THE ARCHITECTS' JOURNAL

No. 3062] [VOL. 118

THE ARCHITECTURAL PRESS

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

Price 1s. 0d.

Registered as a Newspaper.

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

AA	Architectural Association, 34/6, Bedford Square, W.C.1.	Museum 0974
AAI	Association of Art Institutions. Secy. : W. Marlborough Whitehead, " Dyneley," Castle Hill Avenue, Berkhampstead. Herts.	
ABS	Architects' Benevolent Society. 66, Portland Place, W.1.	Langham 5721
ABT	Association of Building Technicians. 5, Ashley Place, S.W.1.	Victoria 0447-8
ACGB	Arts Council of Great Britain. 4, St. James' Square, S.W.1.	Whitehall 9737
ADA	Aluminium Development Association. 33, Grosvenor Street, W.1.	Mayfair 7501/8
APRR	Association for Planning and Regional Reconstruction. 34, Gordon Square, W.C.1.	Euston 2158-9
ArchSA	Architectural Students' Association. 34/36, Bedford Square, W.C.1.	
ARCUK	Architects' Registration Council. 68, Portland Place, W.1.	Langham 8738
BAE	Board of Architectural Education. 66, Portland Place, W.1.	Langham 5721
BATC	Building Apprenticeship and Training Council. Lambeth Bridge House, S.E.1.	Reliance 7611, Ext. 1706
BC	Building Centre. 26, Store Street, Tottenham Court Road, W.C.1.	Museum 5400
BCC	British Colour Council. 13, Portman Square, W.1.	Welbeck 4185
BCCF	British Cast Concrete Federation. 105, Uxbridge Road, Ealing, W.5.	Ealing 9621
BCIRA	British Cast Iron Research Association. Alvechurch, Birmingham.	Redditch 716
BDA	British Door Association. 10, The Boltons, S.W.10.	Fremantle 8494
BEDA	British Electrical Development Association. 2, Savoy Hill, W.C.2.	Temple Bar 9434
BIA	British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2.	Glasgow Central 2891
BIAE	British Institute of Adult Education. 29, Tavistock Square, W.C.1.	Euston 5385
BID	Building Industries Distributors. 52, High Holborn, W.C.1.	Chancery 7772
BINC	Building Industries National Council. 11, Weymouth Street, W.1.	Langham 2785
BOT	Board of Trade. Millbank, S.W.1.	Whitehall 5140
BRDB	British Rubber Development Board. Market Buildings, Mark Lane, E.C.3.	Mansion House 9383
BRS	Building Research Station. Bucknalls Lane, Watford.	Garston 2246
BSA	Building Societies Association. 14, Park Street, W.1.	Mayfair 0515
BSI	British Standards Institution. British Standards House, 2, Park St., W.1.	Mayfair 9000
BTE	Building Trades Exhibition. 4, Vernon Place, W.C.1.	Holborn 8146/7
CABAS	City and Borough Architects Society. C/o Johnson Blackett, F.R.I.B.A., Civic Centre, Newport, Mon.	Newport 5491
CAS	County Architects' Society. C/o F. R. Steele, F.R.I.B.A., County Hall, Chichester.	Chichester 3001
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1.	Sloane 5255
CCP	Council for Codes of Practice. Lambeth Bridge House, S.E.1.	Reliance 7611
CDA	Copper Development Association. Kendals Hall, Radlett, Herts.	Radlett 5616
CIAM	Congrès Internationaux d'Architecture Moderne. Doldertal, 7, Zurich, Switzerland.	
COID	Council of Industrial Design. Tilbury House, Petty France, S.W.1.	Abbey 7080
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.	Sloane 4280
CUC	Coal Utilization Council. 3, Upper Belgrave Street, S.W.1.	Sloane 9116
CVE	Council for Visual Education. 13, Suffolk Street, Haymarket, S.W.1.	Reading 72255
DGW	Directorate General of Works, Ministry of Works, Lambeth Bridge House, S.E.1.	Reliance 7611
DIA	Design and Industries Association. 13, Suffolk Street, S.W.1.	Whitehall 0540
DPT	Department of Overseas Trade. Horseguards Avenue, Whitehall, S.W.1.	Trafalgar 8855
EJMA	English Joinery Manufacturers' Association (Incorporated), Sackville House, 40, Piccadilly, W.1.	Regent 4448
EPNS	English Place-Name Society. 7, Selwyn Gardens, Cambridge.	
FAS	Faculty of Architect and Surveyors. 8, Buckingham Palace Gdns., S.W.1.	Sloane 2837
FASS	Federation of Association of Specialists and Sub-Contractors, Artillery House, Artillery Row, S.W.1.	Abbey 7232
FBBDO	Fibre Building Board Development Organisation, Ltd., Melbourne House, Aldwych, W.C.2.	Temple Bar 4561
FBI	Federation of British Industries. 21, Tothill Street, S.W.1.	Whitehall 6711
FC	Forestry Commission. 25, Savile Row, W.1.	
FCMI	Federation of Coated Macadam Industries. 37, Chester Square, S.W.1.	Sloane 1002
FDMA	The Flush Door Manufacturers Association Ltd. Trowell, Nottingham.	Ilkeston 623
FLD	Friends of the Lake District. Pennington House, nr. Ulverston, Lancs.	Ulverston 201
FMB	Federation of Master Builders. 26, Great Ormond Street, Holborn, W.C.1.	Chancery 7583
FPC	The Federation of Painting Contractors, St. Stephen's House, S.W.1.	Whitehall 3902
FRHB	Federation of Registered House Builders. 82, New Cavendish Street, W.1.	Langham 4041
FS (Eng.)	Faculty of Surveyors of England. 67, Oxford Street, W.1.	Gerrard 0021
GC	Gas Council. 1, Grosvenor Place, S.W.1.	Sloane 4554
GG	Georgian Group. 27, Grosvenor Place, S.W.1.	Sloane 2844
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1.	Whitehall 2881
IAAS	Incorporated Association of Architects and Surveyors. 75, Eaton Place, S.W.1.	Sloane 5615
ICA	Institute of Contemporary Arts. 17-18, Dover Street, Piccadilly, W.1.	Grosvenor 6186
ICE	Institution of Civil Engineers. Great George Street, S.W.1.	Whitehall 4577
IEE	Institution of Electrical Engineers. Savoy Place, W.C.2.	Temple Bar 7676
IES	Illuminating Engineering Society. 32, Victoria Street, S.W.1.	Abbey 5215

PTON"
-2470

it's the look that gets 'em!

The world has grown considerably older since one of its inhabitants first realised that the way to stimulate interest is to look interesting. She (a logical choice we feel) must have caused a prehistoric riot! Then, somewhere along the stony path of evolution, commerce borrowed the idea.

Today, there's no better way of ensuring success for your product than to endow it with a Cellon finish — for no matter how fierce the competition, a Cellon finish provides the look that outshines and outsells 'em all.

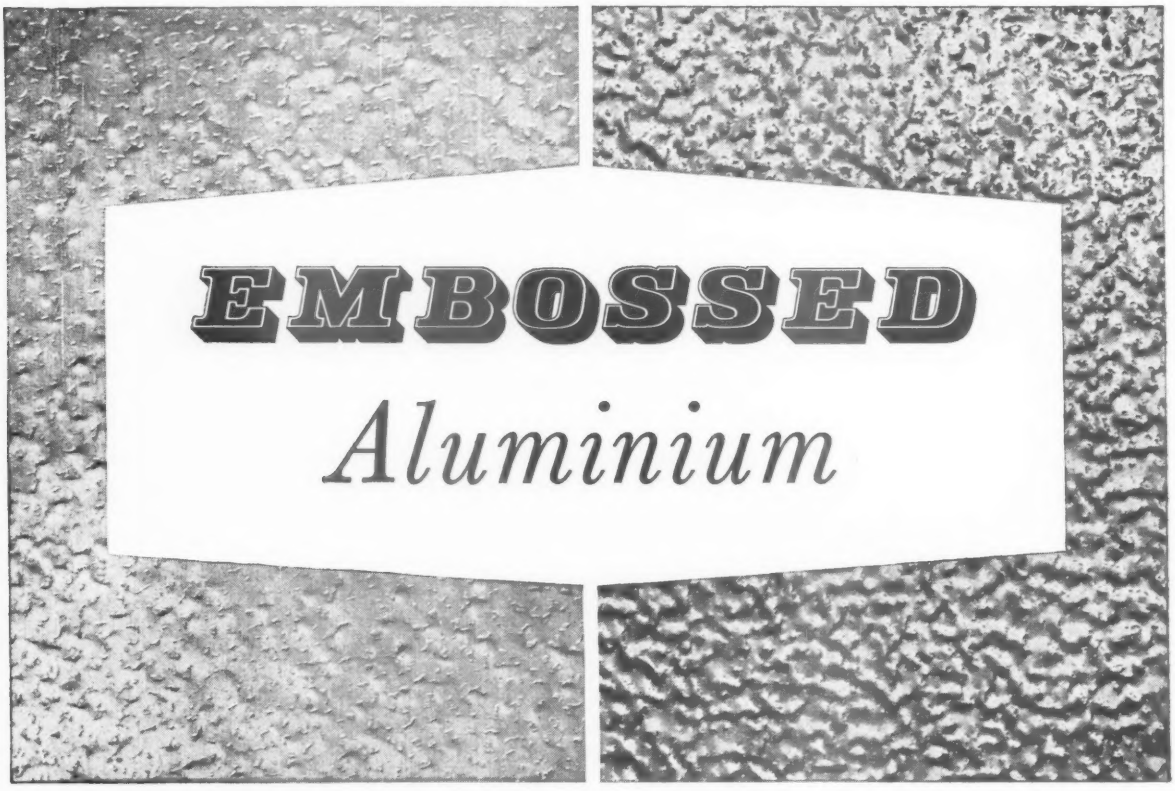
Besides their superb Cerrux Decorative Finishes, Cellon Limited are renowned for Cerrux Coach Finishes, Cerric Wood Finishes and Cellon Industrial Finishes. Whatever comes off your production line there is a Cellon finish ready and waiting to provide that essential eye appeal together with lasting protection.

CERRUX DECORATIVE PAINTS

A CELLON PRODUCT

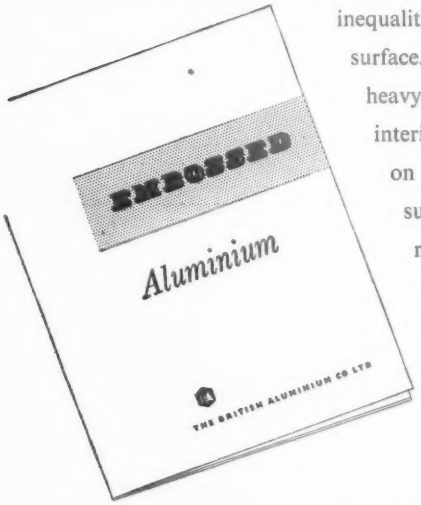
CELLON LIMITED • KINGSTON-ON-THAMES • PHONE: KINGSTON 1234

CVS-776



A new Industrial Finish

The new embossed aluminium has an attractive surface and greater rigidity than the normal bright rolled finish, by virtue of the embossing process which work-hardens the metal and increases its overall thickness. For architects and builders, embossing has the great practical advantage of rendering the aluminium surface less vulnerable to the effects of rough usage or slight surface inequalities which are usually emphasised by a highly reflective metal surface. Two patterns illustrated above are available—light stucco and heavy stucco. Typical applications of embossed aluminium include interior and exterior panelling, canopies, kick plates and finger plates on doors and french windows. The embossed finish is particularly suitable for corrugated and other forms of roofing sheet because it reduces glare whilst retaining full thermal insulating properties. Embossed 'Rigidal' roofing and siding has an attractive even appearance with a diffused surface reflection as compared with bright rolled metal.

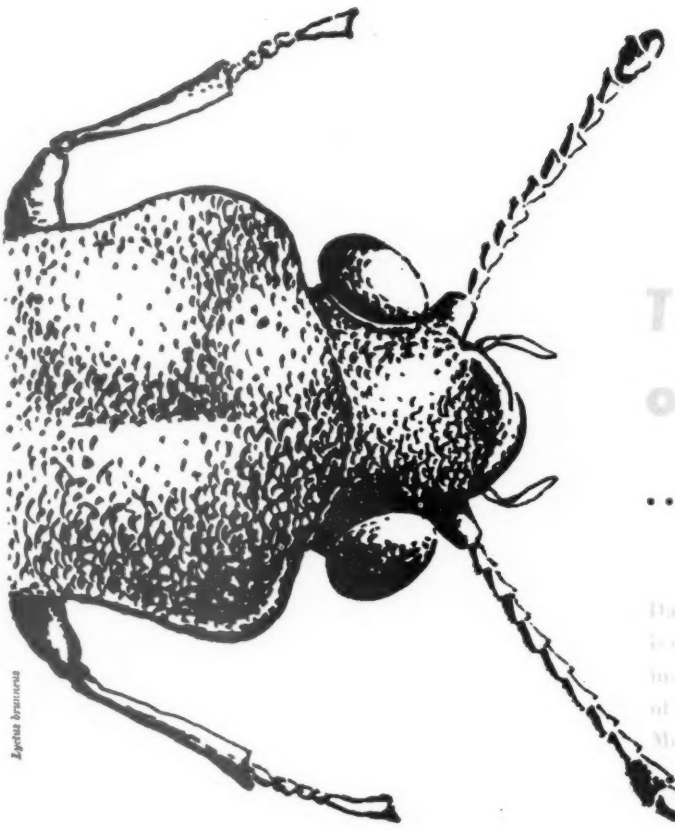


A descriptive brochure and samples are available on application

THE BRITISH ALUMINIUM CO LTD

NORFOLK HOUSE ST JAMES'S SQUARE LONDON SW1

S138/032A



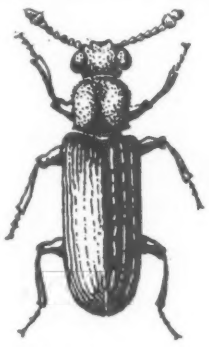
Lyctus brunneus

The enemies of woodwork

. . . and the modern antidote

Damage costing several million pounds a year is caused by destructive fungi and wood-boring insects. Some of the most effective methods of modern preservation are provided by Monsanto's 'penta' chemicals.

PENTACHLOROPHENOL gives protection against all of the wood-destroying fungi and insects found in this country—including dry rot, furniture beetles, etc. When the annual cost of dry rot alone is estimated at £20,000,000, such a preservative speaks for itself.



Lyctus planicollis

Remember — impregnated timber is the best guarantee of future immunity. 'Penta'—made by Monsanto in several forms—can be easily applied to whole timbers before construction by simple cold dipping; or it can be brushed on to woodwork already in service which cannot be treated by dipping.

'Penta' preservatives are clean and safe to handle under normal operating conditions. Timber treated with 'penta' is free from stain and can be painted over.

What to specify

Monsanto's range of pentachlorophenol preservatives includes :—

PERMASAN.* Monsanto's own oil solution of pentachlorophenol, ready for application.

SANTOPHEN* 20. Pentachlorophenol (technical) for solution with oil ; chemically stable, involatile, virtually insoluble in water — the cheapest, most versatile good preservative.

SANTOBRITE.* Sodium salt of pentachlorophenol, water soluble. A short-term preservative, especially for sapstain control in newly-converted timber.

Full information and bulletins from Special Products Sales Department, Monsanto Chemicals Limited. (*Registered Trade Marks)

MONSANTO

MONSANTO CHEMICALS LIMITED

Victoria Station House, Victoria Street,

London, S.W.1

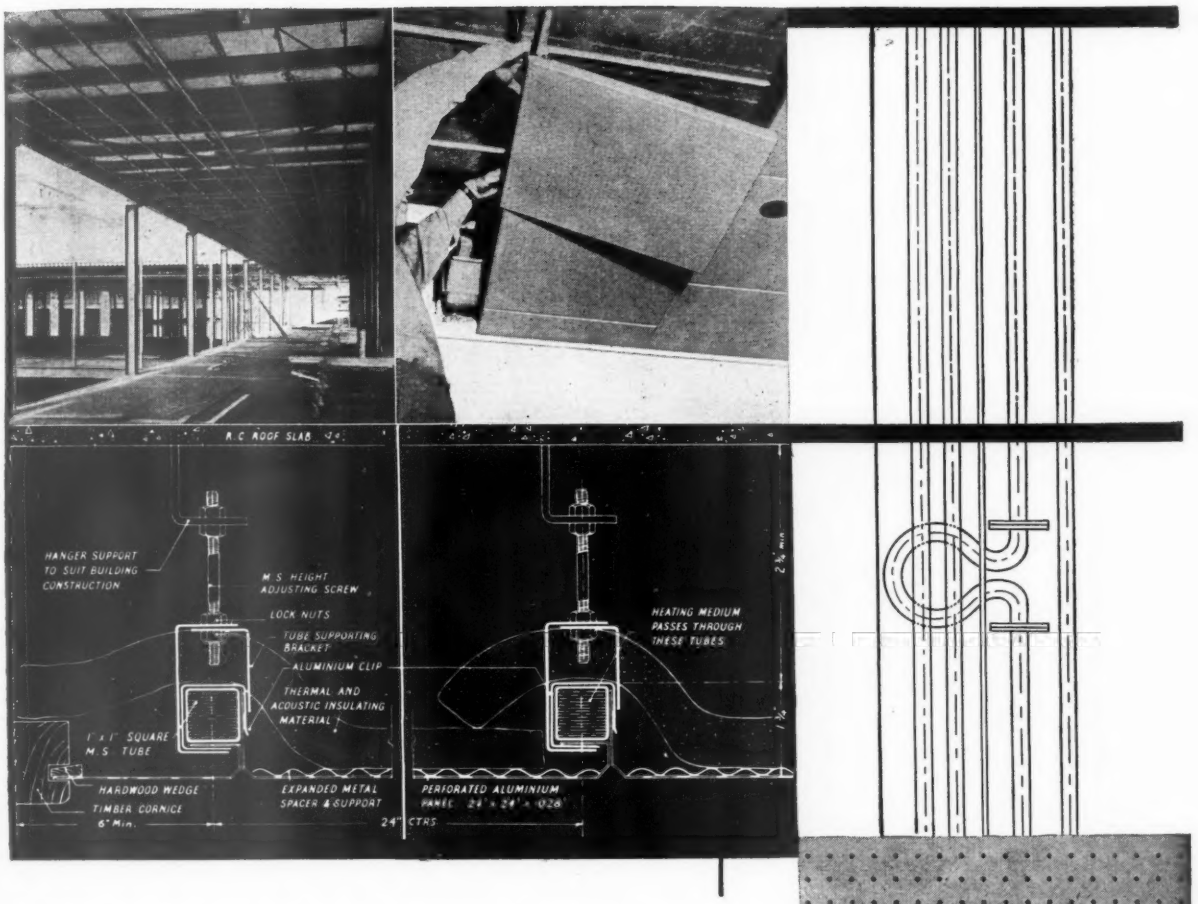
In association with : Monsanto Chemical Company, St. Louis, U.S.A. Monsanto Canada Ltd., Montreal. Monsanto Chemicals (Australia) Ltd., Melbourne. Monsanto Chemicals of India Ltd., Bombay. Representatives in the world's principal cities.

It tells of the link between J. & P. and oil . . . but it does not tell *why* J. & P. are concerned with so many of the great oil projects.

It is not merely that our range of products enables us to undertake complete electrification schemes. It is not merely that the quality of our products is second to none. But in 1922 we did the first electrification scheme at Abadan . . . and ever since we have been gaining more and more experience. That is why J. & P. are associated with the world's progressive industries as specialists in the transmission, transformation, and control of electricity.

JOHNSON & PHILLIPS LTD. CHARLTON, LONDON, S.E.7

A PICTURE THAT NEARLY TELLS ITS OWN STORY



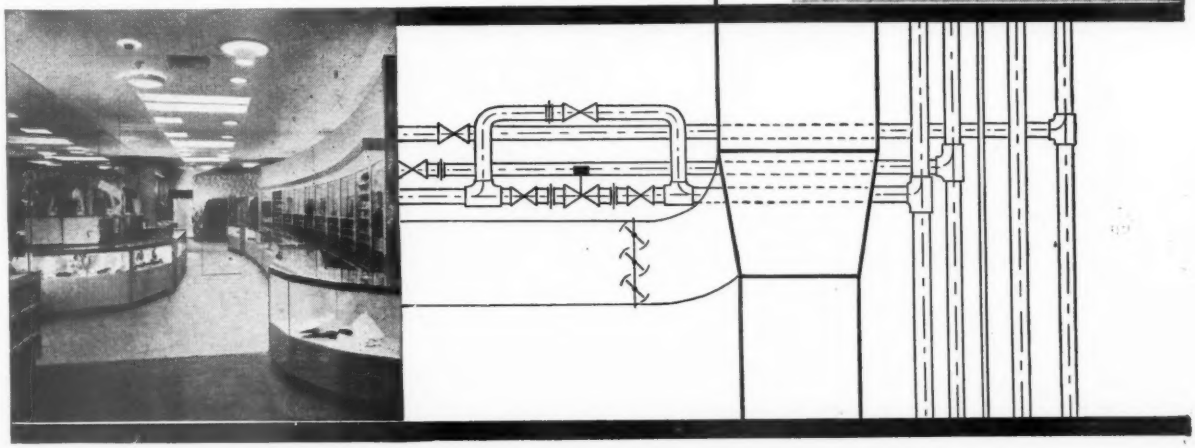
FRENGER—*three ceilings in one*

Here is a ceiling, that is *first:* a radiant panel heating unit with an immediate response to changes in temperature; *second:* a most efficient sound absorbing surface; and *third:* a suspended, removable ceiling that serves to conceal a mass of ugly pipes, wiring, ducts and other services while leaving them completely accessible.

The ceiling is pre-fabricated and made up of a grid piping system supporting perforated, square, metal panels of aluminium and blanketed by insulating material. A Frenger can be installed in existing buildings with very little structural alteration and is easily adapted to fit any shape of room or lighting and ventilation system.

Technical leaflet with full data from .—

FRENGER CEILINGS LTD., 67 GREAT RUSSELL STREET, W.C.I. CHANCERY 5534



GLIKSTEN METAL FIXING

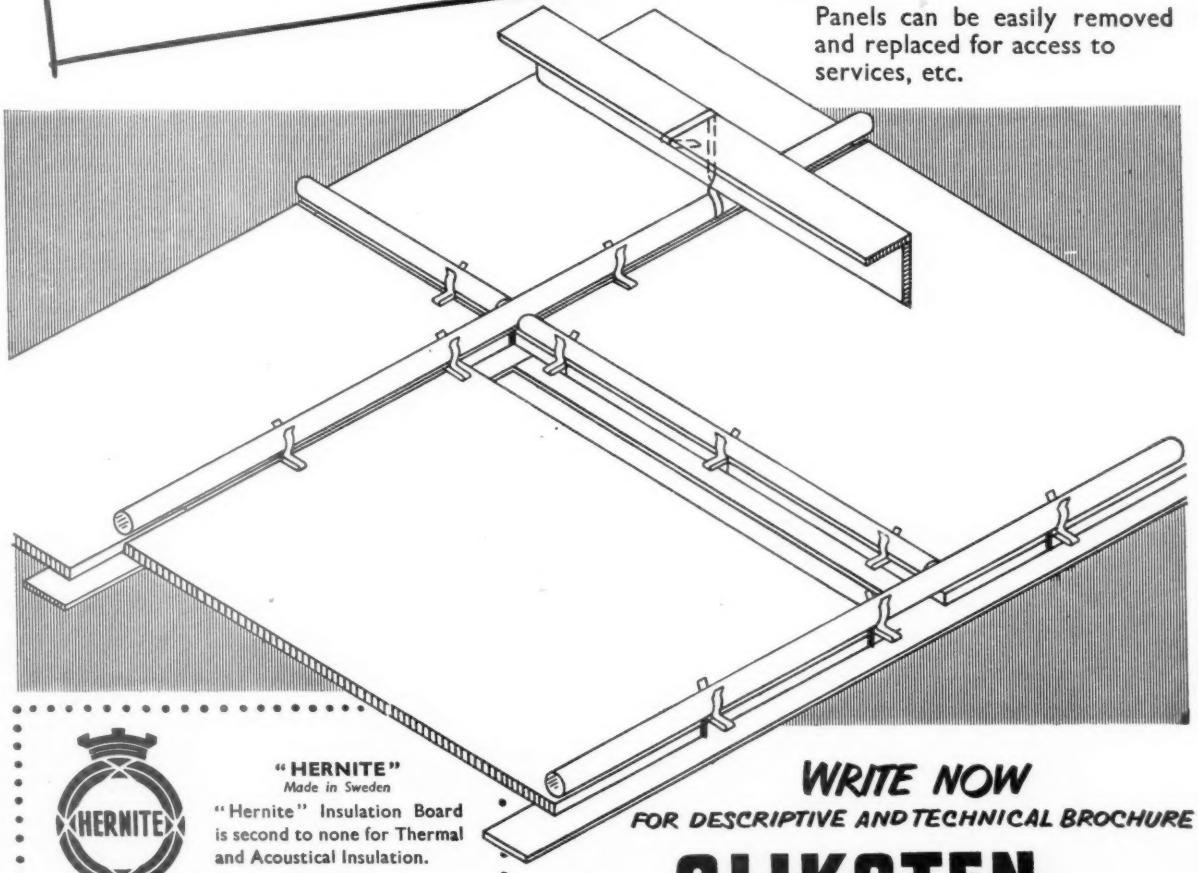
(Brit. Pat. No. 683946)

A new and efficient method of METAL FIXING for Insulation Boards-designed to CUT YOUR COSTS

Gliksten Metal Fixing

By this method Thermal and Acoustical Insulation can be simply and economically carried out in old or new buildings by **Local Contractors.**

Panels can be easily removed and replaced for access to services, etc.



"HERNITE"
Made in Sweden

"Hernite" Insulation Board is second to none for Thermal and Acoustical Insulation.

"B. P."
Made in Canada

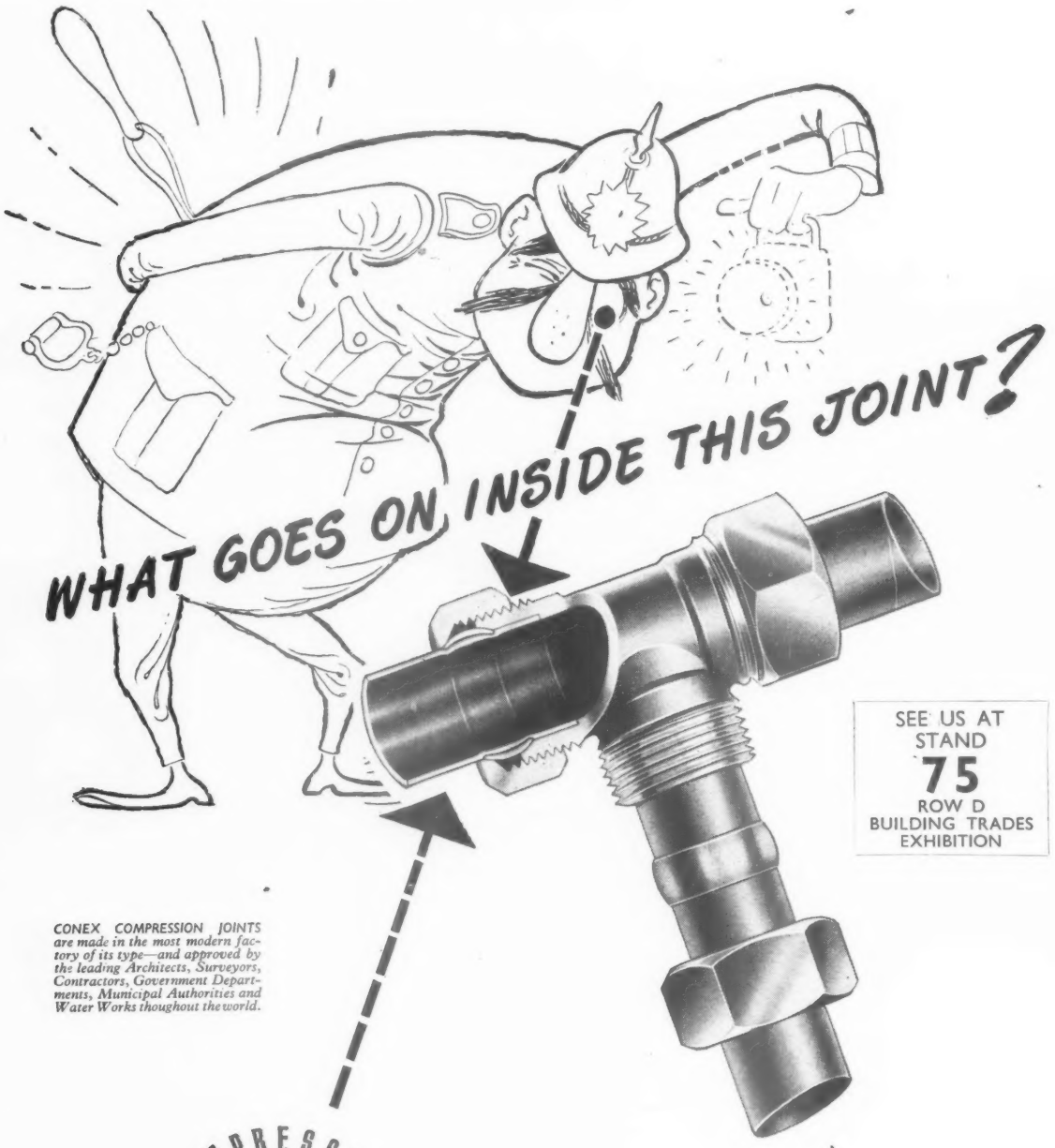
Insulation, together with special advantages of moisture resistance and extra rigidity, enabling wider panels to be used.

WRITE NOW
FOR DESCRIPTIVE AND TECHNICAL BROCHURE

GLIKSTEN BUILDING MATERIALS

CARPENTERS RD., STRATFORD, LONDON, E.15
AMHerst 4444

LIVERPOOL Office: 87, Lord Street, Liverpool, 2



SEE US AT STAND 75 ROW D BUILDING TRADES EXHIBITION

CONEX COMPRESSION JOINTS are made in the most modern factory of its type—and approved by the leading Architects, Surveyors, Contractors, Government Departments, Municipal Authorities and Water Works thoughout the world.

