.

*

James Stirling's illustrated description of the flats was followed by comments and criticisms given *ex cathedra*, so to speak, by Denys Lasdun. This arrangement was not very successful. Mr. Stirling made it clear what was done to conform to by-laws, what was done out of personal preference and what was the result of structural necessity. Only a mental jerk (not you, madam, sit down) could have taken us from this responsible exposition to Mr. Lasdun's generalized considerations of mental discipline and the relevance of Corbusier's Jaoul houses. The discussion was dull and niggling. The architecture, brutal though it may be, deserved less brutish treatment.

BACH GOES TO TOWN

A hundred and fifty years ago Chicago was a fort and an inn. When it

Basil Spence, left, the President of the RIBA, held last week the first of what is intended to be a regular series of conferences for the technical press. C. D. Spragg, who retires from the Secretaryship of the RIBA in July is seated with his back to the camera. The others, from left to right, are Don Avenell (Architecture and Building), *Theo Crosby* (Architectural Design), *Gordon R. Ricketts, who has been appointed Mr. Spragg's successor, George Mansell* (Architect and Building News) *and Robert McKown* (Official Architecture and Planning). *The representative of the AJ was too modest to be photographed.*

was burnt to the ground in 1871 it had a population of 300,000. Since then it has grown into one of the biggest metropolitan centres in the world. But it is a chaotic city. Daniel Burnham's plan, which has been largely the basis for redevelopment of the fine lake front, parks and roadways, was made over 50 years ago and has not been completed. Now Planning Commissioner Ira J. Bach has published the development plan for the central area. It looks pretty good—as good, that is to say, as realistic planning can be under the complex democratic conditions where federal and local government and private enterprise must combine together. Implementation is, of course, the test. Let us hope that Chicago won't really consist entirely of the clean Miesian slabs shown in a brochure about the scheme. The rugged slump-eroded contours of the Loop area and other parts of the City have grandeur, if not charm.

*

HANDICAPPED

An experimental workshop for the training of men hitherto considered unemployable was officially opened this week in St. Pancras by the LCC —after three months of unofficial existence which has already established the success of the experiment (started, one hears, in the teeth of heavy scepticism —if scepticism has teeth—at the Ministry of Labour).

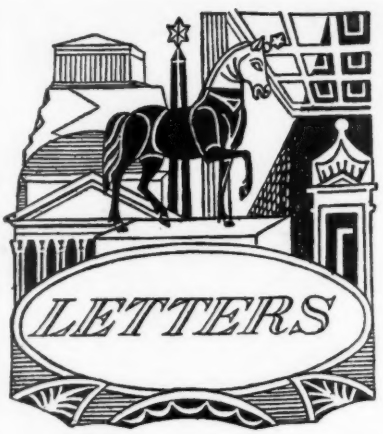
*

The workshop, consisting of a machine shop and assembly shop for woodwork and cabinet making, lavatories, and a parking place for invalid cars, has been fitted into the end of what must have been one of London's dreariest courtyards, enclosed by high walls of a neighbouring factory and the forbidding profile of a Victorian hotel. Using two of the existing walls, architects of the General Division (architect-in-charge, G. H. Trigg) have put a very simple, functional building into this space and given it a most friendly, open face.

*

Inside, brickwork, painted primrose, light blue and white, and series of rooflights running the length of the building in Portal frames, provide a very light, roomy workspace, where men disabled through war, illness or accident, some who have never worked before, are now training.

ASTRAGAL



Robin Darwin,
Principal, Royal College of Art

W. E. Chamberlain,
Chairman, Chamberlain group of Companies

Michael Wilkinson,
Student R.I.B.A.

O. W. Roskill

N. E. Hickin, Ph.D., B.Sc.,
Technical Director, Woodworm and Dry Rot Centre

Rev. W. John Davies
Vicar of Twickenham

Should Art and Architectural Schools Train Together?

SIR,—I have been shown a paragraph by ASTRAGAL in your issue of September 25 in which he appears to criticise art schools in general for continuing to include industrial design in their curriculum, and the Royal College of Art and the Central School of Arts and Crafts in particular for their failure to have any close connections with architecture. He ends by asking whether architects are "happy about buildings being equipped with the work of students from schools bursting with action paintings, stained glass and fashion design."

It would be easy to reply to this rather teasing paragraph in a like vein; but the subject is a serious and an interesting one, and I should like the opportunity to explain the attitude of this College towards it.

It is only fair to assume, I suppose, that ASTRAGAL, when speaking of industrial design, was referring to design for the furniture and engineering industries, and so it would be reasonable to restrict one's comments likewise. But I think, in passing, it is only right to point out that there are many other branches of design, which are no less industrial and hardly less important, although the architect may be less concerned with them. And I think, to use ASTRAGAL'S phrase, that "most progressive opinion" would recognize that students can gain great advantage from working in an institution where all are practised together. This is particularly true of a semi-post-graduate institution like the Royal College in which specialization is carried to an extreme and possibly dangerous point. There is almost greater mutual advantage to be gained all round by painters, sculptors and designers working together in the same place, and if there were architects there as well, it would be so much the better. Designers, painters, sculptors and architects are always it seems to me very different sorts of individuals but if they are interested and intelligent and yet remain tenaciously professional towards their own job, they can broaden their minds a great deal by mixing together in a commonly energetic atmosphere.

As regards the particular field of furniture and product design, to which I think ASTRAGAL refers, I would agree with him entirely, and so with the Bauhaus tradition which he quotes, that this has more to do with architecture than with the fine arts. This is another point altogether and the ordinary laymen may be forgiven for asking, if it be true, what action the architectural profession has taken towards accepting their responsibility. There are of course many crafts which have historically always been associated with art schools, and now that they have become highly specialized fields of industrial design it is natural that training for them should continue to be given by these institutions. But engineering and product design cannot be numbered among them and it is certainly most regrettable that architectural schools should hitherto have completely disregarded these subjects. It is, I think, a little ungenerous of ASTRAGAL to criticise art schools for attempting to fill the gap only too evidently left by his own profession. However, it is still not too late to mend. There are of course throughout the country a number of architectural schools attached to, or working in collaboration with, art schools, some of them recognized by the RIBA in respect of their own final examinations. These schools have a real opportunity, one might suppose, to make a contribution to the training of this particular kind of industrial designer, and I am sure that anyone who has an interest in the subject would wish them to accept the challenge.

May I make one further point? ASTRAGAL criticised the Royal College of Art (in inaccurate and slightly offensive terms in respect of the occasion) for having closed down its School of Architecture. I do not think he can have realized however that it is now half a century and more since that school had taught architecture in any real sense, if it ever can be said to have done so, and that it had long ceased to have any students of its own, or any compulsive and recognized connection with other schools and departments providing specialized training in other fields. In its place I established a School of Interior Design, staffed wholly by architects, whose deliberate intention it was to fill the gap left by architectural schools. Its remarkable success over the last five or six years, not only gives credit to that staff but has revealed the size and importance of the gap. This then is just another example of an art school trying to pull architectural chestnuts out of the fire.

Finally allow me to make two plain statements, that are in themselves incontrovertible and which reveal my own affection and respect for ASTRAGAL'S profession. The first is that a few years since I went as far as I was able, and indeed further, in offering upon quite equal terms the complete integration of the Royal College of Art, with a most famous school of architecture, which at that time was in temporary difficulties; I did so because I believed then as I do now that architecture, industrial design (in its widest sense), and the fine arts, must be more closely co-ordinated if we are to do justice to the talents of our generation. That offer still holds good and I earnestly hope that it will one day bear fruit, though I may not live to see it. The other fact that I would mention is that of the total

teaching staff of the Royal College of Art, including the painters, the stained glass designers, and the fashion mongers, all of whom ASTRAGAL anathematizes, no less than 15 per cent. today are architects. This compares with less than 7 per cent. when we had a co-called School of Architecture.

ROBIN DARWIN.

London.

The Developer

SIR,—With reference to your article under the above heading (AJ, September 11), in which John Carter, the author, finds himself unable to condemn the aesthetics, or at any rate the architectural merits of buildings produced by a "Developer," I should like to use the hospitality of your columns to help dispel further the mists of prejudice which tend to collect before the eyes of architects when such words as "package deal" or "developer" are used.

Firstly, it must be stated, not for the first time possibly, that some of the larger architectural offices in this country depend to a very considerable extent on their own astuteness in finding a developer to back their tentative schemes for a likely site. This, as many have learned is not unprofessional, surely it is business, and how many architects can afford not to be businessmen?

Secondly, the introduction of the "all-in service" to this country need not be as dangerous to the architectural profession as is widely thought and believed. It can be of inestimable value to the architect as well as to the client. Even though the development service may have its own architects department, the members of which in the main are fully qualified architects, this does not preclude the use of other architects at the client's wish and in many instances the developer himself will retain the services of architects in private practice.

Thirdly, where the architect has "*equal* standing in a team" designed to achieve the desired result, he has none the less the jurisdiction of design as his responsibility. This is no different surely from what many people have been urging for years—closer *co-operation* between consultants and contractors at the earliest stages?

Fourthly, it is not in a developer's interest to build without an architect or employ a bad architect. "The evil that men do live after them, the good is oft interred with their bones."

Finally, you publish in the same issue of the JOURNAL, illustrations and an account of the new hostel for the United Kingdom Atomic Energy Authority at Caithness. This is just such a case where the co-operation of the staff architect to the general contractor was invoked, presumably to the satisfaction of all concerned.

Though the use of architects in the employ of contractors has now become common and, therefore, acceptable, reluctantly perhaps, the employment of architects by a development service should be equally acceptable in the light of the recent report of the RIBA Special Practices Committee.

W. E. CHAMBERLAIN.

London.

John Carter writes (replying to Mr. Chamberlain and Mr. Samuels (AJ, 2.10.58): What I intended to suggest was first, that the advent of "developers" is a salutary reminder that more familiar procedures for putting up buildings are out of date. Secondly, that architects don't have a very significant place in such organizations because their training does not equip them for it. Thirdly, that what is considered important in training depends on what is considered important in architecture itself. For architects, technology and organization are subservient, for developers they are paramount. Is this opposition inescapable, or is it fallacious?

Flying Sculpture

SIR,—I was interested to read Patrick O'Keeffe's observations on "Not Quite Full Size" aeroplanes (AJ, September 18).

Having designed and built rubber-driven models, gliders, power models and rocket-propelled models, I can assure your readers that a good model aircraft must be commodious, firm and delightful (qualities which were not apparent in the biplane illustrated on page 399).

In a flying competition the qualities of commodity and firmness are most important but in a *concours d'elegance* contest delight comes to the fore and this is where the poor architect is baffled once more by lay opinion.

Earlier this year I entered such a contest with a new glider which I proudly imagined to be a piece of "functional abstract sculpture," imagine my horror when, after much deliberation, the panel of judges (all distinguished laymen, *i.e.*, a local civic leader, an Air Vice-Marshal, etc.,) awarded the prize to a monstrous spec. glider (see sketch).

MICHAEL WILKINSON.

Northampton.

Top, Michael Wilkinson's model glider; above, the prize-winning glider. See "Flying Sculpture."

Town Planning And Retail Trade

SIR,—I have just seen ASTRAGAL's remarks in your issue of September 18 regarding my paper to the Town & Country Planning Institute Summer School. He writes that I said that we should aim at "creating congestion in shopping centres as an indispensable condition for successful retail trading." This is not what I wrote (or said) which was:

"In some cases the town planner's problem is first to create congestion and then to know how to relieve it without by-passing the shopping centre or draining away its customers altogether."

The argument, as I see it, might be summarized on these lines:

Planning of shopping centres will not be successful if shoppers do not use the shops.

Shoppers have clearly shown that they like a certain amount of congestion (ASTRAGAL writes that I must be very hard to please if traffic congestion is not yet bad enough to satisfy me, but I did not say traffic congestion). There is a connection between the turnover of shops and the number of persons passing by on the pavement in front of them. Even though it is not a simple connection, though other factors are involved, and though it varies for different types of shop, it is broadly true to say that the more people on the pavement the higher the turnover of the shops. Conversely the shopping public do not show aversion to crowded pavements by seeking out and patronizing shops in quiet streets.

It is difficult, though not impossible, to get crowded pavements without traffic congestion in the streets. Shopkeepers are well aware of this and, for example, have had occasion to oppose proposals for removing buses from main shopping thoroughfares, The shopping public will not walk far from their bus stop or car park and it is one job of town planning to get these as close as possible to the shops.

If plans for a new shopping centre provide, for example, for shops on either side of wide dual carriageways there will be insufficient congestion to attract shoppers who still have the freedom to go elsewhere and have been known to use it. The widespread scepticism of shopkeepers regarding precincts probably stems from the same reasoning. (As indicated by ASTRAGAL I put forward the view, somewhat cautiously, that the shopkeepers who oppose precincts may be wrong and if they are well planned as regards bus stops, car parks and other traffic facilities that it will prove possible to attract shoppers to them. I should, however, describe the results to date as inconclusive).

Finally, ASTRAGAL describes me (in "quotes") as an "expert adviser" on shops and shopping. I have never described myself in this way and I share with, probably, many of your readers the same suspicions of those who claim expertise.

O. W. ROSKILL.

London.

Dangerous Timber Pest

SIR,—Active attack by House Longhorn (*Hylotrupes bajulus*) has been confirmed in roof timbers of several properties in Ashford, Middlesex, and technical experts from the Woodworm and Dry Rot Centre were asked to report on the extent of the infestations.

House Longhorn has been a serious problem in Surrey for many years, but these are the first reported infestations by this dangerous woodboring beetle in the Middlesex area. So heavy is the damage caused by this pest that Staines Urban District Council issued a warning to all householders in the district and alerted neighbouring Local Authorities.

Any marked increase in House Longhorn attack *in any part of the country* could be serious for property owners. Our laboratories have carried out considerable research into this problem, and in view of the possibility of the appearance of this timber pest elsewhere in the country I should be grateful to any architect or surveyor who may find evidence of House Longhorn infestation in structural timbers, if they would let me have the details.

In cases of doubt I should be only too willing to give a check identification of specimens.

N. E. HICKIN.

London.

Twickenham's Fate

SIR,—I have read with much interest and instruction the very comprehensive and well-illustrated article in the ARCHITECTS' JOURNAL for August 21 on the plans for the development of Twickenham's Church Street and river frontage.

It begins by stating what should be obvious (but quite possibly may not be) to all discerning folk—that this area is the last small piece of Twickenham bearing any semblance to the Twickenham of long ago. It pleads for sympathetic and imaginative treatment. Whether this will be its fate at the hands of the "experts" is a matter of considerable debate.

One of the dangers in being an "expert" in anything may be that one is living "too close to the canvas." The reactions and opinions of the non-technical observer like the intelligent "man in the street" is always worthy of proper consideration.

In connection with these plans, one of the principles the ordinary folk have long realized is that the historical, cultural and architectural centre of this part of Twickenham in dispute is the mediæval tower of the Parish Church. The idea of the ancient builders like William of Wykeham was the Church of the Parish should stand architecturally as well as theologically the focal point of the community.

I am more than disappointed not to find this feature in the article—particularly since both the Borough Council's plan and the County Council's plan represent a genuine effort to open up the view of the Church from the river. It may be of interest to note that Champion's Wharf has been in existence but 63 years and if the prints of 18th-century Twickenham are studied this plot was an open space.

I am nonplussed at the Ratepayers' Association's sponsoring of the part of Mr. Lock's plan which envisages a building "on stilts" in place of this wharf. Is Twickenham so impoverished for building space that it has to resort to methods employed by Pacific natives?

One further point that calls for criticism on behalf of (what this article calls) "misguided residents." The river is indeed a "hive of activity"—and has been recently known to offer ear-splitting hours of boat riveting at night. The upper reaches of the Thames are always referred to as amenities and were never meant to house activities that might properly be carried on elsewhere.

W. JOHN DAVIES.

Twickenham.

DIARY

Progress in Hospital Planning. Talk by R. Llewelyn Davies and John Weeks. At the RIBA, 66, Portland Place, W.1. 6 p.m.
OCTOBER 16

Architects' Christian Union. Informal reception at the RIBA, 66, Portland Place, W.1. Guest speaker: the Rt. Rev. Hugh R. Gough, Bishop of Barking, 6.30 p.m.
OCTOBER 16

Inigo Jones and the Restoration of St. Paul's, 1635-1642. Talk by Canon W. M. Atkins. Library Group meeting at the RIBA, 66, Portland Place, W.1. 6 p.m.
OCTOBER 20

The Organization of Mechanical Plant for Building Contracts. Six weekly lectures by G. A. Roberts. At the Brixton School of Building, Ferndale Road, S.W.4. 6.30 p.m. Fee for the course, £1. Applications to the Secretary, Brixton School of Building.
FIRST LECTURE OCTOBER 21

Modular Assembly. Modular Society Exhibition at 27-28, Albert Embankment, S.E.11. Monday to Friday, 10.30 a.m.-6.30 p.m.
UNTIL SHORTLY BEFORE CHRISTMAS

RIBA

Gordon Ricketts To Succeed C. D. Spragg

Gordon Ricketts, M.A., who is at present Secretary for Professional Relations, has been appointed as the new Secretary for the Royal Institute. He will take up his duties in July, 1959, on the retirement of Mr. C. D. Spragg, C.B.E.

Mr. Ricketts was educated at St. Lawrence College, Ramsgate, and Keble College, Oxford, where he graduated with Honours in English Language and Literature. For a short period before the war he was a schoolmaster while waiting to go up to Oxford. He served in the Royal Air Force from 1940 to 1946, first on loan to the United States Navy as a flying boat pilot in the Gulf of Mexico, and later as a flying instructor in the Oxford University Air Squadron. He was released with the rank of Flight Lieutenant. From 1948 to 1951 he served in administrative positions on the staff of the Federation of British Industries. From 1951 to 1956 he was Appointed Secretary at the University of Nottingham.

Special General Meeting

The Special General Meeting to report on the Review of the Constitution has been fixed for Tuesday, January 6, 1959, immediately after the Prizes Deed of Award.

African Tour

The Council have approved the acceptance by the President and Secretary of the enthusiastic invitation extended to them by the Institute of South African Architects to be present at the opening ceremony of the new Headquarters building of the Institute of South African Architects in Johannesburg, at the end of March, 1959, and also to visit the other centres in South Africa. The President will be accompanied by Mrs. Spence, and will take the opportunity of visiting the other Allied Societies in East Africa, Rhodesia and Ghana, from whom warm invitations have been received.

Students' Liaison

Professor R. J. Gardner-Medwin has agreed to act as Liaison Officer between the British Architectural Students' Association and the RIBA Council.

Bronze Medals

The RIBA has approved the awards of the Juries for the following Bronze Medals for 1954-1957:

Devon and Cornwall Society of Architects: Woodford County Primary School, Plympton, designed by R. N. Guy, County Architect, Devon County Council.

Norfolk and Norwich Association of Architects: Housing group at Gillingham for Loddon Rural District Council, designed by Tayler and Green (Herbert Tayler and David John Green).

Northern Architectural Association: St. Cuthbert's Church, Peterlee, designed by Cordingley and McIntyre (Donald McIntyre and Matthew Hayton).

Suffolk Association of Architects: Castle Hill Congregational Church, Ipswich, designed by Johns, Slater and Haward (Martin J. Slater and Birkin Haward).

Cost Control

A weekend conference on methods of cost control, arranged by the Cost Research Committee of the RIBA, is to be held at the Adult Education College, Missenden Abbey, Great Missenden, Bucks., from the evening of Thursday, January 15, to Sunday, January 18, 1959. The Chairman of the conference will be R. Baden Hellard; the Warden of the College, G. Talbot Griffith, and the Deputy Warden, Miss I. K. Oades, will take the Chair at some of the sessions. The speakers at the conference and their subjects will be as follows:

THURSDAY, JANUARY 15. *The architectural profession in relation to the national economy and world conditions:* Professor J. V. Connolly (Director of Sundridge Park Management Centre).

FRIDAY, JANUARY 16 (Morning). *Techniques and methods of cost control. Part I—The architect's role:* S. A. W. Johnson-Marshall (Robert Matthew and Johnson-Marshall); *Part II—The quantity surveyor's role:* J. Nisbet (Principal Quantity Surveyor, MOE). Afternoon. *Cost planning. Detailed approach and alternative working-out of techniques. Part I:* Clifford Nott and R. J. Whitley (Herts C.C.); *Part II:* two speakers to be arranged by the RICS.

SATURDAY, JANUARY 17 (Morning). *Cost analysis and its application to cost planning and cost control techniques:* Cyril Sweett (Chairman, RICS Cost Research Panel). *Research, cost planning and cost control:* W. J. Reiners (BRS, Building Operations Research Unit). (Afternoon). *The architect's responsibility for programming and contract planning:* A. W. Cleeve Barr (MOE). (Evening). *The importance of communications in cost control:* A. C. Leyton (Organizer of Liberal Studies, Northampton College of Advanced Technology).

SUNDAY, JANUARY 18 (Morning). *The effect of the design process at the tender stage and before operations commence:* E. J. Cook (Richard Costain Ltd.). *Summing up:* the chairman.

Several Allied Societies within reach of Great Missenden have been invited to send representatives. In addition, residential places are open to individuals and there will be additional places for non-residents.

The charge for the weekend will be £10 to cover meals and accommodation at Missenden Abbey and the set of conference papers. This sum also covers the cost of organizing the conference so that it will be self-supporting. The charge for non-residents, to include meals other than breakfast, will be £7. Applicants are asked to write to the Secretary of the Cost Research Committee at the RIBA, 66, Portland Place, W.1, giving details of

their age, professional or other qualifications, where they work and in what capacity and what, if any, experience they have had in the application of cost control methods, and saying whether they will require a residential or non-residential place. Applications should be sent in not later than November 1, 1958.

COID

"Elegant Design" Prize

The Council of the CoID anonunces the establishment of the Duke of Edinburgh's Prize for Elegant Design, an annual award for "a contemporary design in current production distinguished by its elegance." Only products shown in The Design Centre are to be eligible. The award was instituted on the initiative and through the generosity of the Duke.

The conditions (writes a correspondent) are unusual, and open to considerable criticism. In the first place, the field is unlimited, which raises the old problem of trying to decide whether this teaspoon is more "elegant" than that motor scooter. In the second, the test for the award is not good design but "elegance." The definition of "elegant" in the Concise Oxford Dictionary is: "(of movements, style, author, manners) graceful; tasteful; refined; (of modes of life, etc.) of refined luxury; (vulg.) excellent; (n) person with pretensions to taste and fashion. Hence or cogn. elegance." One can only presume that "elegance" is intended to mean something more "precious" than good design: something "with pretensions to taste and fashion," perhaps.

The winning design is to be chosen by an independent panel of four judges appointed at the invitation of the Duke of Edinburgh. The Duke or his nominee will act as chairman of the panel. The rest of the panel is to consist normally of two men and two women, one man and one woman retiring each year, and no member other than the Chairman serving for more than two years. If, as this suggests, the Duke may personally chair the panel, is it not going to be rather difficult for the other members of the panel to disagree with so august a personage, who inaugurated the competition and is providing the prizes.

