

THE ARCHITECTS' JOURNAL



Standard contents

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

NEWS and COMMENT

Astragal's Notes and Topics

Letters

News

Diary

Criticism

TECHNICAL SECTION

Information Sheets

Information Centre

Current Technique

Working Details

Questions and Answers

Prices

The Industry

CURRENT BUILDING

Major Buildings described:

Details of Planning, Construction,

Finishes and Costs

Buildings in the News

Building Costs Analysed

Architectural Appointments

Wanted and Vacant

No. 3424]

[Vol. 132

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 addresses and telephone numbers. The glossary is published in two parts—A to I one week, I to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

ILA	Institute of Landscape Architects. 1, Park Crescent, W.1.	Museum 3473
I of Arb	Institute of Arbitrators. Hastings House, 10, Norfolk Street, W.C.2.	Temple Bar 4071
IOB	Institute of Builders. 48, Bedford Square, W.C.1.	Museum 7197
IQS	Institute of Quantity Surveyors. 98, Gloucester Place, W.1.	Wellbeck 1859
IR	Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3.	Avenue 6851
IRA	Institute of Registered Architects. 68, Gloucester Place, W.1.	Hunter 1945
ISE	Institution of Structural Engineers. 11, Upper Belgrave Street, S.W.1.	Sloane 7128
JFRO	Joint Fire Research Organisation (DSIR & Fire Offices' Committee), Fire Research Station, Boreham Wood, Herts.	Elstree 1341/1797
LDA	Lead Development Association. 18, Adam Street, W.C.2.	Whitehall 4175
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1.	Museum 3891
MAFF	Ministry of Agriculture, Fisheries and Food. Whitehall Place, S.W.1.	Trafalgar 7711
MOE	Ministry of Education. Curzon Street House, W.1.	Hyde Park 7070
MOH	Ministry of Health. 23, Savile Row, W.1.	Regent 8411
MOHLG	Ministry of Housing and Local Government. Whitehall, S.W.1.	Whitehall 4300
MOLNS	Ministry of Labour and National Service, 8, St. James's Square, S.W.1.	Whitehall 6200
MOS	Ministry of Supply. Shell-Mex House, W.C.2.	Gerrard 6933
MOT	Ministry of Transport, Berkeley Square House, W.1.	Mayfair 9494
MOW	Ministry of Works. Lambeth Bridge House, S.E.1.	Reliance 7611
NAMMC	Natural Asphalt Mine Owners and Manufacturers Council. 14, Howick Place, Victoria Street, S.W.1.	Victoria 1600 & 6477
NAS	National Association of Shopfitters. 2, Caxton Street, S.W.1.	Abbey 4813
NBR	National Buildings Record. 31, Chester Terrace, N.W.1.	Wellbeck 0619
NCBMP	National Council of Building Material Producers. 10, Storey's Gate, S.W.1.	Abbey 5111
NEFMAI	National Employers Federation of the Mastic Asphalt Industry. 21, John Adam Street, Adelphi, W.C.2.	Trafalgar 3927
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1.	Langham 4041/4054
NFBTO	National Federation of Building Trades Operatives. Federal House, Cedars Road, Clapham, S.W.4.	Macaulay 4439
NFHS	National Federation of Housing Societies. 12, Suffolk St., S.W.1.	Whitehall 1631
NHBRC	National House Builders Registration Council. 58, Portland Place, W.1.	Langham 0064/5
NPL	National Physical Laboratory. Head Office, Teddington.	Molesey 1380
NRDB	Natural Rubber Development Board. Market Buildings, Mark Lane, E.C.3.	Mansion House 9383
NSAS	National Smoke Abatement Society. Palace Chambers, Bridge Street, S.W.1.	Trafalgar 6838
NT	National Trust. 42, Queen Anne's Gate, S.W.1.	Whitehall 0211
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1.	Whitehall 7245
RCA	Reinforced Concrete Association. 94, Petty France, S.W.1.	Abbey 4504
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh.	Fountainbridge 7631
RIB	Rural Industries Bureau. 35, Camp Road, S.W.19.	Wimbledon 5101
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1.	Langham 5533
RICS	Royal Institution of Chartered Surveyors. 12, Great George Street, S.W.1.	Whitehall 5322/9245
RFAC	Royal Fine Art Commission. 5, Old Palace Yard, S.W.1.	Whitehall 3935
RS	Royal Society. Burlington House, Piccadilly, W.1.	Regent 3335
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2.	Trafalgar 2366
RSH	Royal Society of Health. 90, Buckingham Palace Road, S.W.1.	Sloane 5134
SBPM	Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.1.	Victoria 2186
SE	Society of Engineers. 17, Victoria Street, S.W.1.	Abbey 7244
SFMA	School Furniture Manufacturers' Association. 30, Cornhill, E.C.3.	Mansion House 3921
SIA	Society of Industrial Artists. 7, Woburn Square, W.C.1.	Langham 1984/5
SIA	Structural Insulation Association. 32, Queen Anne Street, W.1.	Langham 7616
SNHTPC	Scottish National Housing. Town Planning Council. Hon. Sec., Robert Pollock, Town Clerk, Rutherglen	
SPAB	Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C.1.	Holborn 2646
TCPA	Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2.	Temple Bar 5006
TDA	Timber Development Association. 21, College Hill, E.C.4.	City 4771
TPI	Town Planning Institute. 18, Ashley Place, S.W.1.	Victoria 8815
TTF	Timber Trades Federation. 75, Cannon Street, E.C.4.	City 5040
WDC	War Damage Commission. 6, Carlton House Terrace, S.W.1.	Whitehall 4341
ZDA	Zinc Development Association. 34, Berkeley Square, W.1.	Grosvenor 6636

WHICH WAY WOULD YOU TAKE THE PYLONS?



Down in the valley, the town needs more power. The time's come to bring in a power line from the Grid. That means pylons, right across these fields, and on down into the valley.

There are perhaps a hundred paths the pylons could follow. *One* must be chosen. Not plotted arbitrarily across a map, but thoughtfully, carefully sited, so that pylons and cable strike the best possible balance with the landscape.

The Central Electricity Generating Board are just as concerned about this as they are about bringing in the

power. For the nation has charged the Board with a double duty. Not only to maintain an efficient, economical electricity supply, but also to preserve the amenities of the country as they go.

That's why the new line will be planned so that it follows the dark background of a wood here; skirts a village there; crosses skylines in the most inconspicuous way to be found; and eventually reaches the town through its industrial suburbs.



THE CENTRAL ELECTRICITY GENERATING BOARD

A good joint - and easier to point

The first function of a mortar is to form a good bond between the bricks for upon this depends the strength and watertightness of the wall. A good bond also means a good joint which is of particular importance as most cases of leakage are caused by the passage of rain water between the bricks and the mortar. Using a mortar mix of 1-6 or 1-8 cement and sand plus FEBMIX ADMIX Mortar Plasticiser ensures a good joint that is easier to point because:-

- (1) *Its greater plasticity allows a more complete bedding of the brick and easier compaction when ironing in the joint.*
- (2) *It retains its plasticity longer so that the bricks cushion easily into position.*
- (3) *As it does not stiffen up too quickly, a cleaner, tighter and better looking joint is formed with the minimum of effort.*
- (4) *In the hardened state, the entrained air bubbles block the capillary channels to give improved impermeability and during extremes of cold, they act as expansion chambers in taking up the expansion of water as it freezes to give maximum resistance to repeated cycles of freezing and thawing.*



**FOR MORTAR AT ITS BUTTERMOST —
USE**

FEBMIX ADMIX

MORTAR PLACTICISER

it costs you money NOT to use it!



(GREAT BRITAIN) LTD.

102 Kensington High Street, London, W.8. WES. 0444
Albany Road, Chorlton-cum-Hardy, Manchester 21. CHO. 1063

DHB 8002

YOU

WHICH WAY WOULD TAKE THE PYLONS?



Down in the valley, the town needs more power. The time's come to bring in a power line from the Grid. That means pylons, right across these fields, and on down into the valley.

There are perhaps a hundred paths the pylons could follow. *One* must be chosen. Not plotted arbitrarily across a map, but thoughtfully, carefully sited, so that pylons and cable strike the best possible balance with the landscape.

The Central Electricity Generating Board are just as concerned about this as they are about bringing in the

power. For the nation has charged the Board with a double duty. Not only to maintain an efficient, economical electricity supply, but also to preserve the amenities of the country as they go.

That's why the new line will be planned so that it follows the dark background of a wood here; skirts a village there; crosses skylines in the most inconspicuous way to be found; and eventually reaches the town through its industrial suburbs.



THE CENTRAL ELECTRICITY GENERATING BOARD

A good joint - and easier to point

The first function of a mortar is to form a good bond between the bricks for upon this depends the strength and watertightness of the wall. A good bond also means a good joint which is of particular importance as most cases of leakage are caused by the passage of rain water between the bricks and the mortar. Using a mortar mix of 1-6 or 1-8 cement and sand plus FEBMIX ADMIX Mortar Plasticiser ensures a good joint that is easier to point because:-

- (1) *Its greater plasticity allows a more complete bedding of the brick and easier compaction when ironing in the joint.*
- (2) *It retains its plasticity longer so that the bricks cushion easily into position.*
- (3) *As it does not stiffen up too quickly, a cleaner, tighter and better looking joint is formed with the minimum of effort.*
- (4) *In the hardened state, the entrained air bubbles block the capillary channels to give improved impermeability and during extremes of cold, they act as expansion chambers in taking up the expansion of water as it freezes to give maximum resistance to repeated cycles of freezing and thawing.*



**FOR MORTAR AT ITS BUTTERMOST —
USE**

FEBMIX ADMIX

MORTAR PLACTICISER

it costs you money NOT to use it!



(GREAT BRITAIN) LTD.

102 Kensington High Street, London, W.8. WES. 0444
Albany Road, Chorlton-cum-Hardy, Manchester 21. CHO. 1063

DHB 8002

HOVAL

THE CHOICE FOR BOILER EFFICIENCY



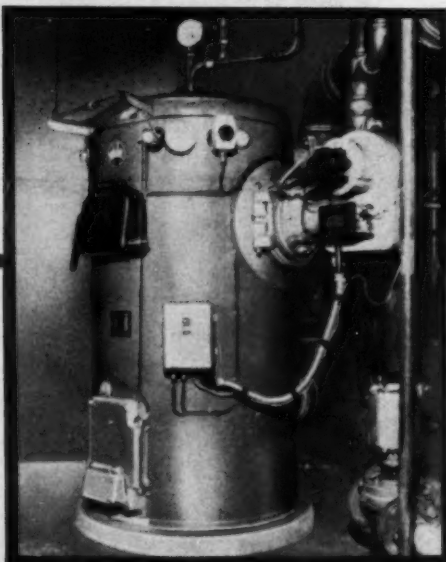
WORKS AND OFFICES

Messrs. James Austin & Sons (Dewsbury) Ltd.,
Thornhill Iron & Steel Works, Dewsbury.

Hoval RK 3-150 — 600,000 B.T.U.'s, with 260 gallons
per hour output cylinder.

Hoval RK 2-8, — 320,000 B.T.U.'s, with 150 gallons
per hour output cylinder.

Providing full central heating for offices, stores, garage
etc. with Satchwell C4X controls, and domestic hot water to
works canteen, and cloaks for offices and works.



The dual-purpose HOVAL Boiler provides at maximum
efficiency, **FULL CENTRAL HEATING**, and **COPIOUS
SUPPLIES** of DOMESTIC HOT WATER, from one unit.
Peak demands for hot water met readily and adequately.

A separate cylinder is not required.

'RK' and 'RCH' Boilers for oil or gas firing. Convertible
to coke firing.

'TKS' and 'TKC' Boiler-Incinerators with built-in
facilities for oil and coke firing, also the effective disposal
of waste matter.

For installations not requiring domestic hot water,
specify Models 'TKC' and 'RCH.'

Overall capacity range: 60,000 to 1,600,000
B.T.U.'s per hour.

WINCANTON MEMORIAL HOSPITAL SOMERSET
Hoval Boiler — Incinerator TKC 1-7 280,000 B.T.U.'s/hr.
providing full central heating and domestic hot water.
Heating Installation by: W. F. Knight & Son Limited,
13 South Street, Yeovil.
Illustrations by courtesy of the Hospital Management
Committee.

Sole Licensees and Manufacturers in Great Britain and Eire:

A. J. RILEY & SON LTD

DEPT. 436, VICTORIA WORKS, BATLEY, YORKSHIRE. Telephone: 657 (3 lines)
London Sales Office: Kirkman House, 54a Tottenham Court Road, W.1. Telephone: MUSEum 1064

H.P. 7184



The INSULATED
ALUMINIUM ROOF

"MACDEK"

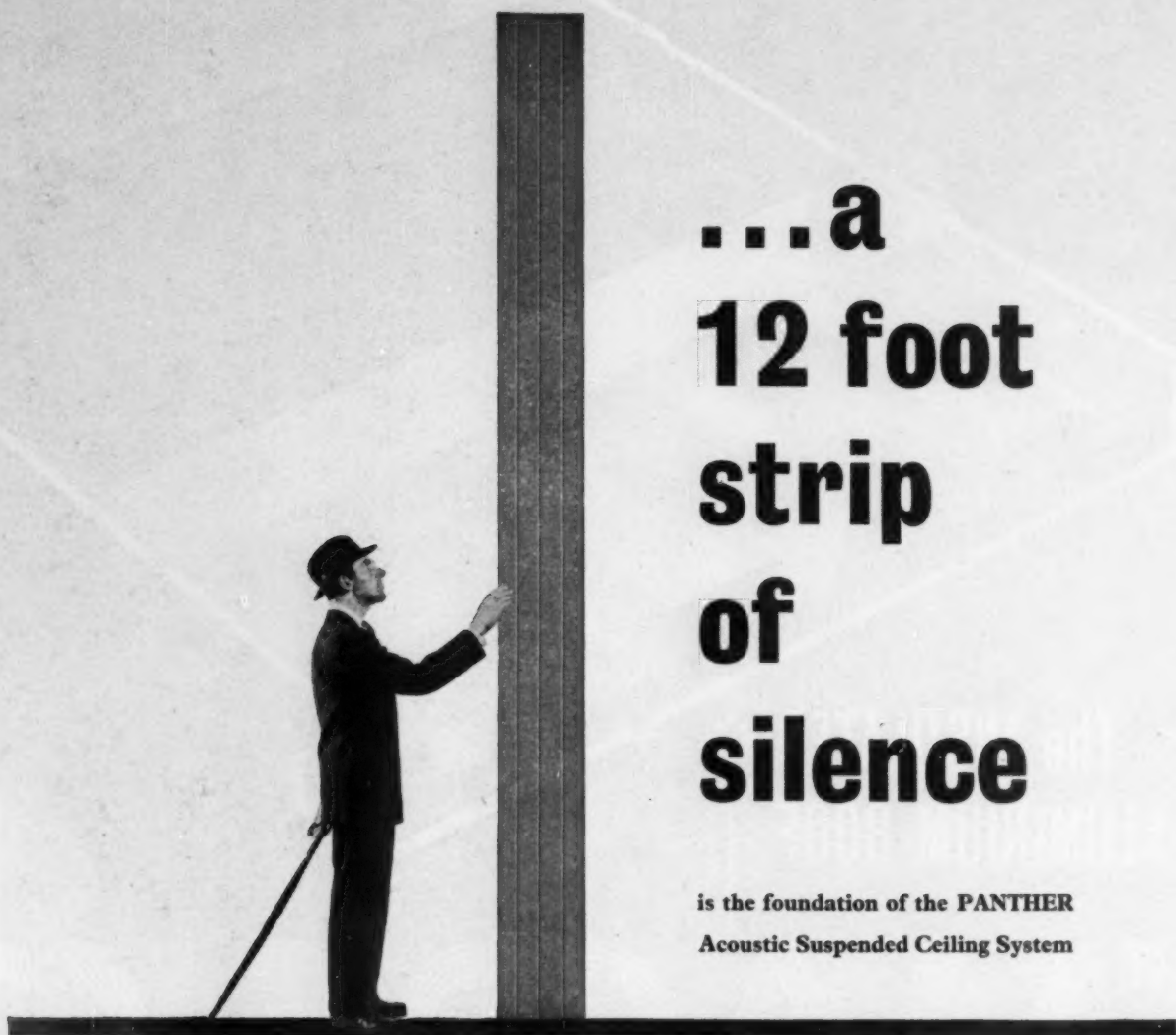
**NOW INCLUDES
ROOF DECK UNITS
TO SPAN 14' 6"**

*Technical Literature and further
Information from*

* **'MACDEK'** (Pat. No. 807029) Aluminium Roof, designed by F. McNeill & Co. Ltd., is a complete lightweight insulated roof designed for flat, pitched or vertical construction. It is made up of strong Aluminium alloy deck units with a layer of insulation material sealed to the roof deck and waterproofed with McNeill's Lion "Combinite" Multi-layer bituminous roofing. The deck units are pre-fabricated and manufactured from high grade Aluminium Alloy. Each unit, has an effective width of 2ft. and a maximum span of 14ft. 6ins. from purlin to purlin. All erection is carried out exclusively by McNeill's skilled craftsmen, thereby giving the highest standard of efficiency.

* **F. MCNEILL & CO. LTD.**

18 LOWER GROSVENOR PLACE LONDON, S.W.1
Telephone VICTORIA 4623



... a 12 foot strip of silence

is the foundation of the **PANTHER**
Acoustic Suspended Ceiling System

- Lengths up to 12 feet by 12 inches wide.
- Three ribs forming four 3-inch strips.
- Panel sides bevelled to match ribs.
- In stove-enamelled steel or aluminium in any B.S.S. colour—or plastic-coated steel.
- Mineral wool blanket for efficient sound and heat insulation.
- Can be used with heating elements.
- Light fittings easily incorporated.

Please write for more complete details and technical information.



PANTHER CEILINGS LIMITED

IRVINE Ayrshire SCOTLAND. Tel: Irvine 2271

London: Grand Buildings, Trafalgar Square, W.C.2. Tel: TRAFalgar 6651

Birmingham: Union Chambers, 62 Temple Row. Tel: Midland 1993

Subsidiary Company of Ayrshire Dockyard Co. Ltd.

A new transistorised loudspeaking master station of unique design by Reliance for use by the busy executive.



The Reliance push button intercommunication set suitable for 3 to 21 stations.

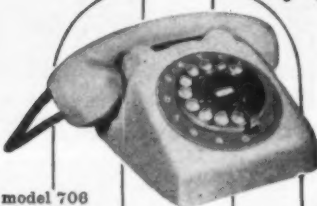


In these days of high labour costs, it is even more essential that employers obtain the fullest possible return from highly paid staff. Key personnel should be kept as much as possible at their desks—you pay them for working and not walking. The answer of course is

Intercommunication

and that means Reliance. These time-approved Intercommunication Telephone Systems are pre-eminent in their field, are available from 3 lines and on a most advantageous Rental Service saving capital outlay and providing free maintenance. You get something really worthwhile when you

Reliance model 708 automatic desk instrument supplied in a wide range of colours to harmonise with modern office decor.



Link up with

RELIANCE

Another version of Reliance model 708, the automatic instrument for wall mounting.



The Reliance Rental Service saves capital outlay, gives free maintenance and an all-time guarantee. Please write for full details.

THE RELIANCE TELEPHONE COMPANY LIMITED
(A Subsidiary of the General Electric Company Limited)
43-47 PARKER STREET, KINGSWAY, LONDON, W.C.2.
Telephone: CHAncery 5341 (P.B.X.) Branches throughout the United Kingdom

INTERNAL TELEPHONES · STAFF LOCATION · MUSIC FOR INDUSTRY

**SOME EXAMPLES OF
FINE TIMBER BUILDINGS**

Pavilions

Clubs

Schools

Libraries

Shops

Hospitals

Offices

Canteens

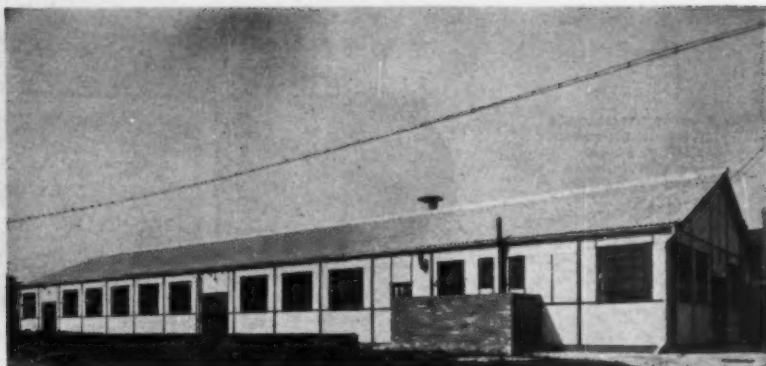
Showrooms

Estate Offices

Full details of these buildings, and all Thorns Building Systems are shown in their New Catalogue which is unique, in that it gives at a glance, sizes, prices, plans and specifications. It is available, free, to bona fide enquirers.

J. THORN & SONS LTD. (Dept. 188) Brampton Road, Bexleyheath, Kent

Telephone No.: Bexleyheath 0021 (10 lines). Established 1896



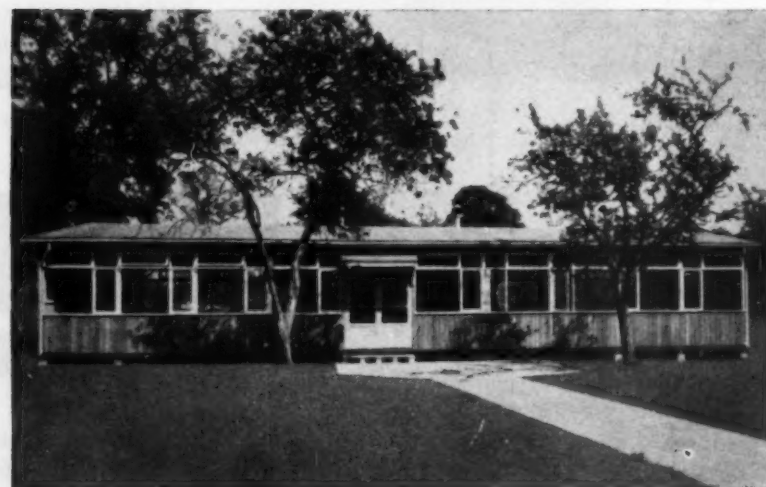
Timber framed Factory Canteen.

Photograph by courtesy of Thomas Harrington Ltd., Hove, Sussex.



Temporary Services Block, 150ft. by 30ft. for Salisbury Cattle Market.

Photograph by courtesy of the City Engineer, City of New Sarum.



Classrooms at Fairford Farmor's Secondary Modern School.

Photograph by kind permission of the County Architect, Gloucestershire County Council.

PRE-FABRICATED BY

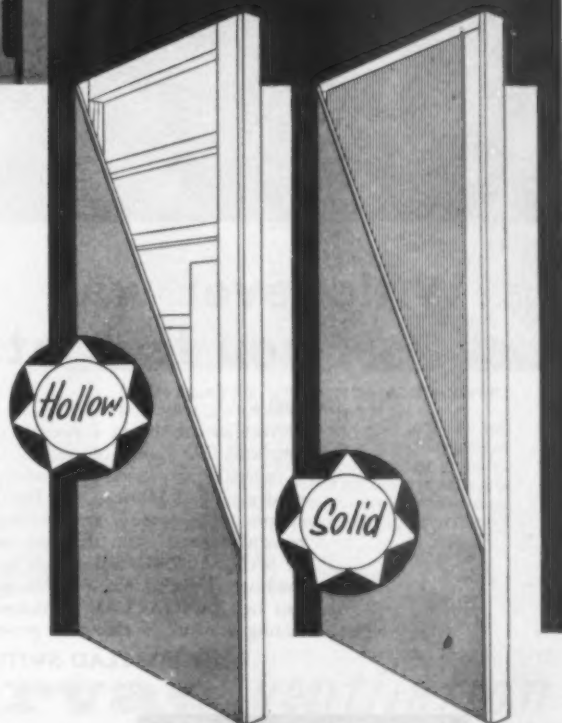
THORNS

medium price flush doors by Venesta

Gold Star

Venesta's new 'Gold Star' now bring you solid and hollow-core flush doors in a medium price range, but there is nothing medium about the superb Venesta workmanship. The frame and intermediate rails of the hollow door are carefully shaped not to show through even when the plywood face is highly polished. The core of the solid 'Gold Star' is of seasoned block core kerfed both sides to prevent warping. Send for folder (L5) with all details and prices.

- * Non-warp construction by craftsmen using the pick of kiln-dried deal and 5 mm African Mahogany plywood.
- * Bonded throughout with synthetic resin. Stile edges lipped with kiln-dried hardwoods tongued to frame.
- * Covered by a 5 year guarantee regardless of any maintenance clause there may be in the Building Contract. Should a Venesta door develop any fault due to bad manufacture within 5 years, an entirely new door will be supplied ready for hanging and finishing.
- * Built by Venesta, the first name in flush doors.



VENESTA PLYWOOD LIMITED

VINTRY HOUSE, QUEEN STREET PLACE, LONDON EC4 TEL: CENTRAL 3040 (24 LINES)

TAB 109



Whichever way you look at it

Whichever way you look at it, SANDACLAD Switchgear is 'just the job'. Perfect as can be in conception, design and manufacture it bears the unmistakable stamp of quality. From our point of view, SANDACLAD Switchgear—indeed, every Sanders product—embodies the best of modern techniques both in design and fabrication. For the electrician SANDACLAD Switchgear offers the simplicity of speedy, easy wiring and the elimination of time-wasting frustrating re-adjustments. And the user can have complete confidence in the capability of SANDACLAD Switchgear to perform its allotted task and to carry its designated loading. Dependable, reliable and as pleasing in appearance as such equipment can be, SANDACLAD Switchgear provides safe, immediate and lasting control of electrical power.

SANDACLAD SWITCHGEAR IS RIGHT IN EVERY ASPECT

SANDERS

WILLIAM SANDERS & CO. (WEDNESBURY) LTD. · FALCON ELECTRICAL WORKS · WEDNESBURY · STAFFS

Ventilation *plus* daylight

WITH GREENWOOD-AIRVAC ROOFLIGHT VENTILATORS

Specifically designed to give both low overall height and unobtrusive appearance, the Greenwood-Airvac patented range of Dome and Continuous Rooflight Ventilators provides fully weathered controllable or permanent ventilation with maximum daylight.



GABLE END CONTINUOUS ROOFLIGHT VENTILATORS.

In extended lengths from 4' 0" and nominal widths of 3' 0" to 7' 0" in multiples of 6". With internal controllable shutters for long arm or remote control operation.



HALF DOME END CONTINUOUS ROOFLIGHT VENTILATORS.

In extended lengths from 8' 0" and nominal widths from 3' 0" to 6' 0", in multiples of 6" to 4' 6". With internal controllable shutters for long arm or remote control operation.

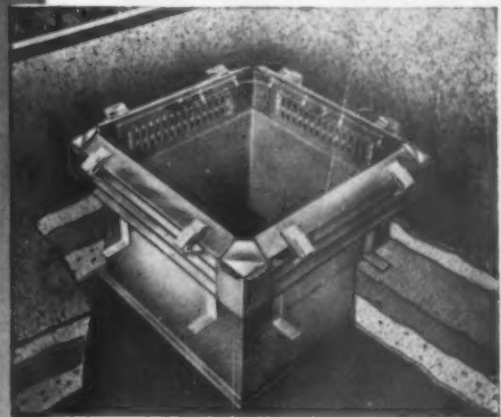


DOMES VENTILATORS.

To fit circular domes from 18" x 72" diameter or rectangular domes from 30" x 30" to 48" x 72" in glass, "Perspex" or fibreglass. Constructed of heavy gauge steel, galvanized after manufacture, and fitted with weatherproof external louvres.



Write today for illustrated technical leaflets on the full range of Dome and Continuous Rooflight Ventilators.



VENTILATED UPSTANDS AND LINERS.
(Dome removed)

For building into roof structures. To suit all sizes of circular and rectangular domes. These units obviate the need for prepared curbs, special shuttering and rendering of roof openings, giving improved light value. Unventilated linings are also available.

Greenwood Airvac *ventilation*

GREENWOOD'S AND AIRVAC VENTILATING COMPANY LTD

ESTABLISHED 1879.

PATENTEES, DESIGNERS AND MANUFACTURERS OF
NATURAL AND MECHANICAL VENTILATING
EQUIPMENT.



BEACON HOUSE, KINGSWAY, LONDON, W.C.2.
CHANCERY B135 (4 lines). Grams: 'AIRVAC', LONDON

Send for this folder



The knowledge and experience of two leading makers have been pooled to produce Harvey-Milner Partitioning, and in the process of redesigning, important additional features have been introduced.

RE-ARRANGEMENT of panels and doors can be effected without dismantling a whole partition.

INCREASED DOOR WIDTH allows for the movement of large units of furniture.

CONCEALED WIRING is instantly accessible.

DOOR CLEARANCE over carpets by simple adjustment of kick-plate-base.

SOUND AND HEAT INSULATION incorporated in panels and doors.

MODULAR DESIGN facilitates planning. Send for List 1078.

G. A. HARVEY & CO. (LONDON) LTD., WOOLWICH ROAD, LONDON, S.E.7. Telephone: GR^{EE}nwich 3232 (22 lines) SF48



Gatehouse constructed of TYBORD

ROOFS, CEILINGS, FLOORS,
PARTITION WALLS, DOORS,
FURNITURE & FITTINGS,
SHIPS BULKHEADS & CABINS,
BUNGALOWS & CARAVANS.

TYBORD

the new Wood Particle Board
with a thousand uses

MAIN DISTRIBUTORS:

BAMBERGERS LTD.

GABRIEL, WADE & ENGLISH LTD.

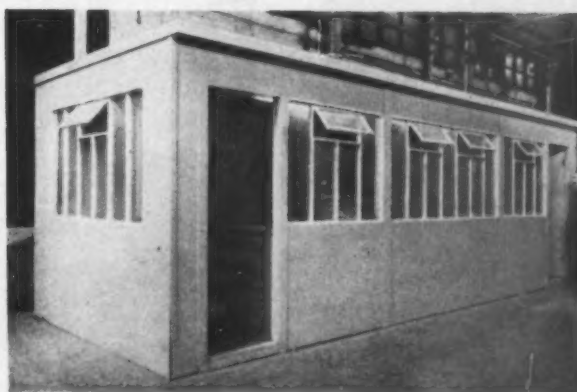
L. KEIZER & CO. LTD.

MONTAGUE L. MEYER LTD.

WILLIAM EVANS & CO. (London) LTD.

NORTH EASTERN TIMBER IMPORTERS LTD.

L. BLOOM (Plywood) LTD.



Works Office constructed of TYBORD

TYNE BOARD COMPANY LTD.
WILLINGTON QUAY WALLSEND-ON-TYNE

Telephone: WALLSEND 62-4044/5/6

new buildings - new needs and new ranges of Crittall aluminium windows, designed to match the most forward-looking architectural concepts and to meet the toughest practical demands.

Thorough research, advanced design and manufacturing techniques, a new factory specialising in aluminium windows and equipped with the most up-to-date anodizing plant—these, allied to Crittall's long experience, help to make tomorrow's buildings better to live in and work in, less costly to maintain.

THE SCOTTISH LIFE ASSURANCE CO. LTD., BIRMINGHAM: An installation of Crittall aluminium Continental windows—completely weather-stripped and fully reversible for cleaning, with 'Solomatic' Venetian Blinds between double glazing. Architects: Surman, Kelly and Surman. Contractors: C. Bryant and Son Ltd.

and
WINDOWS
by
CRITTALL

Write for leaflet 301D
THE CRITTALL MANUFACTURING CO. LTD.
BRAintree · ESSEX · Branches and
depots throughout the country





age-old materials . . . modern methods



ASBESTOS



BITUMEN

Years of research have been spent in perfecting the combination of these materials and in developing the technique of manufacture and application of this modern roofing material . . . NURALITE.

With the ever increasing demand for Nuralite, we have substantially increased our technical representation . . . ensuring the maximum service to the many Nuralite stockists in nearly every town throughout the country.



Nuralite

SUPERSEDES CONVENTIONAL ROOFING METALS



Please enquire at your nearest builders' merchant for full details or write direct to the Nuralite Company Limited for our nearest Regional Office. **POST THIS COUPON TODAY**

NAME

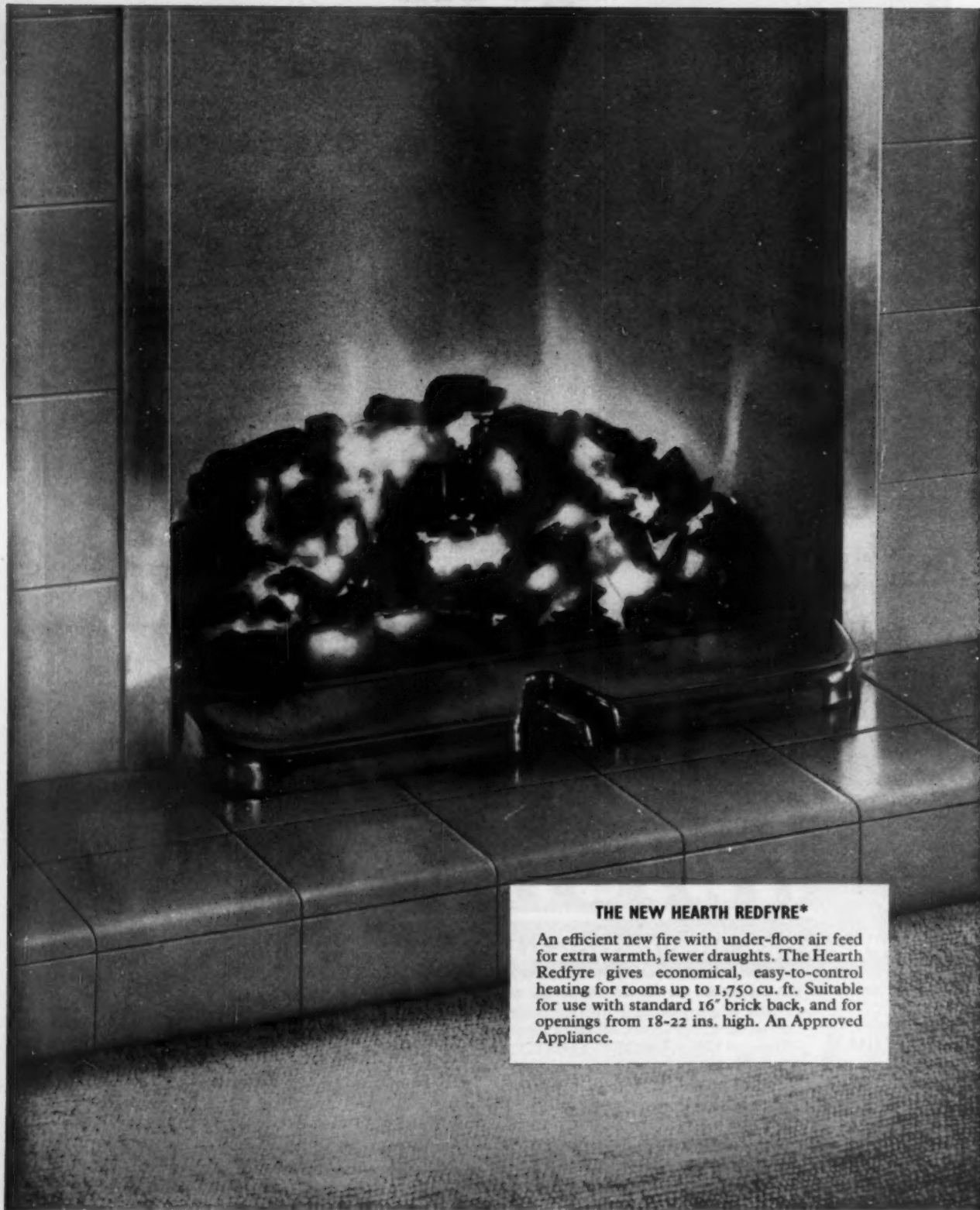
ADDRESS

THE 'NURALITE' COMPANY LTD., WHITEHALL PLACE,
GRAVESEND, KENT.

One of the British Uralite Group of Companies

AJ4

Now! Redfyre gives you



THE NEW HEARTH REDFYRE*

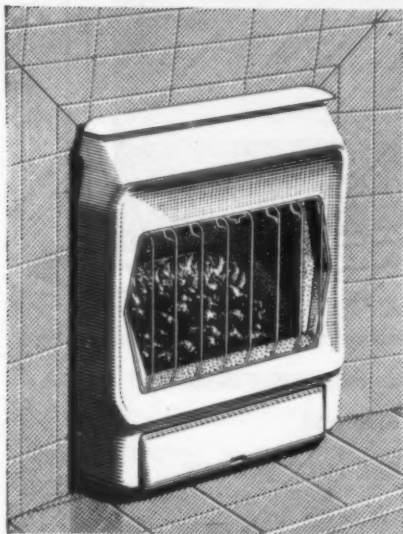
An efficient new fire with under-floor air feed for extra warmth, fewer draughts. The Hearth Redfyre gives economical, easy-to-control heating for rooms up to 1,750 cu. ft. Suitable for use with standard 16" brick back, and for openings from 18-22 ins. high. An Approved Appliance.

low-cost heating with *top-designer looks*

Redfyre—whose famous Bacboilers put them years ahead in low-cost heating—now take the lead in tackling a new problem: matching really low cost with the best modern design. Styled to merge successfully with any modern room scheme, these new Redfyres are equally suitable for modernising old property or for new build-

ings. And as you'd expect from Redfyre, the whole range is very practical, very economical, and remarkably low in initial cost.

Write for the REDFYRE HANDBOOK—a handy folder containing full specification sheets of all Redfyre products. The Redfyre mailing service will keep your handbook up to date *automatically*.



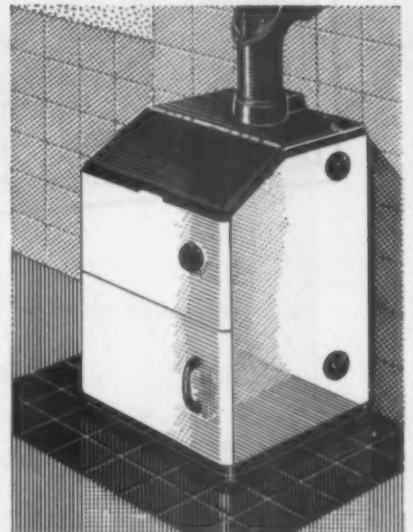
New Redfyre Convector

A superb new open convector fire which gives two-way warmth, by radiation and convection. An adjustable throat restrictor increases efficiency still further, giving far more comfort from far less fuel. It burns a wide range of fuels and is easy to install in almost any fireplace opening—no fire back is necessary. Suitable for rooms up to 2,000 cu. ft. An Approved Appliance.



New Redfyre 60*

A controlled-burning fire with exceptionally clean modern lines. It's easy to install, and burns any solid fuel, efficiently and very economically. Suitable for rooms up to 1,750 cu. ft. and for use with standard size 16" brick back. An Approved Appliance.



New Redfyre Magazine Boiler

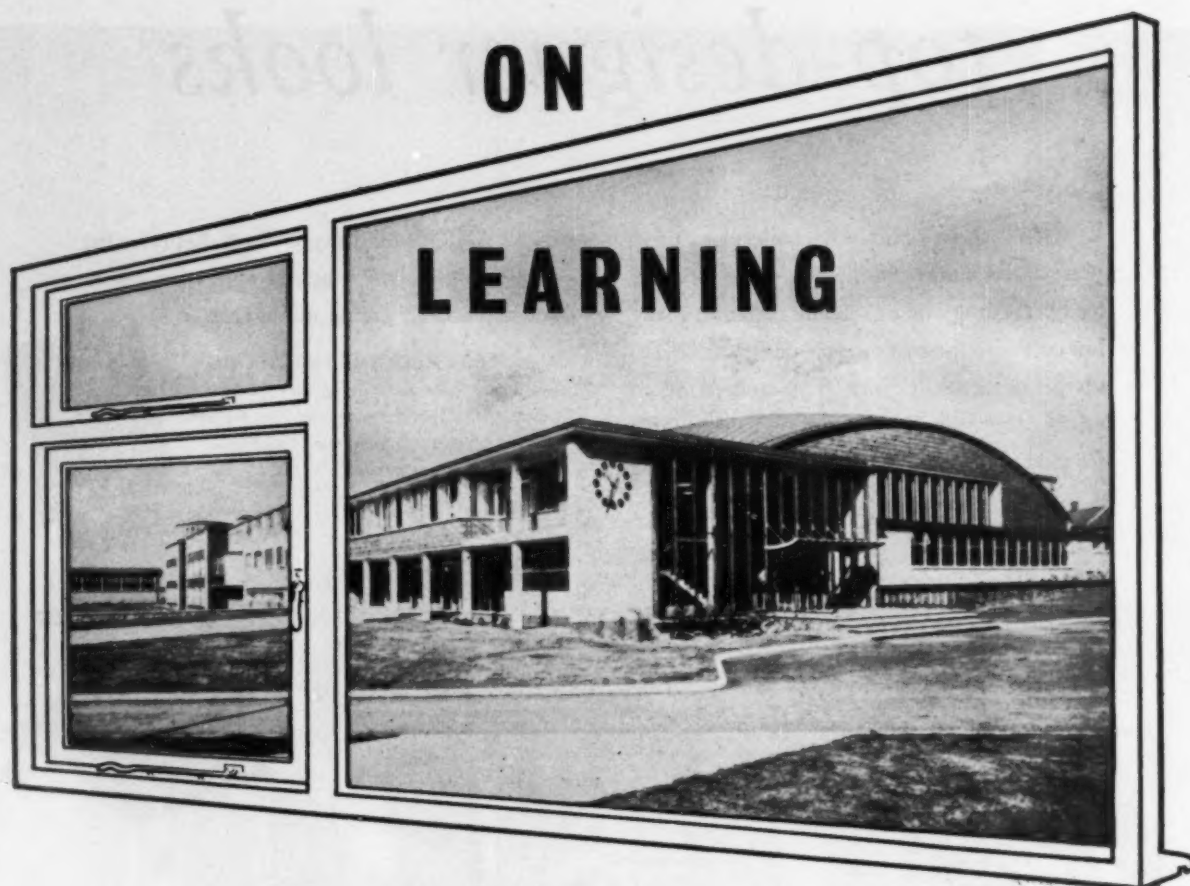
For hot water and radiators. Magazine feed-automatic control by thermostat. Compact and very efficient, the Magazine Boiler runs on any smokeless fuel. Continuous Heating Rating: 20,000 B.Th. U's/hr. Domestic Hot Water Rating: 35,000 B.Th. U's/hr. An Approved Appliance.

**Also available with the famous Redfyre Bacboiler as a complete unit.*



NEWTON CHAMBERS & COMPANY LIMITED, REDFYRE PRODUCTS, THORNCLIFFE, SHEFFIELD

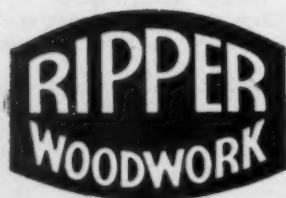
WINDOW ON



We have for more than sixty years produced the best of specialized high-class joinery and in this field our quality work was the specified choice for the first of London's Comprehensive Schools, at Kidbrooke.

RIPPERS KNOWLEDGE AND EXPERIENCE ARE AT YOUR SERVICE.

For many years our standard products have helped to meet the needs of the housing programme. Write today for a copy of our current catalogue illustrating our full range of standard windows, door frames, linings and kitchen units, to Dept. A.J. 1/12



RIPPERS LIMITED

CASTLE HEDINGHAM, HALSTEAD, ESSEX. TELEPHONE: 191 HEDINGHAM (4 LINES)

TELEGRAMS: RIPPERS, CASTLE HEDINGHAM

LONDON OFFICE: 9 SOUTHAMPTON PLACE, LONDON, W.C.1. TELEPHONE: CHANCERY 8306/7

COLT *Canadian Cedar Wood* SHINGLES



Colt supplied and fixed the shingles for these attractive houses for the Guildford Corporation at Merrow.

ADDING SHINGLES to new style walls is an old well-tried method of providing a distinctive elevation. Colt Canadian Cedar Wood Shingles weather to a pleasant silver grey. Nailed to battens on brick, breeze or timber studding, the construction is both economical and completely weatherproof.

The high thermal insulation of Western Red Cedar makes Shingles a valuable addition to the range of modern cladding materials available to the Architect. Fixing is extremely simple but, for those who prefer it, Colt can offer an efficient fixing service.



Send for full details to Dept:— 135

W. H. COLT (LONDON) LTD., SURBITON, SURREY

Telephone: ELMbridge 6511 (10 lines)

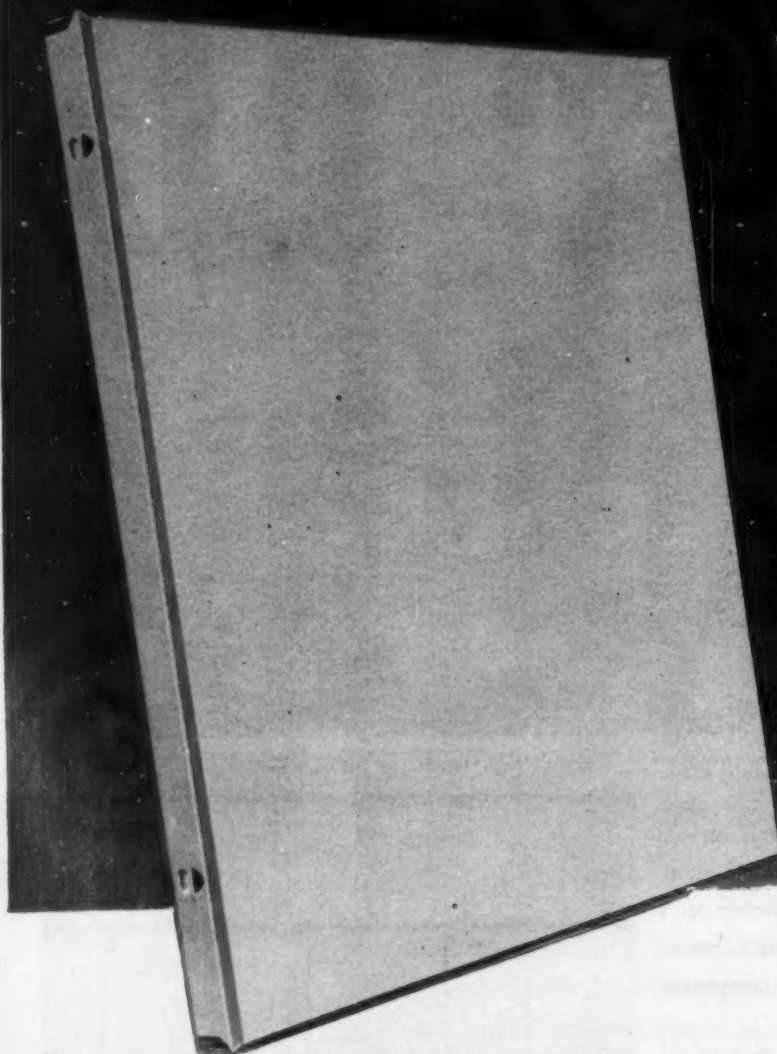


Fixing can also be undertaken if required.

G.103

39/- per yard for...

**fire proof
suspended
ceilings
with
thermal
insulation
and fully
decorative
finish!**



*Burgess Plain Metal ceilings
can now be supplied and fixed
complete by the undermentioned distributors
at prices ranging from 39/- per yard.*

HORACE W. CULLUM & CO. LTD, The Acoustic Centre, 58 Highgate West Hill, London, N.6.

DRAFTSELE LTD, 44 Dean Street, Newcastle-upon-Tyne 1.

DRAFTSELE (London) LTD, 47 The Parade, Leamington Spa.

DRAFTSELE (London) LTD, 231 Station Road, Harrow, Middlesex

ROOF & LINING CONSTRUCTION LTD., Buckingham House, 19/31 Palace Street, London, S.W.1.

STILSOUND ACOUSTICS LTD, 42 Whitworth Street, Manchester 1.

STILSOUND INSULATION LTD, 180 West Regent Street, Glasgow, C.9.

BURGESS PRODUCTS COMPANY LIMITED, ACOUSTICAL DIVISION, HINCKLEY, LEICESTERSHIRE

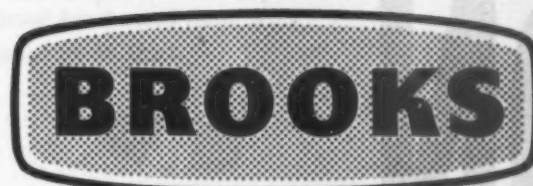
Hot-dip Galvanized for



Architect: Frederick Gibberd, F.R.I.B.A.
 Consulting Engineers:
 G. H. Buckle & Partners
 Heating & Ventilating Contractors:
 Norris Warming Co. Ltd.

Brooks 48", 36" and 30" fan-powered roof extract units were chosen to provide positive ventilation for the Lubricating Oil Laboratories (Engine Bay) at the new Shell Research Centre, Thornton, Cheshire.

Easy to install and easy to maintain, 'Brooks' Fan-Powered Units are equally suitable for flat, decked or pitched roof constructions. Unitary ventilation provides a wide range of control over rate of ventilation, giving flexibility to suit all factory processes. Hot-dip Galvanized finish gives permanent protection.

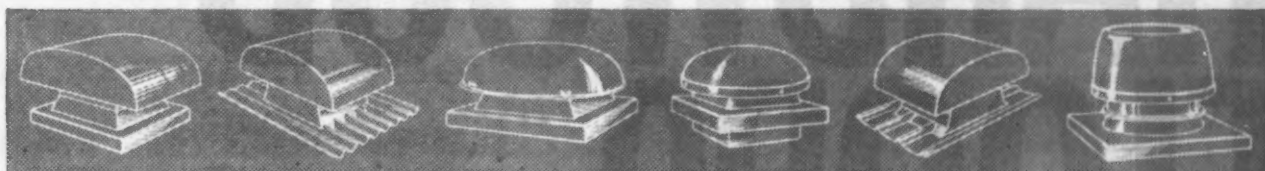


VENTILATION

fan-powered

BROOKS VENTILATION UNITS LIMITED


RAFALGAR HOUSE, BEDFORD PARK, CROYDON, SURREY. Telephone: Municipal 2361 (6 lines)
 Branch Office: CROMFORD HOUSE, CROMFORD COURT, MANCHESTER 4 Telephone: Deansgate 2920



BRITAIN'S WIDEST RANGE OF POWERED VENTILATION UNITS

400 YEARS OF CHANGING

FASHION ON HARDWOOD FLOORS

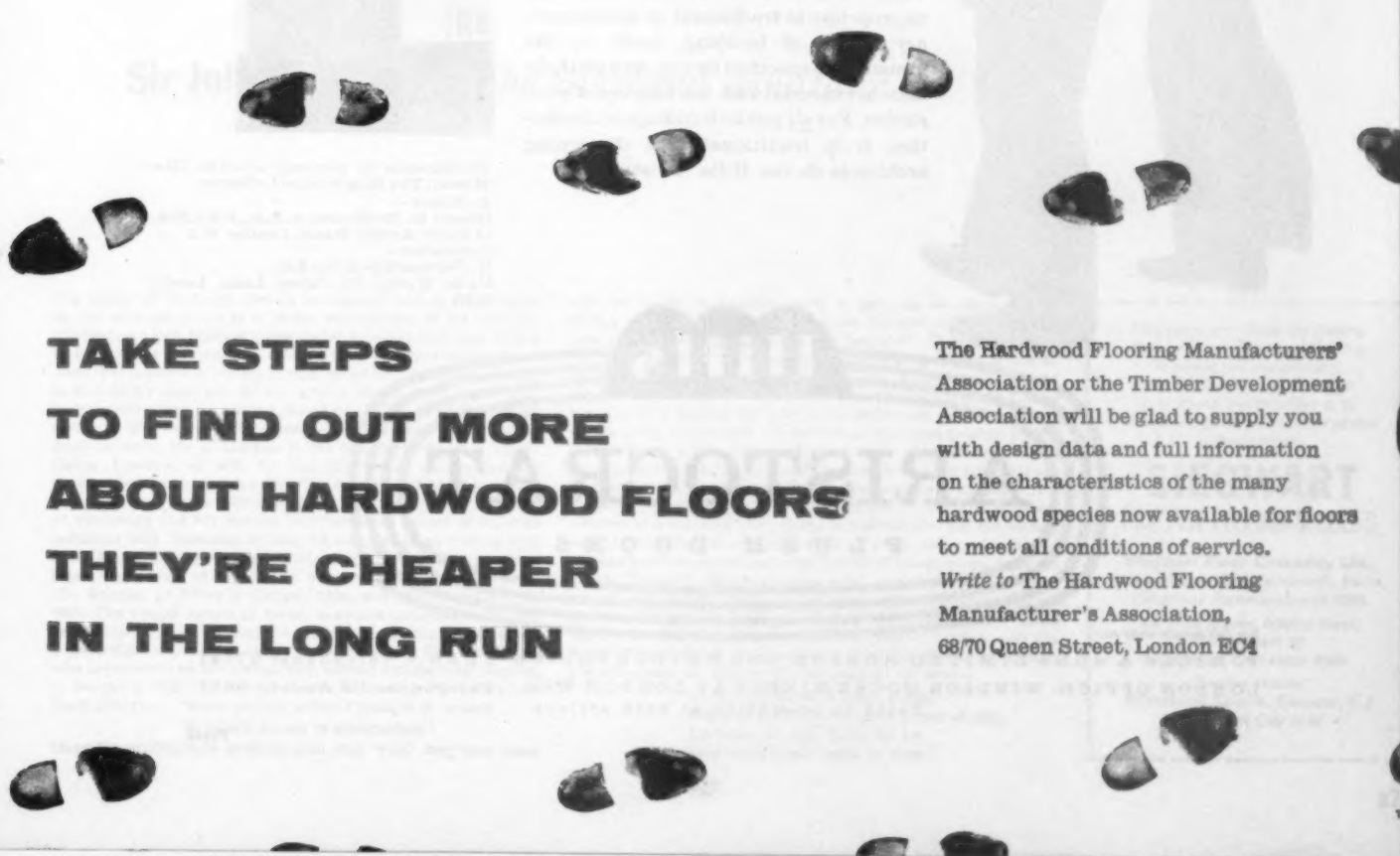




In any surroundings, a hardwood floor looks right, is right... Making a luxurious and elegant setting for fine period furniture... Harmonising perfectly with the simplicity of a contemporary interior.