COMPRESSION

CONEX

JOINTS

IF YOU WANT TO KNOW the best Compression Joint of all time for copper tube, ask a master plumber. Because he knows the inside story, he'll tell you "The CONEX Compression Joint—every time." The CONEX Joint incorporates a special spherical ring which, when tightened, changes form and makes a perfect two-point seal—and causes two slight indentations in the tube, giving an amazingly strong grip capable of withstanding pressures far greater than experienced in normal use. (In public tests, CONEX Joints have withstood pressures over 5,500 lbs./sq. in.) The joint can be "made" in ten seconds, and, if necessary, broken and remade without impairing its efficiency, and is unaffected by variations of temperature or vibration. Use CONEX on *your* next plumbing job—the simplest, speediest, strongest—and, at the same time, the most economical—joint for Copper Tube.

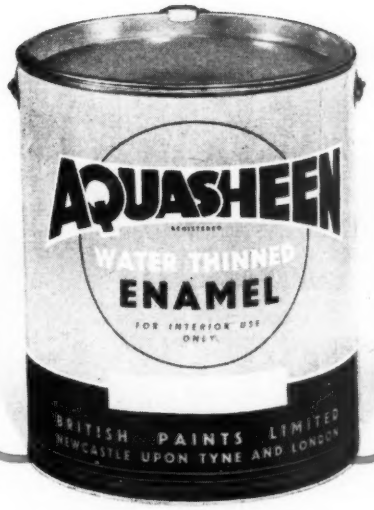
SEE FOR YOURSELF WHY CONEX IS BEST.

To prove to your own satisfaction that CONEX is far and away the best, we invite you to write NOW for free testing samples and fully illustrated literature.

CONEX-TERNA LTD., WHITEHALL ROAD, GREAT BRIDGE, STAFFS. Phone: Tipton 1162-3. Grams: Conex-Terna, Tipton

Specify

The Revolutionary New Water Thinned Enamel



A New Triumph for "British Paints" Laboratories

"AQUASHEEN" SPELLS OPPORTUNITY

This remarkable new paint offers a wonderful opportunity for obtaining a beautiful and durable result at a cost below that normally expected for a finish of comparable quality.

"AQUASHEEN" is

1. **lower in price than conventional gloss paints,**
2. **gives greater coverage,**
3. **is more rapidly applied.**

"Aquasheen" is for interior use only.

Complies with the Factories Acts, claiming 7 years exemption from repainting.

"AQUASHEEN" is the most remarkable development in the Paint Industry for years. It is **not** a Latex Emulsion Paint but is quite new and different.

"AQUASHEEN" gives a beautiful and enduring gloss finish—yet it is water thinned.

"AQUASHEEN" is applied as easily, as quickly, as conventional water paint.

"AQUASHEEN" is touch dry in one hour (though to preserve the gloss, second coats should not be applied for six hours).

"AQUASHEEN" covers approximately 20% greater area on a smooth surface than conventional gloss paints.

"AQUASHEEN" is applied easily and quickly with large distemper brushes, but can also be sprayed.

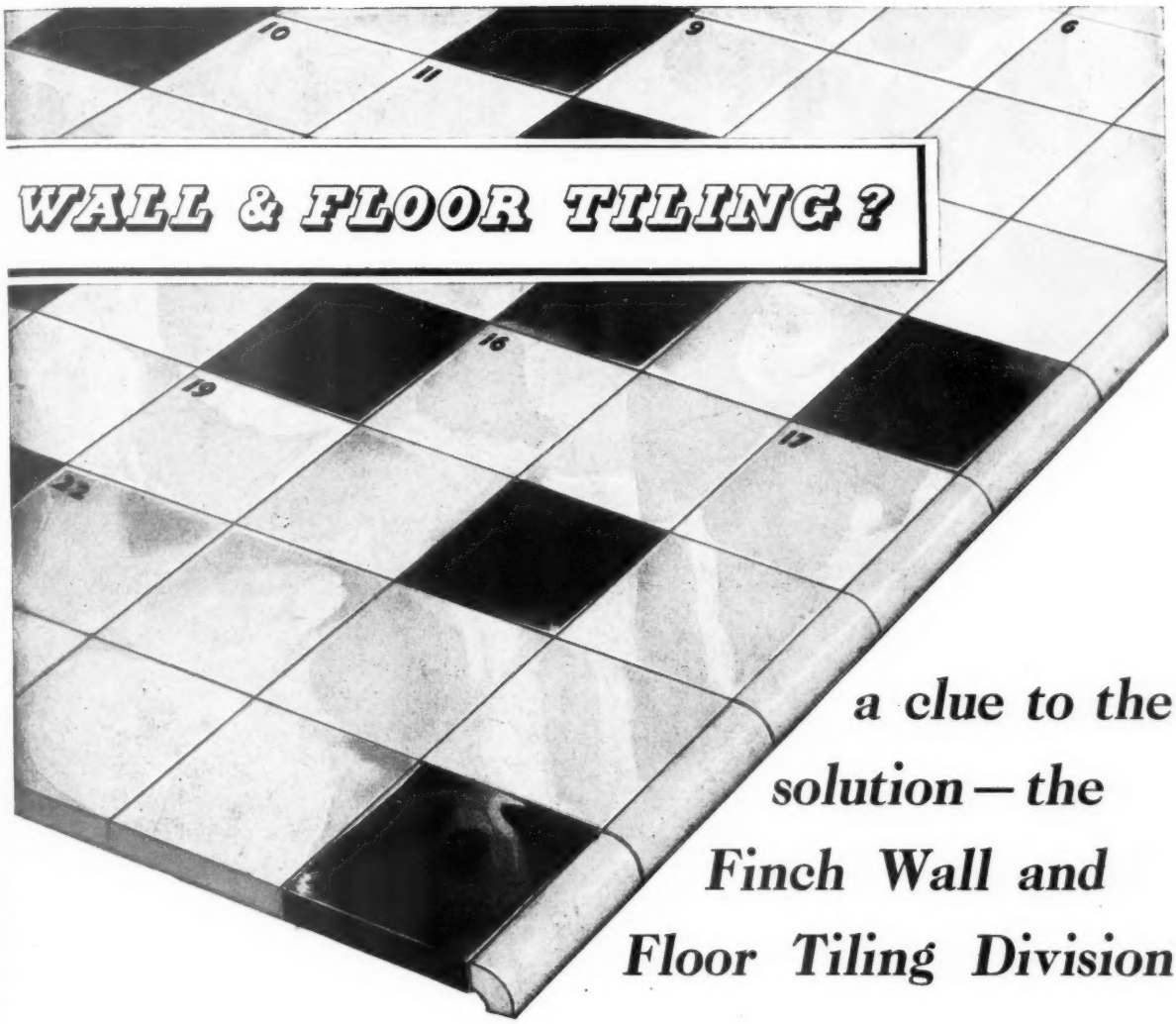
"AQUASHEEN" has no objectionable "paint" smell.

Full details from the sole manufacturers

BRITISH PAINTS LIMITED

PORTLAND ROAD, NEWCASTLE UPON TYNE, 2 • LONDON: CREWE HOUSE, CURZON STREET, W. 1.

Telephones: Newcastle 25151 • London, Grosvenor 6401-5.



WALL & FLOOR TILING?

a clue to the solution — the Finch Wall and Floor Tiling Division

SPECIALIST DIVISIONS IN:

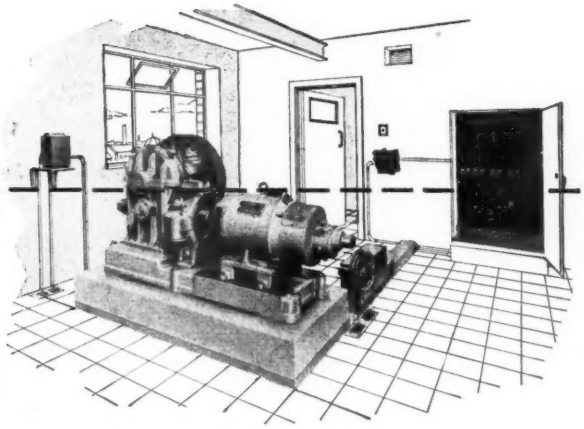
Sanitary Appliances and Plumbers' Brasswork · Fireplaces · Stoves and Ranges Ironmongery · Tubes and Fittings Kitchen Equipment · Soil and Drainage Goods · Oils, Paint and Wallpaper · Tools and Hardware · Heavy Building Materials Roof Tiling and Slating · Wall and Floor Tiling · Glazing and Leaded Lights Constructional Engineering · Agricultural Buildings and Equipment.

The Wall and Floor Tiling Division of the Finch Organization is in evidence everywhere, in factories, offices, schools and swimming-pools, etc., throughout the country. Wherever there is a wall tiling problem, Finch will have the solution. Our experts, whose experience covers the widest range of work, are there to give you all the assistance you may need.

There are 15 Specialist Divisions within the Finch Organization, each headed by an expert with years of experience in his trade—experience which is always at your service.

CONSULT THE *Finch* WALL AND FLOOR TILING DIVISION

B. FINCH & CO. LTD., *Head Office & Works,* **BELVEDERE WORKS, BARKINGSIDE, ESSEX.** *VALentine 8888 (30 lines)*
SHOWROOMS: FINCH CORNER, 679/687 EASTERN AVENUE, ILFORD, ESSEX



what is

interconnected

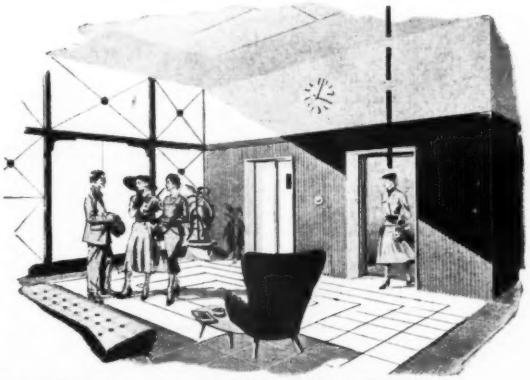
selective ?

A button is pressed . . . the automatic controller receives the request : ' 3rd. floor call for Ground '.

Car No. 1 is ascending ; so the impulse is conveyed to Car No. 2 which is descending to collect passengers at the 6th. and 2nd. floors, stopping it also at the 3rd.

. . . that is interconnected selective, which H & C will gladly demonstrate.

H & C LIFTS



Hammond & Champness Ltd., *Gnome House, Blackhorse Lane, London, E.17. Tel : Larkswood 1071*

Whatever the construction

there's need for SECOMASTIC *at the windows*

Differential movement between the windows and the openings in which they are fitted is bound to occur whether the structure is a traditional or a prefabricated one.

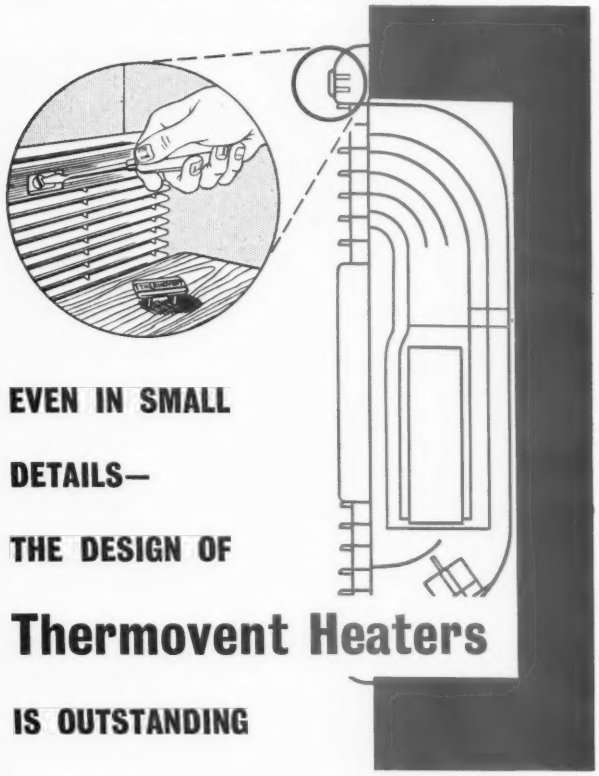
This is the reason for the almost universal acceptance of the need for bedding or pointing window frames and surrounds with mastic. Once the need is accepted, it pays to use SECOMASTIC because 10 years' laboratory research and field experience has resulted in a mastic which will not fail through hardening, cracking, perishing or powdering.

Remaining plastic and firmly adherent to any building material, SECOMASTIC will maintain a weathertight seal by conforming to all normal structural or thermal movements. These same properties have resulted in SECOMASTIC's wide use also for sealing lap joints in sheet roofs, structural expansion joints, prefabrication and for top-sealing glasshouses etc.

Copies of the booklet "The Use of Mastics in Building" are freely available to those interested. Please address all enquiries to the Architectural Department.

SECOMASTIC *can be rapidly, simply and economically applied by caulking gun loaded with full-sized cardboard cartridges.*

SECOMASTIC LIMITED. · 15 UPPER GROSVENOR STREET · LONDON · W.1 *Telephone:* MAYFAIR 4027



EVEN IN SMALL DETAILS— THE DESIGN OF

Thermovent Heaters

IS OUTSTANDING

From every viewpoint—appearance, convenience, efficiency, economy—the design of Thermovent electric space heaters is outstanding. Based on the well-known Thermovent principle of silent, safe, natural convection and styled by leading industrial designers, they provide draught-free year-round comfort with no attention whatsoever. The additional benefit of automatic temperature control means the ultimate in comfort and convenience coupled with savings of electricity of up to 30%.

The installation of Thermovent inset heaters is most simple. After the wall box has been fitted and the heater body installed and connected, the five interlocking sections of the front panel assembly are placed in position and secured by a single screw which is finally concealed by the small name-plate. No screw heads or other visible fixings mar the appearance of the heater.

Type B Inset Thermovent Heaters, in 1 and 2 kW sizes, are designed for building into walls and furniture, the recess depth required being only 5½". They are delightful examples of modern styling, in black or walnut-finish plastic contrasting with Old Gold metal grilles.

Thermovent

● *COMFORT HEATING*

E. K. COLE LTD. 5 VIGO STREET, LONDON, W.C.1

(Building Exhibition STAND No. 524)

6 IMPORTANT FACTS ABOUT EVOSET 101 T.S.

WATERPROOFER . . . EVOSET 101 T.S. increases the workability of concrete. It reduces water cement ratio and thereby gives dense and waterproof concrete.

HARDENER . . . EVOSET 101 T.S. produces HIGH EARLY and ULTIMATE STRENGTH and consequently hard, dustproof and oil-resisting concrete.

QUICK SETTING . . . EVOSET 101 T.S. substantially reduces the setting and hardening time for any concrete or mortar mix. Roads and pavements can be open for traffic in half the time. Greater output is assured. Units can be stripped in half the normal time. No breakages through early stripping. Fewer breakages in transit.

FROST PROTECTION . . . EVOSET 101 T.S. makes the freezing of concrete and cement mortar impossible by increasing the internal heat and simultaneously reducing setting and hardening time.

ECONOMICAL . . . EVOSET 101 T.S. is low priced. Normal mixing ratio is 1 part EVOSET 101 T.S. to 10 parts water. Will not deteriorate in store.

SAFE . . . EVOSET 101 T.S. is simply added to the gauging water and thus uniformly distributed—no flash sets. It has no corrosive action on properly embedded steel reinforcement.

USE EVOSET 101 T.S.

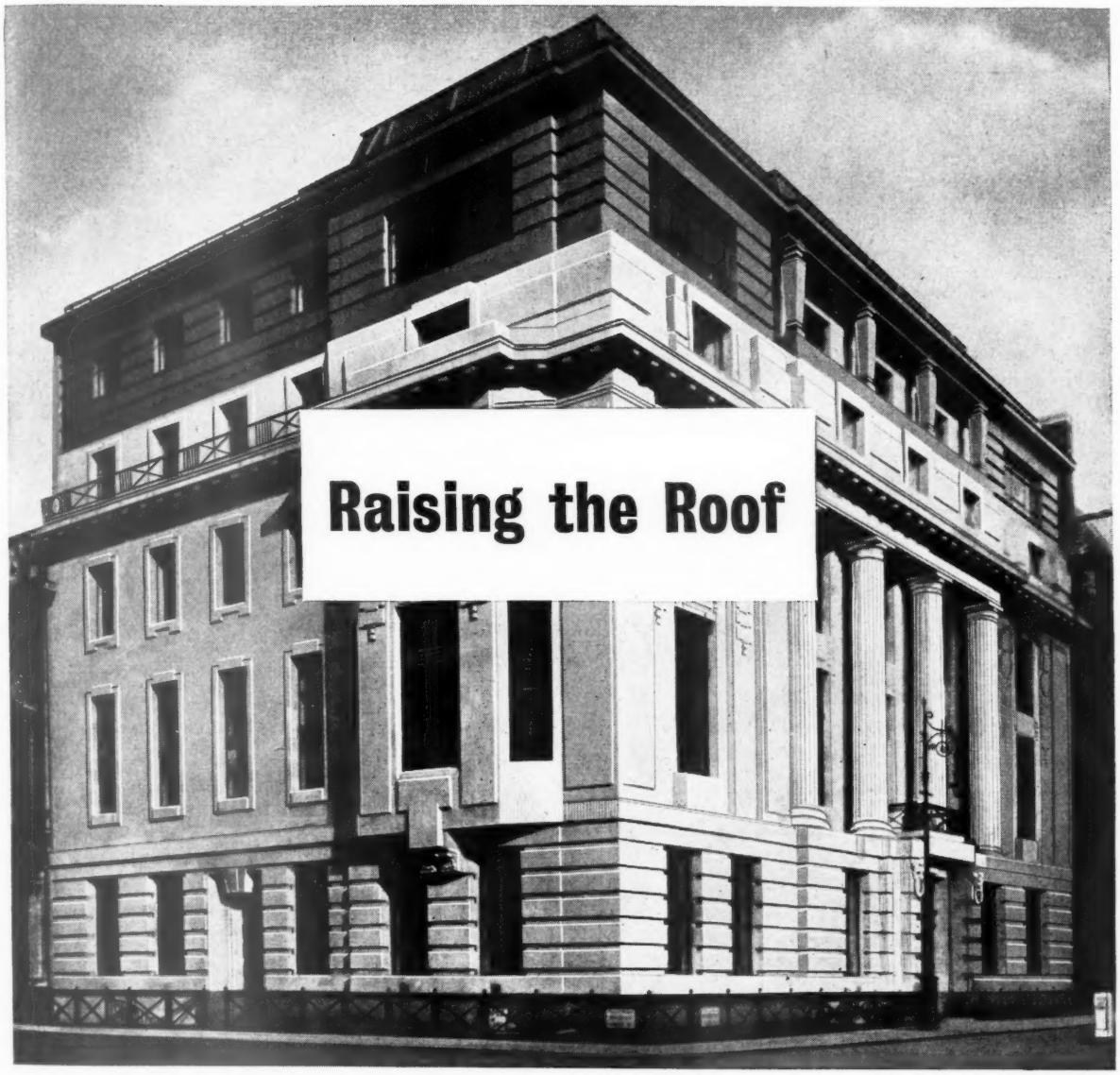
in all concrete and cement mortar mixes for quick setting, rapid hardening and waterproofing.

PRICE 3/6 to 4/6 PER GALLON, IN 40 GALLON DRUMS, ACCORDING TO QUANTITY. Also available in 5 and 10 gallon drums at 7/6 per gallon. Descriptive leaflet gladly sent on request.

AN EVODE PRODUCT

EVODE LIMITED, GLOVER ST., STAFFORD

Telephone: 1590/1/2 *Telegrams: Evode, Stafford*



Raising the Roof

with 'Kynal'

In Wimpole Street, London, an imposing building—appropriately enough the headquarters of the Royal Society of Medicine—has grown 18 ft. during the past few months. The Society has enlarged its accommodation by adding an extra floor.

The first three floors are stone-faced, but to cover the brickwork of the new fourth floor it was decided to use 'Kynal' heavy-gauge aluminium alloy sheet and aluminium alloy extruded sections — 5 tons of 'Kynal' in all, replacing an estimated 71 tons of stone! The strong architectural character of the stone fabric has been ingeniously simulated, while the use of 'Kynal' has reduced transport and labour costs and speeded up erection. 'Kynal' is a versatile material for architects and builders.

All aluminium work was executed by J. Starkie Gardner Ltd., to the design of the late J. J. Joass, F.R.I.B.A., and Lesslie K. Watson, M.B.E., T.D., M.A., F.R.I.B.A., A.M.T.P.I. Messrs. Trollope and Colls Ltd. were the general contractors. 'Kynal' M 39/2 sheet and extrusions were used.

'KYNAL' ALUMINIUM ALLOYS

IMPERIAL CHEMICAL INDUSTRIES LIMITED · LONDON · S·W·1

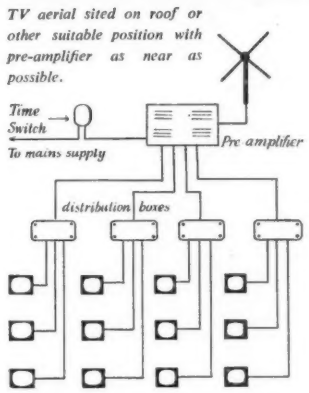
ICI

M2QR

one for all...

The new A.I.L. Master TV Aerial System sets one rooftop aerial doing the work of scores—and doing it thoroughly efficiently from every point of view. For blocks of flats, hotels, hospitals, factories, housing estates and schools, this new one-aerial system is the perfect answer.

Municipal authorities are showing great interest in this new system which preserves architectural amenities whilst giving perfect TV viewing. Antiference branches in London, Birmingham, Bristol, Brighton, Leeds, Liverpool, Manchester and Loughborough are on call to arrange speedy and economical installations wherever required and our technical experts are always available to advise and assist with any problems.



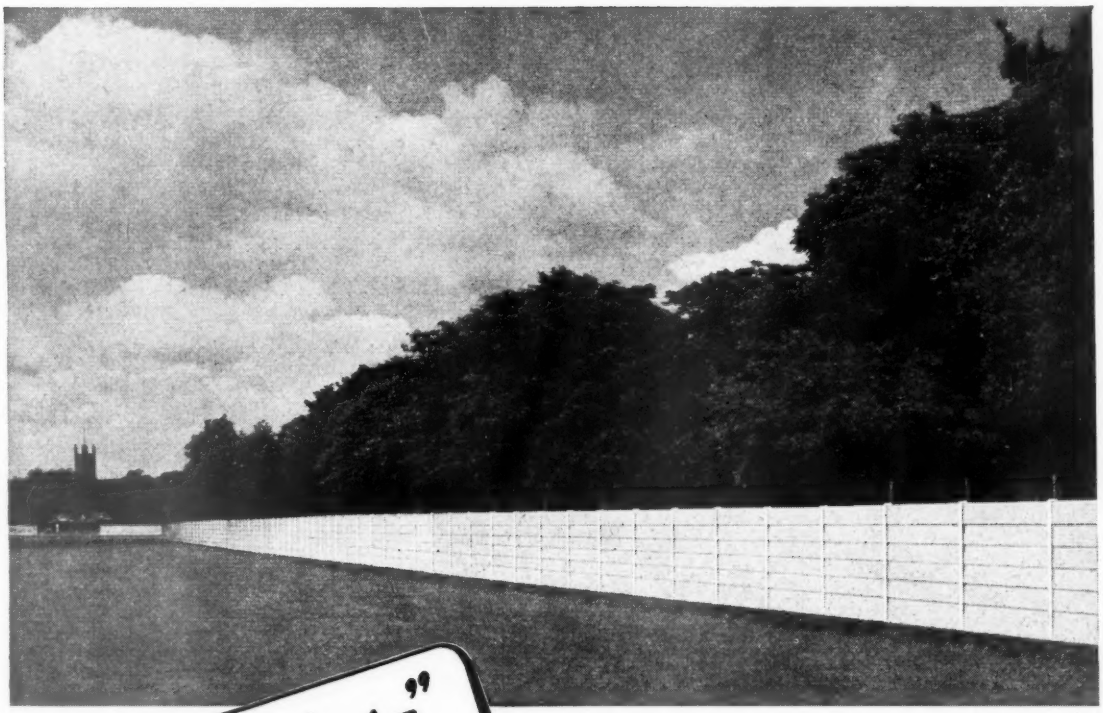
AIL *Master TV Aerial Service*

ANTIFERENCE INSTALLATIONS LTD., Watford Way, London, N.W.7. Telephone Hendon 0151/2/3

C

ARCHITECTS WHO HAVE SPECIFIED COLT VENTILATION

Elsworth Sykes & Co., L./A.R.I.B.A.
A. K. Tasker & Austin Child, F./A.R.I.B.A.
J. Walton Taylor & Son, L.R.I.B.A.
Walker & Collinson, A.I.A.A., A.I.A.S.
Clement Williams & Sons, F.R.I.C.S.
Teather & Hadfield, F./L.R.I.B.A.
Harry Webster, L.R.I.B.A.
John B. Surman & Partner, F.R.I.B.A.
Harry W. Weedon & Partners, F.R.I.B.A.
Wood, Coldstraw & Yorath, A./L.R.I.B.A.
Wood & Kendrick & Williams, F/F.R.I.B.A.
F. Potter, F.R.I.B.A.
W. Stephen Thomas, A.R.I.B.A.
William Traylor, F.R.I.B.A.
Vaughan & Richards, F.R.I.C.S.
Willmott & Robertson, F./L.R.I.B.A.
Michael J. F. Secrett, F.R.I.B.A.
C. B. M. Smith, A.R.I.B.A.
Snailum, Huggins & Le Fevre, F./A./A.R.I.B.A.
Richard Sheppard & Partners, F./A.R.I.B.A.
C. G. Stillman, F.R.I.B.A. Middlesex County Architect
Wallis, Gilbert & Partners, F./F.R.I.B.A.
Welch & Lander, F/F.R.I.B.A.
Wells-Coates, Jacqueline Tyrwhitt & Associates, F.R.I.B.A.
F. R. Steele, F.R.I.B.A., F.R.I.C.S., M.T.P.I. West Sussex County Architect
A. L. Tamkin, A.R.I.B.A.
J. Edward Tyrell, L.R.I.B.A. Gosport Borough Architect
Newby Vincent & Partners
Kenneth F. Wray, F.R.I.B.A.
Wright & Renny, F.R.I.C.S., M.INST.R.A.



"Winslot" Fencing erected at Hurst Park Racecourse, Hampton Court. Reproduced by the courtesy of the Hurst Park Club Syndicate Ltd.
Chartered Surveyors : Messrs. Berwick Cooper, Townsend Green & Co., 15, Lincoln's Inn Fields, London, W.C.2.

"Winslot" REGD. DESIGN
UNIT FENCE
TYPE 2

. . . for all sites where

PERMAMENT FENCING

is required

"Winslot" Type 2 is the ideal PERMANENT Fence for Industrial and Municipal sites. It is manufactured by a new method to give a consistent quality finish. Reinforcement of all units is perfectly covered by means of patent bar spacers. **Units are cast in a sepia shade of brown colour which produces a mature and pleasing appearance.** Available in heights from 1ft. 8in. to 7ft. 9in. with or without trellis. It incurs no subsequent upkeep costs and on this basis is competitive with timber fencing.

Enquiries are invited for LICENSEES to manufacture "Winslot" Fencing in Scotland.

The following LICENSEES have works operating to supply "Winslot" fencing to all areas in England, Wales and Northern Ireland at economical rates.

BERKSHIRE: COWLEY CONCRETE CO. LTD.
DEVON: DEVON CONCRETE WORKS LTD.
GLAMORGAN: THE BRITISH "FRAM" CONSTRUCTION CO. (1911) LTD.
LANCASHIRE: WETTERN BROTHERS (MANCHESTER) LTD.
NORTHUMBERLAND: WETTERN BROTHERS LTD.
NOTTINGHAM: WETTERN BROTHERS (NOTTINGHAM) LTD.
WORCESTER: PARKFIELD CONCRETE PRODUCTS CO. LTD.
NORTHERN IRELAND: WORKMAN LTD.

Enquiries invited for supply and erection. Send for "Winslot" illustrated Specification Folder.

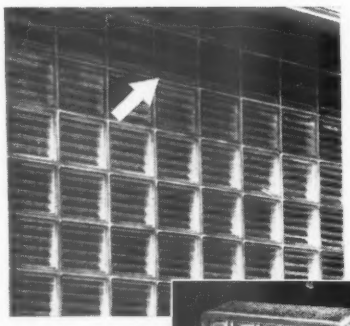
METROPOLITAN CONCRETE WORKS LIMITED

Imber Court, East Molesey, Surrey. Phone: EMBerbrook 2211/2

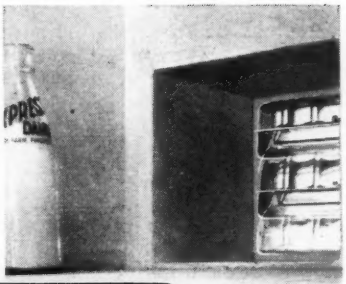
Proprietors of "Winslot" Registered Designs

THE FIRST COST IS THE LAST COST - WITH "WINSLOT"

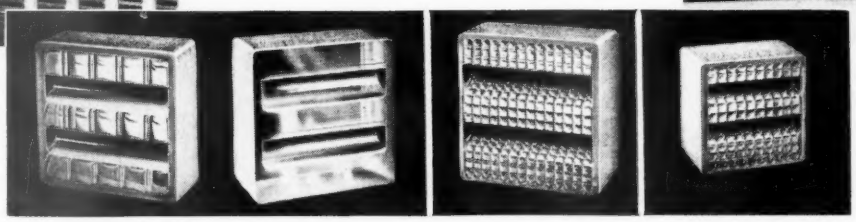
Now Available from Local Stockists



THE CLARK-EATON ALL-GLASS 'VENTIBLOCK'



VENTILATION for HOLLOW GLASS BLOCK INSTALLATIONS



Type 3—7¼" × 7¼" × 3⅛" *Type 32—7¼" × 7¼" × 3⅛"* *Type 2—5⅛" × 5⅛" × 3⅛"*

LIGHT & AIR for LARDERS, TOILETS, ETC.