The first members of the panel, to choose the 1959 award from the products exhibited during 1958, are to be Lady Casson, Miss Audrey Withers, Basil Spence and Sir John Summerson.

The prize is to be given personally to the designer of the chosen product—an excellent decision. But where more than one designer is concerned, the manufacturer is to be asked to nominate the one who, in his opinion, has contributed most to its success—a bad decision, for how can one split up a team or a partnership and give the prize to only one member? How can one say who contributed most? The prize is to "take whatever form the winning designer chooses" provided it costs no more than £100 and can carry a suitable inscription. But, apparently, the prize itself must be specially designed: "the prizewinner may either design the Prize himself or commission another designer to do so" and the CoID will arrange for its manufacture.

MOHLG

20,661 Houses in August

The number of permanent houses completed in Great Britain during August was 20,661, compared with 23,372 in August, 1957. In the first eight months of 1958, 177,791 permanent houses were completed, compared with 200,187 in the same period of 1957. Of these 97,597 were by public authorities.

LGAS

For Architects Only

The Provisional Executive Committee of the Local Government Architects' Society has decided that, in the first instance, membership of the Society should be restricted to chartered architects and registered architects in salaried employment with local government authorities, statutory bodies and public authorities. This decision was taken on the recommendation of the membership sub-committee. It means that, as yet, students and unqualified people in architects' departments are ineligible. It was also decided that "the Society should be controlled by a General Council part of which is to be elected nationally and part regionally, and an Executive Committee, elected from, and by, the General Council." The negotiations sub-committee reported progress in connection with their investigation into architects' salaries and conditions, and is making arrangements to meet the heads of other societies and associations.

There are now more than 1,000 members of the Society. The Executive Committee has decided to ask all offices employing architects to send a representative to the next general meeting (to be held within about six months of the inaugural meeting on July 4, 1958) at which only representatives from offices having members in the Society can be delegates with voting powers.

The Executive Committee hopes that the number of members will continue to rise, and all architects working for local authorities, statutory bodies and public authorities who are not already members are asked to obtain application forms from their nearest local representative, or from A. Goss, assistant secretary (registrations), Local Government Architects' Society, 5, Beatty Lane, Basildon, Essex.

RICS

New Secretary

The Council of The Royal Institution of Chartered Surveyors have appointed Rear-Admiral P. W. Burnett to be Secretary of the Institution in succession to Sir Alexander Killick, who will reach retiring age next spring. Rear-Admiral Burnett will assume the appointment on April 1, 1959, but he will begin taking over the duties in the New Year.

NUFFIELD TRUST'S NEW PROJECT

Housing Research Under Prof. Robert H. Matthew

The Nuffield Foundation is to make a grant of £30,000 over five years for research into domestic housing, to be carried out by a research team in the University of Edinburgh Department of Architecture under Professor Robert H. Matthew. This is announced in the Nuffield Foundation for 1957-58, published today, which says:

"Little advanced research into architectural problems has been done in Britain. Architectural practice has gone beyond the principles taught in the school; nevertheless, the progress made in recent years in the architect's approach to planning and design and in the techniques and organization of building has been disappointingly slow. The practical value of organized investigation into problems of function and design of special kinds of buildings has been shown in the past few years by the work on schools, first promoted by the Ministry of Education, and that on hospitals, sponsored by the Nuffield Provincial Hospitals Trust. Indeed, apart from the work of these two special groups aided by the Building Research Station, very little serious architectural research is being done in this country. The Foundation believes that it is now urgently necessary for universities to take up such studies.

"The University of Edinburgh, which has an architectural honours degree course, now intends to create a postgraduate department of architecture under Professor R. H. Matthew, and it is hoped that it will play an important part in the development of teaching and practice. The department will be the first of its kind in the country. The first subject of research will be domestic housing.

"In recent years little research into housing has been done by any university department of architecture in this country. The opportunities of doing work of practical value are immense, for though millions of houses have been built since the war to make up the shortages, we are moving into the age in which millions more will have to be built to replace the obsolescent houses built in the great urban development of the nineteenth century. During the past 25 years there has been little significant advance in the technique of planning individual dwellings or of grouping dwellings in relation to one another. The active housing agencies, however enlightened, are so heavily committed to the day-to-day problems of production that they have little opportunity for objective study and analysis. The Building Research Station, having completed some years of study on the problems of educational buildings, is now about to apply its efforts to the many-sided scientific problems of housing. Professor Matthew's project will attack the problem from the architectural side.

Two "live" experiments in the planning of individual dwellings in their grouping are to be undertaken by Professor Matthew. The department will be concerned with a rural group of 50-75 low-density houses to be built by the East Lothian County Council, and a high-density housing group comprising a larger number of dwellings to be built by the New Town Corporation of Cumbernauld. The two projects are complementary and will be carried out in parallel so that comparisons may be made. The work has the support of the Department of Health for Scotland, which is responsible for housing.

"The first year's study will be devoted mainly to the assembling of basic data. During the second year preliminary work will be done on both projects. The third and fourth years will see the development of the projects in the field; and the fifth year will be devoted to the assembly, evaluation, and publication of the results. The research team will consist of a group of workers under the guidance of a senior research architect and will include a sociologist and a quantity surveyor. The team will be helped by other departments in the university. A third of the total cost of the project, which will be over £60,000, will be borne by the university. The Foundation has offered a grant of £30,000 over five years on the assumption that the remainder will be provided by the Department of Scientific and Industrial research and the Carnegie Trust for the Universities of Scotland."

The report also announces a grant of £3,500 to John Mogey, lecturer in sociology at the University of Oxford, for a study of a new rural housing estate near Oxford.

On the work of the Division for Architectural Studies the report says that the collection and analysis of data on the design of research laboratories is now complete. Con-

clusions from the research, which point towards a new approach to laboratory design, are embodied in an experimental building designed by the Division for the Agricultural Research Council's animal research unit at Cambridge. Building will begin later this year. One of the most important conclusions is that laboratory rooms should be of considerably greater depth than has been customary in the past. Services are best distributed from the corridor on service spines or cross-walls at right angles to the outside wall of the building. Laboratories planned on these lines, with movable benching, will be shown to be more economical and flexible in use than the majority of this built according to current designs.

Two halls of residence, designed by the Division, for the Imperial College of Tropical Agriculture, Trinidad, are in occupation, and the building of new dining hall and kitchens has begun. Studies are now being made of the new halls of residence in use.

HC

Annual Report

In its report for 1957-58 the Housing Centre says: "there is a feeling growing that the present subsidy arrangements and the difficulties of comprehensive development procedure are leading to the omission of all those things which are going to rehabilitate blighted areas as a whole. Cheese-paring in planting, in the provision of children's playgrounds and in car parking space are all cases in point." Urban renewal, slum clearance, redevelopment and reconditioning will, it says, remain the main theme of the Centre's work.

YORK INSTITUTE

Churches Inspection Conference

A Churches Inspection Conference was held from September 23 to 26 by the York Institute of Architectural Study, in association with the Central Council for the Care of Churches and the Ecclesiastical Architects' and Surveyors' Association. It was attended by some 120 people of whom just over 100 were architects and the remainder representatives of the dioceses. Professor Geoffrey Webb, representing the SPAB, presided. The object of the Conference was to iron out any difficulties that may have arisen in the running of the Inspection of Churches Measure 1955.

In the summing up, C. B. Martindale (in the Chair) pointed out that the Inspection of Churches Measure having been in force for three years, it would seem to be a pity if the members left York without putting on record their thoughts and conclusions after three days of study and discussion, bearing in mind the warning that any such conclusions must be regarded as expressions of opinion only, either corporate or individual.

Robert Potter spoke of the desirability of requiring architects to include photographs and drawings with Inspection Reports, although it should be clearly understood that this was not called for under the Measure, and could not reasonably be asked without an extension of the fee. Mr. Potter then proposed "that this Conference supports the RIBA and CCCC proposal marked A.5 in the RIBA letter No. D364/58* relating to measured drawings, photographs and specifications." This was carried nem. con.

G. G. Pace, who spoke on fees, said the fact had emerged that there was very little hope of amending the fees agreed for the first quinquennial inspection, and hoped that efforts would be concentrated on those for subsequent inspections. He proposed: "That since there is widespread evidence that the fees for inspections and reports now laid down in many diocesan schemes are insufficient to permit the architect to do the work required without loss, it will be in the long term interests of all concerned that these fees should be reviewed. Either the RIBA's recommendation with regard to the adoption of a time basis, or the alternative method of a calculation based on the size and complexity of the church, should be considered."

This resolution was also carried nem. con.

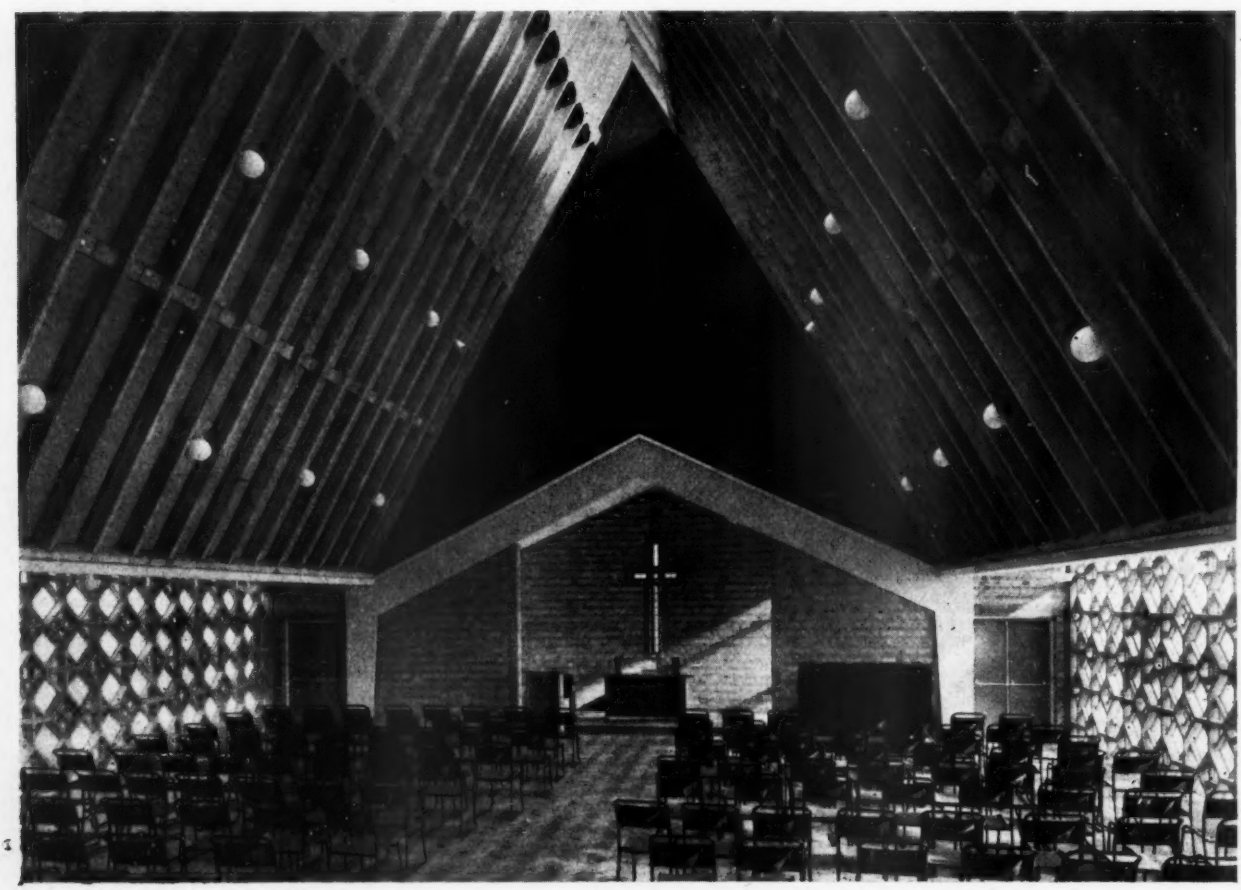
A. D. R. Caroe then spoke about the letter of appointment which the RIBA draft proposed should be exchanged between architect and client. He proposed: "That it is desirable that each church inspection under the Measure should be based upon some document of appointment which sets out clearly and fairly the duties and responsibilities assumed by the architect in presenting such a report, on the lines of the RIBA letter No. D364/58, paras. A.1-4." This, too, was carried nem. con.

Finally, the Conference passed unanimously the following resolution moved by L. H. Bond.

"That the Conference feels that continuity in the professional supervision of repair work envisaged under the Inspection of Churches

*This letter was published in the *RIBA Journal* for August, 1958.

The Congregational Church, Ipswich, by Johns, Slater and Haward, has been awarded an RIBA Bronze Medal. See page 556.



Measure is of great value. It is therefore strongly urged, as being desirable in the interests of the scheme, that the architect inspecting the church should supervise the repairs, and that this point should be conveyed very clearly to the parishes concerned. It is appreciated that under certain schemes this may be impracticable."

HISTORIANS SOCIETY

First AGM

The first annual general meeting of the Society of Architectural Historians, Great Britain, was held at its headquarters, the York Institute of Architectural Study on Saturday afternoon, August 30.

The society has now some 120 members and the committee were greatly encouraged by the fact that one-third of these attended the meeting. Dr. W. A. Singleton, Director of the York Institute of Architectural Study, presided at the early part of the meeting. He welcomed members of the Society and particularly Professor Henry-Russell Hitchcock and Mr. and Mrs. Jones from America. He then spoke shortly about the rapid development of the society and the solid achievement that lay behind it. Before dealing with the formal business of the meeting, messages of good wishes from Professor Walter Creese, the president of the American Society of Historians and Professor T. Howarth of Toronto, were then read. Acting Hon. Treasurer, Dr. D. Buttle and Acting Hon. Secretary, Frank I. Jenkins gave their reports both of which showed a very sound and healthy position. The constitution was unanimously adopted and the following officers were elected for the ensuing year:

President: Professor R. A. Cordingley. *Chairman:* Dr. William A. Singleton. *Hon. Secretary:* Frank I. Jenkins. *Hon. Treasurer:* Dr. D. Buttle. *Editor of* Architectural History: John P. West-Taylor. *Executive Committee:* Bruce Allsopp, John Brandon-Jones, F. F. Fielden, Dr. J. Quentin Hughes, Dr. P. Murray, R. B. Wragg.

Before handing the meeting over to the newly elected President, Professor R. A. Cordingley, Dr. Singleton referred to the Society's publication *Architectural History*, a few advance copies of which were available for members at the meeting. A publication of the standard displayed had been made possible by the very generous help of the Council of King's College, Newcastle, and its Rector, Dr. Bosenquet.

Professor Cordingley then took the chair for the rest of the meeting and after thanking the society for its gesture in electing him the first President, he expressed great optimism in its future. He then introduced Professor Geoffrey Webb, who gave the annual address. Professor Webb spoke on the "History of Architectural History" and it was evident that members enjoyed his contribution.

The day's meeting ended with a dinner attended by 34 people in the historic Merchant Taylors Hall in York, which is ideally suited for such a function. During the dinner Professor Henry-Russell Hitchcock offered to the society an annual book award in the form of a wedgwood plaque, similar to the one he has made available to the American Society. This generous award, which Professor Cordingley was happy to receive on behalf of the society, is in memory of Professor Hitchcock's mother, and is to be called the Alice Davis Hitchcock Memorial Award, and it is to be hoped that arrangements may be made for the first one to be awarded next year. An Award Committee will be set up and the details will be announced in due course.

The meeting of the society continued the following day, Sunday, with four papers presented by members of the society as follows:

In the morning, John Gloag spoke on "Architecture and Technology: the development of the domestic window"; and Dr. S. Lang spoke on "A Problem of the Italian Renaissance." After lunch, Dr. Peter Murray and Professor Henry-Russell Hitchcock gave papers on "The Æsthetic Theory of Robert Adam" and "The Early Work of Gaudi" respectively. Indeed, judging by the questions and discussions following these four papers which were of a high order, the efforts of the lecturers were greatly appreciated by the members and it must be recorded that each lecturer had gone to a very great deal of trouble to present an interesting and unusual paper.

The weekend meetings ended at tea-time with Professor Cordingley's closing remarks.

During the course of the weekend meetings, an exhibition of drawings and documents relating to a history of railway architecture in Great Britain were on view at the York Institute of Architectural Study.

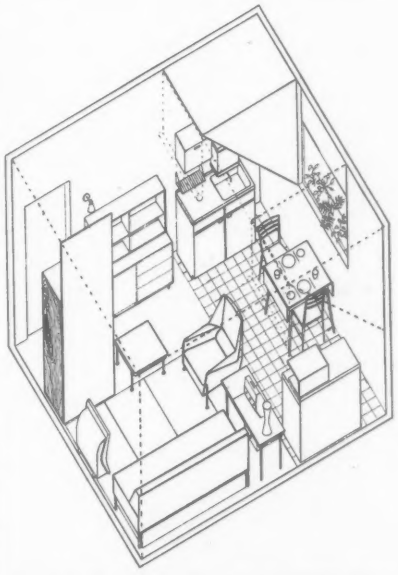
ONE ROOM LIVING AT THE COID

Unrealistic Approach to a Real Problem

The "One Room Living" exhibition at the Design Centre, showing until November 1, is a room scheme designed by Cynthia Wickham around objects which are all currently on sale. The special difficulties attendant upon living in one room are a pressing problem for very many single people and couples, so the choice of theme was an enterprising one. But, as always, with exhibitions at the Design Centre, there is the heavy emphasis on objects which can be bought in the shops with (as here) less than a modicum of new ideas. One wonders when the Design Centre will have the courage (or freedom from commercial pressures) to show exhibition interiors which are good overall design and not merely collections of objects for the buying public.

As stated in the press handout to the exhibition "the room has not been furnished on a tight budget, for it was felt that shortage of space rather than money was the first consideration." This is a debatable assumption, and probably only a straightforward reflection of conditions at the Centre, and so one's clearest impression of this exhibition is that there are far too many objects in too small a space. And who, of those who are compelled to live in one room, can spend £300 on its furnishing? This space was clearly too small to subdivide yet further with pinoleum blinds and a floor-to-ceiling screen as was done here. Rather than producing an additional feeling of space it contributed towards a feeling of claustrophobia and confusion. Surely the essential qualities of a single multi-purpose space, if consciously designed, should be unity of style and simplicity, and the room must, if it is to be a home, contain at least one memorable beautiful object expressing the personal taste of the owner, but here all is diversity and mediocrity, impersonal clutter (one wonders why there are no books) and no single object which one can remember with pleasure.

PETER WHITELEY



Above, isometric sketch of the COID's living room for one person: the dimensions are those of an actual room in Kensington. Below, the furnished room. The blind, when lowered, separates the living part of the room from the only window. (The window on the left is to enable the public to see the exhibit).

PICCADILLY REDEVELOPMENT PLAN

LCC's Proposals

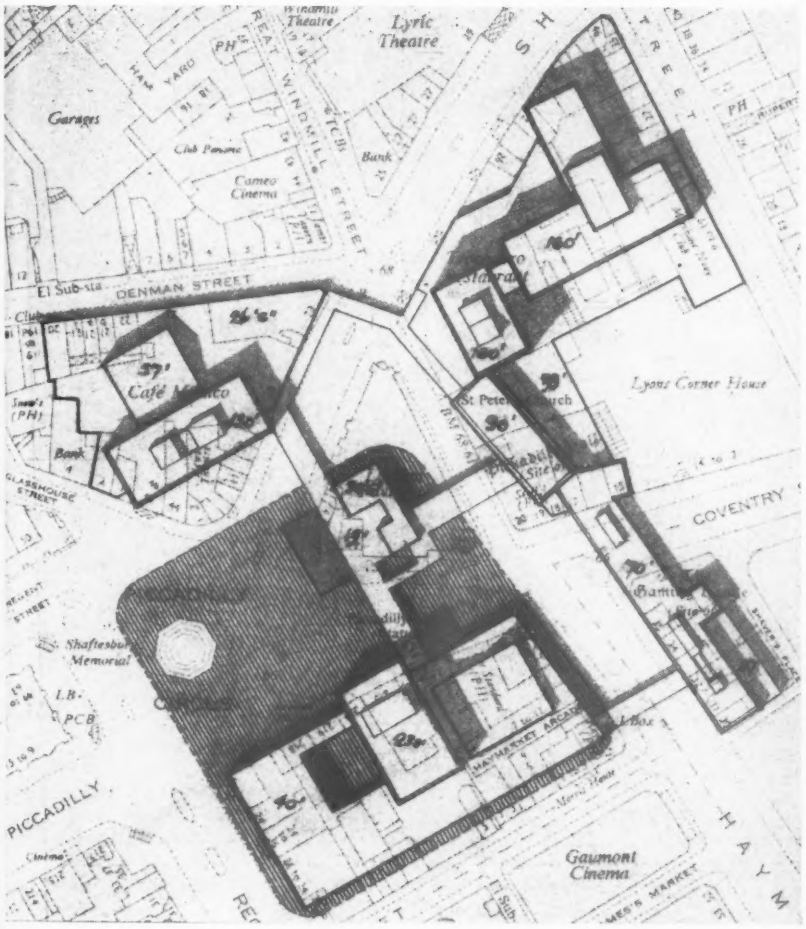
The photographs and plans on this page and on the frontispiece illustrate two alternative but basically similar proposals for the ultimate redevelopment of Piccadilly Circus prepared by the LCC Town Planning Committee as a basis for negotiation with private developers. It is emphasized that these proposals are still very flexible and tentative: they are bound to change in the course of negotiations with developers, and have not yet been considered by the Council itself. The new buildings shown in the models represent the present stage of the thinking of the LCC's Architects' Department, not the architectural form that the buildings will finally take. A three-stage road improvement scheme will transform the present tight traffic merry-go-round, with an unapproachable Eros at the centre, into a large rectangular city square, with a system of pedestrian walkways and bridges to separate the pedestrians from the traffic and give them access to the central concourse. There would also be pedestrian circulation on pavements at ground level.

The first stage of the road scheme, which may be completed by 1965, is to set back the roadway on the Monico site on the north of the Circus. Outline planning permission has already been given for the erection of a 130-ft. building on this site. In the second stage the London Pavilion site, the only one owned by the LCC, will be cleared and the central island enlarged, but otherwise the road pattern would remain as it is. The photograph on this page shows scheme B at the second stage. In the third stage, illustrated on plan, the roadway between the Criterion site and the centre of the Circus disappears, and traffic circulates through a widened Jermyn Street to the south. No dates have been assigned to the second and third stages, both of which still appear to be provisional. The alternative LCC proposals have an identical road pattern and differ in two main respects. In Scheme A there is a 230-ft. skyscraper on the central island, on what is now the Criterion site; in Scheme B this building which, it is suggested, should be for an hotel and other uses, is only 100 ft. high. No town planning application has reached the LCC for this site. In Scheme B a building will span Coventry Street where it joins Haymarket, and in Scheme A this is omitted. In general Scheme B envisages a much greater variety in the height of buildings than does Scheme A.