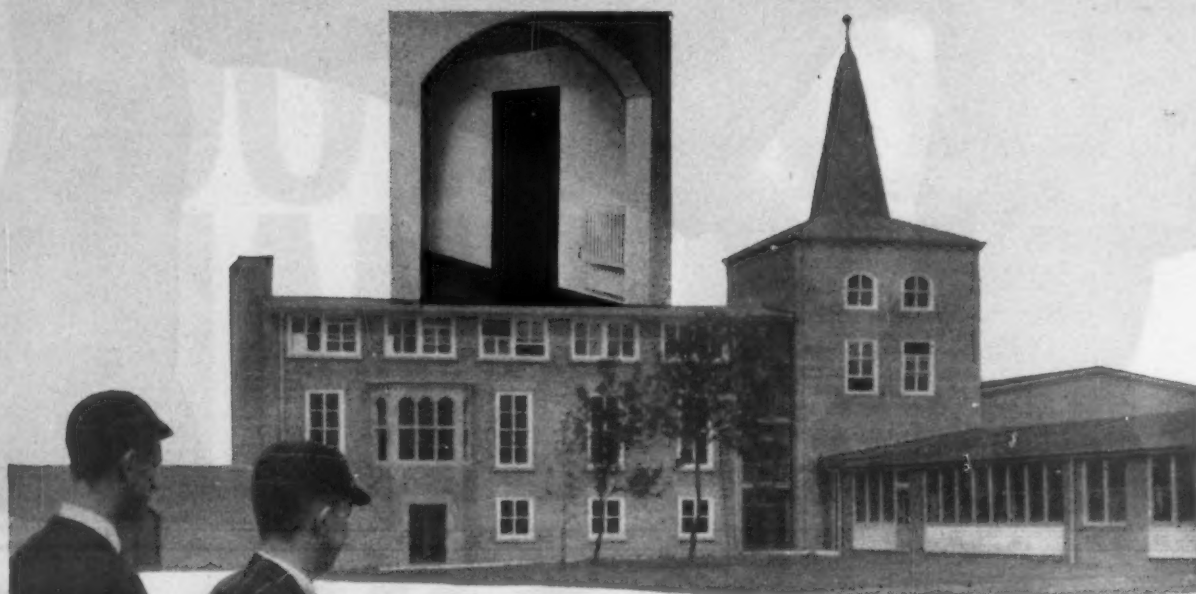
But not only have hardwood floors withstood the ceaseless change of fashion, they have proved their unmatched durability by withstanding centuries of hard wear.

No doubt fashions in furniture design and decor will continue to change through the years. But the distinctive beauty, pleasing character, rich colour and texture of a well-maintained hardwood floor will remain an unchanging delight.



**TAKE STEPS
TO FIND OUT MORE
ABOUT HARDWOOD FLOORS
THEY'RE CHEAPER
IN THE LONG RUN**

The Hardwood Flooring Manufacturers' Association or the Timber Development Association will be glad to supply you with design data and full information on the characteristics of the many hardwood species now available for floors to meet all conditions of service. Write to The Hardwood Flooring Manufacturer's Association, 68/70 Queen Street, London EC4



'Aristocrat' doors— a tradition

Old institutions—great traditions. New buildings—new schools of thought. But Hills "Aristocrat" Flush Doors are appropriate to traditional or contemporary styles of building, made to the dimensions specified by you, and skilfully match-veneered with the veneers of your choice. For all public buildings of distinction it is traditional that discerning architects choose Hills "Aristocrat".



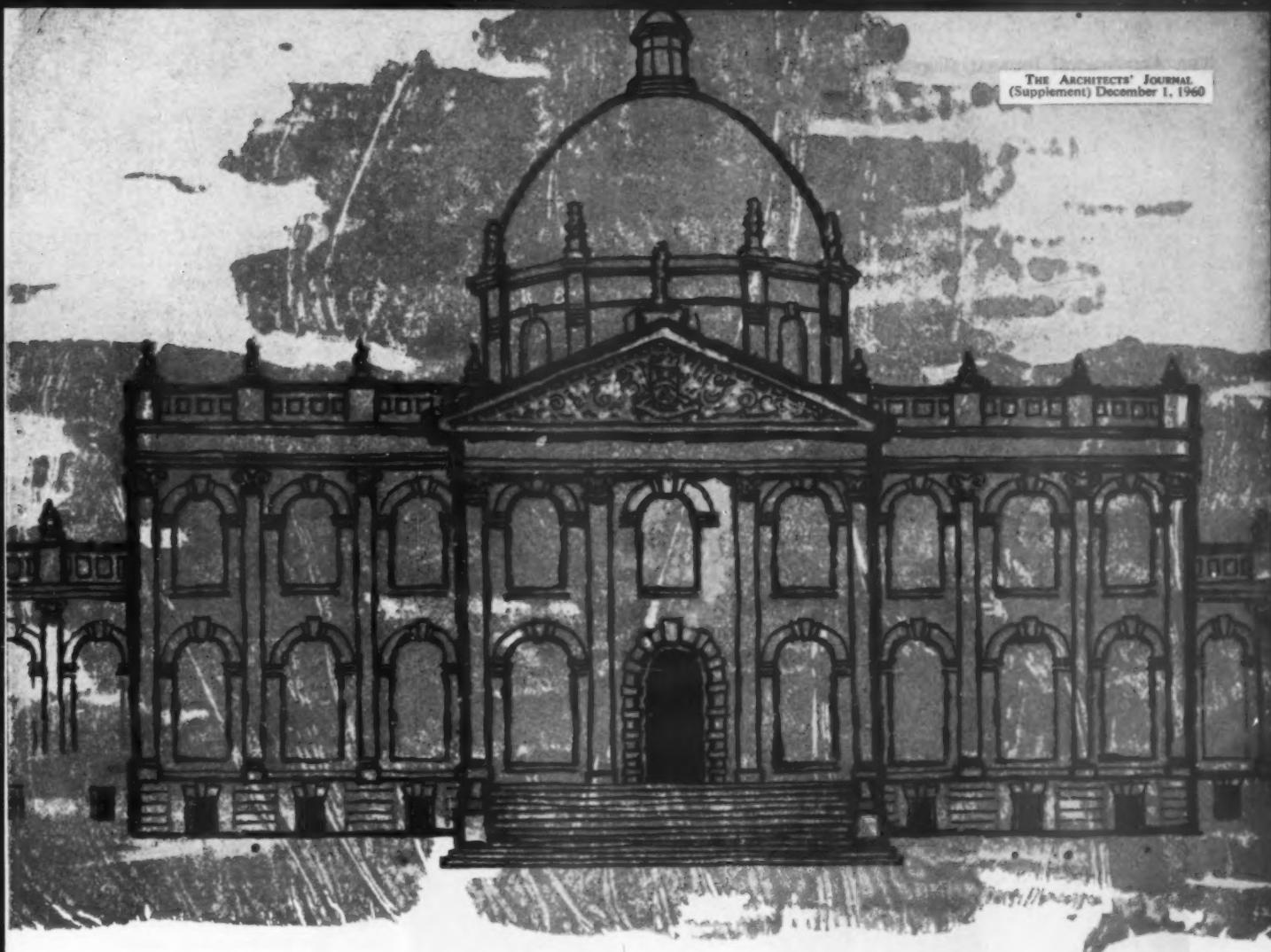
Photographs by courtesy of:—The Head Master, The King's School, Chester.
Architect—
Donald H. McMorran, A.R.A., F.R.I.B.A.
14 North Audley Street, London W.1.
Contractor—
H. Fairweather & Co. Ltd.,
Hyde Works, St. James Lane, London N.10.



For full details write to:—

F. HILLS & SONS LIMITED NORTON ROAD STOCKTON-ON-TEES • Telephone: 67141
LONDON OFFICE: WINDSOR HOUSE KINGSWAY LONDON WC2 • Telephone: CHAncery 9251
Telex in operation at both offices

P5218



Sir John Vanbrugh—the inspired amateur

The career of Vanbrugh was as sensational and as unorthodox as that of Inigo Jones or of Wren. He was one of the nineteen children of a rich Flemish sugar-baker who had fled from Ghent to England as a Protestant refugee from religious persecution. John first appears in history in 1686, when he was commissioned in an infantry regiment. At his father's death, three years later, he inherited a fortune which enabled him to abandon his tedious duties in the "Army of Occupation" in Germany, and to settle down to enjoy life in London to the full. Arrested as a spy in Calais, however, in 1690, he was imprisoned successively at Calais, Vincennes, and the Bastille; but relieved his feelings by writing a play. Some critics consider that the grim architecture of Vincennes and the Bastille is reflected in certain of his own buildings later. Released in 1692, he returned to soldiering until 1702. Again, he varied the monotony of military life by writing plays, the nature of which may be inferred from their titles—*The Relapse, or Virtue in Danger*, 1696, and *The Provok'd Wife*, 1697. The risqué nature of these comedies naturally made him very popular, and secured his admission to the famous and aristocratic Kit-Cat Club. Here he met the young Earl of Carlisle, who commissioned him completely, without architectural training, to design a vast mansion at Castle Howard in Yorkshire. As Swift wrote:— "Van's genius, without thought or lecture
"Is hugely turned to architecture".

Huge the architecture certainly was, and "Van" may have toyed

with the works of Palladio while in gaol, as an alternative to writing improper plays; but at any rate the end-product was the type of architecture we now call "Baroque". This tendency is still more apparent in the grandiose palace of Blenheim, which he designed a few years later for John Churchill, Duke of Marlborough, another member of the Kit-Cat Club. At Castle Howard, it is alleged that one can look through all the keyholes of the long succession of enormous state-apartments of the central block which extends through some 300 feet of the total frontage of 600 feet; but the wretched servants were stowed away in basement and attics, while the kitchens were isolated in a distant wing. At Blenheim, built at the national cost as a thank-offering to a national hero, pomp is appropriate; but the human aspect of the project centres in the long, bitter, and most amusing correspondence exchanged, over a span of twenty years, between Sarah Churchill (Marlborough's wife) and Vanbrugh. It was spiced with tireless malice on her side, with resentment and wit on his. Vanbrugh's huge practice included many other great mansions; also the Orangery at Kensington Palace and the King William Block at Greenwich Hospital. When he died, a contemporary wit suggested this epitaph for him:—

"Under this stone, Reader, survey
Dead Sir John Vanbrugh's house of clay.
Lie heavy on him, Earth, for he
Laid many heavy loads on thee."

Nowadays architects are finding that so far as structural flooring is concerned the quickest way to translate good design into sound construction is to consult SIEGWART. Technical advice is freely given.

SIEGWART PRECAST FLOORS & ROOFS

Sieglwart Floor Company Ltd.,
Gable House, Rickmansworth, Herts.
Telephone Rickmansworth 2268.

Berkeley House, Hagley Road,
Birmingham 16.
Telephone Edgbaston 3960.

Carlton House,
Blythswood Square, Glasgow, C.S.
Telephone City 5156.

STONE AND THE ARCHITECT



The choice of the most suitable type of stone for a given purpose does not depend solely upon the stone itself; there are, of course, the architectural and aesthetic considerations involved.

But in so far as the selection of the stone is confined to its suitability as stone, and the technical aspects of masonry or fixing, then the Company is qualified to advise.

In all probability the ideal arrangement is for the architect, after a preliminary discussion with a Company representative, to visit a particular quarry, works, or yard. Alternatively, samples of stone can be sent together with a list of representative contracts in which a particular stone has been used.

The architect can then see for himself what the stone will look like and how it will behave under actual conditions.

PORTLAND
BATH
DOULTING
BEER
CLIPSHAM

THE BATH AND PORTLAND STONE FIRMS, LIMITED

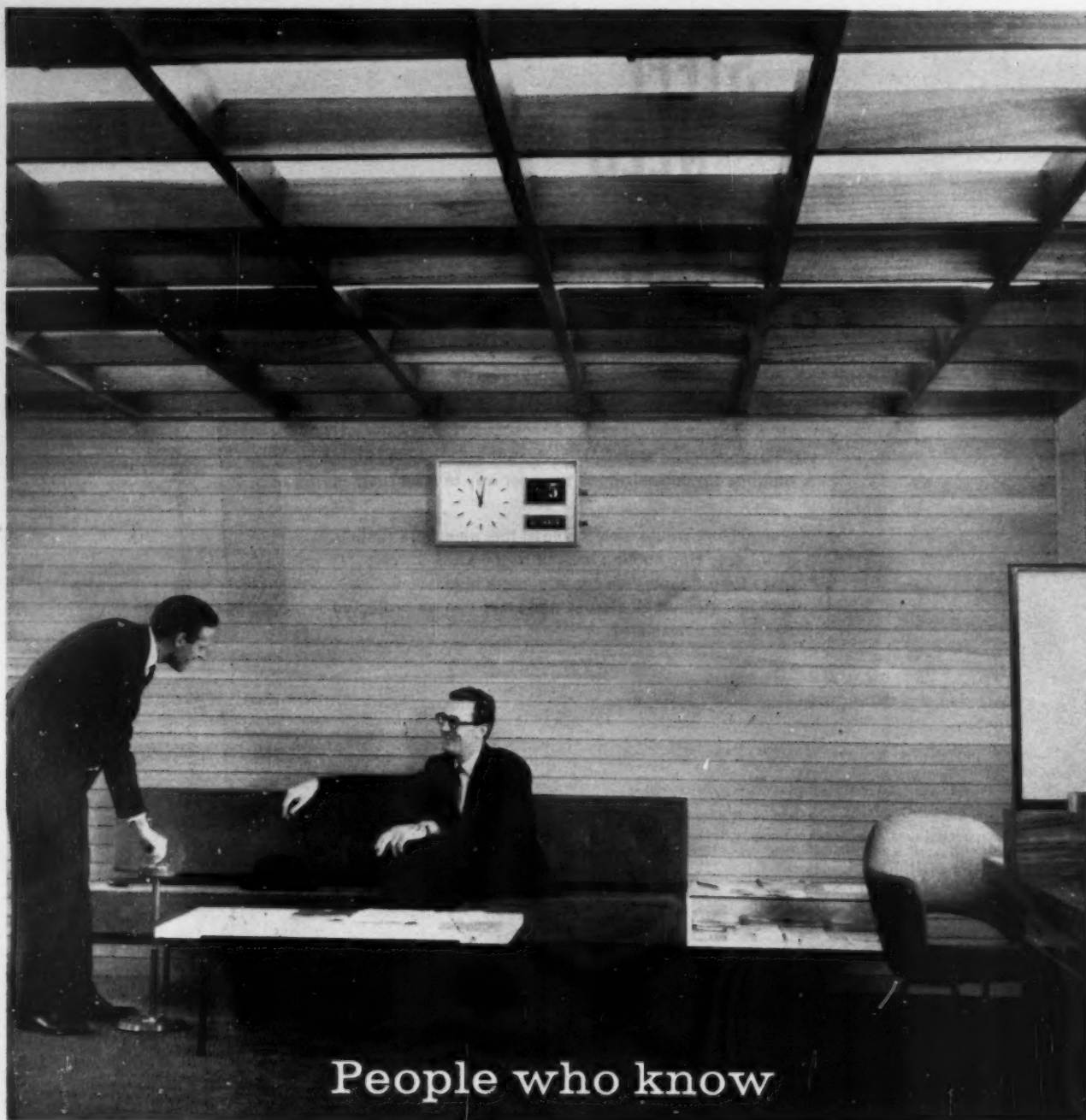
BATH, SOMERSET. Bath 3248 London VIC 9182 Manchester Central 6602 Portland 2276 Leeds 25972

STEEL NEED NOT RUST

Everyone knows about rust . . . but not everyone knows that hot dip galvanizing is the best way to stop rust.

Galvanizing would have stopped this steelwork rusting. The heavy zinc coating alloyed to the steel gives long trouble-free life and costs little. Iron and steel of all shapes and sizes can be protected by hot dip galvanizing.

For information and publications write to the HOT DIP GALVANIZERS ASSOCIATION 34 Berkeley Square London W1

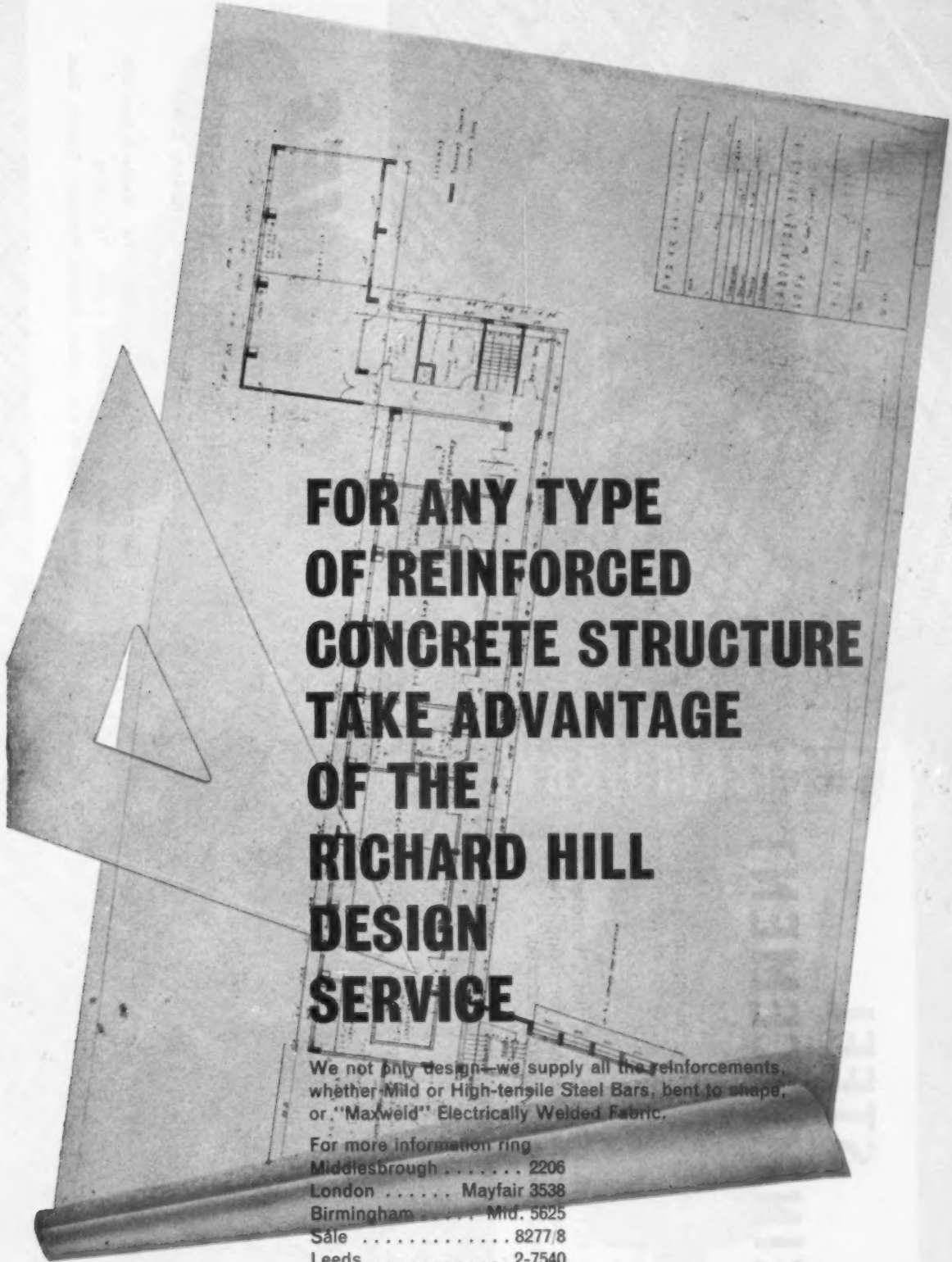


People who know
are talking about

...the stylish simplicity of the new reception hall of the United Dominions Trust Limited...the brisk, functional look of Vauxhall Overseas London showroom...the advanced design of Martins Bank at Shirley, Birmingham...the modern efficiency of the Queen Magazine's editorial offices...and other large interior schemes too numerous to mention. For a fully illustrated brochure, write for "More interiors" by

HEAL'S
CONTRACTS LIMITED

196 Tottenham Court Road London W1 MUSEum 1666



FOR ANY TYPE OF REINFORCED CONCRETE STRUCTURE TAKE ADVANTAGE OF THE RICHARD HILL DESIGN SERVICE

We not only design—we supply all the reinforcements, whether Mild or High-tensile Steel Bars, bent to shape, or "Maxweld" Electrically Welded Fabric.

For more information ring
Middlesbrough 2206
London Mayfair 3538
Birmingham Mid. 5625
Sale 8277/8
Leeds 2-7540
Bristol 24977
Glasgow Central 2179

RICHARD HILL LTD. (ESTABLISHED 1868)
REINFORCED CONCRETE ENGINEERS, MIDDLESBROUGH, YORKSHIRE



A MEMBER OF THE FIRTH CLEVELAND GROUP



STEEL REINFORCEMENT

A complete service of Design, Fabrication and Fixing of Steel Reinforcement for all types of Reinforced Concrete Construction.

M.S. & H.T. Bars to B.S. 785, bent, bundled and labelled, delivered to site ready for fixing. No loss of time in checking and sorting material.

T. C. JONES AND COMPANY LIMITED REINFORCEMENT ENGINEERS

17 Buckingham Palace Gardens, London, S.W.1

Tel : SLOane 5271.

Head Office : Wood Lane, London, W.12. Tel : Shepherds Bush 2020.

South Wales Office : Bute Street, Cardiff. Tel : 28786.

Works : Shepherds Bush, London. Neasden, Middlesex. Treorchy, Glam.



Planning a kitchen?

Put in a
Wastemaster

Too many 'modern' kitchens *still* leave the housewife to cope with messy, unhygienic sink tidies and bins. Solve the problem at the planning stage . . . by including a Wastemaster by Kenwood in your plans.

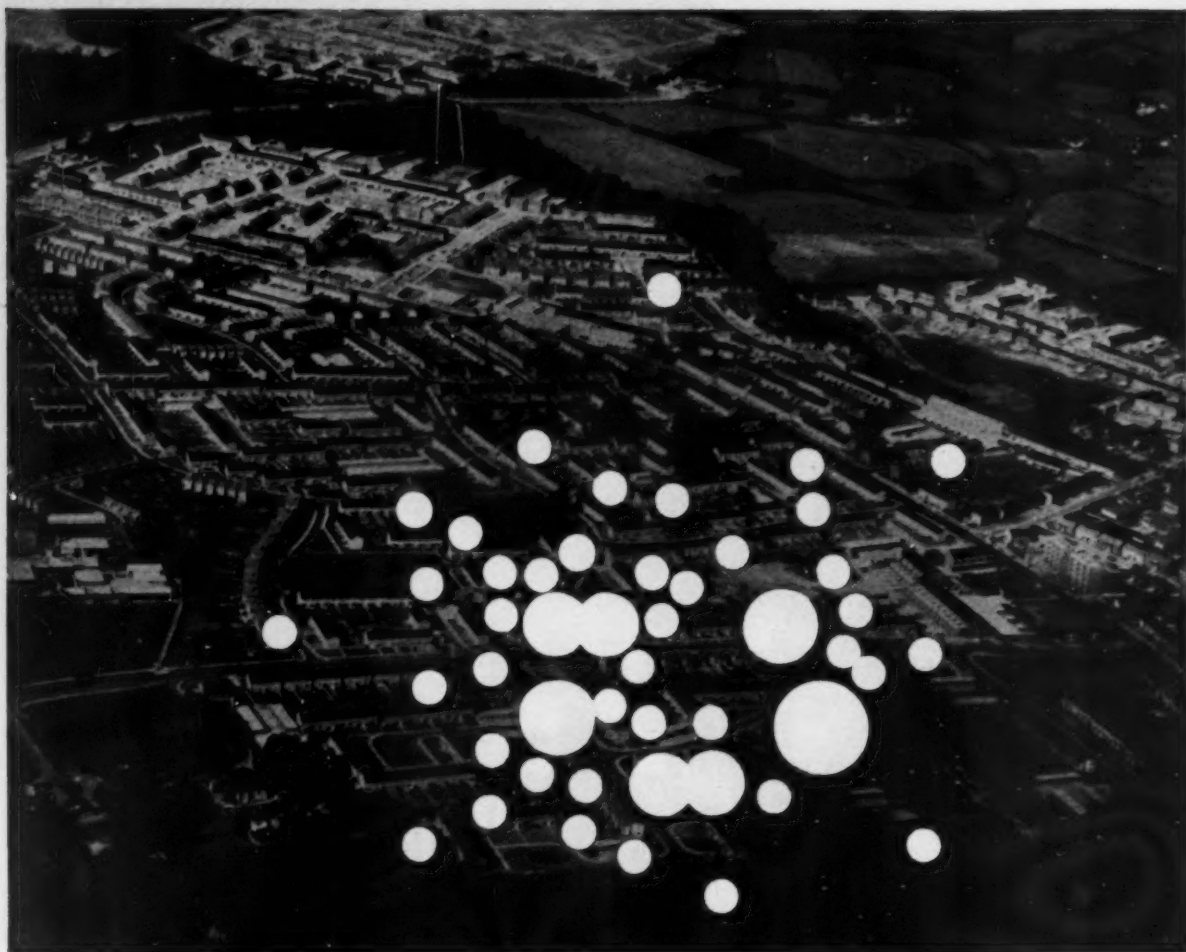
This neat, efficient appliance fits into the waste pipe under the sink . . . out of sight, saving valuable floor space. It automatically grinds up most kitchen refuse, including food scraps, small bones, vegetable peelings, tea leaves and coffee grounds. These are washed right away, preventing clogged waste pipes and drains.

Many sink units are now designed to incorporate the Wastemaster, which can also be attached to existing units. A necessity in flats and maisonettes, the Wastemaster is a requirement for every truly labour-saving kitchen.

We'll gladly send you further details and specifications, and literature that will interest your clients.



Kenwood MANUFACTURING (WOKING) LIMITED, OLD WOKING, SURREY.



property enemy No. 1

WOOD PRESERVATION LTD. 142 Sloane St., London, S.W.1. Tel: SLOane 9984/5

Every year the attack by woodworm increases. It is random destruction, often unnoticed — and yet the damage is estimated at £10,000,000 annually. It is a sphere in which the architect is becoming increasingly involved as more and more property is affected.

But how can he be sure that the measures he suggests are suitable, the product chosen effective, and the treatment given adequate?

Fortunately structural timbers can now have the same lasting protection against woodworm that has proved so effective for many famous buildings and priceless antiques.

XYLAMON WOOD PRESERVATIVE

Produced by the largest timber preservative research organisation in Europe, Xylamon has a three-way toxic action combining contact, stomach and fumigant insecticides. It drives deeply below the surface and becomes an integral part of the timber itself. Once applied it destroys any wood boring pest or fungus which attempts to attack the wood.

A COMPLETE SERVICE

Staffed by experienced men, the service is designed to assist the architect in every way. It provides an authoritative diagnosis, gives skilled treatment by trained operatives, is backed by all the equipment and resources of Britain's largest servicing organisation for wood preservation, insures its user against an expensive recurrence of the pest in timbers treated by a full 20 year Guarantee.

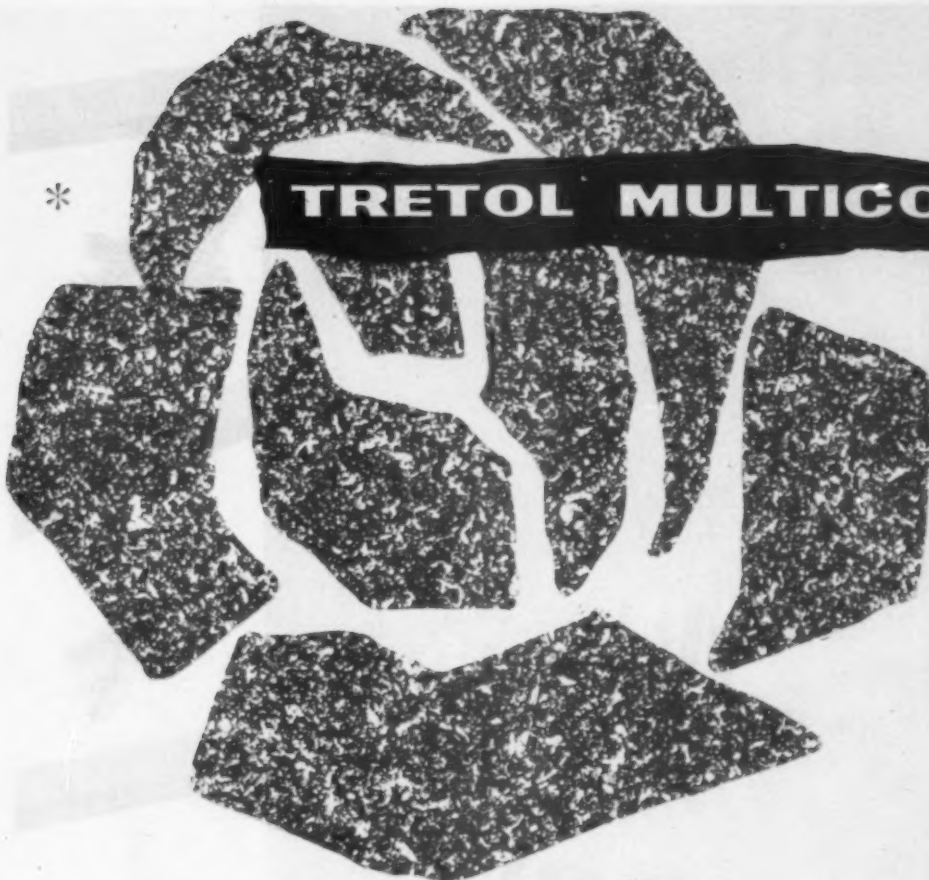
Advice, surveys and estimates are given without charge or obligation. Write for the fifth edition of this free 40-page book.





TRETOL MULTICOLOUR

Regd. Trademark



A new dimension in architectural decoration

multicoloured finish
in **ONE** spray application

Tretol Multicolour has the unique quality of vibrant colour unattainable with conventional finishes. This combines many functional advantages such as superlative cleaning and wearing properties, giving a durable, decorative elegance to staircases, corridors, reception, and utility areas. Tretol Multicolour equips you with an architectural design tool as progressive as the plans on your drawing board. Learn more about this important decorative medium.

Send now for technical data and colour range to:

TRETOL LTD., TRETOL HOUSE,
THE HYDE, LONDON, N.W.9.

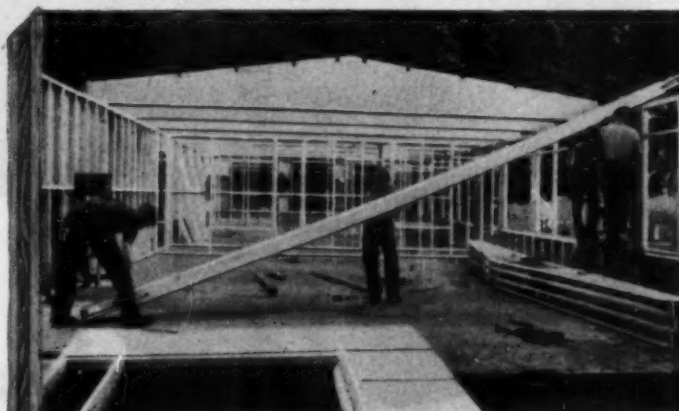
Telephone: COLindale 7223.

* Typical Multicolour pattern

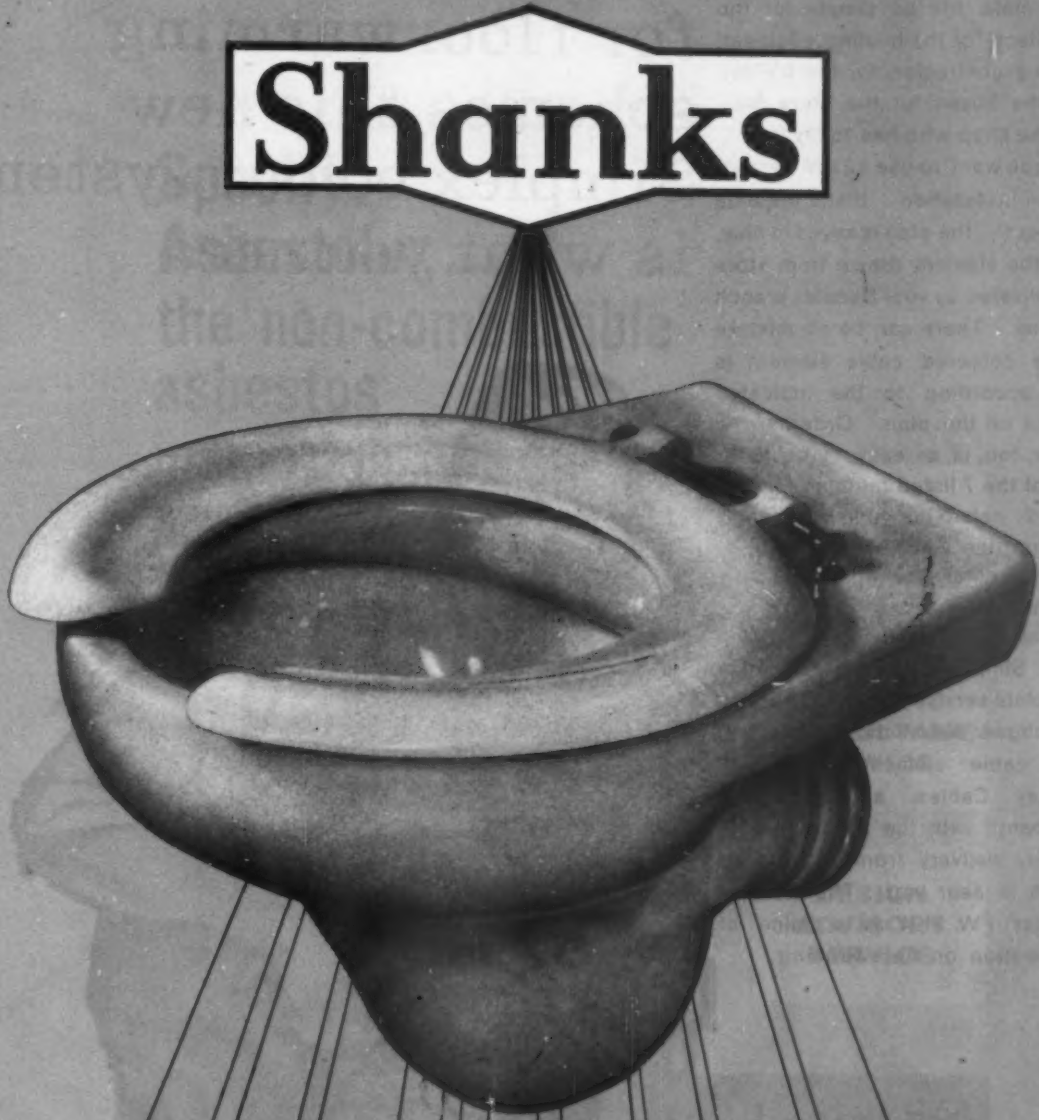


**Douglas Fir
plywood**

The tallest giant in the forests of British Columbia is the source of one of the world's finest plywoods. Bonded with a waterproof phenolic resin, Canadian Douglas Fir Plywood has an exceptionally high strength/weight ratio. It is recommended for concrete shuttering, crating and case-making, wall and roof sheathing, flooring and hoarding, pre-fab building, shipbuilding and numerous similar applications. The wood is available in standard 8' x 4' panels, and is graded to approved standards. For further information contact: The Commercial Secretary (Timber), Canada House, London SW1.




Birth of a new school;
using prefabricated
Douglas Fir plywood
structural components



Shanks

PROJECTOR CLOSET

IN VITREOUS CHINA



Colouring floorwarming cable elements indicative of their rating is one of those brilliantly simple ideas that make life so simple for the architect, for the heating engineer, for the contractor, for the builder, for the buyer, for the store man, for the chap who has to lay it.

Say you want to use a 2kW element for an installation — that's the blue element — the plan is keyed in blue, and the element drawn from store or delivered by your Simplex branch is blue. There can be no mistake — the coloured cable element is laid according to the indicated colour on the plan. Ordering the cable, too, is as easy as habit for any of the 7 listed ratings:

BLU/2 catalogue number simply means Blue 2 kW.

PNK/75 catalogue number simply means Pink 750 W.

It's as rational as Simplex. And from Simplex you can rely on a complete service — conduit fittings, switchgear, automatic control gear, and cable elements made by Mersey Cables, an associated company; with the advantages of speedy delivery from the branch which is near you. The Simplex booklet FW 2194 is a mine of information on floorwarming.

for floorwarming
schemes this new
Simplex colour system
is what you need



FLOORWARMING SYSTEMS



 ELECTRICAL DIVISION

Simplex Electric Co. Ltd., Creden Works
Blythe Bridge, Nr. Stoke-on-Trent, Staffs.
Branches throughout Britain and Agents throughout the World.

W.A.

**Specify
Asbestolux...
the non-combustible
asbestos
insulation board
backed by
advisory services**



**HEAT LOSS
ANALYSIS
SERVICE**

**ACOUSTIC
CONSULTANT
SERVICE**

**DESIGN
ADVISORY
SERVICE**

These facilities are at your disposal, to enable you to make the best use of Asbestolux.

For this purpose the services of a number of independent consultants have been retained by Cape Building Products.

Please write for further details.

CAPE ASBESTOLUX

THE NON-COMBUSTIBLE ASBESTOS INSULATION BOARD



Manufactured by CAPE BUILDING PRODUCTS LIMITED • COWLEY BRIDGE WORKS • UXBRIDGE • MIDDLESEX
Telephone: Uxbridge 371111 Telex: 23471/UXB

Also at Manchester, Birmingham, Glasgow, Newcastle

A subsidiary of The Cape Asbestos Company Limited
AX491G

NOW

and

in

the

future... STEELWORK



Interior view of factory for Messrs. Brook Motors Ltd.



New Ropery for British Ropes Ltd.

**is quicker, more flexible
and is *CHEAPER***



AUSTINS

JAMES AUSTIN & SONS (DEWSBURY) LTD

THORNHILL IRON & STEEL WORKS, DEWSBURY, YORKSHIRE

Telephone: DEWSBURY 1750 (7 Lines) Telegrams: AUSTINS, DEWSBURY, TELEX 55-129

LONDON OFFICE: KIRKMAN HOUSE, 54A TOTTENHAM COURT ROAD, LONDON W.1. TELEPHONE: MUSEUM 1064



Contemporary building with Asbestos-Cement

This new five storey block of flats at Poole, Dorset, is an excellent example of the use of asbestos-cement in modern building.

"POILITE" Asbestos-Cement Flat Building Sheets (Textured) 1.1/2" Fluted Pattern, treated with "TURNALL"

"COLOURGLAZE" Finish were used for external panels to balconies, also

"EVERITE" Asbestos-Cement Fluted Flower Boxes form an interesting central feature.

"EVERITE" Asbestos-Cement Rainwater Goods provide unobtrusive and efficient drainage for roof and balconies.

Borough Engineer:

J. R. BARRON, A.M.I.C.E.

Chief Asst. Architect (Housing):

Henry Shepherd, L.R.I.B.A.

Assistant: M. R. Briant

TURNERS ASBESTOS CEMENT CO. LTD.

A MEMBER OF THE TURNER & NEWALL ORGANISATION

**TRAFFORD PARK
MANCHESTER 17**
Telephone: TRAfford Park 218f
LONDON
Telephone: WATerloo 4712
And at Birmingham
Bristol, Cardiff
and Glasgow.

PP53

HIGH CLASS LIFTS

for efficient service in modern buildings

PICKERINGS

new POLYLIFT system
for Duplex to Quintuplex
banks of lifts

The most economical, efficient and precise system of inter-connected selective collective control which deals in the quickest possible way with all landing calls with minimum possible waiting time.

With two-speed or 'Isostop' Variable Voltage control or with Pickerings 'Isostop 20' V.V. control, providing completely smooth and stepless acceleration and deceleration.

Cars, steel panelled, Vynide, Formica or timber lined.

Push Buttons and Indicators of modern design.

Doors automatic, light-ray controlled for quick non-touch reversal.

PICKERINGS LIMITED

Head Office and Works

GLOBE ELEVATOR WORKS · STOCKTON-ON-TEES

Tel: Stockton 65278/9 and 65270

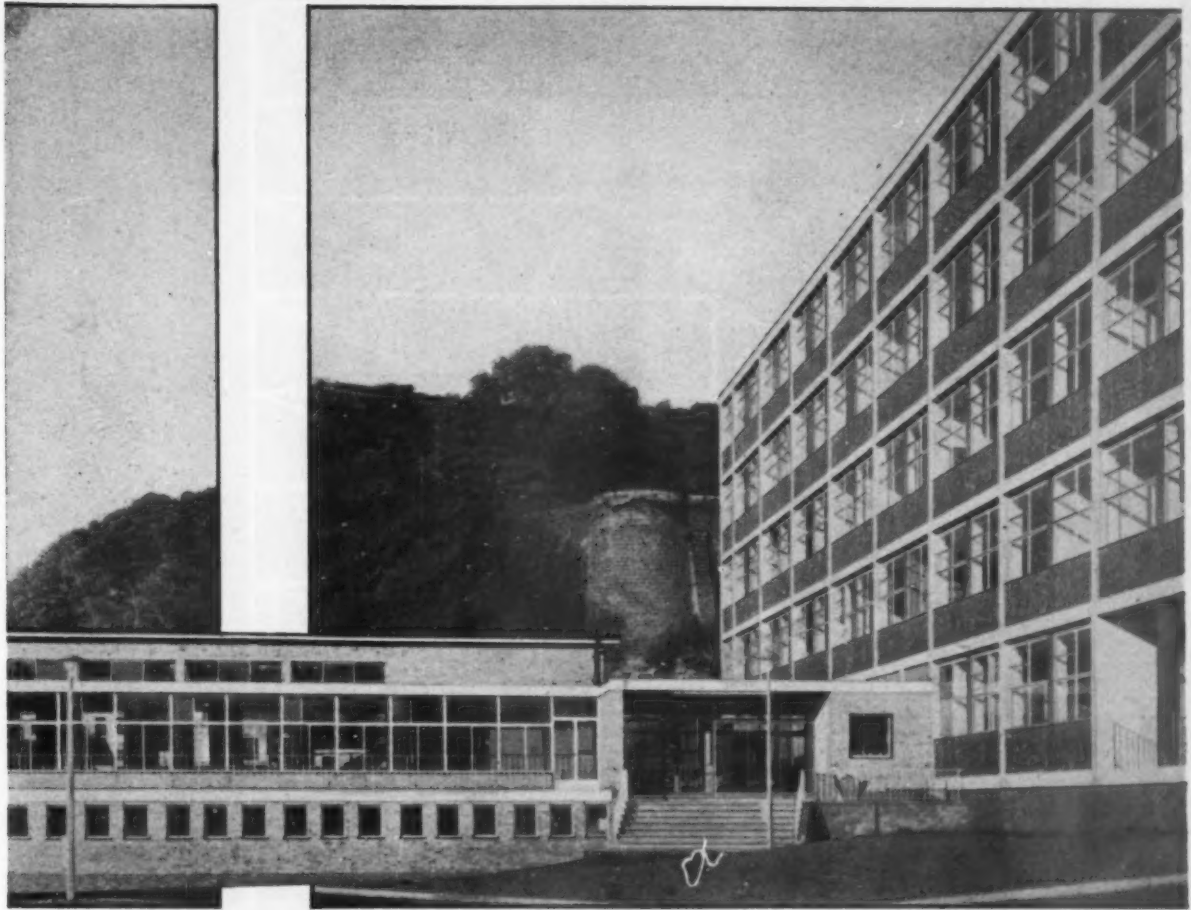
London Office:

GLOBE HOUSE, 12 ST. CROSS ST. HATTON GARDEN E.C.1. Tel: CHAncery 5061-2

Branches: BELFAST · BIRMINGHAM · BRISTOL · DUBLIN · GLASGOW · HULL
LEEDS · MANCHESTER · NEWCASTLE-UPON-TYNE · SCARBOROUGH · WORTHING



"Alumell" patent glazing and ...



... metal windows

Photograph by courtesy of
the City Engineer & Surveyor



for the People's College of Further Education, Nottingham
to the instructions of the City Engineer & Surveyor,
R. M. Finch, Esq., O.B.E., M.I.C.E.

Chief Architect, J. R. Sketchley, A.R.I.B.A., Dip. T.P., A.M.T.P.I.

Architect-in-charge, D. R. M. Mason, Dip. Arch. (Leeds), A.R.I.B.A.

by

MELLOWES & CO. LTD.

SHEFFIELD

LONDON

OLDHAM

Bringing a building to life



vital heat

It's there, it's built. A flesh of concrete and glass on skeleton of steel. To make it live, warming and cossetting its occupants, is the job of the heating engineer.

He doesn't start now, of course. Complex heating systems of today are designed when the building itself is on the drawing board. Erection and installation proceed as the building grows at the pre-arranged pace.

It's a problem of design, teamwork and timing, needing organization and experience. In fact, if it's a big job, it's more than likely that the whole thing was left in the hands of Haden—capable hands, thoroughly versed in the problems of bringing a building to life.

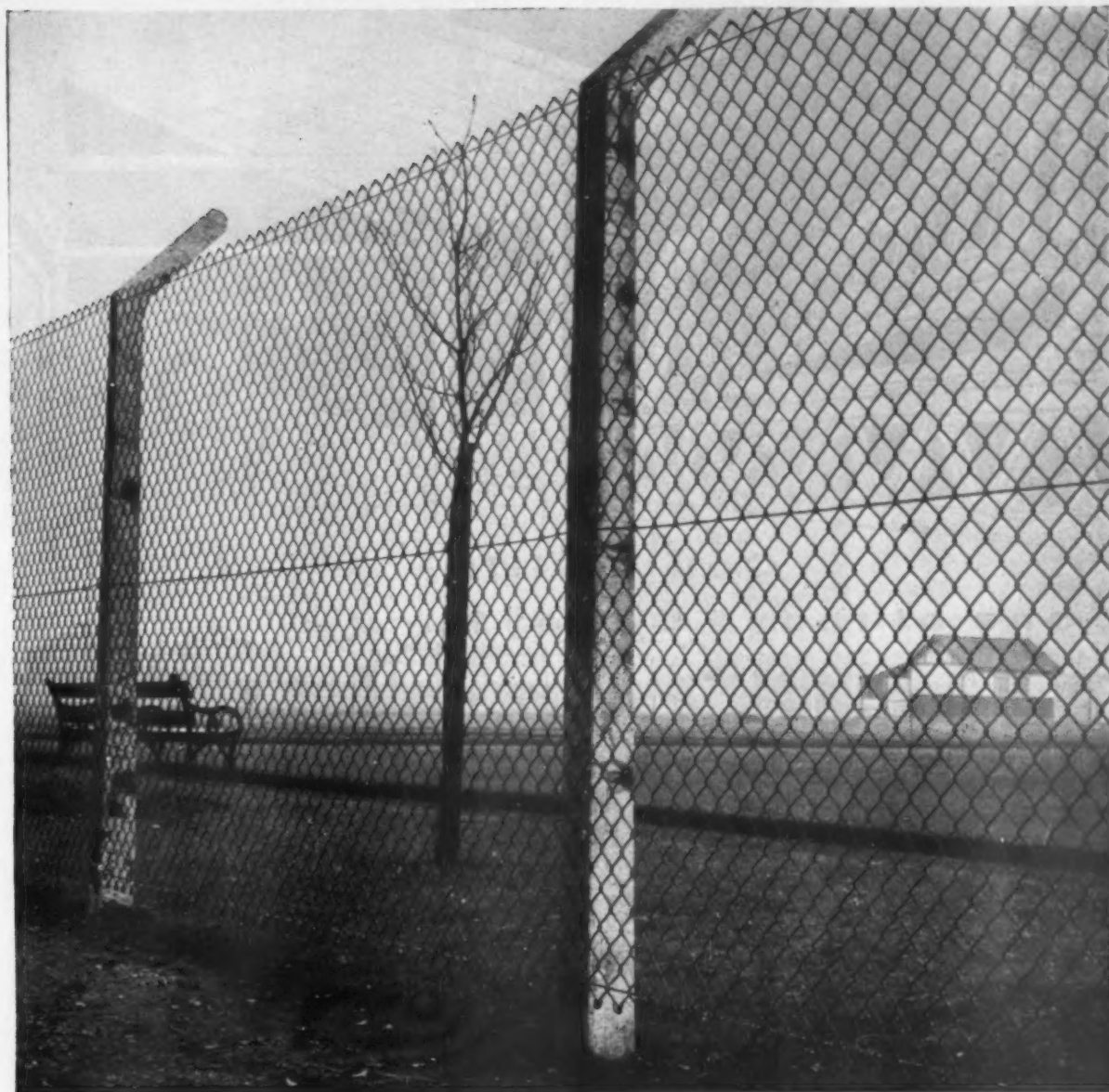


HADEN

**Heating, Air Conditioning
Piping and Sanitary Engineers**

G. N. HADEN & SONS LTD., 7/12 Tavistock Square, London W.C.1
and branches throughout the United Kingdom & Overseas

TA2799



'Welvic' p.v.c. is used by Rylands Brothers Ltd., Warrington for the covering of the 'Rylastic' chainlink fencing round their own recreation club ground.

When you cover chain link fencing with p.v.c.
cover it with 'Welvic'

An increasingly popular use of 'Welvic' is in covering wire for chain link fencing. One of the companies who both cover the wire and make the fencing is Rylands Brothers Ltd., Warrington. The 'Rylastic' chain link fencing which surrounds their own recreation club ground is, in fact, covered with 'Welvic'.

Companies using 'Welvic' p.v.c. compounds can at any time take advantage of I.C.I.'s research and technical service, the finest of its kind in the country. Even if you are only contemplating the use of p.v.c., I.C.I. will be glad to hear from you, and will be glad to put their service at your disposal.

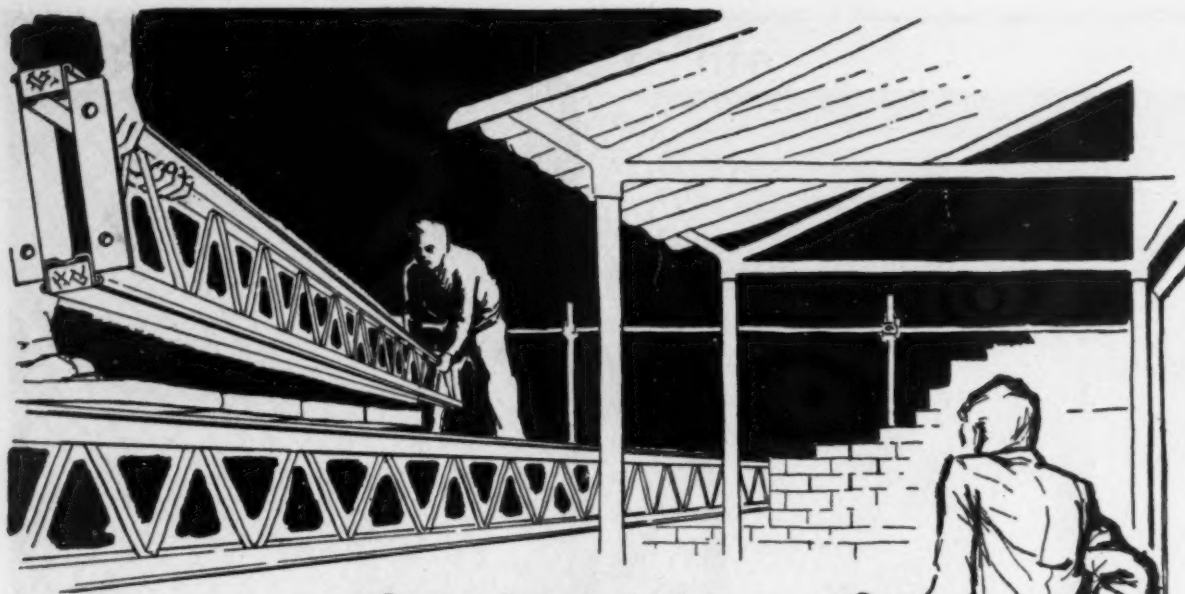
'WELVIC'

'Welvic' is the registered trade mark for the p.v.c. compounds manufactured by I.C.I.

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



PC 40



**Could I lift
one of those Daddy?**



We wouldn't be surprised if Charles could. Our Nailable open web joists are easily handled into position despite their superior strength. Metsec joists are tailor made for each individual contract. Architects and Builders constantly specify their use because of their high strength/weight ratio, great adaptability and economy. All Metsec joists are protected by chemical pretreatment and high temperature stoving. Write for the Book of the Metsec Joists.



METAL SECTIONS LTD



OLDBURY • BIRMINGHAM • Telephone: BROadwell 1541

PLEASE SEND 'JOISTS' CATALOGUE (CAJ)

NAME

POSITION

COMPANY ADDRESS

.....

.....

New for the sixties

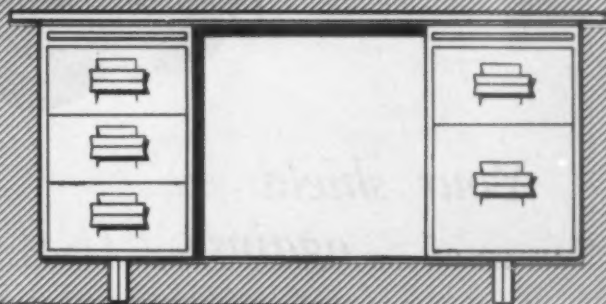
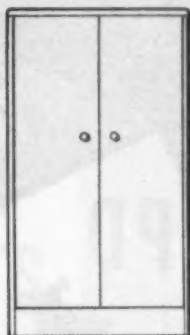
The **V-A 60** range is an entirely new concept in steel office furniture.

Styled by a leading industrial designer, this furniture complements the striking new offices now taking shape.

Desks, cabinets, book-cases —each piece is styled in smooth, flowing lines and immaculately finished in colours to harmonize with all decorative schemes.

Prices?

Surprisingly competitive.



If you are contemplating the furnishing of new offices or are interested in bringing present offices up-to-date see the **V-A 60** range before you make your final decision. An illustrated catalogue is yours for the asking.