AGENTS & STOCKISTS AND TERRITORIES COVERED

1: CITY GLASS CO. LTD.,
Civic Glass Works, 130, Denmark Street, Possilpark, Glasgow, N. 'Phone: Possil 8566.
The whole of Scotland.

2: REED MILLICAN & CO. LTD.,
Market Street, Newcastle-on-Tyne. 'Phone: Newcastle 28383.
Counties of Northumberland, Durham, Cumberland, Westmorland and the town of Middlesbrough, Yorkshire.

3: BRADFORD GLASS CO. LTD.,
Springmill Works, Manchester Road, Bradford. 'Phone: Bradford 26386.
Counties of Yorkshire (except town of Middlesbrough), Lancashire, Lincolnshire, Nottinghamshire, Derbyshire, Cheshire.

4: PEARCE & CUTLER LTD.,
Bridge Street, Broad Street, Birmingham, 1. 'Phone: Birmingham Midland 3584.
Counties of Warwick, Worcester, Stafford, Shropshire, Leicester.

5: BRISTOW WADLEY & CO. LTD.,
Mill Lane, Cardiff. 'Phone: Cardiff 30411.
The whole of Wales and the County of Monmouth.

6: JOHN HALL & SONS (BRISTOL & LONDON) LTD.,
Romilly House, Petherton Road, Hengrove, Bristol, 4. 'Phone: Bristol Whitchurch 2162.
Counties of Gloucestershire, Devonshire, Cornwall, Herefordshire (Wiltshire and Somersetshire—those parts not covered by Branches of James Clark & Eaton Ltd.—See Branch Area Map).

7: W. F. CLOKEY & CO. LTD.,
7-13, King Street, Belfast.
'Phone: Belfast 23484.
Northern Ireland.

8: DUBLIN GLASS & PAINT CO. LTD.,
41, Middle Abbey Street, Dublin, C.4. 'Phone: Dublin 73919.
Eire—Counties of Wexford, Carlow, Wicklow, Dublin, Kildare, Leix, Offaly, Meath, Westmeath, Longford, Roscommon, Mayo, Sligo, Leitrim, Cavan, Monaghan, Louth, Donegal, Galway (excluding the town of Galway).

9: J. WATERS & SONS LTD.,
4 & 5, Winthrop Street, Cork. 'Phone: Cork 23291.
Eire—Counties of Cork, Kerry, Limerick, Waterford, Tipperary.

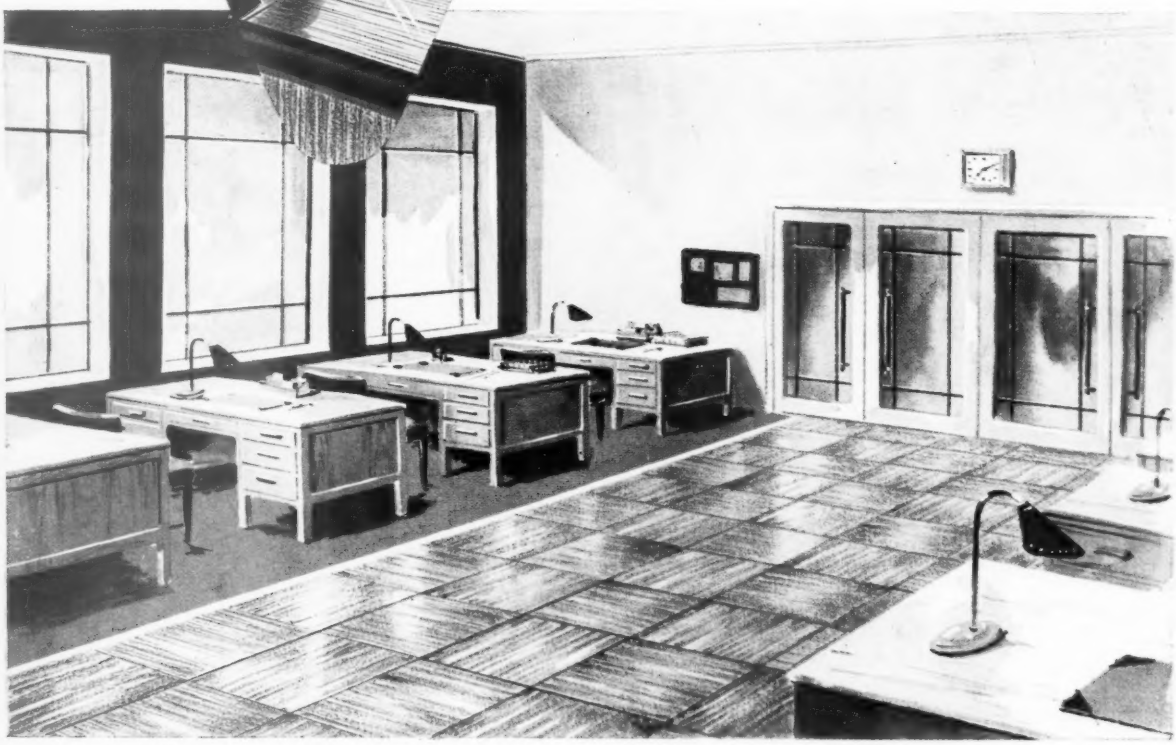
Enquiries from areas not included above should be sent to the nearest branch of :—

JAMES CLARK & EATON LTD.

LONDON: Blackfriars, S.E.1. Telephone: WATerloo 8010 (20 lines).
CANTERBURY: Orchard Street. Telephone: 2407.
BOURNEMOUTH: Kemp Road, Winton. Telephone: 280 (2 lines).
EASTBOURNE: Waterworks Road. Telephone: 3980 (2 lines).
READING: Basingstoke Road. Telephone: 81681 (2 lines).
OXFORD: 6, Hockmore Street, Cowley. Telephone: 77455.

After years of experiment, when Linoleum was in short supply, architects, to-day, are re-discovering the functional beauty of this versatile floor covering. Where traffic is heavy, particularly in business establishments, Linoleum's long life, quietness of tread, resistance to wear are factors of paramount importance. To the architect, whether he specialises in period or modern design, Linoleum with its vast range of colours and patterns provides him with a medium that places no limit on his creative expression.

Nothing takes the place of LINOLEUM

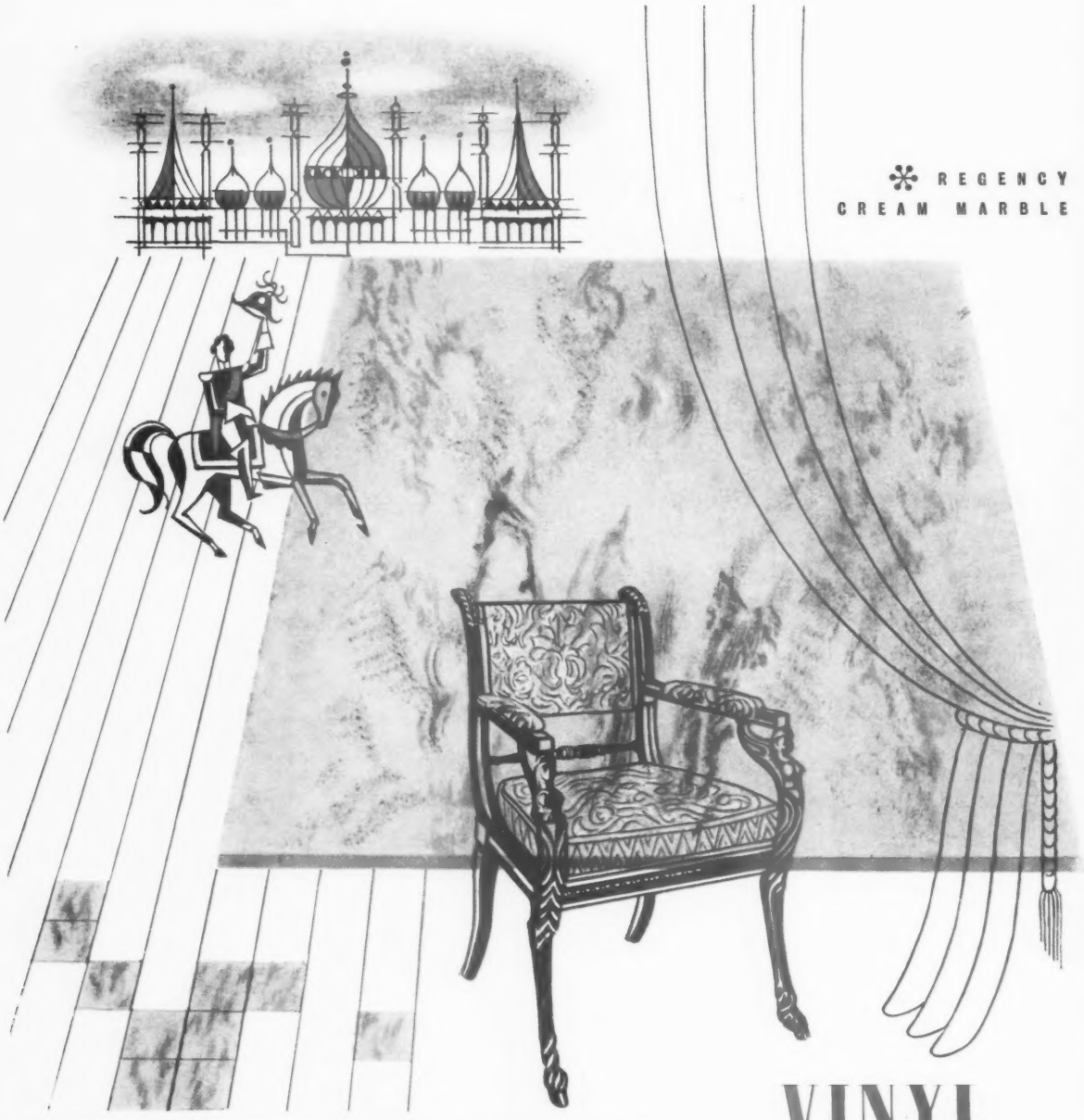


For good looks and long life plan for

LINOLEUM

THELMA

"THELMA" stands for The Linoleum Manufacturers' Association, 127 Victoria Street, London, S.W.1.
For further information write to the Association or to any of the following members :—
BARRY OSTLERE & SHEPHERD LTD., KIRKCALDY · DUNDEE LINOLEUM CO. LTD., DUNDEE · LINOLEUM MANUFACTURING CO. LTD., 6 OLD BAILEY, E.C.4 · MICHAEL NAIRN & CO. LTD., KIRKCALDY · NORTH BRITISH LINOLEUM CO. LTD., DUNDEE SCOTTISH CO-OPERATIVE WHOLESALE SOCIETY LTD., FALKLAND, FIFE · JAS. WILLIAMSON & SON LTD., LANCASTER



The opening years of the nineteenth century saw the beginning of mechanical invention, philosophic teaching, romantic novels, poetry and political forces that were to change the pace and face of the world. All this ferment of thought and action was reflected in the new furnishings of the time, now popularly known as English Regency, after the Prince who became Regent for George III. The colour of the Semastic Decorative Tile illustrated is a cream used in much of the Regency furnishings, now standardised by the British Colour Council who collaborated in the selection of colours for both Semtex Vinyl and Semastic Decorative Tiles. Architects will find that this dual range offers them the widest possible scope for colourful decorative schemes to satisfy both æsthetic and practical considerations.

✻ *One of the eighteen plain and marbled colours in the Semastic Decorative Tile range.*

ASB/8.7

VINYL
and
SEMASTIC
DECORATIVE TILES

products of a Dunlop Company
are installed by

J. A. Hewetson & Co. Ltd
Hollis Bros. Ltd
Horsley Smith & Co. (Hayes) Ltd
Pilkington's Asphalte Co. Ltd
Semtex Ltd
The Penmaenmawr & Trinidad Lake Asphalt Co. Ltd
The Limmer & Trinidad Lake Asphalt Co. Ltd
The Western Trinidad Lake Asphalt Co. Ltd

The Semastic Decorative and Semtex Vinyl tile ranges can be seen on
STAND E. 101 · BUILDING EXHIBITION · OLYMPIA · 18th NOVEMBER—2nd DECEMBER.

AJ

THE ARCHITECTS' JOURNAL

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

No. 3062 November 5, 1953 VOL. 118

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

CONTROLS OFF

The Government announcement that controls over the selling price of new and private houses are to be abolished as from December 20 hardly comes as a surprise. Since the easing of the licence situation this announcement has been expected. It is already clear that the market price of new houses today is much the same as the actual price—a classic example of the price mechanism working as it should. However, the abolition of price control, even if no surprise, will save quite a lot of tedious form filling and remove one or two anomalies such as the fixed rate allowed for professional fees, irrespective of service given and charged, and some anomalies resulting from differential values of sites.

ASTRAGAL suspects that those who built houses over two years ago will be most relieved. However, before you all spend any profits from such a sale, he would like to point out that rented houses will still be subject to the Rent Act.

PRODUCTIVITY AGAIN

Every two years or so the Building Research Station carries out surveys of the man-hours required to build traditional houses, and the reports record approximately the same pattern of results: astonishing variations—three times as many man-hours on one site as on another. Yet nothing ever seems to be done about it.

*

The reports inevitably take some time to produce, the current one* being based on figures obtained between January '49 and March '51; reflex action among the builders shrugs the whole thing off by suggesting that nowadays things are not what they were two and a half years ago. True maybe, but top and bottom figures varying between 4,645 and 1,565 man-hours take a little more explaining away than that. Surely incentive schemes have been running long enough for someone to decide which systems work and which don't.

RECOGNITION—OR THE REVERSE

I hope one of the things the McMorran Committee will make useful recommendations about will be the basis of RIBA recognition of schools of architecture. Many people are unhappy about the way it is handled now, especially the unpredictability of the decisions of the committee of the Board of Architectural Education which grants or refuses recognition.

*

Several of its decisions have caused surprise lately, and now there is the case of the Hong Kong school (Professor Gordon Brown's flourishing infant), which has been refused recognition up to intermediate level. I have not seen the work submitted, so cannot say that the committee was wrong, but I have seen examples of the students' work which seemed to me to reach a very good standard. The unfortunate thing is the effect this decision will have on the spot, because two highly qualified members of the RIBA (one of them the chairman of the Board of Architectural Education) recently flew out to Hong Kong to inspect the work of the school. They were, I understand extremely impressed, and said so to the Governor of Hong Kong. The subsequent rebuff administered by London will therefore cause all the more consternation locally.

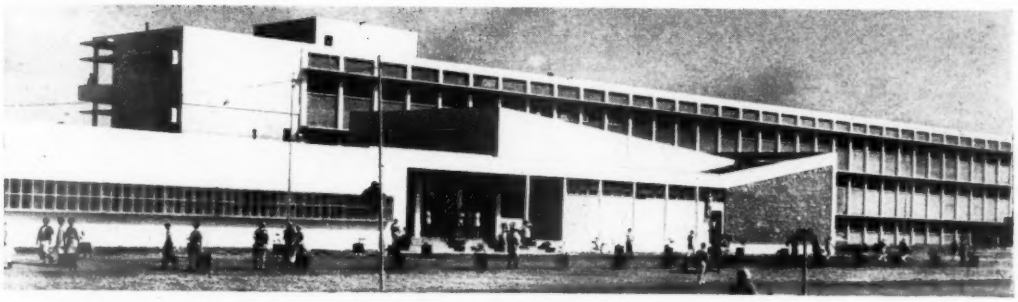
*

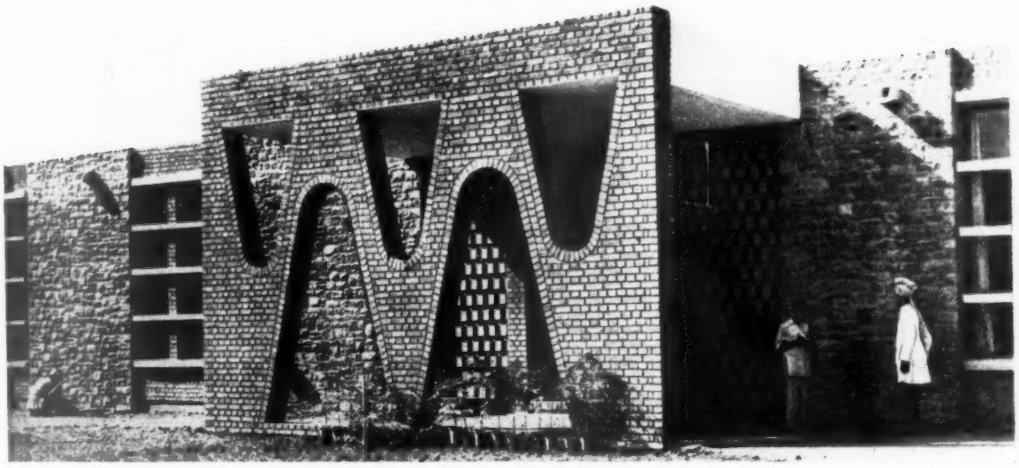
Without a recognized qualification at the end of their course the Hong Kong students will not be able to practise locally, nor in Malaya and other parts of south-east Asia where many of them come from. The school may well have to close, leaving a vacuum from Bombay to Sydney. Nature abhors a vacuum—so do the Japanese, who are training many architects and would be only too delighted to fill the gap caused by the withdrawal of the only centre of architectural education in the area.

*

ASTRAGAL does not suggest that the RIBA committee should lower its academic standards in deference to

* *Productivity in House Building*. 2nd Report By W. J. Reiners and H. F. Broughton. National Building Studies Special Report No. 21. HMSO, 1953. 1s. 9d.





ASTRAGAL *has just received these pictures from Chandigarh, the new capital of the Punjab. Top: the engineering college. Below: the Ministers bungalow. (Architects for the city: le Corbusier, Pierre Jeanneret, Maxwell Fry and Jane Drew.)*

political or cultural expediency, but all pictures should be looked at as a whole. Hong Kong is a long way away, and the only people who can really judge what is good for *architecture* there are people who have studied the problems on the spot. If it is the case that the favourable report of the two eminent architects who went there was overruled by other members of the committee who didn't, the Board of Architectural Education owes the profession a fuller explanation than the bare announcement of refusal to recognise.

MORE ABOUT THE MOTOR SHOW

Forced out of the central area of the show by the crush of prospective purchasers of the newer, cheaper baby cars, ASTRAGAL came to rest in the comparative calm of the Marine Section, where he drooled quietly over the woodwork and finish of some of the boats, and eventually got talking to a man on the stand of a well-known Coventry firm which makes diesel engines for marine and other purposes. By way of racing cars and the disappearance of the tram from our public streets, the conversation quickly turned to architecture, and the man from Coventry wanted to know why architects always over-designed their structures. No one in engineering, he said, would think of working to such ridiculously high factors of safety. ASTRAGAL mumbled something about unreliable materials—"improve standards and testing," he was told—and about varying qualities of workmanship —"what do you expect for such low rates of pay?" he was asked.

*

Feeling that this was where we came in, we made as if to go, but our friend detained us with the assertion that these were just excuses and architects were reactionary. "Look at the average factory roof," he went on; "it's twice as massive as it need be because of the risk that someone will want to hang a gantry-crane on it, but if everybody did their product circulation on the ground with really up-to-date machines like fork-lift trucks (and here he thrust a pamphlet into our hands), roofs could be made of light alloy and the whole structure could be lighter. What about it?" he demanded.

*

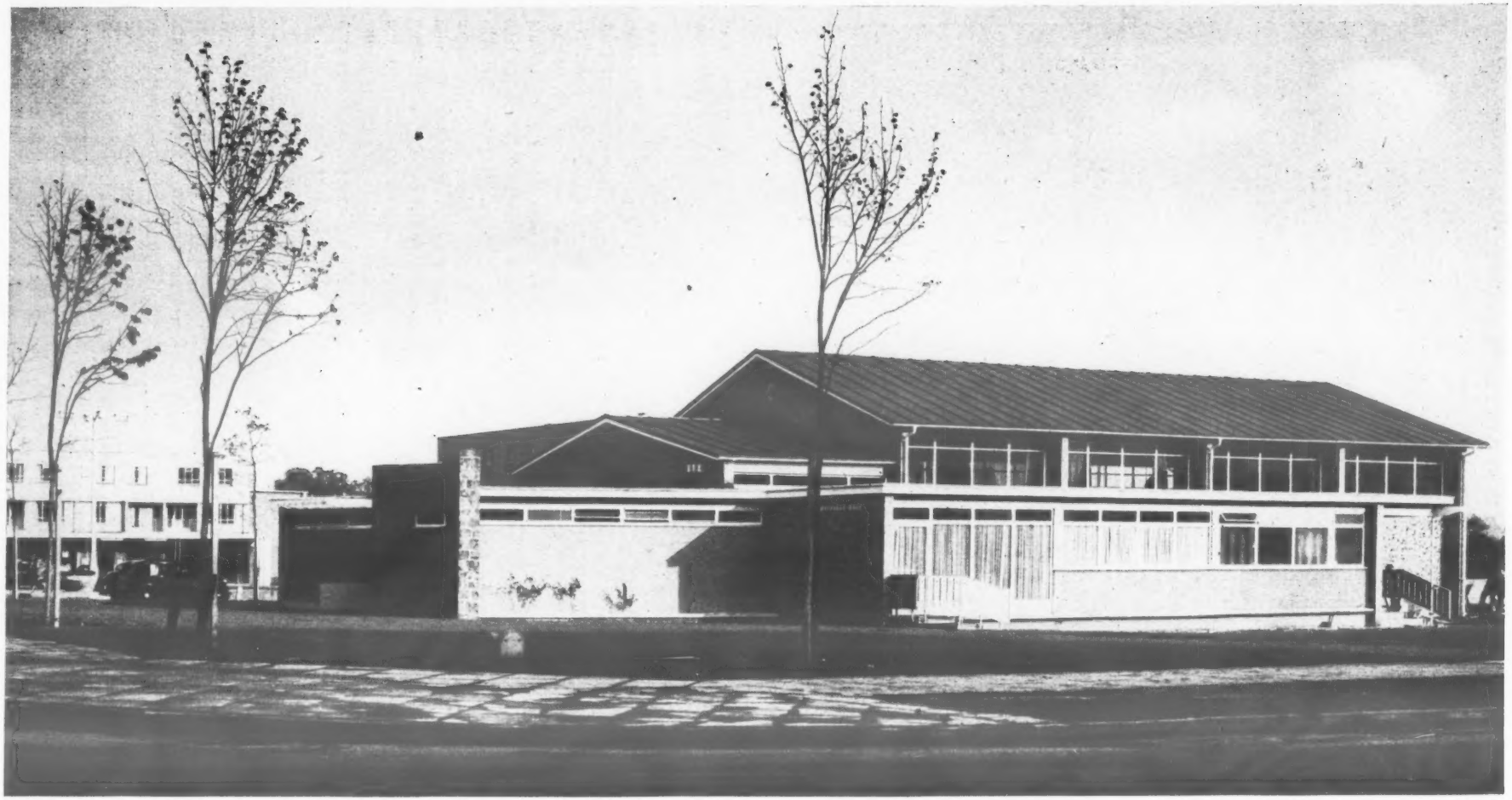
We said that we would have to think about it. "There you are," he shot back, "automatically resistant to new ideas!"

DRAPES, POTS AND BASKETS

Stung to action, ASTRAGAL looked in later at the ICA to see an exhibition of "Paintings for Textiles"—a collection, elegantly presented by Dennis Lennon, of designs prepared at the invitation of *Ambassador Magazine* by well-known artists. A few new ideas—mostly from the less well known. A snap judgment —what else was possible in the smiling, gossiping throng?—is that an abstract by sculptor Robert Adams was the best —Edward Wright, Paolozzi, Miss Allbeck, William Gear, Geoffry Clarke pounded along as runners-up. Graham Sutherland scored an inner, a near-miss and a miss; and I did not care for the Henry Moore. Nevertheless, a stimulating show well worth organizing as a shot in the arm for the textile trade.

*

More in need of such shots, however, for British textile designs have improved out of all recognition in the last ten years—are the china and pottery manufacturers whose latest decorated products are now on show at the Tea Centre. Not all the COID's dredging nor Margaret Casson's ingenuity (sponsor and designer respectively) can disguise the fact that a great majority of



First New Town Social Hall

Adeyfield Hall, Hemel Hempstead, the first social hall to be completed in a New Town, was opened on Saturday by Lord Reith, the former chairman of the Hemel Hempstead Development Corporation. This hall, which is the last building to be constructed in the neighbourhood centre, known as Queen's Square, improves the appearance of the Square, whether it is seen from Longlands Road (as in the photograph) or from the Square itself. It is light and gay, both inside and outside, and the variety of materials and colours used—as well as the pitch of its copper roof—makes it a pleasant contrast to the uniform appearance of the flat-roofed buildings on the other three sides of the Square. The walls are built with either kilned stock bricks or Hornton (limestone) random rubble. The panel infilling is in either random flints or egg-crate concrete. The architect, M. Hardstaff, points out that the 1-to-3 (cement-coarse sand) egg-crate concrete blocks under the low-level windows satisfy a need for a deeply textured material in this position. The stone wall, he says, is a completely new material to the neighbourhood—a material whose solidarity emphasises both the main entrance to the Square and the entrance to the hall itself. The internal arrangement of the building, which is planned so that when it is not being used for a number of different purposes all rooms open on to the main hall, providing a number of interesting vistas, will be described and illustrated in a later issue. (Hemel Hempstead New Town architects : chief architect, H. K. Ablett ; assistant chief architects, P. R. Bee and H. Schofield. Assistant architects to M. Hardstaff on the hall design, T. L. Lilley and P. E. Sadler. Landscape architect, N. M. J. Clarke.)

the exhibits look like re-hashes of old work or art-schooly designs without life or character. No doubt we have been so starved of colour and decoration upon our table china during the last ten years that we will accept almost anything. But it seems regrettable that our Stoke-on-Trent industrialists did not spend some of the past years in hatching out something a bit better and more adventurous.

*

Visitors to this exhibition, "Round the Table," will incidentally pass through—*en route* to it—a display of basketry. ASTRAGAL—always a sucker for this stuff—was so ecstatically enmeshed by this that he only just got away. Clearly, had he been born an eel or a lobster, his life would have been a short one.

CRI DE COEUR

After an art-stuffed week, ASTRAGAL was in a receptive mood to the anguished cry of Mr. Disney of Chorley Wood, who—in a letter to *The Times* on the subject of official patronage—wrote: ". . . I am sure I cannot be unique in taking no interest in art of any sort and in thinking that those who enjoy its harmless attractions should themselves pay for their enjoyment."

*

Good for Chorley Wood—but why stop at Art? Cabinet Ministers would have to whistle for their salaries, surely, if these were to be paid for only by those interested in their harmless attractions . . . and what about Woomera and street-cleaning and imported tinned crayfish and the Building Research Station?—all rather expensive, paid for in some degree by the taxpayer and in their way attractive—if not harmless.

*

Has Mr. Herbert Disney, ASTRAGAL wonders, any pictures, decorated china, woven textiles or even baskets in his house? Was his house in Chorley Wood designed by an architect. If so, some of this "Art" was probably paid for, however indirectly, by fellow citizens—and ASTRAGAL—(reaction by now having set in)—doesn't really grudge a penny of it.

ASTRAGAL

POINTS FROM THIS ISSUE

The Editors

AESTHETICS OF MASS-PRODUCED HOUSING

CURRENT housing policy is 300,000 new houses a year. This is housing for roughly a million people. These target figures for annual production of houses are but one expression of the growing tendency for the approach to house-building to have much in common with the technique of mass-production—output targets and standardization. There are many signs of this: increasing interest and experience in simplifying and rationalizing construction; and placing of larger contracts, as, for instance, the experiment at Coventry. Not the least potent of the influences is the way the ideas of Whitehall are reflected on drawing boards everywhere. It is all the more important, therefore, that any new handbook from the Ministry should be judged not only on the merits of the different ideas it contains, but also on the possible consequences of the ideas being accepted universally.

In his review of *Houses, 1953** which is published on pages 561-568 of this week's issue, Derrick Rigby Childs concludes with the observation that good as the handbook is, it stops short of saying anything on what are, in fact, the æsthetics of mass-produced houses: the design problem of handling tens and hundreds of thousands of basically standard dwellings, nearly all two-storey.

We think the time has come to ask if the national economy—indeed, our very ability to live as a nation—is thereby strengthened, should we not accept, if not actually welcome, basically standard housing? In any event, standard housing has almost arrived: but have we accepted the fact and the æsthetic problem it raises?

We suggest that the problem is partly one of the effect of dispersing standard dwellings throughout the length and breadth of the land, and partly one of the effects of concentrating tens of thousands of dwellings in a single cluster, as it were, in one of the larger new towns or in the outer areas of a large city. It is, perhaps, in this field that the problem is at its most acute.

In a village, a few standard houses may be absorbed; in an average town, several hundred or even thousand dwellings

* Third Supplement to the MOHLG Housing Manual 1949. HMSO. 3s.

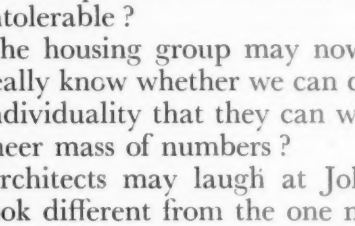
laid out on the lines of *Houses 1953* may take their place ; but in the large cities with standard dwellings in tens of thousands, can we accept a basically uniform housing pattern repeated *ad nauseum* ? The problem is mainly one of numbers ; at what point does the endless repetition of a basic form become intolerable ?

The housing group may now be the design unit, but do we really know whether we can design housing groups of sufficient individuality that they can withstand being submerged by the sheer mass of numbers ?

Architects may laugh at John Brown wanting his house to look different from the one next door, but isn't that what we want of housing groups and of neighbourhoods ?

Can we be sure of getting it ?