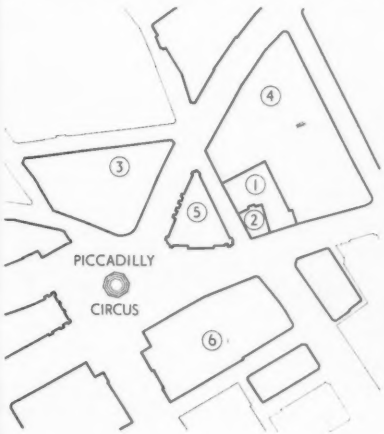
In both schemes an important feature of the square (one hopes it will not be called "Piccadilly Square") is a building described as a pierhead, because it is approached by bridges or piers from the pedestrian walkways that are to be incorporated in the new buildings at first-storey level. It has been suggested that escalators should take pedestrians from an enlarged tube station concourse below ground level to the walkways. Eros remains in its present position. To the east of the square outline planning approval has already been given to J. Lyons Ltd. for a building 160 ft. high for hotel and other purposes on the Trocadero site, with a plot ratio of 6·8 to 1.

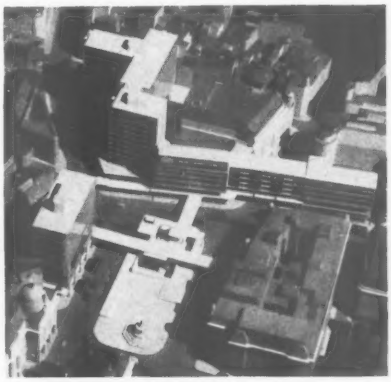
The LCC's proposals were published last week after they had been presented to a public enquiry held by an inspector of the Ministry of Housing and Local Government into an appeal against the LCC's failure to give a decision on an application, by T. P. Bennett and Son, to develop the St. Peter's Church site between Great Windmill Street and Coventry Street (part of the area for which an outline permission has been given to Lyons). The LCC's objection to this application is that it would prejudice the comprehensive redevelopment of Piccadilly Circus. Counsel for the LCC said that to allow the appeal would mean that a decision determining the shape and character of the Circus would have been given before a comprehensive redevelopment plan had been settled.

The problem facing the LCC in this and similar areas is a formidable one. The ideal way to organize comprehensive development would be to purchase the entire area compulsorily and make it a Comprehensive Development Area. This would cost an immense sum of money, and it is more than doubtful whether compulsory purchase orders would be confirmed. Unless it is prepared to pay compensation the LCC cannot restrain developers from building the maximum floor space to which they are legally entitled on each site. The future of the LCC's proposals is very uncertain, for it was stated at the public enquiry that the developers concerned have not accepted the principle of elevated walkways.



Top: Piccadilly Circus at the third stage of scheme B: figures show height in feet. Below, left, the sites referred to: 1, the site concerned in the appeal, 2, Scott's restaurant, 3, the Monico block, 4, the Trocadero, 5, London Pavilion, 6, the Criterion. Below right, scheme B at the end of the second stage. The road pattern is identical in scheme A.





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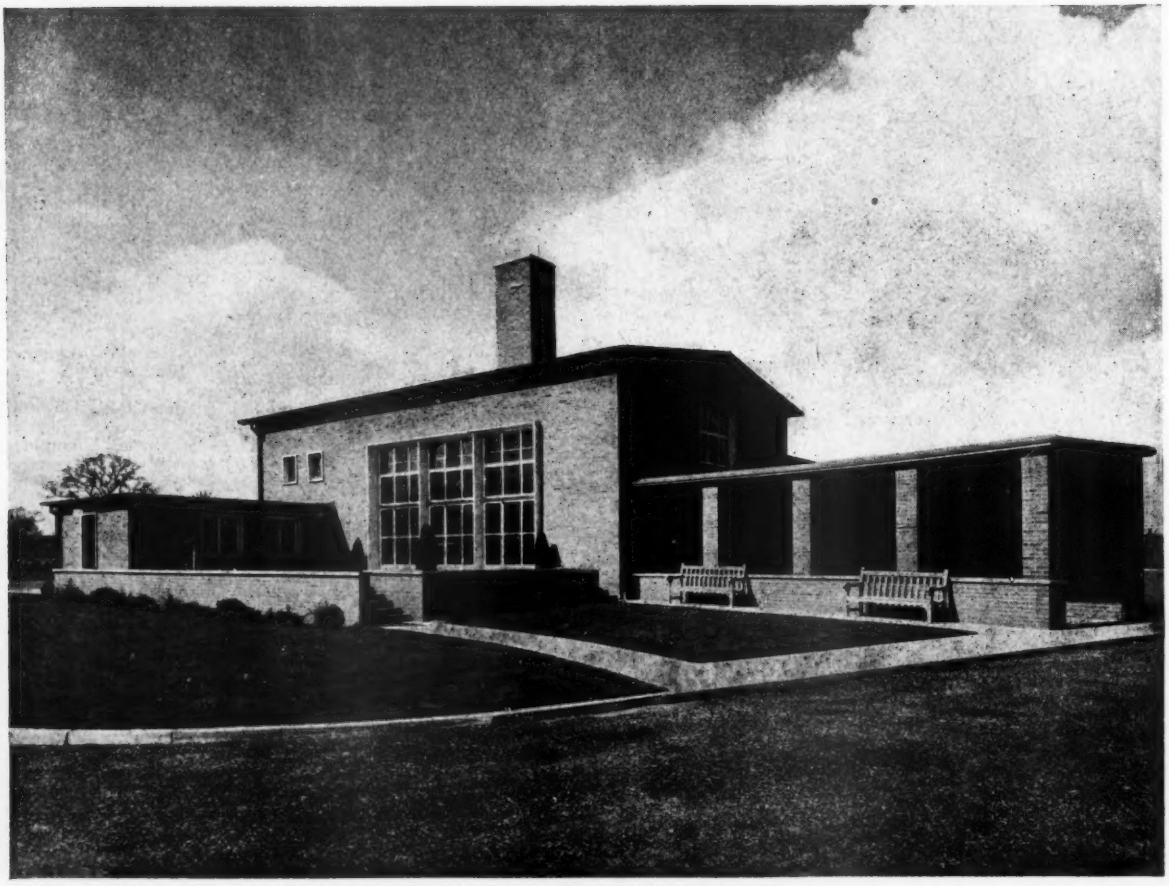

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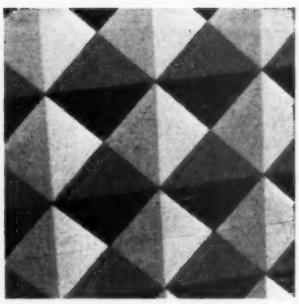
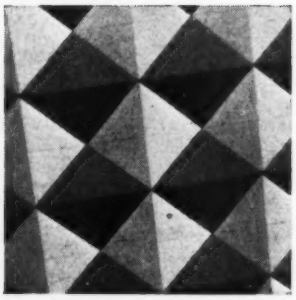
HOTEL AND BANK IN CURZON STREET, LONDON W.1

This nine-storey extension to the Washington Hotel in Curzon Street, designed by Bronek Katz and Vaughan (consulting engineer, Felix Samuely) and recently completed, achieves a new record in low cost per room for a hotel. Its total cost was £150,000, or £3,000 per room, compared to previous estimates that a new hotel in London would cost over £5,000 per room. The JOURNAL *will be publishing the full cost analysis of this building shortly. The new block consists of 53 bedrooms, with penthouse suites on top. It is a reinforced concrete frame building, faced with glass and mosaic, with the window of each room stretching from wall to wall. On each floor seven rooms surround a lift lobby and bathrooms are paired. The ground floor is occupied by a branch of the National Bank of Scotland, which, as the general view of the interior below shows, has quite departed from the bleakness with which banks usually face their customers. General contractors, Bovis Ltd.*



In surfacing the walls of



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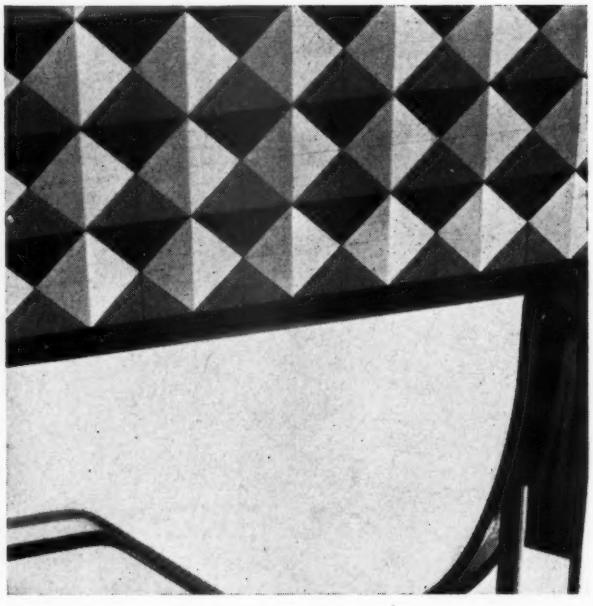
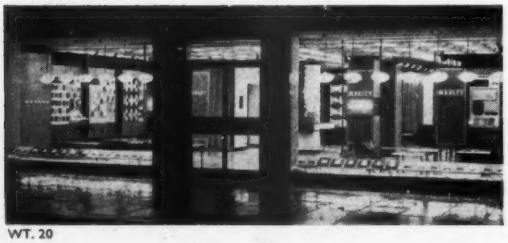


MARLEY WALL TILES

Full information available on request



WT. 20

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technical section

THE INDUSTRY

This week Brian Grant describes sill-line heating units, mosaic hardwood floors, small-bore heating, a solid-fuel fire, glass-trapped sinks, a convection heater, melamine-faced board, roof lights and a bus shelter.

Sill-line heating

Copperad Limited, are now marketing a range of heating units intended for installation in continuous runs underneath sills. In office blocks continuous runs along the outside wall of the building are recommended, so that internal partitioning may be arranged as required and adequate heating provided in all offices. The heating units are suitable for steam or hot water, and there is space under them for running GPO and electrical services without affecting the heat output. (*Copperad Limited, Colnbrook, Slough, Bucks.*)

Hardwood floors

Marley Tiles, looked upon mainly as makers of cast concrete and plastics products, are now marketing a mosaic hardwood floor which consists of panels 18 in. square made up from narrow strips. The panels are fixed with a special adhesive direct to solid subfloors, after which they are electrically sanded and finished with MarleySeal, which eliminates the need for waxing. The hardwood strips are $\frac{5}{16}$ in. thick and for the moment the panels are being made in oak and idigbo: cost, laid complete, is likely to vary from 35s. to 47s. 6d. a square yard, according to area. (*The Marley Group, Sevenoaks, Kent.*)

Heating with small bore pipes

The CDA has just issued a new publication (No. 55) on Copper Tubes for Small Bore Heating, in which most aspects of this system of heating are discussed. Notes are provided on the heating calculations for each room of a typical house, losses through pipe friction, radiator sizes and heat transmission, while information on circulating pump and control equipment is also included. The publication is well illustrated with numerous diagrams and photographs. (*The Copper Development Association, 55, South Audley Street, London, W.1.*)

Solid fuel heating

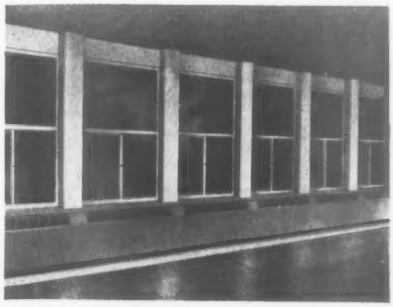
Newton Chambers are introducing an under floor air feed fire, to be known as the Hearth Redfyre, which is in effect the grate and air feed parts of the Redfyre No. 5 Bacboiler, which was introduced earlier this year. The new appliance has a heat resistant 30 per cent. chrome steel bottom grate, reversible for coal or coke, an ashcan which should need emptying only about twice a week, and an accurate control to regulate the rate of burning, while there is also a deepening bar for overnight burning. The fire is designed for heating rooms with capacities up to 1,750 cu. ft., and can be used with standard 16-in. solid brick back, fixed in fireplace surrounds with openings between 18 and 22 in. high. Price is £9 5s. (*Newton Chambers & Co., Ltd., Thorncliffe, Sheffield.*)

Glass-trapped sinks

Last month I mentioned the Econa Kilner sink fitting, which embodies a quickly removable glass jar sump to catch tea leaves and other rubbish. I suggested that it would be as well if the jar were easily replaceable, and Mr. Hugh Golder writes to tell me that the fittings are designed to take the standard Kilner preserving jar, which is almost universally obtainable, and is made in 1, 2, and 3 lb. sizes. So the answer is as it should be: break the jar, and replace it by opening another jar of preserved fruit. You can't say fairer than that. (*Econa Modern Products Ltd., Aqua Works, Highlands Road, Shirley, Solihull, Warwickshire.*)

Electric heating

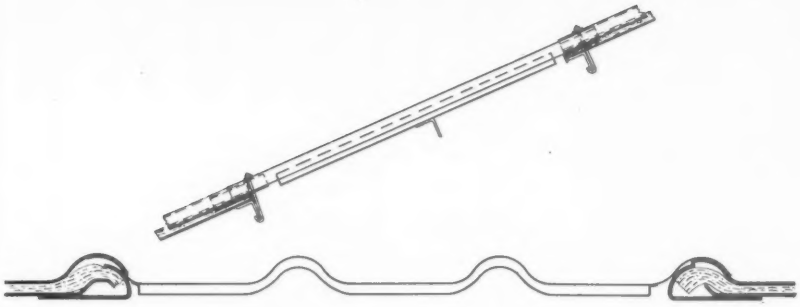
The illustration on the right shows the new Hurseal 2 kW convection heater, which costs £8 19s. 6d. including purchase tax. At the back there is a folding carrier handle, and the three heat control switch is also at the back. The heater is only 2½ in. thick from front to back, not including the feet, which have plastic buffers to prevent damage to floors. (*Hurseal Ltd., 229, Regent Street, London, W.1.*)



A continuous run of the Copperad sill-line heating units.

Above, a mosaic hardwood floor made up by Marley tiles. Below, the Hurseal 2-kW. convection heater which is only 2½ in. thick.

technical section



The Unilux double-skin plastic insulated roof light.

Melamine faced board

Bartrev board has been used for some time in the manufacture of furniture and fittings of all kinds, and is now to be made with a melamine plastics facing and sold under the name of Avtrev. Three qualities will be available, varying with the thickness of the plastic facing and with the type of balancing sheet used on the other face of the board. The lowest quality will have a plastic balancer, the middle grade a wood veneer, while the most expensive will have a thicker plastic facing and a wood veneer balancer. Prices range from 4s. 9d. to 5s. 6d. per sq. ft. for the ½-in.-thick board, and from 5s. 2d. to 6s. for the ¾ in. At the moment five patterned colours are stocked in 7 by 4 ft. sheets, but a much wider colour range is available to order. (*Bartrev Board Co., Ltd., 3, Vere Street, London, W.1.*)

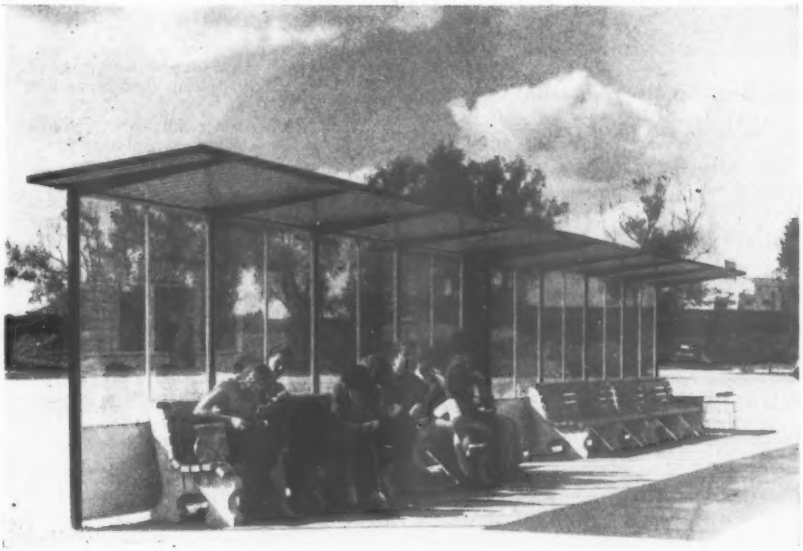
Insulated roof lights

A new development in translucent roof sheeting is announced by Universal, who have introduced the Unilux double skin plastic roof light with an enclosed ½-in. air space and a U value of 0.45. The sheets are bonded together to prevent the ingress of dirt, and the outer sheet is the larger, to allow for overlaps and fixings: there are also small internal spacers, main purpose of which is to keep the cavity uniform, but which also serve to take any intermediate fixings. The lights are made in various sizes and to match most sheeting profiles, and have a light transmission of over 70 per cent. The units can be colour tinted if required. (*UAM Plastics Ltd., Tolpits, Watford, Herts.*)

Street furniture

The Normid range of unit system bus shelters has been approved by the COID and is produced in two types, an open version for town use (see illustration) and a more enclosed type for rural areas. The uprights, kick plates and roof brackets are in galvanized steel, painted, and the glazing is either ¼-in. Georgian wired or $\frac{3}{16}$-in. Armourplate. Roof is 20 gauge Noral Industrial aluminium sheet, unpainted. The units are comparatively light, the supports being merely concreted into 2-ft. holes, and a 3-section shelter can be set up by two men in a day. The designer was D. R. Mellor. (*North Midlands Engineering Co. Ltd., Skegby, Sutton-in-Ashfield, Notts.*)

The open Normid bus shelter for town use, designed by D. R. Mellor.



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7.68 practice
BUILDER'S PLANT

The Costs of Mechanical Plant. (BRS Digest 113). HMSO 3d.)

The importance of accurate cost accounting for the use of site plant lies in the fact that it is on the price basis that a piece of equipment gets, or does not get to the site. A high figure for hiring a machine, whether from the contractor's own depot or from a plant hire firm, may stop a valuable piece being used where it would increase productivity. A low figure, on the other hand, would result in a more expensive job in the long run. Additionally, the procedures of estimating true plant cost involve the contractor in analysing his work and consequently lead to the development of better and cheaper methods.

It is for that reason that the BRS study of these problems, Digest 113, is of such importance. The implications might be considered by architects, especially those with site responsibilities, as well as by the builders and quantity surveyors. The Digest sets out the various factors contributing to what may be called the "use rate," that is, the charge that a contractor or plant hire firm has to make to the user in order to recoup himself for the various costs involved in buying and operating a machine. Before discussing the accounting arrangements, now commonly made by the large contractors, it might be useful to consider some of the basic principles involved, and the light that the Digest throws on the use of plant in the building industry.

The nub of the problem is the relation between the various costs of working, hiring and owning a machine, each of which corresponds to a different period of time, to the hiring or site time, for which the user is charged. There are three distinctive measures of time: the *working* time (tw), when the machine is used on the job, the *site* time (ts), the period during which the machine is hired to the job and which is necessarily greater than tw, since a machine is never working all the time it is on the site, and the *ownership* or potential hiring time (tp), greater than ts, since a plant hire firm or contractor can never hope to hire a machine all the year round. In a year *tp* may be

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technical section

assumed as 52, 44-hr. weeks, equivalent to 2,288 hrs. or 286 days. In the American industry higher levels are sometimes assumed for larger pieces which may be required to work two shifts.

The ratios that exist between these three periods of time will naturally show the efficiency with which the machine is being used. Thus *tw*/*ts* may be called the "working efficiency" (We), since it gives the percentage of site time during which the machine is used, the ratio *ts*/*tp* may similarly be called the "hiring efficiency" (He), and the ratio *tw*/*tp* the "use efficiency" (Ue), giving the percentage of potential hiring time that the machine is working on the site.

It is now possible to analyse the use of equipment from the information given in tables 2 and 5 of the Digest, by arranging the various pieces according to the magnitude of He, We, and Ue:

Type	He	We	Ue
Excavator	·875	·78	·6825
Dumper	·7	·825	·578
Hoist		·8	·56
Tractor, shovel, loader, trencher		·768	·538
Tower crane, roller		·7	·49
Mobile crane		·66	·462
Mixer		·395	·277
Compressor		·278	·195
Water pump	·525	·465	·244
Compressor tools	·35	·278	·097

(Following assumptions for We were made by approximation: hoist ·8, loader and trencher ·768, tower crane ·7)

An interesting light is thrown on the levels of use of plant by these figures. They show that the equipment is hired from 88 per cent. to 35 per cent. of the time. They also indicate that the utilization on site varies from 78 per cent. for excavators to 28 for compressor tools, and the resulting use efficiency from 68 per cent. to 10 per cent. Most of the equipment seems to be utilized for not more than 50 per cent. of the time. It is clear that a 100 per cent. can never be achieved, as time must be allowed for maintenance, transport, and breakdowns, etc. Nevertheless, it is these figures that prompt the Digest remark that "some of the rates of use are not very high."

What would be interesting to know, however, is how recent and how extensive was the survey from which these figures were obtained? Do they apply to the large contractors, to the plant hire firms, or to the general cross-section of the industry? By knowing the answers to these questions, a firm wishing to use the figures for calculating its plant costs will know whether to scale them up or down to fit its own circumstances. The value of this data lies in the fact that it sums up the experience of the industry. It gives solid basis for assumptions as to levels of use, subsequently to be corrected in the light of real costs of a particular enterprise.

The calculation of the use rate itself can be done in a number of ways, varying with the system of book-keeping adopted. The problem remains to allocate the costs to the site time. The insurances, for instance, relate to *tp*, and must be scaled up to *ts*, whereas the fuel costs correspond to *tw*, and must be scaled down. The constant factor in these calculations is the total *tw*, since every machine has an economic working life after which it goes to the scrap-heap. If we assumed a working life of an excavator to be 10,000 hrs. then from the figures given in the table the contractor may expect the total *ts* to be 11,430 hrs. and total *tp* to be 14,660 hrs. equivalent to 6.4 years' ownership. From this date he can work out his various costs and embody them in a realistic hiring charge. The Digest calculates such a charge in table 5. It applies to the firms whose levels of use of plant correspond to those given in the tables, and is therefore by no means universal. There are other use rates published regularly, such as those in Spons, Hutchins and the C.P.A. Handbook. The actual cost of plant to the user may respond perhaps more to the fluctuations in supply and demand than to any particular set of charges published. What is important is that the owner should know how much various pieces are costing him and why. For that reason the Digest could be more specific on the method, than on the actual costs, which in any event will not be identical for any two firms.

A more basic approach could improve the clarity of the Digest.

The immediate implications of this Digest for the practising architect are marginal. It may help to focus his attention on the plant that might be useful when its function in constructional design has been established.

By far the greater value may, however, be in bringing cost accounting methods to the architect's attention. One day he will have to use them for his own practice.

14.88 materials: concrete
CONCRETE MIXES

Concrete Technology-Vol. I. D. F. Orchard. (Contractors' Record Ltd. 1958. 45s.)

Text book on properties of concrete and its constituent materials of interest to architects and engineers.