VICKERS

VICKERS-ARMSTRONGS (ENGINEERS) LIMITED

DARTFORD KENT SALES OFFICE AND SHOWROOM 13 CITY ROAD LONDON EC1 MET 8677/9

V-A SIXTY

STEEL
OFFICE
FURNITURE



Your shield against FIRE

- Available in white and a range of pastel colours to suit requirements.
- Can be sponged down after fixing to give clean, finished decoration.
- Made to the highest standards in the world's largest Fibre Board mill.
- "Trerock" flame-retardant coated—particularly designed to meet the requirements of the "Thermal Insulation (Industrial Buildings) Act, 1957." Rates, Class I—Surface Spread of Flame Test—B.S. 476/53.

PD **FLAME RETARDANT
INSULATING BOARD**

SIZES AND THICKNESSES			
	Thickness	Width	Length
Standard	$\frac{1}{2}$ in. $\frac{3}{4}$ in. 1 in.	2 and 4ft. 4ft. 4ft.	4, 6 and 8ft. 6 and 8ft. 8ft.
Bevelled Panels	$\frac{1}{2}$ in. and $\frac{3}{4}$ in. $\frac{3}{4}$ in. and 1 in. 1 in. and 1 in.	4ft. 4ft. 2ft.	4ft. 2ft. 2ft.

Other sizes supplied on request.
Kraft paper wrapped in bundles.



POWELL DUFFRYN TIMBER INDUSTRIES LTD.
QUEENSFERRY, CHESTER

Telephone: Harwarden 2001/4



NEW

CHILTON

SINGLE SOCKET SHAVER OUTLETS

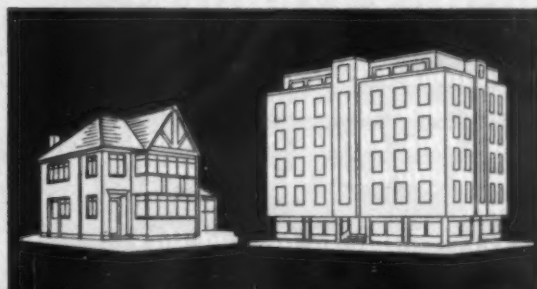
for Home and Commercial use

Chilton are first again! Two brand-new types of electric shaver supply units are now available, having the revolutionary multipin single socket outlet. For the first time there is a single-voltage unit for the Home. Moreover, the dual-voltage unit for Commercial use offers all the advantages of Chilton's world-famous earlier designs, plus many new features.

Known as the Mk. IV, the new single and dual-voltage units bring a fresh look to shaver socket design, blending easily with contemporary or traditional decor. They meet the ever-growing demand for adequate and proper facilities for users of electric shavers. In fact, everywhere men go and stay—hotels, ships, clubs, airports, hospitals and homes—this service is now expected. Discriminating travellers look for the Chilton shaver socket.



CHILTON MK. IV ELECTRIC SHAVER
SUPPLY SOCKET



MK. IV DUAL VOLTAGE UNIT

Supplies either 230v or 115v power source from a single socket, selected by single-pole voltage switch. Fed from secondary winding of 20-watt double-wound transformer with separate primary and secondary windings. Single socket takes British 5 amp, Continental 6 and 10 amp and American 15 amp (flat-pin) plugs. In light-grey plastic with fascia lettered in black.

ALSO available as single-voltage model for use in homes.

CHILTON

Ask for the shaver supply unit of the range of CHILTON models.

ELECTRIC PRODUCTS LTD

HUNGERFORD, BERKS. TEL: HUNGERFORD 237

LONDON OFFICE: 14 OLD QUEEN STREET S.W.1 TEL: TRAFALGAR 3312

AP 79



PIRELLI
SAGA

aluminium suspended acoustic ceiling panels now made in this country!

Physicists of the world famous Pirelli organisation have designed an entirely new aluminium sound absorbing acoustic panel. This Pirelli Saga panel represents highest all-round efficiency in the important matter of noise control.

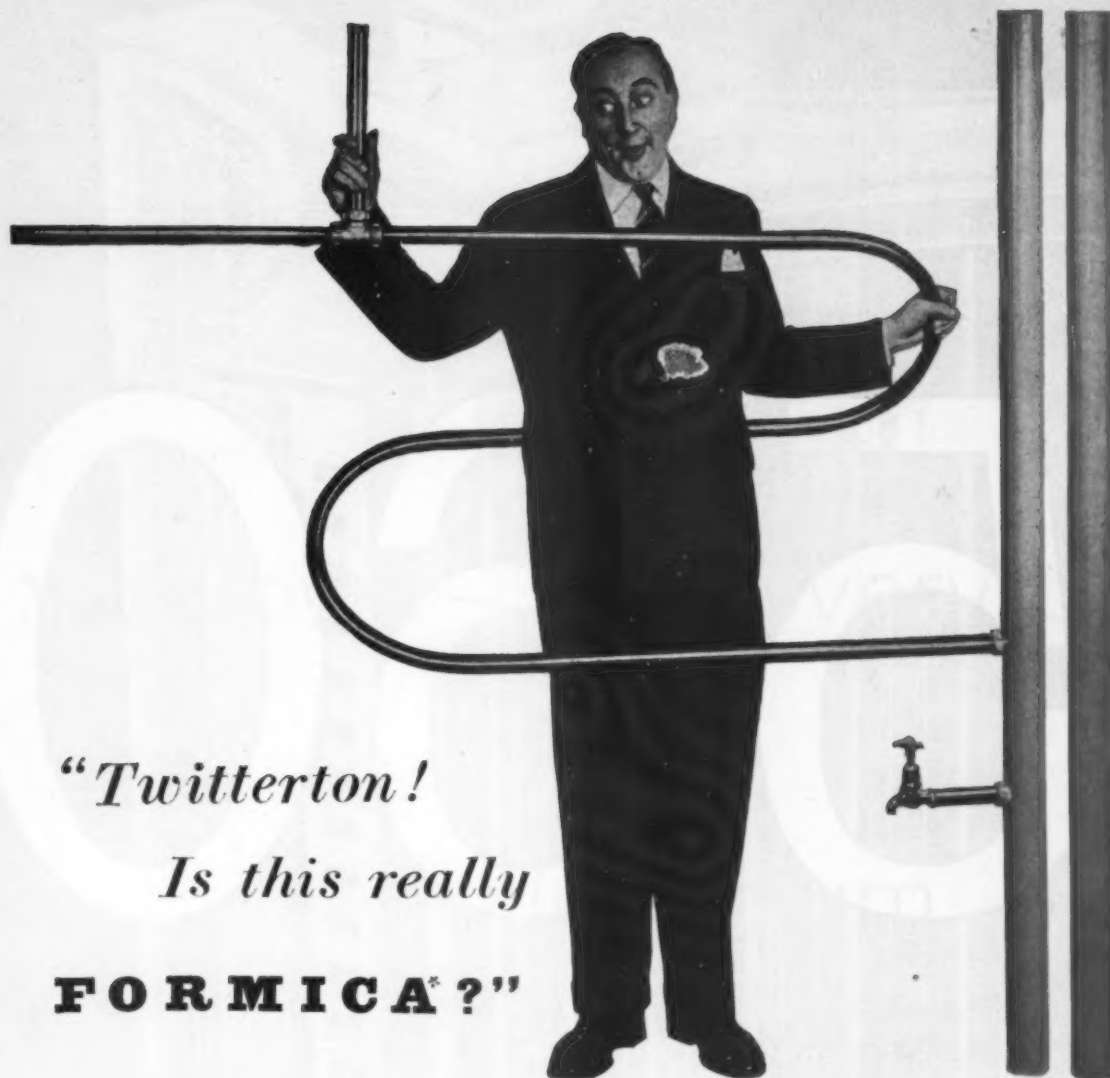
Pirelli Saga panels are very simple to fit, and they can be easily removed and replaced.

Pirelli Saga panels are attractively made. Standard size 2 x 2 ft. They are not at all expensive.

For full details, please write to Sole British Licensees:

SUPER SILENT LIMITED

8-10 Great Titchfield Street, London W.1. Telephone: Museum 1191



"Titterton!
Is this really
FORMICA*?"

Yes, this is Formica plastics piping. Time was, when the name Formica made one think of surfacing materials. Nowadays the best informed people know that Formica Limited make all sorts of things: of which plastics piping is just one. Formica piping has overcome every major disadvantage of metal. It is non-toxic, resistant to corrosion and frost damage, indifferent to old age, extremely light and easy to handle.

Closely related to piping are Formica plastics containers for toothbrushes and cosmetics, and Formica extruded rod for shock-proof screwdriver handles. *So many things come from Formica today!*

FORMICA make

INDUSTRIAL LAMINATES
EXTRUDED PLASTICS
DECORATIVE LAMINATES
CHAIR SETS



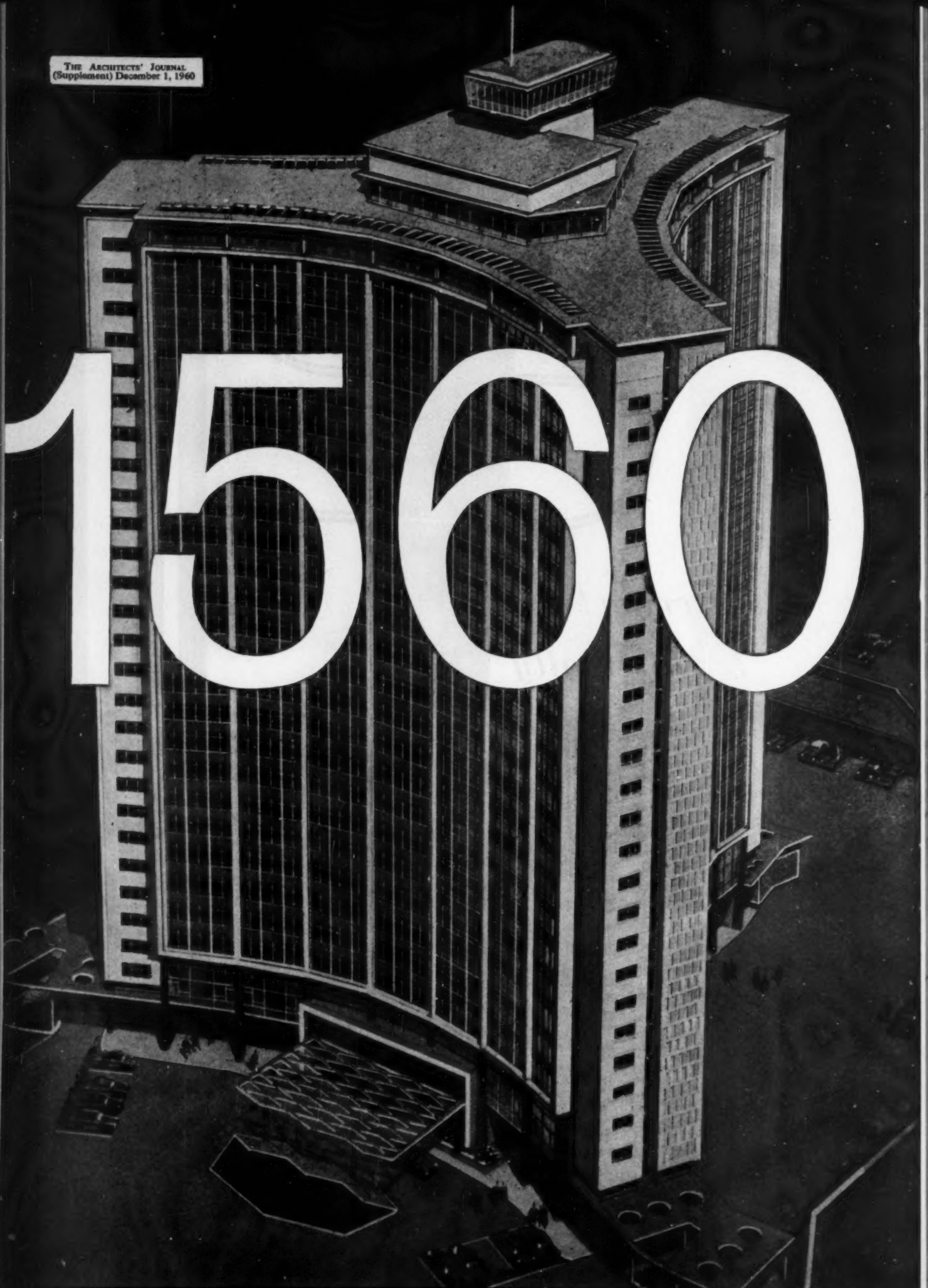
For full information on any FORMICA product please write to:

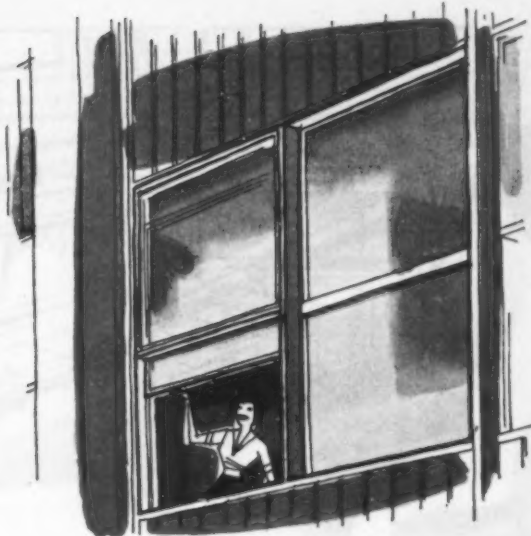
**FORMICA LIMITED, Extruded Plastics Division, Cavendish Works, Buckhold Road,
Wandsworth, S.W.18. Tel: VANDyke 7202**

*FORMICA is a registered trade mark

THE ARCHITECTS' JOURNAL
(Supplement) December 1, 1960

1560





windows — and every one of **Noral** aluminium

The striking Empress State Building at Earls Court will have more than 1500 windows in its 30 storeys. Because low maintenance and good appearance are especially important in a building of this size and prestige, the windows are aluminium—Noral aluminium in the form of Williams & Williams 'Alomega' spring balanced double-hung sashes. The main columns are clad with Noral interlocking extrusions, each 18 in. wide.

Alcan Industries' experience, equipment and world-wide research are behind many of the expanding applications of aluminium in architecture today. We will gladly advise on specific problems.

Stone, Toms and Partners, chartered architects.

Williams & Williams Ltd., curtain walling contractors.

The premises are a City Centre Properties development.

ALCAN INDUSTRIES LIMITED

FORMERLY NORTHERN ALUMINIUM COMPANY LIMITED

Makers of Noral Alloys



Sales Offices: **BELFAST:** Donegall House, 7 Howard Street, Belfast 32805. **BIRMINGHAM:** Devonshire House, Great Charles Street, 3, Central 7393. **BRISTOL:** Pelouquin Chambers, 18 St. Augustine's Parade, 1, Bristol 20351. **LEEDS:** 26-27 Park Row, 1, Leeds 33621. **LONDON:** 50 Eastbourne Terrace, W2, Paddington 3281. **LUTON:** 57 Bute Street, Luton 7364-5. **MANCHESTER:** 23 Princess Street, 2, Central 9335. **NEWCASTLE UPON TYNE:** Great House, Collingwood Street, 1, Newcastle 20878. **Cassings & Forgings Sales Division:** Middlemore Road, Handsworth, Birmingham, Northern 3671.

TBW 1068



Today, it's
'NO-CONTACT'
hand-drying

—less expensive

—more hygienic

The 'ENGLISH ELECTRIC' Hand-Drier will quickly pay for itself by sheer savings in running costs.

This economical method of hand-drying is also the most hygienic. Each hand-dry is as thorough and germ free as the first. The Hand-Drier is pleasant to use and makes for a tidy cloakroom.

Both motor and element are continuously rated.

Send for Publication FP/106 to The English Electric Co. Ltd., F.H.P. Motors Department, Bradford.

'ENGLISH ELECTRIC'

hand-driers

"48 pleasant, hygienic 'hand-dries' for one unit of electricity"

THE ENGLISH ELECTRIC COMPANY LIMITED, ENGLISH ELECTRIC HOUSE, STRAND, LONDON, W.C.2.

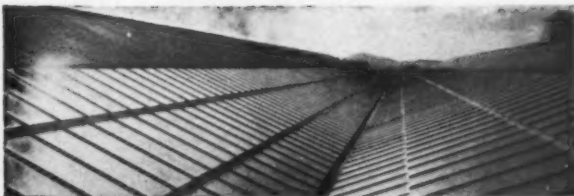
HD.12 WORKS : STAFFORD • PRESTON • RUGBY • BRADFORD • LIVERPOOL • ACCRINGTON

room for expansion

Hills patent glazing bars feature edge sealing that allows excellent thermal movement.

In the lead-clothed bar, oiled asbestos cord forms a seating for the glass, and lead wings are dressed down on to the top surface. In the aluminium alloy bar, oiled asbestos cord again provides the seating, but a plastic-ribboned capping is secured by set screws in the bar section. Both types effect complete weather-proofing, save time in fitting and cost in maintenance.

For full information on Hills patent glazing please contact our Technical Department.



The Liffeshall Co. Ltd., Oakengates, Shropshire.

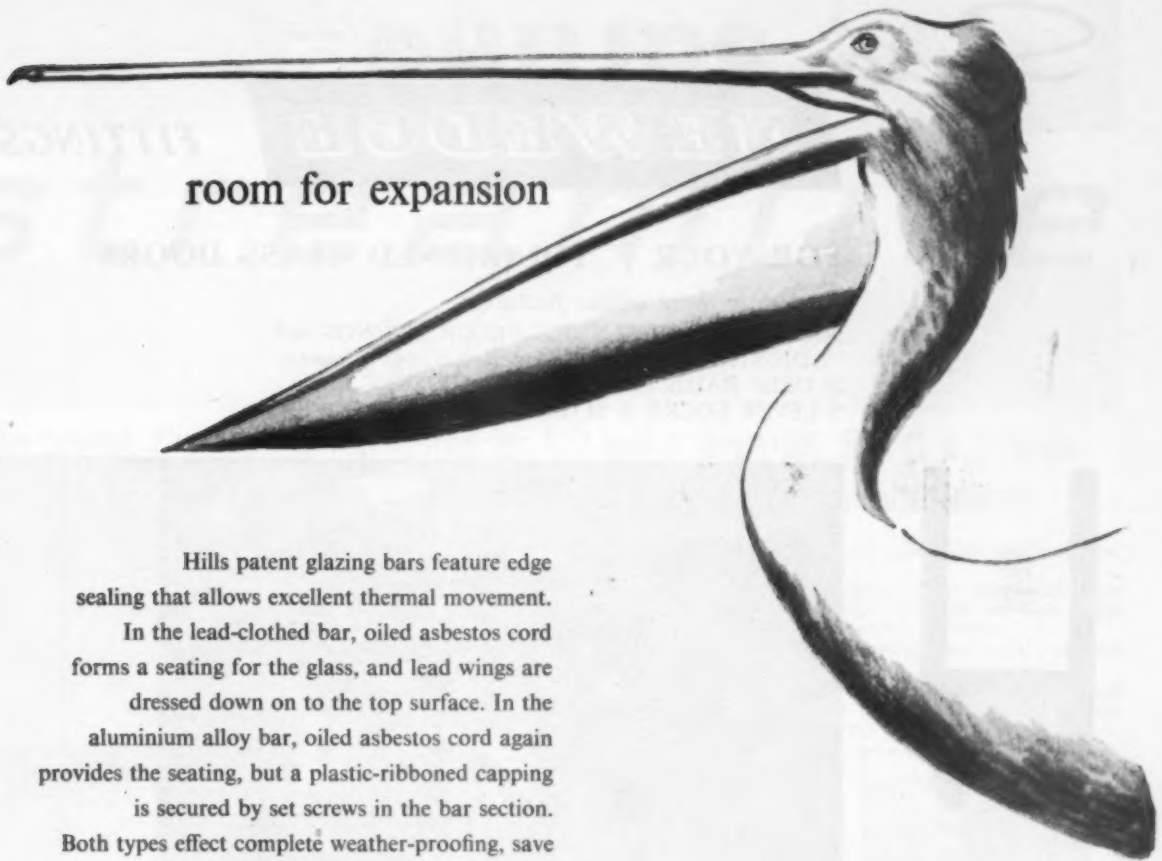
HILLS (WEST BROMWICH) LIMITED



ALBION ROAD, WEST BROMWICH, STAFFS.
Telephone: West Bromwich 1811 (15 lines).

London: CHAPONE PLACE, DEAN STREET, W.1.
Telephone: GERRard 0526/9.

Branches at: Manchester, Bristol, Newcastle-on-Tyne, Glasgow.



Spondon Power Station.
Architects: Cecil Howitt and Partners, Nottingham.
*In collaboration with the Midlands Project Group of
The Central Electricity Generating Board.*

Specify

NEWEDGE

FITTINGS

FOR YOUR ½" TOUGHENED GLASS DOORS

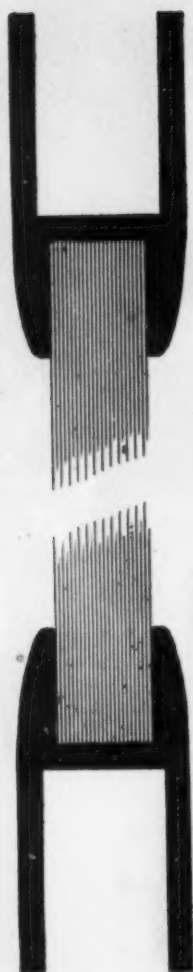
To obtain these unique features

NEWMAN'S "BRITANNIC" FLOOR SPRINGS with

"ADJUSTABOX" the modern method of door alignment

2" DEEP RAILS FOR MAXIMUM VISION AREA

5 LEVER LOCKS & SLIDING KEYHOLE COVERS



**"NEWEDGE" FITTINGS ARE GUARANTEED 5 YEARS
APPROVED AND USED BY PILKINGTON BROTHERS LTD.**

MANUFACTURED BY

NEWMAN'S

WILLIAM NEWMAN & SONS LTD.
HOSPITAL STREET, BIRMINGHAM, 19

Ask Your Glass Merchant for a Leaflet



PHILIPS

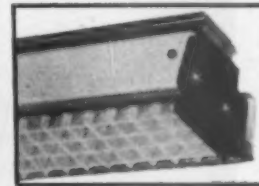
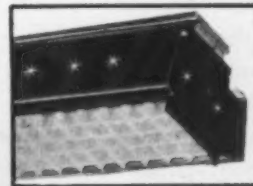
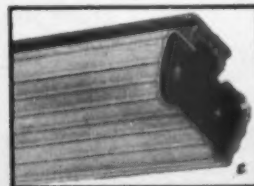
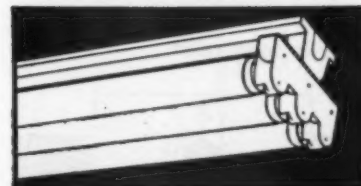
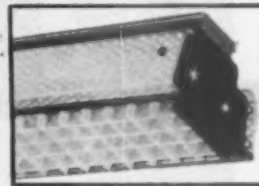
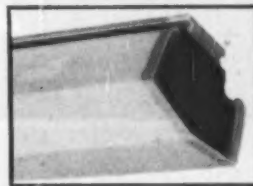
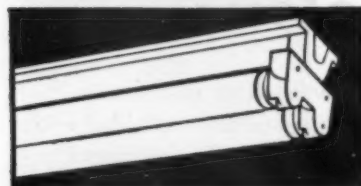
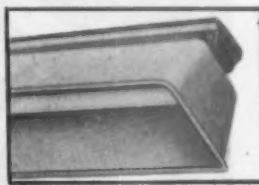
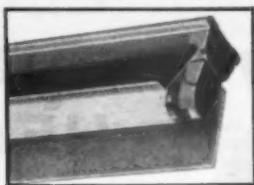
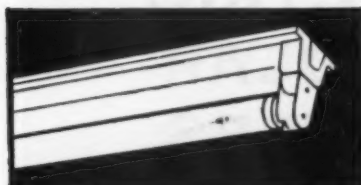
streamlite

is here!

The newest, slimmest lighting fittings for 1, 2 and 3 lamps 5ft. 80w (1 & 2 lamps 2ft. 20w, 4ft. 40w)—with a big range of reflector and diffuser attachments

Philips Streamlite - it's the newest thing in fluorescent lighting fittings. And it out-dates every other type of fitting on the market. For Philips Streamlite - so slim, so sleek, so stylish - has far more to offer than any other fluorescent fittings you can buy, including some advantages that are as unique as they are striking:

- Philips Streamlite gives you Switch and Switchless start in the popular sizes.
- There is a choice of one, two or three lamp fittings - all equipped with Philips even slimmer Polyester ballasts.
- B.S. Box fixing and conduit entries at 24" centres. (B.S. 2467) 2ft. 20w. 17½" centres.
- It is extraordinarily reasonable in price.
- It is suitable for single and continuous mounting.
- Philips Sprung Rotor lampholders with earth plungers for lamp end-caps—rapid fixing, automatic positioning.
- 10 amp. mains terminal block, and earth connection.
- Full length back plate with rigidly secured cast alloy ends providing earth continuity for end entry conduit.



SEND THIS COUPON FOR COMPLETE INFORMATION



To: Philips Electrical Ltd., Lamp and Lighting Group, Century House,
Shaftesbury Avenue, London, W.C.2

Please send me the comprehensive leaflet giving full details of Philips 'Streamlite' fittings.

NAME _____

ADDRESS _____

SAJ 2

PHILIPS LEAD THE WORLD IN LIGHTING

(LD3284)

***copper rose...lilac
silver...gold...
florentine bronze***

**FIVE NEW SHADES
FOR COLOUR HARMONY**



WRITE TODAY FOR COLOUR FOLDER

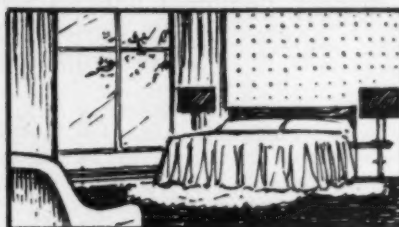
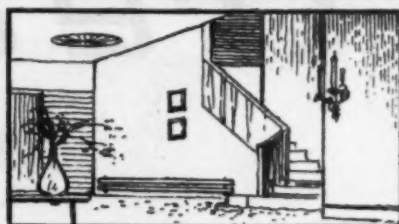
For wall or floor mounting.

In lengths from 2—17 ft.

Single or up to six tiers.

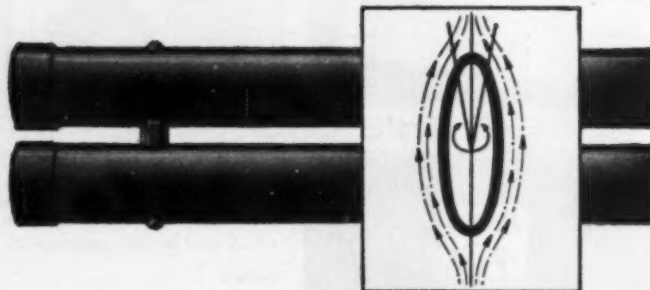
Temperature can be
thermostatically controlled.

The oval design provides a
90% heating surface and
permits loadings of
up to 80 watts per ft.



ELECTRIC TUBULAR HEATERS *in colour*

Maxheat is now available in hammer finish and five new colours to blend with any decorative scheme. For all round warmth Maxheat has no peer, and with these attractive new colours, will add luxury to any room.



THE WARDLE ENGINEERING CO. LTD.

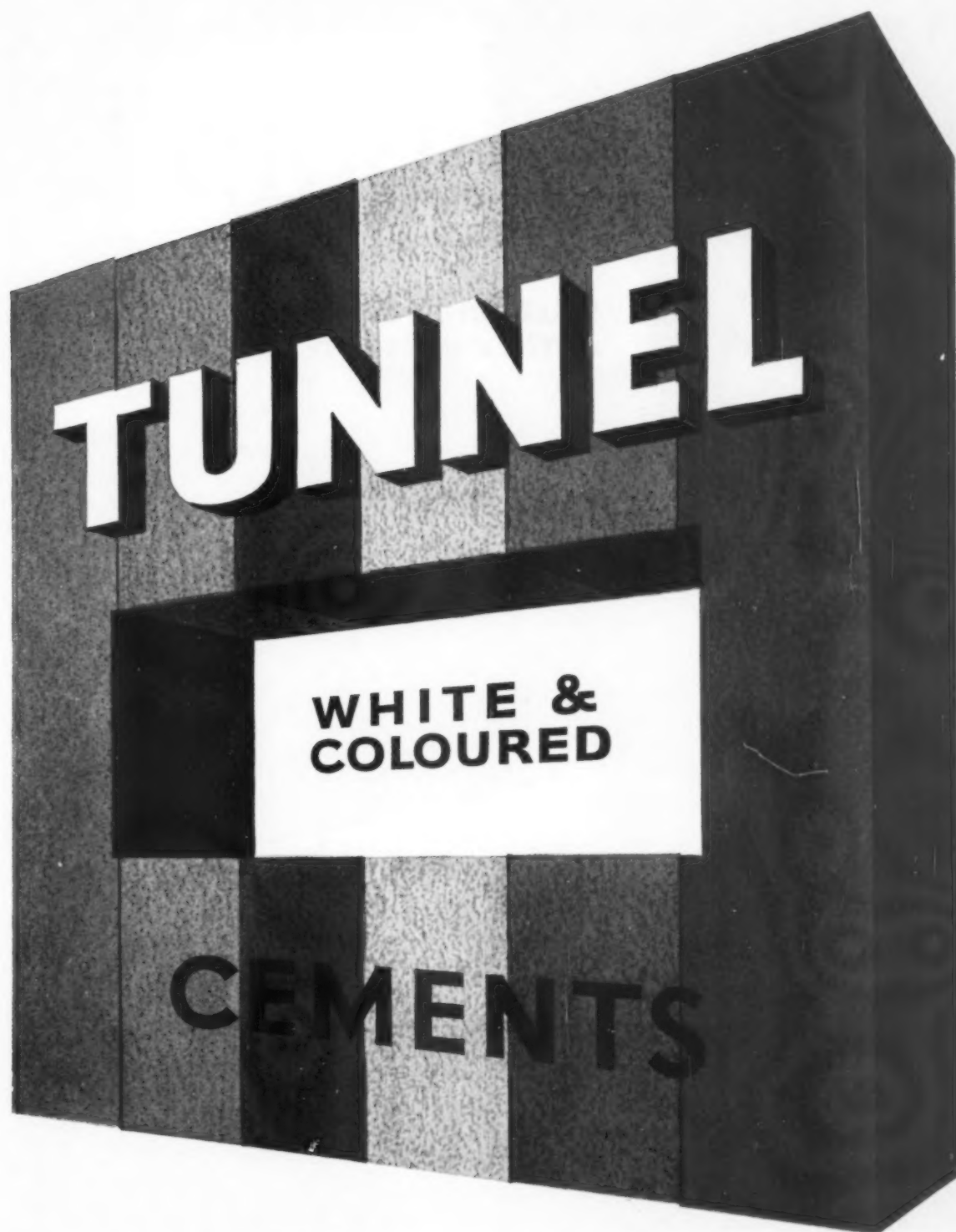
OLD TRAFFORD, MANCHESTER 16

London Office: 34 Victoria Street, S.W.1

Telephone: TRAfford Park 1801 (3 lines)

Telephone: ABBey 4072 and 1356

W39162



THE TUNNEL PORTLAND CEMENT COMPANY LIMITED · 105 Piccadilly, London W.1. GROSVENOR 4100
CVS-37



**Put more
offices here!**

A tough problem? Yes, but
there's a simple solution...contact
British Plaster Board. They have the answer
to the problem of making maximum use of existing
space. In fact they've written a booklet on the subject.
Send for your copy NOW!



THE BRITISH PLASTER BOARD (Manufacturing) LTD.
FERGUSON HOUSE, 15/17 MARYLEBONE ROAD, LONDON, N.W.1

AP 218

GERRARDS *of Swinton*

EXPERIENCE COUNTS



*New offices and workshops for Goss Printing Press Co. Ltd., Preston.
Architects Harry S. Fairhurst and Son, F/A.R.I.B.A.*

J. GERRARD & SONS LTD.
SWINTON, MANCHESTER
AND AT LONDON & IPSWICH

Building & Civil Engineering Contractors



**Put more
offices here!**

A tough problem? Yes, but
there's a simple solution...contact
British Plaster Board. They have the answer
to the problem of making maximum use of existing
space. In fact they've written a booklet on the subject.
Send for your copy NOW!



THE BRITISH PLASTER BOARD (Manufacturing) LTD.
FERGUSON HOUSE, 15/17 MARYLEBONE ROAD, LONDON, N.W.1

AP 218

GERRARDS *of Swinton*

EXPERIENCE COUNTS

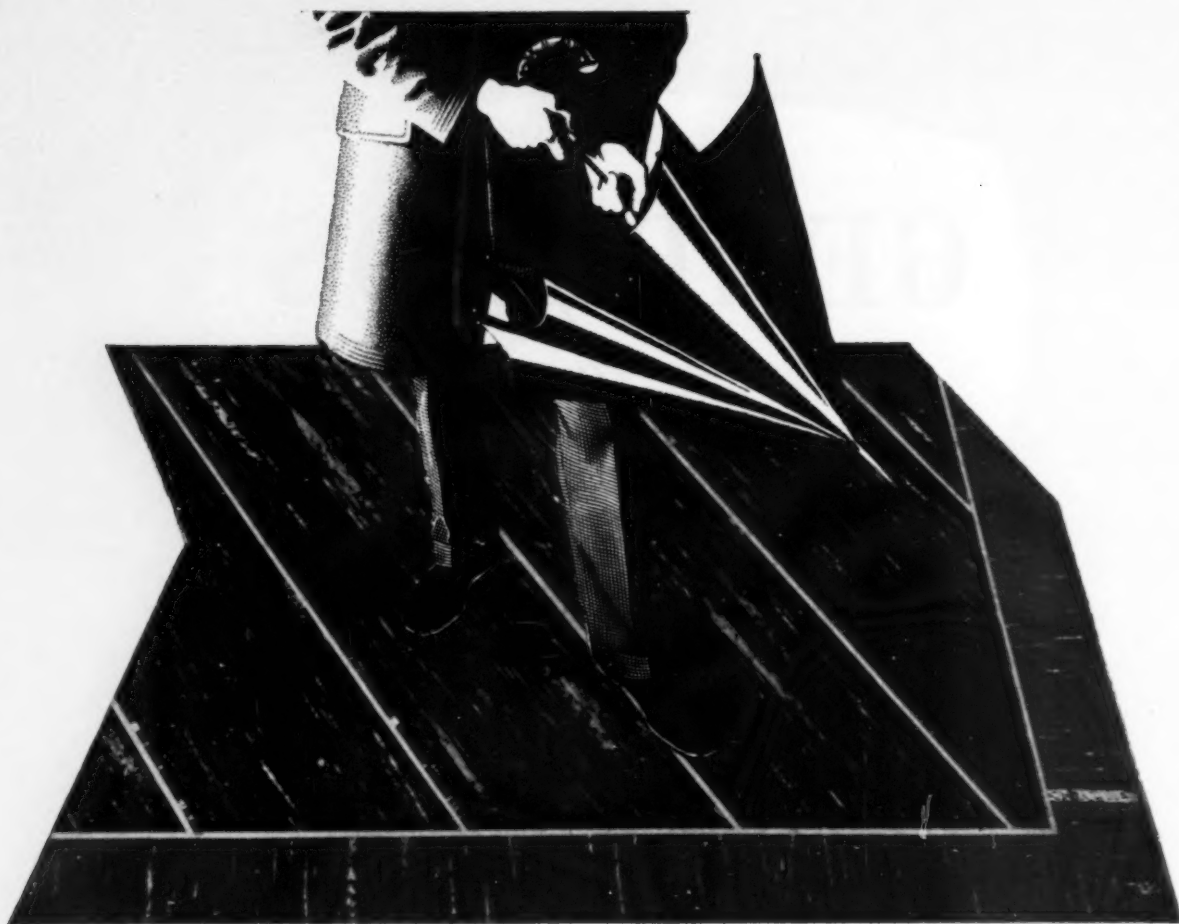


*New offices and workshops for Goss Printing Press Co. Ltd., Preston.
Architects Harry S. Fairhurst and Son, F/A.R.I.B.A.*

**J. GERRARD & SONS LTD.
SWINTON, MANCHESTER**

AND AT LONDON & IPSWICH

Building & Civil Engineering Contractors



WHEN YOU'RE CHOOSING THE FLOOR COVERING

You can't put a foot wrong with
LINOLEUM

Ask the people who're going to live in the house you've designed - they'll tell you which kind of floor they prefer. Linoleum - *modern* linoleum.

Grease and dirt can't cling to its surface ; soap and water restore its hygienic freshness without fuss

or effort; mop and polish give it a sparkling luxuriance, day after day. Linoleum takes the roughest, toughest treatment lying down - for years and years. And modern linoleum offers a wealth of designs and colours which no other material can equal.



"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: HARRY OYLER & SHEPHERD LTD., Kirkcaldy · DUNDEE LINOLEUM CO. LTD., Dundee · LINOLEUM MANUFACTURING CO. LTD., 6 Old Bailey, London, E.C.4 · MICHAEL HAIN & CO. LTD., Kirkcaldy · NORTH BRITISH LINOLEUM CO. LTD., Dundee · SCOTTISH CO-OPERATIVE WHOLESALE SOCIETY LTD., Falkland, Fife · JAS. WILLIAMSON & SON LTD., Lancaster.



LITELINE TRUNKING

MORE ADAPTABLE

You can build up Liteline Trunking to suit your present needs, and when the time comes you can extend it, expand it, re-arrange it or take it down and re-erect it on another site.

We know that the sort of alert, go-ahead people who appreciate the advantages of Liteline Trunking don't stand still. They keep adding a wing or moving into bigger premises. So we've designed and developed Liteline Trunking for the sort of businesses that are forever bursting at the seams.

There's a free 10-page illustrated brochure waiting to bring you the whole story of Liteline Trunking.

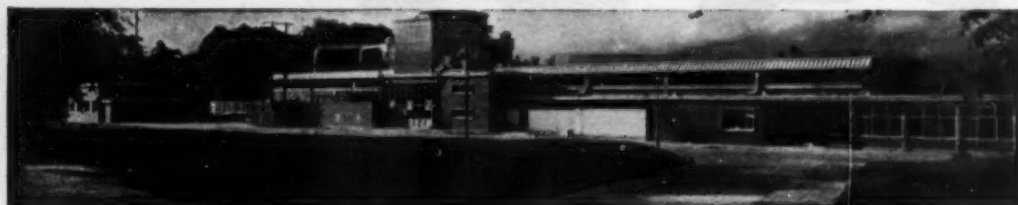
Write to: Associated Electrical Industries Ltd

Radio and Electronic Components Division

Lamps and Lighting Department

38/39 Upper Thames Street, London, E.C.4

CNO 11/81



SPANBOARD



MANUFACTURED BY

**THE ULSTER CHIPBOARD
COMPANY LIMITED**

COLERAINE, NORTHERN IRELAND

**THE ONLY HOMOGENEOUS GRADED - DENSITY WOOD
CHIPBOARD MANUFACTURED IN THE BRITISH ISLES**

FOR FULL DETAILS APPLY:

HARRISONS & CROSFIELD LTD.

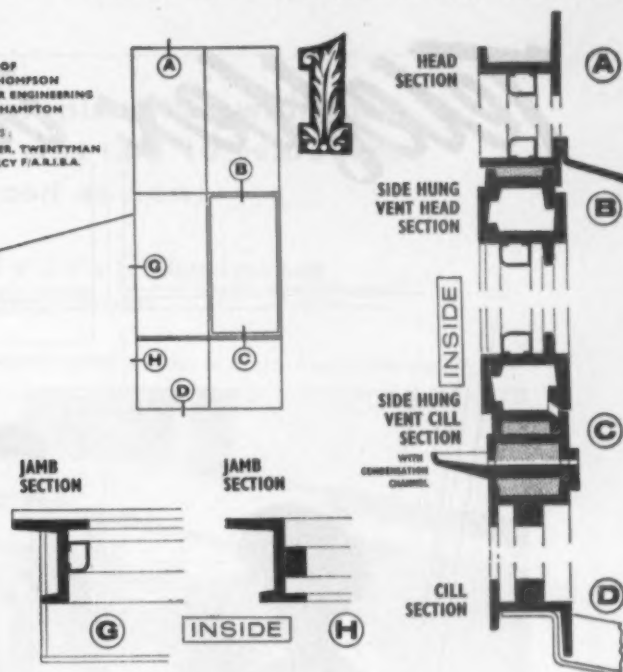
1/4 GREAT TOWER STREET, LONDON, E.C.3

THE ULSTER TIMBER COMPANY, BELFAST, NORTHERN IRELAND.



OFFICES OF
JOHN THOMPSON
NUCLEAR ENGINEERING
WOLVERHAMPTON

ARCHITECTS:
LAVENDER, TWENTYMAN
AND PERCY F.A.R.I.B.A.



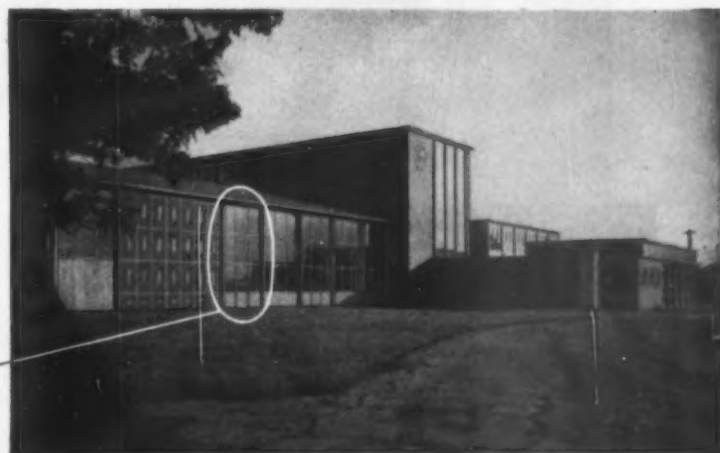
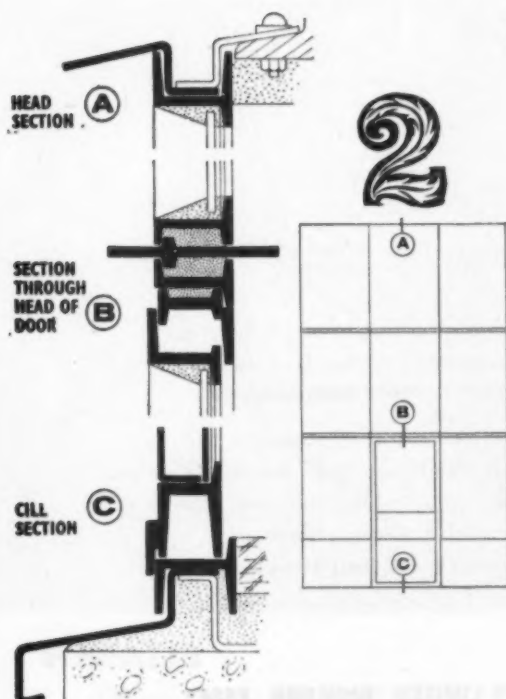
1

The Architect has achieved a bold elevational effect by setting Steel windows, between the verticals and horizontals of his concrete structure — the result has many of the advantages of curtain walling but avoids the usual flat effect.

2

The Architect has used a dark massing effect of brickwork to set-off the glass areas of the Assembly Hall of this school. These Steel windows are coupled horizontally and incorporate outward opening doors in case of emergency.

BOTH THESE STEEL WINDOW SCHEMES WERE ZINC-METALLISED



WOBASTON SECONDARY MODERN SCHOOL
WOLVERHAMPTON

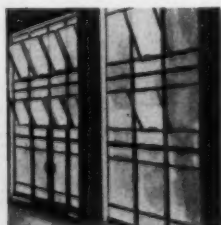
ARCHITECTS:
LAVENDER, TWENTYMAN AND PERCY F.A.R.I.B.A.



PURPOSE-MADE CASEMENTS

JOHN THOMPSON BEACON WINDOWS LTD • WOLVERHAMPTON

Teleflex it!



TELEFLEX solves window control problems. Remotely – mechanically – simply – economically – unobtrusively or **completely concealed**

Suitable for all types of hung windows – Top, Side, Bottom, Projected Top, Vertical Centre, Horizontal Centre – and Patent Glazing, Roof Lights, Lantern Lights, Louvres, Sliding Sashes, Skylights, Sunbreakers, Hit and Miss Vents.

Teleflex

TELEFLEX PRODUCTS LIMITED · BASILDON · ESSEX

Telephone: Basildon 22861

Grams: TELEFLEX PHONE BASILDON

The floor of this food preparation plant has withstood continuous heavy wear since it was laid 10 years ago —and it is still as good as new.

WHEATLY triton 9" x 9" x 1½" Blue Lockjoint
Quarries at the Express Dairy, Drayton.

All Wheatly 'triton' Quarries are produced to British Standard 1286:1945 and we recommend that they be fixed to Code of Practice 202:1959.



Tile Fixers: Carter & Kernahan

WHEATLY



triton

Specimens of Wheatly 'triton' floor quarries and air bricks may be seen at the Building Centres in London, Manchester and Glasgow. Other products include single lap roofing tiles, ridge tiles (blue and red) and briquette fireplaces.

WHEATLY & COMPANY LIMITED

SPRINGFIELD TILERIES, TRENT VALE, STOKES-ON-TRENT

Tel: NEWCASTLE (STYPAS) 66251/66252

Grams: WHEATLY TRENTVALE
WH103

The £.s.d. of OSAL[★]

—Surface hardening and protection
of Concrete, Stone and Cement

**It's
not
the cost
per gallon
but
the cost per yard
that counts**

At a cost of only 6½d. per square yard. Florosal hardens Concrete Cement and many building Stones. Effects chemical reactions that produce insoluble, indestructible, protective compounds.



For many years Florosal has been specified by leading Architects, not only for hardening, but to provide a non dusting surface resistant to liquids, acids and oils. Send for Information Leaflet No 2.

★ OSAL is the generic name for the products of A. A. Byrd & Co. Ltd. "Tricosal" for integral waterproofing & hardening of Concrete, "Neocosal" for surface waterproofing of Brick, Concrete and Stone and "Florosal". Literature on each individual product is available from :

A. A. BYRD & CO. LTD. (DEPT. A.5.), 210, TERMINAL HOUSE, GROSVENOR GARDENS, LONDON, S.W.1

Phone : SLOane 5236. Grams : Byrdicom, Wesphone, London

Works : Basingstoke, Hants



This gadget saved a whole factory

This A.F.A. automatic fire detector, fitted years ago in an industrial client's storeroom and almost forgotten, dramatically came to life one night last month. It detected a small fire, called the Brigade automatically and probably saved the entire factory! A.F.A. protects hundreds of buildings and stops over fifty such fires every year. Please post the coupon below, or ring us at Larkwood 8373 or at our branch at Bristol (47898), Birmingham (Midland 5269), Edinburgh (Caledonian 5800), Glasgow (Douglas 1690), Harrogate (5262), Leicester (66990), Liverpool (Central 9653), or Manchester (Moss Side 4647).



AUTOMATIC FIRE DETECTION

To: ASSOCIATED FIRE ALARMS LTD.,
CLAREMONT ROAD, LONDON, E.17
Please send me full details of the A.F.A.
automatic fire detector system.

Name _____
Address _____



in one working day!

Modernisation of a bar, restaurant, shop or office *all in one day*? And without disturbing staff or customers? That's what can be achieved by using HARDEC—*quickest fixing plastic surface*. The reason is this: HARDEC is a *balanced board* which lies flat by itself, needing only the simplest fixing.

In 'Operation HARDEC', the area to be re-surfaced is measured-up and the boards pre-cut to size beforehand. Then colourful, plastic-surfaced HARDEC tops can be quickly and permanently fixed on horizontal surfaces with the minimum of adhesive or by simple metal edging.

Wall-panelling with HARDEC (in another of its many designs) takes only a little longer. A simple framework of timber grounds . . . contact adhesive (panel-pins or screws, if you prefer) and the job is done.

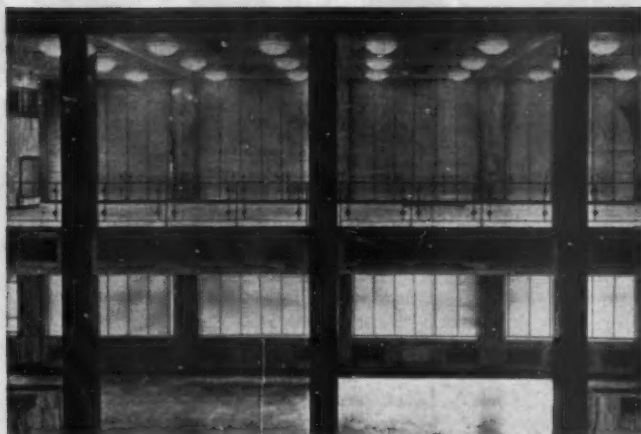
THAT'S THE TIME, LABOUR AND MONEY YOU SAVE WITH

Hardec

Quickest-Fixing Horizontal or Vertical Plastic Surface

Write for free sample to:—

THE AIRSCREW COMPANY & JICWOOD LTD • DEPT AJ18 • WEYBRIDGE • SURREY



Sunway Blinds are Al at Lloyd's.



Sunway Skylight Blinds fitted to glass roof of office.



Sunway Standard Blind fitted with invisible Terylene Tapes (offices for Moons Motors Ltd. designed by J. M. Austin-Smith and Partners).

IN ANY SITUATION —

SUNWAY SECA **VENETIAN BLINDS**

If you have a
Venetian Blind problem—
here is a specialist service.
We will be very pleased
to discuss and advise
on all types of installation.

Main Distributors and Fixers

HORSLEY, SMITH HEWETSONS



HORSLEY, SMITH & CO. (Hayes) LTD. Hayes, Middlesex
Telephone HAYes 2931

J. A. HEWETSON & CO. LTD. Marfleet, Hull
Telephone 13880

SPTUR



for the Architect

SIMPLICITY

Spur shelving system can be erected easily without skilled labour.

ADAPTABILITY

The position of Spur shelf brackets can be easily and rapidly changed as layout and shelving requirements alter. The shelf brackets are simply moved to other slots.

ATTRACTIVE

Spur shelving looks good and is made in attractive colours.

STRENGTH

Spur is scientifically built for the job and will take heavy loads.

ECONOMY

Spur saves erection costs and enables maximum use to be made of space.

SPUR to new ideas. Spur to better shelving. Spur to progress in design through this most modern and versatile shelving system!

Have you considered Spur? It is full of new possibilities for the architect—not only for shelving but for many other problems of support such as tables, desks and counter tops.

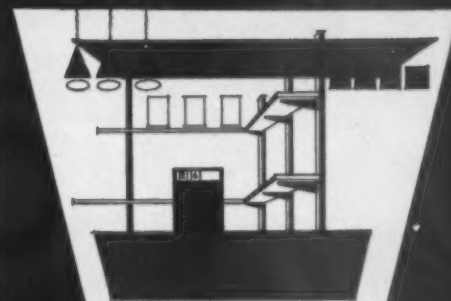
How SPUR shelving works

Spur relies on simple, detachable cantilever brackets. These are clipped into slotted 14 gauge steel uprights of U-Channel section. When shelving requirements alter—the brackets are simply moved to new positions—hence the countless applications for Spur in shops, stores, warehouses, libraries, laboratories, workshops and the home.

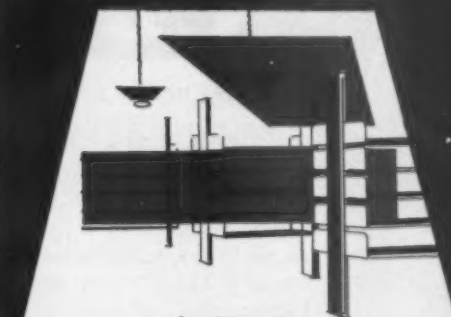
How SPUR helps design

As a feature of design alone—apart from their functional aspect—Spur units add a new and striking touch to any interior. Apart from the standard wall uprights, Spur double-sided uprights are made—ideal for room sub-division. Special Spur fitments are available for the most specialised shelving requirements, and brackets are made in standard and sloping types and in a range of sizes.

VERSATILE SHELVING SYSTEM?



for shops



for libraries



for stores

SPUR



the
precision-built
shelving
system

MORE INFORMATION?

Write for this full and informative brochure which gives you full specifications and goes into detail on all SPUR units and fitments.

Specify the **SPUR** system for shelving



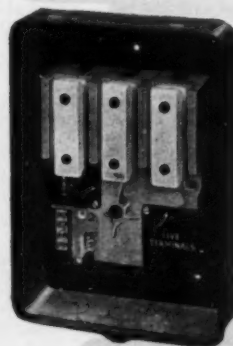
NEW

all contractors and
consulting engineers
will want to use
these **NEW**

"HIDUTAC" SWITCHFUSES

**SINGLE POLE AND NEUTRAL - DOUBLE POLE -
TRIPLE POLE - TRIPLE POLE AND NEUTRAL**

Men whose business it is to assess and advise are quick to appreciate the very real advantages offered by G.E.C.'s new Hidutac switchfuses. Unlimited full load switching. High breaking capacity. High fault current protection. Absolute safety. These are the performance features that the experts like so much, but they also welcome the smaller size and the good looks of this advanced range of switchfuses. As it is made by G.E.C., they naturally take its reliability for granted.



15, 30 or 60 amp. 440 volt a.c. Single Pole and Neutral, Double Pole, Triple Pole, Triple Pole and Neutral Switchfuses with interchangeable H.R.C. or rewirable fuses.



INSTALLATION EQUIPMENT GROUP

SWITCH AND FUSE GEAR • H.R.C. FUSES • OVERHEAD BUSBARS • RISING
MAINS • CONDUIT • PIRELLI GENERAL CABLE • CABLE TRUNKING
UNDER FLOOR CABLE DUCTS • ELECTRIC WIRING ACCESSORIES • BELLS

THE GENERAL ELECTRIC CO. LTD., MAGNET HOUSE, KINGSWAY, LONDON, W.C.2



MEDWAY CONSTRUCTIONAL SYSTEMS

Medway modular systems save both time and money. This is ensured by first class architectural detail and sound timber engineering, combined with really up-to-date production techniques. Very rapid site schedules can be offered with 'all-dry' methods. Design costs can also be cut at the 'working drawing' stage of a project.

Medway have systems suitable for almost any one or two-storey building—permanent or demountable. For rapid building, economic cost and, of course, a most attractive building use a *Medway System*.