FOCUS ON



YOU

The JOURNAL'S *Guest Editor, Professor Bowen, continues to give results of his enquiry into the state of the architectural profession. (The names shown in the headpiece above were taken at random from the Architects' Register and are not related to the article.)*

Guest Editor :

Professor IAN BOWEN

ONE reason for misgivings on prospects in the architectural profession is that the future volume of building activity may decline. This is not because of an exact correspondence between the two; it is not necessarily true, for instance, that any given percentage fall in building activity will result in an equal percentage decrease in the work done by architects. This depends on the character of the building programme and the way in which it is organized. (Any increase in building activity will not, of course, necessarily bring more work to architects.)

No firm figures exist at present on the average incomes of architects in practice. There are, however, some fairly good statistics now available of the value, and the volume, of new building work done annually in this country.

It may be useful to consider these figures first, and then to relate them to the incomes which we can only suppose are derived by architects from the design of new buildings. But the second part of the story is incomplete.

NEW BUILDING WORK DONE IN RECENT YEARS

Latest official estimates of the value of new building work done annually since 1947 were published last August in the blue book on National Income. First, let us look at the value of *new* work done in each year. This ran as follows (in £ millions):—

Year	New Housing	Other new building	Total
1947	335	195	530
1948	344	276	620
1949	334	337	671
1950	332	394	726
1951	366	428	794
1952	485	452	927

These are value figures, and over the years prices have, as everyone knows, been rising; but an official cost index has been calculated, and if this is used to adjust all value figures to what they would have been at 1948 prices we should get converted figures as follows (1948 prices throughout):—

Year	New Housing	Other new building (in 1948 prices throughout)	(£ millions) Total
1947	355	210	565
1948	344	276	620
1949	329	331	660
1950	316	371	687
1951	313	348	661
1952	385	340	725

Thus, even at constant prices, there would have been a considerable rise in new building output between 1947 and 1952. The figure for 1952 (£725 millions) is, in fact, 28 per cent. above that for 1947; working to this measurement, then, the "volume" of new building done (calculated in this way) was 28 per cent. greater in 1952 than in 1947. Architects are concerned, of course, with repairs to and reconditioning of existing property as well as with new work; even so, the great rise in the volume of new work is arresting. There has been, and there still is, a distinct boom in the volume of new construction.

NEW BUILDING IN RELATION TO "CAPITAL FORMATION"

The national income statisticians classify new building work in their tables as part of new "capital formation," the other parts consisting of the construction of vehicles, or of plant and machinery (durable assets), and the building up of stocks of goods. How great a proportion of total capital formation is new building able to absorb? And what future rate of such total investment expenditure can this country, on a long-term view, sustain?

Past experience provides some guide to answering the first of these questions. New building has taken up about 45 per cent. of total annual gross capital formation. Some years there has been a slight reduction in this percentage (it fell to 43 per cent. in 1950) but 45 per cent. is a firm estimate for most post-World War II years. So long as the country "can afford" a total capital formation programme of some £2,000 millions (at 1952 prices, or £1,500 millions at 1948 prices), it can afford to spend £927 millions (1952 prices) on new building work.

There seems little reason to doubt that, in the future, as in the recent not very economically secure past, at least 45 per cent. of gross capital formation in fixed objects could consist of new building construction. But can this rate of capital formation be maintained? Will our national income justify it?

Naturally, civilian investment will tend to decline if there is a general slump, or some special disturbance, such as a war. If, however, fairly "normal" conditions continue, there seems to be no good reason why the country should not afford to place as much of its resources into capital as before. Moreover, *all* political parties now subscribe to the doctrine that, to meet some kinds of trade recession, public works, mostly constructional, are sound policy. So even with a recession (unless it were of some specialized kind not amenable to that remedy) constructional expenditure would be stimulated.

New construction is not likely to increase, in "real" terms, by 25 per cent. every six years; but there seems no solid grounds for believing that its

volume will greatly decline. Indeed, it may, over the next decade, well increase on average more than most activities.

This is, however, a very heavily qualified optimistic conclusion, hedged by the proviso that no fresh crisis arises from Britain's precarious international trading position. Despite the recovery of exports in recent months, Britain still operates on a ridiculously small reserve of liquid resources (gold and dollars) in relation to its huge international commitments and responsibilities. A very short-lived setback in the trading position of the sterling area countries vis-à-vis the dollar countries could result in another crisis in Britain, so this could well mean a drastic paring down of many forms of constructional activity, and a really violent effort to shift man-power into other fields of employment than, say, housebuilding or school building. Fears of such an upheaval are only too rational; the chances of avoiding a further crisis of this kind are not good.

The place where the shoe would pinch most would be in the import of key materials, especially timber, should there be a renewed balance of payments crisis. At present there are, of course, fairly good supplies of these materials. But in addition to the problem of materials a renewed scarcity of building licences might be deliberately induced by the authorities, if a capital programme seemed to be too much over-weighted by certain types of building. This kind of crisis, even though of short duration, could cause wholesale suspension of plans and postponement of projects.

THE LONG-TERM OUTLOOK

The possibility of a short, sharp crisis, which might result in uncomfortable conditions and some difficulty for the profession, is real. But a sober assessment of the longer-term outlook does not result in such a gloomy picture. After all, it was clear in 1945 that Britain needed at least twenty years of building on a large scale to satisfy its domestic, industrial and educational requirements. Now we are nearly halfway through that twenty years, and there is no good reason to revise the estimate downwards; on the contrary, it now seems unlikely that twenty years will be long enough, even with our high total annual volume of construction, to modernize the country up to a minimum acceptable standard for work or living.

On the long view, Britain must build or perish; Britain is still relatively (to the world outside North America and the Dominions) a wealthy country, and could hardly become economically sound as a slum economy. Relatively poor countries, like Brazil, have bold and impressive buildings erected on a considerable scale. Investment in building in Britain cannot be, in many cases, any less desirable economically than investment in building in South America, or in some of the commonwealth countries—both are paying propositions.

MORE PRIVATE BUILDING

The building plans sponsored directly, or indirectly, by government authorities (national or civil) will no doubt claim a large share of the total volume of work done in the next ten to twelve years. But, as national income recovers (and apart from balance of payments crises recurring from time to time), there seems likely to be some increase in the share of the programme that will be taken for private building owners, whether firms or individuals.

As licensing is eased there will surely be, over the next few years, a marked increase in private work, particularly of conversion and adaptation of old premises, and the building of new offices, stores, places of entertainment and so on—all the categories of work deliberately kept back in the first ten years of the programme.

On a longer view this practically inevitable trend should do much to alleviate the hardship caused by short-term delays due to the possible "crises" of international origin.

MOW

Historic Buildings Councils Appointed

Sir David Eccles, Minister of Works, has appointed two Historic Buildings Councils, one for England and one for Wales. They have been established under the Historic Buildings and Monuments Act, 1953, to advise the Minister in making grants towards the repair and maintenance of buildings of outstanding historic or architectural interest, their contents and adjoining land, and where necessary to acquire them, or to assist the National Trust or local authorities to acquire them.

Grants for this purpose were announced in the JOURNAL for May 21. The Historic Buildings Council for England will have Sir Alan Lascelles as chairman and will include Sir William Holford, John Summerson, J. Chuter Ede, Miss D. M. Elliott, the Earl of Euston, Christopher Hussey, Sir James Mann, the Countess of Radnor and W. M. F. Vane. The Council for Wales will be under the chairmanship of Captain G. C. H. Crawshay and will include S. Colwyn Foulkes, the Marquess of Anglesey, J. D. K. Lloyd, Professor Glyn Roberts and G. O. Roberts. It is hoped to announce a Council for Scotland shortly.

Applications under Part I of the Historic Buildings and Ancient Monuments Act for financial aid to buildings of outstanding historic or architectural interest should be addressed to the Secretary (C. D. E. Keeling), The Historic Buildings Council for England (or Wales), Lambeth Bridge House, Albert Embankment, S.E.1. Applications for buildings in Wales can also be sent to Alderman A. Manley, Assistant Secretary, The Historic Buildings Council for Wales, St. Agnes Road, Gabalfa, Cardiff.

A bas-relief by Mitzi Cunliffe entitled "Threshold," over the main entrance to Manchester High School for Girls, was unveiled recently. It is of Portland stone, and consists of three panels 3 ft. 6 in. long and 2 ft. 6 in. wide. The left hand panel symbolises Britain's past, the centre panel symbolises companionship, the right hand panel symbolises growth. The school was designed by J. S. Beaumont.

ABT

Architects' Salaries to be Discussed

On July 16 the JOURNAL published an article by Douglas W. Richardson, in which the author complained of the low salaries received by architects in government, municipal and industrial employment, and made proposals for a new salary scale. This led to a great deal of controversy in our correspondence columns.

Many readers will be glad to have the chance of airing their views on this subject at an open forum to be held by the ABT at York Hall, Caxton Hall, S.W.1, on November 6. Mr. Richardson will open the discussion and D. A. C. A. Boyne, the executive editor of the JOURNAL, will take the chair. The meeting will begin at 6.30 p.m.

BSI

Bruce Martin Joins

Bruce Martin has been appointed to the technical staff of BSI. As a member of the Building Section he is to investigate the application of modular co-ordination to building practice. The BSI will co-operate with BRS in this work.

ABS

Annual Ball

This year's ABS ball is to be held at the Dorchester Hotel on December 9 under the patronage of Howard Robertson, Sir Alfred Bossom, Sir Alfred Shennan, Sir Hugh Casson, Alderman F. W. Dean and Major Edward Procter. Dancing will be to Charles Ernesco's orchestra. There will also be professional entertainers, sideshows and competitions. Table decorations and sideshow stands will be designed and constructed by students of the London schools of architecture. Gifts of prizes for competitions, especially "bottled goods," will be welcomed by the secretary, C. J. Epril, 55, Pall Mall, S.W.1, from whom tickets at two guineas, including supper, are available.

BC

Exhibition of Spanish Architecture

The exhibition of Contemporary Spanish Architecture opened at the Building Centre on Tuesday and will remain there until November 21. It consists of 85 large photographs of buildings and projects. Although these buildings are contemporary, few are in fact in a contemporary style except for the work of Cabrero, Laorga and Arniches and Dominiques.

A small section of the exhibition illustrating some of the better known buildings of historic importance indicates clearly the roots of the architectural styles popular in Spain at present. Various building types are covered very fairly but factories and children's schools are absent. For the JOURNAL's coverage of some contemporary buildings in and around Madrid see the issue of October 22.

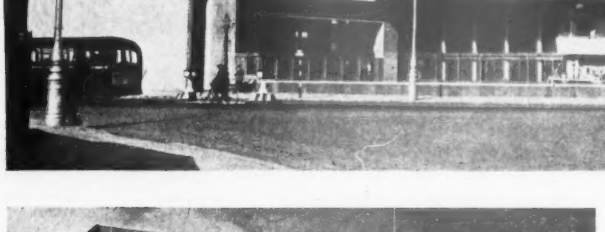
MODULAR SOCIETY

Executive Committee Elected

The Modular Society held its first annual general meeting at the RSA on October 28. A constitution was adopted that provided for incorporation as a company limited by guarantee. Sir Alfred Bossom, who was in the chair, was elected as first president.

The result of a postal ballot was declared, the following being elected to the executive committee:—C. H. Aslin, W. A. Balmain, D. A. Birchett, A. S. Bythway, David Carter, R. Llewelyn Davies, Capt. J. Fox-Williams, Donald Fraser, Peter Gardiner, L. Greiger, D. Dex Harrison, E. D. Hinchliffe, J. M. Holt, R. A. Sefton Jenkins, A. H. T. Johnson, G. Laurence, Herbert J. Manzoni, J. C. Pritchard, G. W. Raybould, Richard Sheppard, William E. Tatton Brown, Mark Hartland Thomas, R. T. Walters, and F. R. Yerbury.

The subscription rates are as follows:—Individual members, £2 2s.; special group subscription, £5 5s.; industrial subscription, minimum of £10 10s.; students, 5s.



MacDermott Building (Aras Mhic Dhiarmada), the combined bus terminal and offices of the Department of Social Welfare, in Store Street, Dublin, was opened on October 20. The eight storey, 122 ft. high block contains a cinema, seating 230 people, at basement level, a concourse of 11,000 sq. ft. with seating for 240 people, four shops, and parking space for 17 buses at ground floor level and a restaurant seating 140 people at mezzanine level. The first to fifth floors are occupied by the Department of Social Welfare and the sixth floor is used as a staff restaurant. The offices of the Minister for Social Welfare, on the third floor, are marked by a recessed balcony. The design is by Michael Scott. The building will be fully illustrated in a later issue of the JOURNAL.

Terrace houses of economical frontage at Hackney. Architect, Frederick Gibberd.

D. RIGBY CHILDS REVIEWS

HOUSES, 1953*

INTRODUCTION

"COUNT the pennies and the pounds will look after themselves" could well have been the inspiration behind the instruction given to the authors of this latest handbook, for its bias is clearly towards greater economy in house building through attention to details. On the opening page the authors plainly state their strategy: "One penny saved on the cost per square foot of the house of about 900 square feet gross will save nearly a penny a week in rent and reduce the cost of 300,000 houses by over £1,000,000." Later, the authors amplify this statement by a table showing savings in weekly rents for various savings in capital cost at different rates of interest.

In this, the successor to "Houses, 1952," which was mainly concerned with economies in the internal arrangements of house planning, the authors cover a much wider field, for the Ministry is now putting forward the theme: "the purchase of land, the construction of roads and sewers, and the building of houses, are three distinct operations carried out at different times. As a result, the cost of each item is often considered in isolation. But the total cost of all three largely determines rents. Therefore, it follows that economy in the use of land, in the construction of roads and services, and in the cost of houses must constantly be kept in mind from the start." It is the overall economy of land, materials and money that the Ministry is now after.

In this handbook is discussed the means by which design and specification can be trimmed to attain these economies; the result of such economies, as the Minister implies in his foreword, should be housing estates more attractive to the eye as well as to the pocket. However, nothing is said on how local authorities are to achieve the degree of co-ordination which is required if all departments are to work together from the start.

This 1953 Supplement to the Housing Manual is in four parts. The first part describes the planning of frontage-saving houses, plans for corner sites, and some ideas on flat-planning; then follows a description on how lay-out and house plans can be co-ordinated and land and money saved. The following section considers the construction of roads and services, distinguishing between those roads which may have to be permanently maintained and those which, in the usual way, are handed over to the highway authority. The last section is an innovation, for it shows a series of lay-out studies for an actual site at Harlow New Town. Some informative appendices wind up this very useful handbook.

The prototypes of some of the plans were reviewed in the JOURNAL last year,* but since then the Committee on House Interiors have reported† and the latest plans have been modified to take into account the Committee's recommendations, the principal one of which was that internal plans should be on the basis of a 3 ft. preferred dimension. The authors of this handbook also say that apart from the occasional use of 3 per cent. tolerance mentioned in the Committee's report the standards of room sizes and aggregate living areas of the new plans conform with the standards laid down in Appendix 1 of "Houses, 1952."

The plans are in three main groups: frontage-saving terrace houses; designs for corner sites; and for blocks of two- and three-storey flats. In the following text "G" stands for gross house area, including store, "N" for net house area, "Ag" for aggregate living area (in square feet), "IW" is for width of house internally (in feet).

Key to Abbreviations used in the Plans

B.	Bedroom	H.	Hall
B.S.R.	Bed Sitting Room	i.b.	Independent boiler
Bal.	Balcony	l.c.	Linen cupboard
Bth.	Bathroom	L.	Larder
C.	Cupboard	L.R.	Living-Room
Ck.	Cooker	p.	Pram
d.	Dresser	s.	Sink
d.b.	Dustbin	St.	Store
D.H.	Dining Hall	w.	Wash boiler
D.K.	Dining Kitchen	W.C.	Water Closet
F.	Fuel Store	W.K.	Working Kitchen

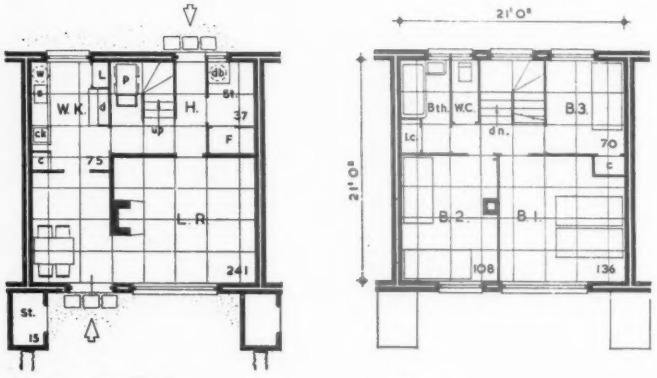
* November 13, 1952, pp. 578-79.
† Quicker Completion of House Interiors, HMSO, 1953, Price, 3s. 6d. net.

* MOHLG's 3rd Supplement to the Housing Manual 1949. HMSO. 3s.

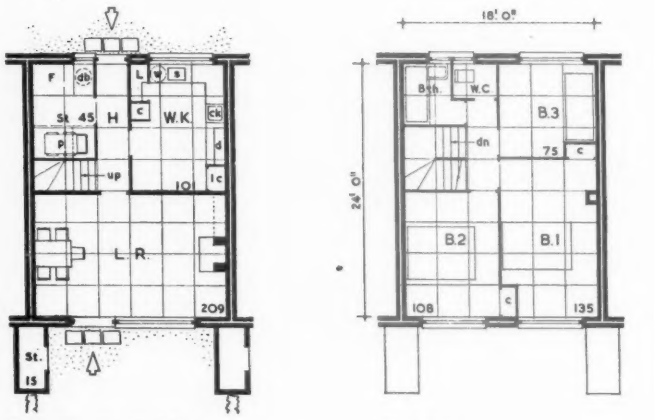
HOUSES, 1953

1. House and flat plans

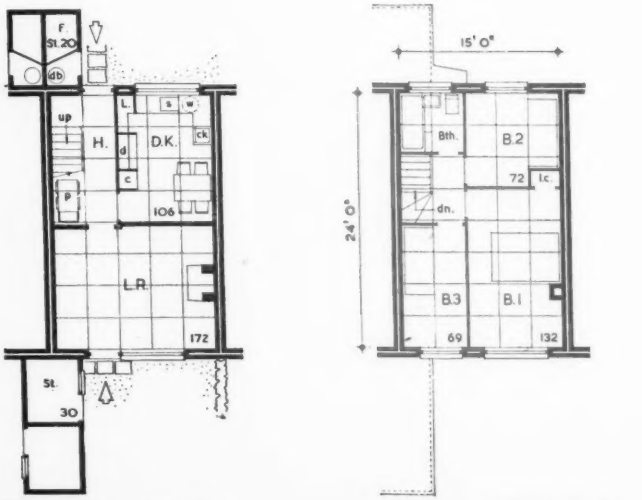
Type 21 ..	G 897.	N 845.	Ag 316.	IW 21
Type 18 ..	G 879.	N 819.	Ag 310.	IW 18
Type 15 ..	G 755.	N 695.	Ag 276.	IW 15



Type 21.—Ground floor First floor
21-ft. frontage. Net house area, 845 sq. ft.



Type 18.—Ground floor First floor
18-ft. frontage. Net house area 819 sq. ft.



Type 15.—Ground floor First floor [Scale : ⅛" = 1' 0"]
15-ft. frontage. Net house area, 720 sq. ft.

FRONTAGE SAVING TERRACE HOUSES

Shown here is a selection from the nine designs for two- or three-bedroom houses for families of four to five. The published types include "dining-hall" and "large living-room" as well as what the authors call more orthodox designs. The basis of all the plans is a secondary means of access.

The six-person house described in the review of prototypes has gone! And the two-bedroom house is a solitary example. The internal width of the nine examples ranges between 21 ft. and 15 ft., with intermediate sizes at 1 ft. 6 in. intervals. As will be seen in the adjacent columns the three examples I have selected are designed on the multiple of 3 feet. The authors skated around the problem for finding a short reference for describing their plans by simply calling them individually "Fig. 1" or "Fig. 2" . . . but so as to give them a little more descriptive reference, I am dubbing these plans as Type 21, and so on, according to their frontage widths.

TYPE 21

Type 21: at first impression, looks a very neat and workmanlike plan. Gone are the double entrances on the front of the house, so characteristic of recent plans. The pram store arrangement is now well separated from the dusty area of the fuel store. The internal dustbin space does not look very desirable unless it is well ventilated. It is surprising that the only entrance to the fuel store for the coal-man is through the front door, down a 6-ft. long passage leading straight into the living-room. The living-room and dining-room and the bedrooms are not bad, but, alas, cupboards have almost disappeared; only the third bedroom has one.

In this series of plans, generally, for 7 ft. 6 in. ceilings, assuming 8 ft. 3 in. floor-to-floor height, stairs can now have a rise of $7\frac{5}{13}$ in. instead of $7\frac{1}{2}$ in.; winders, too, have come in generally; one plan for a 16 ft. 6 in. house has six, which seems too many; moreover, usually the landings appear to depend on indirect lighting and ventilation—some careful detailing will be needed. Bathrooms can now have a minimum width of 4 ft. 6 in. between structural walls.

TYPE 18

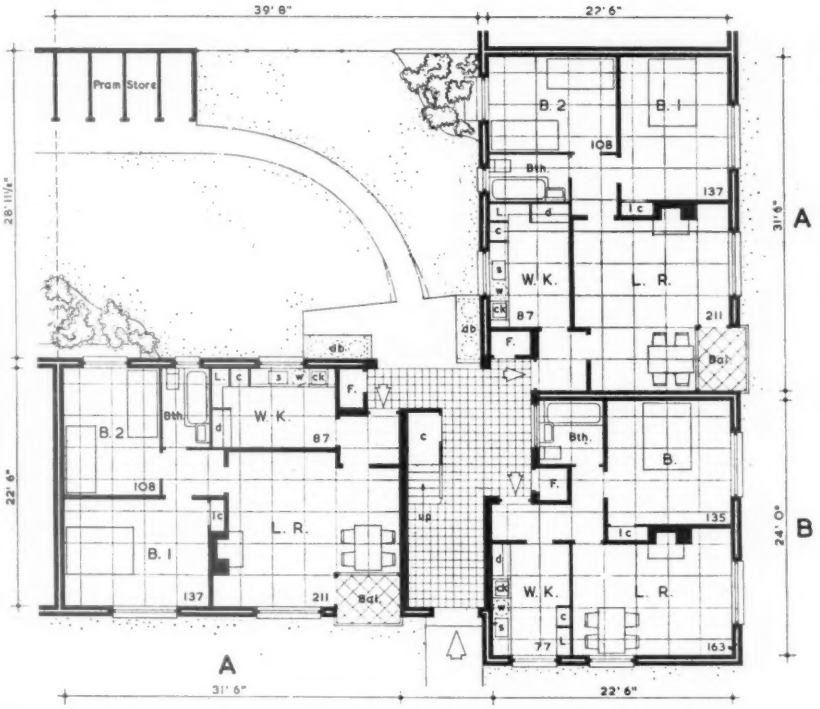
Type 18: quite a nice ground floor, but again surely an outside hatch for fuel delivery would be preferable? The bedrooms are pokey and the plumbing is not as compact as desirable. Actually on the plan I show two bedroom cupboards are provided.

TYPE 15

Type 15: this is an innovation and is really quite an achievement; it goes further in reducing width than anything shown among the prototypes. Three examples of the 15 ft. house are given, one of which is the two-bedroomed type, the larger bedroom having an area of 148 sq. ft. compared with the 132 shown here and extends the full width of the house. The extra 16 ft. makes all the difference between a decent room and a box.

The example of Type 15 shown is the least orthodox of the three plans in this group. Much will depend on the efficiency of the hot-water system; if this is not extended to the upper floor, all the heating in the living-room will escape upstairs unless the stairs are enclosed.

My impression of these different plans is that for this form of house the 15 ft. wide cottage is quite the most interesting of the plans. The several examples strike one as modern versions of the early Victorian urban cottages which can make most comfortable little houses.



Ground floor plan of two-storey corner flats Flat A 673 sq. ft. Flat B 496 sq. ft.

DESIGNS FOR CORNER SITES

In the authors' own words, "the use of specially designed corner blocks will increase densities and economize in the use of road frontage. Blocks of flats for "external corners" and houses for "internal" have been built with success by a few local authorities and new town corporations. This practice could be extended. . . ."

EXTERNAL CORNERS

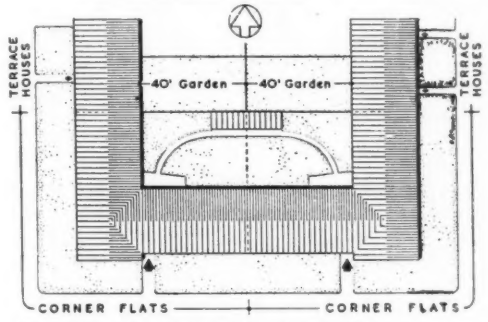
(*a*) Plan for two-storey corner flats for households of two, three, and four persons with communal garden. Area of Flat A is 673 and Flat B is 496 sq. ft. On the first floor the flat over B is extended over the ground floor hall and has an area of 573 sq. ft. This form of external corner treatment with the extension of the flats gives a small but reasonable-size garden and is much to be preferred, I think, to the type of flat which is confined literally to the corner. The latter necessarily has a very small private court which has to be shared by two tenants and in time, I suspect, it could easily become a nasty little back yard.

INTERNAL CORNERS

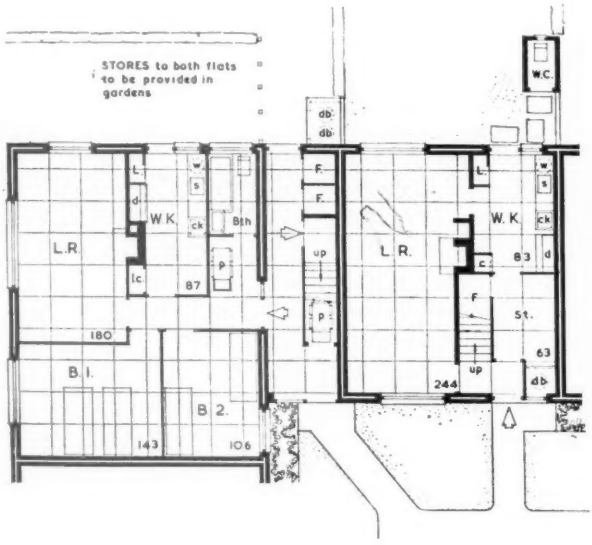
(*b*) Plan for two-storey internal corner flats linked to a four-bedroomed house avoids the problem of a small court and on this example the tenants of the two flats each have their own garden.

CORNER HOUSE

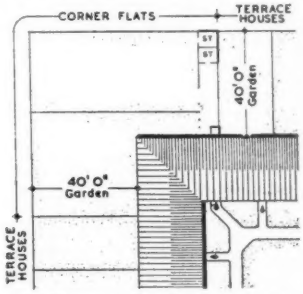
(*c*) This corner house (G 864, N 808, Ag 317, IW 18) truly has a minimum frontage! It has a very neat little plan. Of all the plans in this book, this is the only one with a cupboard in each bedroom.



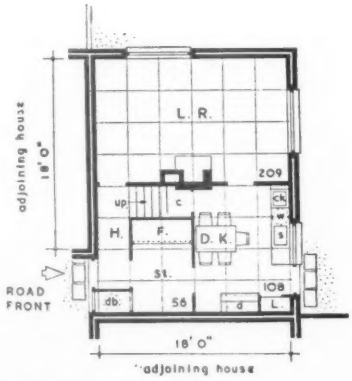
(*a*) Lay-out plan for two-storey corner flats



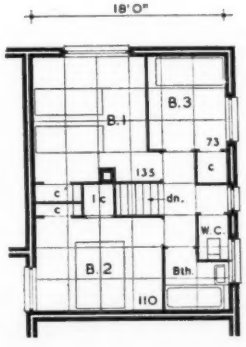
Ground floor plan of two storey internal corner flats linked to 4 - bedroom house. Flat area 641 sq. ft. House area 906 sq. ft.



(*b*) Lay-out plan for two-storey "internal" corner flats



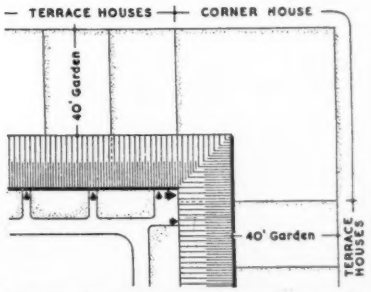
Ground floor plan



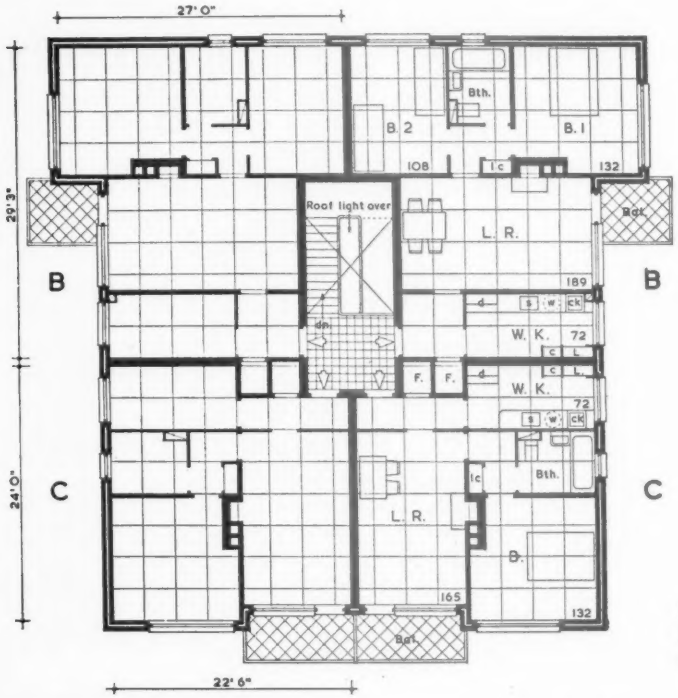
First floor plan

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

Three - bedroom five person dining-kitchen house on internal corner site. Area 808 sq. ft.