There are many text books on the design of reinforced concrete and concrete construction, but they invariably dismiss concrete as a material in a single chapter. At a time when there is enormous interest in the materials used in concrete (as evidenced by the Symposium of 1954), this book by D. F. Orchard is particularly welcome. The interest has been awakened largely by the efforts of the Cement and Concrete Association and Professor Orchard was a research member of that body.

The book contains much information which has been published elsewhere in papers, text books and CCA publications but the important thing is that it is now set down in a logical and clear manner which makes the work invaluable from the point of view of both student and established architect and engineer.

Chapter I deals with the kinds of cements and their properties, in effect the chemistry of cement. Chapter II covers additives, accelerators, retarders, waterproofers, pigments, air entraining agents and pozzolanas. Chapter III covers all aspects of aggregates, normal, lightweight and heavyweight. Chapter IV covers the properties and uses of lightweight concrete. There are some aspects of this subject which have still to be proved and there are a number of recent failures of floor screeds on record which suggest a degree of caution. When talking of adding a cement and sand rendering to lightweight concrete it is essential to define the type of lightweight concrete.

Chapter V is devoted to the design of mixes and quality control. The work done by the Road Research Laboratory is included as extended by others and the author has added tables for large aggregates. Chapter VI deals with properties of cement and concrete, fire resistance, abrasion, permeability, shrinkage and moisture movement, creep and expansion. Chapter VII deals with deterioration and resistance to chemical attack.

The book has copious tables and diagrams and excellent indexes both in chapter and subject. There is an author index and every chapter ends with a list of references to additional information.

18.198 construction: theory
PRESTRESSED CONCRETE DESIGN

Prestressed Concrete—Theory and Design. Evans & Bennett. (Chapman & Hall. 1958. 60s.)

A text book on prestressed concrete of interest to both architects and engineers.

The book is divided into three parts. In Part I the general principles are established with references made to experimental work to confirm and amplify theoretical conclusions. Examples are provided after each chapter. None of the systems of prestressing is described, which is quite sound as the promoters of these systems have now very adequate publications and previous text books have dealt with them in detail. On the whole the majority of prestressed work to date has been directed to simply supported beams which have usually produced the economic answer. Part II deals with such beams covering the applications of the principles established in Part I to the practical design. Notation is as stated in the ISE First Report and formulae tables and graphs are provided to reduce the labour of design.

Part III provides an introduction to some of the more specialized types of prestressed structure such as masts, poles, roads, railway sleepers, indeterminate structures, ultimate conditions, liquid retaining structures, pipes, domes, shells, dams. Composite construction is dealt with thoroughly but the other items present only a brief outline of the problem or the principle.

An appendix is provided to give prestress terms for common forms of cable profile, factors for calculation of section moduli and area of section. A subject and chapter index is provided.

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technical section

7 PRACTICE

teamwork on housing projects, 3 planning for site organisation

We do not normally think of town planning as having any connection with management techniques, but in Rotterdam, recent housing schemes have been influenced by the demands of efficient building production. This week's article is by H. van den Broek and D. Delver, engineer and architect of the Rotterdam Town Planning Authority. They describe how the numbers of each type of dwelling and layout of blocks on the site are affected by the programme of building work. Previous articles on Rotterdam housing appeared on August 21 and September 11.

As explained in a previous article, it would be wrong to believe that productivity and efficiency are factors which play a rôle only after actual building operations have begun. *All* details pertaining to the project should be examined as to their efficiency: only thus can an increase of output be achieved. There are four phases:

1. An efficient housing policy.
2. An efficient town-planning project.
3. An efficient architecture and construction.
4. An efficient organization of the output.

The last will obtain only when factors 1, 2, and 3 can be realized and this article will deal exclusively with the efficiency of the town-planning phase. A plan is only efficient when it achieves the greatest possible labour routine during the work on the building site. At the same time the use of the material should be as efficient as possible.

The production unit

First of all it is necessary to identify the main operations of house building. Nowadays, in contrast to the pre-war situation, floors are usually made of a stony material. This means that the houses are built by two groups of workers: one making the walls, the other making the floors. It follows that the two groups cannot work on the same spot at the same time. Suppose there are six blocks of dwellings, each with three storeys:

The first group begins making the walls in 1*a*, then proceeds to 2*a* and, next, to 3*a*. While the first group is working in 2*a* the second begins making the floor between 1*a* and 1*b*. As soon as this floor is finished, the first group goes to 1*b* (in order to make the walls), etc., etc. The procedure, therefore, is 1*a*, 2*a*, 3*a*, 1*b*, 2*b*, 3*b*, 1*c*, 2*c*, 3*c*. After completion of the blocks 1, 2 and 3, work on blocks 4, 5, and 6 can begin. It is clear from the example given here, the town-planning project must comprise a multiple of three blocks of this type for this sequence of operations to be employed. It has been found that, with modern construction, an efficient organization can be achieved if the number of dwellings on the same storey in one group of blocks is between 20 and 30. In a group of four-storey blocks there should be, therefore, 80 to 120 dwellings. ($1a + 2a + 3a = 20$ to 30 dwellings.) The townplanner, therefore, should design the project to contain groups of blocks comprising 20 to 30 dwellings on one storey and this group should be repeated several times in order to achieve the maximum productivity.

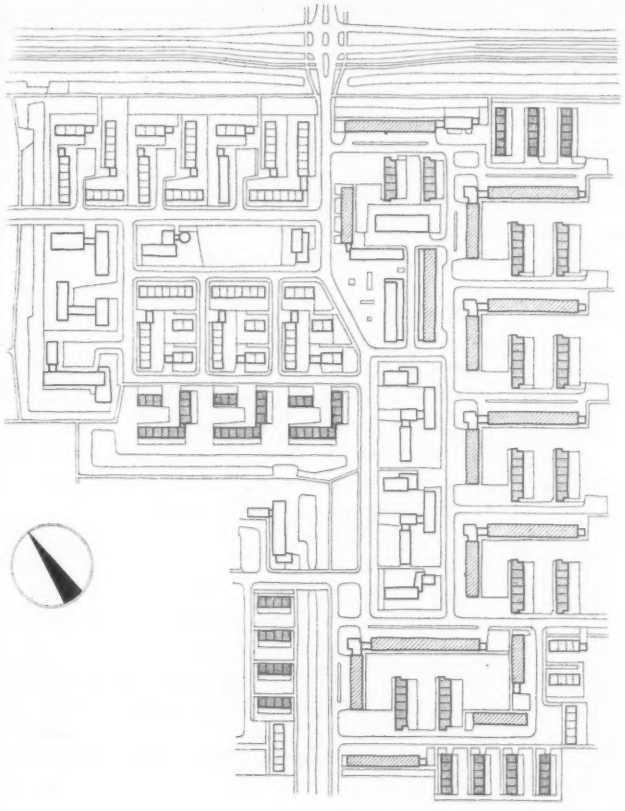
As an illustration, let us take a group comprising three blocks; one with six dwellings per storey, one with eight, and the other with 10, which gives 24 dwellings per storey. These three blocks must be near one another and the group should be repeated as much as possible. A group, of course, does not *have* to comprise three blocks, it can also have one, two, four or five blocks, provided the total per storey is 20 to 30 dwellings. The total number of identical groups depends on the height of the blocks. The minimum number of dwellings should, however, be between 200 and 300. This makes it possible for the material to be used 10 times in the same way. For the construction of these 200 to 300 dwellings, of one type, one organization should be formed on the building site. The groups of workers continue working in the same types of buildings. With such a "production unit" an output of about 250 dwellings per year can be achieved.

If it should be found desirable to have in the same group of blocks a second type of dwelling, a second "production unit" should be set up working on a second series of groups. The maximum number of groups of different types is dependent on the total number of dwellings envisaged by the project. Or, in other words, the maximum number of dwelling types equals the total of dwellings divided by 200 to 300. If a contractor is working with several "production units" in one project, there should be about the same number of dwellings of the different types. This makes it possible for the "production units" to begin and end simultaneously.

The Meeuwenplaat project

Something may be told about one practical experience. For a section of Rotterdam called *Meeuwenplaat* (Figs. 1, 2) a project was set up without originally taking the efficiency norms into account. Later, it was changed in order to have an efficient organization on the building site. Fig. 1 shows the layout as the planner had originally conceived it. The key on the drawing shows the staircase and balcony access

technical section



For maximum productivity, work on site is organised in terms of groups of blocks. In any one group of the same type of block there should be between 20 and 30 dwellings (total) at each storey height. Fig. 1 (left). The original plan for the Meeuwenplaat area. The management consultant's, however, advised that for maximum productivity, work on the site should be organised in terms of groups of blocks, and that in any one group of the same type of block there should be a total of between 20 and 30 dwellings at each storey height. The plan was revised, as shown in Fig. 2, in the light of this advice.

KEY

- STAIRCASE ACCESS 4 STOREY FLATS
- BALCONY ACCESS 4 STOREY FLATS
- BALCONY ACCESS 2 STOREY FLATS
- TERRACE HOUSES 2 STOREY

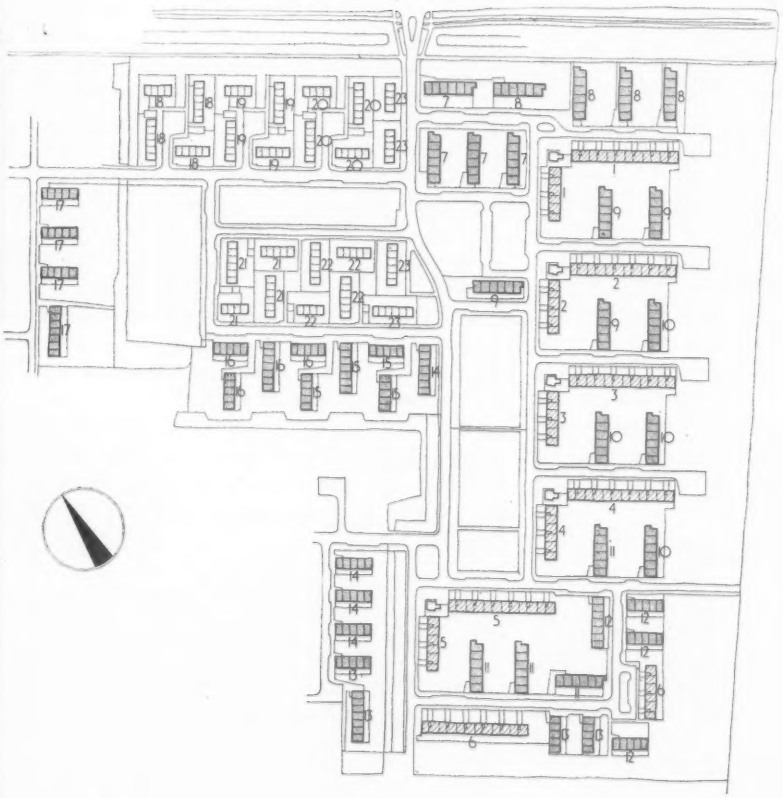


Fig. 2 (left). The revised plan. Each block bears the number of the production unit to which it belongs. Thus production units 1-6 each comprise two blocks, a four-storey staircase access block with six dwellings per storey and a four-storey balcony access block with 12 dwellings per storey. In this case it was not possible to achieve the desired minimum of 20 dwellings per storey. The composition of the remaining production units is as follows:

Units 7–11 have each 24 dwellings per floor

Units 12–17 have each 22 dwellings per floor

Units 18–23 have each 21 dwellings per floor

blocks, flats for old people and the terrace houses. The whole project was to be constructed by one contractor, except the terrace-houses in the south-western sector. The management consultants were not able to plan an efficient output for this plan. In co-operation with the townplanner, therefore, design changed and the result is shown in Fig. 2. It was found impossible to change the number of dwelling types. There were now six small and six large staircase access blocks. These were paired together into six production units, each having 18 dwellings per storey.

This number was actually below the minimum of 20 dwellings (see p. 567) but, with the construction of the floors as planned, it was found to allow better productivity. The group is repeated six times. Since there are four storeys, the repetition of the operation is 24-fold.

Organizing the production flow

There were 20 blocks of 4-storey balcony access flats, each with 6 dwellings per storey. These were divided into 5 production units which thus had 24 dwellings per floor per unit.

Next there were 18 small and 6 large balcony access flats comprising 5 and 7 dwellings per storey, respectively. All of these were for old people. These were divided up to give 22 dwellings per floor per unit.

Lastly there were 24 blocks of two-storey terrace houses, 12 having six dwellings per floor, 6 having five dwellings per floor and 6 having four. These were divided up to give production units of 21 dwellings per floor.

Altogether, the plan includes 480 flats with balcony access and 432 flats with staircase access making it possible for both groups of production units to begin and end together. The third group of production units starts in the 126 terrace-houses whose output is relatively low (each house comprising two storeys). After completion of these latter, work is begun on the 240 dwellings for old people. Thus, for the complete plan three groups of production units can be set up beginning almost at the same time, and also ending at the same time.

Without detriment to the essential structure of the plan it has been possible to achieve a smoothly running organization on the building site, with the result that significant savings are made. After this experience, the plans for other sites were worked-out by the townplanners taking into account all the requirements for an efficient housing programme. Illustrations of this are the plans for Zalmplaat, Gadering, Westpunt and Pernis.

The townplanner's reaction

What was the effect on the townplanner's work of his participation in a building team? "Of course," I would almost say, "we didn't like it at first." A townplanner-architect *is* a free man: he has to be free to get the best results in his design. He does not want his plan to conform to (seemingly arbitrary) numbers and series of numbers so that the contractor may utilize his labour in an efficient "production-line." At first, we feared that "mechanical" plans would result: too rigid to create a social environment in which to rear one's children and to enjoy life after working hours.

Such was the start in reality; but to give an idea of the working-methods with us in general, I will refer back to Mr. Duhoux's article (AJ, August 21) in which he specified the three main phases of the whole procedure:

1. The townplanning part of the job.
2. The architect's part.
3. The contractor's part.

The townplanner has to take into account the "groups" of blocks to be built by each team—*i.e.* about 500 dwellings (one year's production of one building team). The first detailed design proposals, showing the length, width and height of the housing blocks, would then be checked with the Management Consultant (Mr. van den Broek), who first determines the types of dwellings which are best from the point of view of site organization (also taking into account the particular methods of construction preferred by the nominated contractors). Here a difficulty arises: namely, that the planner-architect usually wants a greater number of different types than does the management consultant. With the large number of 500 dwellings built as a group at one time it is more economical to build only five and seven bed types than to build a wider range of types; even though the total number of beds in the group as a whole will be higher than if designed precisely to suit the requirements of the social survey programmes. And why not?

As a result of the findings of social surveys, only a relatively low proportion of small dwellings are called for. This means that smaller families have one or two rooms extra for the same rent and it also results in fewer different house types. To achieve flexibility in the grouping of blocks the architect townplanner must have resort to a compromise ("the work of a town planner is mostly compromise" as the Director of Planning, Mr. van Traa, is often pointing out) in which dwellings are not tied to a particular orientation.

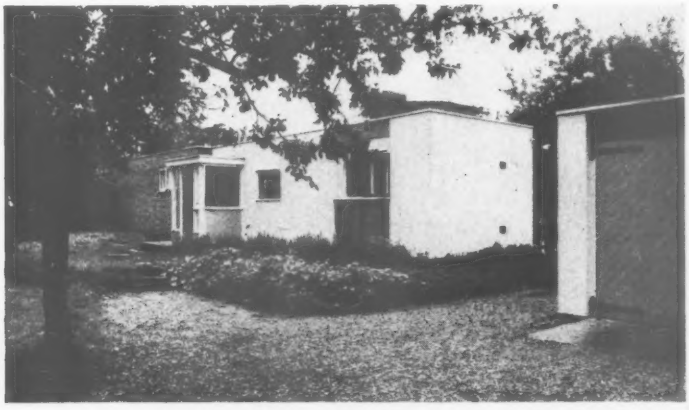
FOUR HOUSES

1. at STAINES GREEN, HERTFORD; designed by GLYN DAVIES
2. at PRESTWOOD, GREAT MISSENDEN; designed by RICHARD PLINCKE and PETER MCKINLEY
3. at DISS, NORFOLK; designed by J. FLETCHER WATSON; assisted by N. K. HEDLEY
4. at STANWAY GREEN, COLCHESTER; designed by J. E. C. BRAND

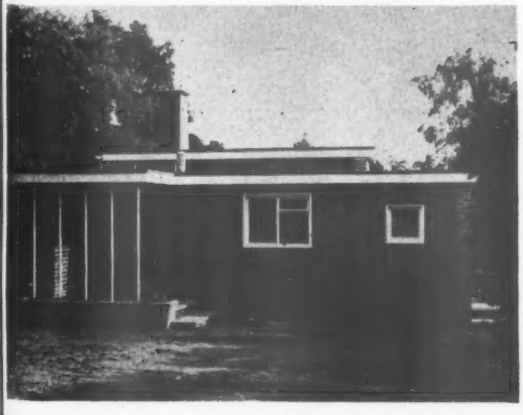
The four houses analysed this week vary, but not too widely, in floor area, construction, and standard of finishes and services. The cost analyses are therefore capable of comparison and should afford useful data for the design of single-storey houses; as pointed out in the cost comments (page 582) it should today be possible to provide a 3-bedroom single-storey house of 1000 sq. ft. from 55s. per sq. ft.

The entrance side of the house at Staines Green.

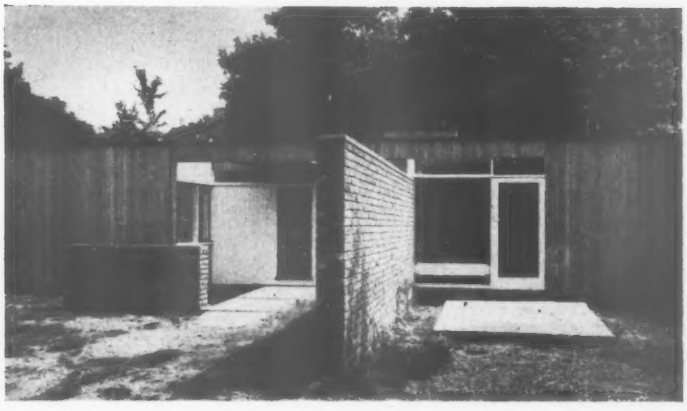
The entrance side of the house at Great Missenden.

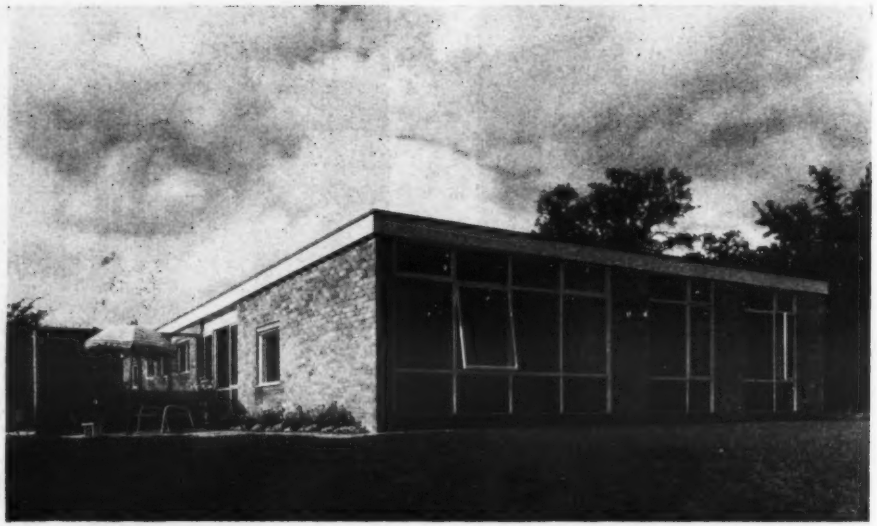


The entrance side of the house at Diss.



The entrance side of the house at Stanway Green.





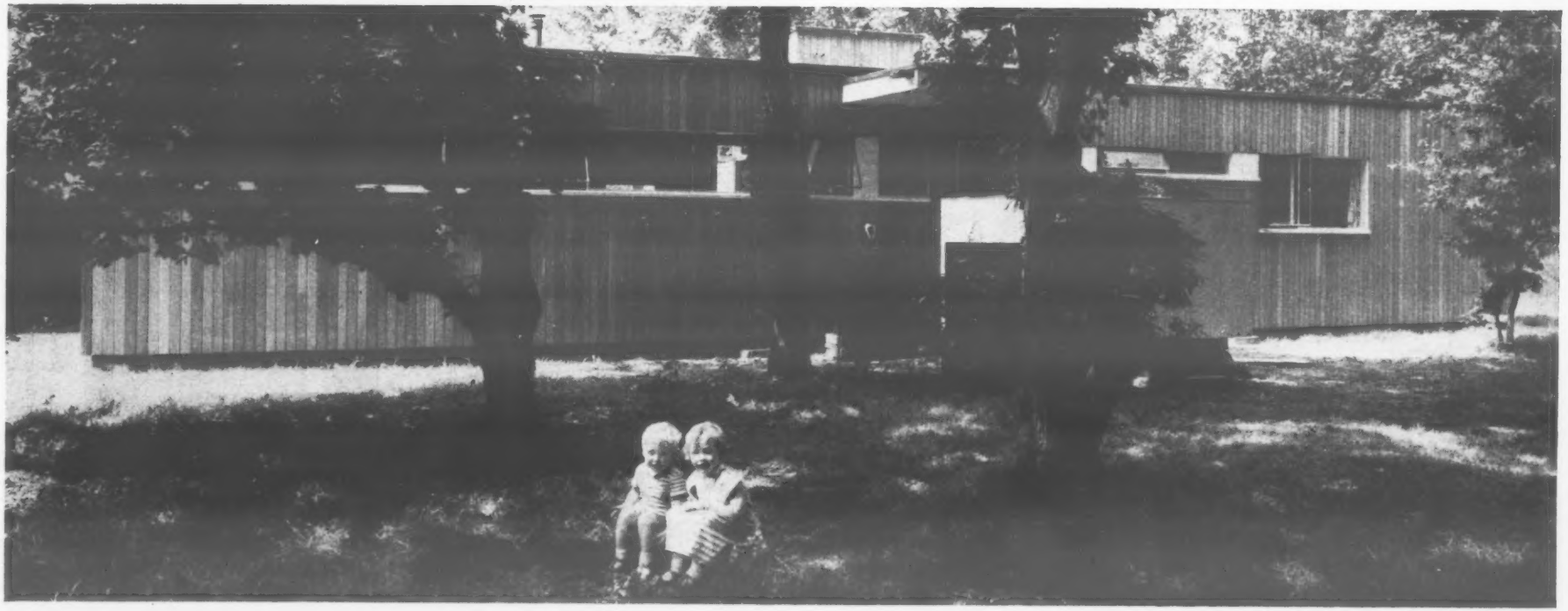
Left, view of the house at Staines Green from the south, with the windows to the living room and two bedrooms on the right, and the dining terrace on the left.

Left, view of the house at Great Missenden from the south. The large windows on the left are to the living room; the white building beyond is the garage.

Left, the house at Diss from the south-east.