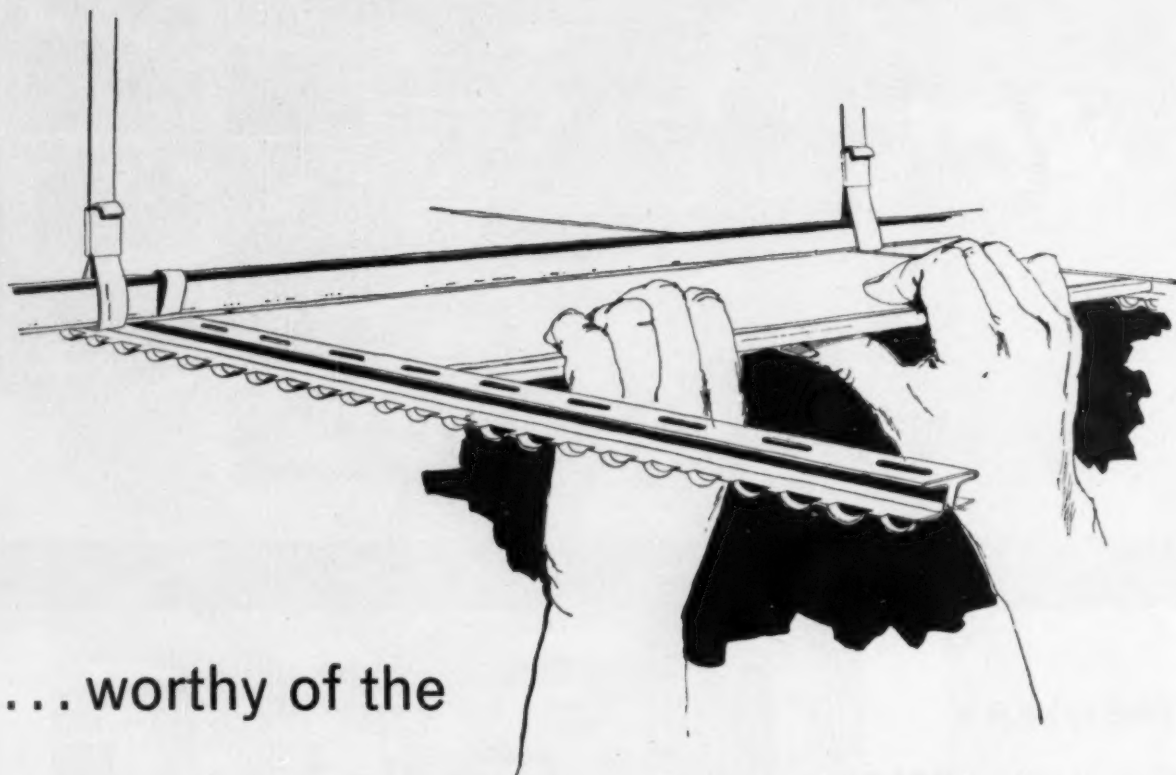
MEDWAY TIMBER STRUCTURES

MEDWAY BUILDINGS & SUPPLIES LTD.,
Phoenix Wharf, Rochester, Kent. Tel: Strood 7521



PLAXSTELE SUSPENDED CEILINGS

give up to two-hour fire resistance



... worthy of the

hands of the craftsman

GYPROC

products include:

GYPROC WALLBOARD—LATH—PLANK

GYPROC PLASTERS

GYPSTELE ROOF AND WALL LININGS—SUSPENDED CEILINGS

PLAXSTELE SUSPENDED CEILINGS

GYPUNIT PANELS

GYPTONE ACOUSTIC TILES

GYPLITE READY-MIXED LIGHTWEIGHT AGGREGATE PLASTERS

GYPELITH WOOD WOOL SLABS

Free technical literature will be sent on request

GYPROC PRODUCTS LIMITED

Head Office: Singlewell Road, Gravesend, Kent. Gravesend 4251/4 Glasgow: Gyproc Wharf, Shieldhall, Glasgow, S.W.1. Govan 2141/3

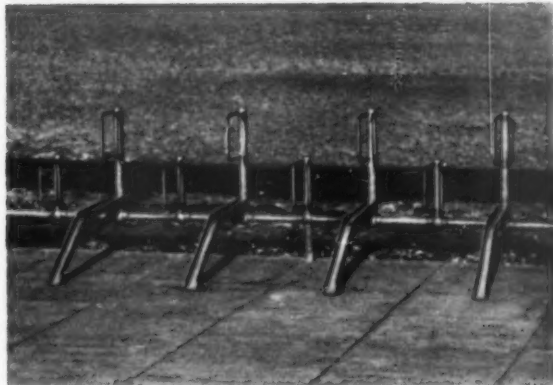
Midlands: 11 Musters Road, West Bridgford, Nottingham. Nottingham 82101 London: Ferguson House, 15/17 Marylebone Road, N.W.1. Hunter 4931/4

PX4

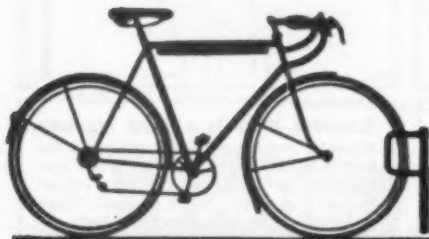
VeloPA

BICYCLE HOLDERS

- heavily galvanised steel
- require no maintenance
- virtually indestructible
- simple and effective
- grip tyre only
- easily installed



By permission of Middlesex County Council



*By permission of the Chief Architect,
Crawley Development Corporation, Sussex*



*By permission of the Chief Education Officer,
Norfolk Education Committee*

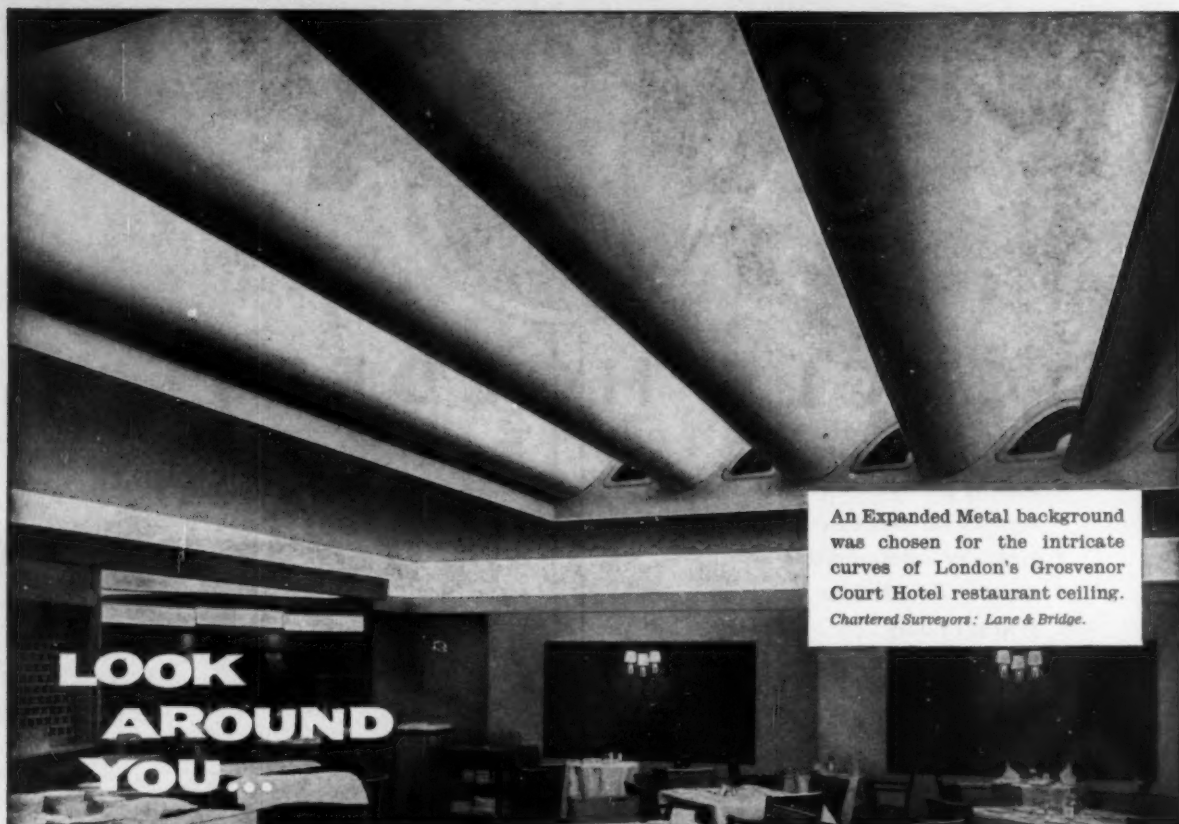
LE BAS TUBE COMPANY LIMITED

City Wall House, 129 Finsbury Pavement, London, E.C.2

LONDON • MANCHESTER • GLASGOW • BELFAST

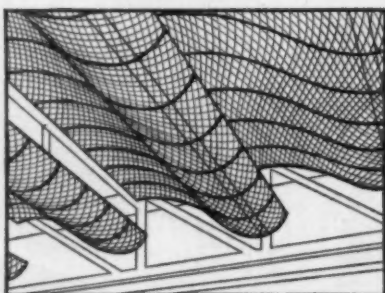
Telephone: MONarch 8822

Telegrams: Lebasco, Avenue, London



An Expanded Metal background was chosen for the intricate curves of London's Grosvenor Court Hotel restaurant ceiling.
Chartered Surveyors: Lane & Bridge.

and see how Expanded Metal translates the most complex suspended ceiling from drawing board dream into reality



Expanded Metal is infinitely versatile
Flat, domed, arched, vaulted . . . whatever the form of the suspended ceiling you plan, Expanded Metal will match it . . . easily, accurately, beautifully and economically.



Expanded Metal is backed by a unique service When you select Expanded Metal you enjoy the service of suspended ceiling specialists who will collaborate with you in both design and construction on a fully responsible basis.



Expanded Metal is a major economy
Expanded Metal keys are permanent quality keys. With suitable plaster mixes a very high fire rating can be achieved and an exceptional degree of acoustic control attained. These benefits are additional to low initial cost.

Write today for details



EXPANDED METAL

at the heart of more things than most people realise

THE EXPANDED METAL COMPANY LIMITED, 16 Caxton Street, London, S.W.1. Phone: ABBey 7706 Also at: Aberdeen · Belfast · Birmingham · Cardiff · Dublin · Exeter · Glasgow · Leeds · Manchester · West Hartlepool · The Expanded Metal Company of Canada Ltd., Annacis Industrial Estate, Vancouver, Canada.

Agents in every country throughout the free world.

Expamet

PROTIM

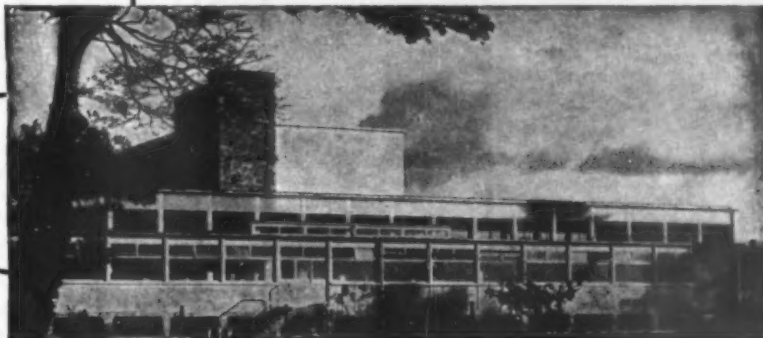
protects timber

Timber is one of the oldest and finest of building materials, but it will give maximum service only when it is completely and permanently protected against wood destroying organisms.

PROTIM is a highly toxic and chemically stable preservative. It is water-free and gives complete protection against all insect and fungal infestation, such as WET and DRY ROT, HOUSE LONGHORN, FURNITURE and DEATH WATCH beetle to name the more common forms of attack.

PROTIM treated timber can be over-painted. Protim is compatible with all types of adhesives and can therefore be safely used in all laminated construction.

PROTIM AUTHORISED PROCESSORS who are well known, reputable TIMBER IMPORTERS and MERCHANTS are situated in all parts of the country. They will supply PROTIM treated timber to your specification at competitive prices, to your complete satisfaction.



Wherever building is undertaken, Protimised timber may be specified with confidence in the knowledge that it is permanently preserved against all forms of wood rotting fungi, woodworm and termites, with no fear of shrinkage, warping, splitting or shaking after the timber is in use.

Protim

ILLUSTRATION:

Wadebridge County Secondary School where a great deal of Protimised timber was used in its construction. By kind permission Cornwall County Architect, Truro.

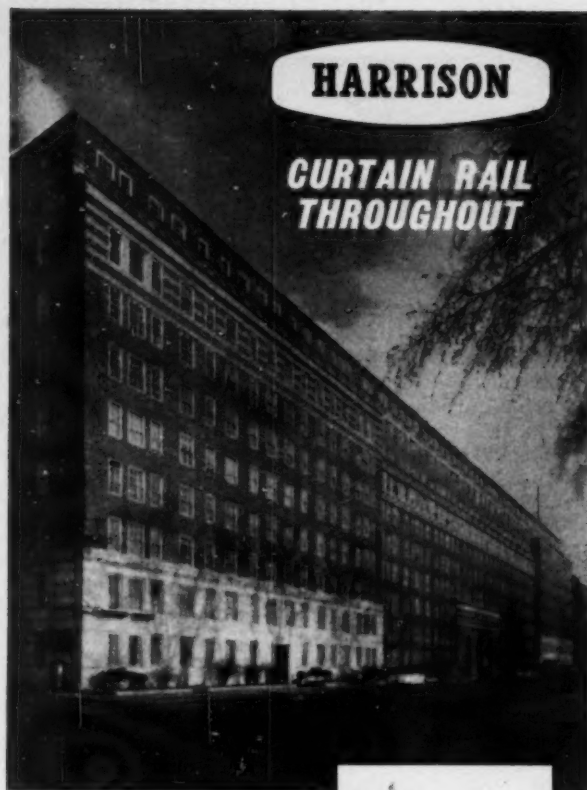
All enquiries for further information and addresses of Processors for Protimised timber should be sent to—

PROTIM LTD., 16-17 DEVONSHIRE SQ., LONDON, E.C.2. Tel. BISHOPSGATE 0460-0469

Highly skilled insect eradication and preservation work also is carried out by the PROTIM organisation through its

Member Companies in all parts of the U.K.

PROTIM IS A REGISTERED TRADE MARK.



HARRISON

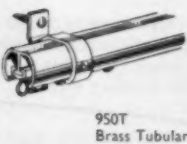
**CURTAIN RAIL
THROUGHOUT**

For this contract at Dolphin Square, London, Harrison Curtain Rails were specified exclusively. An approximate total of 75,000 ft. of 950L standard Brass Rail was supplied. Harrison Curtain Rails are extensively used in Hospitals, Theatres, Libraries, Restaurants, Hotels, Flats, etc. The range covers Brass Girder Section, Aluminium and Reinforced Plastic, special rails for Cubicles, Stages and Hospitals. Proved in service, their smooth efficiency consolidates your reputation.

Harrison (Birmingham) Ltd.,
P.O. Box 233, Bradford Street
Works, Birmingham 12.

**CURTAINS
HANG
BETTER**

THE HARRISON WAY



CUPRINOL

WATER REPELLENT WOOD PRESERVERS



CUPRINOL W.R. Clear and W.R. Green combine water repellency with the preservative properties of CUPRINOL, which have been proved in use for nearly fifty years. By stabilizing movement in timber, they minimise the swelling and shrinking of wood under changing moisture conditions.

CUPRINOL W.R. grades also prevent attack by wood-boring beetles and rot; can be painted or varnished over. Easy to apply on site by dipping. Suitable for vertical boarded shop fascias, boarded cladding to buildings, doors, ladders, window frames and all joinery exposed on building sites prior to being built in.

THE CUPRINOL PRESERVATION CENTRE offers technical advice on all preservation problems and can arrange Surveys, Reports and expert treatment of outbreaks of Dry Rot and Woodworm in any part of the country.

**CHECK SWELLING
AND WARPING**

Please write or telephone :—

Dept. 51, CUPRINOL LTD., Terminal House, Victoria, London, S.W.1. Tel: 9LOane 9374

floors

versus

feet

As soon as the doors of a new building are open and the activity for which it was designed begins, the battle between floors and feet is on.

A messenger boy in a hurry slides madly round corners; second-formers indulge in an energetic game of football down corridors; busy nurses move swiftly up and down aisles between the beds.

Such heavy, unsympathetic traffic demands a floor covering which suffers these attacks good-humouredly and, in fact, will always be much kinder to the feet than the feet are to the floor.

The rubber flooring tiles designed and produced by Morris Rubber Industries Ltd. combine an inbred resistance to wear with an outward appearance which looks well in all kinds of surroundings. Available in many attractive colours and patterns, warm, hygienic, quiet and resilient, Morris Rubber Tiles will satisfy the architects' need for hard-wearing floor covering wherever people work and live.

Please let us send you more detailed information about Morris Rubber Flooring and, when in London, see our exhibit at The Building Centre, 26, Store Street, W.C.1.

SELECTED BY THE COUNCIL OF INDUSTRIAL DESIGN FOR EXHIBITION IN THE DESIGN CENTRE.



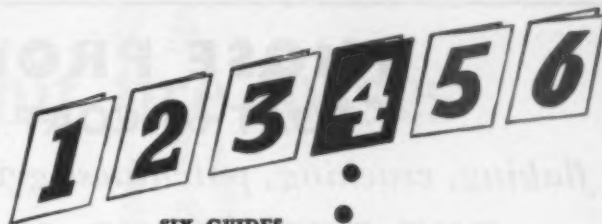
MORRIS

RUBBER INDUSTRIES LTD

HIGH : BYFLEET : SURREY

Telephone: BYFLEET 4351/3

Telegrams: RUBBER, BYFLEET



**SIX GUIDES
TO THE USE OF
DIAMOND BETONAC**



How to use Diamond Betonac

Diamond Betonac metallic aggregate produces a hard, dense surface topping.

It is best laid on a good concrete base whilst still "green".

Provided the necessary preparatory work is first carried out, excellent results can be obtained on existing concrete, using a bonding layer on which the Diamond Betonac topping is laid.

Mixing or trowelling Diamond Betonac into a granolithic floor produces a surface which is virtually anti-slip and non-dusting.

Diamond Betonac is one of the most widely applicable floor surfacing materials used in the building and structural engineering fields today.

DIAMOND BETONAC DEFIES ABRASION



Full particulars obtainable from

QUICKSET WATER SEALERS LTD

MANUFACTURING AND SALES DIVISION

20 Albert Embankment, London, S.E.11

Telephone: Reliance 6731-2-3

A MEMBER OF THE CEMENTATION GROUP OF COMPANIES

THOSE PROBLEM WALLS

COAT on COAT to DESTRUCTION

flaking, cracking, patchiness getting worse with every added coat

PUT THE TREND IN REVERSE BY USING

DIXON'S ROGGSTONE

THE TWO-PART SYSTEM

(An appropriate sealer and a stonelike finish)
and produce a

DURABLE, WATERPROOF, FLEXIBLE FINISH

Apply for particulars and shade card to:

DIXON'S PAINTS LTD.

AJAX WORKS, HERTFORD ROAD, BARKING, ESSEX

Telephone: RIPpleway 3326 (3 lines)

**SPACE
RESERVED**
for a
**SLIDING
DOOR**

SPACE SAVED
by a
**SLIDING
DOOR**



but are
SLIDING DOORS

* SILENT * TROUBLE FREE
* SMOOTH RUNNING



YES

with the right gear . . .
and the right gear's . . .
RIGHT HERE

May we send you a fully comprehensive Catalogue?
It's an invaluable reference to Sliding Door Gear.



COBURN ENGINEERS LTD.

Coburn Works,
Peasmarsh, Guildford, Surrey
Tel.: Guildford 3373

LONDON OFFICE AND WAREHOUSE:
25 Copperfield Street, London, S.E.1. Tel.: Waterloo 4311

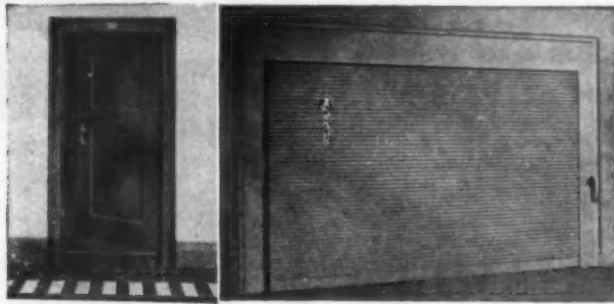


How you can limit fire losses

Every year is a more costly year as far as fire losses are concerned in this country.

How can you, personally, help to limit these losses?

An effective method is to sectionalise buildings with fireproof walls and protect the openings with DREADNOUGHT fireproof Doors and Rolling Shutters. These are of good appearance and are approved by the Fire Offices Committee. Details can be obtained from:—



Bank of England,
The Foreign Office,
Somerset House,
Victoria and Albert
Museum,
National Gallery
and many other
historic buildings
are all protected by
DREADNOUGHT
Fireproof Doors.

DREADNOUGHT Fireproof Doors & Rolling Shutters

DREADNOUGHT FIREPROOF DOORS (1930) LTD., 26 VICTORIA ST., WESTMINSTER, S.W.1. PHONE: ABBEY 1411

The Landscape of Roads

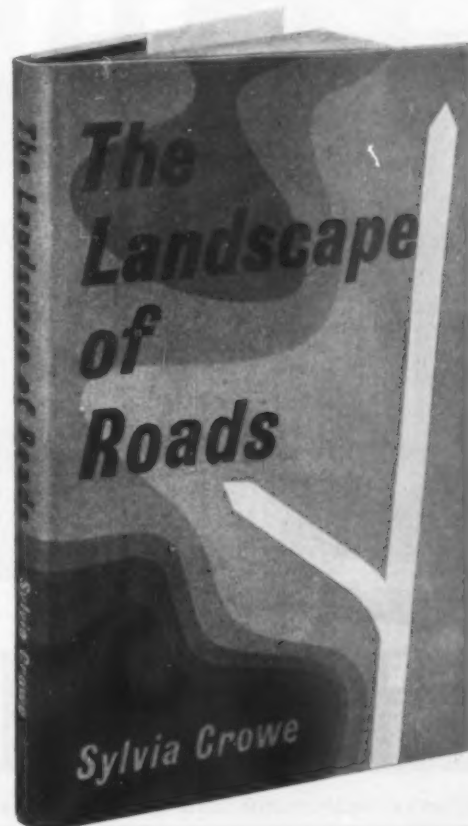
SYLVIA CROWE PPILA

£230 million will be spent during the next three years on the construction and improvement of roads in Britain. This vast programme is of national interest, not only because new roads are so badly needed, but also because if they are not handled with infinite care, they will certainly ruin much of what remains of our landscape.

Following her successful books, *Tomorrow's Landscape*, and *The Landscape of Power*, Miss Crowe here turns to the landscape of roads and motorways. Writing with her usual lucidity and forcefulness, and with numerous drawings and photographs, she shows that if roads are regarded merely as an engineering problem, their effect on the landscape will surely be disastrous; road design and construction demand the combined skills of a team of experts: planners, architects and landscape architects, as well as highway engineers. Only when such a team is brought together at the outset will we obtain roads which are absorbed naturally into the existing landscape pattern; and which will be vastly more pleasant to travel on, safer, and not necessarily more costly than alien constructions which make no inflection to the landscape through which they pass.

Size 9 × 5½ ins. 134 pages. 70 half-tone illustrations.
18s. 6d. net. Postage 1s. *Just published*

The Architectural Press, 9-13 Queen Anne's Gate, S.W.1.



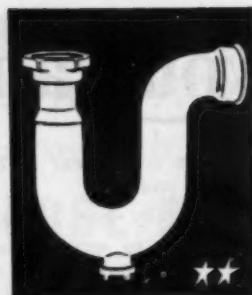
P for Perfection ...

Many years of experience in the manufacture of copper traps enables us to offer a range of standard fittings made to perfection in fourteen major patterns with numerous variations in each.

Illustrated are some of our Solid Drawn Copper Traps which are available in 1½ in. and 1¼ in. bore sizes, with or without inspection eyes, and with outlets suitable for connection to COPPER, LEAD, IRON and PLASTIC piping.

- FULL BORE
- NEVER CORRODE
- NON-POROUS
- NEVER CHOKE
- CHEAPEST IN ULTIMATE COST

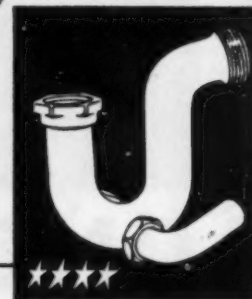
BENDZ
LIMITED



★
BZ.161 1½ in. bore shallow seal trap with capnut and cone on outlet for connection to BSS.659 copper tube.



★★
BZ.91 1½ in. bore by 3 in. seal trap having 1½ in. reduced inlet, patent Trapex outlet for connection to BSS.659 copper pipe.



★★★
BZ.35 1½ in. bore by 1½ in. seal 'P' trap with plain outlet for connection to lead pipe.



★★★★
BZ.140 1½ in. bore by 3 in. seal bath trap with screwed outlet ('A') male, ('B') female, for connection to iron pipe and having a reversible bent overflow union for lead, copper or plastic pipe.

Head Office and Works: LISTER STREET, BIRMINGHAM 7. • Telephone: ASTon Cross 3771-2. • Telegrams: "TRAPPED, Birmingham, 7"

Entrance of the German Embassy, Belgrave Square, London.
W. Marmorek, F.R.I.B.A.



Make a good entrance . . .

with ANODISED ALUMINIUM DOORS

AJAX doors are produced in standard sizes for openings 7' 0" in height and 3' 0", 5' 0" and 6' 0" in width—for hanging on butts or mounting on single or double acting floor springs in your own or AJAX Combination Doorframes.

They are anodised self colour as standard but gold and black doors are supplied to special order. They can also be finished in enamel and beads can be supplied in contrasting colours.

The price is comparable to that of a good quality polished hardwood product and includes locks, bolts and handles as standard.

For full details write or telephone:



AJAX ALUMINIUM LTD • KANGLEY BRIDGE ROAD • LOWER SYDENHAM, S.E.26. SYD 3222



The London Electricity Board showrooms at Shepherd's Bush.
Architects: Stanley Peach & Partners.

Lino

Service Catesbys have laid lino for 60 years. Service built upon the fruits of this experience—full understanding and knowledge of the craft—is worth having. Only Catesbys can give it.

Staff Well laid lino gives longer, better service than lino laid indifferently. Catesbys send an expert and their own trained fitters to every contract. They ensure perfect lino laying.

Advice Catesbys advice is impartial. They will recommend lino only when lino is known to be the ideal floor covering. Catesbys will suggest the most suitable grade.

Stock It is always easier and quicker to choose a design, colour and grade from lino in stock. At Catesbys you see lino in the piece—and you can choose from the biggest stock in Europe.

Catesbys

Contracts (Linoleum Division)

TOTTENHAM COURT ROAD, LONDON, W.1. MUSEUM 7777



LET US DO THE DONKEY WORK

If you have a Catering Equipment project on hand, we are at your service. No matter how large or small your requirements, we will take care of your planning, equipping and installing problems.

Please send further information of service and equipment

NAME.....

ADDRESS

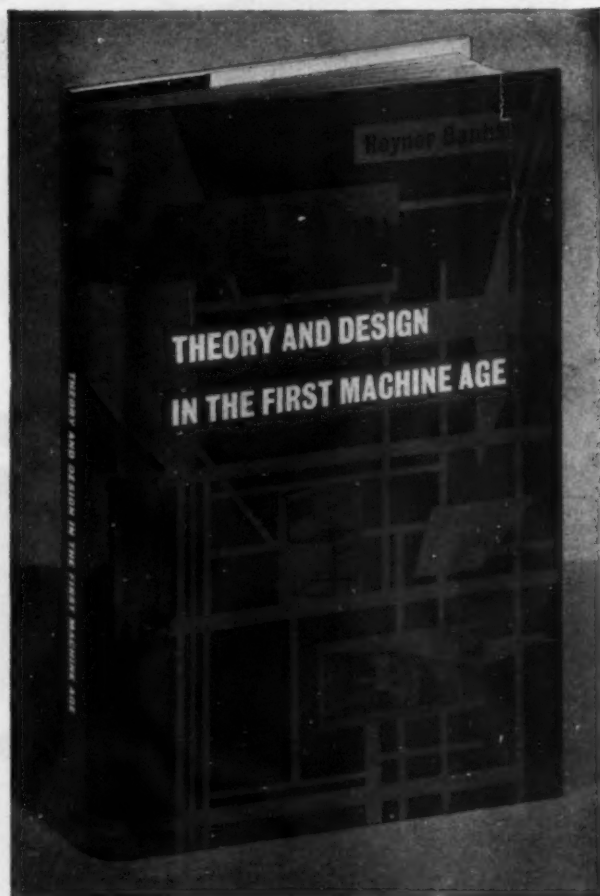
"Stotts of Oldham"

VERNON WORKS
OLDHAM LANCs

REYNER BANHAM

THEORY AND DESIGN IN THE FIRST MACHINE AGE

IN THE FIRST THIRTY years of the twentieth century, architects made a tremendous effort to adapt themselves and their art to a new set of circumstances—life in a Machine Age. The whole theory of architecture was brought under scrutiny—some of it for the first time since Antiquity—in a wave of self-examination unparalleled in the history of art. Not only was a new climate of ideas created, but the Masters of Modern Architecture—Gropius, Mies van der Rohe, Le Corbusier and others of less fame but no less interest—used their writings to justify their buildings, and their buildings to confirm their theoretical writings, Dr. Banham's subject covers not only a mass of theoretical writings—much of



it unknown to English readers—but also buildings, projects, industrial designs, paintings and sculptures—many of them illustrated in an English-language publication for the first time. Dr. Banham shows how one unifying theme finally emerges from this melting pot of exciting designs and excited discussion—the theme of a Machine Age Architecture; the architecture of the International Style, as the historians term it; Modern Architecture, with its white walls, flat roofs and big windows, as the man in the street understands it. Into the growth of this theme went many highly inventive designs, which the author illustrates and analyses; many and varied publications, ranging from the scholarly to the scandalous, from which he quotes extensively, showing not only how the theories are related to the finished products, but also how the theories—and even the theorists—are related to one another. *Size of book 8½ × 5½ in. 340 pages with over 150 half-tone and line illustrations. 45s. net, postage 1s. 9d.*

The Architectural Press, 9-13 Queen Anne's Gate, S.W.1

ASHBURTON CHEMICAL WORKS LIMITED
choose Ceramic Tiles

... for this arresting mural decoration, which
dominates the west end of the new Administrative
Building at Trafford Park, Manchester.



Architects: Scherrer & Hicks, F/R.I.B.A., London and Manchester.
Designer: J. L. Mayo, Esq., A.R.I.B.A., M.S.I.A., London.
Main Contractors: J. Gerrard & Sons Ltd., Swinton.
Tile Fixing by: Hulme & Potts Ltd., Manchester.

Visit the Council's display of ceramic tiles at the Building Centre, Store St., Tottenham Court Rd., W.C.1.

British
Ceramic

TILES

British Ceramic Tile Council • Federation House • Stoke-on-Trent

everything points to **FILON**



- 1 Louvres in clear FILON flat sheet.
- 2 Push panel to door. FILON flat sheet. Red 103.
- 3 Sliding doors to enclosure back. White flat sheet infills of FILON. White 704.
- 4 Soffit to Hood in FILON flat sheet. Red 103.
- 5 Corrugated sheet to fascia. White 704.
- 6 Upper part to window enclosure in FILON corrugated. White 705.



For all kinds of shops, FILON points the way, bringing new textures and colours to exterior and interior. FILON is strong, light; it is easy to fix and can be worked with ordinary carpenter's tools. And once fixed, *needs little attention.*

This new polyester/glass fibre sheeting is available in many attractive colours and tints in standard corrugated, flat sheet (in rolls if required) and decorative profiles.

Easy to handle, easy to work, easy to fix, FILON can show substantial economies as well as opening up entirely new creative possibilities in shopfitting design. Write for full details.

FILON



STRUCTURAL SHEETING

strong light translucent

P.W.15 150 WATTS.



*Applications
unlimited
for this **NEW**
WEATHERPROOF
FITTING*

Enclosed Pendant Fitting

- Advanced functional design
- Completely smooth exterior
- All fixing screws outside of gasket
- Simplicity of installation
- High quality Aluminium Alloy Casing pretreated and stove-enamelled to COUGHTRIE well-known high standard
- Clear or Pearl Prismatic Glass
Plain Pearl Glass also available



J. & G. COUGHTRIE LTD.

HILLINGTON GLASGOW S.W.2

Stocked by all leading Electrical Wholesalers

everything points to **FILON**



- 1 Louvres in clear FILON flat sheet.
- 2 Push panel to door. FILON flat sheet. Red 103.
- 3 Sliding doors to enclosure back. White flat sheet infills of FILON. White 704.
- 4 Soffit to Hood in FILON flat sheet. Red 103.
- 5 Corrugated sheet to fascia. White 704.
- 6 Upper part to window enclosure in FILON corrugated. White 705.



For all kinds of shops, FILON points the way, bringing new textures and colours to exterior and interior. FILON is strong, light; it is easy to fix and can be worked with ordinary carpenter's tools. And once fixed, needs little attention.

This new polyester/glass fibre sheeting is available in many attractive colours and tints in standard corrugated, flat sheet (in rolls if required) and decorative profiles.

Easy to handle, easy to work, easy to fix, FILON can show substantial economies as well as opening up entirely new creative possibilities in shopfitting design. Write for full details.

FILON



STRUCTURAL SHEETING

strong light translucent

B.I.P. REINFORCED PRODUCTS LIMITED · STREETLY WORKS · SUTTON COLDFIELD · Phone: Streetly 2411

P.W.15 150 WATTS.



*Applications
unlimited
for this NEW
WEATHERPROOF
FITTING*

Enclosed Pendant Fitting

- Advanced functional design
- Completely smooth exterior
- All fixing screws outside of gasket
- Simplicity of installation
- High quality Aluminium Alloy Casing pretreated and stove-enamelled to COUGHTRIE well-known high standard
- Clear or Pearl Prismatic Glass
Plain Pearl Glass also available



J. & G. COUGHTRIE LTD.
HILLINGTON GLASGOW S.W.2

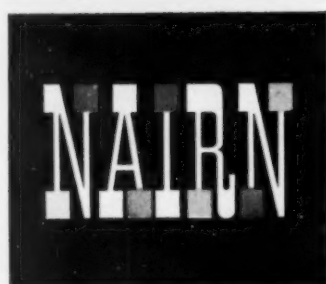
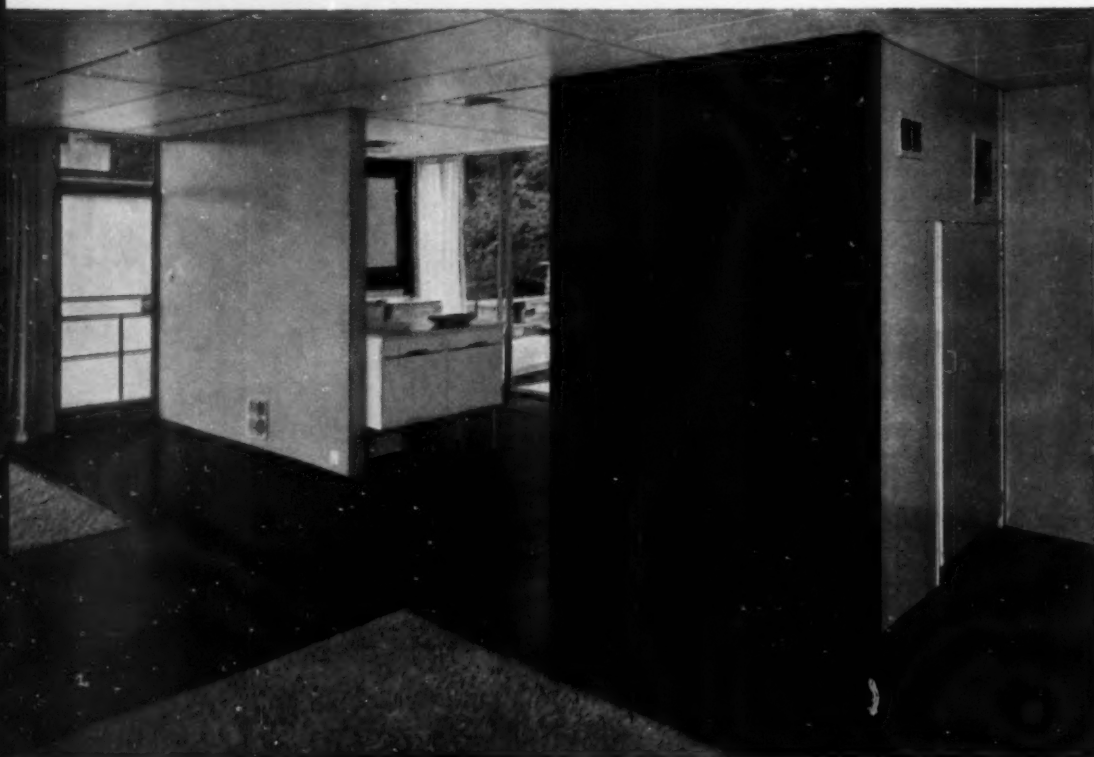
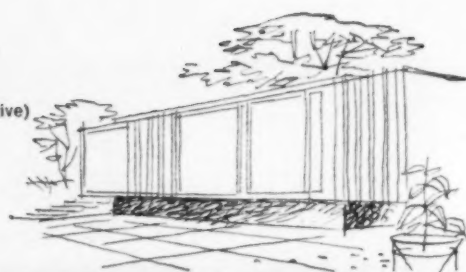
Stocked by all leading Electrical Wholesalers

HOUSE AT BRANCH LANE, ALMONDBURY, YORKS,

featuring Nairn Vinyl tiles. Photo: Mann Bros. (Courtesy Peter Stead of Design Collaborative)

'... the first of a series of projects in which the designers are attempting to create living environments using colour-space considerations. The spaces, inside and outside, are determined by planes of colour ... These coloured planes interact, giving continuous visual rhythms ... creating a system of chromoplastic relationships and spaces that is clear-cut, yet tranquil.'

ARCHITECTURAL DESIGN, July 1959



Vinyl tiles

give you 19 planned colours to simplify colour-matched design

Using Nairn Vinyl tiles, you can choose from *planned* colours. Virtually all correspond closely with B.S.2660, making it easy to design a floor that will fit in with the overall colour plan of your project. A marbled finish helps to maintain their appearance in heavy traffic areas. To satisfy a particularly big demand, plain black and plain white are available for use in the 2.0 mm range.

The colour range shown here is based on the experience of our French factory, whose range has proved most popular with Continental designers. All 19 colours are available in the 2.0 mm domestic tiles (9" x 9"). In the heavy-duty 3.2 mm tiles (9" x 9" and 12" x 12"), there are 5 colours in the Contractors' Basic 'A' Range and a further 6 in the Architectural Design 'B' Range. Within each range, every tile is the same price: you can quickly and accurately cost up any installation.

NAIRN TECHNICAL ADVISORY SERVICE

Technical representatives are based at our area offices to advise and give information on all matters concerning floorcovering materials. If you wish to consult one of these representatives, just write or 'phone any of these offices:

MICHAEL NAIRN & CO. LTD., P.O. BOX 1
Kirkcaldy, Scotland. Kirkcaldy 2011 (10 lines)

LONDON EC1: 131 Aldersgate Street.
Monarch 3211 (8 lines).

BIRMINGHAM 2: 65 Temple Row.
Midland 5989 (2 lines).

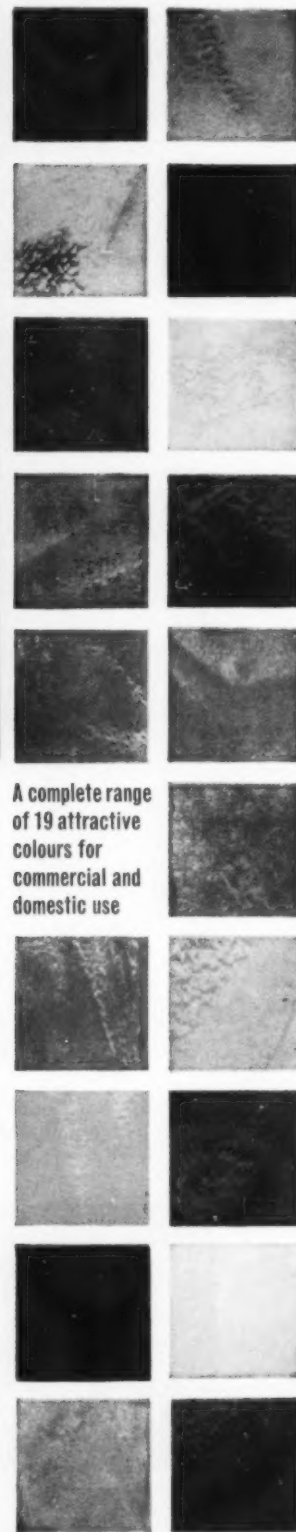
BRISTOL 4: 349 Bath Road, Bristol 77840.

MANCHESTER 1: 4 Canal Street.
Minshull Street. Central 1417 (3 lines).

GLASGOW CS: 113 Centre Street.
South 1011 (3 lines).

NEWCASTLE-ON-TYNE: 41 Grainger Street.
Newcastle 22807.

A complete range
of 19 attractive
colours for
commercial and
domestic use





Put the sun into your ceilings



Acknowledgments to:
Board-Room for the British Cycle & Motor
Cycle Industries Association Ltd., Coventry.
Architects: Messrs. W.S. Hattrell & Partners,
Coventry.
Heating & Ventilating Engineers: Messrs.
Young, Austen & Young Ltd., Leicester.

STRAMAX

RADIANT HEATING & ACOUSTIC CEILINGS

STRAMAX CEILINGS (G.B.) LTD.

19 Rea Street South, Birmingham 5,
Tel: MIDland 4674/5/6 Grams: STRAMAX Birmingham 5

LONDON OFFICE: 170/172 Falcon Road, Battersea, S.W.11.
Tel: BATtersea 2587



The Architects' Journal

No. 3424. Vol. 132. December 1, 1960

9-13 Queen Anne's Gate, London, S.W.1. Whitehall 0611

Subscription rates: post paid, inland £2 15s. 0d. per annum; abroad £3 10s. 0d. per annum. Single copies, 1s. post paid, 1s. 6d. Special numbers are included in subscriptions; single copies, 2s.; post paid, 2s. 6d. Back numbers more than 12 months old (when available), double price. Half-yearly volumes can be bound complete with index in cloth cases for £1 17s. 6d.; carriage 2s. extra.

NOT QUITE ARCHITECTURE

Cover Story

Never even looked at it, I bet. Well, I don't myself these days. I suppose we all did once, just for the first few weeks. It's like a lot of things; even Harry says that and he's a waiter at the Revuebar. Harry says that the novelty soon wears off and you never give it another thought. Well, hardly ever. I'm talking about the cover, though, the cover of the AJ. Rather a different kettle of fish, I admit.

Mark you, it's not always in a fit state, physically speaking, to be looked at at all. Harry says that sometimes too. I suppose my letter-box is really to blame, or rather my letter-plate (S.C.P. finish, allow p.c. sum 10s.). It is one of a range that were illustrated in the agony column of the *Post Office Gazette*, but as Marples was half-way up the M1 by then nothing came of it. Anyway, 187 pages of AJ tightly rolled is rather more than it can swallow so it usually extrudes the bulk of the matter that lies between "I knew it when it was a tree!" and "Twitterton, is this really Formica?" and leaves the remainder scattered about the floor in shreds, one of which bears the terse inscription "Tear here."

Return to the Idea of a City



This photograph of the model of Cumbernauld New Town (Chief Architect and Planning Officer L. Hugh Wilson) represents a landmark in English planning ideas. Once more the city is a visually manageable whole. The garden city leaves its trace in the parks which adjoin the city centre, but otherwise has been decisively abandoned. There is no suburban sprawl: vistas are intimate, spaces enclosed and the country is only a few minutes walk from the centre. On page 783 of this issue is an article on the assessment of Cumbernauld's shopping needs. The shopping centre is the long flat area, not unlike the deck of an aircraft carrier, which lies behind the central cluster of point blocks. The service road runs beneath it. North lies to the left of the photograph.

I always read the better bits, starting with ASTRAGAL for a laugh and ending with "Other Appointments Vacant" for a darn good cry. But the cover, never. Not a glance. The paper they print it on came from the Ministry of Food I'm told; bought all those forms as a job lot when it was disbanded and been pulping them down ever since. I think it's poor, I really do, after all these years. Same old cover week after week and at a time like this when everyone (but everyone, Alfred) is having a face lift. Even the BBC have produced a new-look *Radio Times*, portable hen houses and corsets excepted, not to mention the Portland Place Periodical.

All right then, same old cover every OTHER week. Thought you might have forgotten that too. First half of the alphabet one week, second half the next, that's how it goes. It's an index you see, an index of information which might come in useful printed on shreds of paper and strewn about the hall. Well, last week, and this is what I'm leading up to, I took mine off; my letter-plate that is. I was having the front door painted. (Well, yellow with a white architrave is just too trad these days.) So the postman called me out of the bath and saying "I didn't want to spoil it with the wet paint, sir," he thrust the JOURNAL into my wet hand. I spread it out to dry, whole and flat upon the table, and while it settled down like a graded wash on a November morning I began to read it. Know something? Man, it's fascinating!

EPNS, just to give you an example, stands for the English Place-Name Society. I'd often wondered. Some member of my family must have attended their annual dinner at some time or other and come away with half their cutlery. But that's only a start: what about IIBID? What indeed, you may well ask! No need to panic though, you can call the FBI, possibly even James Stewart in person, at Tothill Street, S.W.1, telephone Whitehall 6711. It's fun, isn't it. I couldn't wait for the next instalment to arrive. I gave the front door another coat of egg-shell finish and changed my bath day so that I could be there to welcome it.

I wasn't disappointed. The second half is often better than the first. Well, Harry says so anyway. (Not a word to MOT about that though.) But you don't need me to point it all out for you; read all about it! PEP in Queen Anne's Gate (perhaps they are thinking about a new cover): SPAB in Great Ormond Street (have your child inoculated at once): the RICS send their stories (and are, of course, currently appearing at the Whitehall Theatre). It's all there, so turn back and read on, if you see what I mean. I must leave you to it. I'm off to lunch. Harry said he would keep me a good table.

HERBERT KEMBLE

The Editors

GETTING AHEAD OF THE STUDENTS

WHAT can be done to help the staff of our architectural schools raise their standards of tuition? In the JOURNAL of November 17 we suggested the establishment of a staff college, or training college, for teachers of architecture. This would be a desirable but necessarily long-term solution. This week, on page 778, G. P. W. Taylor asks for more immediate action. He proposes the publication of a magazine expressly for architectural teachers so that there can be some regular channel of communication between them for exchanging educational ideas and research. We hope that Mr. Taylor will get support for his idea. Producing a regular publication, however, will involve considerable expense and the creation of a regular readership. As an interim measure the JOURNAL is prepared to offer space at monthly intervals in its pages for an educational supplement and to pay for contributions to it. We hope that Mr. Taylor will receive sufficient support to be able to appoint an advisory panel to assist him to organise such a series.

NEW LIFE IN THE COUNTRYSIDE

The flight from the country to the town, particularly the flight of the young, has been deplored by so many people for so many years that it has become a cliché, just one more of the things the old like to hold against the young. Only since the war, when local authorities could not face the prospect of a growing population in their bomb-decimated cities, has any serious effort been made, with New Towns and expanded towns, and small manoeuvres to encourage industry to decentralise itself, to reverse the trend. Some of these efforts have been rather heavy-footed, transforming small towns with a distinct character of their own into agglomerations with no character at all: in some industry has not co-operated, with the result that what were meant to become new communities have become merely distant dormitories. So it is very cheering to hear of new thought being given to these problems in rural East Anglia, where the Norfolk County Planning Officer put forward a series of proposals for "renewal" in small towns and large villages, at an admirably planned conference at Norwich, organised by the local Association of Architects and the East of England Town Planning Institute, and attended by local councillors from all parts of Norfolk and Suffolk. The conference is fully reported on page 779 of this issue, but some of Mr. Hookway's points deserve to be underlined and thoroughly examined by those with power to follow them through.

Although there is a boom in building today in which some of our towns seem liable to become unrecognisable before our eyes, there is "no atmosphere of expanding economic opportunity" in our countryside, Mr. Hookway pointed out. The population of rural areas is static or declining, and the fact that there is no serious unemployment in the countryside is

simply due to the persistent migration of young people to the cities. Is it also the cause, or the main cause, of this migration? Mr. Hookway suggested that it is, and that the establishment of small scale industries in our country towns and villages would do much to reverse the trend without transforming these small communities into suburban limbos. Local "new industry" committees in fact are being set up in East Anglia, to press for small schemes, employing perhaps a few hundred people. The question is, what can Government do to help encourage industrialists, or local firms with possibilities of expansion, to join in what is to some extent an experiment and therefore a risk?

Mr. Hookway suggested two things: the collection and investigation of facts about places where small local industries have already been developed. Many went to the West country during the war: how have they succeeded, and has their presence made any difference to the prosperity and population trends in their neighbourhood? Nobody has ever before thought of finding out, yet here is an important field of research to be done before inducements are offered to firms to make for the country. Secondly, he pointed out that the inducements offered to industry to go to areas of persistent unemployment do not apply to these rural areas because the lack of work is masked by the depopulation going on there. Clearly, persistent migration as well as persistent unemployment should qualify a place for offering special terms to enterprises who will come and help it to prosper.

There will always be country people who long for urban life and townsmen who long for the country; but some equalization of opportunities for work, good wages and varied leisure is necessary before anyone can forecast inevitable depopulation and decay for our countryside.



HANDBOOK ON OFFICE EFFICIENCY

Hot on the news of the RIBA's proposed survey of architects' offices (a timely move when you consider our rating on the Pilkington scale) comes the publication in the new year of the JOURNAL's serialised handbook for the architect (and his assistant) on the steps to be taken in running a job. This series on—for want of a better word—contract procedure is being written by a partner in one of London's foremost medium-sized firms as a follow-up to the JOURNAL's check lists. The Editors hope that readers—who must be quite familiar with inefficient office organisation—will show just as lively an interest in this series as they did in the check lists.

IME FOREVER BLOWING BUBBLES

Last Saturday the Institute of Municipal Engineers issued a report taking an aggressive attitude to the RIBA's recent statement on "The Architect and

Local Government." The RIBA's chief information officer, Malcolm MacEwen, promptly replied—through the Press Association—with the assertion that the RIBA statement had been issued not to start a squabble about status, but to make proposals about the best way of promoting good architecture and efficient building by local authorities. In the last 20 years, said Mr. MacEwen, 58 county and non-county boroughs had appointed architects as chief officers, and they had done so not to enhance the status of architects, but to be sure of getting better buildings at no extra cost and in a shorter time.

The IME now say that this aim has, in fact, been achieved in boroughs where architectural teams are led by engineers. With remarkable naivete they boast that such teams have built more than 60 per cent of the country's three and a half million local authority dwellings "with distinction, business efficiency and economy." You don't have to be an architect to wonder where on earth these buildings of distinction can be found.

It is a pity the IME is taking such an attitude to the proposal that the architect should be allowed his place as natural leader of the building team. It is an attitude that can do a lot to harm the country's building programme. There is one county borough where thousands of pounds worth of projects are being delayed because the local authority cannot persuade architects to go and work under a borough engineer. (Only one qualified man has turned up in response to advertisements for 15 jobs in three years). Another borough has recently lost 50 per cent of its architectural staff because it cannot get replacements to work under the engineer. In spite of this, and in spite of the fact that an O and M survey has recommended the establishment of a chief architect as an economy, nothing is being done to put things right.

This status-squabbling can do more than delay important building work. It can lead to a deterioration in the design of buildings. If qualified architects refuse to work under engineers, there will be plenty of unqualified men to do so.

ARTERIAL ART

Some people think that a motor road

must inevitably tear apart and wreck a landscape. But a road can be beautiful and romantic as well as useful. See ASTRAGAL's reference in "Arterial Art" to Sylvia Crowe's book on road landscaping, from which this picture was taken.

"A road can be beautiful and romantic as well as useful." See ASTRAGAL's reference in "Arterial Art" to Sylvia Crowe's book on road landscaping, from which this picture was taken.



HURRAH FOR INTEGRITY

ASTRAGAL admires the Action Committee made up of members of the *News Chronicle's* sacked staff for the enthusiasm they are putting into planning their proposed daily, *The Phoenix*. And he is grateful to them for a free copy of the "first souvenir edition" (a folded sheet with printing on one side only), and for their inclusion among the "Great Names" behind them of five architectural knights as well as a comedian and a dance band leader. But he respectfully submits that he will not be stampeded into welcoming a new daily paper simply because its supporters promise, somewhat hysterically, to be against hysteria, humbug, complacency, trivia, sentimentality and stunts. In fact, as any editor knows (including the AJ's) you can be against all these things without ever—thank Heavens!—suppressing them in your correspondents and colleagues. A newspaper would be rather dull without them. And ASTRAGAL would have gone out of business years ago.

*Architectural Press 18s. 6d.

WITHOUT THE PRINTS

Among the few architects whose work looks better in reality than in pictures are Tayler and Green, rightly famous for their landscape-hugging rural cottages in Norfolk. The subtle changes of height, good grouping and attractive colours (earlier examples in colour-wash and recent ones in facing bricks) don't come over well in photographs. So if you are not immediately excited by the picture below, you must take my word for it that in the "Prince Albert" the architects have captured the true pub quality—a quality so often missing in new buildings. Its "atmosphere" is due to the use of a novel gimmick. The Tayler and Green gimmick is, in fact, the avoidance of gimmicks. There isn't a cliché in sight: no mirrors, no ancient prints, no stuffed fish, no muskets—and not even a ship's clock. But these are negative virtues. The positive ones are harder to explain. The qualities that seem to make the

"Prince Albert" as popular with the clientele as the old pub it replaced are the unselfconscious lighting, furnishing and finishes. The outside, with its walls of greyish-cream facing bricks, matches the "Suffolk Whites" of the rest of the road. And the public bar interior (mahogany, white walls and Swedish-pine ceiling) is liked so much by some of the old characters who threatened never to go near the place that they are slowly agreeing to relinquish their "own" chairs which the landlord transferred to the new building to please them.