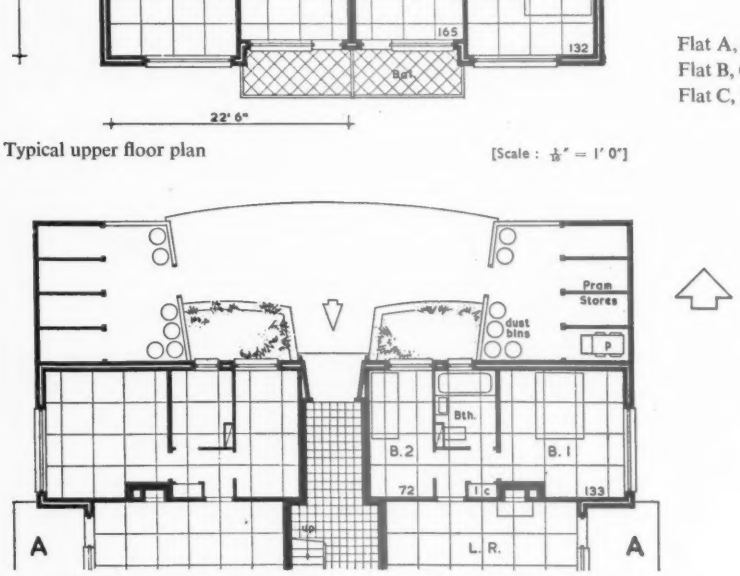


(*c*) Lay-out plan for house on internal corner site

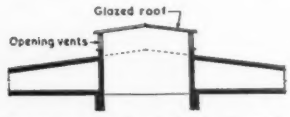


Flat A, 607 sq.ft.
Flat B, 643 sq.ft.
Flat C, 502 sq.ft.

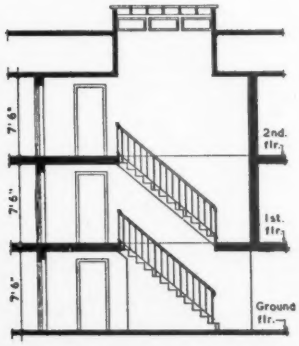
Typical upper floor plan [Scale : $\frac{1}{16}$" = 1' 0"]



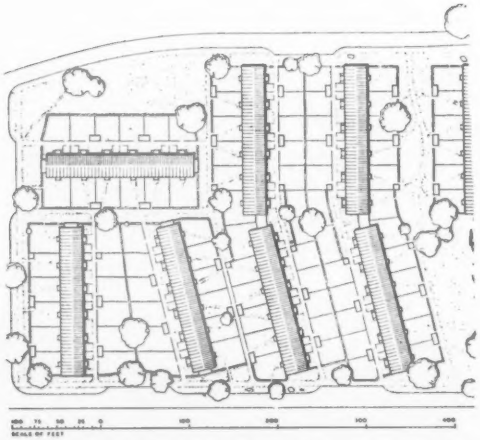
Part of ground floor plan, three-storey flats for 2, 3 or 4 persons

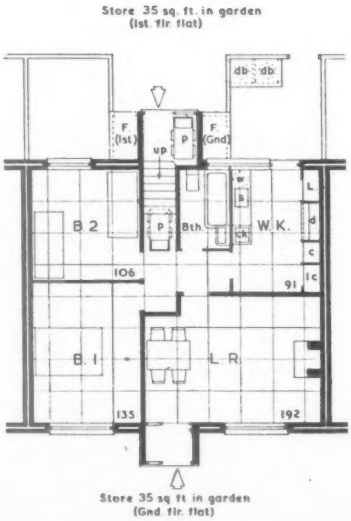


Cross section through lantern light



Longitudinal section through stairs and lantern light





Lay-out plan and ground floor flat, 646 sq. ft., of 2-bedroom 4-person working kitchen flats

3-STOREY BLOCKS OF FLATS

Again, the argument is that "The normal arrangement with one staircase serving only two flats on each floor has much to commend it, but it is expensive. An alternative and inexpensive arrangement which has often been made is the three-storey block combining maisonettes with flats. There is a further possibility—a block in which one staircase serves four flats on each floor. The amount of external walling in relation to the floor area is much reduced compared with current practice. It is estimated that the saving in cost would amount to about 5 per cent."

Five per cent. probably represents about £1,000, which is, of course, a considerable item if ten blocks of this type of flat are built, but the look of this plan is suggestive of an old-fashioned tenement. One wonders if, after a time, the staircase may not bear a resemblance to the dark staircases of yesteryear. One wonders, too, what a Housing Manager would think of the probably not over-well-lit first-floor landing?

One would have thought that in practice the star-shaped block, having three flats to a staircase, would have given a better compromise between public hygiene and a saving in cost.

COTTAGE FLATS

This handbook explains further the Ministry's ideas for two-storey cottage flats by giving a typical lay-out for the group. It is a pity, though, that they have not also included a design for the corner block so that an entrance on the gable could be included as an alternative.

2. The Integration of House Plans with Lay-outs

Our interest having been aroused by the series of house plans, we come to the heart of the matter: "The need to co-ordinate, under one designer, the house design with the lay-out design was stressed in the Housing Manual, 1949. It wants re-emphasis. A satisfactory and economical scheme can only be secured if design and arrangement of house types are settled at the same time as design of lay-out." The principal contribution made by this handbook to lay-out design is the systematic study of three kinds of housing lay-out: the conventional or corridor street lay-out, the "service cul-de-sac," and the footpath access types.

CONVENTIONAL OR CORRIDOR STREET LAY-OUT

Everyone will be familiar with this kind of lay-out. The majority of houses normally front on to and have direct access from a development road, while, on the whole, the back gardens are obscured from view. The Ministry have made a careful examination of a number of post-war housing schemes designed on these principles and developed with two-storey houses, and it is found that densities are commonly far below the practical working standards of about 65 habitable rooms per acre referred to in *The Density of Residential Areas.**

In practice, the average among these schemes has been a net density of only 47 habitable rooms per acre. What is more, about one-third of the road work has been lost or wasted for one reason or another—the total road frontage exceeding the total building frontage by an average of 13·8 ft. per house. As 6 ft. of road frontage costs about £25, the possible saving on development costs on this aspect alone may be as much as £50 a house. However, the Ministry have made a study which shows that a conventional lay-out need not be uneconomical or unattractive.

"SERVICE CUL-DE-SAC" LAY-OUT

This type of lay-out was first developed at Radburn to save residents having to cross traffic routes to reach schools, shops and other amenities. As there is access to both the front and the back of the houses, there is no need to provide a special way through or at the side of each house. The houses can thus be designed with less frontage than in conventional lay-outs and with greater freedom of internal planning of the ground floor. But the authors point out that there is insufficient evidence, as yet, to prove whether the "Service cul-de-sac" type is more economical than the conventional or other types.

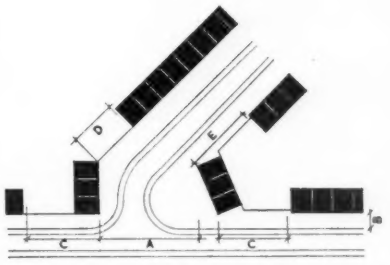
One advantage of this method is that the sole purpose of cul-de-sac roads is to give vehicular access to houses around them and they can be constructed to a lower standard than local roads serving all kinds of traffic; and the common paths and gardens in front of the houses are safer for children.

FOOTPATH ACCESS LAY-OUTS

The essence of this form is that houses are sited at right angles to the road and are approached by footpaths with a maximum distance of 150 ft. from the nearest road access. Apart from the question of economy this method has one great advantage: it should, compared with the conventional lay-out, be safer for children. "The Report on Fatal Accidents to Children, published by the Royal Society for the Prevention of Accidents, showed that 45 per cent. of child pedestrians under five years old who were killed on the roads in 1950 were dashing into roads, and 90 per cent. of these were killed in built-up areas."

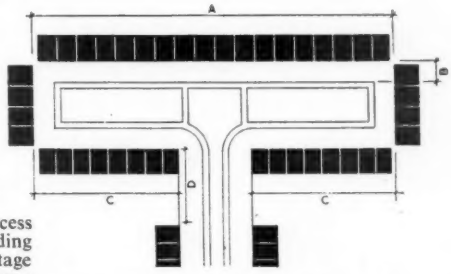
The snag of the method is the question of delivery of goods and collection of refuse and so forth, but in time a special type of truck can probably be devised to assist.

Previous handbooks have advocated single footpath access type of lay-out, but the Ministry are now also putting forward the double-footpath type: terraces are provided with footpath access on both fronts, thus allowing the building of narrower-fronted houses. Its advantage is that compared with the first form houses in their private gardens can be more readily sited and more freely arranged in relation to one another and to the landscape. This form of lay-out so far has been little used in this country, though it has been widely adopted in European countries.



Lay-out showing loss of 377 ft. in road frontage at road junction

A = 97 ft.
2/B = 30 ft.
2/C = 137 ft.
D = 46 ft.
E = 67 ft.
Loss = 377 ft.



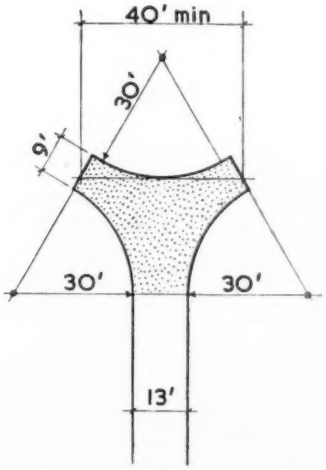
Lay-out showing gain of 530 ft. in road frontage in cul-de-sac

A = 350 ft.
2/B = 40 ft.
2/C = 280 ft.
Total = 670 ft.
Less 2/D = 140 ft.
Gain = 530 ft.

3. Roads and Services—Design and Construction

One of the major worries for housing architects has been to persuade engineers that roads giving only access to houses need not be up to the same high standards of construction and width as those for traffic ways and routes. In the last year or so one or two New Town authorities decided to break away from these unnecessarily high and cramping standards, accepting the risk of having to maintain such roads themselves should they not be taken over by the highway authority later on. Earlier this year the Ministry regularized the position generally† to this effect.

In this section of the handbook the authors give some information on how economies can be made in road and footpath lay-out, in turning spaces, in space in front of garages, in the use of soil stabilization in suitable areas for road construction, and the economy of use in road gulleys and kerbs, the location of mains using common services trenches and ring mains; also in advocating non-rigid adherence to conventional gradients for drainage pipes, in simplifying concrete bedding and haunching for drains and the lay-out of manholes. So far as it goes, this section is most useful, for there is no doubt at all that a greater freedom in the design and lay-out of roads, footpaths and services can do as much as anything to improve the design of a housing area.



Turnirg space in cul-de-sac with 13 ft. carriageway and paved area of 81 sq.yds

* Published by HMSO. Price 5s. net.
† MOHLG Circular No. 1/53. HMSO 1953. Price 4d. net.

HOUSES, 1953

4. Lay-out Studies for an Actual Site

A most welcome innovation is the publication of some research into housing lay-out which has been based on studies that have been no mere figments of the imagination but upon an actual site of 24 acres in Harlow New Town. Four study plans, supported by a summary table, have been made and for illustration I have selected principally the study plans at each end of the range covered: the conventional lay-out, and the double-footpath access lay-out, while the overall character of the intermediate lay-outs can be discerned from the much-reduced plans.

All four studies are based on net density of 62 habitable rooms per acre; the proportion of each type of dwelling provided corresponds broadly with the national average requirements (1 B.R. type 7 per cent., 2 B.R. 37½ per cent., 3 B.R. 4-person 12½ per cent., 3 B.R. 5-person 40 per cent., 4 B.R. 3 per cent.), and a condition for the study was made that not more than 12½ per cent. of the accommodation should be maisonettes or flats, including two-storey blocks.

The average space between blocks is not less than 70 ft., though for blocks at right angles this may be 50 ft., or less where windows do not directly face another block.

So much for facts: What of the designs? Here are some brief notes:—

The conventional layout: the engineer's corridor street, architect designed. A design technique based on use of colours, trees, open forecourts, changing perspectives, the closed view . . . capable of much charm. Its danger: empiricism.

The service cul-de-sac layout: really the super-block. In its pure form roads, except the service cul-de-sac, are confined to the periphery; perfect separation of passing traffic and residents. Maintenance of garden-commons raises a problem. Method is being tried by Professor Stephenson at Wrexham. In mining areas method assists delivery of the free coal at the rear.

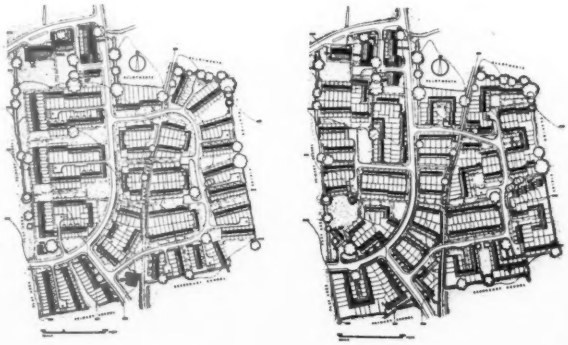
Footpath access: this method is creeping in; probably the answer for layout of mass-produced housing at lowish costs. Advantages: good orientation for everyone;

Conventional lay-out

Accommodation	Houses	Flats	Total
1—bedroom	—	27	27
2—bedroom	121	22	143
3—bedroom, 4-person ...	48	—	48
3—bedroom, 5-person ...	153	—	153
4—bedroom	11	—	11
	333	49	382

Double footpath access lay-out

Accommodation	Houses	Flats	Total
1-bedroom	—	28	28
2- and 3-bedroom, 4-person ...	173	18	191
3-bedroom, 5-person	153	—	153
4-bedroom	11	—	11
	337	46	383



Extreme left, service cul-de-sac lay-out. Left, single footpath access lay-out with enclosed back gardens

Type	Number of Dwellings	Density in Habitable Rooms per Acre	Area of Road per Dwelling in sq. ft.	Area of Footpath per Dwelling in sq. ft.	Houses Only		
					Average Building Frontage per House in ft.	Average Road Frontage per House in ft.	Difference between Building and Road Frontage per House in ft.
1.	2.	3.	4.	5.	6.	7.	8.
Example A Conventional	382	61.42	264	204	20.53	23.36	2.83
Example B Service Cul-de-sac	381	61.66	257	208	20.59	26.43	5.84
Example C Single Footpath Access	382	62.29	227	188	21.70	21.74	0.04
Example D Double Footpath Access	383	63.67	230	205	18.72	21.94	3.22
Average of Examples	382	62.26	244.5	201.25	20.38	23.37	2.98
Average of 48 Current Schemes	338	47	378	249	28	41.8	13.8

This table gives an analysis of the four lay-out studies and compares the results with average figures from forty-eight post-war schemes. Column 3. *If the area of the cycle track were omitted from the density calculations the effect would be to increase the average net density of the examples by 1.39 habitable rooms per acre.* Column 4. *The area of road per dwelling is inclusive of turning spaces.* Column 6. *The building frontage means the actual building frontage taken up by the house and outbuildings plus an allowance of 4 ft. at each end of each block.* Columns 6-8. *The figures exclude the flats in the schemes and the roads serving them.*

HOUSES, 1953

separation between tenant and traffic; quietness; can lead to happy marriage between building and landscaping, through the free siting of buildings; often looks better in reality than on paper! Problem: maintenance of common areas. Housing groups should not be too large; repetition of gables liable to become exceedingly monotonous. Best on undulating ground. Housing groups should preferably be bordered by trees. Kind of layout which needs time to settle down and mature, especially for hedges to grow if no screen walls! Origin: the Continent, 1930s; low-cost rational planning; early plans often rigid. These examples have been humanized. Let's hope they will be widely tried.

With these four plans the Ministry's authors have shown a possible way to resolving clamours to save farm land, to save costs, to cut down on dreary wastes and verges and to gain more of an " urban " look in a reasonable manner which should not offend popular social climate.

I back the double-footpath type, though.

SUMMARY

The outstanding feature about the conventional design is that the area of road per dwelling is the highest of the four examples, being 264 square feet compared with the 244·5 for the average, but it is far better than the average for forty-eight current schemes, which is 378 square feet.

Points in favour of the service cul-de-sac lay-out statistically are difficult to spot, although it compares quite favourably with the averages for the whole study. As to the single footpath access lay-out, it has the least area of footpath at 188 square feet, the least average road frontage at 21·74, and as to the difference between building and road frontage, the designers have well nigh achieved perfection, the difference is only 0·04 (the average for 48 current schemes is 13·8).

The double footpath access type, as might be expected, has the least road area (230 square feet) but the average for the footpath is rather higher and the building frontage at 18·72 ft. is the narrowest frontage as intended. Taken by and large, these studies, as will be seen, effect a great improvement over the average current schemes, obtaining an extra 44 houses over the area of 24 acres. This could lead, the authors state, to a saving on the whole programme for 300,000 houses a year of six thousand acres of land; in ten years, one can see that this would amount to 60,000 acres, which is about five-sixths of the area administered by the LCC.

Incidentally, there seems to be something a little obscure about the method of accountancy used in arriving at the probable savings in cost. On page 25 it is suggested that the saving on road development costs alone could be as much as £50 per house. But on page 53, it is stated that the total savings on all accounts, including land purchase, may well be about £35 to £50 a house. A clearer explanation than this might well have been given.

CONCLUSION

After the exciting build-up which this study presented, it came as a disappointment to read that the total possible saving per house may well only be £35 to £50; especially when one remembers that "Houses 1952" was intended to effect a saving of £150 per house by economies in house-planning alone, and that this saving has already been absorbed by rising costs. What is the prospect, then, for the future when the Building Trade Unions have asked for a ninepence an hour increase?

There must be something seriously wrong if all the benefits of better and more efficient design and much hard work only lead to counteracting the effect of rising costs. There is no doubt at all that a lot of hard work will be entailed for while some authorities will be able to attain in their stride the standards called for by the Ministry, among many authorities there will be many headaches, both in the offices and in the committee-rooms, in attaining that little higher standard suggested by the Ministry.

But by and large this is a valuable handbook and it would be extraordinarily interesting if four local authorities or new town authorities could get together and voluntarily agree that they would each select a site of comparable acreage and character and each adopt one of the forms of layout exemplified in this handbook. The results to all concerned in terms of experience in building design and costing, problems of maintenance and housing management, and not least, a basis for assessing the relative merits of each type of lay-out for the safety of children, might well be invaluable.

The abiding impression, however, with which I am left is that one is not at all sure that the housing politicians are aware of whether their housing policy is leading. At the beginning of the handbook it is rhetorically stated that the saving in cost of one penny per square foot for each of the 300,000 houses will save £1,000,000. Is it thus assumed that the 1954 Housing Programme is to be a wholly cottage and super-cottage type, suitable for only the four- to five-person lower-income family? Are there to be no variations? And what of the effect upon English towns? Is it intended that our towns all over the country should develop a standard anonymity? The trend begun a hundred years ago with the pre-by-law cottage and which developed through the speculative-builder stage to now, the period of rationed approved housing schemes, will be intensified by the very success with which the Ministry have in persuading local authorities to adopt their advice.

It is time thought was given to design of housing lay-out on a wider scale, not to the design of housing precincts or even neighbourhood, but to the relationship of one neighbourhood to another; and even, differences between towns; at the moment, the position really is a planned chaos and the ultimate result may be an overall monotony comparable with the sprawl of speculative building before the war.

Even now the time is not too late for further thought to be given and it is sincerely to be hoped the Ministry may have the courage to tackle this wider problem.

DIARY

The Planners and the Planned, and Presidential Address. Professor Sir William Holford. At the Livingstone Hall, Broadway, S.W.1. (Sponsor: TPI.) 6 p.m. NOVEMBER 5

Architects' Salaries. Discussion opened by Douglas W. Richardson. In the chair, D. A. C. A. Boyne. At the York Hall, Caxton Hall, S.W.1. (Sponsor: ABT.) 6.30 p.m. NOVEMBER 6

Heating and Ventilating of Industrial Buildings. Symposium at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W.1. (Sponsor: IHVE.) 2.30 p.m. and 6 p.m. NOVEMBER 11

London Airport Buildings. Frederick Gibberd. At the AA, 34-36, Bedford Square, W.C.1. 6 p.m. NOVEMBER 11

Some Aspects of Survey in Civic Design. Max Lock. At the TCPA, 28, King Street, W.C.2. (Sponsor: Students' Planning Group.) 6.30 p.m. NOVEMBER 12

Visit to London Airport Buildings. Leaving AA, 36, Bedford Square, W.C.1. 9.45 a.m. NOVEMBER 14

Round the Table. Exhibition at the Tea Centre, 22, Regent Street, S.W.1. (Sponsor: COID.) Weekdays, 10.30 a.m. to 6 p.m.; Saturdays, until 12.30 p.m. UNTIL NOVEMBER 20

Watercolours by Sir Hugh Casson. Exhibition at the AA, 36, Bedford Square, W.C.1. Weekdays, 10 a.m. to 6 p.m.; Saturdays, until 2 p.m. UNTIL NOVEMBER 20

Contemporary Spanish Architecture. Exhibition at the BC, 26, Store Street, W.1. Weekdays, 9.30 a.m. to 5 p.m.; Saturdays, until 1 p.m. UNTIL NOVEMBER 21

d each
plified
l con-
uilding
enance
east, a
f each
ildren,

with
ll sure
are of
g. At
hetori-
of one
of the
Is it
g Pro-
super-
our- to
e there
e effect
hat our
velop a
egun a
aw cot-
specu-
riod of
will be
which
local

sign of
to the
neigh-
of one
en, dif-
ent, the
and the
notony
culative

ate for
is sin-
y have
lem.

---

resident
Holford.
S.W.1.
EMBER 5
ened by
chair,
Caxton
p.m.
EMBER 6
l Build-
f Mech-
James's
30 p.m.
MBER 11
ck Gib-
Square,
MBER 11
Design.
g Street,
Group.)
MBER 12
Leaving
45 a.m.
MBER 14
the Tea
ponsor:
6 p.m.;

MBER 20
n. Ex-
Square,
.; Satur-

MBER 20
re. Ex-
et, W.1.
turdays,

MBER 21

WORKING DETAIL

CEILING IN ASSEMBLY HALL: SCHOOL AT CHESHUNT

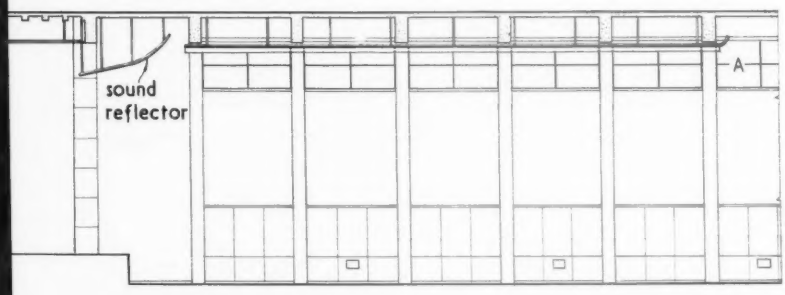
Norman and Dawbarn, architects

The suspended acoustic ceiling of plaster on metal lathing contains recessed lighting fittings and has a detached sound reflector across the top of the proscenium.

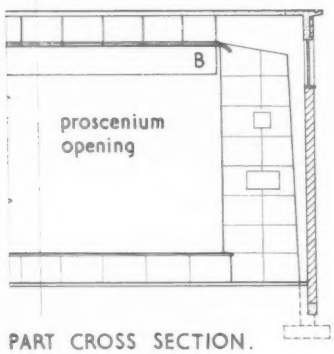
WORKING DETAIL

CEILING IN ASSEMBLY HALL: SCHOOL AT CHESHUNT

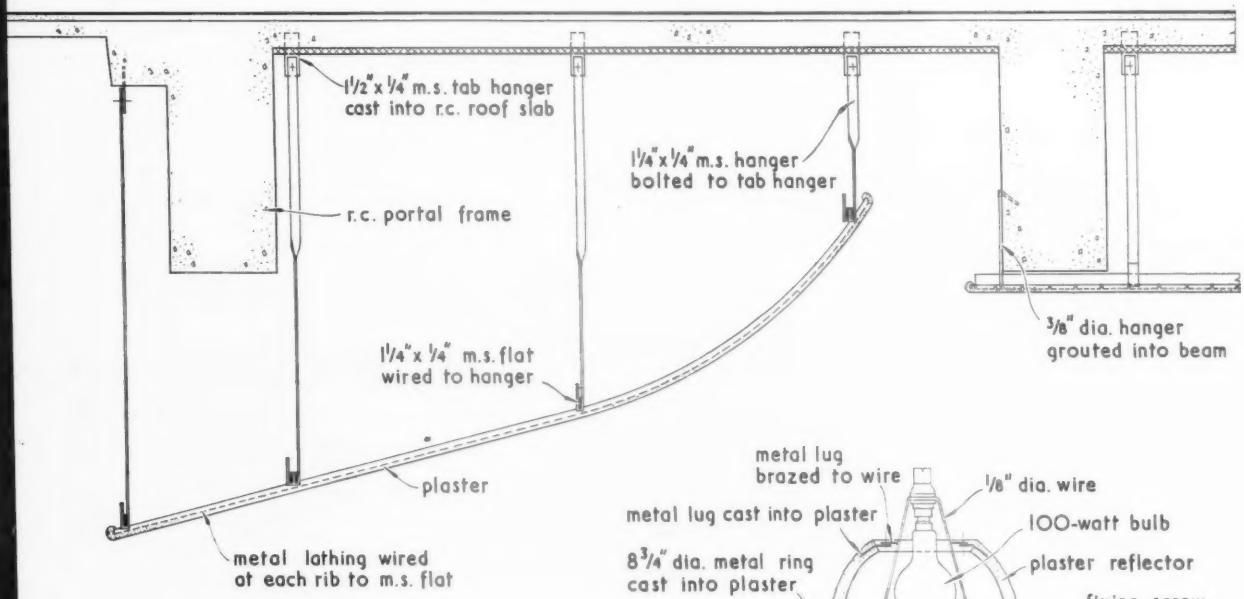
Norman and Dawbarn, architects



LONGITUDINAL SECTION scale 1/16" = 1'-0"

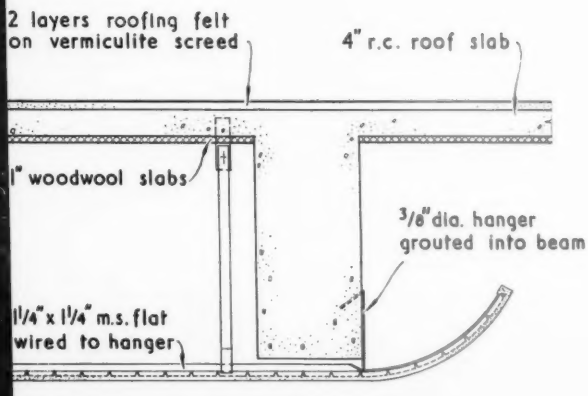


PART CROSS SECTION.

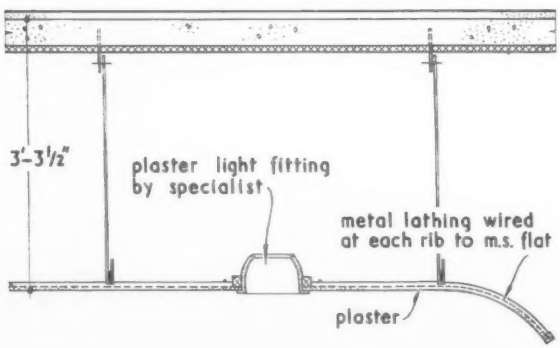


DETAIL OF SOUND REFLECTOR.
scale ½" = 1'-0"

DETAIL OF LIGHT FITTING. scale 1½" = 1'-0"



DETAIL AT A. scale ½" = 1'-0"



DETAIL AT B. scale ½" = 1'-0"

TWO LAMP STANDARDS: SOUTH BANK, LONDON AND HATFIELD NEW TOWN

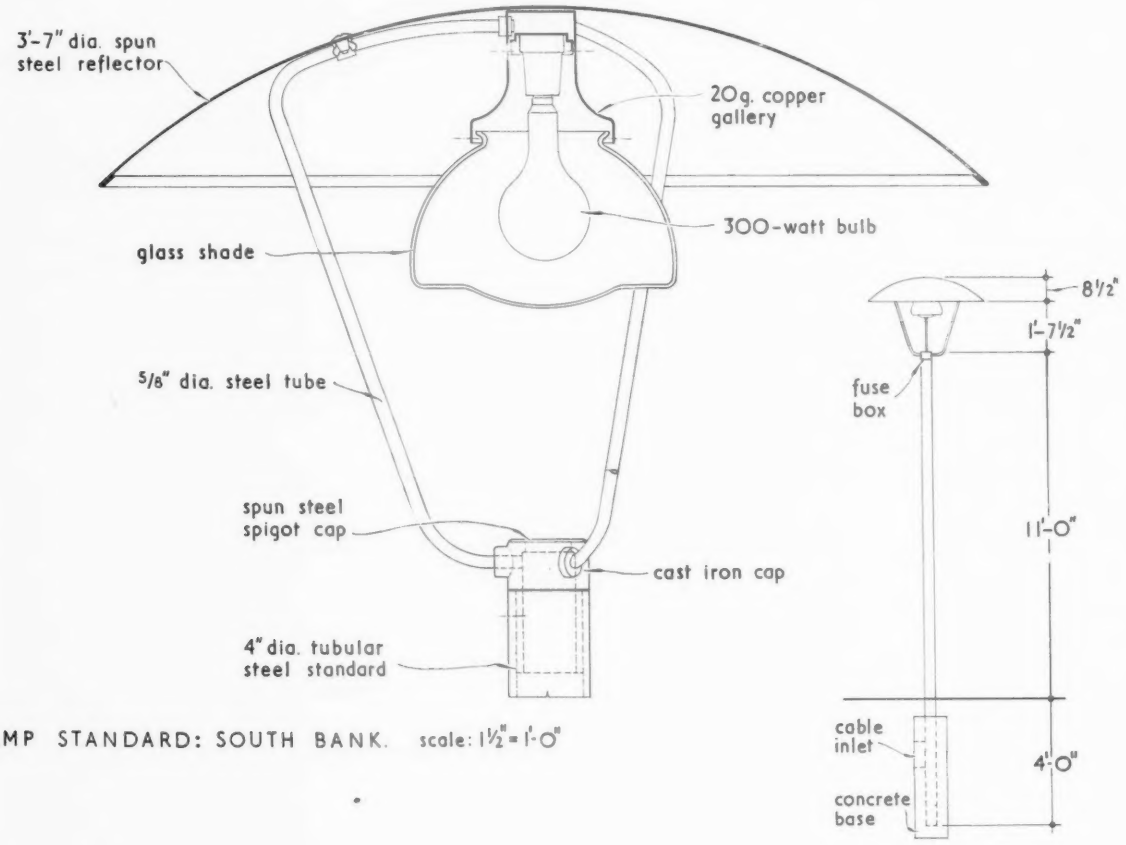
South Bank: J. L. Martin, Architect, L.C.C. and J. Rawlinson, Engineer, L.C.C.
Hatfield: Lionel Brett and Kenneth Boyd, architects: L. J. Elgin, consulting engineer;
Revo Electric Company Ltd., nominated suppliers

The lamp on South Bank has a spun steel reflector on a tubular steel standard; the one at Hatfield has an aluminium reflector and the design of the prestressed concrete standard includes a fuse-box near the base.