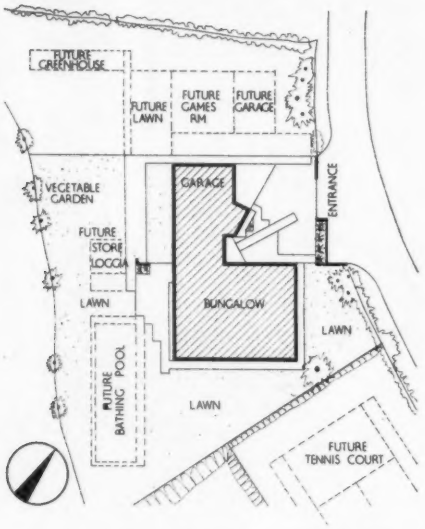
Left, the house at Diss from the south-east.

The house at Stanway Green from the east.

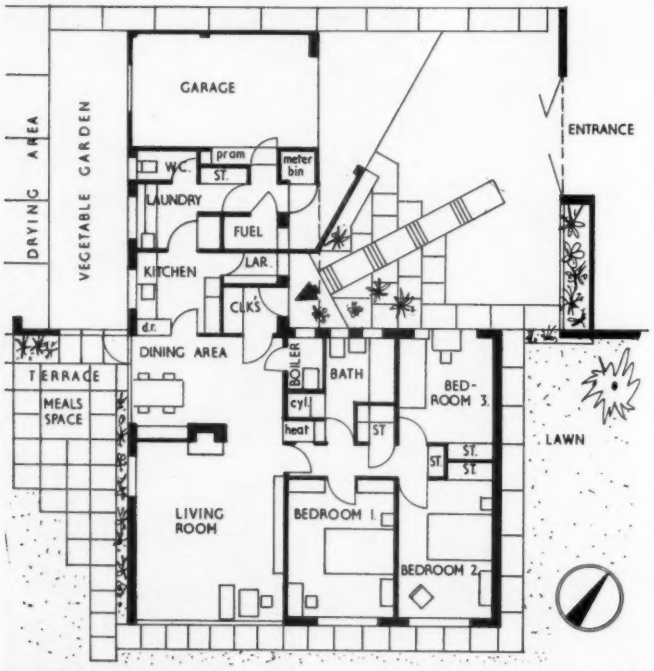


building illustrated

House at Staines Green



Site plan

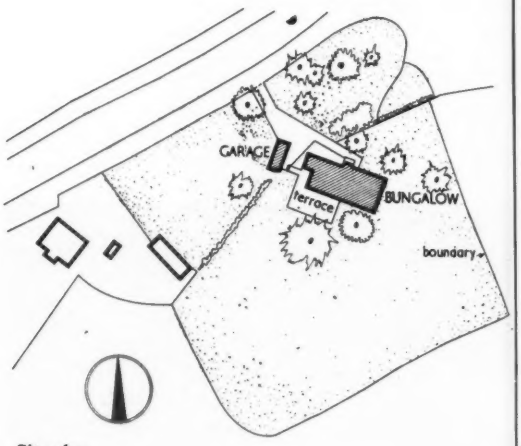


Ground floor plan [Scale: $\frac{1}{8}$" = 1' 0"

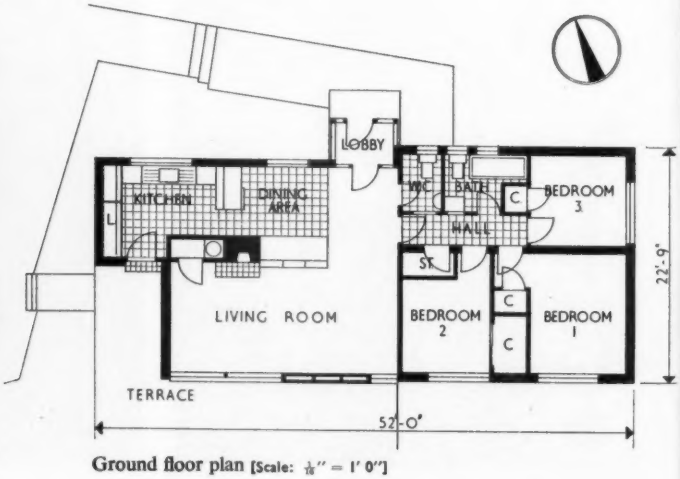
The living room of the house at Staines Green. The ceiling is of Parana pine boards, the floor finish is hardwood block; walls are plastered. On the left are the warm-air heater grilles.

House at Great Missenden

The living room of the house at Great Missenden. Walls and ceiling are plastered, and the floor finish is hardwood block. An existing sideboard had to be used as the basis of the storage unit in the centre of the room.



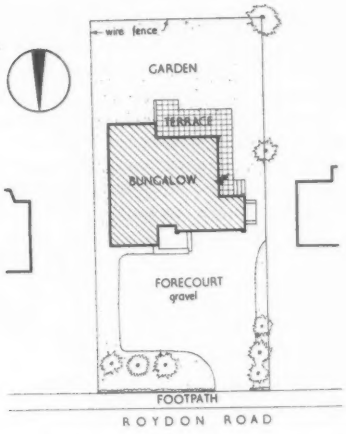
Site plan



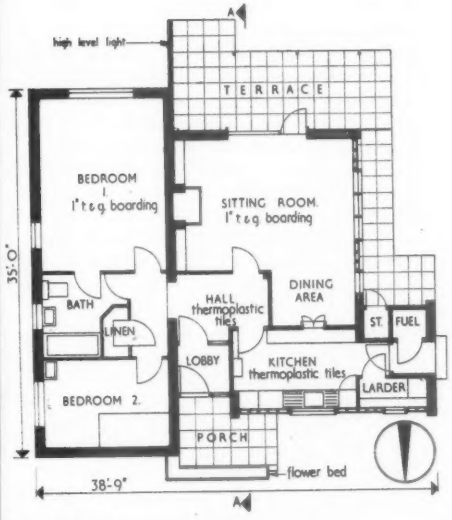
Ground floor plan [Scale: $\frac{1}{8}$" = 1' 0"]

building illustrated

House at Diss



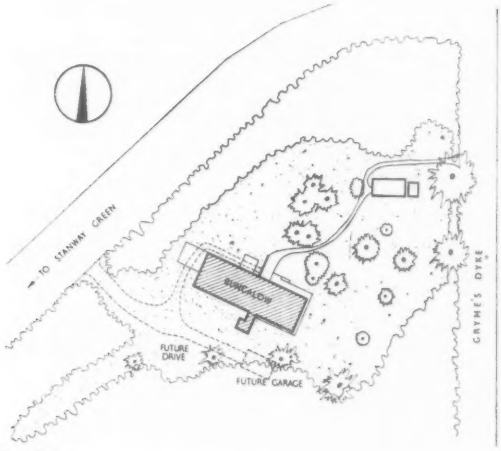
Site plan



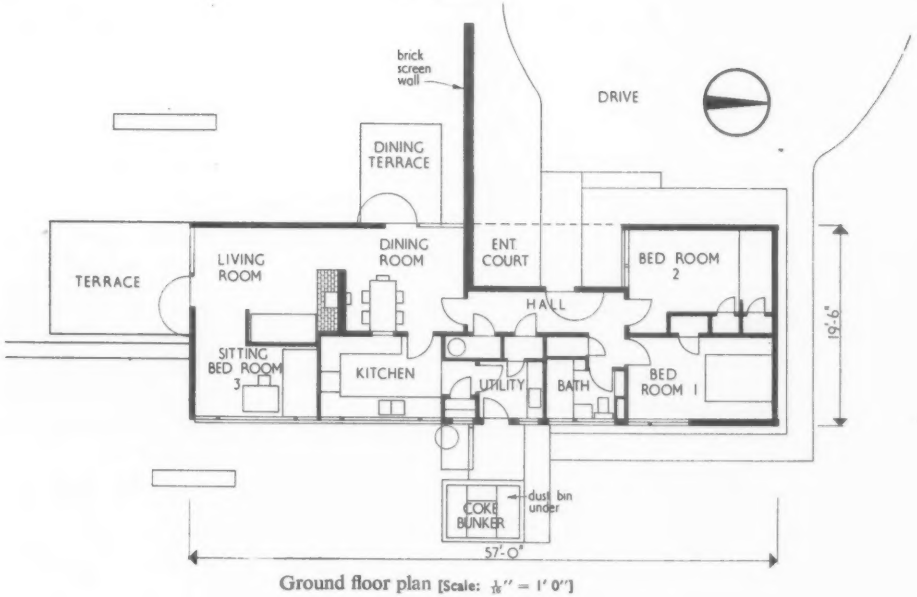
Ground floor plan [Scale: $\frac{1}{8}$" = 1' 0"]

House at Stanway Green

A corner of the living room of the house at Stanway Green. The general wall and ceiling finish is of fibreboard painted with emulsion paint; the recess is lined with softwood boarding. Some external walls are left with wood wool exposed internally. The floor is of softwood boarding.



Site plan



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

analysis

House at Staines Green

CLIENT'S REQUIREMENTS

Designed and built by architect for own use. Family: husband, wife and young son.
1. Large living room with screened dining section; three bedrooms each capable of taking double bed or two single; bathroom with w.c. (w.c. *not* separate, for reasons of hygiene and convenience); second w.c. near wash room; small kitchen for cooking and food preparation only; laundry; ample storage.
2. Whole house heating, inexpensive in operation.
3. To be planned for running without domestic help.
4. Scheme to allow for later addition of visitors' accommodation (summer only) in form of a separate external suite, and of bathing pool and tennis court.

PLANNING AIMS

1. Site. To make full use of ½-acre site with falls and views to south-east, south, and south-west: to see as much garden as possible from living rooms; to have a south-west corner for terrace; to obtain maximum direct sun in all living rooms.
2. To build a traditional building giving the greatest effect to the living spaces; to plan without any preconceived ideas of elevations or current fashion trends.
3. To provide economical heating by concentrating the heating unit in the centre of the house.
4. To plan for economy and simplicity in running and maintenance.

SUMMARY

Ground floor area: 1,410 sq. ft.
Total floor area: 1,410 sq. ft.
Work began: April 1, 1955
Work finished: October 30, 1955
Tender price of foundations, superstructure, installations and finishes: £4,192
Final contract price: £4,192
Tender price of external works and ancillary buildings: £188.
Final contract price: £188.
Total: £4,380.

House at Great Missenden

CLIENT'S REQUIREMENTS

The site was an orchard in the grounds of the client's former house, and a single-storey house was required for a widow whose family, now away from home, returns at weekends. A plan was needed which, for a limited cost, would provide a maximum of living space and reduce domestic work to a minimum. The three bedrooms could be small but ample storage space was essential.

PLANNING AIMS

Placing of the house was largely determined by the wealth of trees on the site, a 30-ft. building line, the need for a garage as near the road as possible and the existence of two clearly defined levels. It is orientated to give south and west sun to living room and south and east sun to bedrooms. The north-facing kitchen window is compensated for by having a fine distant view and a stable type back door, facing south. The garage was not attached to the house, in case it had to be omitted for economy, but is sited to give easy access between its side door and the kitchen. Ample storage space is provided in the garage and by built-in cupboards in the house. The living, entrance, dining and kitchen areas are planned as one space round the central heating core, and served by a cloakroom near the entrance. Bedrooms and bathroom form a compact, separate part of the building. The various functions of the living area, though in one space, have been clearly defined: the dining area is separated from the kitchen by a fitting which conceals but does not interrupt the flow of space. Its division from the entrance area is marked only by a change in floor finish from grey thermoplastic to wood blocks. An existing sideboard was built in to divide the dining from the living area and is backed by bookshelves which form part of the fireplace fitting. The whole south side of the living area consists of a window, prefabricated in two parts: one has a large sliding door giving access to a terrace and the other a solid panel to a height of 6 ft. to provide additional wall space and design to include a large side-hung window and a small top-hung window to give varying degrees of ventilation. The entire length of this side of the living room is curtained and a recessed track is built into the ceiling plaster. Although the garage is separate from the house, it is included in the area and the cost.

SUMMARY

Ground floor area: 1,157 sq. ft.
Type of contract: RIBA without quantities.
Tender date: February 27, 1957.
Work began: May 1, 1957.
Work finished: November 16, 1957.
Tender price of foundations, superstructure, installations and finishes: £3,334.
Final contract price: £3,307.
Tender price of external works and ancillary buildings: £94
Final contract price: £70
Total: £3,377

analysis

House at Diss

CLIENT'S REQUIREMENTS

A labour-saving one-floored house with 2 bedrooms, a bathroom, sitting room and dining area, hall, kitchen and fuel and garden store.

PLANNING AIMS

To give maximum convenience to client, who is an old lady, the living room to be large enough to take her rather big furniture of varying periods. A sheltered veranda to catch the sun and allow sitting out whenever possible throughout the year. Central heating. Direct communication between the client's bedroom and bathroom.

The house at Diss from the south-west, showing the covered terrace outside the living room.

SUMMARY

Total floor area: 1,060 sq. ft.
Type of contract: fixed price.
Tender date: June 29, 1956.
Work began: October, 1956.
Work finished: March, 1957.
Tender price, including terrace and external works: £2,120.
Final contract price, excluding external works: £2,140 18s. 1d.
Final contract price, external works: £140.

House at Stanway Green

CLIENT'S REQUIREMENTS

An easily maintained, economical house, for an architect, his wife and two children. Designed so that an ancillary building could later be added to provide quiet sleeping and working space for the parents, when the present main bedroom would become a child's room. In the present building a work alcove was necessary, and a hall that could be used as a picture gallery for wife's paintings. To be sited so as to preserve as many of the trees on the site as possible.

PLANNING AIMS

To achieve a balance between requirements at different stages, so as to get the best value for money initially laid out.
To combine an open living space with an economical heating system, a well-organised kitchen and a utility room which would cut heat loss in winter, double as a back porch and be the centre for dirty chores. The work alcove to double as a spare bedroom.

The south end of the house at Stanway Green with the living room window on the left.

SUMMARY

Ground floor area: 904 sq. ft.
Type of contract: cost, no profit.
Work began: May 1957.
Work finished: January 1958.
Final cost of foundations, superstructure, installations and finishes: £2,786 6s 4d.

analysis

House at Staines Green

	cost per sq. ft.	s	d
Preliminaries and insurances		2	6
Contingencies: Nil			
Work below ground floor level		5	11¼
Site clearing: top soil removal, excavation, 24-in. × 18-in. foundations. Hardcore average 2 ft. 3 in. thick, 6-in. concrete slab. Clinker block fill. Underfloor drainage.			

STRUCTURAL ELEMENTS

External walls		7	8
11-in. cavity. Buff facing bricks; 2-in. cavity, 4½-in. lightweight building blocks and internal plaster. Cost includes screen wall to terrace and all lintels and internal 4½-in. × 1-in. skirtings. Ratio: solid wall / floor area = 0·73 / 1			
Windows		3	5
Ratio living rooms 0·42 / 1 Ratio offices, etc., 0·105 / 1 All windows timber special wood. Teak sills. Cost includes two primers red lead, two undercoats and one coat gloss paint—and all d.p.c.s.			
External doors		1	9½
Glazed and solid panel and framed, ledged, braced. Cost includes two coats red lead primer, two undercoats, one coat gloss paint, frames and hanging and all d.p.c.s and thresholds. Ratio: doors / floor area = 0·07 / 1			
Roof construction		6	7½
Fall 1 in. in 3-ft. 7-in. × 2-in. joists at 16-in. centres. Wood wool, cement filler, 1 layer asbestos felt and 3 layers bituminous felt: ½-in. chippings. 12-in. × 1-in. fascia, 2-in. × 2-in. angle. Internal timber-lined felt gutters to internal r.w.p.s. All timber primed before fixing and once after fixing. All, 2 undercoats, 1 gloss finish. Actual area: 174 sq. yd.			
Roof lights			3½
Number of lights: 1. Area: 12 sq. ft. Sapele internal lining treated 2 coats plastic floor treatment. External, 2 primers, 2 undercoats, 1 coat gloss paint. Cost includes trimming, etc.			
Glazing			6½
All glass 32-oz. selected glazing or ¼-in. Georgian wired cast.			
Total of structural elements		**20s**	**3½d**

House at Great Missenden

	cost per sq. ft.	s	d
Preliminaries and insurances			8½
Contingencies			10½
Work below ground floor level		5	2¼
Strip footings and load bearing walls up to d.p.c. level. Ground slab. Cost includes all site clearance, excavation and filling.			
External walls		7	9½
3-in. or 4-in. breeze, 2-in. cavity, 4½-in. facing brickwork or flettons. Timber framed panels with cedar boarding externally. Ratio: solid wall / floor area = 1·07 / 1			
Windows		2	9½
Softwood frames, side and top hung. One frameless sliding window. Living room, softwood window wall and cedar board panel. Ratio: windows / floor area = 0·18 / 1			
External doors			8½
Diagonally boarded doors to porch, kitchen and garage. Kitchen door is of stable type. Ratio: doors / floor area = 0·12 / 1			
Roof construction		6	11
Timber joists, 1½-in. wood wool, cement screed to falls. Area: 1,157 sq. ft.			
Glazing			8½
Single glazing. Cloakroom window in reeded glass			
Total of structural elements		**18s**	**10½d**

analysis

House at Diss

	cost per sq. ft.	s	d
Preliminaries, insurances and contingencies (distributed among element prices)			
Work below ground floor level		2	3½
Conventional concrete strip foundations 2 ft. × 9 in. and 1 ft. 6 in. × 9 in., about 2 ft. deep and stepped from north to south as the site slopes.			
STRUCTURAL ELEMENTS			
Frame or load bearing element			
Brick cavity walls and 4½-in. partitions. 4-in. external studwork. (Cost given below.)			
External walls		11	8½
10½-in. cavity brickwork; 4-in. studwork with cedar weatherboarding externally and patent insulating board internally. Ratio: solid wall / floor area = 0·94 / 1			
Windows		1	5¼
Standard metal, in purpose-made wood surrounds. Ratio: windows / floor area = 0·17 / 1			
External doors			6¾
Glazed wood panel doors; also ledged and braced. Purpose-made metal french doors in wood surrounds. Ratio: doors / floor area = 0·06 / 1			
Roof construction		3	9
Joisted flat roof. Area: 1,384 sq. ft.			
Glazing			4¾
Single 26-oz. sheet in windows, 32-oz. in french doors.			
Total of structural elements		17s	10½d

House at Stanway Green

	cost per sq. ft.	s	d
Preliminaries and insurances		2	9
Work below ground floor level		3	3¾
2-ft. × 9-in. concrete strip foundation; 9-in. brick perimeter walls; 4½-in. honey-combed sleeper walls on 4-in. (min.) concrete raft.			
Frame or load bearing element		7	1¾
4-in. × 2-in. softwood framing; studs at 24-in. and 16-in. centres depending on finish internally. 10½-in. cavity wall introduced as a foil but this is non-load bearing. 2-in. × 1½-in. softwood noggins at 2-ft. (max.) centres. Floor, 4-in. × 2-in. softwood joists at 16-in. centres on 4-in. × 1½-in. softwood plates on patent damp proof course.			
External walls		5	8
1-in. v-jointed western red cedar cladding, 2-in. air space, 1-in. wood-wool slab. Either side of front door and on north elevation 1-in. deal boarding is used and painted white. In parts of bedroom 1, living space and study, the wood-wool slab is the finish internally. Ratio: solid wall / floor area = 1·52 / 1			
Windows		2	0½
All opening lights standard hot dip galvanised metal windows, placed inside linings. Fixed lights all with 1-in. linings and softwood beads. Ratio: windows / floor area = 0·28 / 1			
External doors			8¾
4 external doors, all purpose made. Front and rear doors western red cedar faced on softwood frame with ¼-in. ply backing. Terrace doors, 2-in. softwood framing, glazed. Ratio: doors / floor area = 0·077 / 1			
Roof construction		4	4½
8-in. × 2-in. softwood joists cut to fall 3-in. over width of building, v-jointed, with 2-in. shower-proof decking. Area: 1,044 sq. ft.			
Glazing		1	5
¼-in. polished plate in terrace doors and five large windows. 32-oz. in large panes, 24-oz. in small.			
Total of structural elements		19s	11¼d

analysis

House at Staines Green	s	d	*House at Great Missenden*	s	d
PARTITIONING AND FITTINGS					
Internal partitions All lightweight building blocks. 3 in.: 85 sq. yd. 4½ in.: 51 sq. yd. All partitions plastered both sides. Wall of fair-faced hand-picked facing brick in living room. Upper parts of storey frames panelled both sides in Parana pine or chipboard. 4½-in. × 1-in. skirtings.	2	10½	**Internal partitions** *Type of partitition* — *Area of each type* 9-in brickwork — 17·2 sq. yd. 4½-in. brickwork — 14·2 sq. yd. 3-in. breeze — 49·3 sq. yd.		8½
			Screens Fitment between kitchen and dining area consisting of cupboard, worktop, shelves and high level cupboard.		10½
Internal doors 12 single doors. Mahogany faced flush doors finished 2 coats plastic floor treatment, rubbed down steel wool after each coat. Frames 5½ in. × 2 in. and 4½ in. × 2 in. twice primed, 3 coats matt paint. Cost includes hanging and 1½ pairs hinges to each door.	1	9½	**Internal doors** 11 single flush ply painted doors, including 4 to cupboards. 1 pair double, sliding doors to a cupboard, flush ply, painted.	2	9
Ironmongery Door furniture: dull nickel plate with shaped teak grips. Window fittings: satin chrome. Cupboard furniture and fixings, etc.: satin chrome.	1	6	**Ironmongery** Anodized aluminium finish.		8½
Fittings Built-in wardrobe: mahogany faced, birch lined; shelving to central store run; vacuum cleaner store and cupboard; kitchen: dining unit kitchen cupboards; larder shelving and marble slab; laundry hinged sapele working bench; drying cabinet including heater and thermostat control, miscellaneous and garage shelving, etc.	3	8½	**Fittings** Bank of EJMA cupboards in kitchen. Bookshelves and mantelpiece, meter cupboard. Light fittings.	1	5¾
Total of partitions and fittings	**9s**	**10½d**	**Total of partitions and fittings**	**6s**	**6d**
FINISHINGS					
Floor finishes Screed 2¾ in. thick, 123 yd. 1-in. nom niagon wood block, 42 sq. yd. Cork tiles finished 3 coats plastic floor treatment, 51 sq. yd. Heather-brown-buff-red quarry tiles, 30 sq. yd. Garage finished trowelled concrete.	4	4½	**Floor finishes** *Type of finish.* — *Area in sq. ft.* — *Price per sq. yd.* Thermoplastic tiles — 594 — 14s 2d Afromosia wood blocks — 302 — 36s 0d Granolithic — 40 — 13s 8d Fair concrete — 158 — —	3	0¾
Wall finishes Bathroom, kitchen and laundry—finished 1 primer and 3 coats matt oil paint. All other walls—3 coats emulsion paint. Wall tiles in bathroom and kitchen.	1	0	**Wall finishes** Fairfaced brickwork, white glazed tiles and 2 coat plaster internally. Some rendering externally.	3	1¼
Ceiling finishes Living room: 42 sq. yd. Parana pine boards finished 2 coats plastic floor treatment. All other ceilings: plaster board skimmed and finished 1 primer, 3 coats oil or 3 coats emulsion paint. Garage ceiling 1½-in. woodwool slabs, distempered.	1	5¼	**Ceiling finishes** One finishing coat of plaster on plasterboard.		10½
Roof finishes Cost included in roof construction.			**Roof finishes** Three layers of bituminous felt finished with granite chippings and aluminium trim. Area: 1,157 sq. ft.	1	8¾

analysis

House at Diss	s	d	*House at Stanway Green*	s	d
PARTITIONING AND FITTINGS					
Internal partitions *Type of partition* — *Area of each type* 4½-in. brick — 184 sq. ft. 3-in. block — 375 sq. ft. 10½-in. cavity walling — 166 sq. ft.	1	10¾	**Internal partitions** 3-in. × 2-in. softwood stud partitions, usually faced with fibre-board, but sometimes with 1-in. wood-wool slab, or ⅜-in. Douglas fir plywood.	1	11
			Screens One only, between living and dining spaces, softwood studs faced on the living space side with ⅜-in. asbestos cement and with ⅜-in. mahogany ply on dining space side.		2½
Internal doors Standard flush doors, 10 single, 1 pair of hatch doors.		9½	**Internal doors** 14 single doors, flush ply faced.	1	9
Ironmongery White plastic.		2½	**Ironmongery** Continental satin finished anodized aluminium lever handles generally, with matching pull handles, letter plate, etc.	1	3¾
Fittings Formica work tops and cupboards in kitchen, purpose-made.	1	10¾	**Fittings** 2 full-size bunks in children's bedroom. Utility sink counter and washing machine recess. Kitchen counters including cantilevered dining table (both part of same framing); small shelf for radio in living space.	5	7
Total of partitions and fittings	4s	9½d	**Total of partitions and fittings**	10s	7¼d
FINISHINGS					
Floor finishes *Type of finish* — *Area in sq. ft.* — *Price per sq. yd.* Thermoplastic tile — 189 — 23s. 1-in. t & g boarding on nailable concrete — 666 — — Screed — 36 — —	2	3¼	**Floor finishes** Blue quarries in utility room, larder and part of kitchen, otherwise 1-in. deal boarding.	3	1
Wall finishes ⅝-in. plaster.		11¼	**Wall finishes** Fibreboard and wood-wool slab finished emulsion paint. Douglas fir plywood, 2 or 3 coats of plastic hardener, except as splash-back in kitchen, where it is painted. Mahogany ply left natural.	4	4¾
Ceiling finishes Perforated acoustic board lining.	1	6	**Ceiling finishes** Fibreboard finished emulsion paint.	2	1½
Roof finishes 3 layer felt with ½-in. granite chippings on 2-in. straw slabs.	1	5¼	**Roof finishes** Mineral finished roofing felt. Copper roof to tank compartment, copper flashing to eaves. Area, 1,044 sq. ft.	2	8

analysis

House at Staines Green

	s	d
Decorations		
Cost included under separate elements.		
Total of finishings	6s	5½d