CORRECTION

If you intend to be at the IUA Congress in London next July, don't take any notice of the enrolment advice given here the other week. The fee is £18 (payable in six instalments) for those who register by January 1: after that it goes up to £20.

ASTRAGAL

The "Prince Albert," Lowestoft. Architects: Tayler and Green. See "Without the Prints."





G. P. W. Taylor, A.R.I.B.A.

Michael Leonard, A.R.I.B.A.

Teaching Architecture

SIR: Your editorial last week stressed the difficulty of getting suitable teachers for carrying out recently advocated educational reforms, but did not mention (perhaps tactfully) the problem of refurbishing the several hundred people like myself already engaged in teaching who would in the first instance be responsible for implementing these now overdue reforms.

As you have suggested, training colleges and courses are obviously necessary and would go some way towards a solution, but these, unfortunately, would not be able to deal with more than a small proportion of teachers at a time. I do not believe that we can afford to sit and wait for the benefits of such measures to become apparent (even if BASA should let us do so), particularly when our small world is still reverberating with Buckminster Fuller's "appropriate comprehensive anticipatory design science," Charles Eames' "computing predictors," Doxiadis' "Ekistics," Reyner Banham's "Awful Warning," and more recently with Sir Leslie Martin's "stark evidence of our loss of control over our environment," and Professor Llewelyn Davies' "artificial division of art and science." Things like these can be added up.

It has occurred to me that over and above discussions on policy, syllabus and teaching courses, something useful might be done in effecting some liaison between teachers. At the moment, there is virtually no contact between us (except possibly at high level) and most of us are quite ignorant of "opposite number's" approach to teaching. I would accordingly like to propose through the courtesy of your columns, the founding of a publication in magazine form for circulation to all concerned with the teaching of architecture, with aims on some such lines as these:—

1. To further the craft of teaching by publishing information on the "stuff" of teaching; effective ways of presenting information, methods of approach used in other disciplines, the psychology of teaching and learning, etc.
2. To inform about progressive architectural educational work undertaken both

here and abroad.

3. To provide a channel for the publication of pertinent research work.
 4. To invite contributions from people engaged in related studies in the physical and social sciences.
 5. To provide a forum for the interchange of ideas between teachers through correspondence columns.
 6. To report on teaching courses and conferences, thus spreading their benefits throughout the teaching profession.
- As a means of making such a proposal as effective as possible, I would suggest that every teacher should get regular monthly mailings "on his own door mat."

I believe that a move such as this could do much to resuscitate the teaching side of the profession by making each of us feel more committed to it, by making it more difficult to be complacent about out-worn systems, by demonstrating good teaching and in so doing making it less easy to teach a student to be imitative rather than methodological (St. John Wilson's "jungle fighter"), and by showing teaching as a worthwhile job in its own right which deserves appropriate recognition, rather than as a good way of living while the practice builds up. Such recognition has to be earned, and will not come about unless the goods are of sufficiently high quality. Therefore the first essential is an improvement in the quality of teaching, and this is not likely to be achieved unless we can get together to work out our own salvation.

I have already written privately on this theme to people I know to be concerned about architectural education, but there must be many others not known to me. If sufficient interest is displayed in this idea, we could start trying to winkle out the necessary funds . . . Letters should be addressed to me at the address below.

G. P. W. TAYLOR

Little Heath Cottage,
Sheethanger Lane,
Felden,
Herts.

No Facts about Design?

SIR: I take exception to the statement by R. Llewelyn Davies in the AJ (November 17), "There are no facts about design, and we should not try to write facts about it." He proposes that through the analysis of science and mathematics a problem should be carefully and consciously considered and once the factual elements of a problem are understood reason should be carried no further—the architect simply abandons himself to inspiration. Having laid such a careful groundwork I find it very surprising that the advocate of the scientific disciplines should rely on such a hit-or-miss process.

The division he makes between Science and Art seems excessively sharp. Is aesthetics to be some mysterious untouchable? No! For I believe that the same scientific methods proposed for the factual breakdown of a problem can be applied equally well to the seemingly irrational aspects of the Arts.

Why should we attempt to guide life by

rational principles? After all, the primitive and the peasant controlled their environment in a purely intuitive way, and the pattern of their beliefs, their art and their society was an organic unity. The reason is Reason itself. Thought which has been the source of man's technological development has also been the means by which man's primary organic unity has been destroyed. In the 20th century not only have problems so grown in complexity that they are beyond a purely intuitive grasp, but changes in society are so rapid that they defy purely intuitive adaptation.

Thus we see that the need for ordering our environment by a rational way of thought we have brought upon ourselves. The architect must analyse and rationalise, for he must foresee problems and changes, and plan for them in advance.

If the architect is to think clearly, then he must think about thought. Firstly in the way in which the mind receives information through the senses, and then he must study the way in which the mind breaks down this information, groups, relates and remembers it. By rationalising aesthetics, value is not denied to intuition, for the rhythmic interplay between analysis and synthesis, between reason and intuition, is the basis of invention in science and of creative imagination in art.

An awareness of the principles underlying creativity gives a broader and surer base from which we may await moments of design inspiration.

Llewelyn Davies has stressed the importance of study of the architectural environment and this is more important than he might have supposed, for it is among these data that can be found the basis of the rationalised aesthetic.

Beauty is *literally* in the eye of the perceiver, for through the physiological study of the eye itself and the accompanying mental functions, it can be understood why certain spaces or forms appear harmonious or disharmonious, rhythmic or arrhythmic. Both visual and aural rhythms have their basis in modes of mental organisation outlined in the Gestalt theory of perception.

Space relationships can be better understood when we realise the physiological correlation which exists between eye, ear and kinesthetic sensations in the muscles. Perception theory creatively interpreted can provide a grammar for design.

These ideas are not mere speculation, as I have recently applied them when teaching at the Hochschule für Gestaltung at Ulm. There *are* facts about design and I hope a great deal of research will be made into this relatively undeveloped field. This approach will make allowance for the subjective as well as the objective, for the primitive force of the unconscious as well as the sharply defined powers of the intellect. It is a new functionalism which will take into account the nature and needs of the whole man, and will not, in the words of Lewis Mumford, "whittle him down to the size and shape that will fit some less-than-man-sized formula."

MICHAEL LEONARD

London, N.W.3

NEWS

NORWICH ARCHITECTS AND TPI

Renewal of Towns and Villages

The Norfolk and Norwich Association of Architects and the East of England branch of the TPI combined forces to hold a very successful one-day conference at Norwich on November 11. Realising that a straightforward, professional get-together would simply be a pleasant social occasion, they widened the scope of the meeting by inviting councillors and local government officials from all over Norfolk and Suffolk, and with a mixed audience of well over a hundred had a real chance of sowing seed in fertile ground.

The subject was urban and rural renewal, and many conferences have foundered on it. Here the organisers managed to get four completely different speakers who were saying the same things in very different ways. The overall effect was impressive, and this is what matters, because the only good such a conference can hope to achieve is to broaden or change people's way of thinking.

In the morning R. J. Hookway, deputy county planning officer of Norfolk, gave a remarkable paper in which he described exactly the scale and subtlety of treatment needed to promote rural renewal, to stabilise and then increase the rural population, not by the importation of dormitory dwellers from the nearest towns, but by importing industry and gradually make the country towns and large villages self-supporting, as they were in the eighteenth century.

The main advantages of stimulating industrial development throughout rural England, said Mr. Hookway, were these:

1. It would hold and eventually increase the population of market towns, and even villages, which have already a considerable investment in social tradition and capital, and a reasonable scale of expansion would not require anything like the investment in public services and social facilities, such as schools and hospitals, required by New Towns.
2. It would check the export of population from these towns to the cities—a matter of great concern to councils where there is no local opportunity for the young people.
3. It would spread the additional industrial and domestic traffic load on to less used roads, to the relief of the traffic problem in the cities.
4. Expanding economic opportunity gives a sense of well-being, which would lead in towns and the larger villages to more interest in local government, in community enterprise and indeed to renewal.

"It would be gratifying," Mr. Hookway went on, "if we had some facts and figures about industry in rural England to draw on."

"Really there is a tremendous amount of it already. Throughout the West Country,

which I know best, there is the most remarkable spread and almost every market town has an enterprise that just does not fit into industrial location lore and yet is doing quite well. Some are old established, the continuation or inheritors of craft and skill dating back centuries. Some are quite modern—I think of a machine-tool factory established since the war in a small Devon market town which has been steadily expanding ever since. Some have specialist international markets. Some serve local needs. To a less marked degree we can trace this pattern in East Anglia. But I know of no authoritative economic and social study which can be used to counter the belief of industrialists that they should go to the city and to the established centre. A case study of a number of manufacturing enterprises which have established themselves since the war in rural areas might well produce some surprises.

"Nor need we think today of industry only in terms of smoke, dirt, smell and noise. They exist, of course, and the location factors of heavy and specialised industry are as marked as ever. The new industries—textiles, plastics, light electrical, small machine components, are free of these ties. They have electricity and oil instead of coal for power, motor transport instead of rail. Small bulk—high value products, which, with the automotive control and ease of integration of production through improved communications, are less tied to a particular locality than ever before.

"I do not look for the establishment of an industrial giant in a small market town. I argue that the case for the small factory of say 10 to 300 workers may be better than is thought and the need merits both study and more enthusiastic experiment on the part of authority.

"In some respects the Town Development Act is such an experiment. Basically the object is to relocate industry and its workers in the expanding town, or to locate new industry in the town and draw its workers from the city. This is planned overspill. For each project the administrative work and the time spent in planning and persuasion and discussion is considerable, effort only merited when the thinking can be in terms of the thousands of people and the tens of factories. For the expanding town it is a case of new housing estates on a large scale, costed to the penny, architected in large blocks. It means industrial estates because of the scale of the movement. It means new schools and other social facilities. It means new sources of water supply, and new sewers. It means new expanded town centres for the extra business and traffic. All together considerable public enterprise and for a town of less than 10,000 in population the probability of a shattering social and physical upheaval. It's an exciting one. I rate my own limited experience in connection with Thetford amongst the most inspiring and interesting that I have had in planning. And we have a tremendous lot to learn still. We in the counties that will receive the population, and those in the big exporting authorities, who pay the piper in large measure and may well be inclined to want to call a rural tune, whose intimate complex and

personal notes could be a little outside their understanding. But this is another subject. It is sufficient now to say that planned overspill is moving out of the experimental stage, and, I hope with improvement and encouragement from a better amending Act, promises success in relieving some of the pressure in the conurbations in the next 20 years. It does not seem unrealistic to me to think that we might well locate or relocate 1,000,000 people by such projects in that space of time. But I must argue a desirability to maintain in Rural England a great measure of the present social structure and diversity. I think there is a case for a standard for the planned increase in a community, at least as a basic guide. I am tempted to say that any increase in population by overspill greater than 25 per cent for a typical market town should be viewed with suspicion. Thetford is a special case. It is not a typical market town and doubtless there are others like it. For the hundreds of small towns and large villages, the places of 2,000 to 10,000 inhabitants which are so typical of East Anglia, the approach of the Town Development Act is too heavy. Their councils, their professional and tradesmen, their people look for one or perhaps a few new industries that will employ the few hundreds. They do not want to contemplate new shopping centres or new sewerage systems, or less tangibly but very movingly felt, new character. They want scope for the local builder to go on building and employing, some local jobs for the children of today.

"There is real feeling in the cry they are putting up: this is the voice that has led to the formation of local 'new industry' committees, to pressure on the Counties and their planning departments to produce industry, to the request for the zoning of a bit of land in a town map for industry as though the town map will be like a magic wand to catch the eye of a tycoon in some industrial complex.

"Sometimes there is a measure of success from such endeavours and I think that success can be claimed for the Norfolk campaign. Elsewhere I have known equally enthusiastic effort to produce no success at all.

"Is there no answer that Whitehall can give to this call?" Mr. Hookway asked. "The Local Employment Act 1960 contains a glimmer of hope but generally one has to jump a 4 per cent or 'persistently high' unemployment hurdle and there are many rural communities where because of lack of opportunity for so long migration of young people is the accepted solution of unemployment, and wives by tradition stay at home and do not swell unemployment statistics. Could the answer be found by facilitating enterprise by erecting factories to encourage new industry to come? Could the local urban or rural councils be permitted to do something?

"I have no doubt that if the suggestion were acceptable a dozen schemes could be worked out. One that appeals to me is to allow local authorities to erect in towns and villages of over 2,000 and under 10,000 population, and in advance of any par-

ticular requirement, small factories for letting. What I have in mind is something like the unit factories at Thetford which are proving to be such a successful magnet. These factories offer 1,440 sq. ft. of factory space and 360 sq. ft. of office and toilet accommodation—1,800 sq. ft. in all. With road access they are built for about £2 per square foot or £3,600 per unit. There is yardage space of some 1,500 sq. ft. on to which the building may be extended, or alternatively, two units can be joined to become one factory with some 3,000 sq. ft. of floor space. They can be built singly or in blocks of units. They are attractive to look at and could well be incorporated into small redevelopment projects, arising for example from slum clearance. Let us not worry about industrial zones for such enterprises. The whole pattern of our market towns is a glorious and intriguing mixture of commercial, residential and industrial uses and we are only thinking of small scale light industry, which, with a bit of thought about access and siting, need not conflict with other development.

"To attract the industrialist to one of these small units I should like to see the inducement of a first year free of rent and for subsequent years a rent as may be agreed with the local authority on presentation of audited accounts up to a maximum of 10 per cent. of the capital cost. Once a factory was let another could be built, if it was wished to do so, as further bait. The initiative would be with the community.

Such a scheme could well provide an incentive to many who would be new industrialists but who are tied down by difficulties and cost in finding a small factory to start in. Three hundred of these units could be built for the cost of a 'V' bomber, and could give employment to say 5-6,000 people. They could quickly be profit earning as a financial investment. They could be the seed of a social investment which would support the economy and bolster the spirit of many small rural communities. They could help in stemming a flow of surplus population from the rural areas to already overcrowded cities. Some might fail. Some might grow to larger enterprises, which in new buildings could materially boost the economy of small towns.

"This is one idea and no more than that. An idea in keeping, I believe, with the wishes of many rural communities. In scale with their thoughts. Needing a very small change of policy in spending public money, to pay possibly big, social dividends."

What was quite new in these ideas of Mr. Hookway's was the gentleness of scale and the subtlety of the suggested operations: what was intended was not a vast dumping of overspill but a nation-wide, needle-and-thread knitting together of a pattern which has split so far that the only virtue of the countryside to most people is to be there for them to have a day out in.

One of his questioners, particularly, was unable to take this point and was obviously

visualising industrial estates like Harlow on the edge of every village. Mr. Hookway took the opposite view (and so did every other speaker in the conference, in one way or another), that such zoning must be broken down before any integrated pattern of life was possible, and that in any case it was unnecessary with the kind of rural renewal that was proposed.

The second morning speaker, Herbert Taylor, gave an account of the Loddon housing that was a delight, witty but never malicious, perfectly frank, without hurting anybody's feelings. The aptest comment was made by the chairman of the Norwich Housing Committee, who asked despairingly why the other R.D.C.s in Norfolk had not copied Loddon's example.

Norwich's own contribution was shown in the afternoon, after a session of mildly incoherent humanist generalisations by the writer, followed by David Percival, the city architect, who showed slides of the city's housing which proved that it has improved out of all proportion in the last few years. One scheme in particular, forming a frame to St. John Ber Street, is as good as anything in the country. Like all the other speakers, David Percival pleaded for live communities, not well-designed mausolea. The organisers believe that this was the first time that local architectural and town planning branches had organised a joint platform in this way. It will, quite clearly, not be the last.

IAN NAIRN

OXFORD ROADS INQUIRY

Five Plans: Seventy Objections

Oxford's Roads Inquiry opens today, with five alternative road plans for consideration, seventy objections to them, and a vigorous intervention expected from the University in favour of a University precinct. The main proposals before the Inquiry are outlined here by PAUL THOMPSON, a leading campaigner on this issue and one of the organisers of a public meeting held in Oxford last night, at which Peter Chamberlin, Graeme Shankland and Malcolm MacEwen spoke on problems of traffic, roads and precincts.

The Oxford road problem has been the despair of every town planner who has thought about it. For 30 years a crescendo of fruitless argument has been waged among perhaps the largest single group of intelligent men in the country as to how to solve their road problem. The argument has throughout been a conflict of rival schemes, of whose playing fields or buildings to destroy, of whether or not to build tunnels, and above all of whether Christchurch Meadow is a dank swamp or a sacred sward. The aims of a road system have never been discussed; only the effects. Now at last in 1960, prompted by the imminence of a ministerial inquiry, there are encouraging signs of a positive new approach. The debate in Congregation in October was one sign of this. Along with the re-passing of a resolution of 1955 urging the minister to wait and see the effect of

secondary measures before he considers inner relief roads, and other decrees expressing opinions on detailed routes for roads, Congregation passed a decree "that whatever relief roads are built, there should be restrictions on motor traffic in the centre of Oxford." The meaning of this resolution, which received wide support, has since been disputed, but it is clear enough from their speeches that both the Warden of Merton and the Warden of All Souls want to free the University area of the "clutter of vehicles, moving, jammed or parked" which now molest it, and that "some sort of precinct" should be the aim.

This is the first positive expression of purpose which has come from the University during the whole roads controversy, and it clearly points the way to a solution. A University precinct is an inspiring aim, and moves which have been made in the last

weeks to gather support for it show that with an idea of this kind genuine agreement can be found. There is a danger that the precinct idea will become in turn identified with sectional interests if it is thought to carry with it the necessary implication of a meadow road; but so long as the argument is kept to ends rather than to means it can provide the right answer.

The University have come to this new approach late; the City Council have never considered it. Perhaps the most frightening feature of the whole dispute has been the fact that although roads have been debated again and again in Council there has never been any discussion of the ultimate purpose. It has always been assumed that roads are to carry traffic into the City Centre, where Oxford citizens wish to go, and the only question is how to get there.

Some of the plans discussed by the Council in the last year would have demolished one or both of the City's theatres, a cinema, the offices of the Oxford Mail, the Co-operative Society and two Nonconformist chapels, and left the largest hotel and one of the largest stores isolated on roundabouts. Even this plan did not provoke the thought that a road might destroy its own purpose.

No brief was ever given to the City Architect; the debate went on, councillors were expelled by one political party, the planning committee chairman resigned; and eventually three different plans were prepared to submit to the minister. One of the three does suggest some kind of restriction in the

University area, and it is the only feature of merit in the whole set. They are all drawn up with tight complex roundabouts and even one-way streets which can only be expected to produce more confusion, and none of them suggest their relationship with either the City's inner redevelopment areas (St. Ebbe's and St. Clements) or the future of the City centre itself.

There are some 70 objections to these schemes, some of which are whimsical follies, including plans to drain all the rivers and a charming drawing of a battlemented motorway crossing the meadow. Most of the serious objections are from property interests. Two groups rally round the old banners of meadow road and of no inner road—the former group comprising principally All Souls College, the Trades Council, the Communist Party, the local branch of the Transport and General Workers Union and Dr. Thomas Sharp; the latter group the Chamber of Trade and Worcester College.

Dr. Thomas Sharp is putting in his original Merton Mall of 1947 as an objection in detail, although he supports one of the City's schemes in principle. His plan, conceived at a time when traffic on the roads was a mere fraction of what it is today, hardly appears practicable in isolation from the other developments which he originally proposed. He sees the problem as one of mere amenity; he wishes to relieve the High Street of through traffic for this purpose. He does not believe that the traffic problem is at all serious in itself, and he plans to construct new shopping streets with through traffic.

In this last idea he would appear to have the support of the Chamber of Trade, who protest against any reduction of traffic in shopping streets, under the impression that pedestrian shopping areas lose trade. A recent canvas made by the Oxford Mail fortunately shows that this misconception—a hangover from the days when shoppers pulled up and parked their cars outside an attractive shop, is at last weakening, and there is hope of winning tradesmen to a more positive approach.

Two entirely new plans have been submitted. One of these is by the Oxford Preservation Trust, prepared by Sir William Holford. It is on sale as a pamphlet, and a meeting has been held in its support. Unfortunately it appears to be more of a compromise between existing plans than a new view of the problem. Sir William has proposed a system of freeways, but he has not put his whole faith in this new road system; he shows it with frequent roundabouts and crossing the Thames by a bridge which he admits in the text to be too narrow for its purpose, and he has provided a plan for St. Ebbe's which shows a road pointing ominously in the direction of the meadow. His scheme, as no doubt the Trust intended, is but the most intelligent of the delaying policies to be presented at the enquiry. He has no proposals for the City Centre or for the University area, and his plan for St. Ebbe's, which he has quite rightly included, is merely a scheme for council cottage housing grouped round a future meadow

road extension.

The second new plan is presented by Town-maker Ltd., of Wallingford. It shows a diagrammatic road scheme, and plans for the redevelopment of the City as a commercial and civic pedestrian precinct, and of St. Ebbe's as a high density residential area with precinct planning. It does not indicate any plans for the University, and it is not worked out in any detail. But it is the only plan to present anything like an overall approach or to provide any new ideas. It is full of ideas, and there is a danger that the contentious nature of some of these—a heliport for example, and tower blocks in secluded north Oxford—will obscure its real contribution to the problem. (This plan was described in the AJ 4 Aug., 1960.) In view of the inadequacy of the official plans and of most of the objectors' alternatives it is fortunate that a spontaneous movement for a different approach has arisen. A meeting was held last night, Wednesday, November 30, in the Union Debating Hall, at which Peter Chamberlain, Graeme Shankland and Malcolm MacEwen spoke. This was not a meeting to discuss any particular road but to establish the ends that any roads must serve. The promoters want to leave the planning of that to an expert—preferably to an expert of national stature. But they want him to have a brief based on the values at stake and on the planned development of the whole city in the next 25 years. They want to see for the university area as much traffic restriction as a planner can offer them without prejudicing servicing of colleges and shops or public transport; they want at least to remove all through traffic and street parking, and to oblige private cars to park on the perimeter. Their aim is a university in which the pedestrian and cyclist are supreme (as they already are among academics; it takes too long to travel to lectures by car) from which noise and fumes are removed but not at the price of becoming an extended car park. Some parts, such as Radcliffe Square, should become absolute pedestrian precincts. For the city they would like to see a phased plan to convert the commercial area and Gloucester Green into pedestrian shopping and civic precincts respectively, with full but segregated access for vehicles and public transport. Finally, they would want to try to protect the amenities of Christchurch Meadow and of the redevelopment of St. Ebbe's and St. Clement's, either by underpasses and sheathing or by putting the road on the other side of the river with access feeders crossing to serve the centre.

The speakers will be discussing the precinct plans for Leeds University, the Barbican Plan, the South Bank, and the necessary scale of urban roads. These are all familiar facts with the architectural and town planning profession, but they are almost unknown in Oxford, where there is widespread ignorance on recent ideas in these fields. Being outside the normal educational syllabus they can only pass between enthusiasts in private conversation. It took Oxford some 50 years to recognise modern architecture, and without a campaign it may not recog-

nise town planning until too late.

The public meeting is intended both to explain the possibilities of precinct planning for the University and for the commercial and civic centre of the City, and to pass a resolution in their support for submission at the enquiry. It is hoped that if there is sufficient support for this policy at the meeting, the minister will ask for a plan to be drawn up to serve these ends, and so open the way to an Oxford growing more attractive in the future rather than severed and eroded by a perpetual intrusion of noise, fumes, vibration and parked chromium boxes.

COMPETITION

Piccadilly Circus

Intending entrants in the Piccadilly Circus Architectural Competition announced by *The Star* before it was incorporated in *The Evening News*, will be pleased to know that it is the intention to continue with the competition.

All the conditions given in the original *Star* prospectus for the competition will apply except that the closing date for entries has been postponed to January 16, 1961.

The address to which entries are to be sent may also be changed. All students who have notified their intention to compete will be advised.

Students wishing to enter who have not already done so should write immediately to:

Architectural Competition,
Special Services Department,
The Evening News & Star,
Carmelite House, London, E.C.4.

LEVERHULME RESEARCH AWARDS

1961 Fellowships and Grants

Application for these Fellowships and Grants should be made by December 31, 1960, and the awards will be announced in May 1961, and will normally date from September 1, 1961.

These awards are intended for senior workers and except in exceptional circumstances are limited to British-born subjects normally living in the United Kingdom. No subject of enquiry is excluded, but preference is given to subjects in which existing provision for research is inadequate. The duration of the awards does not extend over more than two years or less than three months, and the amount depends on the nature of the research and the circumstances of the applicant.

Application forms and further details are obtainable from the Secretary, Leverhulme Research Awards, St. Bridget's House, Bridewell Place, London, E.C.4.

ALLOM HEFFER

AND COMPANY LIMITED

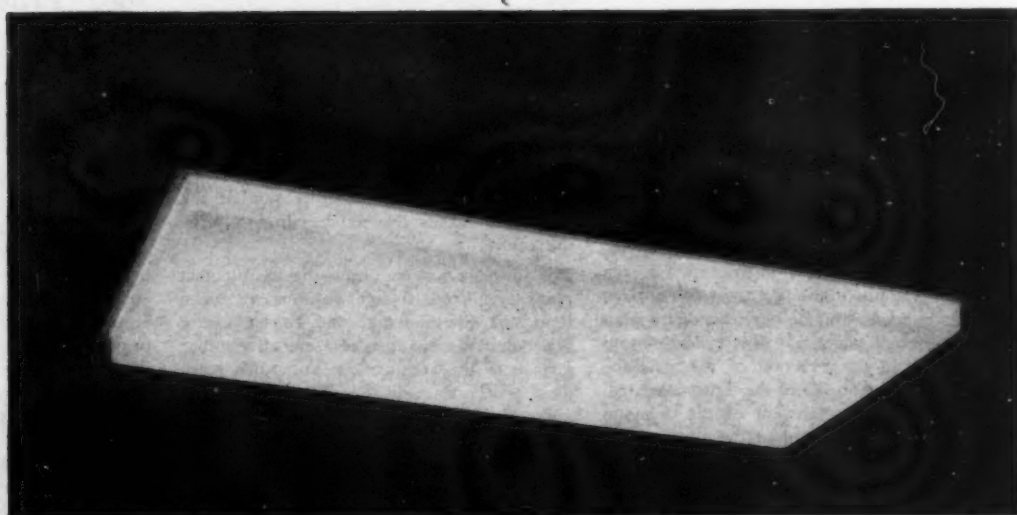


The Modular fittings illustrated made in various sizes are designed for surface mounting where space for recessing is not available.

These fittings incorporate a completely new method of securing simple maintenance by means of the Allom Heffer patent locking device (Patent application No. 32933/59) which provides:

- A positive method of opening and shutting on a pull-push principle.
- Hinging on either side of the fitting when fully clear of the ceiling.
- Complete detachment of the diffuser when required.

Apply for leaflet series 707S



THE INDUSTRY

This week Brian Grant describes a safety shower mixing valve, a cement for repairing precast concrete, a file for drawings, a bathroom cabinet, and aluminium doors.



Meynell Red Triangle mixing valve

Shower Mixing Valves

The photograph above shows the recently introduced Red Triangle safety mixing valve, in which the hot supply is automatically cut off if the cold supply should fail. Standard finish is chromium plate and the flush mounted version makes a very neat fitting. (Meynell & Sons Ltd., Montrose Street, Wolverhampton.)

Repairs to Precast Concrete

Corro-Proof grade B "Ply" cement is a polyester resin which has been developed as a bonding medium for the fixing and

repair of precast concrete. In the past an epoxy resin has been used, but this was comparatively expensive, and the newer cement costs only about 2s. 6d. per pound, and is easier to use both on site and in the workshop.

The new cement is supplied in two parts, a powder and a liquid, which are mixed to form a fairly stiff paste, the exact proportions not being at all critical. The concrete faces to be joined should first be brushed free of dust and both faces are then coated with a thin layer of the resin cement and then pressed firmly together. After 48 hours the bond should be as strong as the concrete, though seven days are needed to reach full mechanical strength. It is essential to mix no more cement than can be used in one hour, but there seem to be no other vital precautions to be taken, as the curing time is not affected by excessive humidity, and the cement can even be applied to slightly damp surfaces, though this should be avoided if possible. The cement also forms a useful filler for any cracks which may develop in prestressed concrete. Small trial packs are available for test purposes. (Corrosion Technical Services Ltd., Sunleys Island, Great West Road, Brentford, Middlesex.)

Files for Drawings

The new Art Metal plan file has been designed for the filing of all kinds of drawings and maps, and will hold at least 3,000 full size prints, and correspondingly larger numbers of smaller sizes. The drawings are filed in large folders, in much the same way as ordinary letters. The folders are filed vertically between spring compressed pockets which prevent the drawings from slipping down or becoming creased: moreover, there is no resistance when withdrawing a folder from a pocket. Four sizes of planfile are standardised to take drawings up to 53 by 30 inches, and filler pockets are produced with different depths for filing different drawing sizes. Cabinets about the size of letter files are also made for quarto or foolscap drawings, each drawer holding about 2,000 drawings.

The planfiles have double steel walls insulated with asbestos for fire resistance, and the covers interlock with the cases to keep out water from hoses. (Art Metal Ltd., Buckingham Palace Road, London, S.W.1.)



Ekco bathroom cabinet

Bathroom Cabinets

The illustration above shows the new Ekco bathroom cabinet which is moulded in white polystyrene and costs only £3 3s. including purchase tax. The sliding doors are glass mirror, and there is an internal shelf which can be used in two positions. Dimensions are 20½ by 12½, with a depth of 5½ in. This model was announced at the beginning of the year, but production has been held up and it is only now available. (Ekco Plastics Ltd., Southend-on-Sea, Essex.)



Ajax aluminium framed doors

Aluminium Doors

Ajax Aluminium announce that they are now able to supply from stock aluminium framed doors complete with a choice of furniture and fittings and anodised in a number of colours. Materials are also stocked from which aluminium door frames can be made up. The doors are made from extruded sections with the corners jig welded to make them square and flat, and the labour required is small so that prices can be kept low, often little more than a hardwood door. (Ajax Aluminium Ltd., Ajax House, Kangley Bridge Road, London, S.E.26.)

For design,
finish ...
choice of sizes
and colours,
Architects
need look
no further
than Bilston,
the Bath Specialists

ATLANTA
MAGNA
CRESTA
MARINA
MERMAID
BERMUDA
PRINCESS



BILSTON

Illustrated literature sent on request · Bilston Foundries Ltd · Bilston · Staffs

The design of shopping facilities in new towns has been much hampered in the past by the fact that the authorities have no direct access to information on the amount of shopping space to be provided and have had to rely on estimates from commercial sources. This article by Geoffrey Copcutt describes the first attempt made by a New Town authority to estimate this provision. The forward is by Hugh Wilson, Chief Architect and Planning Officer to Cumbernauld.

4 PLANNING: URBAN AND RURAL

Shopping Facilities in Cumbernauld

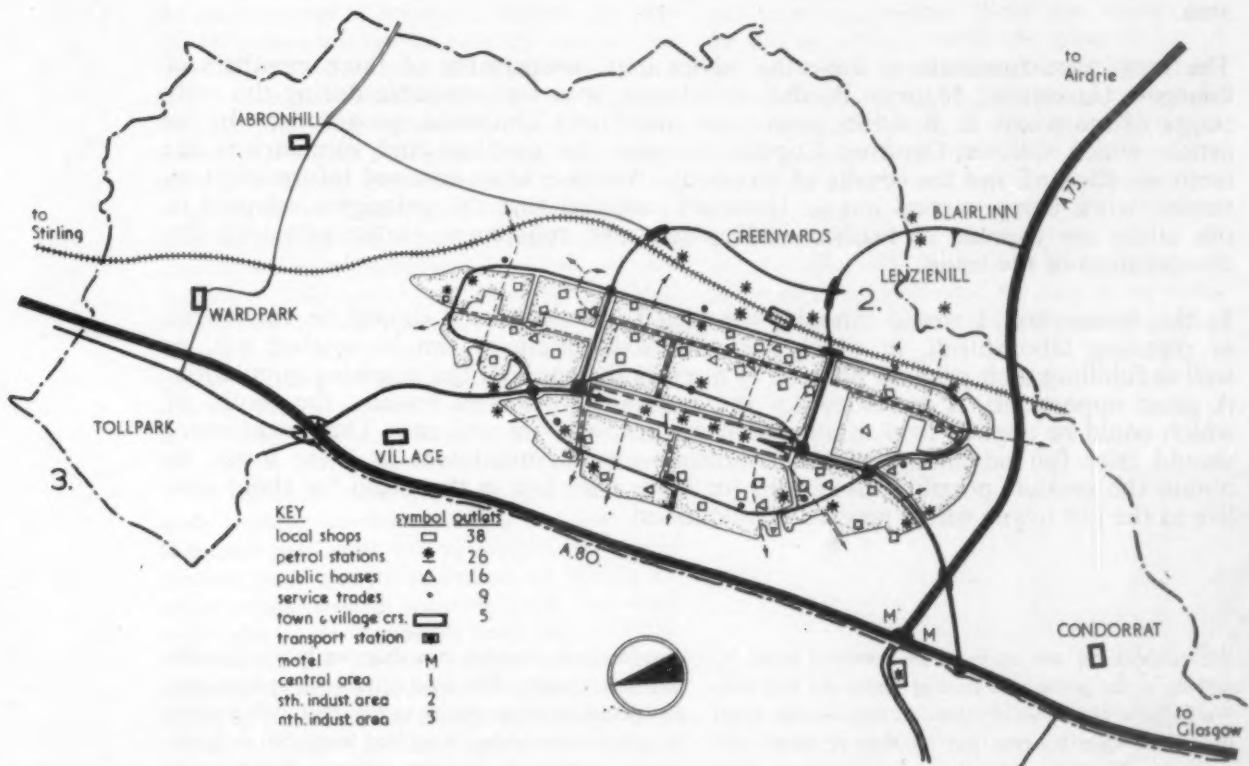


Fig. 1. Plan of Cumbernauld showing distribution of retail outlets

The planning approach adopted at Cumbernauld, with compact urban development and the abandonment of the neighbourhood unit concept, must result inevitably in a different shopping pattern compared with the more orthodox new town solution of main centre supported by local shopping centres. At Cumbernauld the plan adopted for the main hilltop area containing a population of 50,000 comprises a main central shopping area containing all the principal shops with corner shops throughout the residential areas on the basis of one shop to about three hundred houses. This concentration of shopping in the centre is made possible by the short distances involved in the town with no house on the hilltop more than three-quarters of a mile from the centre and two-thirds of the population living within one-third of a mile of the centre. The remaining 20,000 population will be accommodated in four satellite villages grouped around the hilltop; these will have local shopping centres although they will depend on the main centre for the principal shops.

technical section

During the preparation of a planning scheme for any urban area it is, of course, necessary to make an assessment of the shopping provision; but it is all the more necessary at Cumbernauld to obtain as reliable a forecast of space requirements as possible. When we considered these problems, it soon became apparent that there were many shortcomings in existing methods of calculating retail provision and we felt that an acceptable method must result in both an economic and a physical planning tool as well as a realistic forecast of floor space.

A team was set up in the office under the leadership of Geoffrey Copcutt, Group Architect for the central area, to study the whole problem with the following terms of reference:

1. To predict the total floor space required for retail trade in the central area when a population of 70,000 has been achieved.
2. To determine the provision that should be made for parking cars as a result of this retail activity.
3. To estimate the number of persons engaged in retail employment in the central area.

The team were fortunate to have the advice and co-operation of three members of Glasgow University; Maurice Brodie, sociologist, who was available during the early stages of the study, E. B. Gibb, economist, and Derek Diamond, geographer. In the article which follows Geoffrey Copcutt assesses the problem and summarises the methods adopted and the results of the study. We have since received information on similar work being carried out in Denmark; we feel that the principles adopted in our study are capable of further development and refinement particularly with the co-operation of the trade.

In this connection I would reiterate my plea that new towns should be considered as planning laboratories, in which ideas for redevelopment can be worked out, as well as fulfilling their primary purpose of meeting the needs of the incoming population. A great opportunity is presented for the learning of valuable lessons, the results of which could be applied to planning problems in towns old and new. The Government should take full advantage of the enormous capital investment in these towns to obtain the greatest possible value both for those who live in them and for those who live in the old towns which need to be revitalised.

We commenced our study at the obvious point by looking at the position in existing towns old and new. We found a good deal of statistical information about the relationship between the number of shops and population but this approach was of limited practical use, firstly because the population figures generally referred to local government boundaries which may bear little relation to catchment areas and secondly because the designation "shop" has no constant value. The term can, for example, embrace the itinerant trader, mail order house, back street shop and the department store. Although initially our study was aimed at an assessment of the quantity of shops required in the new town our investigations, particularly into American practice, soon led to the consideration of the likely pattern of marketing in the future. Indeed, as a result of the preparation of the report we have obtained not only a statistical programme but also a firm foundation on which to base the design of the main shopping centre at Cumbernauld.

Most large-scale American developers accept without

question basic research into shopping habits, expenditure and turnover. The general tendency to large-scale distribution with the decline in the retail trade handled by independent traders must lead inevitably to fundamental changes in shopping patterns. Within trades there occurs the rise and fall of different economic types and techniques exemplified in the decline of the main street independent and of counter service and the growth of the multiple organisation and the self-service system requiring larger floor areas, followed in some cases by an increase in the proportion of expenditure in the supermarkets accompanied by a rearrangement of floor space. As the variety and quantity of goods increases so must the retail machine either in efficiency or size. In addition to self-service, fully automatic vending is appearing in the United States of America on a substantial scale and in Britain coin-operated food machines delivering anything from a cup of tea to a complete hot meal may soon become a commonplace. Trends of this nature have a fundamental bearing on land consumption since the multiples, co-operatives, departmentals and small private

traders require varying frontages and depths for development. The successful centre apart from being technologically advanced must be capable of adapting itself to unforeseen patterns of consumer goods distribution if it is to avoid obsolescence.

The provision of shopping facilities in relation to population whether in existing towns or in proposed new urban developments has received little attention in this country. In 1946 the New Towns Committee included in their final report a working rule relating numbers of shops to population. The report states that "the number of shops in old towns is as high as one to 40 or 50 persons while in the newer housing estates it varies between one shop to 150 and one to 325 persons." Based on the belief that in established towns there are too many shops and in new housing areas there may be too few, the report recommends the desirable range of provision as between one shop for 100 persons and one shop for 150 persons. This report is criticised in some detail by Messrs. Ford & Thomas in the second report of the Southampton Survey. Their major criticism is that the overall number of shops is a poor guide to a town's requirements as it ignores the variations between different retail and service trades. One can also say that for planning purposes the concept of number of shops contains two major inadequacies in that no reference is made to their size or their efficiency. In a new town, however, it will be possible to build new shops of a size and layout that are in accordance with modern retailing practice thus leading to efficient retailing. There is evidence that the number of shops, their average size and efficiency, are all changing and hence the average number of shops per head today in any retail trade category is likely to be a dangerous guide to future developments in a new town.

It became clear to us that the problem was one of choosing some quantitative measure of retailing for which suitable statistics could be found and which would give a more dependable result than a calculation based on the "number of shops." This particular approach resolved itself into a consideration of the nature of retail trade. In essence this consists of the transfer of goods from the retailer to the consumer for money; the economic basis of the area for the carrying out of retail trade is demand, which can be expressed in the form of customers' expenditure. It would, therefore, appear that an accurate estimate of the total retail expenditure in a town could result in the calculation of the amount of shopping space required in terms of total floor area.

Our study was, therefore, directed to a calculation of consumers' expenditure over the whole range of goods together with an assumption of the relationship between sales and area. The final estimate was produced in three stages; first the projection of sales for a population of 70,000 people, secondly the sales per square foot of floor space for each trade (the sales conversion factor) and thirdly the calculation of floor space obtained by dividing the sales by the conversion factor.

Retail Sales and Population

It is necessary to decide whether retail expenditure in a town can be related with any accuracy to the size of the town in terms of population, an exercise involving a statistical investigation of the existing relationship between sales and population in different towns. The Census of Distribution and Other Services 1950 gives a complete breakdown of sales in each of the retail and service trades for every town in Great Britain with a population of over 2,500. It is possible, therefore, to analyse a sample group of towns and for statistical purposes the group should consist of a large number of towns with some broad similarities to Cumbernauld. Undoubtedly the most important shopping characteristic of Cumbernauld is its close proximity to Glasgow and therefore the selection of the sample has been restricted to those towns whose populations are between 25,000 and 100,000 and are situated within a twenty-mile radius of one of the nine largest cities in Great Britain. London has been excluded as being too large and the cities taken are Birmingham, Glasgow, Liverpool, Manchester, Sheffield, Leeds, Edinburgh, Bristol and Newcastle. The sample group on this basis consists of 100 towns. It is first necessary to ascertain the degree of correlation between sales and population for each of the hundred towns and this involves the calculation of the coefficient of correlation for each of the trades. When the coefficient of correlation reaches unity a

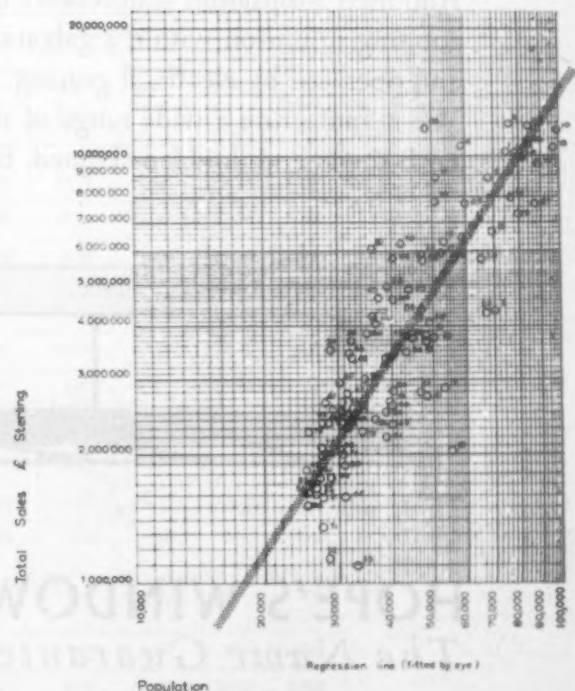


Fig. 2. Scatter diagram: total retail sales against population of 100 towns sample

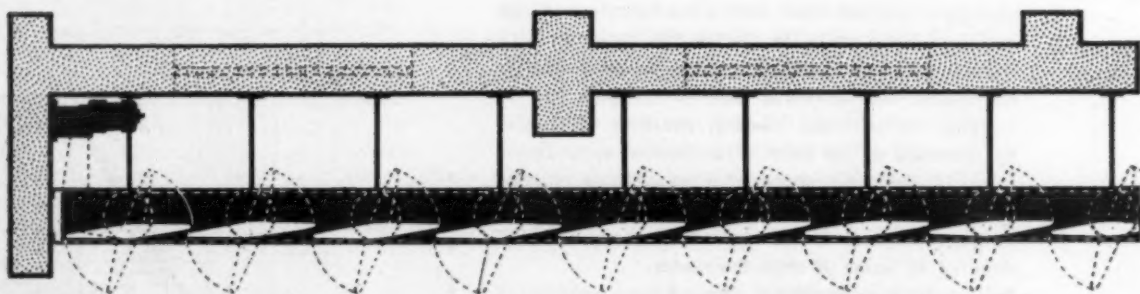
HOPE'S aluminium sunbreakers



GORDON GRANT BANK, TRINIDAD *Mence & Moore, A.A./L.R.I.B.A., Chartered Architects*

Anodised aluminium sunbreakers in aerofoil profile, 30 ft. high, rotating in unison within a galvanized pressed steel frame, and operated by electrical gearing.

We manufacture a wide range of sunbreakers in a variety of profiles, both single and doubled skinned, fixed and movable.



HOPE'S WINDOWS
The Name Guarantees



HENRY HOPE & SONS LTD
SMETHWICK, BIRMINGHAM
LONDON: 17 BERNERS ST., W.1

technical section

perfect correlation exists and the variation away from this appears as a decline in the numerical value of the coefficient. In fact the coefficient for the total retail and service trade in the towns is +0.84 and this high positive correlation (representing over 8 chances in 10) justifies taking the average sales per head from the hundred towns sample for the purpose of predicting sales in a new town with the general characteristics of Cumbernauld. (See Fig. 2.) The next step is to determine the actual expenditure involved in a town of 70,000 based on 1959 sales. The only adequate source for the calculation proved to be the 1950 Census of Distribution since only here is expenditure expressed in the form of sales in definite groups of retail outlets. While the most up-to-date source of expenditure data for the United Kingdom is to be found in the "Monthly Digest of Statistics" its major drawback in use is its classification of expenditure in terms of commodities and not as is the 1950 Census in terms of retail trade groups. The same is true of the 1953-54 Report of Enquiry into Household Expenditure. Similarly the Report of the Census of Distribution and Other Services 1957, recently published, excludes certain highly important categories (notably motor vehicles) and is as yet only expressed in terms of Great Britain as a whole.

To bring the figures from the Census of Distribution up to date, 1950 figures have been adjusted by an amount representing the changes in money values, standards of living and patterns of expenditure

which have taken place during the past ten years. For this purpose an index which must be deflated by the percentage increase in population can be constructed from the Annual Abstract of Statistics to arrive at the change in the value of retail sales per head of population over that period for each of the retail categories. This modification is necessary as the sales conversion factors mentioned later refer to the money value of sales in 1959. The results of these calculations are shown in Table 1 below. It will be noted that the population figures in column 2 vary for some of the categories. This is because where there are too few establishments in a particular retail group in a town the details are not disclosed in the Census and the population is made up from those towns where figures are available. In the case of categories 9 and 12 it is not possible to obtain detailed figures from the Census and estimates have been made based on the Great Britain table in that document. It is now necessary to convert the sales estimates in Table 1 into floor areas and this involves the use of factors representing the amount of trade handled by a given unit area (the sales conversion factor.) It must be stressed that it is essential to obtain a conversion factor for each branch of the retail trade. The very different nature of commodities, their bulk and the rate of turnover of each unit per annum gives rise to markedly different sales per square foot in the different retail and service trades. Extensive enquiries have been made of trade associations,

Table 1 Estimated Sales in 1959 for a Town of 70,000 Persons

	(1)	(2)	(3)		(5)	(6)
	100 Towns, 1950		Sales per head			70,000 population 1959 sales
Category	Sales £'000	Popula- tion '000	1950 £	Percent- age increase	1959 £	£'000
1. Grocery group	114,307	4,555	25.10	+ 67	41.90	2,930
2. Other food retailers	86,967	4,555	19.05	+ 67	31.84	2,230
3. Confectioners, tobacconists, newsagents, booksellers and stationers	41,549	4,555	9.16	+ 56	14.28	999
4. Clothing group	85,186	4,555	18.70	+ 26	23.56	1,650
5. Hardware group	18,275	4,475	4.08	+ 77	7.22	505
6. Chemists' goods, photographic goods group	14,338	4,494	3.20	+ 56	4.98	349
7. Furniture group	25,441	3,983	6.38	+ 77	11.29	790
8. Jewellery, leather and sports goods group	5,942	3,554	1.66	+ 56	2.59	182
9. Department, variety and general group	—	—	—	—	—	710
10. Catering group	14,052	4,555	3.08	+ 67	5.14	361
11. Motor vehicles group	41,007	4,472	9.18	+ 328	30.15	2,110
12. Miscellaneous group	—	—	—	—	—	310
TOTALS						13,126

technical section

chambers of commerce and individual business men to ascertain suitable figures and the results are shown in Table 2:

Table 2. Sales Conversion Factors by Major Retail and Service Trade Categories

Category	New Town Shop (Turnover by 1 sq. ft. p.a.)
1. Grocery	£32
2. Other Food	£30
3. Confectioners, Newsagents, Tobacconists and Booksellers	£30
4. Clothing	£25
5. Hardware	£15
6. Chemists	£23
7. Furniture	£17
8. Jewellery, Sports, etc.	£20
9. Department and Variety Stores	£18
10. Catering	£20
11. Motor Vehicles	£13
12. Miscellaneous	£20

The use in the table of the term "new town shop" refers to the basis of the estimates as representing well-situated, well-designed and efficiently organised shops.

The next step is to apply the sales conversion factors in Table 2 to the sales in each category in Table 1, and this is shown in Table 3:

Table 3

Category	(1) Sales 70,000 1959 £'000	(2) T/O per sq. ft. £ p.a.	(3) Area Sq. ft.	(4) Acres
1. Grocery Group	2,930	32	91,500	2.10
2. Other Food Retailers	2,230	30	74,400	1.71
3. Confectioners Tobacconists, Newsagents and Booksellers, Stationers	999	30	33,300	0.77
4. Clothing Group	1,650	25	66,000	1.52
5. Hardware Group	505	15	33,700	0.77
6. Chemist's Goods, Photographic goods Group	349	23	15,150	0.35
7. Furniture Group	790	17	46,500	1.07
8. Jewellery, Leather and Sports Goods Group	182	20	9,100	0.21
9. Department, Variety and General Group	710	18	39,500	0.90
10. Catering Group	361	20	18,050	0.41
11. Motor Vehicles Group	2,110	13	162,500	3.73
12. Miscellaneous Group	310	20	15,500	0.36
TOTALS	13,126	—	605,200	13.90

This table shows that the total floor space required in the whole town for retail shopping to sell some £13,000,000 of goods in a year amounts to 605,000 square feet or some 14 acres of floor space. This is based on present day values, of course, although the population of 70,000 will not be reached before 1980 at the earliest.

It has been stated that living standards might roughly double by the end of that period: As living standards rise, however, people do not spend the additional income in the same proportion on the same commodities as before and it is probable that a more than proportionate increase would occur in such items as electrical equipment, motor cars, etc., and a less than proportionate increase in food, clothing, etc. This is borne out when the expenditure pattern of the United States is examined as shown in the United States Census of Business 1954 and compared with the hundred towns sample figures for 1959. The proportion of national spending on food and catering was nearly 11 per cent less in the United States whilst that for durables was 2 per cent higher and for cars nearly 8 per cent higher. The extent to which the changes in real income will be reflected in shopping floor areas will depend entirely on the efficiency of retailing and there is plenty of evidence to support the argument that there is considerable room for further improvement and for the introduction of new techniques. Perhaps the lesson for Cumbernauld is that there should be scope for some additional shopping floor area in the central area but also that the building design should be sufficiently flexible to allow the maximum change in the detailed planning of shopping space in the future.

The 14 acres of floor space which has been estimated refers, of course, to the total shopping provision in the town when the population has reached a figure of 70,000. This would involve the development of the satellite villages as well as the main hilltop. The figure also includes provision for such categories as Petrol Filling Stations. The next problem is to decide what fraction of the total area will be needed in each of the different shopping localities. For this purpose it is necessary to collate the sales of the local corner shops and the "village" shops and other non-central retailing outlets and to deduct the total from the gross sales for the entire town. It is assumed that there will be thirty-eight local shops each approximately one thousand square feet in area, and that this area will be divided equally between grocery, other food products, confectionery, tobacco and newspapers and hardware. By applying the sales conversion factors it is possible to calculate the total sales as shown in Table 4:

Table 4. Estimate of Local Shop Sales

Trade	Sales Conversion Factor	Area of Shops (sq. ft.)	Sales p.a. £
Grocery Group	32	9,500	304,000
Other Food	30	9,500	285,000
Confectioner, Tobacconist, Newsagent	30	9,500	285,000
Hardware, etc.	15	9,500	142,500
TOTALS	—	38,000	1,016,500

The four satellite "villages" are estimated to have 20,000 inhabitants and each will have its own minor shopping centre. To calculate the area of shopping facilities required in these centres it is assumed that certain trades most closely associated with local shopping needs will represent 1/7th of the total sales of the town, those trades which will have their greatest concentration in the town centre are estimated to draw 1/14th of the total sales and such trades as furniture, department and variety stores are excluded entirely. The results of this calculation are shown in Table 5:

Table 5. Estimate of Village Sales

Trade	(1) Proportion of Total Town Sales	(2) Sales £'000's 1959	(3) T/O per sq. ft. £ p.a.	(4) Area Sq. ft.	Acres
Grocery	1/7	419	31	13,100	0.30
Other Food	1/7	319	30	10,600	0.25
C.N.T.B.	1/7	143	30	4,750	0.11
Chemists	1/7	50	23	2,150	0.05
Clothing	1/14	118	25	4,700	0.11
Hardware	1/14	36	15	2,400	0.05
Jewellery	1/14	13	20	650	0.02
Catering	1/14	26	20	1,300	0.03
M.V. Petrol and Service	1/7	220	13	16,900	0.39
Vehicle Sales	1/14				
		1,344		56,550	1.31

With regard to garages and petrol stations calculations have been prepared to assess the sales in the various areas and results are shown in Table 6:

Table 6. Distribution of Motor Trade Sales

	Petrol Sales £	Service Sales £	Vehicle Sales £	Total £
Central Area	92,000	Nil	1,063,000	1,155,000
Villages	77,000	61,000	82,000	220,000
Remainder of Hill	370,000	365,000	Nil	735,000
TOTAL	539,000	426,000	1,145,000	2,110,000

In addition there is a small item with reference to service trades which will be spread about the town but the effect of these is not important. By applying the figures in Tables 4, 5 and 6 it is possible to prepare an estimate of the sales in the central shopping district as shown in Table 7:

Table 7.—Estimate of Sales in the Central Area

Category	(1) Sales 1959 £'000	(2) Deductions Villages £'000	(3) Others £'000	(4) Nett Central Area Provision £'000
1. Grocery Group	2,930	419	304	2,207
2. Other Food Retail	2,230	319	285	1,626
3. Confectioners, Tobacconists, News and Booksellers, Stationers	999	143	285	571
4. Clothing Group	1,650	118	—	1,532
5. Hardware Group	505	36	143	326
6. Chemists' Goods, Photographic Goods, Group	349	50	—	299
7. Furniture Group	790	—	—	790
8. Jewellery, Leather and Sports Goods	182	13	—	169
9. Department, Variety and General Group	710	—	—	710
10. Catering Group	361	26	—	335
11. Motor Vehicle Group	2,110	220	735	1,155
12. Miscellaneous Group	310	—	82	228
TOTALS	13,126	1,344	1,834	9,948

These sales can then be converted into areas as shown in Table 8:

Table 8.—Estimate of Area, by Retail Trades, in Central Shopping District

Category	Central Area Sales 1959 £'000	T/O per sq. ft. £ p.a.	Area Sq. ft.	Acres
1. Grocery Group	2,207	32	69,300	1.59
2. Other Food Ret.	1,626	30	54,200	1.24
3. Confectioners, Tobacconists, News and Booksellers, Stationers	571	30	19,050	0.44
4. Clothing Group	1,532	25	61,400	1.41
5. Hardware Group	326	15	21,400	0.49
6. Chemist's Goods, Photographic Goods Group	299	23	13,000	0.29
7. Furniture Group	790	17	46,500	1.07
8. Jewellery, Leather and Sports Goods Group	169	20	8,400	0.19
9. Department, Variety and General Group	710	18	39,500	0.90
10. Catering Group	335	20	16,750	0.38
11. Motor Vehicles Group	1,155	24	49,700	1.13
12. Miscellaneous Group	228	20	11,400	0.26
TOTALS	9,948		411,000	9.42

technical section

Thus central area shopping facilities for the ultimate population of Cumbernauld based on present day standards would amount to some 411,000 sq. ft. or nearly $9\frac{1}{2}$ acres of floor space. These figures do not take account of additional space which may be required in the future to meet demands arising from an increased standard of living. The additional floor space required for this purpose could be of the order of one acre spread throughout the town. On the other hand improved methods of retailing might obviate such an increase.