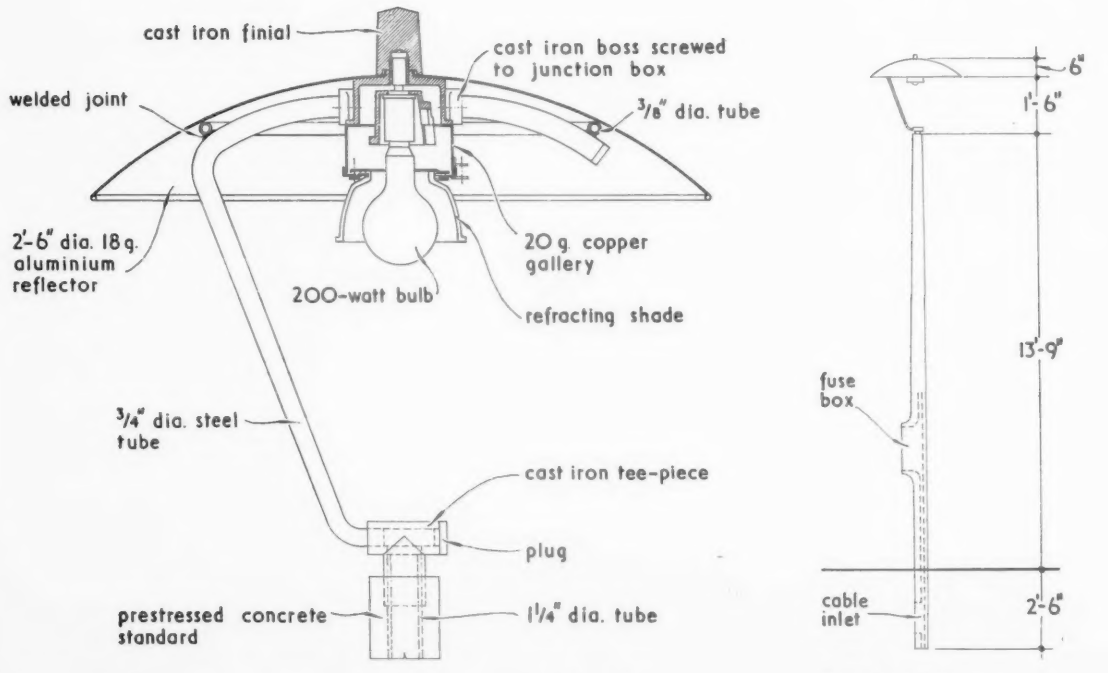
Architects' Journal 5.11.53

TWO LAMP STANDARDS: SOUTH BANK, LONDON AND HATFIELD NEW TOWN

South Bank: J. L. Martin, Architect, L.C.C. and J. Rawlinson, Engineer, L.C.C.
Hatfield: Lionel Brett and Kenneth Boyd, architects: L. J. Elgin, consulting engineer;
Revo Electric Company Ltd., nominated suppliers



LAMP STANDARD: SOUTH BANK. scale: 1½" = 1'-0"

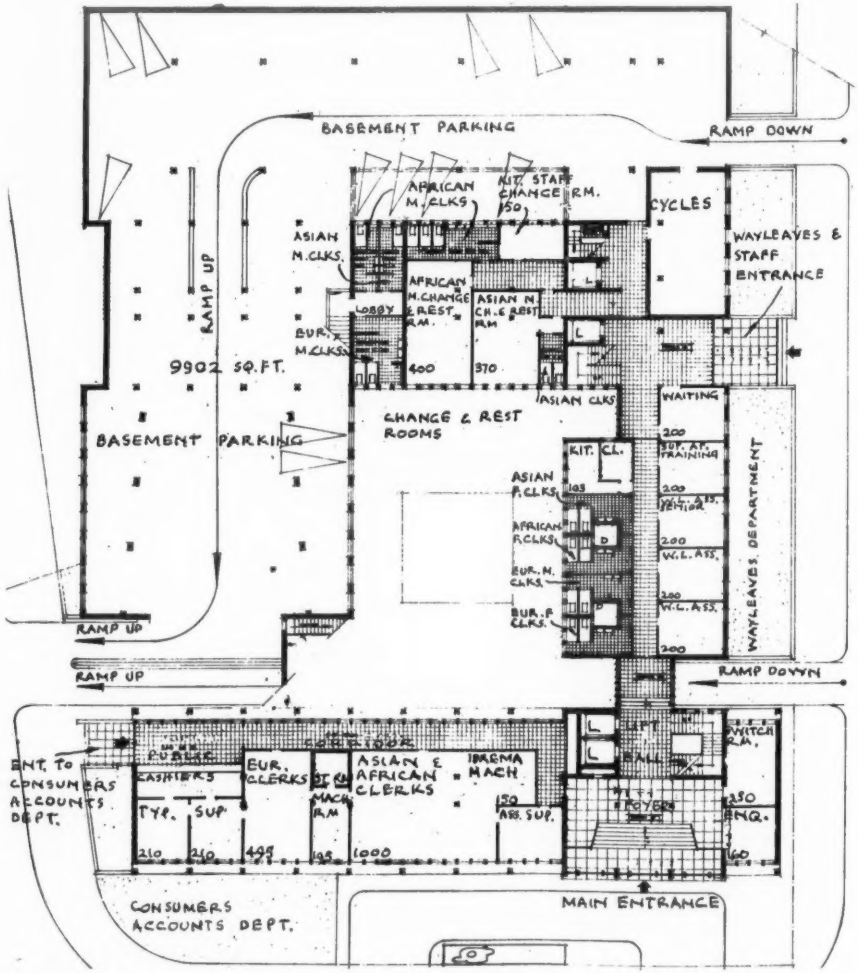


LAMP STANDARD: HATFIELD NEW TOWN. scale: 1½" = 1'-0"

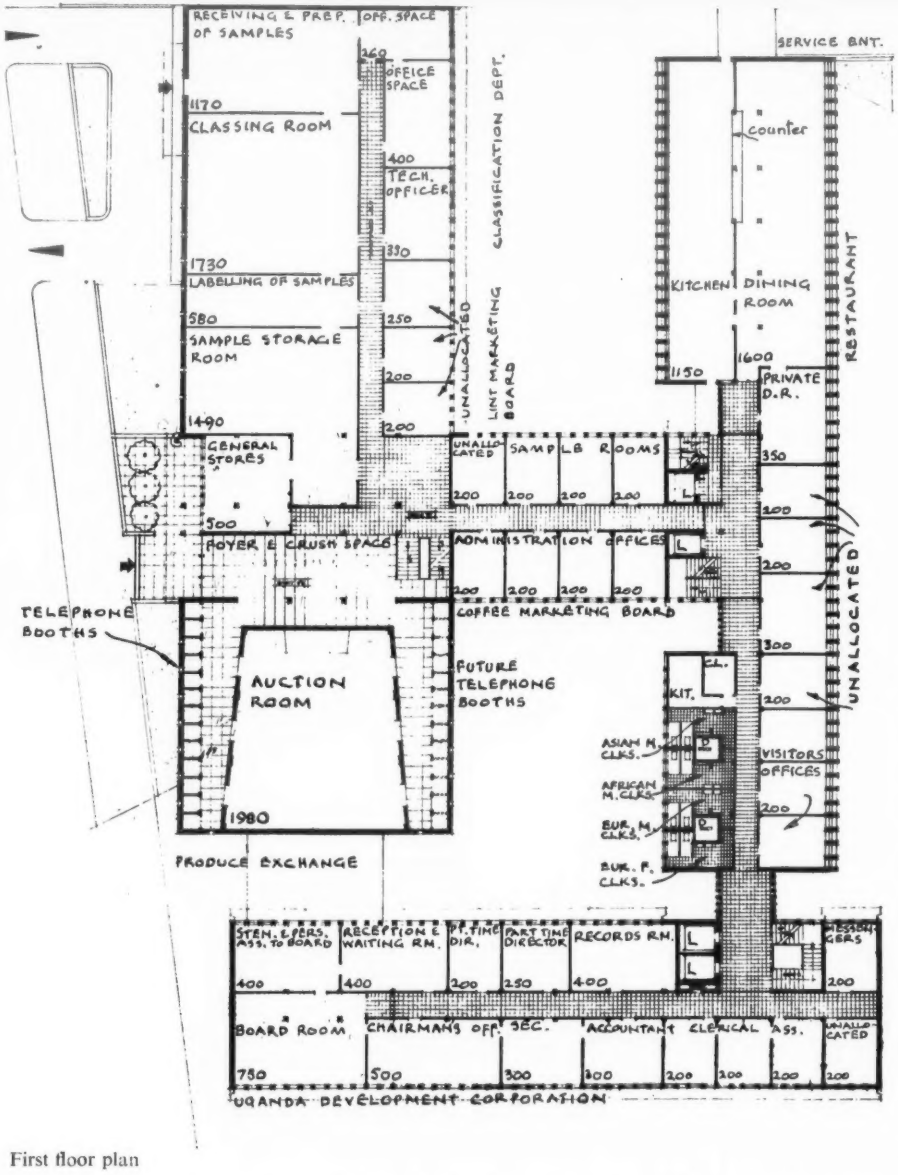
COMPETITION: NEW HEAD OFFICE FOR

COMPETITION: NEW HEAD OFFICE FOR UGANDA ELECTRICITY BOARD AT KAMPALA

The first and third prize-winning designs for a head office building for the Uganda Electricity Board at Kampala are illustrated briefly on this and the following page. A perspective of the winning design appeared on page 499 of the JOURNAL *for October 22. The second prize-winning design was illustrated on September 10.*



Ground floor plan

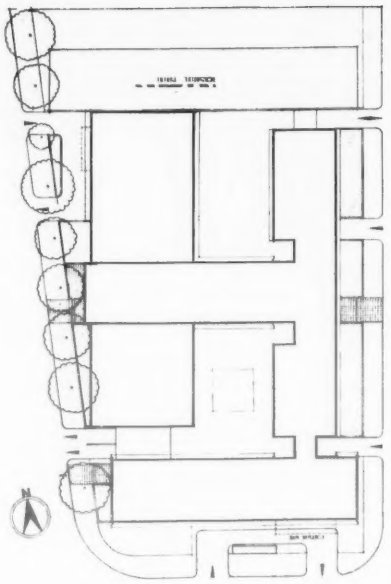


First floor plan

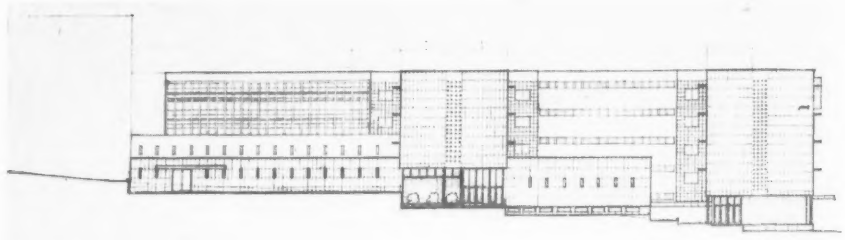
FIRST PRIZE-WINNING DESIGN By E. I. GRAFF

KAMPALA COMPETITION RESULTS (continued)

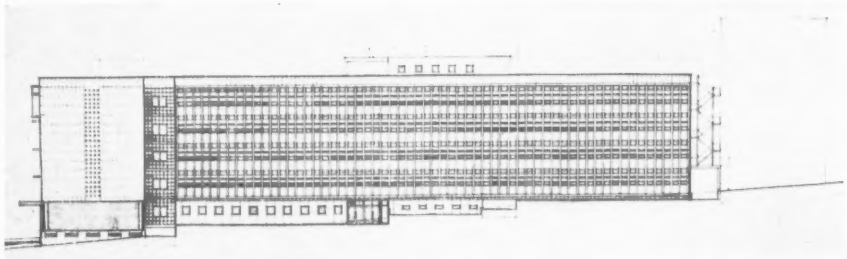
FIRST PRIZE-WINNING DESIGN By E. I. GRAFF



Site plan

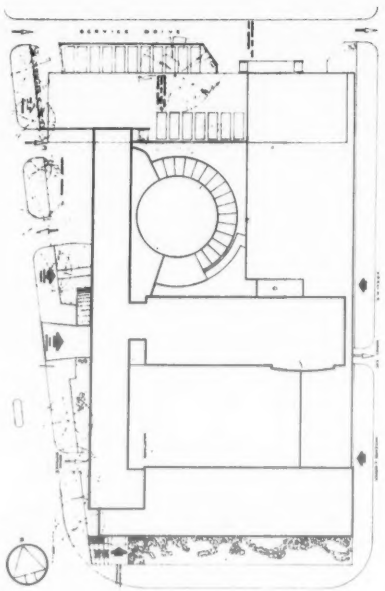


West elevation to Speke Road

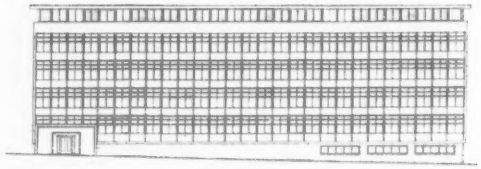


East elevation to Pilkington Road

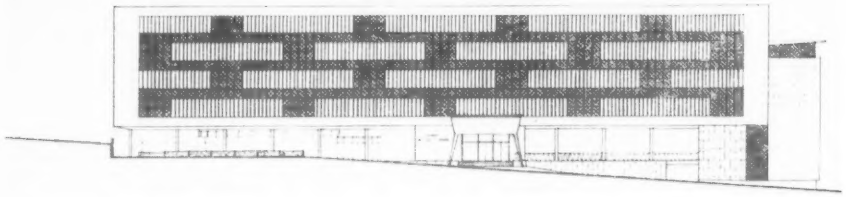
THIRD PRIZE-WINNING DESIGN By NURCOMBE, SUMMERLEY AND LANGE



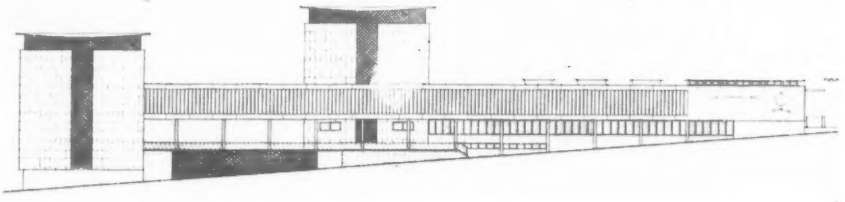
Site plan



South elevation to Kampala Road



West elevation to Speke Road



East elevation to Pilkington Road

PRIMARY SCHOOL

in THE DRIVE, COVENTRY, WARWICKSHIRE

designed by the ARCHITECTS' CO-PARTNERSHIP

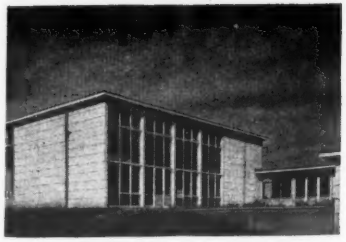
consulting electrical engineer, H. A. SANDFORD, quantity surveyors, DAVIS, BELFIELD and EVEREST

The Richard Lee School is a two-form entry junior mixed and infant school consisting of nine junior and six infant teaching spaces, as well as two assembly halls, separate dining rooms and entrances and shared medical inspection room, kitchen and boiler house. The site is of clay soil and has a slope of about 1 in 10, extending in an arc from east to west. The total variation in floor level from top to bottom of the school is 24 ft. There is a good prospect to the south and west, an east boundary of fully grown trees and the site is bounded to the north by a road and new housing development.

Junior assembly hall from the south-west.

East elevation to Pilkington Road

East elevation to Pilkington Road



Left, the boiler house chimney from the north, looking towards the infants' assembly hall, above, seen from the south-west.

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

Site plan

PRIMARY SCHOOL

in THE DRIVE, COVENTRY

PRIMARY SCHOOL

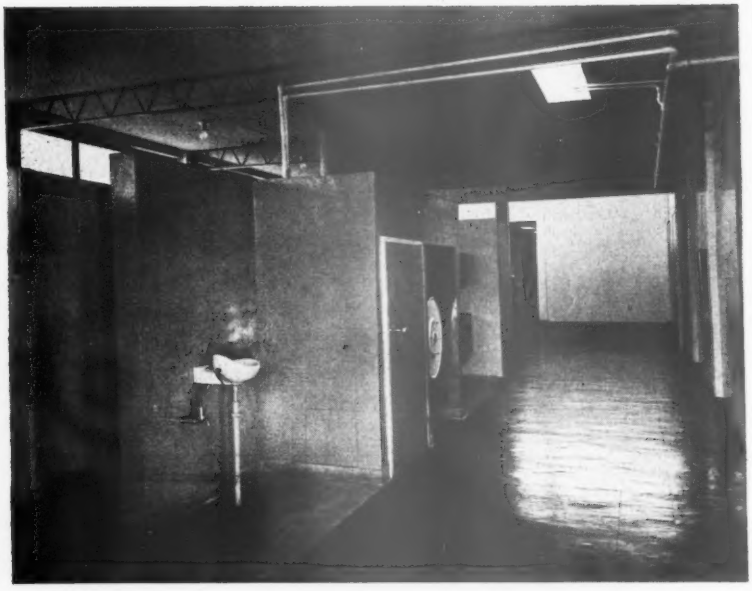
in THE DRIVE, COVENTRY
designed by the ARCHITECTS' CO-PARTNERSHIP

SITE.—The more exposed upper slopes of the site, which are occupied by the junior department, have long views to the south, while the lower areas are more sheltered. The paved play areas are sited to the north and west of the school, where they are not overlooked from classrooms, and are divided by the access road, which climbs round the contours. A wide strip of grass, overlooked by the classrooms, borders the south-east side of the buildings. New tree planting will consist of forest trees on the west boundary and smaller flowering trees and shrubs close to the buildings.

PLAN.—The school is entirely single storey and is planned to follow the contours of the site without undue excavation or excessive fill under floor slabs. By changes in floor level between one block and another it is possible to obtain a good view from the blocks on the upper level over the roofs of the blocks lower down the slope. Both internally and externally the architects attempted to achieve a difference in character and a sense of separation between the infant and junior departments, by the plan form and in building volume.

CONSTRUCTION.—The standard steel frame is on an 8 ft. 3 in. grid and the stanchion heights used throughout are 8 ft., 12 ft. and 16 ft. All changes

Top left, the junior entrance hall, showing steps leading to the assembly hall. Top right, junior assembly hall, with main entrance doors on the right. Right, the portable stage in the infants' assembly hall, which divides into triangular sections.



of floor and roof level are obtained with these heights. There are reinforced concrete strip foundations and a mass concrete slab on hardcore. External walls are of precast concrete spar-faced cladding blocks, with an inner skin of 3-in. precast fibrous plaster units. Internal partitions are of similar units or 3-in. clinker concrete blocks.

FINISHES.—Roofs have 3-layer felt with ½-in. granite chippings. Ceilings are of ½-in. fibreboard and aluminium foil on battens fixed to roof units. Windows are of galvanized steel in galvanized sheet-metal sub-frames. Internally, walls are finished with semi-gloss oil paint, principally white, but with bright colours on some wall surfaces and on pin-ups. Floors are covered with thermoplastic tiles in grey and black throughout, except for beech blocks in assembly halls, buff concrete tiles in lavatories and grey terrazzo on stairs. Exposed beams and window sub-frames are painted light grey and fibrous plaster stanchion casings are white. The following colours from the Munsell range were used: putty (5·0Y 6/2) on metal panels below windows, scarlet (7·5R 4/16) on doors, red (10·0R 5/14) on junior assembly hall ceiling and blue (5·0B 7/4) on entrance hall ceiling. This school forms part of the 1950 MOE annual building programme, when the nett cost per place limit was £170. The net cost per place was £167 19s. and there are 53·2 sq. ft. per place. The cost on tender (which was dated September 15, 1950) of buildings and site works was £94,050 (nett) and £97,500 (gross).

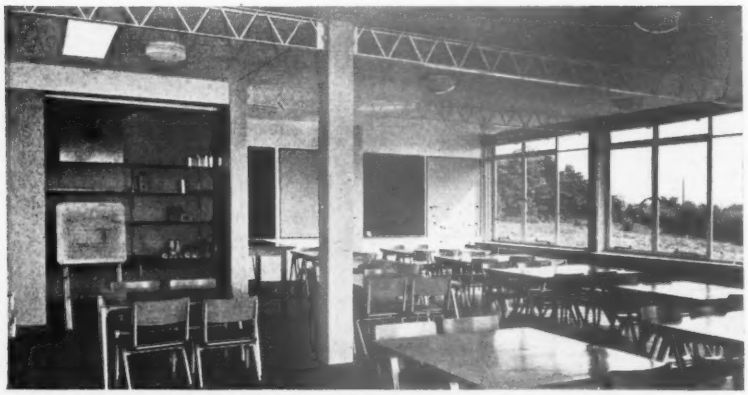
The general contractors were Garlicks, Ltd. For sub-contractors, see page 582.

PRIMARY SCHOOL

in THE DRIVE, COVENTRY

designed by the ARCHITECTS' CO-PARTNERSHIP

Top left, the infants' dining room, showing kitchen servery. Above left, lavatory accommodation. Below left, typical classroom, showing storage shelves. Below, the junior classrooms from the east.



TECHNICAL SECTION

For architects, the most interesting paper given at the recent congress on prestressed concrete was that by A. W. Hill on the Influence of Abnormal Temperatures on Prestressed Concrete Construction. Extracts from the first part of this paper, on the fire resistance of prestressed concrete, appear below. Mr. Hill summarizes the results of a number of fire tests that have been carried out and the information he gives should help architects to decide whether prestressed concrete can be used for a particular job and to specify the protection (in the form, for example, of suspended ceilings) which must be provided against the risk of fire.

The congress was the first of the International Federation of Prestressing, whose recently-elected president is Dr. Freyssinet. It was held in London and attended by nearly 300 members from 24 countries, including Egypt, India, Israel, Japan, Mexico and Portugal. There were 22 members from Belgium, 29 from France, 17 from Holland, 12 from Italy and 4 from the USA.

Two other technical papers were presented—one by Prof. Magnel and one by M. Guyon. These were primarily of interest to engineers, and Specialist Editor No. 14 (Structural Engineering) comments on them on p. 579.

Three other items concerning prestressed concrete are dealt with in this week's Technical Section—two recently constructed prestressed concrete bridges are described and illustrated (pp. 576 and 577), and on p. 579, there is an Information Centre review of the recently published English version of M. Guyon's textbook on prestressed concrete.

This week's special feature

17 CONSTRUCTION : GENERAL
fire resistance of prestressed concrete

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

In the part of his paper on the effects of abnormal temperatures on prestressed concrete structures dealing with fire resistance, A. W. Hill pointed out that the model byelaws contain tables showing the minimum thickness of ordinary reinforced concrete work and concrete cover to reinforcement required to provide specified periods of fire resistance, and said " our aim must be to encourage the testing of forms of prestressed *concrete construction . . . so that similar tables can be provided . . . for prestressed concrete." His paper is summarized below. Nearly all the tests he refers to were carried out in the UK, since " outside Great Britain very little research has been carried out on the fire resistance of prestressed concrete."*

As with reinforced concrete, the fire resistance [of prestressed concrete] depends primarily on the thickness and low thermal conductivity of the protective cover to the steel. We know that the tensile strength of high-tensile steel wire decreases very rapidly with increase of temperature, and at a more rapid rate than ordinary mild steel; hence the amount of protective cover to be provided will be of greater importance in the case of prestressed concrete. We may, therefore, deduce that we shall require additional protective cover to the high-tensile steel in prestressed concrete constructions as compared with

reinforced concrete, but this does not necessarily involve any difficulty.

With reinforced concrete, the steel has to be provided as near the tension edge as possible to be most effective for strength requirements, and in such a position would be affected by the fire, so that fire protection clauses specifying cover requirements may be a restriction on design. In the case of prestressed concrete, the tendons are not so near the surface in contact with the fire, and are often spread over the section. Provided, therefore, that adequate side protection is afforded by *in situ* concrete, hollow tiles, etc., the strength of the prestressed beam, even with losses in the extreme wires, will still be substantial in the presence of fires. Increased protection can be afforded by special plaster coatings which substantially reduce the thermal shock.

RESULTS OF TESTS (i) PRE-TENSIONED MEMBERS

[Mr. Hill described the results of tests carried out by the Joint Fire Research Organization of DSIR and the Fire Offices' Committee on floor units of the bonded wire type, used as joists or as part of a composite construction.]

These floors were of three main types:

(1) Small isolated joists requiring a decking of precast concrete or timber and a ceiling of building boards or plaster on metal lath;

(2) joists having hollow infilling blocks of clay or clinker, a concrete topping and a plastered soffit;

(3) planks or hollow beams placed side by side to form continuous surfaces for top screed and plaster.

The specimens of each type were reasonably consistent in behaviour under the test conditions. Type 1 was relatively unaffected until the ceiling fell. When the joists were exposed to furnace temperatures between 700 deg. C. and 800 deg. C., violent spalling occurred, leading to almost complete disintegration. This type of construction is suitable for small domestic buildings, where a fire resistance of half an hour is required, if a ceiling is used having a resistance to flame penetration of at least 25 minutes.

The floors of type 2 had the advantage of the protection given to the sides of the joists by the in-filling blocks and to the soffits of the joists by the plaster. The key given to the plaster by the blocks ensured that it would remain in place until collapse of the floor occurred. No spalling was observed on floors of this type and failure by collapse, rather than by heat transmission, would be expected since the constructions were usually thick and of low thermal conductivity. Fire resistances of between one and two hours were obtained without special measures for floors of this type. By using a suspended ceiling of vermiculite-gypsum plaster on metal lath it should be possible to raise the fire resistance of such floors to four hours.

The planks and slabs of type 3 did not provide a good key for plaster and, therefore, the time the plaster stayed in place during a test was variable. Early falls of plaster might occur leading to spalling of the exposed concrete. When these areas were small and the spalling not persistent, the stability of the floor was not affected, but extensive spalling might hasten collapse or be of sufficient severity to form holes through units and top screed. Fire resistances of between one and two hours were obtained for floors of this type without special measures, and by using a suspended ceiling of vermiculite-gypsum plaster on metal lath it should be possible to raise the fire resistance of these floors to four hours also.

It appeared from these tests that pretensioned floor units of small section (about 2 in. or less minimum thickness), made with gravel aggregate concrete, were likely to spall when exposed directly to the temperatures encountered in fires. Where protective ceiling finishes were used, no instance of spalling occurred as long as the protection remained in place.

In a further test carried out at the Fire Research Station on a floor section designed for a warehouse, a fire resistance of four hours has been obtained. [As recommended in the model byelaws for floors in buildings of the warehouse class, where the minimum design superimposed floor load is 200 lb./sq. ft.] The floor tested consisted of patent prestressed concrete hollow box beams, 12 ft. 10 in. long × 14 in. wide × 6¼ in. deep, laid side by side and covered with a concrete screed 1¼ in. thick. A ceiling of expanded metal lathing suspended 1½ in. below the soffit of the floor provided a base for vermiculite-gypsum plaster applied in three coats totalling 1 in. thickness. The plaster was allowed to dry out naturally for about 16 weeks before test.

The floor panel was loaded to 300 lb./sq. in. in the furnace and the fire test applied for four hours. Except for a slight sag in the ceiling the plaster showed no deterioration. The mean temperature rise on the upper surface of the floor at the end of the test was 45 deg. C., the maximum temperature measured in the air space was 340 deg. C. and the final mean furnace temperature was 1,125 deg. C. At the end of four hours the specimen was removed from the furnace and the water test applied for four minutes, which removed large areas of the finish and floating coats but did not penetrate the plaster.

The results show that, although prestressed concrete floors of the type

A PRESTRESSED CONCRETE BRIDGE IN HOLLAND

This prestressed slab bridge at Malden, Holland, replaces one destroyed during the war. The 15-ft. 9-in. wide deck slab is 13¾ in. thick and is continuous over the spans of 27 ft., 35 ft. and 27 ft. The slab was post-tensioned by the Magnel-Blaton system, the cables being continuous and undulating to oppose the bending moments. Somewhat unusual are the intermediate supports, which consist of 12-in. thick walls, 18 ft. high and hinged both at the top and the bottom, so that any movement in the bridge during stressing or due to the effects of temperature changes is accepted by a movement of the wall. Hence, a roller bearing is needed only at one end. (For further information, see Concrete & Constructional Engineering, *Aug., 1953, pp. 283 and 284, from which the photograph below is reproduced.)*

tested, when protected with the normal plaster applied direct to the soffit, deflect rapidly when heated and collapse in between one and two hours, they can, by the provision of suspended ceilings of 1 in. vermiculite-gypsum plaster, be increased in fire resistance to four hours, and only renewal of the ceiling is required to bring the floor into service again after the fire.

A further type of pre-tensioned floor construction which has been tested consists of beams of heavy section exposed to the furnace on both sides and soffit and supporting secondary members, with an *in situ* concrete topping. (Details of the test floor are shown in Fig. 1.) The floor consisted of an 8 in. × 6 in. main pre-tensioned beam on which was cast a reinforced concrete flange 20 in. wide by 4¾ in. deep to form a T-beam. The secondary prestressed joists supported hollow clay filler blocks between them, and composite construction was achieved by *in situ* concrete between the units and a 1-in. screed over the top. The beam in this case was unplastered, but the flooring units had ½-in. plaster soffit. The floor panel was loaded to 195 lb./sq. ft. (1½ times the design superload).