SERVICES

	s	d
External plumbing		11¼
Cost of installation of water main only, including local charges and cost of service to centre of house and below tanks. Length of new water supply approximately 300 ft.		
No other external plumbing—all waste and r.w.p.s internal.		
Hot and cold water installation		8¼
Cost includes copper traps and fixing. Hot and cold supplies from tanks and calorifier to sanitary fittings and painting (1 primer, 2 undercoats, 1 gloss) pipe runs and pipe duct in bathroom.		
Sanitary fittings	1	8¾

Type of fitting	*No. of each type*
W.c.s	2
Lavatory basin	1
Bath	1
Stainless-steel sink	1
Belfast sink	1

Heating and ventilation	4	11¼
Internal temperatures: day 65 deg.; evening 70 deg.; night 55 deg. U of walls 0·143, of roof 0·16.		
Solid fuel boiler and a heating system of circulated warm air. Cost includes storage tank; boiler expansion tank; 30-gallon calorifier; heater cabinet and door; flues and open fireplace; valve to calorifier determines domestic hot water provision and adjusted to suit consumption.		
Electrical installation	3	0¾
18 light points and ceiling fittings.		
13 power points.		
Cooker unit and twin immersion heaters to calorifier.		
Cost includes charge for main to house at £36 and all fittings. (Sub-contract by friend resulting in reduced cost.)		
Total of services	11s	4½d
Drainage	3	0½
Double seal cover and frame to m.h.s. All connections to drains internal. All drains easily accessible. No external gullies. All soil pipes encased in concrete. All storm water pipes surrounded in clinker. Cost includes septic tank.		
External works		
None.		
Total per sq. ft. of floor area:		
£4,192 (net cost excluding external works) / 1,410 sq. ft. (measured inside external walls)	= 59	5½

House at Great Missenden

	s	d
Decorations	2	0¾
Two coats emulsion paint on plastered surfaces.		
One coat primer, one undercoat and one gloss on softwood (two undercoats externally).		
Two applications of linseed oil to external hardwood.		
Wax polished internally.		
Total of finishings	10s	10d

External plumbing		8¼
Rainwater head and downpipe to garage. Internal rainwater pipes.		
Hot and cold water installation	3	7½
Tanks, calorifier, copper piping, service connection.		
Sanitary fittings	1	11

Type of fitting	*No. of each type*
W.c.s	2
Lavatory basins	2
Bath	1
Enamelled sink and drainer	1

Heating and ventilation	1	1¾
Back boiler and 2 radiators. Grilles provided under living room windows for electric tubular heaters.		
Controlled underfloor ventilation to hearth.		
Extract fan in kitchen window.		
Electrical installation	1	2½

Type of point	*Number of each type*
Light	15
13-ampere ring	12
Cooker	1
Immersion heater	1

Supply brought in underground.

Total of services	8s	7d
Drainage	3	10¾
Soil: salt glazed stoneware pipes with 2 manholes leading to septic tank.		
Rainwater: salt glazed stoneware internal shoes and pipes leading to open jointed agricultural pipes leading to soakaways.		
External works	1	8¾
Entrance porch and back door canopy. Tank casing. Drive, tree and hedge cutting.		
Total per sq. ft. of floor area:		
£3,082 (net cost excluding external works) / 1,157 sq ft. (measured inside external walls)	= 53	3¾

analysis

House at Diss	s	d	*House at Stanway Green*	s	d
Decorations Oil paint on woodwork. Distemper on walls and ceilings. Emulsion paint in kitchen and bathroom. One wall of spare bedroom is papered.	2	3½	**Decorations** Emulsion paint, 3 coats. Gloss oil paint, 4 coats.	2	0½
Total of finishings	8s	5d	**Total of finishings**	14s	3½d

SERVICES

External plumbing Asbestos r.w.p.s on east side only.		4¾	**External plumbing** Copper waste pipes discharging over gullies. 4-in. soil waste pipe and 3-in. rainwater pipe in duct in bathroom. 3-in. cast iron rainwater pipe in larder to discharge over rainwater butt.	1	6½
Hot and cold water installation Copper with chromium-plated brass fittings.		11½	**Hot and cold water installation** Openable solid fuel stove in living space; three pressed steel radiators. 30 gall. hot water cylinder; 80 gall. cold water storage tank on roof with 10 gall. expansion tank. Copper piping generally.	4	4¾
Sanitary fittings		11½	**Sanitary fittings**	2	1
Type of fitting / *No. of each type* W.c. 1 Sink with double drainer 1 Lavatory basins 2 Bath 1			*Type of fitting* / *No. of each type* Double bowl kitchen sink, white earthenware 1 5 ft. 6 in. bath 1 Basin and standard low level suite with flush panel cistern 1		
Heating and ventilation Radiators and electric fires. A solid fuel fire in sitting room has back boiler, heating the radiators.		11½	**Heating and ventilation** Cost of heating under hot and cold water installation above. No mechanical ventilation. U of walls, 0·144.		
Gas installation 1 water heater for all hot water supplies. Point for one gas cooker.	1	10¾	U of roof, 0·149.		
Electrical installation 11 lighting points. 7 13-amp.		11½	**Electrical installation** *Type of point* / *No. of each type* Light points 13 Combined cooker control and plug 1 Socket outlets (unswitched) 8	1	1¾
Total of services	6s	0½d	**Total of services**	9s	2d
Drainage To public sewer.	1	3¾	**Drainage** 4-in. s.g.s. drains, double chamber septic tank; 2 manholes on soil water drain. One soakaway for rainwater.	3	2¾
External works Concrete flower box and metal grille. 2½-in. steel columns to carry roof over terrace. Paving	2	5½	**External works** Fuel bunker. Chimney.		7¾
Total per sq. ft. of floor area: £2,140 18s. 1d. (net cost excluding external works) / 1,060 sq. ft. (measured inside external walls)	= 40	5	Total per sq. ft. of floor area: £2,786 6s 4d (net cost excluding external works) / 904 sq. ft. (measured inside external walls)	= 61	7¾

analysis

COST COMMENTS

External walls. One is first tempted to show that load bearing faced brickwork illustrated in Glyn Davies' house produces the lowest cost. This is, however, the house with the largest floor area and the same figures would not therefore be found by substituting this construction on any of the other three schemes. After making allowances for the solid floor to wall ratio and other factors obscuring a comparison, it appears that Peter McKinley has arrived at the most economic arrangement. The differences between them all are, however, only slight and there is obviously value for money in all of them.

Roof. There is quite a variation in the cost of the roofs. Fletcher Watson has produced his, complete with finishings, for about £275. His construction compares with Peter McKinley's which, however, seems to have cost a lot more. Fletcher Watson has managed without a cement screed and only 1½-in. wood wool. This has probably saved him £50. Glyn Davies, who has followed a similar method, has introduced additional insulation and cost with a layer of asbestos felt.

Partitions, doors and fittings. Comparisons here become somewhat pointless. The cost varies with choice. We all know how much can be spent on equipment of this character. It is useful, however, to observe the lowest cost of those illustrated, Fletcher Watson's. It is only a two bedroomed house, but the total £250 spent for this section is a guide to a reasonable minimum allowance which can be made to include purpose made kitchen fittings, and doors fitted with plastic door furniture.

Floor finishings. It is Fletcher Watson's 1-in. t. & g. boarding nailed to solid floor which shows the lowest cost of floor finishes. Peter McKinley has a predominantly thermoplastic finish with afromosia over the remaining one third, but it has cost him more money.

Ceilings. On ceilings, the figures inform us, acoustic or fibreboard is nearly twice as expensive as plaster skim coat on plasterboard.

Decoration. These are remarkably similar; around £100 per house.

Heating, hot and cold water services. This again is a section which displays a wide variety of components and you pay for what you want. The whole house costs, excluding sanitary fittings, are approximately £200, £250, £275 and £385 for Fletcher Watson, J. E. C. Brand (at cost, remember), Peter McKinley and Glyn Davies respectively.

The whole house. Excluding external services, they range from 40s 5d (for aged person with two bedrooms) to 61s 8d for J. E. C. Brand's (probably nearer 70s from a contractor). The price per foot super will fall as the area increases and Glyn Davies' house at 59s 5½d for 1,410 ft. super would also probably cost about 70s if reduced to some 1,000 ft. super. From the evidence of these analyses we can presumably tell our clients that they can have a single storey three bedroom house of 1,000 ft. super, economically designed and equipped, at current prices, from 55s (£2,750) plus external services.

CONTRACTORS

HOUSE AT STAINES GREEN

Sub-contractors: Floors: Hollis Bros. *Heating:* Weatherfoil. *Roofing:* Excel Asphalte Co. *Joinery:* Ware Joinery Co. *Bricks:* Ibstock Brick & Tile Co. *Ironmongery:* Nettlefold and Moser. *Glazing:* John Hall, Son. *Sanitary fittings:* Stitsons Ltd.

HOUSE AT GREAT MISSENDEN

General contractors: Brown & Clark Ltd. *Sub-contractors: Accotile floors:* Armstrong Cork Co. Ltd. *Woodblock floors:* Victoria Sawmills Ltd. *Purpose-made joinery:* Max E. Ott. *Felt roof finish:* Vulcanite Ltd.

HOUSE AT DISS

General contractors: Blackburns (Harleston) Ltd. *Sub-contractors: Electrical:* Boggis Electrical Ltd. *Floors:* Holmes (Norwich) Ltd.

HOUSE AT STANWAY GREEN

General contractors: E. C. P. Brand. *Sub-contractors: Roofing:* Permanite (London) Ltd. *Plate glass:* Kent Blaxill Co. Ltd.

working detail

CEILING LIGHTING: UNDERGROUND STATION IN PARIS

M. Jayot, architect (material supplied by Michael Hacker)

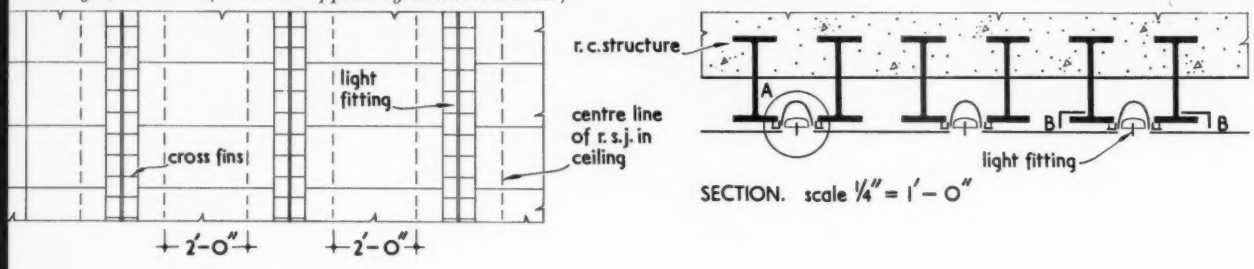
This ceiling owes its form in part to the low headroom permitted by the supporting structure. In practice the fluorescent tubes are almost completely concealed from passers-by below. The projecting aluminium fins have as their object the reflecting of light upwards towards the ceiling itself, thus preventing too great a contrast with the louvres. Though it was not possible to show this on the drawing, each length of fin is joined to its neighbours by a secret withdrawable steel tongue. The purpose of this is to ensure correct re-alignment after the louvres have been lowered for maintenance.

working detail

LIGHTING: 14

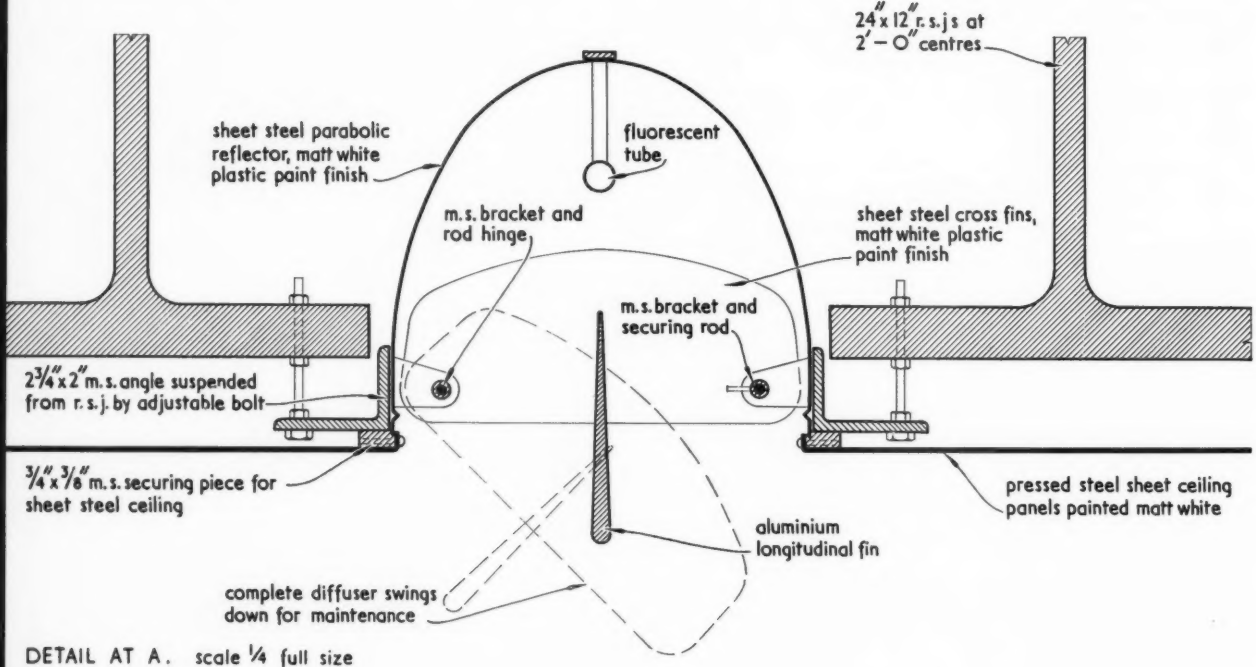
CEILING LIGHTING: UNDERGROUND STATION IN PARIS

M. Jayot, architect (material supplied by Michael Hacker)

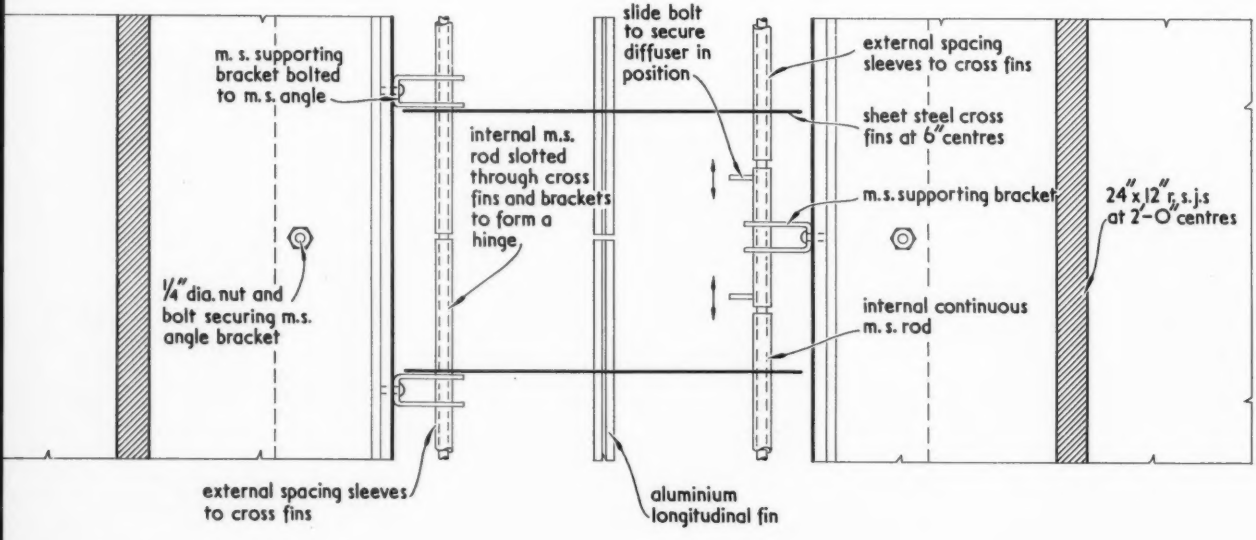


REFLECTED PLAN scale 1/4" = 1'-0"

SECTION. scale 1/4" = 1'-0"



DETAIL AT A. scale 1/4 full size



PLAN AT B-B. scale 1/4 full size

note: figured dimensions in feet and inches are approximate

working detail

WATER SUPPLY AND SANITATION: 9

LAVATORY : LABORATORY AT AMERSHAM, BUCKS

E. D. Jefferiss Mathews, architect

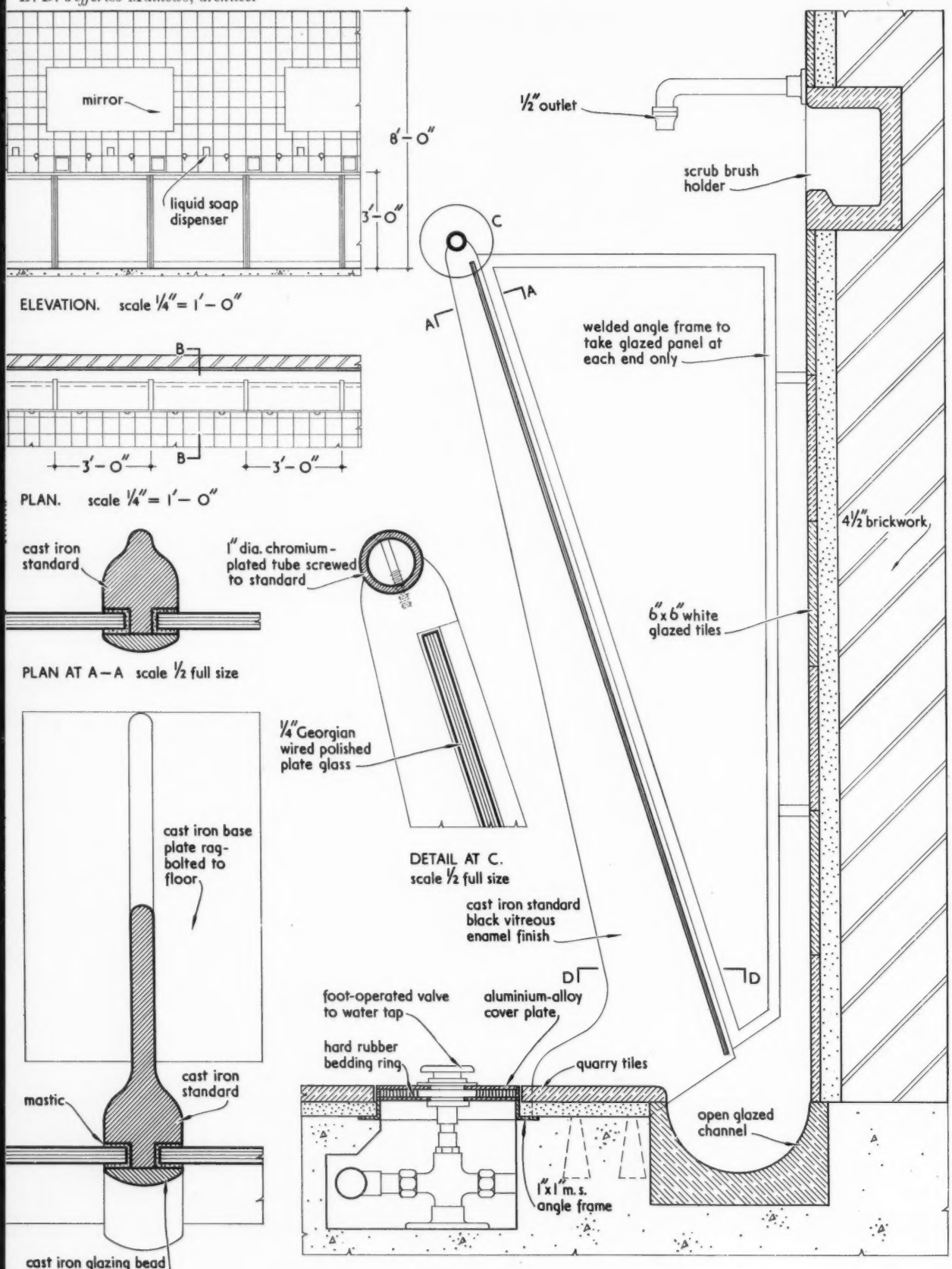
The designers of this detail have recognised that washing by spray tap is a different operation from washing in a basin. By providing a continuous splash-plate with a drain at the foot, they save on sanitary ware and plumbing and provide a washing place which gives more elbow room and less chance of splashing water on the floor.