Regional Position

It is also necessary to consider the position of Cumbernauld in relation to the surrounding region since any influx of shoppers from outside the town would obviously increase the trading figures and might result in the need for additional floor space. These regional shoppers can be classified into three types:

- (a) the person who commutes into Cumbernauld for work, and, therefore, finds it convenient to shop in the town,
- (b) the person who finds it more convenient to visit Cumbernauld for shopping than any other town in the area, being attracted solely by the proximity of the shops, and
- (c) the person who despite being closer to an alternative shopping centre prefers to use Cumbernauld for one reason or another.

For instance, adequate parking facilities and all-weather shopping provision could be two important influences in enticing such shoppers to Cumbernauld, always providing that in price and range of goods Cumbernauld was equivalent to the other towns. An active attempt to attract these potential shoppers could be highly successful and very rewarding financially for the new town.

An analysis has been made of the regional shopping pattern in existence before the development of the new town based on the results of a survey undertaken in 1956/57 in the Department of Geography, Glasgow University, to investigate urban spheres of influence. The regional shopping pattern produced from this survey taken in conjunction with the 1950 Census of Distribution figures for average sales per head gives a clear picture of the main shopping competitors Cumbernauld will have. Only Stirling and Falkirk, and Glasgow to a lesser degree, exceed both the British and Scottish average expenditure per head. Airdrie is revealed as well within the pull of Glasgow and, therefore, is of less significance as a competitor to Cumbernauld although it is useful in defining the area in which Cumbernauld will compete for regional shoppers. This area is delimited by Glasgow to the west, Stirling to the north, Falkirk to the east, and Airdrie to the south. Study has been made of ease of access to Cumbernauld by various methods of transport (see Fig. 3). This shows that the maximum population that can reach Cumbernauld more quickly than the competitor towns is about 35,000 persons but in fact this number is reduced to 20,000 if the

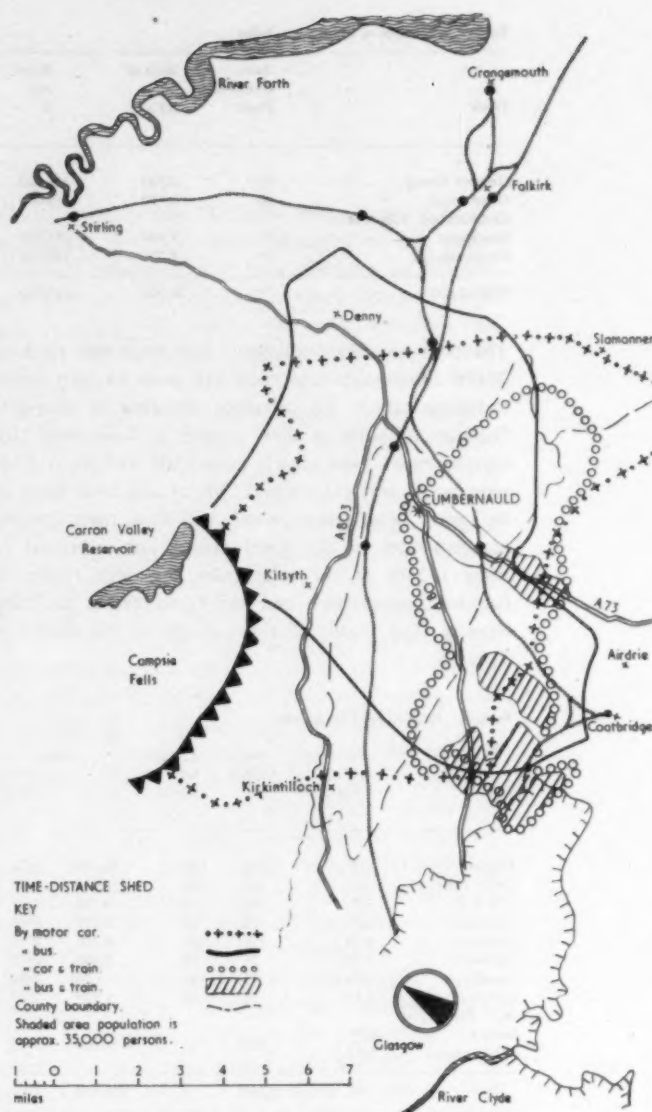
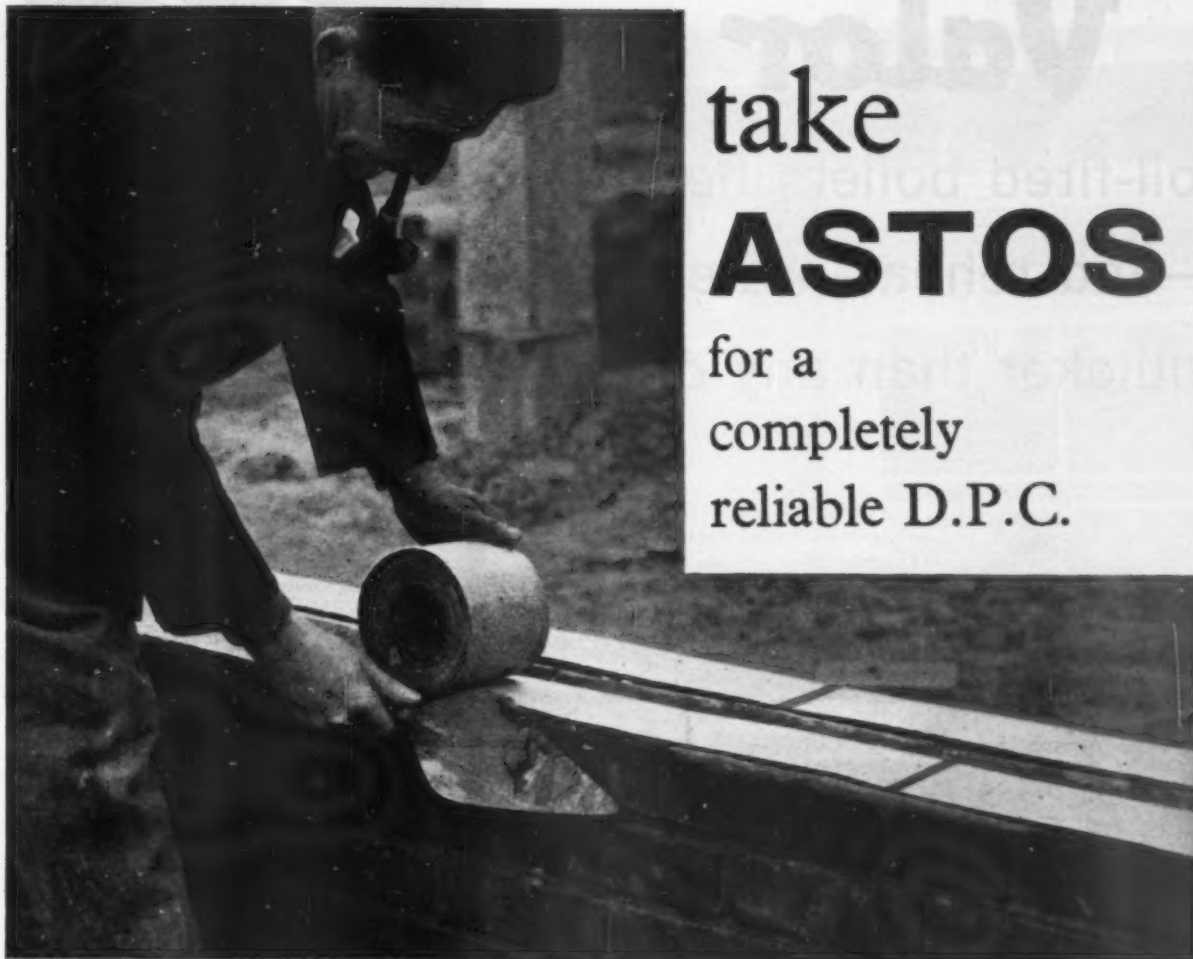


Fig. 3. Time-distance shed

alternative means of transport by bus or car are to be available. It seems reasonable to assume that this number of regional shoppers may use Cumbernauld town centre when it is completed. Although it may not be wise to provide at the outset for these additional shoppers they can at least be regarded as a factor of safety in the general provision of shopping facilities in the new town.

Estimate of Number of Workers

An estimate has been prepared of the probable number of persons to be employed in the retail and service trades in the town using the 1950 Census of Distribution and Other Services, the Annual Abstract of Statistics and the Ministry of Labour's Gazettes for 1950 and 1959 as sources for the material. Using the 100 towns' sample a total of 4,200 employees in the town is arrived at. By applying the percentages of total sales handled in the various shopping groups the estimate for the town centre is 2,700 employees.



take
ASTOS
for a
completely
reliable D.P.C.

An Astos dampcourse gives *permanently* effective protection. It cannot be damaged by vibration and normal settlement.

Astos is easily identified on site by the gold band and black lettering. (Green lettering for lead-lined Astos). The original asbestos/bitumen dampcourse, it complies fully with British Standard requirements. Available in 24 ft. rolls in wall widths up to 36 inches. Type 5C, 7 lb. per square yard. Lead-lined (Type 5F) 9½ lb. per square yard.

Astos Astos Astos Astos

This mark appears on a gold band on all Astos dampcourse at 6 ft. intervals.

take **ZYLEX** slaters' felt

to complete the weatherproofing, provide a completely dependable secondary roof, reduce heat losses. Reinforced Zylex for open rafters, Standard for boarded roofs, Aluminium Foil Surfaced for even greater insulation.

Specify **RUBEROID** *and you specify the BEST!*



We will gladly supply full details of Ruberoid bituminous products. Write or telephone:—

THE RUBEROID COMPANY LIMITED

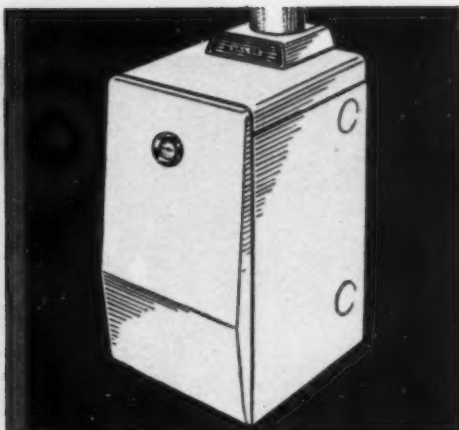
498 COMMONWEALTH HOUSE, 1-19 NEW OXFORD STREET, LONDON, W.C.1.
Holborn 9501 (3 lines)

EAS11

Valor

oil-fired boilers heat
—and reheat—water
quicker than any other

The speed with which Valor heats and reheats water, stamps Valor as the most efficient means of central heating money can buy. And not only that — Valor is also the most economical of all oil-fired boilers!



Valor provides central heating at its best

- The price is right.
- Easy to install.
- No smell or smoke—complete combustion within the burner itself.
- Reheats water quicker than any other system.
- Thermostatically controlled for economy.
- Anti-flooding safety device ensures safe fuel control.
- Easily lit and once alight looks after itself.
- Minimum maintenance and servicing necessary.
- Handsomely designed steel casing, stove-enamelled, to look well in any kitchen scheme.

Valor OIL-FIRED BOILERS

For further details please contact

The Valor Co. Ltd., Bromford, Erdington,
Birmingham 24. Tel.: Erdington 6151

	SA 25	SA 35	SA 45
Hot water only	25-40 galls.	40 galls. upwards	40 galls. upwards
Constant rating	15,000 B.t.u./hr.	30,000 B.t.u./hr.	45,000 B.t.u./hr.
Radiators only	3-4	5-8	8-11
Total loading including mains to radiators	100 sq. ft.	200 sq. ft.	270 sq. ft.
Hot water & radiators	30 galls. 50 sq. ft.	30 galls. 150 sq. ft.	30 galls. 220 sq. ft.
Maximum fuel consumption per hour	1 pt.	2 pts.	3 pts.



Works Restaurant and Medical Building

for Mobil Oil Co. Ltd.
Birkenhead

This industrial canteen is skilfully planned with a centrally placed kitchen serving three dining spaces. In the case of the cafeteria service, the separation of the counter from the dining hall, an unusual arrangement, results in a considerable improvement over the normal layout.

architect

GRENFELL BAINES &
HARGREAVES

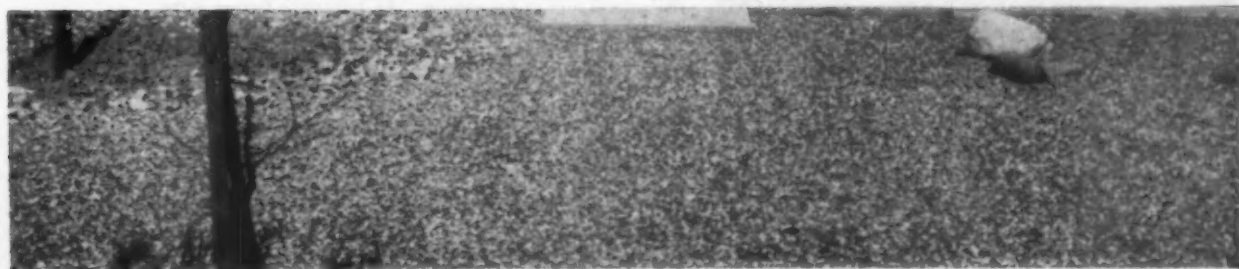
staff

S. H. TASKER, A. L. HOGG

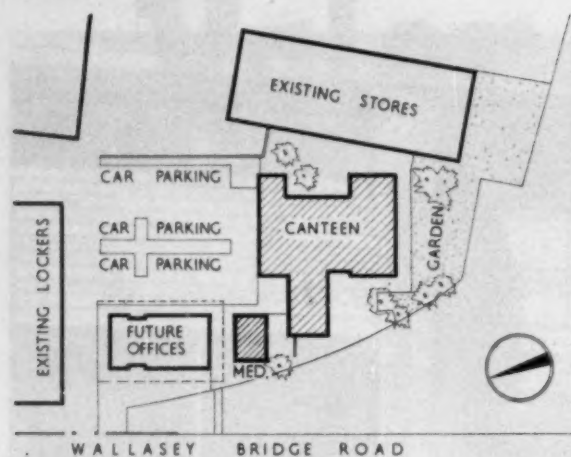
quantity surveyor

ARNOLD E. TOWLER

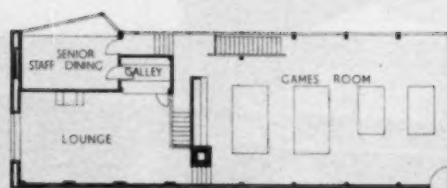
The main hall (right) has structure expressed, while in the games room (left) it is suppressed. The structure supporting the games room floor emerges behind the staff room wall



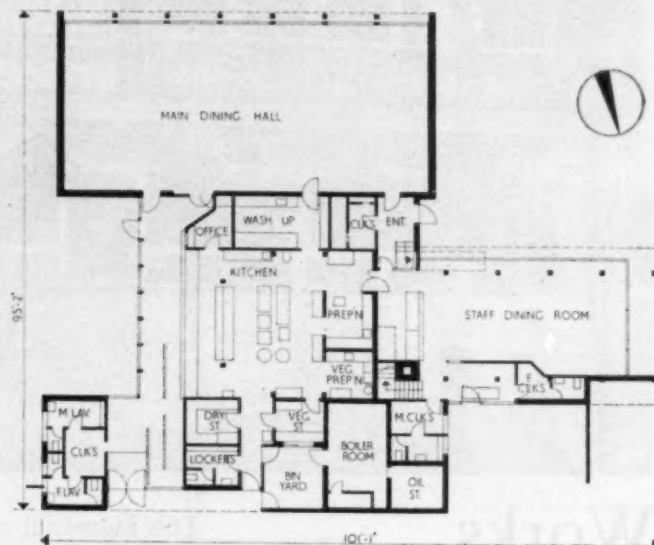
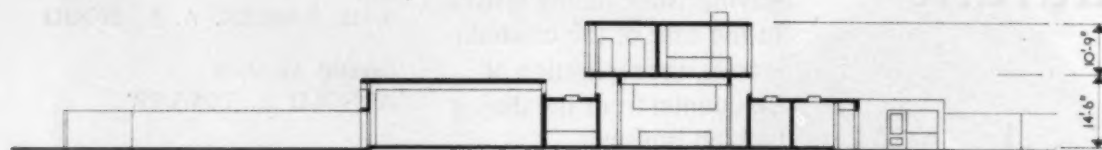
building study—2nd series

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

Medical block ground floor plan



Dining room first floor plan

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

South-north section: left, main dining-hall; centre, kitchen with special dining-room and lounge above

APPRAISAL: The majority of industrial canteens are placed on some unused lot within the general site area of the works. This arrangement is convenient in use and avoids the unnecessary expense of purchasing extra land. But it does not normally make an attractive site for buildings intended to provide amenity.

The Mobil Oil canteen site is no exception to this general rule. It is placed in the south-west corner of their oil blending plant. To the north of the canteen are entrances to the factory and locker rooms. To the north-west is a view of ships in dock. Whatever merit this mildly romantic outlook may have had it is now occluded by storage sheds. To the south (from the edge of the site) there is a distant prospect of hills above Birkenhead which is said to be pleasing in fine weather. This view is unfortunately marred by some ten acres of railway siding in the foreground.

The plan is sensibly arranged so as to cut off and seclude the building from the factory. A high wall surrounds the south-west perimeter of the canteen site and creates with the buildings themselves a series of related courts.

Entry is from the factory and the north. There are three types

of entry. One is for hourly paid. These men have oil on their boots (the smell of oil and the oil itself pervade the hourly-paid area—and seems an almost intractable problem in a place which is intended to look as well as be amenable. However, one gathers that the oil workers themselves become quite unconscious of the smell.) At the opposite end is the entrance for the staff. Between these two lie the kitchens and associated storage which is also served from the north. This is quite neatly arranged by providing an inner courtyard in which dustbins and other untidiness inevitably found with a large kitchen are hidden from view.

The kitchen, together with its serveries, is well planned as the natural hub of the canteen. An important feature is the layout of the cafeteria service counter as a separate unit from the main dining-hall. Current opinion in mass catering is in favour of such counters being an integral part of the kitchen: the handling and movement of cooked food can as a result be simplified, and standards of cooking and cleanliness are improved since most of the activities are visible to the user. With this arrangement, however, the traditional layout of counter opening directly on to dining-hall raises



North elevation, with separate entrances for oil workers, staff and to kitchens and stores. The kitchen has clerestory lighting

fresh problems. Noise and smells tend to leak into the dining-hall and, particularly in winter, there are difficulties with draughts created by the pull from the kitchen extracts. In addition, there is the psychological problem of the annoyance of having to watch others eat whilst waiting in a queue, matched only by that of trying to eat under the doleful eyes of the undernourished. At Birkenhead the cafeteria servery and its associated queuing space are set at right angles to the dining-hall proper from which it is successfully separated, so that all these problems are avoided.

All the main areas—cafeteria, dining-hall and staff dining-room on the ground floor; games room and senior staff dining-room (served by a hoist) on the first floor—are planned so that they look south over the courtyards, to give both the best orientation and as pleasant an outlook as possible within the limitations of the site. Walls to the north are solid, pierced only by the three entrances and a solitary window in the games room intended for the view with ships. With such a simple and very workable plan one might have expected to see a very simple building both in form and detail. But in this one would have been wrong.

The job architect of the MobilOil canteen likes modelling in buildings, admires Aalto and the early work of Mendelssohn; considers the indiscriminate use of proprietary curtain wall to be the negation of architecture.

The plan is best expressed on the northerly entrance elevation, with the kitchen rising above the general entrance level, to obtain clerestory lighting. The kitchen is also the most successful area internally.

On the south side, which is fully glazed, each unit is expressed differently either by change of glazing pattern or detail or by alternate expression and suppression of structure: sometimes by all three. In all there are some five different interpretations of glazed walling, these in areas which are in any case naturally expressed. It is legitimate to deal with each detail as it arises provided, always, one has the previous detail in mind. This particularly applies to a building as small as this, where there is scarcely room for so many changes of expression.

Having said this, it is fair to add that many of the details, especially inside, are well considered and pleasant to look at. In particular there is the thoughtful use of hardwood as tray

building study—2nd series

The glazed wall to the staff room returns with a shop-front detail of glass to glass. This is the only place where two glazed walls meet on an external angle. The great variety of details, frequently doing similar jobs, is slightly disconcerting in so small a building

rails, rub rails and slatted barriers. The louvre doors in the kitchen ancillary rooms are practical and attractive. The detailing of these and similar items is appropriately robust and only occasionally verges on the clumsy.

In contrast to this generally high standard is the heavy kitchen equipment, which gives the impression that there has been no noticeable advance in standards of design since the turn of the century. This is no fault of the architects: it is a universal problem in the design of large kitchens. There has, admittedly, been the changeover in recent years to stainless steel, but this seems to have achieved little but increased costs, the equipment still being in other respects as difficult to clean as ever. More important still is the apparent failure of manufacturers to appreciate that such equipment is almost never installed in isolation, but grouped in islands or other arrangements. The time is long overdue for a general rationalisation of the design of kitchen equipment on a unit basis; different types could then be fitted together to form

simple blocks which are easy to clean, and service runs could also be hidden away.

The entrances are identified with a blue and white wall tiling. The tiles do not go particularly well with rather dull choice of brickwork and are perhaps another example where elimination and simplification would have improved this building. The straight-edged window joinery, like most previous examples of this detailing, looks very nice but could be more efficient in keeping out the rain. Details good and bad (or both) could be discussed endlessly—particularly because they are such an important part of this type of architecture.

CLIENT'S REQUIREMENTS

1. Canteen accommodation for 60 per cent of the employees, amounting to approximately 180 hourly paid and 60 staff, with private dining for 12 for distinguished visitors. Only 30 per cent used the original canteen. The 60 per cent figure



"The job architect likes modelling in buildings." This is the evening entrance for socials. To the left is the staff dining-room. The staircase straddling the glazing line leads up to the games room. The angled view window belongs to the special dining-room

was the works manager's own estimate of probable usage: it has been proved correct.

2. In addition, medical accommodation for a resident nurse and visiting medical officer provides for first aid and treatment of minor injuries, also regular medical examinations.
3. Some recreation facilities for lunch-time and evening use by the works social club.

SITE

A corner of the works in Wallasey Bridge Road, Birkenhead, contained derelict buildings, originally a boiler house, later site of original grease plant. Existing structures included foundation of a tall chimney and equipment bases, demolished outside the contract. Nevertheless, there remained large mass concrete bases and a 2-ft.-thick reinforced concrete slab.

Space had to be left on site for a future office block of 7,000 sq. ft.

The approach to the canteen lies through the works car park. On the opposite side lies the ablutions and locker-room building which was extended under the same contract.

PLANNING AIMS

The first aim was to produce a compact integrated building with the kitchen at the heart of the plan—no appendages or additive planning. Though separate, the medical building is linked closely and forms part of the group.

The positioning of the kitchen and its interlocking in section gives the clue to the form of the building as a whole.

Arising out of site conditions came the experiment of placing the main servery (self-service) in a corridor, so that meals are picked up on the way through to the dining-room

SUMMARY

Ground floor area: 7,115 sq. ft.

Total floor area: 9,615 sq. ft.

Type of contract: R.I.B.A. fixed price.

Tender date: April 1958.

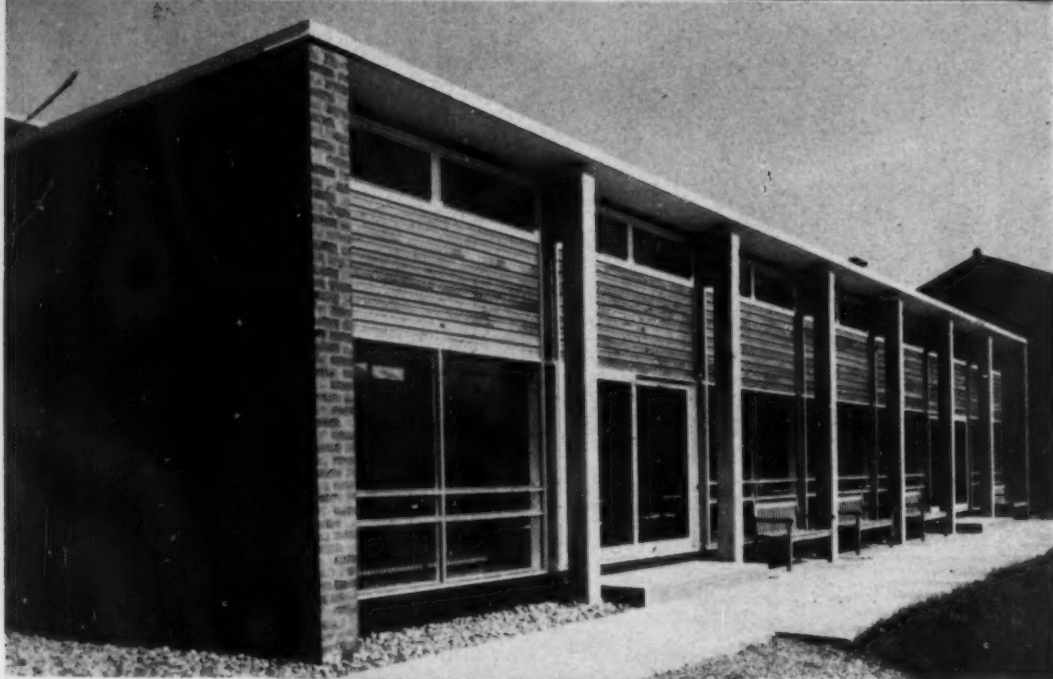
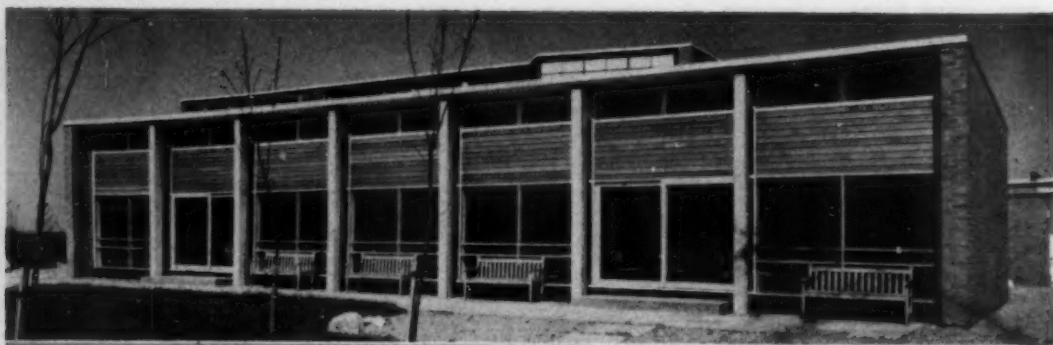
Work began: August 1958.

Work finished: October 1959.

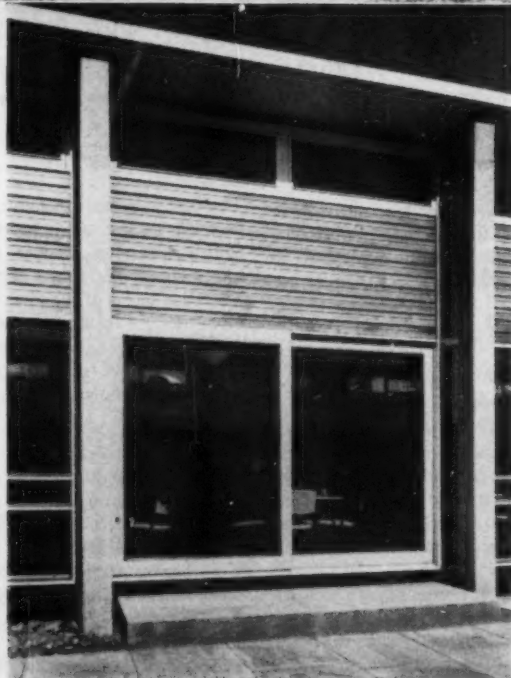
Tender price of foundation, superstructure, installation and finishes: £46,076.

Tender price of external works, including drainage, and ancillary buildings: £1,153.

building study—2nd series



Varied fenestration on the south elevation. The special dining-room, in addition to a view window, has an opalescent Japanese screen just visible in the top photograph. The architect intended the latter to obscure an uninteresting view of a flat roof



On the main hall elevation the structure is expressed. The frame is separated from both roof and walls by "flash gap" detailing. The concrete work throughout the job is of a very high standard

COST ANALYSIS

based on tender. (AJ revised elemental breakdown in use from November 10, 1960.)

Preliminaries and insurances**Contingencies**

6.1 per cent of remainder of contract

Work below lowest floor finish

Reinforced waterproofed concrete raft formed of 18-in.-deep ground beams with splay sides with 6-in. slab spanning between, sitting on a 6-in. layer of sand laid on hardcore beds. Method made necessary to avoid differential settlement.

STRUCTURAL ELEMENTS**Frame**

Canteen: reinforced concrete frame to main dining-hall and first floor. Main dining-hall beams are composite lattice steel and ordinary reinforced concrete with prestressed bottom boom. Ordinary reinforced concrete beams at first floor level. Lower surrounding service areas and medical block have load-bearing walls.

Upper floors

(Cost of staircases included)
Shallow tee beam system with 4-in. slab spanning 7 ft. 0 in. between 12-in.-deep 3-ft. 0-in. wide beams all in situ reinforced concrete.

Roof

Low level roofs: 5-in. in situ reinforced concrete with 1-in. insulation board.

s d

5 8½

3 4½

13 0½

Main dining-hall and first floor: 6-in. × 2-in. timber joists between main beams, held down by inverted steel angles with 2-in. compressed straw slabs.

Both types laid flat, with gutters formed in roof depth and internal rainwater pipes, and finished with three layers bituminous felt.

523 sq. yd. felt, compressed straw slab and joists, 34s. per sq. yd.

407 sq. yds. felt, insulation board and concrete.

Rooflights

Fixed and openable, one sheet wired glass in aluminium frame on timber kerb 1½ in. wide with cork insulation. Kerb also trims opening in roof.

1 fixed 2 ft. 9 in. square, £17.

2 movable 2 ft. 9 in. square, £57.

1 fixed 4 ft. × 3 ft., £25 10s. 0d.

Timber kerbs, £17 12s. 6d.

2½

Staircases

(Cost included in Upper Floors)

Reinforced concrete stair, with fair-face risers.

Treads ¾-in. plywood on softwood battens covered with linoleum, with p.v.c. nosing.

2 main flights 11 ft. 6 in. × 3 ft. 6 in.

2 short flights 3 ft. 6 in. × 3 ft. 6 in.

Mahogany-framed and ply panel balustrade to main staircase, timber handrail to remainder.

4 10½

6 6

7 10½

External walls

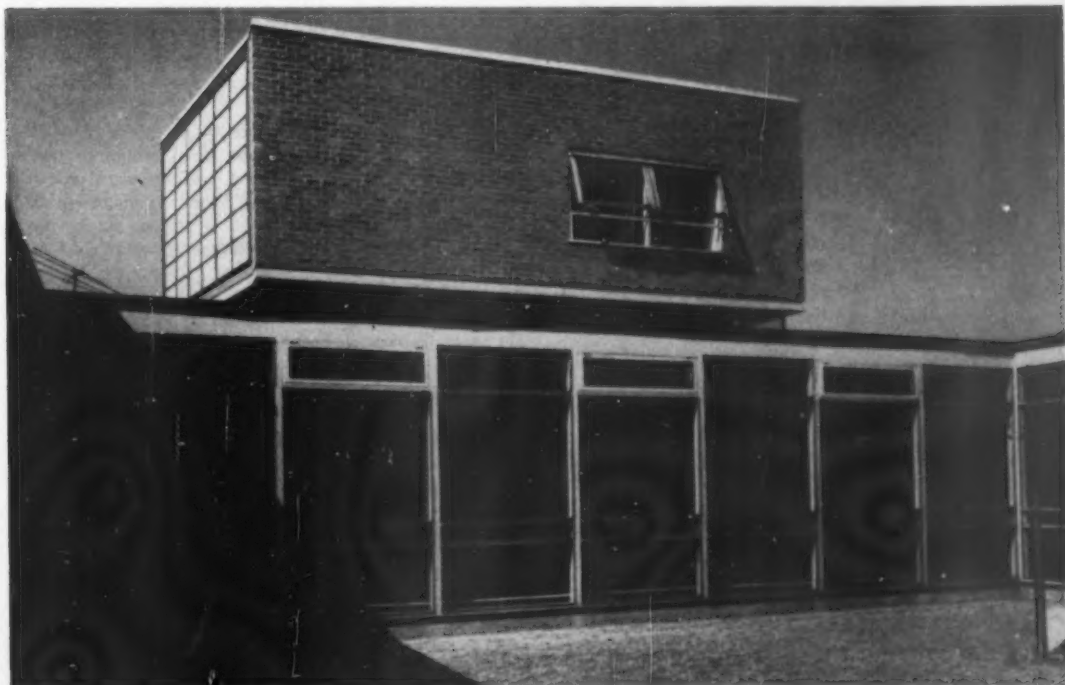
Facing brick to 11-in. cavity walls (15½-in. end walls main dining-hall).

Fully glazed softwood or hardwood curtain walling: latter generally 10-ft.-wide frames with from 4-in. × 2-in. to 7-in. × 2-in. members.

Main dining-hall infill panels with cedar boards externally, veneered ply inside.

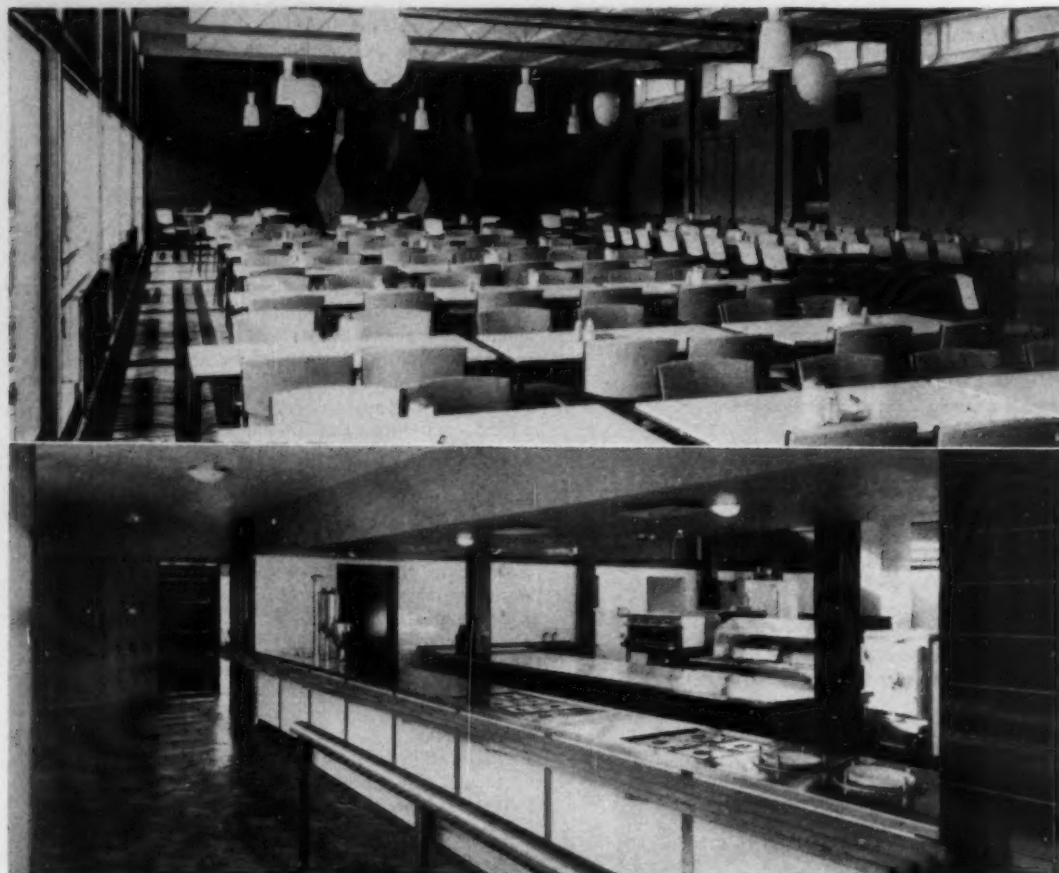
Lead-based damp-proof courses.

5 11½

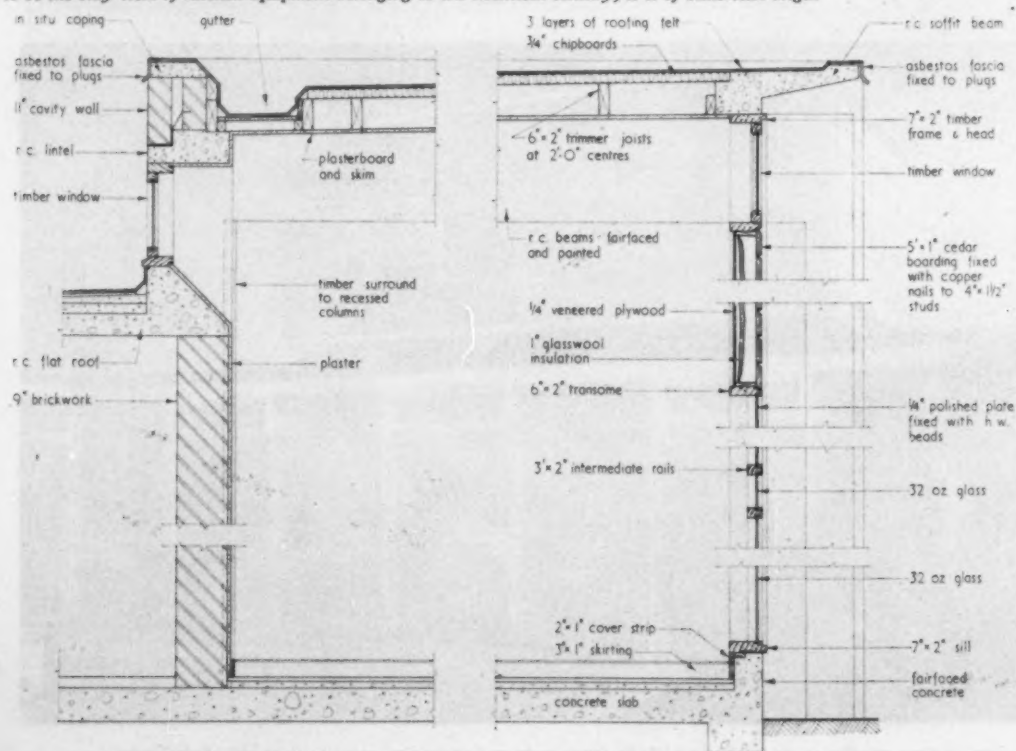


East elevation, showing window to the sitting area of the games room and opalescent screen in the senior dining-room

building study—2nd series



Top: main dining-hall. Mural by Leslie Cant, a member of the architect's staff. Scandinavian light fittings were chosen by the architect. A gay atmosphere has been attempted with fair success. Least satisfactory is clerestory wall in which the structure, otherwise strongly expressed, loses itself. Above: plate dispensers. Plates are kept in position above counter level by four pins. This appears to be the only item of kitchen equipment belonging to the twentieth century; it is of American origin



Detailed section through dining-hall



Serving counter and tray rails in staff dining-room. Just visible are the sprung plate dispensers set in the counter top. The diagonally sheathed canopy is of reddish wood. There is no functional reason for the splay. The splay against the window is the stair to the games room: conveyed in one material only, and with a definite purpose, it is more successful

548 sq. yds. facing brick and cavity wall, 50s. per sq. yd.
 Timber curtain walling including glazing.
 Main dining-hall, softwood framing, 73½ sq. yds., 103s. 9d. per sq. yd.
 Games room, hardwood framing, 93 sq. yds., 75s. 9d. per sq. yd.
 Staff dining-room, hardwood framing, 70 sq. yds., 70s. 9d. per sq. yd.

Windows and external doors

Softwood frames, hardwood openers; combined steel lintel and damp-proof course.
 Some top-hung, some on simple bronze friction pivots.
 214 sq. yds. at 35s. 9d. per sq. yd.
 High-level glazing to kitchen clerestory in rust-protected steel openers set in hardwood framing: 35 sq. yds., including hardwood frames, metal openers and mechanical opening gear, 140s. per sq. yd.
 External doors: generally hardwood framed 7 ft. × 3 ft. 6 in. with Georgian wired polished plate beaded in. Entrances are swing doors with teak grooved push plates.
 6 single, 1 pair double doors; 175 sq. ft. at 9s. 2d. per sq. ft.

Partitions

4½-in. and 9-in. brickwork, some load-bearing.
 Fair-faced brick in service areas.
 2-course deep reinforced concrete lintels.
 W.c. partitions and doors built up from aluminium-faced plywood and hardwood sections.

Internal doors

6-in. × 2-in. hardwood linings generally;
 2-in. × 1½-in. hardwood architraves. Flush doors zebrano-veneered, but birch ply painted in service areas.
 Internal joinery in West African mahogany.
 25 single, 4 pairs double doors.
 310 sq. ft. of flush door; 69 sq. ft. of framed door.

Ironmongery

Knob furniture, push plates, kicking plates in anodised aluminium.
 Door springs, etc., in satin chrome.
Total of structural elements: 32s 3½d

FINISHES AND FITTINGS

Wall finishes

User areas generally ½-in.-thick plaster finish.
 Small area of macassar ebony panelling in senior dining-room.

Tiling to kitchen and wash-up.

Decorative tiling to staff servery counter front.

Type of finish	Area in sq. yds.	Price per sq. yd.
½-in. plaster	1 104	6s.
6 in. × 6 in. white tiling	166	31s. 6d.
6 in. × 6 in. decorative tiling	31	117s. 6d.

Floor finishes

Wood block in user areas with sealer.
 Muhuhu in staff dining-room because of underfloor heating, mahogany elsewhere.
 Muhuhu, 122 sq. yds., 42s. 8d. per sq. yd.
 Mahogany, 636 sq. yds., 32s. 6d. per sq. yd.
 Hardwood skirting 3 in. × 1 in. grooved at cleaners' tidemark height.
 Tiling in service areas: 184 sq. yds. plain clay, 37s. 6d. per sq. yd.; 33 sq. yds. granolithic, 16s. 2d. per sq. yd.
 2 in. screed and finish except 3 in. in staff dining-room because of underfloor heating.

Ceiling finishes

½-in. plaster on concrete soffits.
 Plaster board and skim to first floor.
 Acoustic tiles 2 ft. sq. in the two dining-rooms.
 240 sq. yds. plaster board and skim, 8s. 4d./8s. 10d. (height variation) per sq. yd.
 344 sq. yds. plaster on concrete soffits, 4s. 11d./5s. 6d. per sq. yd.
 341 sq. yds. acoustic tile, 26s./27s. 6d. per sq. yd.

Decorations

Kitchen area, oil semi-gloss or gloss.
 User areas, oil-bound distemper.
 Limited amount of emulsion paint.
 Wrought iron flying horse motif on north wall, £120.

Fittings

Kitchen equipment: 2 vegetable boilers, two-oven range, steamer, griller, four-tier pastry oven,

building study—2nd series

fish fryer (double compartment). £5,075.

Self-service counters: one 28-ft.-long enamel-fronted, one 13-ft.-long tile-fronted, with stainless steel tops.

Bain-marie, café sets and plate dispensers.

11 stainless steel preparation benches with sinks.

Marble-topped pastry bench.

Galvanised iron vegetable bins.

Mahogany-fronted bar counter (to lounge upstairs) topped with laminated melamine plastic.

Fixed kitchen office furniture.

Hoist to special dining-room. £120.

Built-in cupboard in medical block.

Total of finishes and fittings: 22s 2½d

SERVICES**Sanitary fittings**

Type of fitting	No. of each type
W.c.s	7
Washbasins	7
Urinals	5

Waste, soil and overflow pipes

All w.c.s are at ground level, coupled straight to cast iron drains.

Copper waste pipes and bottle traps to sinks and wash basins. Copper overflows.

Cold water services

Water meter in external chamber. 2-in. rising main at entry. Galvanised iron storage tanks (240 gallons). Distribution in copper. High pressure direct to sinks and basins. Low pressure tank to steamer and café sets. 30 draw-off points.

Hot water services

Canteen: copper calorifier (100 gallon) off heating system, with immersion heater.
Medical building: immersion-heated combined tank and cistern.
Copper pipe servicing all lagged.
12 draw-off points.

Heating services

Canteen: principally low pressure hot water pressed steel radiators.
Staff dining-room: underfloor low pressure hot water coils embedded in screed.
Oil-fired boiler.
Heat load: 718,000 B.t.u.s.
Heat losses owing to air change in main dining-hall, servery and kitchen are made up from heater battery in ventilation plant.

Ventilation

Plant (about 3,500 c.f.m.) consists of a centralised input fan with filter and heater battery in separate plenum chamber.
Metal duct distribution to main dining-hall.
24-in. main extract fan in kitchen, using the "plate" system to increase velocity in the vicinity of the extract, plus 18-in. fan extracting from main servery and wash-up.
Natural ventilation staff servery.
25 air changes in kitchen.

Gas services

Meter in boiler-house. Cast iron pipe distribution to all cooking equipment and hot cupboards.
13 outlet points.

Electrical services

Separate meters for medical block and canteen.

All conduit installation.

3-phase supply to ventilation fans and wash-up machine, otherwise single-phase.

Fluorescent lighting in kitchen and in flush fittings in staff dining-room; tungsten fittings to remainder.

Lighting points 110

30-amp. 20

Additional points in kitchen and boiler house 10

Emergency lighting 12

Total load: 32 kW.

Drainage

Cast iron drainage under buildings (spun iron for long lengths), generally 4 in. diameter.

Grease trap on main kitchen outlet.

Movement couplings inserted immediately outside building, with connection to salt-glazed earthenware 6 in. main run across yard to existing works drainage system.

Total of services: 19s 3½d

External works

Grassed area in front of main dining-hall.
Precast paving flags with Staffordshire blue bricks.
Gravel with cobbles and boulders. (Hard landscaping due to general character of site.)

Total per sq. ft. of floor area:

£46,076 (net cost, excluding external works)

= 95 10

9,615 sq. ft. (measured inside external walls)

COST COMMENTS

At first sight the figure of roughly £5 per square foot may seem high for this class of building, being part of a factory, but certain features apparent from the analysis make such a conclusion erroneous. In particular, very difficult site conditions, calling for a raft designed to allow for differential settlement, have resulted in a cost for work below lowest floor finish of approximately 13s. It should also be noted that cost of fittings at about 12s. includes all heavy kitchen equipment. It is clear that the architects have chosen a relatively high standard of finishes, particularly floors, and acoustically absorbent ceilings in the dining-rooms, to provide a high standard of environment for the users. The remaining figures suggest careful budgeting so that these finishes could be included.

CONTRACTORS

General: Wm. Moss & Sons Ltd. **Sub-contractors—**
Reinforced concrete: Truscon Ltd. **Heating and ventilation:** Matthew Hall & Co. Ltd. **Kitchen equipment:** Radiation Group Sales Ltd. **Painting:** Arnold Sharrocks Ltd. **Wood flooring:** R. W. Brooke & Co. Ltd. **Wall and floor tiling:** John Wallace & Sons Ltd. **Plumbing and joinery:** Wm. Moss & Sons Ltd. **Sanitary fittings:** Adamsez Ltd. **Electrical installation:** Foster & Done. **Glaziers:** Compton Bros. Ltd. **Patterned tiling (supply):** Pilkington tiles. **Nurserymen:** Sutton & Carr.



"You can't beat glass, you know. Look at that dome. Just as good as new after 25 years. No surface weathering. No pitting. No distortion either."



For details of the full range of Pilkington Glass Domes, write to the manufacturers, Pilkington Brothers Limited, St. Helens, Lancashire. Telephone: St. Helens 4001. London Office: Selwyn House, Cleveland Row, St. James's, London S.W.1 Telephone: WHItchall 5672-6 Supplies available through the usual trade channels



**CHAPELCROSS NUCLEAR POWER STATION
NR. ANNAN, DUMFRIES-SHIRE, SCOTLAND**

CONSULTING ENGINEERS

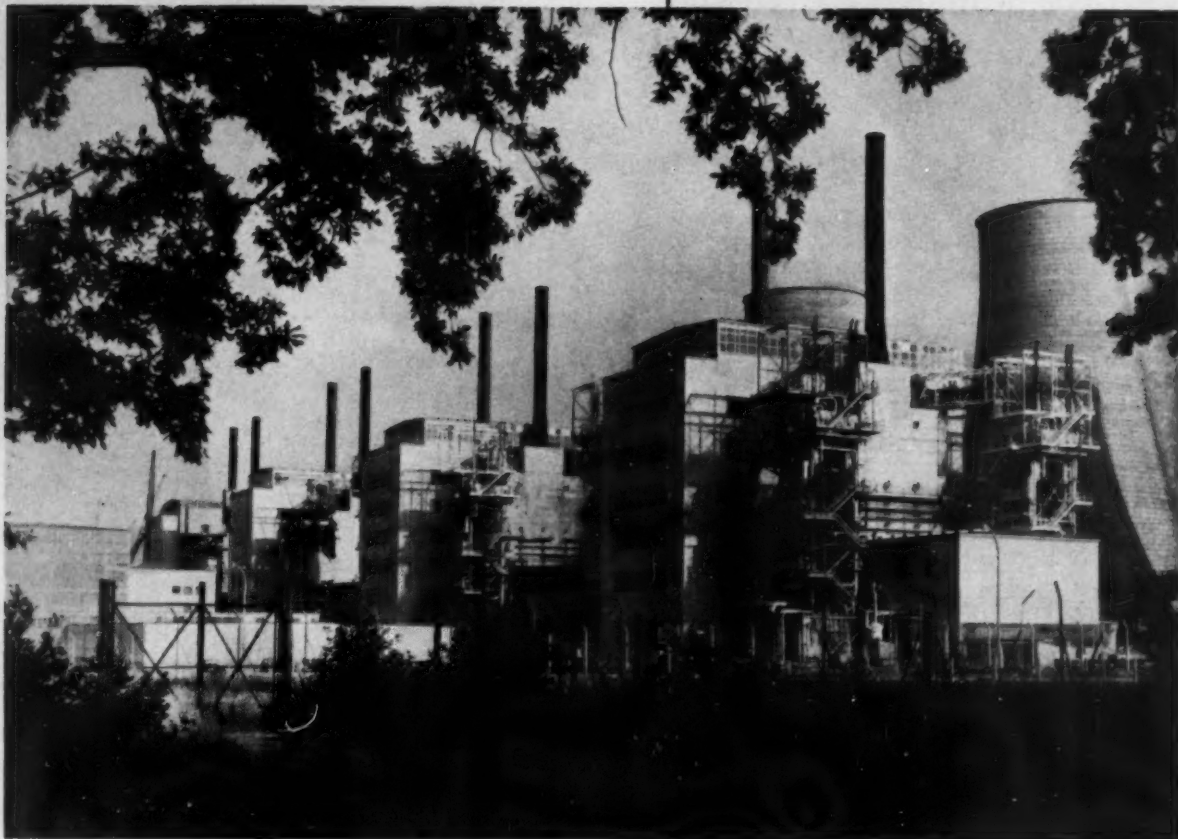
Messrs. Merz & McLellan,
Carloli House, Newcastle-upon-Tyne, 1

ASSOCIATE ARCHITECTS

Messrs. L. J. Couves & Partners, FF/A.R.I.B.A.
Carloli House, Newcastle-upon-Tyne, 1

BUILDING CONTRACTORS

The Mitchell Construction Co. Ltd.
Wharf Works, Peterborough



ROYAL FLUSH
DOORS
by

SOUTHERNS
LIMITED

Chapelcross Nuclear Power Station, whose four reactors are similar to those at Calder Hall, was officially opened on May 2nd 1959; the first reactor started working early in 1959 and the whole station is expected to be completed in 1960.

"Royal Flush" Doors are installed in the Control Buildings, Reactor Building, Turbine Hall and Annexe.

"Royal Flush" Doors are guaranteed without qualification.

Have you got your copy of "Constructional Details"?

If not, it will be sent on request.



Head Office — BOLD SAW MILLS • WIDNES Tel. Widnes 2641 (7 lines)

Branches at: LONDON • GLASGOW • MANCHESTER • DUDLEY • HANLEY • BRISTOL • KETTERING • BIRMINGHAM

The BASA Editor
The Building Centre
Store Street
London WC1

Monthly supplement

BASA

RATIONALISM AT THE BARTLETT

To plan is to predict. To predict with any confidence, the architect must have at his disposal as much of the data relevant to his problem as possible. It ought to be obvious that designing a building or building complex without some very good notion of what its effect upon the people who use it, own it and look at it is going to be, is designing in the dark: the chance of such a building fulfilling any of its functions adequately is remote. Social and technical scientists are researching into the way in which the built environment impinges upon the life and thought of human beings, and, if the results of their work are understood by architects, cannot but make planning more precise and more effective. University College, London, of which the Bartlett School is a department, has a strong and valuable tradition of scientific research. The deeply rational philosophy of the new professor of architecture, Richard Llewelyn Davies [see AJ Nov. 17, 1960] with its emphasis on the necessity of at least a grounding in physiology, sociology, psychology, anatomy and physics, may well make the school one of the best in England; it is doubtful whether any other institution could offer such educational facilities for giving students such a comprehensive view of the problems involved in architecture. It will be some time before the impact of Professor Llewelyn Davies upon the school can be objectively ascertained, but with energetic staff and a good response from students, there is no reason why the school should not regain and enhance its reputation.