During the first twelve minutes of the test, two areas of plaster about 2-ft. square fell away, but the floor successfully resisted the first test for two hours. At the end of this period a water jet was applied to the underside for two minutes, but except for removing the soffit plaster and some of the weakened concrete from the main beam, the jet had no other effect.

RESULTS OF TESTS—(ii) POST-TENSIONED BEAMS

The tests so far described did not form a connected series, as they were carried out to assist government departments and industrial concerns with urgent requirements which could not await the results of a systematic study. The tests on post-tensioned beams, however, were arranged in a systematic programme designed to investigate the most important factors affecting fire resistance. The constant factors were concrete composition and strength, the type of wire and its initial stress. The variables were the concrete cover to the cable, load, end conditions, shape of cross section and effect of protective encasements.

Owing to the limitations of the equipment available, post-tensioned beams representative in span and cross section of those used in buildings could not be tested. Working from an assumed full-size beam of 20 ft. span, linearly scaled beams of ¼, ⅜ and ½ size were made and tested with the object of obtaining the fire resistance of the full-scale beams by extrapolation of the appropriate plotted results. An opportunity to check the validity of these extrapolations has been afforded by the co-operation of the National Bureau of Standards, Washington, who are arranging to test 4/5 scale beams sent from this country.

Most of the tests carried out at the Fire Research Station were continued until failure of the beam occurred, but after the main series of tests a few specimens were heated for about half the period necessary to cause failure, and were then tested to destruction after they had cooled to examine any changes in their elastic properties. The results of the tests are shown in Fig. 2, and the following tentative conclusions have been drawn from these results:

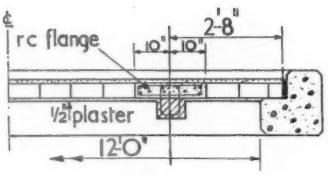
(i) Spalling of the flint gravel aggregate concrete appears unlikely to occur where the members are of substantial thickness, having no part less than about 2 in. thick.

(ii) Time to failure is determined largely by the rate of rise of the temperature of the cable. A fire-resistance of two hours can be obtained with a concrete cover to the cable of about 2½ in., and longer periods are likely if

---

PRESTRESSED CONCRETE FOOTBRIDGE AT UFFCULME, DEVON

This recently-completed prestressed concrete footbridge at Uffculme, Devonshire, has a clear span of 52 ft. and is 2 ft. wide. It was constructed from standard precast concrete T-section units, 1 ft. 11 in. long. These units were assembled in position with diaphragms at 6 ft. centres and then post-tensioned together. Rectangular cavities were provided in the precast units to house the Freyssinet prestressing cables. The bridge was erected for the Devon County Council and was designed for the contractors, J. J. Udalls Building Company Limited, by their consulting engineer, E. W. H. Gifford.



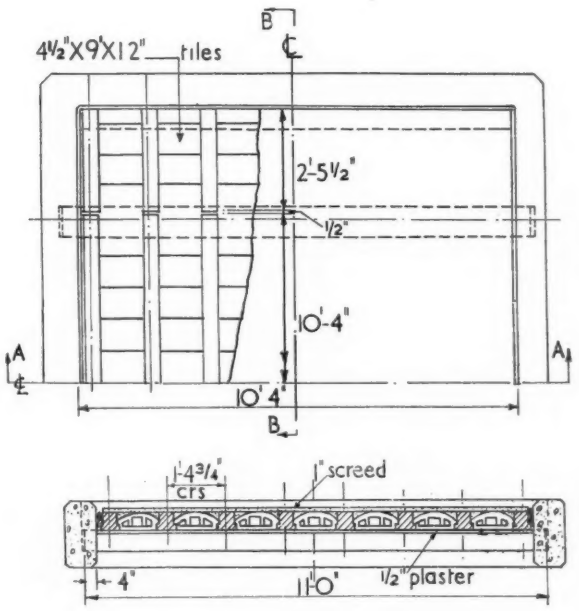


Fig. 1, prestressed (pre-tensioned) concrete floor that has successfully withstood 2-hr. fire test. Right, plan and section A-A; above, half-section B-B.

the cover is increased sufficiently to ensure that the cable temperature does not exceed 400 deg. C.

(iii) For a fire-resistance of four hours or more an insulating encasement is required.

(iv) There is little difference in performance between a beam of rectangular section and an I-beam having the same load-carrying capacity and the same concrete cover.

(v) In general, the greater the load the earlier is the failure but, with certain types of beam, failure may occur earlier when they are very lightly loaded than when fully loaded.

(vi) Beams may fail a little earlier if longitudinally restrained than if simply supported, but the test results do not permit a quantitative statement to be made.

(vii) Failure is unlikely to be sudden. There is a progressive sagging of the beam as prestress is lost and this is well marked before collapse occurs. A fireman would have sufficient warning as cracks appear in the beam and increase in size some time before failure. A visible increase in deflection occurs when collapse is imminent.

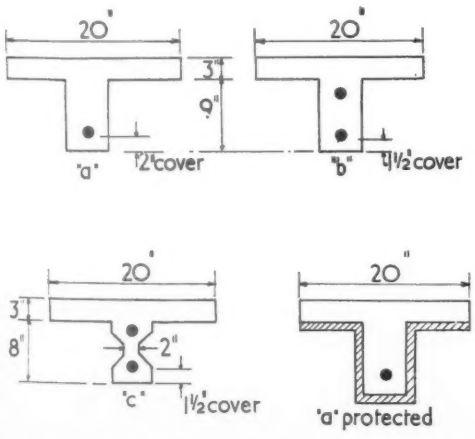
(viii) Beams which have been exposed to a fire of shorter duration than that which would cause failure are likely to retain a high percentage of their original strength on cooling, but generally with a marked residual deflection and some loss of prestress.

PRESTRESSED CONCRETE AFTER FIRES

The fitness of a structure for service or to be repaired after a fire of less severity than that which would cause failure is an important aspect of the performance of any form of construction, yet so far little attention has been directed to it. In the tests at the Fire Research Station it was found that, after heating for only about half the time necessary to cause collapse, a beam will show an appreciable loss of prestress on cooling. A marked permanent deflection is present even after removal of the superimposed load, but the ultimate strength may still be a high proportion of its original value.

One way of assessing the merits of prestressed concrete in fires is to compare the deflections of a given construction with those of a similar construction in normal reinforced concrete during cooling after various times of heating. Tests have been made at the Fire Research Station to compare recovery and residual deflections between prestressed and reinforced concrete floor constructions. For short heating periods (about one quarter of the time to failure in the standard test) there was little to choose between the two systems, and the residual deflections were extremely small. On doubling the heating period it was found that, whereas the residual deflection of the reinforced concrete floor differed little from that obtained after the shorter heating, the prestressed concrete floor had a much higher deflection during heating and showed little recovery after cooling.

The addition of a vermiculite-plaster suspended ceiling on metal lath substantially increases the fire resistance of any form of construction and, if almost complete fire resistance without subsequent damage to the basic



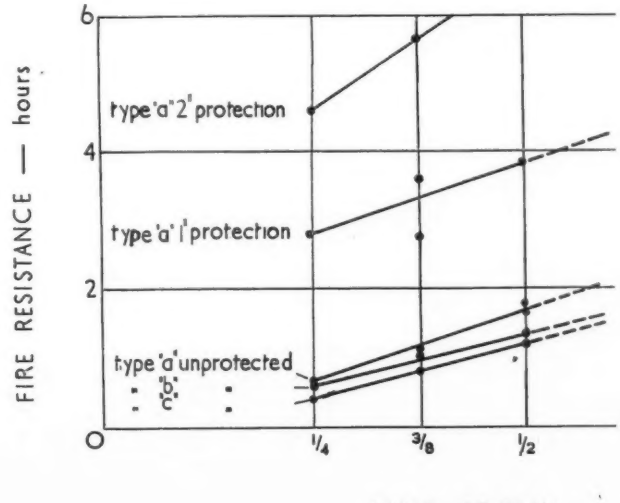


Fig. 2, above, three types of scaled-down prestressed (post-tensioned) concrete beam tested at the Fire Research station; right, the test results.

structure is required, such a solution may be more economical than a large increase in concrete cover to the steel wires.

The question of the cost of repairs to a structure after a fire must be considered in relation to the extra initial cost of protective measures. If the cost of these protective measures becomes excessive it may be more economical to accept a possible risk at the price of a higher repair cost in the event of fire, but the very great increase in fire resistance provided by the lightweight encasements to the post-tensioned beams would seem to indicate that the cost of such protection would not be excessive. Any damage occurring may then well be limited to the protective coating, which can easily be replaced. It will be essential that special arrangements be made to ensure a satisfactory key for the plaster finish.

PRESTRESSED CONCRETE CONGRESS

Papers on Design—Comments by Specialist Editor No. 14

A number of papers were presented to the Congress on the subjects of "Ultimate Load Design for Statically-Determinate Beams" and "Statically-Indeterminate Structures in the Elastic and Plastic States." Prof. Magnel summarized the former and the following points which he made are well worth considering:

i) ULTIMATE MOMENT DESIGN FORMULAE

Four formulae were proposed for determining the ultimate moment of resistance. When the concrete has a crushing strength of 6,000-8,000 lb./sq. in. and the steel an ultimate strength of 100 ton/sq. in. and when the percentage of steel is not more than 0·6-0·7, these formulae all give similar results.

(ii) SHAPE FACTOR

The shape of structural members, i.e., the manner in which the material is distributed in order best to resist the bending moment, has no influence on the *ultimate* moment, because as the breaking point is reached the only parts of the section that really matter are a small rectangle of concrete in compression and the tensioned steel, which together provide the opposing resistance moment.

iii) INFLUENCE OF BOND

With the exception of Dr. Abeles's formula (which has an additional coefficient) the various formulae depend on perfect bond. In the case of post-tensioned work, this seems to be rather optimistic and certainly calls for greater control of grouting than is usual.

(iv) SAFETY AGAINST FAILURE

Safety against failure may be based on a rapid static load test, a constant load over a period or a fatigue test.

Taking a rapid static test as the criterion, Prof. Magnel recommends the Dutch requirements of a safety factor of 2½ against failure under the superimposed load and 2 against failure under the dead load plus superimposed load. This ensures safety where the live load is small compared with the permanent load.

(v) SHEAR FAILURE

In simply-supported beams with distributed loads, shear failure does not seem to be important. The prestressing cables are usually "fanned-out" at the ends of the beam in order to make room for the anchorages. This results in fairly uniform compression and the principal tensile stresses arising from the shear stresses are kept within reasonable limits.

However, continuous beams (and, as Dr. Abeles pointed out, simply-supported beams with point loads) require a concentration of cables at the top or at the bottom of the beam. There is, therefore, no "fanning-out" of the cables and no uniform compression to oppose the shear. Whilst the beam is in the elastic state, the shear can be taken care of, but the problem of how to cope with it when the section begins to crack as the ultimate load is approached is far from solved.

(vi) FATIGUE LOAD TESTS

The ultimate moment indicated by the results of fatigue tests is lower than that given by formulae. One set of these tests has shown that the safety factor against the breaking load was one-third less than a quick static test had indicated. Failure from fatigue is, however, more likely to occur with bridges than with the frames of ordinary buildings.

STATICALLY-INDETERMINATE STRUCTURES

M. Guyon's survey of the papers on statically-indeterminate structures revealed a smaller measure of agreement among the various authors than among the authors of the papers summarized by Prof. Magnel). From the architects' point of view, there is, therefore, little that can be added to the review of M. Guyon's own survey of continuity that appeared in the JOURNAL for March 12, 1953.

INFORMATION CENTRE

18.138 construction: theory

PRESTRESSED CONCRETE DESIGN

Prestressed Concrete. Y. Guyon. (Contractors Record and Municipal Engineering. 1953. 80s.)

English version of Guyon's "Beton Precontraint"—an extremely valuable addition to the library of all concerned with prestressed concrete design and construction.

In translating this work into English, the authors have made minor additions and changes to broaden the book's appeal. The addition of a section devoted to some of the more interesting structures which have been built in the last eight years and a comprehensive index would have been of great value. Nevertheless, the reader will be well rewarded for investing his £4 in the 543 pages and numerous diagrams and tables of M. Guyon's book.

Part I deals with the principles of prestressed concrete, the properties of the materials and the basic mechanism of their combination. Interesting chapters are provided on friction, fire resistance and anchorage zone stresses. The latter contains new theories by Guyon on the design of end blocks and gives particulars for Freyssinet cables. This is developed further in Appendix I.

In Part II, the author considers the design of simply-supported beams of constant cross section and of variable depth. Many formulae and tables relating to post-tensioning are to be found in Chapter X, the symbols being kept to a reasonable number and introduced as required.

Part III contains investigations on various tests on the safety of structures. In Chapter XVII, M. Guyon gives a resumé of the results obtained and attempts to draw practical conclusions regarding the factor of safety. This is developed further in Chapter XVIII where the author presents his methods of elasto-plastic design.

The design of beams is limited to the statically-determinate type and, bearing in mind the interesting lectures which M. Guyon has given in this country and his written works on continuous beams, we must look forward to a companion volume dealing with statically-indeterminate structures.

THE INDUSTRY

From the Industry this week, Brian Grant reports on steel lintols for cavity walls, a submersible pump, prestressed concrete floor joists, fixing plastic sheeting and an inexpensive heat meter.

STEEL LINTOLS

Messrs. Dorman, Long have just introduced a galvanized sheet steel lintol which can support the brickwork of the outer leaf of a cavity wall and at the same time act as a flashing, the usual concrete lintol being used to support the inner leaf. The new lintol is made of heavy-gauge steel and is pressed to the normal window flashing shape with a lower lip (turned at the edge to form a drip) to support the flat brick arch. The upper flange fits over the concrete lintol. The depth of the upper flat of the lintol is sufficient for wall cavities up to 2¾ in. wide.

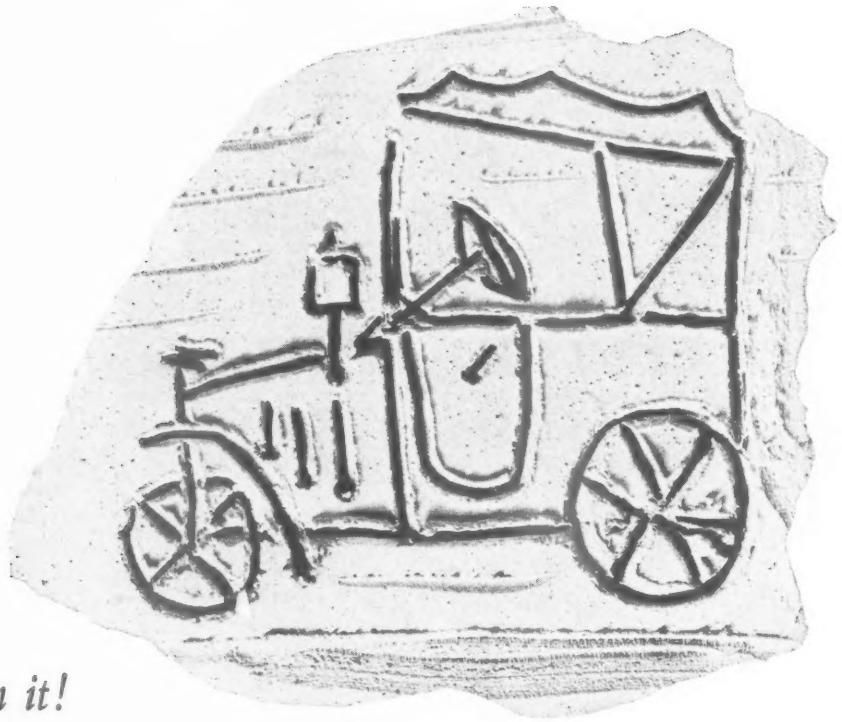
Two sizes are produced, for use with 9-in. and 6-in. concrete lintols, and in standard lengths to suit openings from 1 ft. to 7 ft. between reveals. Metal thickness is ¼ in. for openings up to 3 ft. 6 in., and $\frac{5}{32}$ in. for larger spans. *(Dorman, Long & Co. Ltd., Terminal House, Grosvenor Gardens, London, S.W.1.)*

PRESTRESSED CONCRETE JOISTS

The section overleaf shows an insulated floor supported on "Pierhead" prestressed concrete joists. For spans up to 30 ft. these joists are very economical, and have a depth of only 7 in. They are laid at 18-in. or 24-in. centres and the floor is completed with lightweight clinker blocks which are highly fire-resistant.

The joists are laid dry on their bearings. After the blocks are in position they are grouted along the joist lines and the floor is ready for its finishes. The self weight of the floor varies from 35 lb./sq. ft., with the joists at 2-ft. centres, to 60 lb./sq. ft. with the joists side by side for superimposed loads of 80 lb./sq. ft. or more.

The sound resistance of the floor, without finishes, is about 45 phons: the construction shown in the diagram, with 1-in. boarding floated on glass silk quilting, would bring the figure up to about 65 phons. The thermal insulation value is U = 0·29, which can be reduced to about 0·20 by the addition of 3 in. of clinker screed. *(Pierhead Ltd., Speke Boulevard, Liverpool, 19.)*



No future in it!

"I suppose you know that the horseless carriage like other pieces of progress came in for a good deal of scepticism in its time."

"Of course I do. But what has the horseless carriage to do with us here today? I suspect you are going to use it as a vehicle . . ."

"Exactly, to introduce the advantages of Carlite pre-mixed vermiculite plaster over old-style sand based plaster."

"I should think you architects must find the advantages considerable."

"Overpowering. Because Carlite is pre-mixed plaster, its quality is absolutely controlled at the factory. I know that when I specify Carlite on a job, I'll get exactly what I expect."

"But that would solve a big problem for us contractors too."

"Of course. If an architect specifies Carlite you just give him Carlite. No bother about proportions of sand, or mixing instructions. Or for that matter great heaps of sand disfiguring the neighbourhood."

"How does Carlite come out in use?"

"Top marks. It's tough, and exceptionally resistant to cracking. The fire resistance is very high, and here's something that ought to please you builders, Carlite weighs less than half as much as old style plaster."

"That certainly would save some elaborate dead load lifting. I'm beginning to see the point of you introducing the subject of progress."

Come and see us at Stand N 273, Building Trades Exhibition. Olympia Nov. 18—Dec. 2

Carlite

For full details of Carlite write to: The Carlisle Plaster & Cement Co., Cocklakes, Carlisle. The Gotham Company Ltd., Wheeler Gate, Nottingham

RURAL WATER SUPPLIES

In country districts where water supplies for individual houses have to come from shallow wells or medium depth boreholes, the problem of the pump installation is often difficult to solve. Motor-driven plunger pumps are satisfactory as long as the level in the well remains fairly constant, but they are limited to a suction lift of 25 ft. or so and, if they are mounted some distance down the well so as to ensure a supply in the summer months, the motor and pump may be flooded when the level rises in the winter.

Sumo submersible pumps have been in production for a number of years, but the makers have recently introduced a small general-purpose ½-h.p. model, which will deliver 100 gall./hr. against a head of 100 ft. or 400 gall at 30 ft. The pump is suitable for shallow, brick-lined shafts, for 4-in. diameter boreholes, or for pumping from streams or ponds. It consists of an a.c. motor coupled to a multi-stage centrifugal pump, the whole unit being suspended on its delivery pipe and working at the bottom of the well, so that it is always submerged and primed. The motor windings are sealed in a stainless steel tube and the bearings are water lubricated. Electricity supply is through a rubber - covered cable which is sealed into the motor housing.

"Sumo" general-purpose (½-h.p.) submersible pump.

Installation is simple, the lengths of 1 in. delivery pipe being screwed together until the pump reaches the bottom of the well or borehole, the weight of the pump being only 32 lb. The pump is below frost level so that there should be no trouble in winter. Control of the pump would normally be by a float-operated switch in the supply tank. The motor runs off the ordinary domestic supply of 230 volt single-phase a.c. Maintenance should not be difficult, the manufacturers claiming that the pump will run for 10,000 hrs. before it needs inspection; i.e., roughly 3 years intermittent use. In the event of any trouble, the pump can easily be removed and there is a service scheme whereby any defective pump can be changed for a reconditioned one. The price of the pump is £38 and, considering that there are still many country districts in which no piped water supply is available, but where electricity is already installed, this pump will probably have a considerable demand. *(Sumo Pumps Ltd., Lighthouse Works, Smethwick 40, Birmingham.)*

FIXING PLASTICS

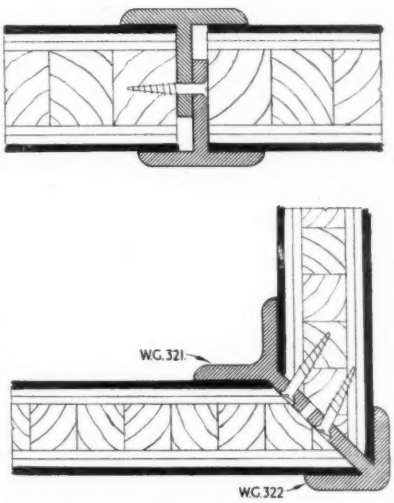
Warerite Ltd. have recently issued a booklet (No. 2) on the fixing of plastic veneered boards and plastic panels. These materials are best cut to size in the workshop, as they quickly dull the edges of normal woodworking tools, but site work can be carried out with hacksaws, metal drills and files.

The booklet contains a useful series of drawings showing simple methods of fixing, either to wood grounds or with extruded sections, strips and angles of plastic or metal. Panels may be curved for external corners by making closely spaced saw cuts on the inner face of the panel, or the veneer may be applied to an already formed panel. The usual method of joining panels to make a flush surface is to bevel the plastic sheeting very slightly at each edge and to make a secret fixing to the grounds. *(Warerite Ltd., Ware, Herts.)*

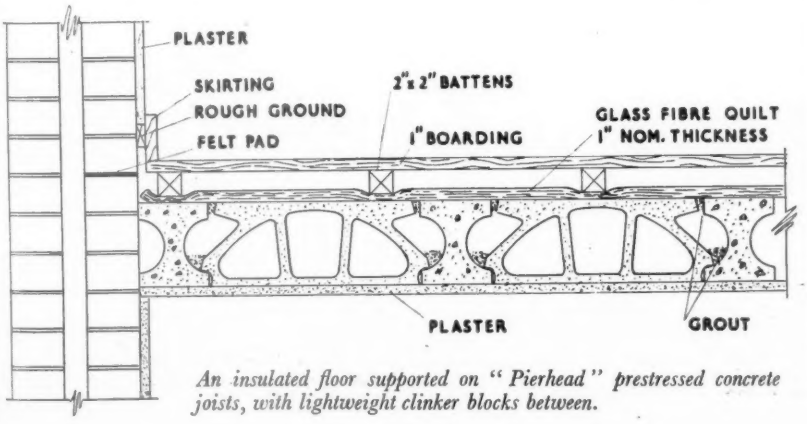
THE COST OF HEATING

Before the war, the tentative balance sheet for a proposed block of offices or flats could include a fairly accurate estimate of the cost of providing central heating and domestic hot water, very largely because the cost of fuel was reasonably stable. Nowadays, the only certainty is that costs will rise at fairly regular intervals. Moreover, when central heating and constant hot water is provided for people who have never before had its cost included in their rent, it is extremely difficult to estimate how much heat and hot water they will use. This factor is particularly important in weighing up the economics of proposed district heating schemes. One solution is, of course, to use heat meters, so that tenants can be charged in proportion to the amount of heat which they use. Mechanical types of integrating meter which would measure not only the volume of hot water supplied but also allow for its temperature are not easy to produce, and the "Clorius" evaporative or distillation type meter may be the answer.

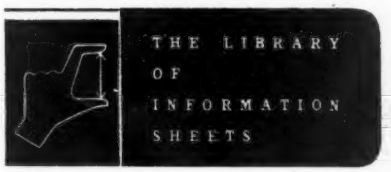
Meters of this type have been used in Scandinavia and elsewhere for some years, and are now available for the British market. They are produced in two types—heat meters to be clamped to individual radiators (selling at about £1) and hot water meters (about £4) for measuring the domestic supply. The amount of heat used is indicated by the position of a coloured liquid in a graduated tube, about the size of the ordinary indoor thermometer. The device is "tamper-proof" and the tenant can see at all times the amount of heat he has used. The manufacturers are prepared to carry out regular meter readings as well as the installation. *(Clorius Heat Meters (England) Ltd., 5, Vandon Street, Buckingham Gate, London, S.W.1.)*



Methods of forming partition joints and corners with "Warerite" extruded fixing sections.



An insulated floor supported on "Pierhead" prestressed concrete joists, with lightweight clinker blocks between.



1.B60, 22.D16, 24.J2, 24.M3 *and* 24.N3. *REFERENCE BACK*

Readers are asked to note the following revisions and to amend their copies of the Information Sheets in question:

22.D16, 24.J2, 24.M3, 24.N3. *The London address of W. H. Heywood and Co. Ltd. is now: Hope House, Great Peter Street, S.W.1. Telephone: Abbey* 1077/8.

1.B60. *In addition to the range of letters given the following are now available: Baal: l.c. 25 mm.—Balit: u.c. and l.c. 10 mm.—Duc: u.c. 25 mm.—Senor: u.c. and l.c. 6, 10 mm.—Louve: l.c. 20 mm.—Garit: u.c. and l.c. 15, 50 mm.—Altra: u.c. 10, 15, 30 mm.—Consul: u.c. and l.c. 20 mm.*

CANCELLATION

Sheet 8.E1 (*published in the* JOURNAL *for Jan.* 24, 1952) *has been cancelled for revision and should be removed from collections. It was republished on Nov.* 29, 1953.

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

ENQUIRY FORM

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

.....

.....

.....

Please ask manufacturers to send further particulars to :—

NAME.....

PROFESSION or TRADE

.....

ADDRESS.....

.....

AJ 5.11.53

Buildings Illustrated

Richard Lee Primary School, The Drive, Coventry. (Pages 571-574.) Architects: Architects Co-partnership. Quantity surveyor: Davis, Belfield & Everest. Consulting electrical engineer: H. A. Sandford, M.A., M.I.MECH.E., M.I.E.E., M.CONS.E. General contractors: Garlicks Ltd. Subcontractors: structure, Hills (West Bromwich) Ltd.; heating, Weatherfoil Heating Systems Ltd.; boilerhouse chimney, Chimneys Ltd.; electricity, Francis L. Flinn; roofing, William Briggs & Sons Ltd.; flooring, Premier Tile Co. (Coventry) Ltd., Horsley, Smith & Co. (Hayes) Ltd., Jaconnello Ltd.; concrete and quarry tiles, Coventry Tile Co. Ltd.; "Bellrock" partitions and fibrous plaster, Plaster Decoration Co. Ltd.; sanitary fittings, Adamsez Ltd.; copper wastes, Econa Modern Products Ltd.; flush doors, Linden Doors Ltd.; classroom window cills, E. Harris & Son (Coventry) Ltd.; venetian blinds, London Blinds; ironmongery, Mountford Bros. Ltd.; towel bins, T. Wilkes & Sons Ltd.; decorating, water supply, Daly & Son; curtains, Gerald Holtom; radio, Clarke & Smith Manufacturing Co. Ltd.; precast manholes, Trollope & Colls Ltd.; concrete flower pots, Walter Lawrence & Son Ltd.; fencing, Boulton & Paul Ltd.; tarmac, Turrif Construction Corporation Ltd.; lighting fittings, Falk Stadelmann & Co. Ltd.; extract fans, Greenwoods & Airvac Ventilating Co. Ltd.; portable stage units, Geo. M. Hammer & Co. Ltd.; paint; oil, Docker Bros. Ltd.; chlorinated rubber, Tretol Ltd.; hosereels, The Pyrene Co. Ltd.

Announcements

Huckle & Durkin, architects and consulting engineers, have moved to new offices at 30, Queen Anne Street, W.1 (Tel.: Langham 4091-3).

The Birmingham School of Architecture is setting up a new library section for catalogue and will be glad to receive suitable trade literature. This should be sent to the Director, Birmingham School of Architecture, Margaret Street, Birmingham, 3.

Messrs. Frederick Barber & Partner (Frederick Barber, F.R.I.B.A., and K. Douglas Bundy, A.R.I.B.A.) and Mr. Bevil Greenfield, A.R.I.B.A., have merged their practices and will conitnue to practise under the style of Frederick Barber & Partners, Chartered Architects, 5, Apple Market, Kingston-upon-Thames (Tel.; Kingston 8536), and 173, High Street, Dorking (Tel.; Dorking 4208). Mr. Greenfield will be pleased to receive trade catalogues at the Dorking office.

Mr. J. R. Sheridan-Shedden, DIP.ARCH. (CARDIFF), A.R.I.B.A., has been appointed to the newly-created post of deputy city architect to the Birmingham Corporation. He is at present architect in charge of the work of the education committee of the Corporation.

Messrs. Gordon Payne, F.R.I.C.S., M.T.P.I., and Preece, A.R.I.B.A., of Gloucester, have now moved to "Rockleigh House," 67, London Road, Gloucester. The telephone number (Gloucester 24471) is unaltered.

Kenneth J. Steel, A.R.I.B.A., is now in practice at 7, The Crescent, Taunton, where he will be pleased to receive trade catalogues, etc. (Tel.: Taunton 7020).

Messrs. Martin Sheffield & Bristow, Chartered Quantity Surveyors, of 29, Sackville Street, W.1, and of Ndola, Northern Rhodesia, have opened a further branch office at 8/9 Cannon Street, Dover, Kent (Tel.: Dover 447).

J. Holmes has been appointed sales manager of Thos. Storey (Engineers) Ltd., of Stockport, manufacturers and World Licensees for Bailey Bridging and equipment.

CLASSIFIED ADVERTISEMENTS

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

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

Public and Official Announcements

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

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

LONDON COUNTY COUNCIL.
ARCHITECT'S DEPARTMENT.

STRUCTURAL ENGINEER (£1,027 to £1,168) required to investigate new structural techniques and experimental methods, with special regard to multi-storeyed buildings. Application form, for return by 30th November, from Architect (AR/EK/SEH/5), County Hall, S.E.1. (1146) 9796

BOROUGH OF HORNSEY.