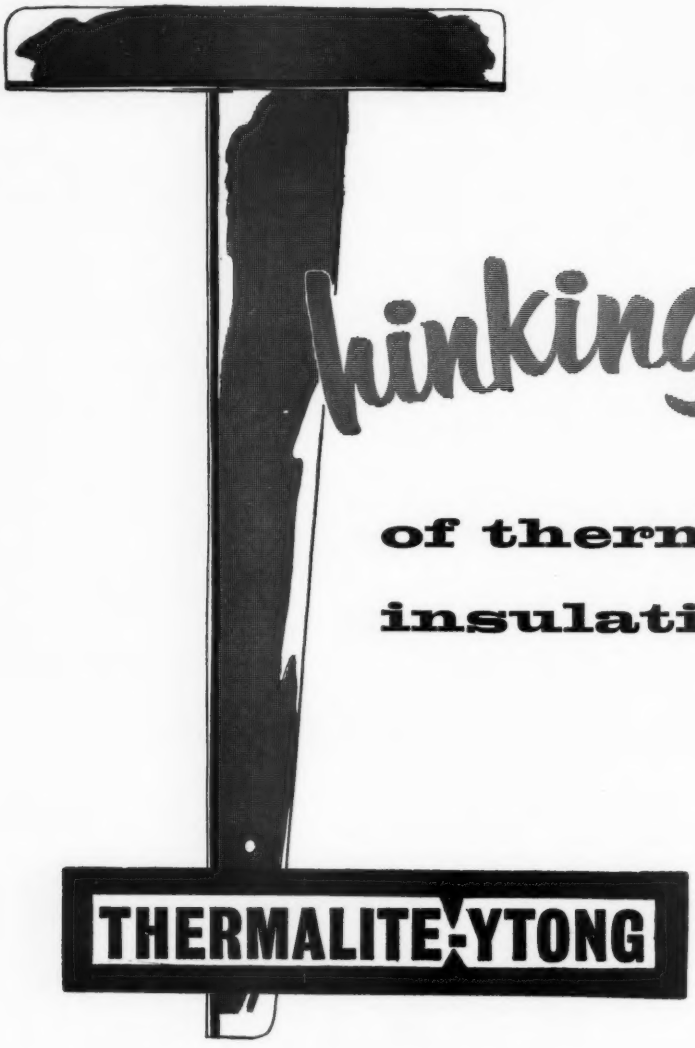
working detail

WATER SUPPLY AND SANITATION: 9

LAVATORY: LABORATORY AT AMERSHAM, BUCKS

E. D. Jefferiss Mathews, architect





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Announcements

PROFESSIONAL

Architects' Co-Partnership of 44, Charlotte Street, W.1, have taken into associate partnership, Ralph Wilkinson, A.R.I.B.A., A.A. Dip.

TRADE

T. & W. Farmiloe wish to make it known that from September 1 all orders by telephone for paint products should be to Macaulay 7121. All other orders and enquiries should be telephoned to Victoria 4480.

The new address of the Lamp Sales Dept. of AEI Lamp & Lighting Co. Ltd., is Melton Road, Leicester. All orders for the London, Croydon, and Stevenage areas should still be sent to 44, Fitzroy Road (telephone: Leicester 61331).

Fidor Ltd. moves to new offices on September 15, their address will be Stafford House, Norfolk Street, London, W.C.2. L. R. Chambers, the Director-General, will be assisted on the public relations side by E. A. M. Colman.

The UAM Group have appointed three new representatives. F. Jenkinson will cover South Lancashire including Liverpool, Warrington, Cheshire and North Wales. T. T. Akhurst will operate in the Leeds/Bradford/Huddersfield area of the West Riding of Yorkshire, and K. Wainwright will serve the whole of the East Riding, and the York and Harrogate areas from November 1. All will operate from the Group's Manchester office at 196, Deansgate, Manchester (Blackfriars 2466).

The Trussed Concrete Steel Company has changed its name to Truscon Ltd.

The telephone number for the head office of the UAM Group at Tolpits, Watford, Herts., is now Watford 34551. This change applies to the Universal Asbestos Manufacturing Co. Ltd., UAM Plastics Ltd., Union Fibre Pipes (Great Britain) Ltd. and Universal Asbestos (Overseas) Ltd.

Leaderflush (Doors) Ltd. have appointed Robert Keys & Co. Ltd., 26, Strand Road, Londonderry, Northern Ireland (telephone 3206-7) to act as sole distributors of Leaderflush doors for the County of Londonderry and north Tyrone.

K. H. Osborne has been appointed managing director and N. D. Hodge has become chairman of the Scottish Land Development Corporation.

British Insulated Callender's Cables Ltd. will open a new depot at Oakcroft Road, Chessington, Surrey. H. M. Hudson will be in charge of the depot.

The British Plaster Board (Holdings) Ltd. offer to acquire Ordinary Shares of Gypsum Industries Ltd., Eire, has now become unconditional, as acceptances have been received which will give The British Plaster Board (Holdings) Ltd., more than 75 per cent. of the Ordinary Shares of Gypsum Industries Ltd.

C. F. Anderson & Son Ltd. say that, while the fire in their Essex Road premises was serious, they are continuing to trade in Softwoods, Hardwoods and Plywood from adjacent premises. The Wallboard section of the business at Harris Wharf, Graham Street, N.1 was not involved.

Sir W. A. Rose and Company Ltd. have now moved their offices to 36/38, Berkeley Square, W.1 (telephone Mayfair 0758/9).

Ronuk Ltd. have appointed J. B. Matchett to the new position of Industrial Sales Manager; previous to this Mr. Matchett was the Ronuk North Eastern Area Sales Manager. This post has now been taken over by E. W. Eglin.

Kay & Co. (Engineers) Ltd., Bolton Brass Works, Blackhorse Street, Bolton, Lancs., have changed their telephone number to Bolton 3041 (4 lines). The Company has also installed a Telex system, Telex number 63-186.

Horsley, Smith & Co. (Hayes) Ltd., have elected to the Board of Directors R. G. Kingsley and A. E. Shaw, A.C.A.

J. A. Crabtree & Co. Ltd., are holding an exhibition of their products at The Royal Turks Head, Grey Street, Newcastle-on-Tyne 1, from November 3-7.

Causeway Reinforcement Ltd., 66, Victoria Street, S.W.1, have appointed William Dickinson & Co. Ltd., of Proctor House, Newcastle-on-Tyne, as Northern Representatives for "Hexmetal" armouring for roads and linings in oil refineries and all types of industrial plant.

H. J. Legg and Charles Steel have joined the Board of Plyglass Ltd. as Works Director and Sales Director respectively. Mr. Steel has been the Northern Area Manager and Mr. Legg Works Manager for some considerable time.

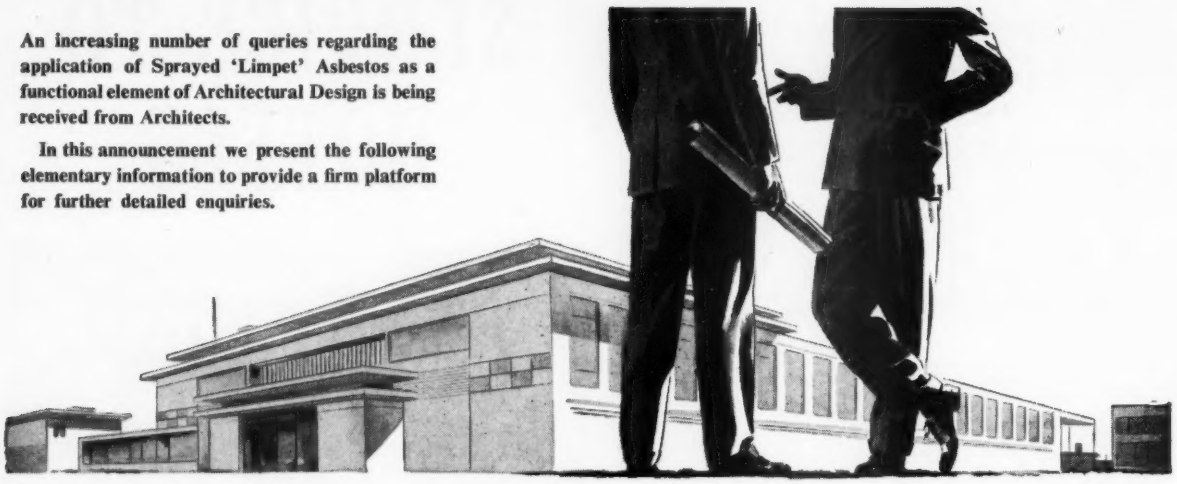
The new Manager of the Crompton Parkinson Cardiff Branch, Plant Division is C. E. Hucker.

OFFICE BLOCK IN COLCHESTER

This new office block, 36,300 sq. ft. in area, has just been completed for Woods of Colchester Ltd., and was designed by Bailey and Walker (partner in charge, P. Russell Walker). The three-storey block contains boardroom and executive directors' suites, the two-storey wing on the right, the general offices, and is connected by two subway staircases to the main factory area. Curtain walling of asbestos insulation board behind blue vitreous slab panels, with double glazed windows, covers the steel frame and concrete beams spanning between the steelwork. The offices required clear floor spaces unobstructed by stanchions, and 50 ft. wide, steel trusses were used with the maximum depth in the middle, the minimum at the ends, over the windows, providing space here to house all electrical, ventilating and other ducts and services. General contractors, Henry Everett & Son.

An increasing number of queries regarding the application of Sprayed 'Limpet' Asbestos as a functional element of Architectural Design is being received from Architects.

In this announcement we present the following elementary information to provide a firm platform for further detailed enquiries.



an architect asks questions about Sprayed 'Limpet' Asbestos by NEWALLS

REGD.

"What do you consider is the major advantage of Sprayed 'Limpet' Asbestos?"

Probably the most important element is that the 'Limpet' process gives intimate surface contact, sealing all joints, covering rivets, irregularities and protrusions in a continuous coat that entirely eliminates air spaces—a significant factor in itself.

"I understand that Sprayed 'Limpet' Asbestos has two insulating properties?"

Correct. In addition to providing a high degree of thermal insulation, it is an excellent material for absorbing sound. Indeed, many firms have specified the process for correcting acoustic distortions alone.

"Being largely Asbestos, I suppose the process gives a measure of fire protection?"

Most certainly! Again, it is often used solely because of its fireproofing properties. In fact, this method was the first to be approved for Class A fireproofing of ships under the 1948 Convention.

"Being porous, isn't the treatment liable to premature rotting where condensation exists?"

On the contrary. Asbestos is chemically inert. It is rotproof, verminproof and undamaged by water. Condensation is diffused preventing dripping and allowing for speedy re-evaporation to the atmosphere from the warm surface of the coating.

"It seems too versatile for words. It's a Thermal and Acoustic Insulant, rotproof and verminproof, fire-resistant, prevents condensation, resists vibration . . . anything else?"

Well. It has been used extensively purely as an anti-corrosion measure on metals subject to severe corrosive conditions, but we'd have to know the particular application you had in mind to give our full recommendations.

"Naturally. And if we did want Thermal and Acoustic Insulation—and Fire protection in one coating—I suppose it would cost the earth?"

Frankly—no. You see, the erection of timber grounds is not necessary. In application there is no cutting to waste, and the density and thickness is controllable to a very fine degree by highly efficient operators. It compares favourably with conventional insulation methods and materials.

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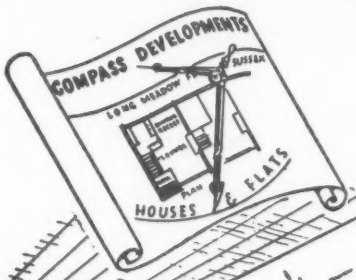


Selected by

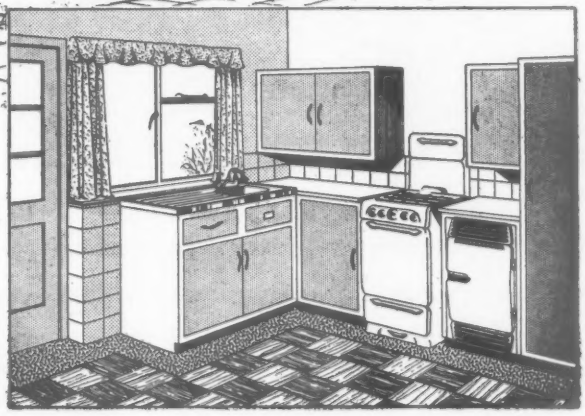
COMPASS DEVELOPMENTS

(Nixon & Pearce Ltd.)

for their Long Meadow Estate,

Felpham, Bognor Regis.

Architect: K. G. Higgs, A.R.I.B.A.



"Long Meadow" was originally planned as a Bungalow Estate but acting upon a suggestion from the Chairman of the B.R.U.D.C., Mr. J. C. Earle, Compass Developments set out to plan a more modern venture comprising two and three-bedroom houses and flats using "cross wall" construction, and offering as standard equipment such refinements as washing machine, spin drier, refrigerator, etc., which will be inclusive in the overall moderate cost.
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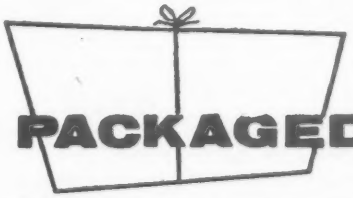

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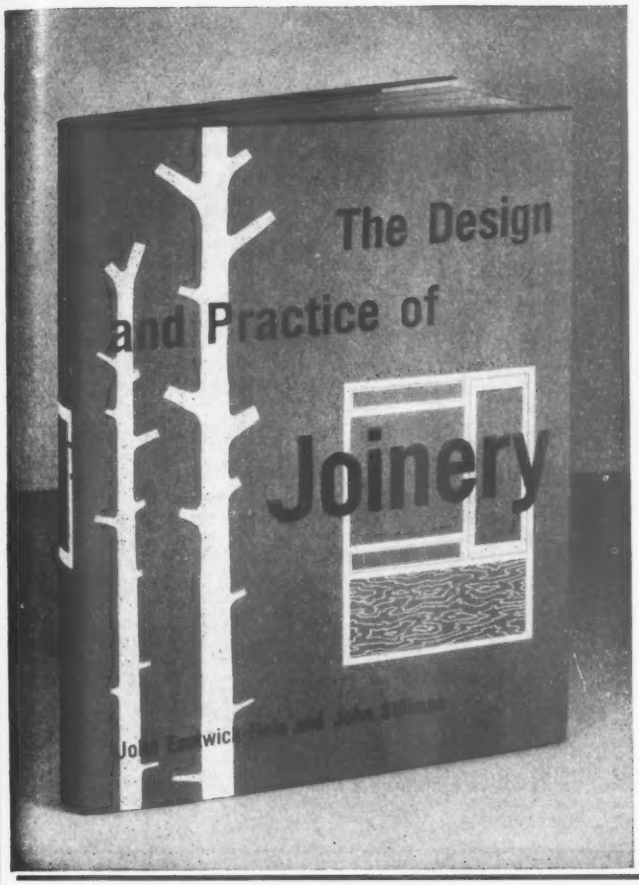

The Design and Practice of Joinery

by John Eastwick-Field, B..ARCH.(HONS), A.R.I.B.A. *and John Stillman*, DIPL.LONDON, A.R.I.B.A.
Foreword by Robert H. Matthew, C.B.E., M.A., F.R.I.B.A.

THIS, THE ONLY AUTHORITATIVE, UP-TO-DATE BOOK about present-day joinery practice, is published at the recommendation of the Text and Reference Books Committee of the Royal Institute of British Architects and is intended primarily for architects, assistants and students of architecture. But, because its scope is broad and because it is concerned with the basic principles of design and practice, it will also be of great interest and value to the members of kindred professions, especially quantity surveyors, and to all who are engaged in the handling and conversion of timber, including joinery manufacturers, joiners, cabinet makers, carpenters, shop fitters and other woodworkers.

The text includes chapters on the timber yard; moisture movement in timber; an analysis of construction; the design and machining of sections; and of joints; specification and practice. Among its useful appendixes are a selection of timbers suitable for joinery, set out in tabular form, a complete list of British Standard Specifications and Codes of Practice applicable to joinery, and a general bibliography It is comprehensively illustrated: there are nearly 90 photographs and over 200 specially drawn line illustrations—more than 80 in the chapter on joints. And there is a good index.

Size 9¾" by 7⅝". 224 pages, over 290 illustrations in halftone and line, including 200 line drawings specially drawn by Robert Maguire. Price 42s. net, postage 1s. 9d.

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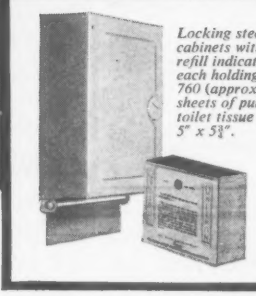
toilet tissue cabinet system



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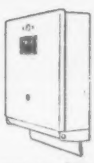

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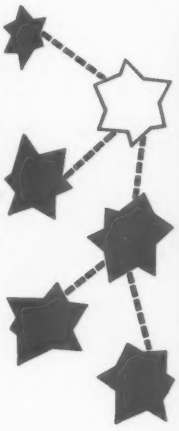

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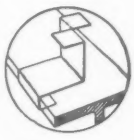

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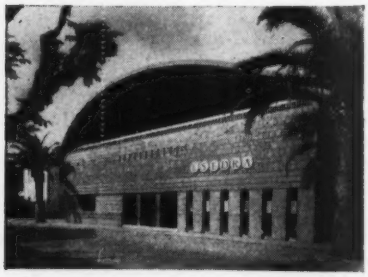
OCTOBER

Cinema in the Pineta; designed by Eugenio M. Rossi, and sited near the Roman Coast, its design involved some ingenious thinking about late-night ventilation in a close, damp climate.

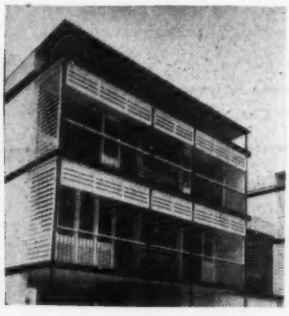


Brick and Concrete at Ham; a detail of wall, floor-slab, ventilator and gargoyle from a new flatted development at Ham Common by James Stirling and James Gowan.

Air Line Office; a tall black column in the new booking offices of Air France in Bond Street; designed by Charlotte Perriand (in collaboration with Peter Braddock), the first work in England of a designer who assisted Le Corbusier on some of his most famous interior work.

NOVEMBER

Sun-screens in Apapa; housing for the Nigerian Ports authority—this, and other recent work in West Africa by Architects' Co-Partnership will be described and illustrated in the October issue



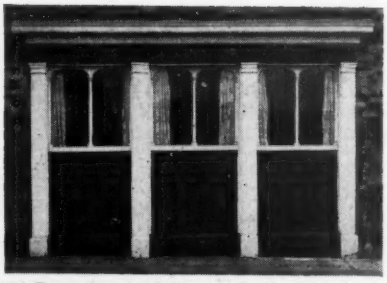
Toronto Modern: the centra gallery of the Parkin House, Toronto, one of a group of buildings by the outstanding Canadian design office John B. Parkin Associates, illustrated in this issue.

Engineering of Excitement; the covered market-hall in Royan by Sim and Morisseau, one of the buildings discussed by Robin Boyd in h article on the impact of new structural shapes on the architectu imagination.

DECEMBER

Seagram completed; and dwarfing even the Cadillac in foregroun the glass and bronze Seagram Building by Mies van der Rohe an Philip Johnson will be fully discussed and—tentatively—evaluate

Workshop Annexe: new stores, paint shops, etc., for the Old Vic, ingeniously packed under some awkward daylighting angles by Lyons, Israel and Ellis, and fully illustrated in this issue.



Pub Front: frame and fill on the facade of the Crown and Mitre, King's Lynn: one of the illustrations to an assessment of the aesthetic and functional aspects of pub exteriors and their future.

The Architectural Review's new standard binding, with alternate years bound in black and white, and alternate volumes initialled A and R, makes easier the identification of individual volumes, and their proper replacement on the shelf. The binding is buckram, and the price of binding per volume is 25s. Copies to be bound should be addressed, with the appropriate index, direct to the Architectural Press warehouse, Abbey House, 8 Victoria Street, London, S.W.1.

The annual post free subscription rate payable in advance is £3.3.0 sterling; in U.S.A. and Canada $10.50; elsewhere abroad £3.10.0.

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.

AIR-MAIL SERVICE available on request:
In response to requests from a number of Overseas subscribers for air-mail delivery of Public and Official Appointment details and Other Appointments Vacant, we have been pleased to arrange that cuttings of all such classified advertisements appearing in the A.J., shall be despatched by air-mail on Wednesday of each week (one day prior to A.J. publication date). The cost of this special service to Overseas subscribers will be 5s. for four weeks (1s. 3d. for each additional week) and prepayment should be sent by subscribers wishing to take advantage of this service. The charge we are making represents only the actual cost of the postage involved.

Public and Official Announcements

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

NEWTON-LE-WILLOWS URBAN DISTRICT COUNCIL
APPOINTMENT OF ARCHITECTURAL ASSISTANT

Applications are invited for the above-mentioned appointment at a salary in accordance with A.P.T. II. The National Scheme of Conditions of Service and the Local Government Superannuation Acts will apply. Provision of housing accommodation will be considered.

Preference will be given to applicants who have had experience in municipal housing.

Applications stating age, qualifications and experience, together with the names of two referees, to be received by the Clerk of the Council, Town Hall, Market Street, Newton-le-Willows, Lancashire, not later than 24th October, 1958. 1674

CWMBRAN DEVELOPMENT CORPORATION

Applications are invited for the undermentioned superannuable posts:—

(a) PRINCIPAL ASSISTANT ARCHITECT. New Towns A.P.T. VIII on the Salary Scale £1,139 × £57—£1,366.

The successful candidate who will be responsible to the Chief Architect for the Housing Section of his Department should be an Associate of the R.I.B.A. and preferably hold a Planning qualification and have good experience in housing design, construction and layout and management of large contracts.

(b) ASSISTANT ARCHITECT. New Towns A.P.T. V on the Salary Scale £844 × £37—£1,029. Candidates should be Associates of the R.I.B.A with some office experience and preferably have had experience in housing design, construction and layout and/or shop and commercial development.

Housing accommodation will be provided in suitable cases or otherwise lodging allowance will be paid to married men for a limited period.

Applications stating age, qualifications, experience, present and former employment (together with applicable salaries) and the names and addresses of two referees, should reach the undersigned by first post on 3rd November, 1958.