OVER ALL ?

Our idea of what ought to be planned must inform our conception of the architect's function in society and of course this affects any definition of the end-product of the educational system. At the BASA conference at Balliol, Professor Sir Leslie Martin put forward the argument that, since the most important task facing society was "the complete re-ordering of our environment . . . then it was for this task that we should be educating architects."

Surely, this is a *non sequitur*. Although it is obvious that, if this or any other country is to succeed economically and socially, then the environment needs reordering. But to claim or hope that the architect is essentially capable of solving the problem of total renewal is unrealistic. Can the emerging architectural profession be reasonably expected to re-establish the will to form our environment which society as a whole has lost? Planning is still a dirty word to most of those in a real position to plan, and capitalist economists will never accept the logic that, since a successful business is a well-planned one, perhaps a well-planned country might be O.K. too.

We are up against the public status of planning. At a time when planning for higher and higher sales of consumer goods has reached a pitch and efficiency unparalleled in this country, the design for all the important aspects of human requirements is left, in comparison, to mere chance. To re-form the environment would involve an amount of planning and control quite unacceptable ("undemocratic!" the Tory Press would howl) in terms of the public awareness of the urgent need for it. Professor Martin does suggest an interim solution—postgraduate research into the structure of our environment and "the pressures that form it." This is a most valuable suggestion—some analysis of the reasons why planning is so "unpopular" may give us a key to reviving interest in it, before it is too late.

STUDENT'S VIEW

London Transport can usually be relied upon to provide us tubular commuters with some nice doses of visual excitement, though it does seem sad that there is more effective and attractive propaganda for London below ground, on the walls of the windy Tube, than above, in the form of a decent city, or something.

Their latest poster, "Brave New London," is O.K. It's a bit wishy-washy, but then folk can't really take shapes as shapes yet, so an arty montage of Golden Lane, TUC, Commonwealth Institute seems almost inevitable. The leaflet accompanying the poster has a nice ironic twist to it. It contains a selection of new buildings, good and bad, and says, "Visit them and make your own judgement. Applaud or criticise as you will, this is the face of BRAVE NEW LONDON." Too true. The list includes Bucklersbury House, Shell House, State House. It does not include the Royal Festival Hall or the Bethnal Green cluster block (just imagine ardent visitors to Shell asking what the little building by the river's for!). And of course it tells you how to get there.

The Town Planning Department of University College London has organised a series of seminars on subjects connected with large-scale design. The latest of these, "On Reading Pictures," was held on Thursday November 17. The speaker was Professor E. H. Gombrich, Director of the Warburg Institute, and his audience was treated to a fantastic selection of brain twisting, ambiguous diagrams and paintings, which could be read in several exclusive ways. Whole paintings turned inside out, backgrounds became foregrounds and profiles became vases. Professor Gombrich also dealt with the use made of this ambiguity in visual perception by the Gestalt psychologists (who are interested in, among other things, whether we recognise a mother-in-law image or a young-woman image in another ambiguous diagram). As the Professor says in the introductory leaflet:—

"What we learn from the scrutiny of such images is that we approach any picture with an initial assumption of what to regard as figure and what to regard as mere background."

This has important implications for architects concerned with how people see, and expect to see, their buildings.

STUDENT

CHAPELCROSS NUCLEAR POWER STATION
NR. ANNAN, DUMFRIES-SHIRE, SCOTLAND

CONSULTING ENGINEERS

Messrs. Merz & McLellan,
Carlisle House, Newcastle-upon-Tyne, 1

ASSOCIATE ARCHITECTS

Messrs. L. J. Couves & Partners, FF/A.R.I.B.A.
Carlisle House, Newcastle-upon-Tyne, 1

BUILDING CONTRACTORS

The Mitchell Construction Co. Ltd.
Wharf Works, Peterborough



ROYAL FLUSH
TRADE MARK
DOORS
by

SOUTHERNS
LIMITED

Chapelcross Nuclear Power Station, whose four reactors are similar to those at Calder Hall, was officially opened on May 2nd 1959; the first reactor started working early in 1959 and the whole station is expected to be completed in 1960.

"Royal Flush" Doors are installed in the Control Buildings, Reactor Building, Turbine Hall and Annexe.

"Royal Flush" Doors are guaranteed without qualification.

Have you got your copy of "Constructional Details"?

If not, it will be sent on request.



Head Office — BOLD SAW MILLS • WIDNES Tel. Widnes 2641 (7 lines)

Branches at: LONDON • GLASGOW • MANCHESTER • DUDLEY • HANLEY • BRISTOL • KETTERING • BIRMINGHAM

The BASA Editor
The Building Centre
Store Street
London WC1

Monthly supplement

BASA

RATIONALISM AT THE BARTLETT

To plan is to predict. To predict with any confidence, the architect must have at his disposal as much of the data relevant to his problem as possible. It ought to be obvious that designing a building or building complex without some very good notion of what its effect upon the people who use it, own it and look at it is going to be, is designing in the dark: the chance of such a building fulfilling any of its functions adequately is remote. Social and technical scientists are researching into the way in which the built environment impinges upon the life and thought of human beings, and, if the results of their work are understood by architects, cannot but make planning more precise and more effective. University College, London, of which the Bartlett School is a department, has a strong and valuable tradition of scientific research. The deeply rational philosophy of the new professor of architecture, Richard Llewelyn Davies [see AJ Nov. 17, 1960] with its emphasis on the necessity of at least a grounding in physiology, sociology, psychology, anatomy and physics, may well make the school one of the best in England; it is doubtful whether any other institution could offer such educational facilities for giving students such a comprehensive view of the problems involved in architecture. It will be some time before the impact of Professor Llewelyn Davies upon the school can be objectively ascertained, but with energetic staff and a good response from students, there is no reason why the school should not regain and enhance its reputation.

OVER ALL ?

Our idea of what ought to be planned must inform our conception of the architect's function in society and of course this affects any definition of the end-product of the educational system. At the BASA conference at Balliol, Professor Sir Leslie Martin put forward the argument that, since the most important task facing society was "the complete re-ordering of our environment . . . then it was for this task that we should be educating architects."

Surely, this is a *non sequitur*. Although it is obvious that, if this or any other country is to succeed economically and socially, then the environment needs reordering. But to claim or hope that the architect is essentially capable of solving the problem of total renewal is unrealistic. Can the emerging architectural profession be reasonably expected to re-establish the will to form our environment which society as a whole has lost? Planning is still a dirty word to most of those in a real position to plan, and capitalist economists will never accept the logic that, since a successful business is a well-planned one, perhaps a well-planned country might be O.K. too.

We are up against the public status of planning. At a time when planning for higher and higher sales of consumer goods has reached a pitch and efficiency unparalleled in this country, the design for all the important aspects of human requirements is left, in comparison, to mere chance. To re-form the environment would involve an amount of planning and control quite unacceptable ("undemocratic!" the Tory Press would howl) in terms of the public awareness of the urgent need for it. Professor Martin does suggest an interim solution—postgraduate research into the structure of our environment and "the pressures that form it." This is a most valuable suggestion—some analysis of the reasons why planning is so "unpopular" may give us a key to reviving interest in it, before it is too late.

STUDENT'S VIEW

London Transport can usually be relied upon to provide us tubular commuters with some nice doses of visual excitement, though it does seem sad that there is more effective and attractive propaganda for London below ground, on the walls of the windy Tube, than above, in the form of a decent city, or something.

Their latest poster, "Brave New London," is O.K. It's a bit wishy-washy, but then folk can't really take shapes as shapes yet, so an arty montage of Golden Lane, TUC, Commonwealth Institute seems almost inevitable. The leaflet accompanying the poster has a nice ironic twist to it. It contains a selection of new buildings, good and bad, and says, "Visit them and make your own judgement. Applaud or criticise as you will, this is the face of BRAVE NEW LONDON." Too true. The list includes Bucklersbury House, Shell House, State House. It does not include the Royal Festival Hall or the Bethnal Green cluster block (just imagine ardent visitors to Shell asking what the little building by the river's for!). And of course it tells you how to get there.

The Town Planning Department of University College London has organised a series of seminars on subjects connected with large-scale design. The latest of these, "On Reading Pictures," was held on Thursday November 17. The speaker was Professor E. H. Gombrich, Director of the Warburg Institute, and his audience was treated to a fantastic selection of brain twisting, ambiguous diagrams and paintings, which could be read in several exclusive ways. Whole paintings turned inside out, backgrounds became foregrounds and profiles became vases. Professor Gombrich also dealt with the use made of this ambiguity in visual perception by the Gestalt psychologists (who are interested in, among other things, whether we recognise a mother-in-law image or a young-woman image in another ambiguous diagram). As the Professor says in the introductory leaflet:—

"What we learn from the scrutiny of such images is that we approach any picture with an initial assumption of what to regard as figure and what to regard as mere background."

This has important implications for architects concerned with how people see, and expect to see, their buildings.

STUDENT

HISTORY OF ARCHITECTURAL EDUCATION IN THE 20th CENTURY

Michael Cassidy

I want to begin by summarising the situation in architectural education round about the turn of this century. To give a clear picture I must distinguish between the facts and the theories existing at that time.

First, the FACTS. England was almost completely dominated by the pupilage system, and by the apprenticeship system. English architects seem to have favoured pupilage because under this arrangement the pupil had to pay *them* for the tuition he may have received. A young architect could only learn by his own effort and sheer hard work—in fact, as Beresford Pite said, "the lack of any organised system in architectural education produced the tendency to that mutual self-helpfulness which is notable among artists."¹ The architect was still considered as an artist.

The young architect could supplement his office tuition, if any, by attending either the drawing classes at the Academy, at which various prizes were awarded, or the design evening courses under Spiers, or by enrolling at one of the four private courses in architecture. However, the schools movement was under way. The RIBA had in 1882 made *professional qualification* compulsory. Thus the need for the professional schools arose and was met first by the AA which reorganised its course to a four-year curriculum; and later by Liverpool, which opened the first full-time course in architecture in 1894. In 1902, these precedents for the formal, inclusive and professional education of architects in England were reinforced by the RIBA when it exempted from its own Intermediate examination all graduates of the AA and Liverpool. By 1902 both these schools had full-time courses lasting three years.

In Germany, enlightened State subsidy had led to the inauguration of schools of engineering—with architecture frequently figuring as a department within the school. Professional status was granted, particularly when the many German polytechnics were transformed into *technischen hochschulen* during the 1870s. Applicants for polytechnic training were required to have had at least six months' experience in an architect's office. The first two years

were devoted to basic technical subjects. Then three years of practical experience as an inspector of government building projects formed a prerequisite for admission to advanced professional courses. The curricula embraced an inclusive range of instruction in which design was an integral part taught within the school by teachers who were, usually, able practitioners. While their teaching naturally reflected current tastes, it was also strongly flavoured with a technical rationalism fostered by the scientific discipline inherent in the polytechnic system. The best students supplemented their design tuition by further study either at the Academies or in offices or *meisterateliers*. Schinkel, Berlage, and Gropius were among those educated at the *hochschulen*.

France had the Ecole des Beaux-Arts. Its main faults were, first, that no integrated educational development was possible because both preliminary tuition and design instruction were not carried out in the school but in private ateliers, and even the three internal ateliers acted independently. Second, that it was neither school nor office and lacked the discipline of both. Third, that the only aim of students was the winning of prizes. In fact, the thought of actually constructing a building one had designed was very Non-U at the Ecole.

The tentacles of the Beaux-Arts crept all over France when regional schools were set up, which accepted all that the men in Paris told them. All programmes, for instance, were marked in Paris.

France, in its support of the traditions of the Beaux-Arts, is the villain of the piece.

In America, after the Civil War, schools of architecture within the faculties of engineering were firmly established at the Massachusetts Institute of Technology, and in the Universities of Illinois and Cornell. The MIT was based upon the excellent polytechnic at Karlsruhe and was run by William Ware, who had been at Jefferson's school at Charlottesville and had no doubt inherited Jefferson's preoccupation with the need for a suitable education in both technological and liberal subjects. The University of Illinois had Hanson, a Swedish architect, trained at the Berlin *Bauakademie*, in charge of architecture, and Cornell were under Babcock.²

The leaders of these three schools, with very different educational backgrounds, all produced similar curricula—an individual one.

By 1898 there were nine such schools in America, but they were still training only a small proportion of registered architects. The reasons for this were that secondary education in America was inadequate in supplying the schools of architecture with men of the necessary calibre and because the universities lacked the State financial

support which their equivalents in Germany could rely upon. Because of this, abbreviated programmes and evening classes were organised, sometimes within the university, for students in offices.

The curricula of these early schools aimed at a balance between aesthetics and technics—but the four-year course lead to an insufficient treatment of both. Thus in 1895, curricula "specialisation"—the separation of architecture from architectural engineering—was introduced at Illinois, and lightened the structures syllabus for the architects, enabling them to concentrate most upon design.

At the end of the 19th and beginning of the 20th century the schools of architecture were the victim of a mass takeover bid by the Society of Beaux-Arts architects. This Society was formed by the American graduates of the Ecole des Beaux-Arts in Paris, in order to continue their tradition. By 1911, all American schools had Beaux-Arts-trained teachers. The initial flowering of the three great schools, MIT, Illinois, and Cornell, were effectively deadened by the SBAA. It is with some surprise that we learn that at Illinois "strong emphasis was placed on mathematics and structures, and shop practice in the crafts." That was in 1872, before the SBAA took over.

Although, luckily, the SBAA failed in its attempt to found a national school of architecture, it maintained and increased the influence upon architectural education as the use of its student design competitions reached national scope. In 1905, 238 students were competing, but in eight years this had increased to 1,100. In 1911 the Society organised the Beaux-Arts Institute of Design to deal with the administrative needs of the competitions. The Society of Beaux-Arts architects and its Institute of Design were inspired by reverence for the Beaux-Arts in France—the aims of which we know only too well. Although the goal of all the schools was the same, the gaining of prizes for its students, various methods were used to attain it. Theory was sometimes a separate course but often was included with design. History varied from a soothing travalogue to a systematic and thorough analysis of outstanding monuments and their relationship to their

time. Construction and structures were sometimes lightly touched and the problem method predominated in the teaching of design.

I want now to summarise the ideas and THEORIES being voiced in these countries at the turn of the century. In England Norman Shaw was making impassioned pleas to prevent the teaching of architecture becoming separated from the teaching of fine art. But Lethaby, a young man in the arts and crafts movement, was still dominated by his irrational friends. The aims of the movement were, in Louis Mumford's words, "the restoration of human initiative, the respect of form and quality, and the projection of human ideals of workmanship and beauty."³ Lethaby, and Lethaby alone, spoke up against eclecticism and historicism in architecture, and his was the only plea for an enlightened education system. But he knew what he was up against—he begins one of his essays thus: "The proposition of this little paper is that English education, as traditionally developed and guided by the old Universities, is not directed to production and to action. It is an education in appreciation and in a knowledge of what has been written. It is by its very nature retrospective—and at best introspective—the proper introduction to a life of contemplation."⁴ He goes on to bombard the Universities as citadels of a class for whom the new notions of production and work are, to say the least, opposed to "culture." "General education," he said, "has to be re-thought out as the preparation for various vocations, each of which is as cultural in its own way as the vocation of scholarship."⁴ On Architectural Education, he said that "education and production need to be brought together in new types of apprenticeship."⁴ Lethaby was, in fact, the first Englishman to voice the need for a more direct relationship between the designer and industry, between craftsmanship and production, and in this he forms a vital link in the development of the Mainstream theories of Architectural Education. In opposition to the insight of Lethaby, the *status quo*, the RIBA, gave a quite different answer to the question, How do we design architects? Their answer, though never clearly stated, is implied by its attitude towards the inclusive courses at London and Liverpool. It should be remembered that the RIBA gained a position of great importance in the profession by its demand for compulsory registration (and this naturally increased the funds of the Institute). The standards of education demanded and the examination questions set to test these standards are the responsibility of the RIBA and of no one else. It did in actual fact control the future of architecture in England; but the curricula implicitly recommended by the RIBA originated not so much as the

result of deep and profound thinking as to the nature of architecture, but from a need to departmentalise the education of architects in order to facilitate the setting of examination questions. "Education," said Lethaby, "needs more than machinery, it needs enthusiasm."⁴ But the RIBA, although steadfastly defending the existence of schools as such, seems to have concerned itself precisely with the *technique* of schools administrations, the machinery in fact, rather than in solving the really important problems which arose as a result of a school training: 1. The problem of teaching technical subjects to architects—of giving them a basic training in the new techniques of an industrial society (Lethaby, long before Corb and Gropius, was pointing to the automobile, the steamship, and the aeroplane as examples of beautiful machines that had by sheer usefulness made themselves an individual part of the contemporary environment). 2. The place of Architectural Education within the context of Education as a whole. The attitude of the RIBA can be best summarised by Mr. Furneaux Jordan—"an older generation of architects—concerned with an obsolete technique for solving non-existent problems has a vested interest in maintaining an equally obsolete educational system."⁵ The only thing that can fairly be said in the Institute's favour is that it had no money—while in both France and Germany the Beaux-Arts and Polytechnics were heavily subsidised by the State. But guessing what kind of a school they would have initiated, perhaps it is as well that they were broke! If Lethaby had been given a chair in architecture, it is most doubtful if his course would have been on the Recognised Schools' list of the RIBA.

In America the Beaux-Arts Institute of Design was in full command until the 20s despite the short-lived influence of the Chicago school and Frank Lloyd Wright (who was educated in architectural engineering at Wisconsin University). In the 20s, however, four new theories were formulated and put into practice. After the first world war Lawrence and Wilcox of Oregon University adopted the principle that design should be taught by means of individual problems adjusted to the needs, interests and pace of each student, who would no longer compete

for grades but be motivated solely by the challenge of personal growth. At Cincinnati the co-operative system was applied by Herman Schneider. After a normal freshman year students were divided into two groups which alternated with each other at four-week intervals between academic classes and work in the field. This field work was carefully organised as a sequence of experiences proceeding from construction jobs through the production of materials and craft practice to employment in architectural offices. The aim was a close integration of school and office. At Florida University Weaver developed yet another idea. He conducted all the usual professional subjects of the three upper years entirely by means of a series of carefully integrated projects developed under tutorial guidance. Dean Hudnut of Columbia University distinguished between the stylistic school and the organic school of architecture. The former being the grand-prix-hunting Beaux-Arts type; in the latter, the organic school, teaching was related to actual life and the fundamental principles of human necessity. As at Oregon, the student moved at his own pace and through his own efforts. Hudnut noted the following essential attributes of an organic school:

1. A flexible curriculum with respect to the overall period taken by the student in graduating.
 2. No domination of the projects by the competition system—in fact Hudnut allowed his students one competition per term.
 3. The course must stimulate both creative insight and logical thought.
 4. It should co-ordinate the processes of drawing and design, design and construction, construction and mathematics, design and history.
 5. Strong relationship between architecture and the other visual arts.
- Hudnut's advanced ideology is best epitomised in his own words: "Whatever beauty the architect may achieve will be a beauty wholly in accord with those intellectual satisfactions which arise from the command of technique and from a consciousness of social usefulness."²

In 1912 the Association of Collegiate Schools of Architecture tried to enforce standard minima of Architectural Education, but teachers were generally opposed to this because they feared that the autonomy they had recently regained from the Beaux-Arts Institute might be forfeited once more to the arbitrary standards of some New York committee.

Now I should like to catch up with what I called the Mainstream of Architectural Education, thought and practice. The educational system of any profession naturally reflects the movements within the profession itself. And in architecture, the changing conception of what constitutes an architect

Cassidy (continued)

has usually informed and motivated the professional teachers in their desire to design architects. They did not always try to mould the younger architects in their own image, although those who consciously adopted some other objective were the exception rather than the rule. The Mainstream in education followed the Mainstream in architecture from England to Germany. From 1897 on, many of the German schools were reorganised by directors who had been influenced by the English Arts and Crafts movement. In 1899 Vienna appointed one of Wagner's pupils, Hoffman, as professor. In 1902 Van de Velde was in charge of the Grand Ducal Art School at Weimar. In 1904 Behrens, trained at the Hamburg School of Applied Arts, headed the Dusseldorf School. The founding of the Deutscher Werkbund marked an attempt to bring designers, craftsmen and manufacturers into closer co-operation. The culmination of developments in Germany was the founding of the Bauhaus in 1920. But before I quote Gropius's own writings on the school I want to trace the philosophical link between the English movement and the Bauhaus. Morris and his friends, disgusted by the tasteless machine-production of everyday things by exploiters of the poorer classes concluded that the machines themselves were to blame, and turned to the Medieval crafts for what was lacking in Late Victorian England. They were looking for quality, straightforwardness, and usefulness—they demanded a more intimate relationship between the world of things and the world of men, a relationship that had been destroyed by the division of labour in industrial England. In Mumford's words again, "While mechanical invention sought to simplify the processes of production, the Arts and Crafts movement sought to simplify—and amplify—the ends."¹⁸ Lethaby, in disagreement with the others of the group, taught the dignity of the machine as an instrument of human enterprise and enlightenment.

Lethaby, then, formed a link between

the English Romantics and Gropius, whose ideas on craftsmanship and quality were to become so influential. "In the future," said Gropius, "the field of handicrafts will be found to lie mainly in the preparatory stages of evolving experimental type forms for mass production."¹⁹ Gropius acknowledges the importance of the English movement in these words: "Ruskin and Morris strove to find a means of reuniting the world of art with the world of work. Towards the end of the 19th century their lead was followed by Van de Velde, Ollerich and Behrens, and others on the Continent. This movement, which started with the building of the artists' colony at Darmstadt and culminated in the founding of the Deutscher Werkbund in Munich, led to the foundation of Arts and Crafts schools in the principal German towns. These were intended to give the rising generation of artists practical training for handicrafts and industry. Gropius continues, "But the academic spirit was too firmly implanted for that practical training to be more than a dilettante smattering. The first attempts to get away from the 'Art for Art's sake' attitude failed because they were not planned on a sufficiently wide front and did not go deep enough to touch the root of the evil."²⁰ Gropius's chance to remedy the mistakes of his compatriots came when in 1919 he took over from Van de Velde, on the Belgian architect's own recommendation, the Grand Ducal School of Arts and Crafts, and also the Weimar Academy of Fine Art. These he merged into a High School for Design—Das Staatliche Bauhaus Weimar. Gropius said of this period, "In carrying out this scheme I tried to solve the ticklish problem of combining imaginative design and technical proficiency. As a safeguard against any recrudescence of the old dilettante handicraft spirit, I made every pupil, including architectural students, bind himself to complete his legal term of apprenticeship, registered with the Local Trades Council. I insisted on manual instruction not so much as an end in itself, but as providing a good all-round training for hand and eye, and being a practical step towards mastering industrial processes." Gropius strove to reconcile the qualitative demands of the English Movement with the actual techniques of pro-

duction. The curricula of the Bauhaus is well known, but it is so important that I must give some description of it. The objective of the Bauhaus was, "A modern architectonic art, all embracing in its scope" to be achieved by reuniting all creative crafts within a new architecture by exploiting forms and principles discovered through direct shop or field experience in modern materials and modern industrial techniques. After a six-month introductory course of laboratory experiments, students devoted three years to theoretical and practical training under a master craftsman and an artist in order to gain an intimate understanding of the nature of materials, their production and manipulation. Concurrently a limited study of sociology, history and technical fundamentals was pursued. A journeyman's certificate was awarded upon the completion of original work. The final two years focused on architecture and construction and were conducted as an apprenticeship within the master's studio and research shop. The most significant omissions from the internal Bauhaus syllabus was the teaching of the mathematical and theoretical analysis of structures, for which students had to descend to the technical institutes. When Gropius was appointed to Harvard in 1936, America was not entirely unsympathetic to the modern movement. Although the popularity of Sullivan and Co. was in abeyance, various European influences impinged upon the eclecticism of the time—notably through the buildings of Ragnar Ostberg and Eliel Saarinen and the arrival of Richard Neutra and William Lescaze. The writings of Le Corbusier and Mallet-Stevens's work stimulated American architects to such an extent that the exhibition of modern architecture organised by the Museum of Modern Art in 1932 was received with some enthusiasm. This exhibition not only focused attention on the best American architects, but also on Gropius, Mies and J. J. P. Oud—on the International Style. Gropius replaced the chief French critic at Harvard, and

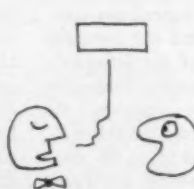
THE CLIENT by Louis Hellman



2



3



4



called Marcel Breuer to the faculty as well. Gropius was in charge of the master class in graduate design and, although the Bauhaus point of view prevailed, it prevailed within the American collegiate system. In 1938 Mies was appointed head of IIT and he soon organised its curriculum more drastically than Harvard's had been, great emphasis being placed, as one might expect, on precise draughtsmanship, absolute structural logic and an aesthetic based on pristine clarity of pure geometric form.

In 1937 Moholy-Nagy was head of the Chicago Institute of Design and until it merged with IIT Chermayeff ran the architectural course at Chicago. Throughout America the Bauhaus ideas were being interpreted and practised, particularly in the early years of the course, where workshop experience with materials at first-hand became a regular feature of schools' curricula. The Bauhaus gave both practical and philosophical stimulus to those who were dissatisfied with the Beaux-Arts. America today has probably the liveliest, most diversified and the most thorough schools of architecture. But Gropius, writing in 1950, says, "Should architectural education be separated from its present academic framework? Many architects would agree with a decisive turn towards greater emphasis on practical experience. I, personally, have grave doubts as to whether the present bookish climate of Universities can offer at all a healthy breeding ground for architects. The impact of industrialisation upon our profession has been so decisive that the young generation should be trained in close touch with the building industries and with their laboratories."

That, then, is the mainstream, ending paradoxically enough with Gropius saying the same as Lethaby had done 30 years before.

Now back to England. Why did England not herself fulfil the promise of her own

movement; why was Lethaby not given a chair of architecture and why did Liverpool not agree to Gropius's terms of appointment?

Some measure of the apathetic attitude towards Lethaby's works and the new architecture in general, may be gathered from the resolutions of the First Congress on Architectural Education held in 1924.⁷ Roughly paraphrased, these wise men agreed that:

1. There were schools of architecture throughout the civilised world.
2. A great debt was owed to the Beaux-Arts for its pioneering the teaching of Architecture in schools and for its continual inspiration.
3. They were interested in American schools, which had developed from Beaux-Arts.
4. The pupilage system acted as a brake on founding new schools.
5. The teaching of architecture should be based on tradition . . . and so on.

The RIBA had by this time completely committed itself to a schools' system as such, to succeed the pupilage method of the last century but it had done this without a great deal of thought. The followers of Lethaby, naturally continued to bombard the RIBA—Professor Beresford Pite, for example, realised that "the necessary co-ordination of science and art by practice gives importance to the ideal of a teacher experienced and sympathetic, and tends to the revival of the apprenticeship method." He also realised the inadequate teaching of estimates and costing in schools and stipulated that "inventiveness, mechanical aptitude, analytical observation and artistic perception are even more important aptitudes than drawing!"⁸ The RIBA didn't listen to him either—nor to any of the other efforts to stir things up before the war. After the war, in 1945, Professor Budden of Liverpool made a strong plea for the inclusion of schools of architecture with Universities because, he maintained, "schools within the University are protected from the hazards of revolutionary experiments in direction, organisation and method."⁹ We must bear this, and Professor Gropius's words, in mind at a time when just such revolutionary experiments may well be necessary. In fact, as Mr. Furneaux Jordan says, "when the problem has been stated in

contemporary terms, and the answer in technical terms, Architectural Education in England may have become unrecognisable."¹⁰

In 1946 the Report of the Special Committee on Architectural Education was published.⁹ This tied down recommendations as to the minimum entrance requirements to the schools and the subjects to be taught. These were: Design — presentation — theory — history — construction — services — quantities — estimates — specifications — surveying — town planning; — professional practice and practical experience.

The Report is neither an exposition of the ideal curricula nor a detailed criticism of the *status quo*, but an ambiguous confusion of both. It does not stipulate what "Design" should be taught, nor how it should be taught, thus allowing the instruction in this vital subject to range from academic classicism to the most advanced experimentation.

The Report's ambiguity upon this and other subjects, and the lethargy of the RIBA in adopting even the most innocuously radical recommendations, lead me to the conclusion that neither the authors of the Report, nor the RIBA, had the least confidence in their idea of what an architect should be, and were content to adjust the existing administrative machinery of education, rather than to approach the whole problem from the point of view of what kind of an architect was needed.

BASA should learn from the mistakes of others and studiously avoid confusing its own long-term objectives with the short-term objectives of improving the present system of education from within.

¹ Professor Beresford Pite, *A Review of the Tendencies of Architectural Education*. RIBA Journal, May 1924.

² Turpin C. Banister, *The Architect at Mid-Century*. AIA, 1950.

³ Lewis Mumford's Foreword to *Form in Civilisation*, by W. R. Lethaby.

⁴ W. R. Lethaby, *Form in Civilisation*.

⁵ R. Furneaux Jordan, AR, June 1950.

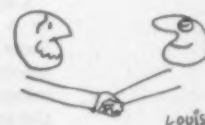
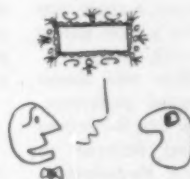
⁶ Walter Gropius, *The New Architecture and the Bauhaus*.

⁷ First International Congress on Architectural Education, Maurice Webb, RIBA, August 1924.

⁸ L. B. Budden, *The Future of Architectural Education*. RIBA Journal, July 1945.

⁹ Report of Special Committee on Architectural Education. RIBA Journal, September 1946.

first published in OUTLET 2



EXHIBITIONS

Tim Murgatroyd

At the BASA Conference in Oxford (September 1960) a comparison was drawn between a mixed exhibition of Photostats from Regent Street Polytechnic, Liverpool and Hammersmith Schools and a 35 mm. colour slide show accompanied by a running commentary.

Both exhibitions showed students' work of a comparable standard but the questions, comments and general interest shown in Canterbury's slide collection prompted BASA to recommend this system for future interchangeable exhibitions of students' work. The limitations of reduced scale black and white Photostats were even more obvious when we saw similar work larger than life in "glorious Technicolor."

Canterbury are to be congratulated on the quality of their slides of students' drawings but why were there no photographs of either sketch or finished models? The proposed system is ideal for photographing scale models and comparing studio working conditions in different schools. This is in addition to the primary objects of forming a permanent record of students' work for the school itself and conveniently exchanging exhibitions between schools. No originals or models need leave the school to be photographed and, even more important, the total cost per slide is only 1s. 0d. unmounted.

Most 35-mm. cameras are suitable, the only real requirement being the ability to focus down to distance of, say, 3 to 3½ ft. to cover an imperial size drawing. It is essential to use a tripod, making sure that the camera lens is equidistant from all four corners of the drawing. At close range many cameras do not correct for the distance between view finder and lens and the result is that a couple of inches may be cut off the bottom and one side of the original. Allowance can best be made for this by trial and error but, rather than lose any subject matter, it is better to show a surround of plain dark background. This applies too where the original is not the same shape as the picture frame. Unwanted areas of background can later be eliminated by placing a mask of opaque material over the finished slide. Use a cable release and keep the camera rock steady.

Choosing colour films will always be a matter of personal preference. Some films do particular jobs better than others but for copying drawings in colour I would choose Kodachrome. Use an exposure meter and if it is of the reflected light type hold it 6 in. away from a lighter-than-average portion

of the subject but do not include the shadow of hand or meter itself. Use a small diaphragm opening (large F stop) and correspondingly slow shutter speed. Without going to a lot of extra trouble, there is no substitute for direct sunlight, provided there are no reflections from strongly coloured walls or surfaces nearby.

When photographing a model from close quarters, it is difficult and sometimes impossible to get everything in focus. Try to place the model so that the most telling details are roughly the same distance from the camera. Having done this, choose a point 1/3 back from the nearest edge of the model and focus on this. The reason being that the "depth of focus" extends 1/3 in front of the point of focus and 2/3 behind.

Models are best photographed in sunlight, if necessary a sheet of white cardboard can be used as a reflector to bounce light and lighten areas of shadow. Scale models can be photographed in a naturalistic setting by placing them on a balcony against a distance panorama of trees and buildings; by varying the distance between camera and model, the latter can be kept in scale with the background.

Drawings on tracing paper, especially a combination of ink, pencil and "Zippatone" should be printed first. A good dyeline, or better still, a "true to scale," is much easier to photograph than a tracing illuminated from behind (say pinned over a window or door). All slides, especially those which are going to travel, should be protected by glass mounts. There are a number of patent methods (i.e., AGFA) which are cheap and allow the cardboard Kodak-type mount to be retained. The projectionist's life is made much easier by a consistent system of marking. For example, slides marked with a red dot in the bottom left hand corner when viewed the right way up will always be projected correctly when the slide is placed in any projector with the dot in the top right hand corner facing the projectionist.

Telephoto lenses can be a great help in photographing small drawings and models. The ideal camera for our purpose is a single lens reflex. A 120 Rollicflex with 35 mm. adaptor back gives a most useful telephoto effect. Photoflood lamps and flash, although allowing one to be independent of the English weather, are unnecessary complications with colour.

Area exhibition organisers will be acquainting schools with the workings of the scheme but anyone with special photographic problems will get a prompt reply from me at my home address:

Tim Murgatroyd,
290 Fulham Palace Road,
London, S.W.6.

Tim Murgatroyd was unfortunately not in the Executive photograph, as he was himself taking it. He is now BASA Publicity Officer.

DIARY

- AA School
December 16 *Carnival. Cabaret, films, four bands, 30s. double ticket.*
- Bartlett School
December 1 *Denys Lasdun.*
December 8 *Christmas jazz dance. 8.30 p.m.—1.00 a.m. Cabaret, bar, 10s. 6d. double, 7s. 6d. single.*

LETTER FROM
NORTHERN IRELAND

SIR: As a student from Northern Ireland at present studying second year architecture in Hull, I feel it is my duty to draw the attention of all BASA readers to the present situation regarding the education of the student of architecture in Northern Ireland who, I believe, has not been given a fair chance in the past to prove his worth, exploit his talent, and whose educational system requires immediate attention on the part of the RIBA.

Only one so-called school of architecture exists in the province, and is that of the College of Art which forms a section of the College of Technology, Belfast. The course, which lasts over three years (full time), does not cater for the student after Intermediate, is neither recognised nor listed by the RIBA and is most unsatisfactory in that it forms in itself an inhibition to a student seeking a scholarship to study in a recognised school in England.

In many cases a local authority will refuse to award a scholarship to the student who seeks to go to an English school of architecture on the grounds that there is a school in Belfast quite suitable for his requirements. Thus the student is forced to train in a non-recognised school for the most important years of his training (i.e., if his parents have not the financial means to send him to England), after which, if he is successful in the RIBA Intermediate External Examination, he is given financial aid to complete his education in one of the English schools. Surely this is a shocking state of affairs when out of the approximate 2,500 students in Belfast only a maximum of about 80 are full-time students of architecture, and are the most unfortunate students in the architectural profession throughout Great Britain.

EDWIN JOHNSTON.

Hessle, East Yorks.

working detail

(21)G

WALLS AND PARTITIONS: 101

INSULATED WALL: FLATS IN HELSINKI

Viljo Reuelli, architect (material supplied by H. S. Sami)



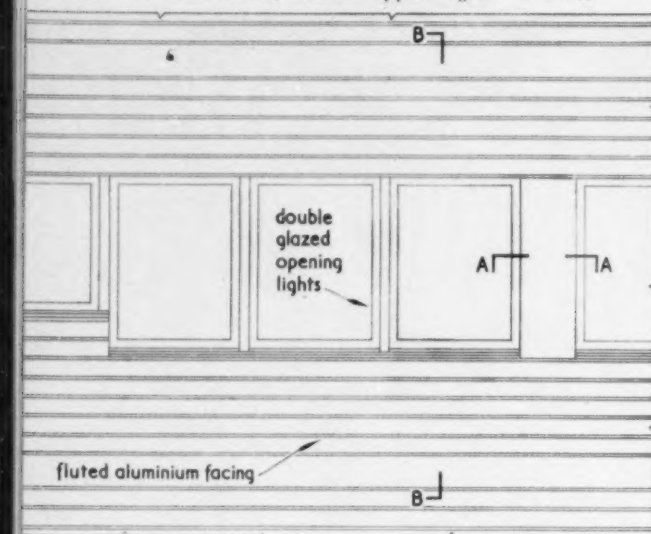
For English people this design is reminiscent of the "streaky bacon" façade common in brick-built flats of circa 1930. In fact the finish is aluminium and the wall itself is a lightweight highly insulated sheath covering a cross-wall construction in reinforced concrete.

working detail

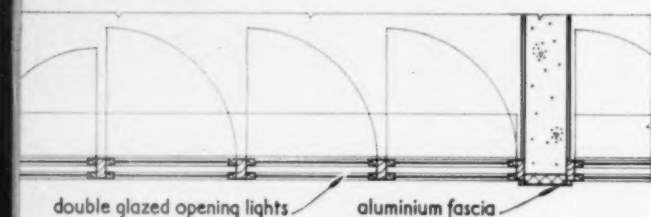
INSULATED WALL: FLATS IN HELSINKI

Viljo Rewell, architect (material supplied by H. S. Sami)

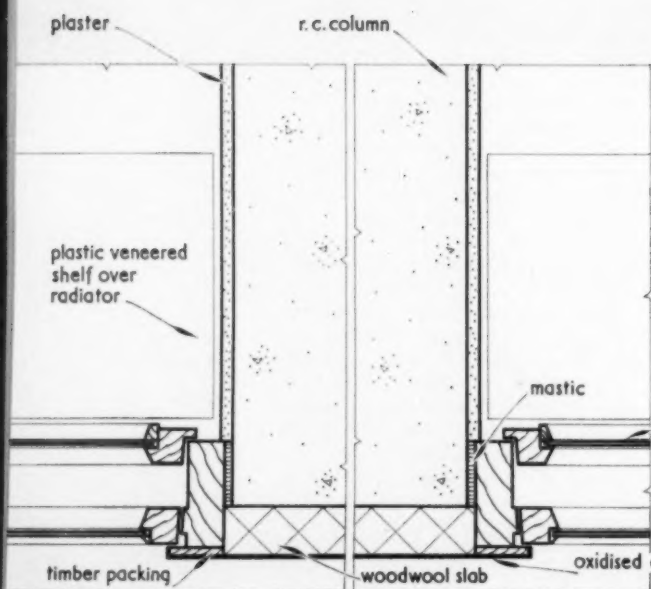
(21) G
WALLS AND PARTITIONS: 101



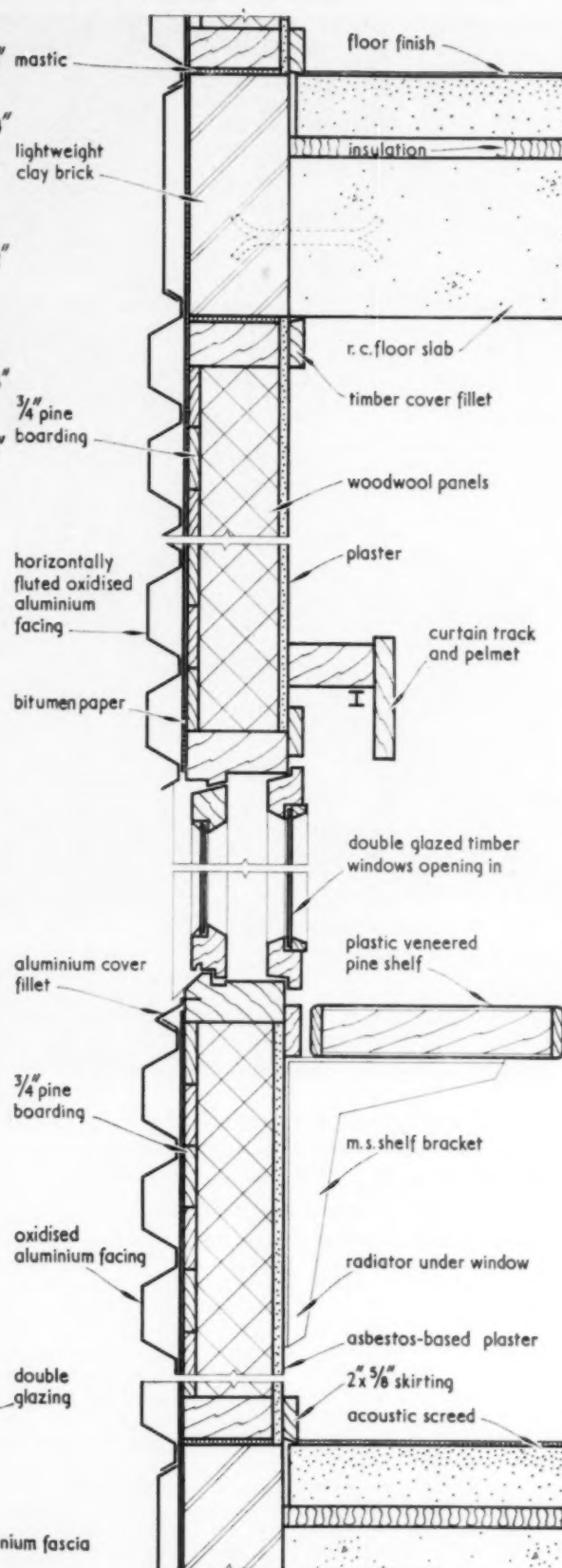
ELEVATION. scale 1/4" = 1'-0"



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



PLAN A-A. scale 1/8 full size

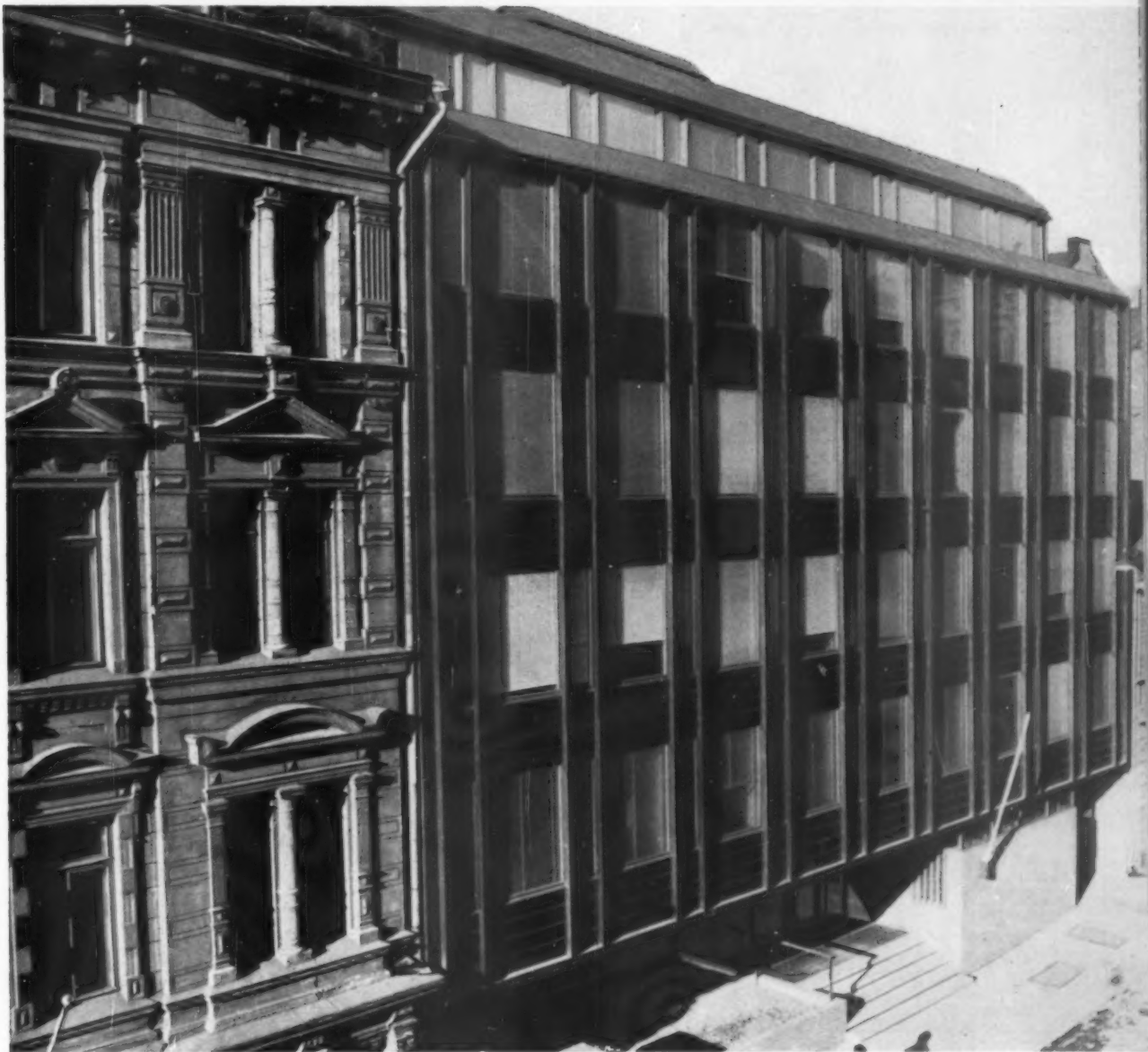


SECTION B-B. scale 1/8 full size

note: figured dimensions in feet and inches are approximate

CURTAIN WALL: OFFICES IN HELSINKI

Kurt Simberg, architect (material supplied by H. S. Sami)



This reinforced concrete building (complete with r.c. back-up walls) is faced with a timber-framed insulating skin. The framing is of pine, clad with copper: the windows are oak, double glazed, inward opening, with Venetian blinds (not shown on the drawings).

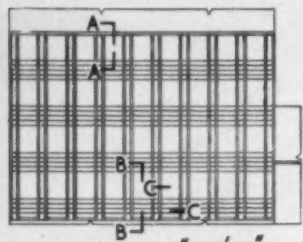
working detail

(21) G

WALLS AND PARTITIONS: 102

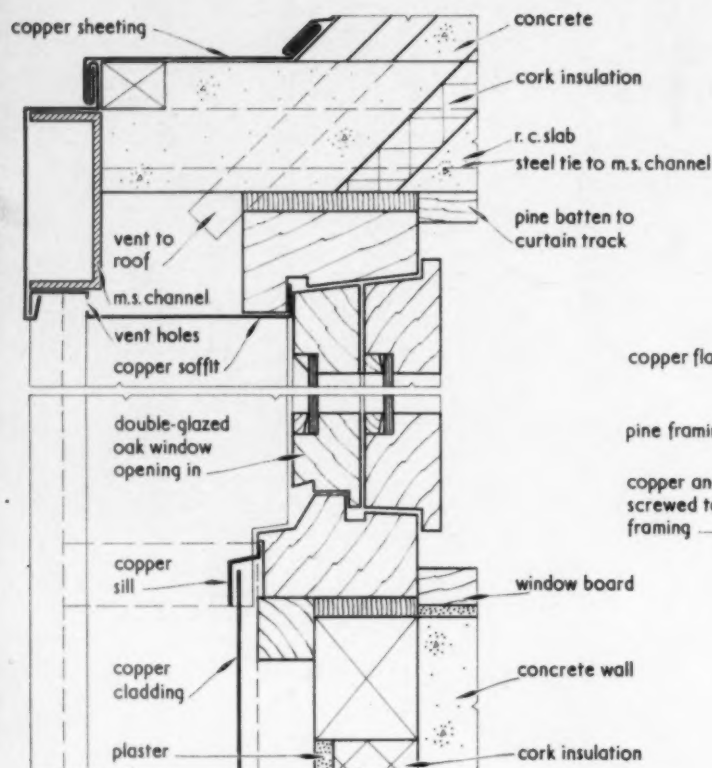
CURTAIN WALL: OFFICES IN HELSINKI

Kurt Simberg, architect (material supplied by H. S. Sami)

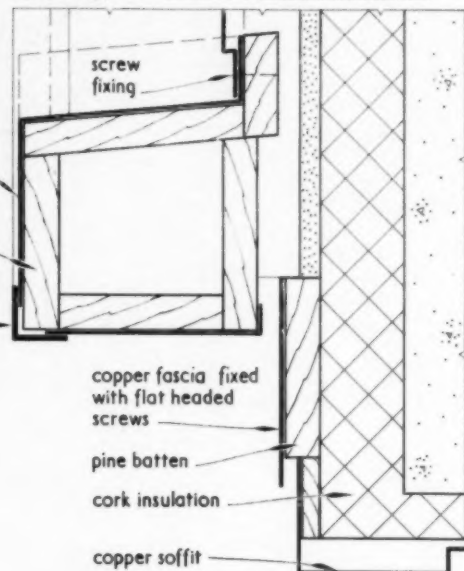
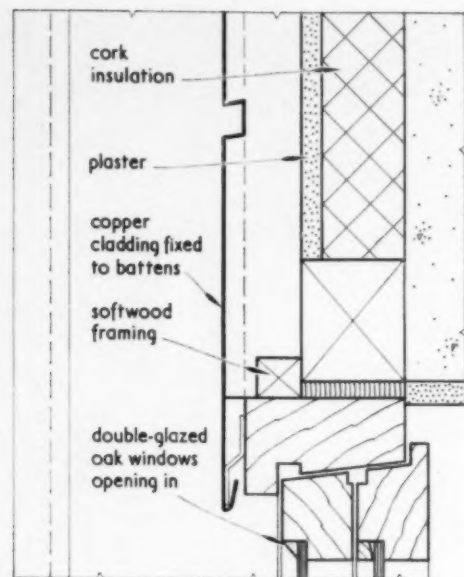


ELEVATION. scale 1"=40'-0"

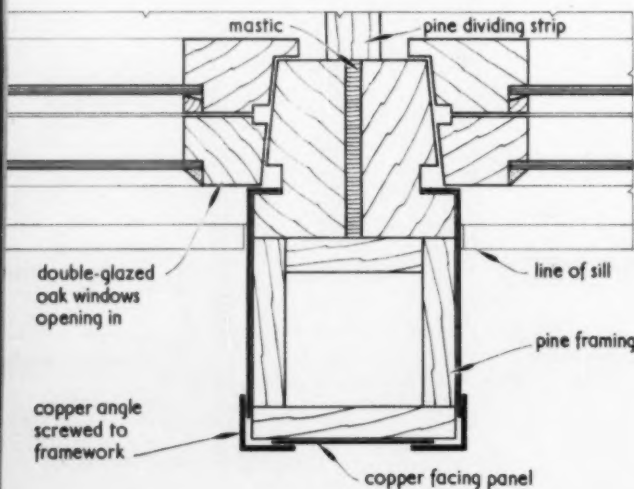
PLAN. scale 1"=40'-0"



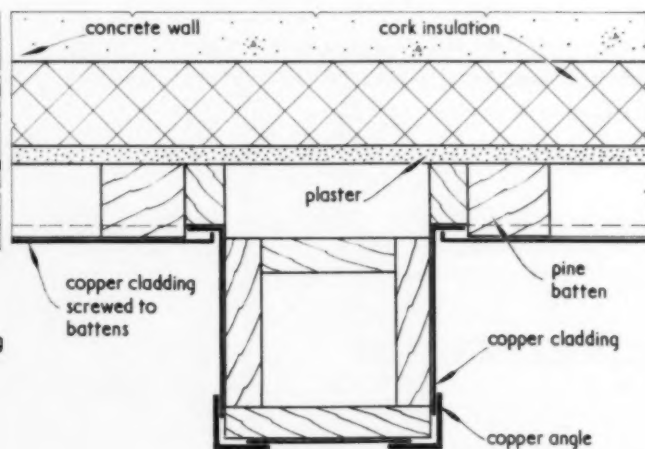
SECTION A-A. scale 1/4 full size



SECTION B-B. scale 1/4 full size



PLAN C-C. scale 1/4 full size



note: figured dimensions in feet and inches are approximate



Talbot Hicks



THE PATENT GLAZING CONFERENCE is an old-established trade association representing the interests of specialist sub-contractors engaged in the design, manufacture and installation of Patent Glazing for the daylighting of industrial and other buildings. Its name and symbol is a guarantee that glazing will be carried out by highly skilled craftsmen using the finest of materials.



for abundant even light ...
durability ...
safety and economy ...

GLASS

IN PATENT GLAZING

THE PATENT GLAZING CONFERENCE

BURWOOD HOUSE · CAXTON STREET · LONDON · SW1

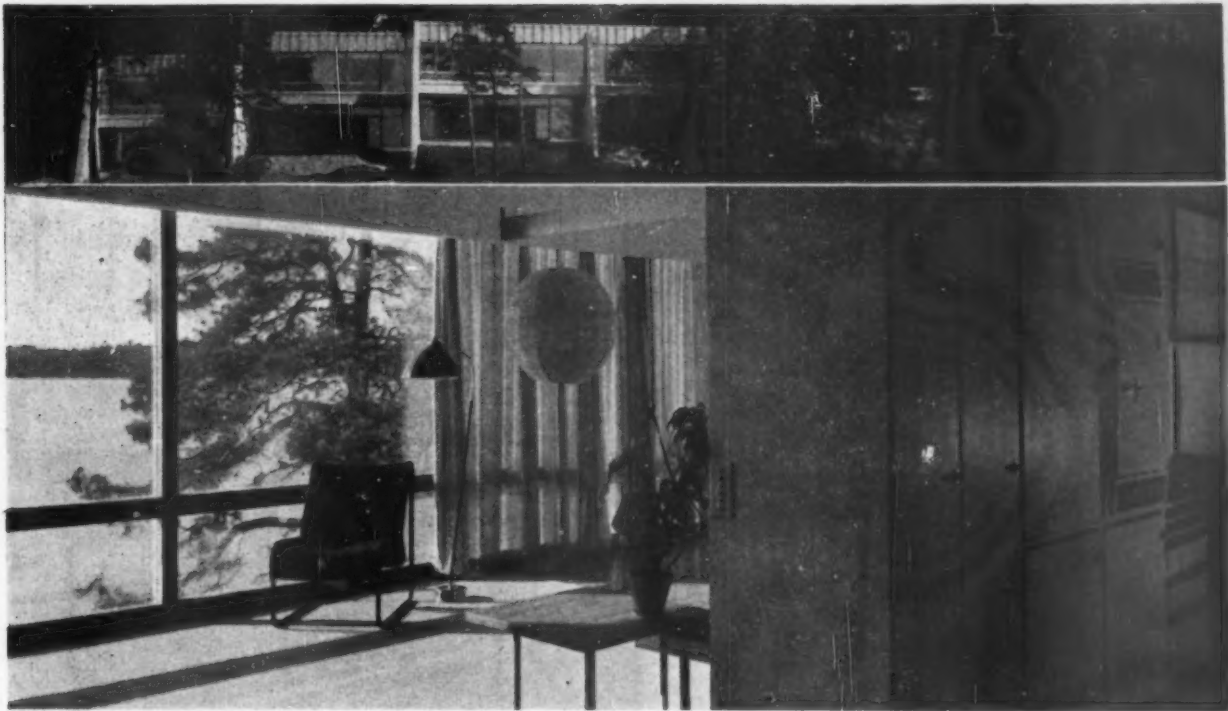
THERMALITE

the
leading
name
in

loadbearing
insulating
building
blocks

THERMALITE YTONG LIMITED
HAMS HALL LEA MARSTON SUTTON GOLDFIELD WARWICKSHIRE
TELEPHONE: COLESHILL 2081

Terrace Houses in Finland



This row of two-storey terrace houses was designed by the Finnish architect Viljo Rewell for private owners. It is situated on the island of Laajasalo at Jollas, on a sharply sloping site looking across the bay towards the mainland.