TEMPORARY ARCHITECTURAL ASSISTANT required for Borough Engineer and Surveyor's Department, A.P.T.V. (£625—£675 including London Weighting). Commencing salary according to experience.

Further particulars from Borough Engineer and Surveyor, Town Hall, Crouch End, N.8, to whom applications are to be returned by 12th November, 1953.

H. BEDALE,
Town Clerk.
9846

DERBY CORPORATION.
BOROUGH ARCHITECT'S DEPARTMENT.

ASSISTANT ARCHITECT, Grade VI. Salary £670 to £735 per annum, commencing at £670 and national conditions of service.

Qualifications: Must be Associate R.I.B.A. Permanent staff appointment, subject to one month's notice and pensionable subject to medical examination.

Form of application obtainable from and to be returned to the Borough Architect, The Council House, not later than 16th November, 1953.

Canvassing disqualifies.

E. H. NICHOLS,
Town Clerk.
9838

ARMY APPRENTICES' EXAMINATION
3rd DECEMBER, 1953.

Free Apprenticeships are now being offered at Army Apprentices' Schools for boys between 14½ and 16 years 8 months. Free board and lodging, pay and allowances start from the first day at school. Kit and clothing issued free. Extensive facilities exist for sport and hobbies whilst learning a skilled trade (36 to choose from) and there are 8 weeks paid holiday a year, with free travel home.

Next entry examination (which may be taken at 14½) will be held on 3rd December, 1953.

For details apply to your nearest Army Recruiting Office, or write to War Office (AG10/R24) London, S.W.1. 9684

LANCASHIRE COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments on the permanent staff:—

(*a*) ASSISTANT LAND SURVEYORS, A.P.T., Grade V (£595-£645).

(*b*) SENIOR ASSISTANT QUANTITY SURVEYOR, A.P.T., Grade VII (£710-£785).

Application forms, to be returned by 21st November, 1953, obtainable from the County Architect, County Hall, Preston. 9823

CITY OF BIRMINGHAM EDUCATION COMMITTEE.

Applications are invited for the following appointment to the Architect's Branch of the Education Department (Architect to the Committee: Mr. J. R. Sheridan-Shedden, A.R.I.B.A.).

SENIOR ASSISTANT ARCHITECT. Salary: A.P.T., VIII (£760×£25—£835).

Applicants must be Registered and Chartered Architects, and must have had considerable experience in the design and erection of large buildings, preferably of schools, and must offer evidence of high ability and initiative in design.

Application forms, which may be obtained (s.a.e.) from the undersigned, must be returned not later than 16th November.

E. L. RUSSELL,
Chief Education Officer.
General Purposes Branch, Education Office,
Margaret Street, Birmingham, 3. 9859

ARCHITECTURAL DRAUGHTSMAN required. Salary scale: £360 (at age 21 and over) × £20 (4) × £25 (1) × £20 (4)—£545, plus London weighting of £10-£30, according to age.

Applicants must have had suitable training, including three years' technical experience in architectural drawing.

Apply to Secretary, NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD, 11a, Portland Place, W.1, giving names of two referees, by 18th November, 1953. 9863

COUNTY COUNCIL OF ESSEX.
ARCHITECT'S DEPARTMENT.

ASSISTANT ARCHITECTS, Grades VI and V, on established staff. Salaries not exceeding £735 and £645 respectively.

Candidates must be Members of R.I.B.A. Work includes schools, colleges, and other public buildings.

Application forms from H. CONOLLY, F.R.I.B.A., COUNTY ARCHITECT, County Hall, Chelmsford, returnable with copies of three recent testimonials, by 19th November, 1953.

Canvassing disqualifies. 9857

ROYAL BURGH OF INVERNESS.
BURGH ARCHITECT'S DEPARTMENT.

Applications are invited for the Appointment of PERMANENT CHIEF ARCHITECTURAL ASSISTANT—Grade A.P.T. IV £550 × £15 × £15 × £15 to £595. The appointment is subject to the N.J.C. conditions of service and the terms of the Local Government Superannuation Act, 1937.

Applicants should be registered Architects, and have had considerable experience in the design and construction of Municipal Housing and usual Local Authority building undertakings. The successful applicant will be required to pass a medical examination and his housing position will be given consideration. Applications giving age, qualifications, present and past app intments with salaries, together with the names and addresses of three referees to be sent to the undersigned within two weeks of this publication.

J. BLACKBURN, F.R.I.B.A., (DIP) T.P., A.M.T.P.I., M.R.SAN.I.
Burgh Architect.
11, High Street, Inverness. 9874

COUNTY COUNCIL OF THE WEST RIDING OF YORKSHIRE.
OFFICE OF THE COUNTY ARCHITECT.

Applications are invited for the appointment of JUNIOR ASSISTANT ARCHITECT in the following grades:—

A.P.T. I. Salary range £465 × £15—£510.
A.P.T. II. Salary range £495 × £15—£540.

The appointments are subject to the provisions of the Local Government Superannuation Act, 1937, as amended by the W.R.C.C. (General Powers) Act, 1948, and the Conditions of Service at present in operation by the County Council. The successful candidate will be required to pass a medical examination.

Application forms, obtainable at this office, should be delivered not later than the first post on Monday, the 16th November, 1953.

HUBERT BENNETT, F.R.I.B.A.,
County Architect.
Bishopgarth,
Westfield Road, Wakefield. 9848

BRITISH ELECTRICITY AUTHORITY.
EAST MIDLANDS DIVISION.

Applications are invited for the following positions within the Division.

CIVIL ENGINEERING DRAUGHTSMEN, Construction Department. (Vacancy No. 22/53.)

Candidates should have experience in design and detail of reinforced concrete structures, piled and slab foundations for heavy plant, culverts, cable subways, etc., for general building construction drainage and sanitation schemes, associated with office and administrative buildings.

The salary will be in accordance with Grade 5 (£567—£671 per annum) or Grade 6 (£433—£567 per annum) of Schedule D of the National Joint Board Agreement.

ENGINEERING DRAUGHTSMEN (MECHANICAL), Construction Department. (Vacancy No. 44/53.)

Senior Draughtsmen are required in the Mechanical Section of the Construction Department at North Wilford Power Station. Candidates should have experience in one or more of the following:—

(i) Design and layout of Power Station equipment, including Turbo-alternators, boiler plant, coal and ash plant, and general station auxiliaries.
(ii) H.P. and L.P. steam and feed pipework. Condensing plant and feed heating systems.
(iii) Conveyor plant, coal handling systems and material handling of station auxiliary equipment.

Salary and conditions of service will be in accordance with the National Joint Board Agreement Grade 5 (£567—£671 per annum) and Grade 6 (£433—£567 per annum) of Schedule D according to experience.

ENGINEERING DRAUGHTSMEN (ELECTRICAL), Construction Department. (Vacancy No. 61/53.)

Candidates should have experience in the preparation of layouts and diagrams for the installation of E.H.T. and L.T. Switchgear, transformers, E.H.T. and L.T. cables; knowledge of protective gear systems would be an advantage.

The salary will be in accordance with Grade 5 (£567—£671 per annum) or Grade 6 (£433—£567 per annum) of Schedule D of the National Joint Board Agreement.

The above positions will be pensionable within the provisions of the British Electricity Authority and Area Boards Superannuation Scheme.

Applications should be submitted on the official form which may be obtained from the Divisional Establishments Officer, British Electricity Authority, Barker Gate, Nottingham, and should be returned to the undersigned by the dates stated. Please quote Vacancy Number.

L. F. JEFFREY,
Divisional Controller.
9849

BOROUGH OF NEWCASTLE-UNDER-LYME.

Applications are invited for the post of ARCHITECTURAL ASSISTANT, Grade IV (£555-£600). Preference will be given to applicants who have passed the Intermediate Examination of the R.I.B.A.

Experience in the design of new schools or Municipal housing will be an advantage.

Application Forms and Conditions of Appointment may be obtained from the Borough Engineer and Surveyor, Lancaster Building, High Street, Newcastle, Staffs., and should be returned to him by 12th November, 1953.

C. J. MORTON,
Town Clerk.
District Bank House, Newcastle, Staffs. 9875

CITY AND COUNTY OF BRISTOL.
CITY ARCHITECT'S DEPARTMENT.

Applications are invited for the permanent staff appointment Grade VIII (£760 × £25 to £835 per annum) SENIOR ASSISTANT ARCHITECT.

Applicants must have been Associate Members of the R.I.B.A. or hold equivalent qualifications, and have had considerable experience in layout, design, construction, and contract administration, preferably in housing. The appointment is superannuable, subject to satisfactory medical examination and one month's notice in writing on either side.

Housing accommodation provided, if necessary, at an economic rent.

Applications, stating age, training, qualifications, experience, present appointment, grade and salary, with names of two referees, including present employer, to be delivered to the undersigned by Monday, 16th November, 1953.

J. NELSON MEREDITH, F.R.I.B.A.,
City Architect.
The Council House,
College Green, Bristol, 1.
28th October, 1953. 9880

LONDON ELECTRICITY BOARD.
CHIEF ENGINEER'S DEPARTMENT.

Applications are invited for the following positions in Central London:—

STRUCTURAL ASSISTANTS and STRUCTURAL DRAUGHTSMEN (Construction Branch).

Applicants for positions of Structural Assistants should have experience in the design and detailing of reinforced concrete heavy foundations, framed superstructures, and other structural works. Applicants for Structural Draughtsmen should have experience in detailing reinforced concrete structures.

The posts are graded under Schedule "D," National Joint Board agreement, as Grade 5, £595 7s. to £704 11s., and Grade 6, £458 to £595 7s., per annum respectively, inclusive of London allowance. Commencing salaries will be dependent upon qualifications and experience.

ARCHITECTURAL DRAUGHTSMAN.

Applicants should be neat draughtsmen and preferably have had several years' experience in an Architect's office.

The post is graded under Schedule "D" of the National Joint Board agreement as Grade 6, £458 to £595 7s. per annum, inclusive of London allowance.

Application forms obtainable from Establishments Officer, 46, New Broad Street, E.C.2, to be returned completed by 21st November, 1953. Please enclose addressed foolscap envelope, and quote ref. V/1683/A on all correspondence. 9851

EAST SUFFOLK COUNTY COUNCIL.

Applications are invited for the post of ARCHITECTURAL ASSISTANT on Grade III-IV (£525—£600) in the County Architect's Department.

Applicants should have reached the intermediate stage of the R.I.B.A. examinations.

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

Applications, stating age, qualifications, and full details of previous experience, accompanied by copies of two recent testimonials, should be sent to E. J. Symcox, F.R.I.B.A., County Architect, County Hall, Ipswich, by Monday, November 23rd, 1953.

Applicants must state in their applications whether they are related to any member of or senior officer under the Council.

Canvassing will disqualify. 9892

COUNTY BOROUGH OF WOLVERHAMPTON.
APPOINTMENT OF CHIEF ASSISTANT ARCHITECT.

Chief Assistant Architect (Education and General Buildings) required in the Architects' Section of the Borough Engineer's Department. Salary A.P.T. IX £815 to £935. The Assistant will be responsible under supervision for part of the work of the Architects' Section.

Applicants must be A.R.I.B.A. and capable designers with wide experience of handling large building contracts.

Superannuable post, medical examination, N.J.C. Conditions of Service, terminable by one month's notice.

No housing accommodation can be offered, but the successful candidate may, if married, qualify for a subsistence or travelling allowance under the Council's scheme for time being in force.

Applications stating age, qualifications, present position and full details of experience, together with copies of three recent testimonials, should be delivered to the Borough Engineer, Town Hall, Wolverhampton, by Wednesday, 18th November, 1953, in envelope endorsed "Chief Assistant Architect."

J. BROCK ALLON,
Town Clerk.
Town Hall, Wolverhampton. 9882

WORCESTERSHIRE COUNTY COUNCIL.
ARCHITECT'S DEPARTMENT.

Applications are invited for:—
(*a*) TWO ARCHITECTURAL ASSISTANTS, Grade A.P.T., IV (£555-£600 p.a.).
(*b*) TWO ARCHITECTURAL ASSISTANTS, Grade A.P.T., II (£495-£540 p.a.).

Application forms and Conditions of Appointment should be obtained from the County Architect, Castle Street, Worcester, before 14th November, 1953. (J229) 9850

METROPOLITAN BOROUGH OF CAMBERWELL.
DEPARTMENT OF DIRECTOR OF HOUSING AND BOROUGH ARCHITECT.
JUNIOR ARCHITECT. Grades A.P.T. III/IV £555—£630 inclusive of £30 London Weighting). Qualification R.I.B.A. Intermediate Examination or its equivalent with a minimum of one year in an Architectural Office. No housing provided. Local Superannuation Act. Application form from Town Clerk, Town Hall, Camberwell, S.E.5. Closing date Saturday, 21st November, 1953. 9888

COUNTY BOROUGH OF OLDHAM.
APPOINTMENT OF PRINCIPAL ARCHITECTURAL ASSISTANT.

Applications are invited for the above appointment at a salary in accordance with Grade A.P.T. VIII of the National Scales.

The person appointed will be required to supervise under the Chief Assistant Architect the work of the Architectural Department and must have appropriate qualifications and experience.

Housing accommodation will be provided if necessary.

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

Applications, stating age, present and previous appointments, in addition to qualifications and experience, and copies of two recent testimonials, must reach the undersigned not later than Monday, 23rd November, 1953, in envelopes endorsed "Principal Architectural Assistant."

A. L. HOBSON,
Borough Engineer & Surveyor.
75, Union Street, Oldham. 9887

CITY OF LEEDS.
CITY ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—
ASSISTANT ARCHITECT (Permanent). Salary £760—£835.
Candidates must be Registered Architects and should have had experience in schemes of multi-storey flats.
ASSISTANT ARCHITECT (Permanent). Salary £595—£645.
Candidates must be Registered Architects.
ARCHITECTURAL ASSISTANTS (Permanent). Salary £555—£600.
ARCHITECTURAL ASSISTANT (Permanent). Salary £525—£600.
ARCHITECTURAL ASSISTANTS (Permanent). Salary £495—£540.
ARCHITECTURAL ASSISTANT (Permanent). Salary £465—£510.
CLERK OF WORKS (Temporary). Salary £495—£540.

Candidates should have had a good all round experience in supervising large contracts.

The payment of salary increments will be subject to satisfactory service and will be granted normally with effect from the 1st April following the completion of 6 months service.

The appointments are subject to the Local Government Superannuation Act, 1937-1953 and the successful applicants will be required to pass a medical examination.

Application forms may be obtained from the City Architect, Priestley House, Quarry Hill, Leeds, 9, to whom they should be returned together with copies of three testimonials by 10 a.m. Wednesday, 18th November, 1953.

Canvassing in any form, either directly or indirectly, will be a disqualification.

R. A. H. LIVETT, O.B.E., A.R.I.B.A.,
City Architect.
Priestley House,
Quarry Hill, Leeds, 9.
27th October, 1953. 9881

NORTHUMBERLAND COUNTY COUNCIL—
COUNTY PLANNING DEPARTMENT.

PLANNING ASSISTANT required mainly for work on Town Maps in the Development Plan Section commencing salary within grades A.P.T. I-IV (£465—£600) depending upon the qualifications and experience of the person appointed. Applications by 20th November, 1953, on forms to be obtained from the undersigned.

E. P. HARVEY, ESQ.,
Clerk of the County Council,
County Hall,
Newcastle-upon-Tyne, 1. 9883

CITY OF MANCHESTER EDUCATION COMMITTEE.
REGIONAL COLLEGE OF ART.
APPOINTMENT OF VICE-PRINCIPAL AND HEAD OF THE DEPARTMENT OF TEACHER TRAINING AND GENERAL EDUCATION.

Applications are invited for the above post from persons with high qualifications and broad experience in art and general education, with special reference to Teacher-training.

Candidates should be able to accept responsibility for all Teacher Training work, including the Pedagogical year of training for the Art Teacher's Diploma, and to assist the Principal by undertaking a substantial part of the organising and administrative work of the College both day and evening.

Salary in accordance with the Head of Department scale, Grade II of the Burnham Further Education Report, 1951 (£1,040×£25—£1,190 men, £832×£20—£952 women), plus an allowance of £150 for Vice-Principalship.

Application forms and further particulars may be obtained (stamped, addressed envelope) from the Chief Education Officer, Education Offices, Deansgate, Manchester, 3, to whom completed applications should be returned by 14th November, 1953. 9858

BOROUGH OF SUTTON AND CHEAM.
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.
APPOINTMENT OF ARCHITECTURAL ASSISTANT.
GRADE A.P.T. V.

Applications are invited for the appointment of Architectural Assistant, at a salary in accordance with Grade V of the A.P.T. Division of the National Scale of Salaries (£595 per annum rising to £645 per annum), plus London Weighting of £20 or £30 per annum. Applicants should be suitably qualified, with good general experience in housing and public buildings.

The appointment, which is terminable by one month's notice in writing on either side, is on the permanent staff of the Corporation, is subject to the provisions of the Local Government Superannuation Acts, 1937 and 1953, and to the National Scheme of Conditions of Service.

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

Forms of application may be obtained from Mr. N. H. Mitchell, A.M.I.C.E., M.I.Mun.E., Borough Engineer and Surveyor, to whom they should be returned not later than Wednesday, 18th November, 1953, endorsed "Architectural Assistant."

Applicants must state whether they are related to any member of or holder of any senior office under the Borough Council. Canvassing in any form will disqualify.

A. PRIESTLEY,
Town Clerk.
Municipal Offices,
High Street, Sutton, Surrey. 9852

Architectural Appointments Vacant

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

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

VACANCY arises for Articled Pupil (Architectural or Building Surveying) in City firm. Box 9468.

ASSISTANT required for large general Architectural Practice with offices in Maidenhead. Some experience in specification writing essential. Salary £300 to £500, according to experience. Box 8933.

SENIOR ARCHITECTURAL ASSISTANT required by a Property Company in Uganda, East Africa; must be able to take charge of drawing office and be responsible for site surveys, the preparation of working drawings, specifications and details, etc. Hard furnished housing will be available and the successful candidate, subject to medical examination and contract, will be entitled to the following conditions:—

Free medical attention and free passages (not exceeding three adult fares) upon commencement and after each tour of three years, with three months paid home leave at termination of tour (six months if contract is to be renewed) and 14 days non-cumulative local leave per annum. A voluntary 10 per cent. Provident Fund Scheme will be available. Applications, giving full professional and domestic details and stating salary required should be addressed to:—The Secretary, Consolidated Properties Ltd., P.O. Box 442, Kampala, Uganda. 9799

ASSISTANTS required in Architect's office of a large industrial organisation in the Midlands. Preference will be given to applicants having experience in industrial requirements. Applications giving full particulars of experience, age, etc., to Box 1151, T. & G., 101, St. Martins Lane, London, W.C.2. 9885

ARCHITECTURAL ASSISTANT (junior) required for busy practice near London. Intermediate standard student would be considered. Applications, which should be by letter only, should state age, experience and salary required. Tooley and Foster, Chartered Architects, Midland Bank Chambers, Buckhurst Hill, Essex. 9884

ARCHITECTURAL ASSISTANT required for general practice, experience in Office and some contract work and surveys essential. Salary by arrangement according to experience. George Watt, A.R.I.B.A., 146, Mostyn Road, S.W.19. Tel: Liberty 8181/2. 9890

ASSISTANT required with all-round experience for general Practice, good draughtsman, capable of preparing working drawings and details, salary according to capabilities. F. Greenwood, A.R.I.B.A., 25, Liverpool Road, Kingston-upon-Thames. KIN 0652. 9889

ARCHITECTURAL ASSISTANT required in busy South London office. Age about 30. Capable of preparing without supervision sketches and working drawings for medium and small jobs. Must have sound knowledge of construction. Apply, stating experience and salary, to Box 9854.

THE CO-OPERATIVE WHOLESALE SOCIETY, LTD., invite applications for the appointment of ASSISTANT ARCHITECTS on the staff of the Manchester Architect's Department.

Applicants must have had good practical office experience, possess a sound knowledge of building construction, and be able to prepare working drawings and details from sketch plans.

The appointments are permanent, with prospects of promotion. Successful candidates will be required to undergo a medical examination for entry into a compulsory Superannuation Scheme.

Applications, stating age, experience, qualifications and salary required, to be addressed to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester. 9861

REQUIRED at once competent ARCHITECTURAL ASSISTANT, Intermediate standard. Office experience essential. Good draughtsman working drawings and details. Good salary paid. West Lancashire area. Private practice. Write with details. Box 9864.

JUNIOR ASSISTANT required, R.I.B.A., Intermediate standard, and not liable for military service. Varied contemporary work. Write, with full particulars and salary required, to Gotch, Saunders & Surridge, Bank Chambers, Kettering. 9866

ARCHITECTURAL ASSISTANT required in S.W. London office. 2-3 years' varied experience, preferably in private London practice, and approaching Inter. R.I.B.A. standard. Salary according to experience and ability. Write, stating full particulars, to Box 9867.

JUNIOR ASSISTANT (18-24) required for small Architect's Dept. of Multiple Retail Company, with H.Q. in London. Capable of working with minimum of supervision. Occasional travelling involved. Write, stating age, experience, and salary required. Box 9868.

A SENIOR ARCHITECTURAL ASSISTANT required, full experience in preparation of Working Drawings, Details, and supervision of office and Industrial Buildings in the London Area. Good knowledge of construction and design essential. Apply in writing giving full particulars of qualifications, age, experience and salary required to Box 9829.

SENIOR ARCHITECTURAL ASSISTANT required, with minimum qualification of Intermediate R.I.B.A. Preference will be given to applicants having several years of office experience in the design of industrial buildings and housing. Write, stating age and details of experience and qualifications, to: Staff Office, Handley Page, Ltd., Cricklewood, London, N.W.2. 9856

ARCHITECTURAL ASSISTANT, Intermediate or Final standard, urgently required for country practice with South Worcestershire Firm of Architects. Varied work, including Housing, Agricultural, Schools, etc. State when free and salary required. Box 9876.

ARCHITECT SURVEYOR, with sound practical experience for large private housing and industrial development. Must be quick and accurate surveying and levelling. Salary £800. Apply A. & J. Mucklow & Co., Ltd., Haden Cross, Old Hill, Staffs. 9873

EXPERIENCED ARCHITECTURAL ASSISTANT required by large firm in the Midlands. Sound knowledge of building construction and design essential. Must be capable of handling jobs in all stages and be willing to occasionally travel to any part of the British Isles. Pensionable appointment. Write, stating age, qualifications, training, and salary required, to Box 9878.

ARCHITECTURAL DRAUGHTSMAN required, inter standard, for Multiple Shop Co., London. Experienced, surveys, working drawings ¼ in. details. Canteen, permanency after qualifying period, state age, past experience and salary required. Box 9818.

GEORGE WIMPEY & CO., LTD., invite applications for the following appointments in connection with Multi-Storey Flats and Maisonettes:—(1) SENIOR LEADING ASSISTANTS in Architects Department. Duties will involve responsibility in connection with preparation of sketch designs and working drawings. Salary £800 upwards, according to qualifications and experience. (2) SENIOR ARCHITECTURAL ASSISTANTS. Duties will include preparation of working drawings and details. Salary range £650 to £800 according to experience and ability. Permanent appointments available, with good prospects. Write, giving brief particulars of qualifications and experience, and clearly stating for which appointment application is made, to the Staff Architect, 27, Hammersmith Grove, W.6. 9830

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

ASSISTANT ARCHITECTS required of Intermediate R.I.B.A. standard, capable of preparing sketches, working drawings and details under supervision of Senior Architects.

The appointment is permanent and offers prospects of up-grading.

Successful candidates will be required to undergo medical examination for compulsory superannuation scheme.

Applications stating age, experience, qualifications and salary required to W. J. Reed, F.R.I.B.A., Chief Architect, Co-operative Wholesale Society Ltd., 99, Leman Street, London, E.1. 9831

ARCHITECTURAL DRAUGHTSMAN required by The Bahrain Petroleum Co., Ltd. Applicants up to 40 years of age must be capable of rapidly producing study-drawings and perspective sketches of buildings, structures, landscaping features, etc. Knowledge of plumbing, sewers and general town planning an advantage. The commencing salary will be in accordance with qualification and experience. The Company providing free board, lodging and medical attention. The position is permanent with paid home leave every twenty-four or thirty months. Living costs are low and there is a kit allowance and pension scheme. Apply with full particulars of qualifications and experience to Box 9841.

LIVERPOOL. — ARCHITECTURAL ASSISTANT required. Salary in region of £500, according to ability. Full details to G. de C. Fraser, Son & Gearey, Chartered Architects, 27, Dale Street, Liverpool. 9870

ARCHITECTURAL ASSISTANT required. Salary: £350-£450, according to experience. J. E. B. Carpenter, A.R.I.B.A., Chartered Architect, 27, Queen Square, Bath, Somerset. 9879

Architectural Appointments Wanted

SENIOR ASSISTANT (45), A.A. trained. Registered Architect. Wide general experience, mainly London. Excellent testimonials. Responsible position required, London or Sussex. Gilbert, The Chase, Albourne, Hassocks, Sussex. 'Phone Hurstpierpoint 2165. 793

A R.I.B.A., Dip.Arch. (36) seeks senior position in contemporary London office where there is scope for technical and constructional knowledge. Box 9809.

STUDENT R.I.B.A., 24, Finals this month, no experience, car owner, seeks post in area bounded by:— Hounslow; Lewisham; Redhill; Dorking. Minimum salary £475 per annum. Box 801.

A R.A.I.A. B.Arc., Sydney (27), requires position contemporary office, London. Reply Byron Theodore, 46a, Clanricarde Gardens, W.2. 802

ENTHUSIASTIC SENIOR ASSISTANT (A.R.I.B.A.) seeks responsible position with view to partnership in Southern County. Box 799

A R.I.B.A. (39) seeks responsible position in contemporary office, private, Local Authority or Staff Architect's. A. Pomfret, 38, Lyme Avenue, Macclesfield. 800

A R.I.B.A. (36), Destinction in Thesis, Contemporary outlook, 7 years architectural, 2 years T.P. experience, seeks post Hampshire, W. Sussex or W. Kent preferred. Present salary £650. Box 9893.

Other Appointments Vacant

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

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

THE CO-OPERATIVE WHOLESALE SOCIETY, LTD., invite applications for the appointment of a JUNIOR STRUCTURAL ENGINEERING ASSISTANT on the staff of the Manchester Architect's Department.

Applicants should have experience in detailing structural steel or reinforced concrete with design qualifications to Higher National Certificate standard or equivalent.

The appointment is permanent, with prospects of promotion. Successful candidate will be required to undergo a medical examination for entry into a compulsory Superannuation Scheme.

Applications, stating age, experience, qualifications and salary required, to be addressed to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester. 9751

SURVEYOR WANTED for busy Westminster office. Able to prepare quantities, specifications, plans, estimates, etc. Knowledge of war damage an advantage. Partnership considered. Box 9886.

CLERK OF WORKS urgently required for extensive underpinning contract in Northern Ireland. Must be experienced and of good organising ability. Gelder & Kitchen, F/L/A.R.I.B.A., 120 Alfred Gelder Street, Hull. 9869

DESIGNER/DRAUGHTSMAN required, with sound constructional knowledge of Point of Sale Promotion, from Window Displays to Exhibition Stands. Applicants should have a very good sense of design and be capable of translating rough visuals into working drawings. Details of experience and salary required to J. E. Slater, Ltd., Kibworth, Leicestershire. 9855

For Sale or Wanted

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

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

FOR SALE. Complete volumes of Architectural Review for November 1951 up to present time—excluding March 1952. Box 9853.

2 Ideal 6R9 Cast Iron Hot Water Heating Boilers, can be seen working. 4 New Norton Grinding Wheels 30 in. × 2.1/2 in. × 12 in. 46-M. Vandervell Products Limited, Western Avenue, Acton, W.3. 9862

FOR SALE. "Abbess" wooden, six-drawer Double Elephant Plan File, with Extending Top, 3 ft. × 7 ft. 6 in. New condition. £45. 'Phone LABurnum 1420. 9871

Services Offered

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

QUALIFIED SURVEYOR will undertake survey of Buildings and Sites, Levels, Preparation of Drawings, Specifications, Schedule of Repairs, Quantities, etc. LIV. 1839 or Box 9356.

ARCHITECTURAL MODELS. We shall be pleased to receive your commissions for either block layouts or detail work. Box 9843.

TYPING AND DUP. SPECIFICATIONS, SCH. OF DILAPS. promptly executed. Moderate charges, enquiries welcomed. N.W. LONDON TYP. BUREAU, 148, STRAND. COV. 2968. 9793

ARCHITECTURAL and freehand drawings for reproduction, display, publishing, by experienced artist/draughtsman. Write BM/ASVX, London, W.C.1. 9891

EXPERIENCED ARCHITECTS with London office wish to contact Architects requiring assistance in any capacity. Own car. Terms by arrangement. Box 9860.

STAINED GLASS ARTIST AND MURAL PAINTER free to undertake Commissions at reasonable terms. W. F. Lowe, 52, Derwent Road, N.13. PAL 2000. 9872

Partnerships

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

CONSULTING STRUCTURAL ENGINEER with own offices seeks Partnership or Directorship with an established firm of Architects, Engineering Consultants or Contractors. Reply to Box 9865.

Miscellaneous

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

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

MAYFAIR. Compact Building approx. 1,450 ft. and Garage, suit Prof. Offices. £9,850 for 50 years lease. Donaldson & Sons, 94, Jermyn Street, S.W.1. WHI 4516. 9877

Educational Announcements

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

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

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

Alphabetical Index to Advertisers

For Appointments (Wanted or Vacant), Competitions Open, Drawings, Tracings, etc., Education, Property, Land and Sales, lxxxiv, lxxxv, lxxxvi.

Printed in Great Britain for the Proprietors of "THE ARCHITECTS' JOURNAL" (The Architectural Press Ltd.), 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1. by HARRISON & SONS LTD., Printers to the late King George VI, London, Hayes (Middx.), and High Wycombe. Editorial illustrations engraved by THE ENGRAVERS' GUILD LTD., Windsor House, 23/26, Cursitor Street, London, E.C.4.