J. C. P. WEST, A.R.I.B.A., M.T.P.I.,
Chief Architect.

Victoria Street,
Cwmbran, Mon. 1636

LANCASHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

ARCHITECTS who are qualified are invited to apply for a post with a salary scale of £750 per annum rising to £1,030; the starting point in the scale will depend on experience. Interesting general programme of work with responsibilities according to ability.

Application forms, obtainable from the County Architect, G. Noel Hill, F.R.I.B.A., M.T.P.I., P.O. Box 26, County Hall, Preston, to be returned by Monday, 27th October, 1958, quoting Ref. A/AJ. 1624

LONDON COUNTY COUNCIL

ARCHITECTURAL OR BUILDING SURVEYING ASSISTANT for work on ancillary buildings in parks. Must have good draughtsmanship and drawing office expce. on preparation of working drawings and specifications, supervision of contract work and land surveying.

Salary up to £860 accdg. to quals. and expce. Apply giving brief partics. to Chief Officer, Parks Department, County Hall, London, S.E.1 (WATerloo 5000, Ext. 8076). (1976) 1719

GOVERNMENT OF NORTHERN IRELAND
ASSISTANT ARCHITECT CLASS II

Applications are invited for pensionable posts in the Chief Architect's Branch, Ministry of Finance. Candidates must be Registered Architects by examination, with at least 2 years' experience in an Architect's Office in the preparation of working drawings. Salary scale £780 (at age 25)—£1,055 (age 34 and over)—£1,215. Transfer of existing Pension rights may, in certain circumstances, be approved. Preference will be given to ex-Servicemen. Application forms may be obtained from the Secretary, Civil Service Commission, Stormont, Belfast.
F33/2/25/10/57 1718

PEMBROKESHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

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

(a) TWO ASSISTANT ARCHITECTS, Grade III A.P. & T. Division. Salary £845 × £35 to £1,025 p.a.

(b) ONE ARCHITECTURAL ASSISTANT, Grade I A.P. & T. Division. Salary £575 × £30 to £725 p.a.

Applicants should be Members of the R.I.B.A. by examination or have equivalent academic qualifications with experience of contemporary architecture and structural design.

The appointments will be subject to the Local Government Superannuation Acts and the National Joint Council's Scheme of Conditions of Service, and will also be subject to a satisfactory medical examination.

Forms of application can be obtained from Walter Barrett, M.B.E., A.R.I.B.A., County Architect, County Offices, Haverfordwest, and should be returned duly completed to the undersigned not later than 25th October, 1958.

H. LOUIS UNDERWOOD,
Clerk of the County Council.

County Offices,
Haverfordwest.
30th September, 1958. 1654

CITY AND COUNTY OF NEWCASTLE UPON TYNE
CITY ARCHITECT'S DEPARTMENT

The City Architect will be pleased to receive applications for the following vacancies:—

(1) PRINCIPAL ASSISTANT ARCHITECT. A.P.T.V. £1,175—£1,325. New Town Hall.
(2) PRINCIPAL ASSISTANT ARCHITECT. A.P.T.IV. £1,025—£1,175. General section.
(3) SENIOR ASSISTANT ARCHITECT. A.P.T.IV. £1,025—£1,175. Education section.
(4) SENIOR ASSISTANT ARCHITECTS. Special Class. £750—£1,030. Housing, Re-Housing, Education, New Town Hall and General sections.
(5) ASSISTANT ARCHITECTS. APT.II. £725—£845. Housing, General & Education sections.

There is a full and interesting programme of work, including housing, multi-storey flats, schools, New Town Hall and general buildings.

Application forms and full particulars giving title of post concerned may be obtained from George Kenyon, A.R.I.B.A., A.M.T.P.I., City Architect, 18 Cloth Market, Newcastle upon Tyne, 1.

JOHN ATKINSON,
Town Clerk.

Town Hall,
Newcastle upon Tyne, 1.
7th October, 1958. 1720

BOROUGH OF HEMEL HEMPSTEAD
ARCHITECTURAL ASSISTANT—SPECIAL GRADE £750—£1,030

Applications are invited for the appointment of an Architectural Assistant in the Borough and Water Engineer's Department at a salary within the Special Scale (£750—£1,030). Candidates should have passed Parts I and II of the R.I.B.A. final or special final examination or their equivalent at one of the recognised schools of architecture and to have had at least five years' experience including design of dwellings and public buildings for Local Authorities.

It is anticipated that housing accommodation will be made available to the successful applicant.

The appointment will be subject to the Local Government Superannuation Acts, to the National Conditions of Service from time to time in force, and to the passing of a medical examination and will be terminable by one month's notice in writing on either side.

Applications stating age, education, qualifications and experience, together with copies of two recent testimonials, should be sent to A. H. Turner, A.M.I.C.E., Borough and Water Engineer, High Street, Hemel Hempstead, Herts, not later than Monday the 27th October, 1958.

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

C. W. G. T. KIRK,
Town Clerk.

Town Hall.
High Street,
Hemel Hempstead, Herts.
6th October, 1958. 1721

VACANCIES FOR
ARCHITECTURAL ASSISTANTS

in the Civil Service. Pay rises to £12 4s. 11d. per week for a man and £9 18s. 3d. per week for a woman. There are 11 vacancies at present. Maximum age limit: 35 years. Application forms and further particulars from Secretary, Civil Service Commission, 45, Upper O'Connell Street, Dublin. Latest date for receiving completed application forms: 30th October, 1958. 1676

GOVERNMENT OF MAURITIUS
ARCHITECT
ARCHITECTURAL DEPARTMENT

To design and supervise the erection of buildings and administer building contracts.

Contract appointment. Salary range £927 to £1,665 p.a. Gratuity from £37 10s. to £50 for each completed three months of service. Free passages for officer, wife and children, not exceeding five persons in all. Generous home leave. Low income tax.

Candidates must be A.R.I.B.A.

Write Director of Recruitment, Colonial Office, London, S.W.1, giving briefly age, qualifications and experience, quoting BCD 112/52/02. 1684

COUNTY BOROUGH OF BLACKBURN
APPOINTMENT OF ARCHITECTURAL ASSISTANTS

Applications are invited for the established posts of:—

One ARCHITECTURAL ASSISTANT, Grade A.P.T. IV (£1,025—£1,175).

One ARCHITECTURAL ASSISTANT, Special A.P.T. Grade (£750—£1,030).

Candidates must have the necessary qualifications and experience relative to the posts. Housing accommodation is available if required.

The successful candidate for the A.P.T. Grade IV post will be engaged upon the Central Area Re-development Scheme.

Application forms (from Borough Engineer, Town Hall, Blackburn) are to be returned by October 24th.

FRANK SQUIRES,
Town Clerk.
1692

CITY OF NORWICH
CITY ARCHITECT'S DEPARTMENT

Applications are invited for the following permanent appointments:—

(a) ASSISTANT ARCHITECT, salary within Special Grade (£750 × £40—£1,030).

(b) ARCHITECTURAL ASSISTANT, A.P.T. I (£575 × £30—£725).

Application forms, obtainable from the City Architect, City Hall, Norwich, must be returned by 5 p.m., October 29. 1697

COUNTY BOROUGH OF NEWPORT

Applications are invited for the post of PLANNING ASSISTANT in the Special Grade. The commencing salary will be £910 or higher according to experience. Applicants must have passed the Final Examination of the Town Planning Institute and have had practical experience with a local Planning Authority. Applications with copies of three recent testimonials should reach the Borough Engineer, Civic Centre, Newport, Mon., by the 3rd November, 1958. 1723

COUNTY BOROUGH OF BLACKPOOL

Applications (by 10 a.m., 27th October, 1958) are invited for appointment to the post of CHIEF ASSISTANT (ARCHITECTURAL SERVICES) in the Borough Surveyor's Department.

Salary: Residual Scale C—£1,295 p.a./£1,515 p.a.

Particulars and Form of Application obtainable from the Borough Surveyor (Arthur Hamilton, B.Sc., A.R.I.B.A.), P.O. Box 17, Municipal Buildings, Blackpool.

ERNEST C. LEE,
Town Clerk.
1686

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of DEPUTY REGIONAL ARCHITECT (Salary Scale £1,330—£1,590 per annum).

Applicants must be Registered Architects having passed the R.I.B.A. Examinations. The person appointed will be required to deputise for the Regional Architect (P. B. Nash, A.R.I.B.A.) over the whole range of his duties and should have a sound administrative background as well as architectural experience of large building projects.

Applications, stating age, qualifications and experience, together with the names of two referees, to the Secretary, Park Parade, Harrogate, by 31st October, 1958. 1699

CITY OF BIRMINGHAM
CITY ARCHITECT'S DEPARTMENT

Applications are invited for the following permanent and superannuable posts at commencing salaries within the scales according to capabilities and experience.

(a) ASSISTANT ARCHITECTS, Special Scale, £750 × £40—£1,030.

(b) ARCHITECTURAL ASSISTANTS, Special Classes, Grade A.P.T. I, £595 × £30—£745.

For design of new Civic Buildings, Schools, Technical Colleges, etc., and Housing schemes (including tall block of flats), shopping centres, etc.

Applicants are required to have passed Parts I and II Final R.I.B.A. for posts (a) and Intermediate R.I.B.A. for posts (b) or to hold equivalent qualifications.

Five-day week. Medical examination.

Applications, stating age, present position and salary, qualifications, experience and two referees, to the undersigned by 31st October, 1958.

A. G. SHEPPARD FIDLER,
City Architect.

Civic Centre,
Birmingham, 1. 1698

COUNTY BOROUGH OF SOUTH SHIELDS

Applications are invited from suitably qualified persons for the following appointments in the Borough Engineer's Department, salary being in accordance with Grade A.P.T. IV (£1,025 × £50—£1,175).

(a) PRINCIPAL ASSISTANT ENGINEERS (Two).

(b) PRINCIPAL ASSISTANT ARCHITECT.

Housing accommodation will be made available to successful applicants if necessary.

The selected applicants will be required to pass a medical examination for the purposes of the Superannuation Scheme.

Application forms are obtainable from the Borough Engineer, Town Hall, South Shields, and should be returned to him not later than 10 a.m. on Wednesday, 29th October, 1958.

R. S. YOUNG,
Town Clerk.
1688

DERBYSHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

A vacancy exists for a SENIOR ASSISTANT ARCHITECT. Salary £1,025 × £50—£1,175 per annum. Applicants must be fully qualified. National Joint Council Conditions of Service. Pensionable post. Canvassing disqualifies. Application forms from The County Architect, County Offices, Matlock. 1693

COUNTY BOROUGH OF WOLVERHAMPTON

Applications are invited for the following appointments on the Architectural staff of the Borough Engineer:—

1. ASSISTANT ARCHITECT. Salary N.J.C. Special Grade (£750×£40 to £1,030 p.a.).
2. ARCHITECTURAL ASSISTANT. Salary Grade A.P.T. I (£575×£30 to £725 p.a.).

The Authority has an interesting and varied programme of building work offering excellent opportunities for all-round experience and for doing good class work in a progressive office.

Applications stating age, present salary, present and previous appointments, details of education, training and experience, naming two referees, to the Borough Engineer, Town Hall, Wolverhampton, in an envelope suitably endorsed, by Friday, 31st October, 1958. 1724

CITY OF PORTSMOUTH
CITY ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments:—

(*a*) ASSISTANT ARCHITECT, Special Grade (£750—£1,030), commencing salary according to experience.

(*b*) ARCHITECTURAL ASSISTANT, Grade I (£575—£725), commencing salary according to experience.

Applicants for (*a*) must be Associate Members of the R.I.B.A., and for (*b*) must have passed the Intermediate R.I.B.A. Examination or its equivalent, at one of the recognised Schools of Architecture.

Applications, with full details, and names of two referees, must be delivered to the City Architect, 1 Western Parade, Portsmouth, not later than Monday, 3rd November, 1958.

Canvassing will disqualify.

V. BLANCHARD,
Town Clerk.

The Guildhall,
Portsmouth. 1722

EAST KILBRIDE DEVELOPMENT CORPORATION

The Corporation invite applications for the following posts:—

1. PLANNERS, ETC.

(1) ARCHITECT / PLANNER—Salary scale £844—£1,146 per annum. Applicants must be A.R.I.B.A. and A.M.T.P.I. with at least two years' qualified experience.

(2) ASSISTANT PLANNER—Salary scale £679—£811 per annum. Applicants should have at least passed the Intermediate examination of the R.I.B.A. or T.P.I. The work will involve preparation of residential layouts, Village redevelopment, Town Centre development and Open Space proposals.

(3) DRAUGHTSMEN—Salary scale £562—£716 per annum. Candidates should have general experience of drawing office procedure and a particular ability in drawing maps and plans. The work will include compiling and maintaining statistical records for the Architectural Department.

(4) APPRENTICE ARCHITECTS—Salary scale £191—£446 per annum.

2. QUANTITY SURVEYORS.

(1) ASSISTANT QUANTITY SURVEYORS—Salary scale £679—£811 per annum. Candidates should have passed the Intermediate examination, sub-division III (Quantities) of the R.I.C.S. They should have good experience in all duties pertaining to the profession in the execution of building projects from the probable cost stage to the settlement of contractors' final accounts.

(2) JUNIOR ASSISTANT QUANTITY SURVEYOR—Salary scale £562—£716 per annum. Candidates should at least have passed the first examination of the R.I.C.S. They should have served a recognised apprenticeship and shall be expected to perform the duties indicated for vacancy 2 (1) above.

The commencing salary in each case will be in accordance with qualifications, experience, etc. The appointments are subject to the Corporation's Conditions of Service and Superannuation agreement. Selected candidates will require to pass a medical examination. A house or flat will be made available, if required. Application forms may be obtained from the General Manager, Torrance House, East Kilbride, to whom completed forms should be returned not later than 7th November, 1958. Canvassing directly or indirectly of the members of the Corporation will constitute an absolute disqualification. 1690

DURHAM COUNTY COUNCIL
PLANNING DEPARTMENT

ARCHITECTURAL ASSISTANT—Salary £750—£1,030. Must be Associate of the Royal Institute of British Architects, and experience in an Architect's or Planning Office is desirable. Housing available at Peterlee and Newton Aycliffe, 12 miles from Durham. Forms and further particulars from County Planning Officer, 10, Church Street, Durham. Closing date 25th October, 1958. Canvassing members of the Council is prohibited.

J. K. HOPE,
Clerk of the County Council.
1705

COUNTY BOROUGH OF BLACKPOOL

Applications (by 27th October, 1958) are invited for the following posts in the Borough Surveyor's Department:—

TOWN PLANNING ASSISTANT, A.P.T. IV (£1,025—£1,175 p.a.).

TOWN PLANNING ASSISTANT, A.P.T. II (£725—£845 p.a.).

Application forms and particulars obtainable from the Borough Surveyor (Arthur Hamilton, B.Sc.), P.O. Box 17, Municipal Offices, Blackpool.

ERNEST C. LEE,
Town Clerk.
1687

URBAN DISTRICT COUNCIL OF URMSTON
APPOINTMENT OF ARCHITECTURAL ASSISTANT

Applications are invited for this appointment in the Surveyor's Department at a salary in accordance with A.P.T. Grade II, £725—£845 per annum.

Applicants should have had experience in an Architect's or Engineer's Department and should be suitably qualified.

Applications, naming two referees and stating age, particulars of training and experience, qualifications and appointments held to be forwarded to the undersigned not later than 1st November, 1958.

L. WATKINS,
Clerk of the Council.

Council Offices,
Urmston. 1734

CORPORATION OF LONDON

require ASSISTANT in Architectural and Building Section of City Surveyor's Department. Applicants must have passed Intermediate R.I.B.A. or Intermediate R.I.C.S.

Neat and accurate draughtsmanship, together with a sound knowledge of building construction essential. Salary £470—£730 per annum.

Applications in writing, stating age, qualifications and experience, with names of three referees, to City Surveyor, Guildhall, London, E.C.2, within 14 days. 1679

HERTFORDSHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

ASSISTANT ARCHITECTS (Special Class, £750—£1,030) required. Previous Local Government experience not essential.

Applications, with names of two referees, to County Architect, (A) County Hall, Hertford, Herts, by 27th October, 1958. 1737

ASSISTANT ARCHITECT

Applications are invited for the above appointment in the Borough Engineer's Department. If the successful applicant possesses the Intermediate Examination of the R.I.B.A. the salary will be on Grade A.P.T. II (maximum £845). Candidates not so qualified but who possess the necessary training and experience are also invited to apply for the appointment on Grade A.P.T. I (maximum £725).

Housing accommodation will be provided if required, and half removal expenses paid.

Applications, stating qualifications and experience and giving names and addresses of two referees, should be delivered to the Borough Engineer, Town Hall, Thornaby-on-Tees, not later than 27th October, 1958.

A. STOCKWELL,
Town Clerk.
1712

COUNTY BOROUGH OF DARLINGTON
BOROUGH ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of SENIOR ASSISTANT ARCHITECT. Salary in accordance with the N.J.C. Scales, Grade A.P.T. IV (£1,025—£1,175).

The Department has a large programme including Secondary and Primary Schools, Housing, Welfare Schemes and Municipal Offices. Preference will be given to candidates experienced in this class of work, and who are members of the R.I.B.A.

Housing accommodation will be made available, if required.

Applications, giving full particulars of age, qualifications, present appointment with salary, previous appointments with dates, and the name and address of three referees, to be received by E. A. Tornbohm, A.R.I.B.A., A.M.T.P.I., Borough Architect, Central Buildings, Darlington, not later than first post on Thursday, 23rd October, 1958.

H. HOPKINS,
Town Clerk.
1695

KINGSTON-UPON-HULL EDUCATION COMMITTEE
REGIONAL COLLEGE OF ARTS AND CRAFTS
Principal: S. I. Hemming, A.R.C.A. (Lond.), F.R.S.A.
SCHOOL OF ARCHITECTURE

Applications are invited for two posts: (*a*) SENIOR LECTURER and (*b*) LECTURER in the School of Architecture, which conducts a five-year full-time Diploma course in Architecture and a part-time course in Town Planning. Candidates should have had some years of professional experience and possess a degree or diploma of a recognized School of Architecture.

Salaries: Burnham Technical Scale. Senior Lecturer—£1,350 × £50—£1,550, and Lecturer—£1,200 × £30—£1,350.

Application forms, to be returned as soon as possible, will be supplied by the Chief Education Officer, Guildhall, Kingston-upon-Hull.

Applicants should state for which vacancy they wish to apply. 1741

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Vacancies for: (1) ARCHITECTS, Grade III, starting salary up to £1,090 a year. (2) ARCHITECTURAL ASSISTANTS, starting salary up to £860.

Full and interesting programme of houses, flats, schools and general buildings.

Application form and full particulars from Hubert Bennett, F.R.I.B.A., Architect to the Council, the County Hall, S.E.1, quoting ref. AR/BK/36/58. (1428) 1674

COUNTY BOROUGH OF WALLASEY
APPOINTMENT OF ARCHITECTURAL ASSISTANT

Applications are invited from qualified Architects for the position of Architectural Assistant, Special Grade (£750 × £40—£1,030). Commencing salary according to capabilities and experience, and favourable consideration given to the provision of housing accommodation. Conditions of appointment and forms of application obtainable from Borough Architect, Town Hall, Wallasey, to whom they should be returned by 27th October, 1958.

A. G. HARRISON,
Town Clerk.
1740

COUNTY BOROUGH OF WALLASEY
TOWN PLANNING ASSISTANT
GRADE A.P.T. I

Applications are invited for the appointment of Town Planning Assistant on the staff of the Borough Surveyor's Department at a salary in accordance with Grade A.P.T. I (£575 × £30—£725 per annum). Applicants should have had experience in a planning, architectural or Muncipal Engineer's office. Application forms, obtainable from the Borough Surveyor, Town Hall, Wallasey, must be returned not later than Wednesday, the 12th November, 1958.

A. G. HARRISON,
Town Clerk.
1739

PADDINGTON BOROUGH COUNCIL

Require QUANTITY SURVEYOR (A.P.T. IV, £1,055—£1,205), A.R.I.C.S. essential with experience in all branches of building work, particularly housing. Commencing salary will be according to qualifications and experience. Applications, stating age, qualifications, experience, present and past appointments, names and addresses of two referees, should be addressed to the under-signed by 30th October, 1958 (quoting A. 390).

W. H. BENTLEY,
Town Clerk.

Town Hall,
Paddington Green, W.2. 1738

Architectural Appointments Vacant

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

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

APPLICATIONS are invited for the appointment of ASSISTANT ARCHITECTS with experience of work on commercial and industrial projects, capable of preparing working drawings from preliminary details. Five-day week in operation. Applications stating age, experience, qualifications and salary required to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester, 4. 9686

ARCHITECTURAL ASSISTANTS required. Starting salary £915 per annum, Glasgow office, five-day week. Schools, offices, etc. State experience. Box 1532.

A DESIGNER with imagination and progressive ideas required. Apply Trehearne & Norman, Preston & Partners, Architects & Surveyors, 83, Kingsway, W.C.2. HOL 4071. 1537

THREE additional ARCHITECTURAL ASSISTANTS required—two up to Intermediate standard, the other fully capable of handling jobs throughout. Busy and varied practice. Salaries by arrangement. D. C. Denton-Smith and Partners, Chartered Architects: Surveyors, 40, Regent Street, Cambridge. 1629

ARCHITECTURAL ASSISTANTS required. Excellent salaries and opportunities offered to suitable applicants. Five-day week. Write giving full particulars of experience to Sandon & Harding, A/A.R.I.B.A., 14, Lower Brook Street, Ipswich. 1631

GRENFELL BAINES & HARGREAVES, Architects and Planning Consultants, invite applications from enthusiastic chaps to work on a Big Job in their new DERBY office. Salary plus share of income after basic expenses have been met, all according to age, experience and ability. Superannuation scheme optional. Apply giving full particulars to Martins Bank Chambers, Market Place, Derby. 1672

PRESENTATION, PERSPECTIVES AND MODELS—ASSISTANT required for this department in large London private practice, with considerable experience. Apply in writing only with full particulars to Box 1670.

BRIGHTON & HOVE. Senior and Junior ASSISTANTS for small Office. Salaries up to £800 per annum. Box 1603.

EXPERIENCED ARCHITECTURAL ASSISTANT required to work on varied and interesting Contracts. Salary by arrangement. Apply: Wilcockson & Cutts, 12, Saltergate, Chesterfield, Derbyshire. 1668

ARCHITECTURAL ASSISTANT required for small office with varied practice. Five-day week. Please write, stating age, training, experience and salary required. Alexander Graham, F.R.I.B.A., 15, The Tything, Worcester. 1644

ARCHITECTURAL ASSISTANT required approaching or at Intermediate stage—with office experience. One day per week for studies. Write, with details of education and experience, D. Plaskett Marshall, 59, Gordon Square, W.C.1. 1619

APPLICATIONS are invited for the appointment of ASSISTANT ARCHITECTS, in the office of the Society's Architect, with experience of work on commercial and industrial projects of contemporary character. Salary in accordance with A.P.T. scale. Applications, stating age, experience, etc., to Bristol Co-operative Society Ltd., G.P.O. Box 64, Bristol, 1. Envelopes to be endorsed "Assistant Architect." 1622

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