The walling is constructed from concrete blocks finished by a copper coping. The roofs, too, are covered in copper, which is turned down to form a deep fascia. All windows are double-glazed. The plans are shown overleaf.



*it takes as little effort as this
to raise a **HOLTS** shutter!*



HOLTS

HOLTS SHUTTERS LIMITED

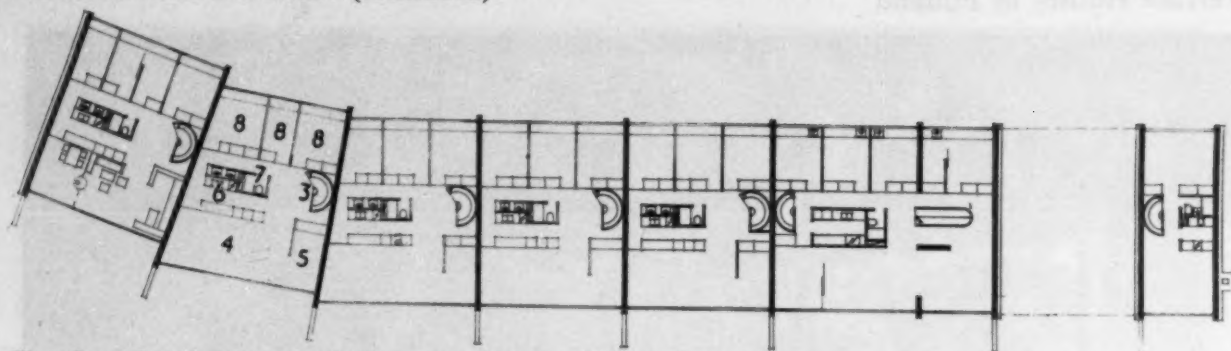
Department (A.J.), Cavalier Street, Bradford 3

Tel: 21305

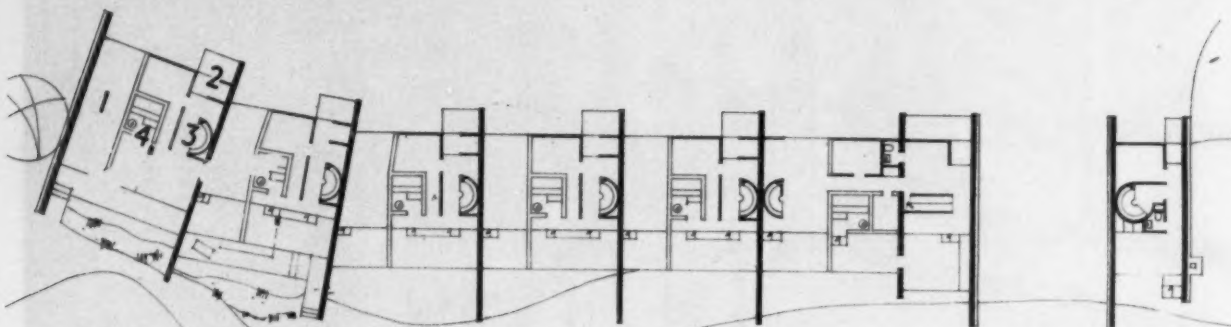
There's a fingertip-controlled, electrically operated **Holts Rolling Shutter** for any size of opening you specify, no matter how large.

- * For loading bays, commercial and private garages and anywhere where space-saving and ease of operation are important. Wood, steel or aluminium lath shutters. All can be electrically operated if required.
- * For hotel bars, cafe and canteen service hatches there's a manually-operated shutter in polished hardwood.
- * WRITE FOR DETAILED BROCHURE.

Terrace Houses in Finland (continued)



First floor plan: 3 staircase, 4 living area, 5 dining, 6 kitchen, 7 bath, 8 bedroom



Ground floor plan: 1 garage, 2 main entrance, 3 staircase, 4 sauna



SWEEP

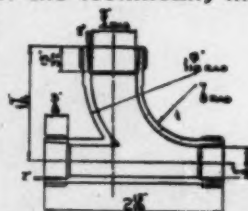
tees that really SWEEP

For small bore (forced circulation) heating installations, it is ESSENTIAL to use sweep tees and slow bends.

Compare the quality and design of "KINGLEY" sweep tees with any other! By providing a little more metal in the casting and a lot more thought on the drawing board, "KINGLEY" have produced a range of sweep tees which have set a new high standard in the trade.

In our new factory these fittings are made in the most modern brass foundry devoted to this class of work. Our production is higher than ever before, but quality sells, and so the demand is even greater. Look ahead for your small bore requirements and order early your SMOOTH INSIDE SWEEP TEES by "KINGLEY"—tees that really sweep!

For the technically minded:



● Made only from virgin ingot metal.

Available in

1/2" equal
 1/2" x 1/2" x 1/2"
 1/2" x 1/2" x 1/2"
 1/2" x 1/2" x 1/2"
 (enlarged branch
 for 1/2" feeds to
 radiators)



smooth inside sweep tees

Write for full details and illustrated catalogue to:

KINGS LANGLEY ENGINEERING CO. LTD., Kings Langley, Herts. Tel. Kings Langley 4022

For sheer, lasting beauty there is
no more versatile building material
than the Stock Brick. Morden College, Blackheath
provides an outstanding
example of bricks used
by Sir Christopher Wren in
traditional architecture.



London Bible College, 19, Marylebone Road, N.W.1. Built with Eastwoods Stock Bricks. Architect: Clifford Culpin & Partners. Contractors: Messrs. John Laing and Son Limited.

To-day Stock Bricks play an
important part in the interpret-
ation of the architect's
conception of a modern office
block, contemporary church or
educational centre.



St. Paul's Church, Town Centre, Harlow, Essex. Built with Eastwoods Stock Bricks. Architect: Messrs. Humphrys & Hurst. Contractor: Hosking & Son (Essex) Ltd.

EASTWOODS

LONDON

STOCK BRICKS

from

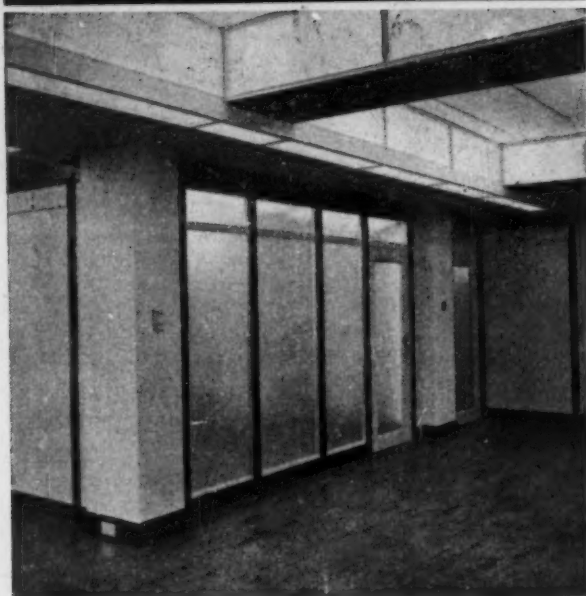
EASTWOODS SALES LIMITED

Head Office: 158-160 City Road, London, E.C.1 Telephone: CLerkenwell 2040 (30 lines)

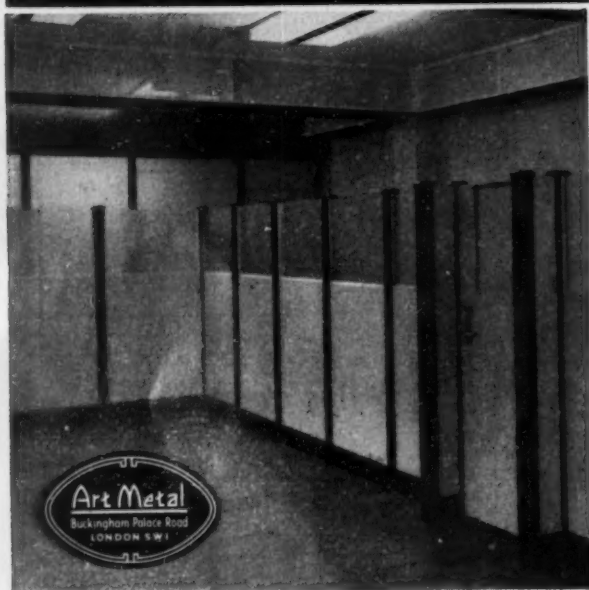
Depots at: CAMBRIDGE, 117 East Road, Tel.: Cambridge 55514/52087; COVENTRY, Sandy Lane, Tel.: Coventry 28701/2/3; DONCASTER, Crompton Road, Tel.: Doncaster 61442/49256; EASTLEIGH, Allbrook, Eastleigh, Hants, Tel.: Eastleigh 2621/2; GILLINGHAM, Trafalgar Street, Tel.: Gillingham 51088/9; GREENWICH, Norman Road, S.E.10, Tel.: Greenwich 1172/3; HILLINGDON, Uxbridge Road, Tel.: Uxbridge 37391/2/3; IPSWICH, Cumberland Street, Tel.: Ipswich 53794/5; ISLEWORTH, 11 The Square, Tel.: Isleworth 2271/2; KINGSLAND, 4 Orsman Road, N.1, Tel.: Shoreditch 4133/4; KING'S LYNN, South Everard Street, Tel.: King's Lynn 3718; LEEDS, 7, 320 Meanwood Road, Tel.: Leeds 43401/2; LETCHWORTH, Birds Hill, Tel.: Letchworth 1700; MORTLAKE, High Street, S.W.14, Tel.: Prospect 7231/2/3; NORWICH, Rosary Road, (NOR 225) Tel.: Norwich 21498; SOUTHEND ON SEA, Fairfax Drive, Southend, Essex, Tel.: Southend 48171/2; SUDBURY (Suffolk), North Street, Tel.: Sudbury 2895/6; WEMBLEY, 133a Wembley Park Drive, Tel.: WEMbley 5404/5; WEYBRIDGE, Bridge Wharf, Tel.: Weybridge 3963.



SECTIONAL



PARTITIONS



**FOR THE NEW OFFICES OF
THE BANKERS TRUST COMPANY
BUCKLERSBURY HOUSE**

Queen Victoria Street, E.C.4.

Architect: O. Campbell Jones, F.R.I.B.A.

sectional steel partitions supplied by

Art Metal

Please write for Catalogue 615 and Information to

ART METAL

201 BUCKINGHAM PALACE RD., LONDON, S.W.1 SLO 520

PWS

For FREE advice

**on floor
and furniture
maintenance
problems**

call in the J-Man

Here is a unique service to help you solve floor and furniture maintenance problems — advice by a JOHNSON'S WAX technical representative, offered *free* and entirely without obligation. Every J-Man is backed by a fund of research knowledge and practical experience unequalled anywhere in the world. He can give personal attention to your problem.

POST THIS COUPON TODAY TO:

JOHNSON'S WAX

S. C. JOHNSON & SON, LTD.
P.O. Box 9, Frimley Green, Camberley, Surrey

Please send me information on the following Johnson's Wax product(s).

Please ask your representative to call

(a) Urgently (b) When he is next in my area
Cross out that which does not apply.

Name _____

Company _____

Address _____

Now the toughest
clear gloss emulsion
floor finish ever!



JOHNSON'S STEP AHEAD

WITH EXCLUSIVE POLYMER 235 *

What laboratory-bred polymers did for man-made fibres they now do for Johnson's Step-Ahead.

LIQUID ARMOUR FOR ALL FLOORS

Step-Ahead goes on quickly and smoothly, dries in 15-30 minutes to a lovely clear gloss that's safe to walk on. No buffing! It shrugs off stains . . . is immensely tough, resilient and durable . . . resists flaking, cracking, scuffing, abrasion.

Step-Ahead stands really hard wear. Wiped with a damp cloth or mop, it comes up sparkling clean. Buff it and marks disappear. Nowhere will you find a floor finish so mindful of your needs. Ask the J-Man all about it.

(Photograph of Rhinoceros by SATOUR)

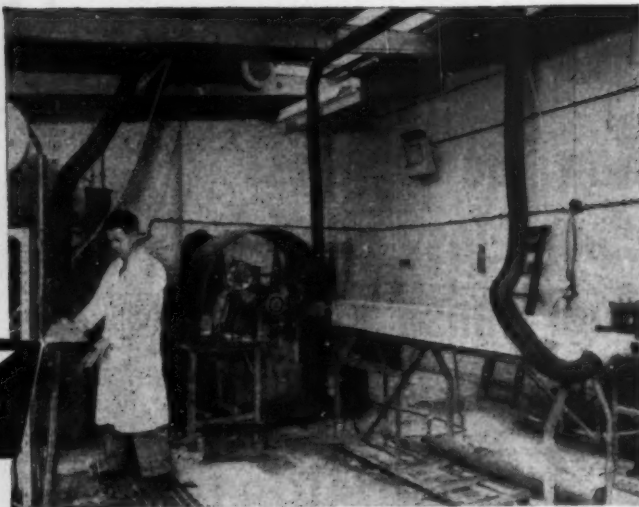
* Polymer 235 is a plastic material specially developed to make Step-Ahead extremely tough and hard-wearing . . . gives a transparent dry-bright gloss finish that does not stain even the lightest floor.

A product of
JOHNSON'S WAX

S. C. Johnson & Son, Ltd., Frimley Green, P.O. Box 9,
Camberley, Surrey. Tel: Camberley 3456

Save time -
Save labour
costs with

KOPEX
PLIABLE DUCTING



No pre-planning or prefabrication with KOPEX Pliable Ducting. It can be cut, bent by hand—even to small radii and fixed, conforming to layout, on the site. Jointing is minimised since KOPEX can be supplied in continuous lengths. A good heat insulator, KOPEX is ideal for heating and ventilation schemes, and for dust and fume extraction. Grades for all types of installations, high or low temperatures. Sizes up to 7½" I/D in metal, and metal and paper.

Write or phone for technical data

UNI-TUBES LTD

Head Office: 197 Knightsbridge, London, S.W.7. Tel: KNightsbridge 7811/5

Works: Alpha Street, Slough, Bucks. Tel: Slough 25476/7/8

TEMPORARY AND PERMANENT DUCTING—KOPEX Pliable Ducting can be quickly erected in any experimental and development shop as this photograph clearly indicates, and can be quickly dismantled and stored for the next job. It is just as easy, and costs no more, to erect permanent KOPEX Pliable Ducting for Domestic and Industrial ventilation schemes.



EASILY SHAPED

Can be bent to small radii without distortion of bore.

CUTS ON SITE

Cuts easily with a knife.

SIMPLE TO ERECT

Strong but light in weight, greatly simplifying erection.



"Bolts save labour . . .
... that means steelwork
goes up quicker!"

Economy of labour—that's the really big saving possible when you use Richards High Strength Friction Grip Bolts. A two man team only is required for bolting against four men when riveting. And there is no heating required, no noise and simplified erection methods are possible. Surely very sound reasons why you should . . .



... use

RICHARDS

high strength friction grip bolts

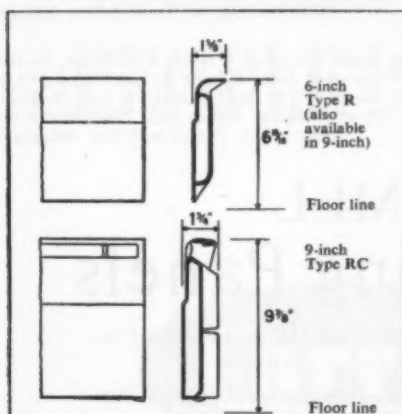
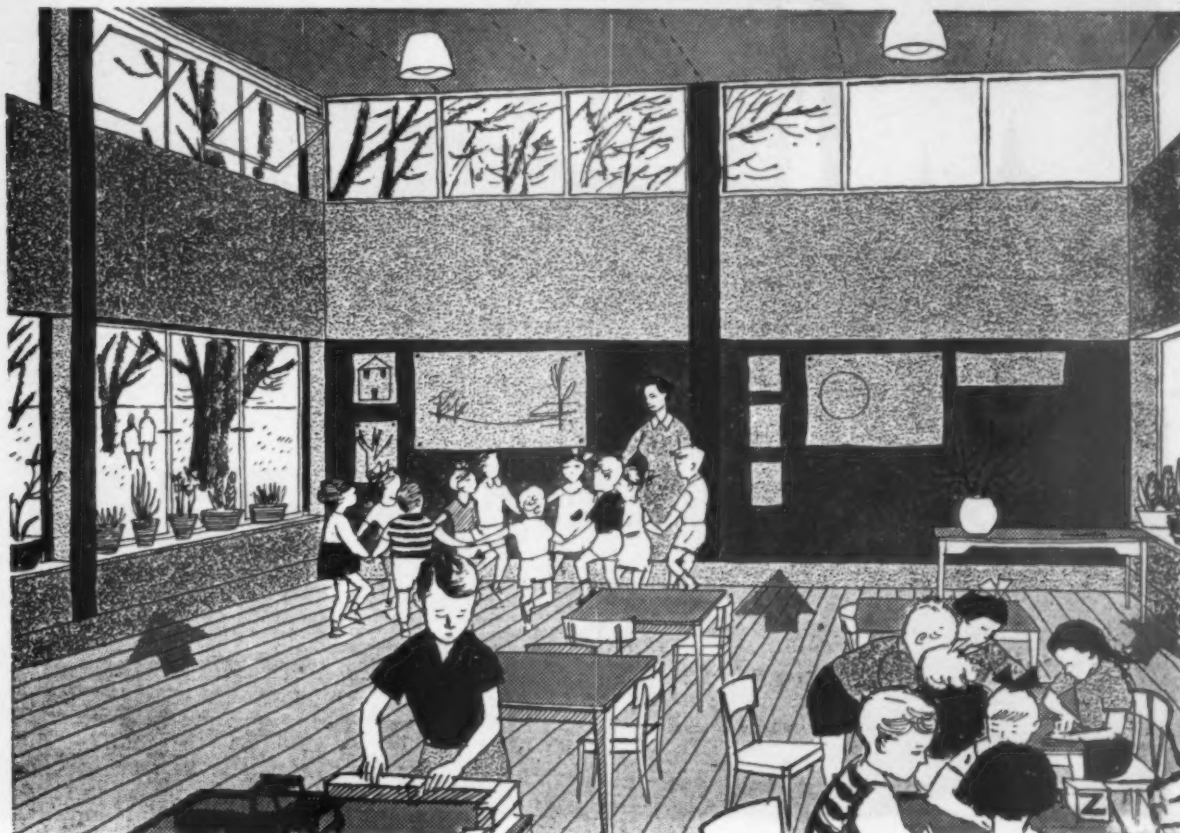
CHARLES RICHARDS & SONS LTD., P.O. BOX NO. 23, DARLSTON, WEDNESBURY, SOUTH STAFFS

'Phone: James Bridge 3188 (8 lines) P.B.X.

Wires: 'Richards' Darlston



When warmth must be distributed fairly



Manual (No. 423) on Crane Skirting Heating may be had on application to

CRANE LTD., 15-16 RED LION COURT
FLEET STREET, LONDON, E.C.4

London Showrooms:
118 Wigmore Street, London, W. 1 and
Great West Road, Brentford, Middlesex

Branches:
BIRMINGHAM • BRENTFORD • BRISTOL
GLASGOW • LEEDS • LONDON • MANCHESTER
Works: IPSWICH

Z10

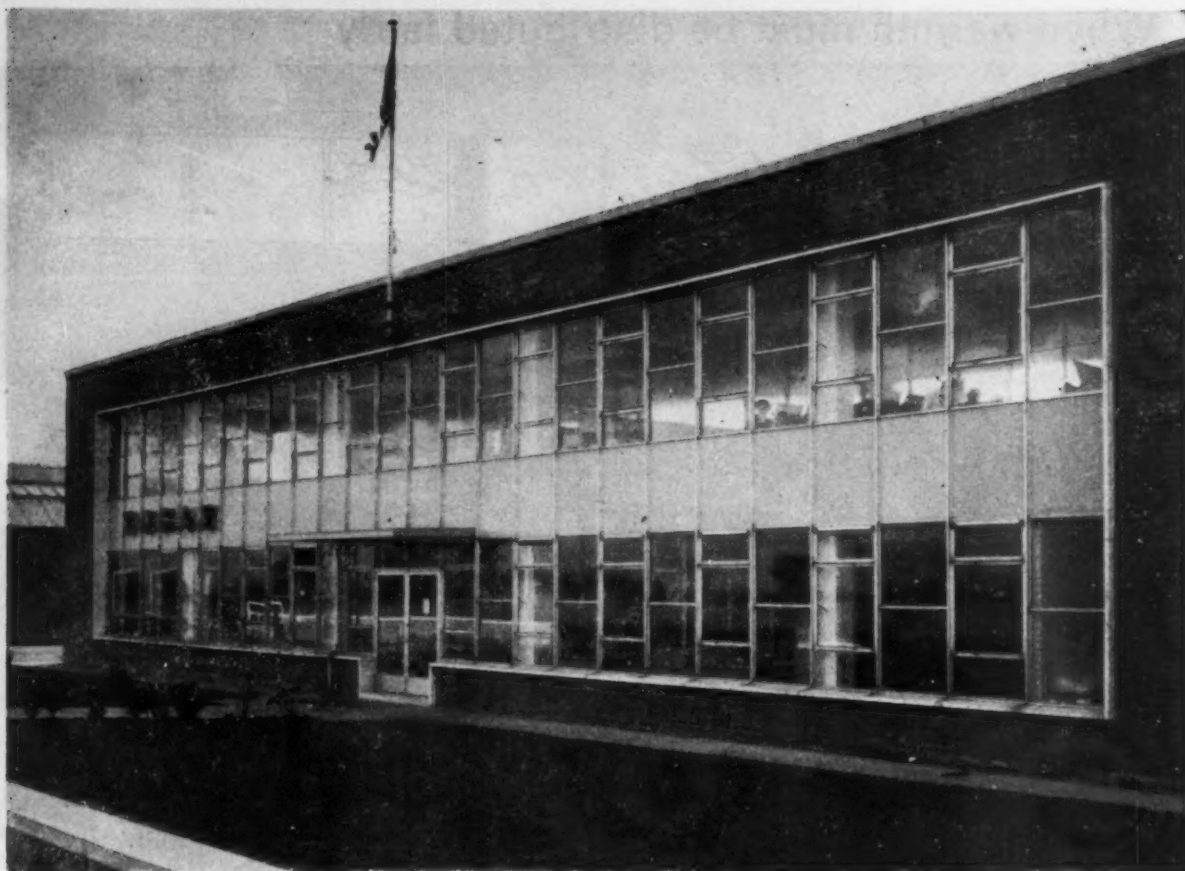
ONE of the important factors in education being the primary comfort and well-being of the children, it is essential, amongst other things, that the schoolroom should be evenly and equably heated. The young occupants are normally well distributed throughout what is generally a large room: the warmth should be spread equally impartially. It was for just such a situation as this that the Crane Skirting Heating system was evolved.

Crane Skirting Heating is finding ever increasing favour among architects and heating engineers, and the reasons are clear. The system employs heating panels in place of the normal skirting boards. They are therefore unobtrusive; they avoid 'hot spots'; they are easy to clean; they permit freedom of arrangement and design; and—of special significance in this case—they offer no dangerous protuberances. In the illustration above the panels are indicated by arrows.

Crane Skirting Heating panels are made in two types. Used here is the 9-inch Type R (radiant) illustrated above which is also made in the 6-inch size for smaller heat requirements. Type RC (radiant-convector) is made only in the 9-inch size. All panels are in 2-ft. and 1-ft. lengths and are made of cast iron, which gives them considerable resistance to accidental damage. The operations of calculating heat requirements and designing the pipework are in principle no different from those for conventional radiator heating systems.

Wherever the architect needs greater freedom of expression than conventional heating systems allow him, and at the same time has to pay due consideration to costs, the answer is, undoubtedly,

CRANE skirting heating



DEPOT FOR KODAK LTD., LEEDS



*Chartered Architect for Kodak Ltd., J. W. Turner, Wealdstone, Harrow
Metal Windows by John Williams & Sons (Cardiff) Ltd.
Infilling Panels by The Rustless Iron Co. Ltd., Keighley
Area: 328 sq. ft. Kodak Yellow BSS. 2660 0-003 Semi-
matte colour, backed with $\frac{1}{4}$ in. Asbestolux*

VITREOUS ENAMEL Weatherproof Building Panels

COMPOSITION: Mild Steel Sheets with or without flanges, covered all over with weatherproof vitreous (glass) enamel. May then have a backing material such as asbestos, cork, insulating board, glass or mineral wool, etc.

ADVANTAGES: Hard, weatherproof, scratch and corrosion-resisting surface of permanent colour. PLUS strength (cannot crack through). Erection possible in all weathers.

MAINTENANCE: Washing down only.

COLOURS: Available in an almost unlimited choice.

TEXTURES: Full gloss, satin finish, stencilled, marbled, stippled, roughcast.

WEATHER RESISTANCE: Permanent.

THERMAL INSULATION: Readily obtained down to $U=0.2$ or lower if required.

PREFABRICATION: Complete at factory. Can be moved entire from one site to another.

WEIGHT PER UNIT AREA: 3-10 lbs. per sq. ft. Average area 12 sq. ft. Preferred maximum size about 6 ft. by 4 ft.

Data Sheets and detailed information available on request:

THE RUSTLESS IRON CO. LTD. Trico Works, Keighley, Yorks. Tel: 3737-8-9



A new building!..
What's inside?
PEOPLE!

New buildings going up. And up. Higher and more isolated (on all sides)—more sun—more wind—more weather. And incidentally, more glass (take a look around the City!). People have to live and work inside, comfortably. The solution of this modern problem is to install a Carrier air-conditioning system. Only Carrier have an air conditioning system fully developed for every type of multi-room, multi-storeyed building—and British weather! 'Weathermaster' and 'Twinair' for perimeter zones, 'Centralair' for interior zones. Ask us about them now.



Air Conditioning Systems

CARRIER ENGINEERING COMPANY LTD.

24 BUCKINGHAM GATE, LONDON, S.W.1 Telephone VICtoria 6858

THE PIONEERS OF AIR CONDITIONING

ELBOW ROOM

A smart new factory with every department under one roof, equipped with the best of modern machinery and opened by a Minister of State—and it's the new Hanlo Factory! We are honoured to have had the opening ceremony performed by The Rt. Hon. Frederick Erroll, M.P., Minister of State to the Board of Trade and Member of Parliament for Altrincham and Sale.

Now we have elbow room for a larger and more economical output—with even quicker delivery—of Hanlo and Hanlite compression joints, always in such great demand because of the very positive nature of their patent double grip, streamlined appearance and versatility.



Straight couplings . tee's . crosses . elbows . stop cocks . reducing sets . adaptors . ball valves . gate valves in fact, everything for the Plumbing and Heating Trades.

Lowell & Hanson Ltd

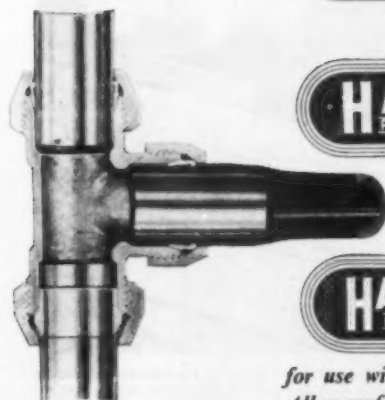
FOR A TIGHT FIT!



standard compression joints



cast gunmetal compression joints



STRONGER IN USE • NEAT STREAMLINED APPEARANCE • ECONOMICAL TO BUY

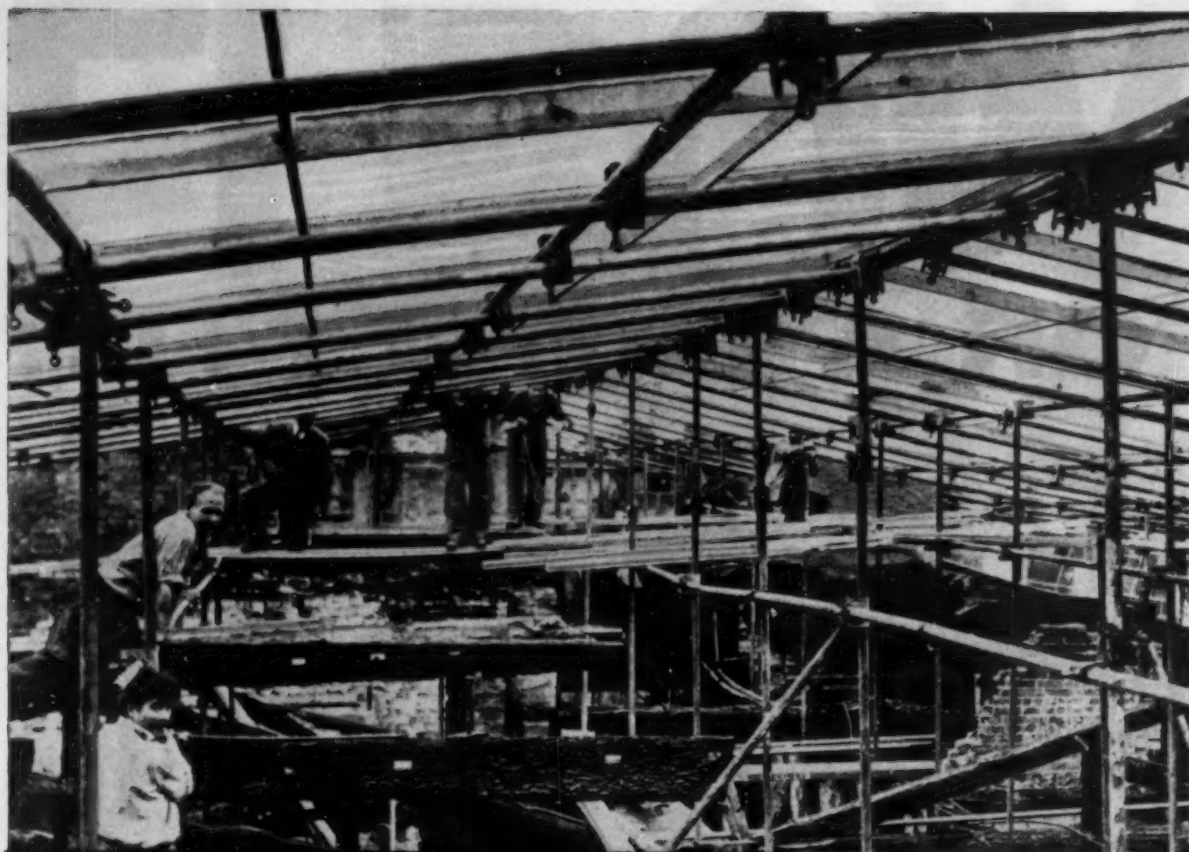


lightweight compression joints

*for use with light gauge copper tube, soft copper tube underground and for plastic tube.
All manufactured strictly in accordance with British Standards Specifications.*

HANLO WORKS • OLDBURY ROAD • GREETS GREEN • WEST BROMWICH • BIRMINGHAM

Telephones: West Bromwich 1681-2-3 and 0721



Transparent 'VISQUEEN' protects Stoneleigh Abbey after fire

The temporary roof structure erected over fire-damaged Stoneleigh Abbey not only gave weather protection to the exposed building but provided excellent working conditions. Softwood rafters were fixed to the scaffolding structure with pipe clips at five foot centres. These rafters were covered with wire netting and the 'Visqueen' 500 stretched over and battened down.

Fire recently severely damaged the west wing of Stoneleigh Abbey, Lord Leigh's old and valuable property near Coventry. To give immediate protection to such parts of the building that were not burnt, a temporary roof had to be erected. To enable the work of clearing away debris and consolidation to proceed without the use of artificial lighting, the architects specified the use of polythene sheeting. The 500 (heavyweight) grade 'Visqueen' used, supplied ex stock by a local 'Visqueen' distributor, is light to handle, easy to fix, extremely tough and costs only 1½d. per sq. ft.

This is only one of many ways in which 'Visqueen' can be used on a site to protect both men and materials from the weather while still letting in all the daylight. The special black heavyweight grade is also widely used as a tough, flexible tarpaulin for building materials and particularly useful in an emergency, as a protection for articles salvaged from damaged buildings.

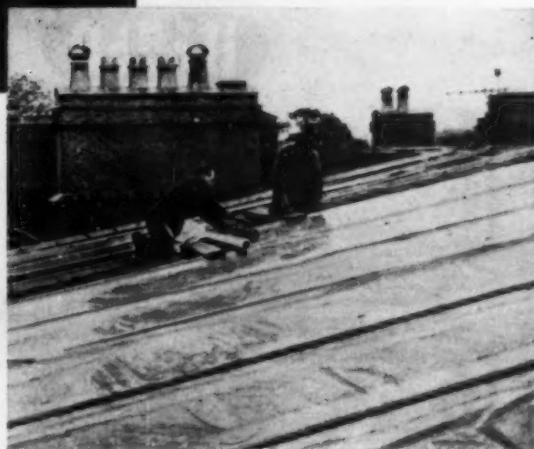
For an illustrated booklet on the uses of 'Visqueen', together with samples, prices and the name of your nearest stockist, write now to:

BRITISH VISQUEEN LTD

SIX HILLS WAY, STEVENAGE, HERTS. Tel: Stevenage 1310

A subsidiary company of Imperial Chemical Industries Ltd.

BV161



The top of the 'Visqueen' roof showing sheeting being unrolled quickly and easily before battening down. Strips of wire netting can be seen laid over the top of the polythene to hold it down.
Architects: Messrs. Quick and Lee
(Guy Silk and A.S. Gasson, F/R.I.B.A.)
Contractors: Messrs. Stowe & Co. Ltd.,
Leamington Spa.
Visqueen Distributors: Messrs. A.R. & W. Cleaver.

Good for many life-times



*Copper-roofed portico of 'Santa Lucia'
Birmingham home of F. Deeley Esq.*



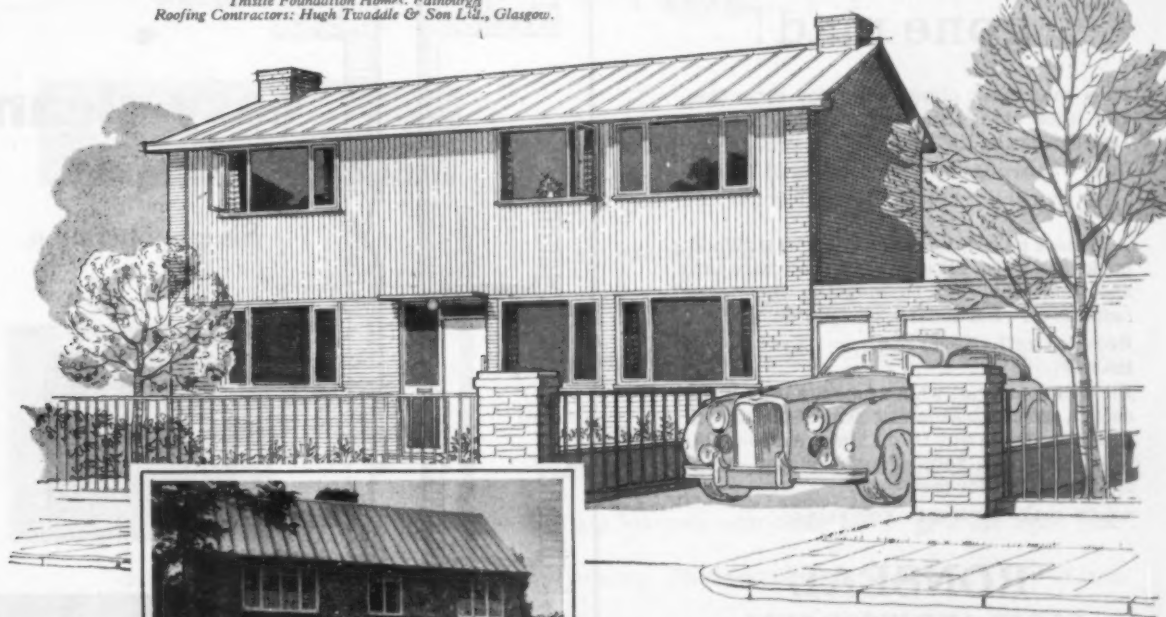
*Thistle Foundation Homes, Edinburgh
Roofing Contractors: Hugh Twaddle & Son Ltd., Glasgow.*

New House Roofs in ICI Copper

New projects bring more and more evidence of copper's adaptability 'on top'. Notice the variety of pitch and profile on these roofs in ICI copper. Newer and cheaper roofing techniques make this long-lasting material, with its handsome patina, a truly economic proposition . . . for houses as well as for larger buildings.

ICI make copper in a wide range of gauges and strip sizes, suitable for both conventional and 'Economy' techniques. May we send you details?

*"Swiss Cottage", Burnley, Lancs. Home of Mr. E. S. Cookson, director
of the builders, Howarth Bros. of Colne.*



*'Economy' copper roofing on the house of
J. Holdsworth Esq., Aylestone, Leicester.*



ICI COPPER

*Sheet and strip for roofing,
flashings, weatherings*

**IMPERIAL CHEMICAL INDUSTRIES LTD.,
LONDON, S.W.1**

C25

Detail from 'The Age of Brass', Rodin, Bronze, 1896 © BY S.P.A.D.E.M., PARIS



This is democracy gone mad!

New materials clamouring for attention. Old ones struggling to keep their place. Devil take the hindmost!

Just where does an architect stand today?

On a floor!

... where he's right in the thick of it. Wood, cork, concrete, all elbowing their way into specifications. Not to mention the newer candidates—hardboard, thermoplastic.

Browbeaten? Never! Show them who's master.

Pick the material whose face fits best. Then call in RONSEAL. Amazing stuff. Spreads on. Sinks in. Dries out in no time. And—voilà! —you've got a floor. Tough. Glossy. More than a match for feet.

RONUK make RONSEAL. You relax.

RONSEAL FLOOR AND WOOD SEAL



By Appointment to Her Majesty The Queen Polish Manufacturers

Write for free descriptive leaflet to

RONUK LIMITED

Dept AJ, Portlade, Sussex · Telephone: Hove 48631

BROADS

PATENT

'multiflor' refuse chute



The complete system
from
Basement to Roof level

•
hygienic

•
impervious

•
easy clean

•
Simple operation



BROADS Technical Service Department is available to prepare lay-out drawings showing the installation of the 'MULTIFLOR' Refuse Chute to suit any particular contract.

Illustrated Brochure sent on request.

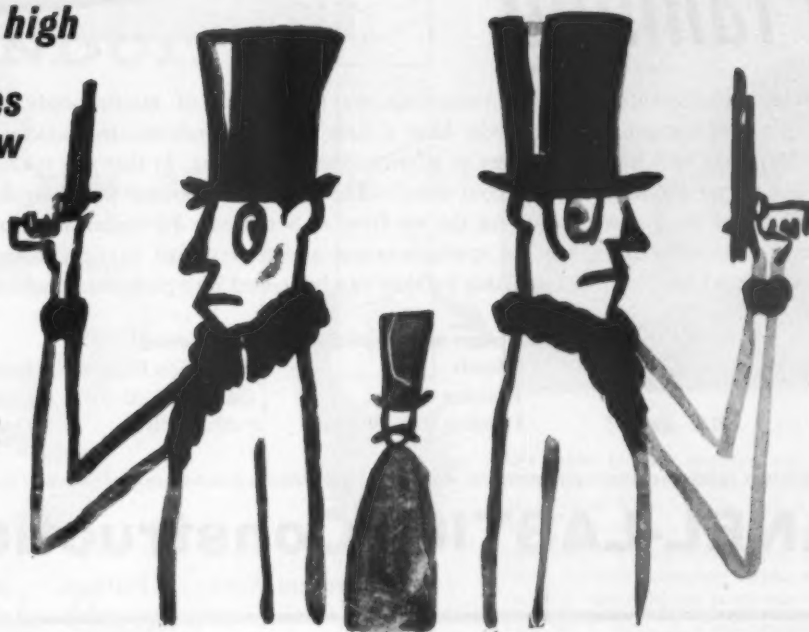
BROADS MANUFACTURING CO., LTD.,

4, SOUTH WHARF, PADDINGTON, W.2.

Tel: PADDington 7061 (20 lines)

The atmosphere was getting heated

*temperatures
ran high*
*temperatures
ran low*
*heating costs
were
phenomenal*
*production
was at
a standstill*
*all this
was
before*



Grecon

"Grecon" incorporates

- ★ EFFICIENCY ★ SIMPLICITY
 - ★ VERSATILITY ★ and ECONOMY
- in ONE METAL FIXING SYSTEM

MARLEYcel

is

- ★ Extremely light and easy to fix
- ★ Rot proof and immune to organic deterioration
- ★ Extremely high in thermal insulation
- ★ Resistant to water and water vapour

If you would like to know more about the Grecon System, write to:

GRECON SYSTEMS LTD 29/30 St. James Street, London S.W.1 Tel.: TRA 1454

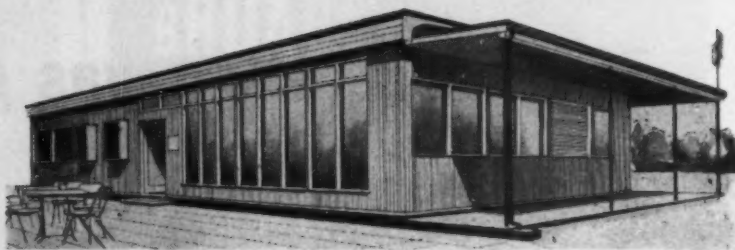
But with a Grecon inverted T System ceiling ALL the heat you generate keeps the factory warm instead of escaping into the atmosphere.

The Grecon System, combined with the Marleycel Polystyrene insulation board, gives a lightweight ceiling that won't sag, and is installed quickly and easily.

Results are immediately apparent—heating thermostats are lowered more than 10° to give the same held temperature. The most efficient and modern way to save on fuel bills and increase productivity is to fit a Grecon-Marleycel insulated ceiling.

60 JWS 6164

Attractive Planning



The special requirements of Local Authorities are the subject of careful study by Panel-Lastic Construction Co. Ltd., who have a large range of prefabricated buildings which incorporate very many variations in modern interior planning, so that any special need is almost certain to be met without delay. The building illustrated was designed to meet the need for a new pavilion on the sea front at Southend. Particular attention was given to attractive lines, modern spacious layout and a very high daylight factor. As with all Panel-Lastic constructions, this building can be erected with phenomenal speed.

Designs are also available for the following:—

Schools	Recreation Rooms	Industrial Offices	Gymnasiums
Drawing Offices	Canteens	Laboratories	Fruit Packing Stations
Dressing Rooms	Public Halls	Dormitories	Tropical Buildings

For full details of buildings available for immediate assembly, with architect's drawings and specifications write to:—

PANEL-LASTIC Construction Co. Ltd.

Belvedere Works · Feltham · Middlesex · Tel.: FELtham 5761

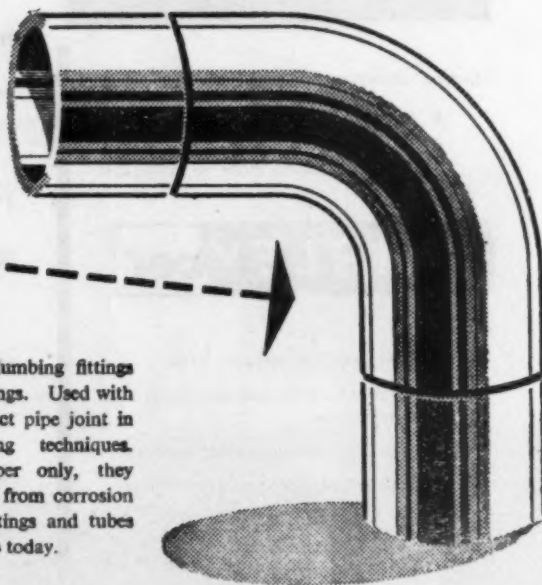
Neat

Reliable

MBL

**CAPILLARY
FITTINGS AND
COPPER
TUBES**

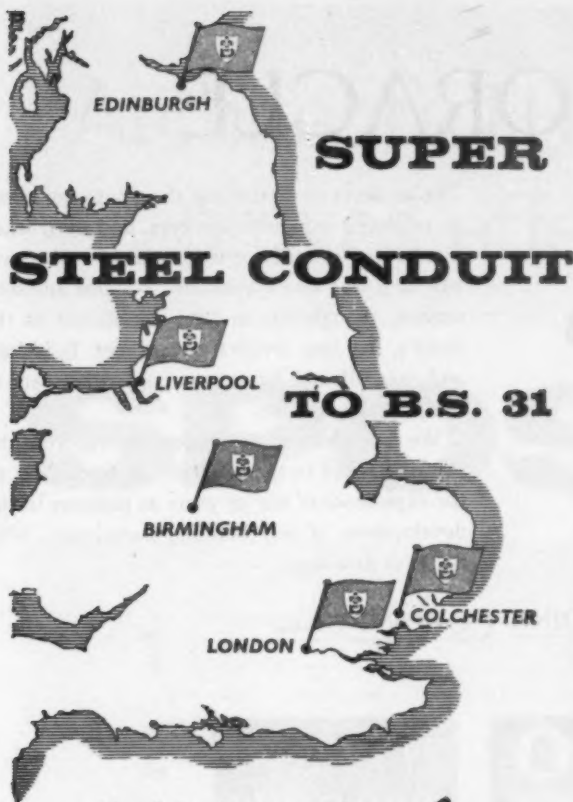
Yes, the neatest and most reliable plumbing fittings produced today are MBL Capillary Fittings. Used with MBL Copper Tube they form the perfect pipe joint in keeping with contemporary building techniques. Furthermore, being made from copper only, they provide the neatest of connections free from corrosion or contamination. A full range of fittings and tubes is always in stock. Write for full details today.



THE MINT, BIRMINGHAM, LTD., BIRMINGHAM, 18

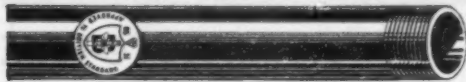
Telephone: CENTRAL 7742

Telegrams: 'MINT', BIRMINGHAM



A Nation Wide Service

... from five industrial centres strategically placed to give immediate attention to customers' requirements in all parts of the country. Burn conduit, made to an unvarying high quality, is furnace welded for easier bending. Light and heavy gauges are available in a full range of diameters $\frac{3}{8}$ " to 2 $\frac{1}{2}$ " and a variety of finishes. Write now for the name of your nearest wholesaler.



EDINBURGH 33 Westgarth Avenue, Edinburgh 13
Telephone: Colinton 88113

LIVERPOOL 24 Chapel Street, Liverpool 2
Telephone: Central 7012

BIRMINGHAM City Tube & Conduit Mills, Smethwick, Birmingham
Telephone: Smethwick 1511 (5 lines)

LONDON 2 Deansway, London N.2
Telephone: Tudor 7287

EASTERN COUNTIES 23 Church Road, Kelvedon, Colchester, Essex
Telephone: Kelvedon 267



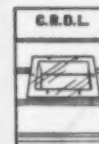
GEORGE BURN LTD.

City Tube & Conduit Mills,
Smethwick, Birmingham.

Telephone: Smethwick 1511 (5 lines)

GB48

Seven symbols of progress



3' Reb. P.P.

This code symbol identifies our 3' Rebated Channel Reinforced Pre-plastered Wood Wool Roofing Slab. Like the 2' C.P.P. it has a pre-plastered soffit incorporated during manufacture, providing a perfect decorating surface with excellent light reflecting properties.

Like the 3' Reb., it is self-supporting over spans up to 7 ft. by virtue of the built-in steel channel reinforcement, and the recess formed by two slabs butted together houses a cork or ONAZOTE thermal insulating strip to prevent "cold bridge" effects and so eliminate condensation on the steel reinforcement.

Rated at 0.19 B.T.U., its overall thermal insulation is very satisfactory, while its fire resistance is excellent, flame spread being rated at Grade 1.

The pre-plastered surface provides a good sound reflector, a fact that will suggest many applications for this slab.

Please write for full particulars.

THERMACOUST LTD

ROOFING SLABS

20 ALBERT EMBANKMENT LONDON SE11

Telephone Enquiries (Southern)—London: Elmbridge 5773/4/5
Telephone Enquiries (Northern)—Doncaster 54138 Ex 25

When supported on inverted "T" or Thermacooust purlins no special fixing arrangements are required.

Flat-top purlins or R.S.J.'s call for Type 1 site fixing clips.

Slabs may also be provided with any of the exclusive range of Thermacooust Pre-Clips for fixing copper, SNAPRIB aluminium, slates or tiles.



A member of the Cementation Group of Companies

CONSULTING THE ORACLE



The ancients on consulting the oracle were used to receiving enigmatic answers, and even when interpreted the advice was inclined to be two-edged, it was also expensive . . . Our advisory service, though not as long established as the Sybil's, has two distinct advantages. It is free, and you will not have to employ an expert to decipher our opinion.

We can offer you a complete service from the drawing board to the finished job, backed by all the experience of our 38 years as pioneers in the development of new building techniques. Why not give us a ring?



The **MERCHANT TRADING COMPANY** *Limited.*

Adrienne Avenue, Southall, Middlesex.
Telephone: WAXlow 6381(7 lines).

SPECIALISTS IN

UNITEX
ACOUSTIC TILES

METCO
METAL FIXING SYSTEMS

'VEELAP'
INSULATING PANELS

JAMES
make good
METAL
WINDOWS

W. JAMES & CO. LTD.
Hythe Rd. Willesden Junction
LADbroke 6471 (6 lines) N.W.10

photomurals



... ask AUTOTYPE

ARCHITECTS throughout the country are using AUTOTYPE photomurals with great success in reception halls, offices, showrooms, shops, schools, restaurants, cafés, ballrooms, private houses, etc.

In full colours, or black-and-white, mounted on prefabricated panels or fixing on site, or black-and-white unmounted. Photographs, engravings, originals of all kinds available for selection.

Autotype are acknowledged the leading specialists in this growing development. The benefit of their long experience and advice is yours for the asking. Enquiries welcomed.

See our
photomurals on
permanent exhibition
in the Building
Centres at London,
Bristol and
Glasgow

AUTOTYPE

The Autotype Company Limited
Brownlow Road, West Ealing, London, W.13
Ealing 8861

Architect's THREE-WAY TEST proves effectiveness of

SPOSS FLOOR SEAL

A practising London Architect wrote to us:—

- 1 "I have treated two small lino-tile floors with the Floor Seal and Polish. Now that they have been in use for nearly two months I am glad to be able to report that the results are far better than from any other materials I have used before and will have no hesitation in specifying their use where similar finishes are required."
- 2 "Similar treatment was given to quarry tiles, with very good results, so good that I intend to recommend the treatment as a finish to such floors in future."
- 3 "I have used the Floor Seal on untreated Oak and completed the treatment with Floor Dressing, with really fine results. In fact from my tests on various materials, it does appear that the combination of these two materials gives uniformly excellent results."

THESE AND MANY OTHER FAMOUS NAMES USE SPOSS FLOOR PRODUCTS

Royal Institute of British Architects,	Glamorgan C.C.,
George Wimpey & Co. Ltd.,	Lanark C.C.,
Limmer and Trinidad Lake Asphalt Co. Ltd.,	Ministry of Works,
Rowan & Boden Ltd.,	Ministry of Supply,
	The Royal Navy,
	The Royal Air Force.

SPOSS PRODUCTS INCLUDE:

Sposs Floor Seal, Sposs Non-Slip Floor Dressings,
Sposs Gymnasium Seal, Sposs Wax Clean, Sposs Dri-Bright Resin Wax Emulsion, Octim Cleaner etc.



New floors should be treated immediately with SPOSS Floor Seal to preserve, protect and enhance their appearance.

ECONOMICAL: Sposs Floor Seal provides exceptionally good coverages. One gallon will seal 150-200 sq. yds. When comparing the price of different Floor Seals this is a very important factor.

PERMANENCE: Once a floor has been sealed with Sposs it is protected throughout its life. Subsequent maintenance with Sposs Floor Dressing is all that is required—further applications of seal are quite unnecessary.

PENETRATION: The Seal penetrates the surface and combines with the top fibres of the floor, forming a hard, waterproof skin which protects and preserves porous surfaces.

FINISH: Although not in itself a polish, Sposs Floor Seal will dry with a pleasing gloss. An application of Sposs Floor Dressing will combine with the Seal to produce a brilliant, non-slip and easily cleaned surface.

SPECIAL PROPERTIES: Sposs Floor Seal is quick-drying (four to six hours, or less, according to weather). It is available in Light Oak, Dark Oak, Red and Natural colours. Can be used to revive old floors with an open grain.

TO SPOSS PRODUCTS LTD 10 SOVEREIGN STREET LEEDS 1
Please send full details of SPOSS Floor Seal

NAME

ADDRESS

A.I./1/12/60

made by **SPOSS** the first name in specialised floor maintenance products

CONSULTANTS TO ARCHITECTS, THE BUILDING TRADE & COMMERCE.

板

In every language...

...veneers mean John Wrights.

Our high-grade
veneers are in
use, not only
in Japan but
throughout the
world.

Ask our sample
veneer unit to
call at your office
with full leaf
samples for your
inspection.

Manufacturers
of veneers of
all kinds since 1866.

JOHN WRIGHT & SONS (VENEERS) LTD

AVON WHARF, LONGFELLOW ROAD
MILE END ROAD
LONDON E3

Tel: ADVance 4444 (10 lines)
Grams Mottled Bochurch London



CONTRAST

lends interest

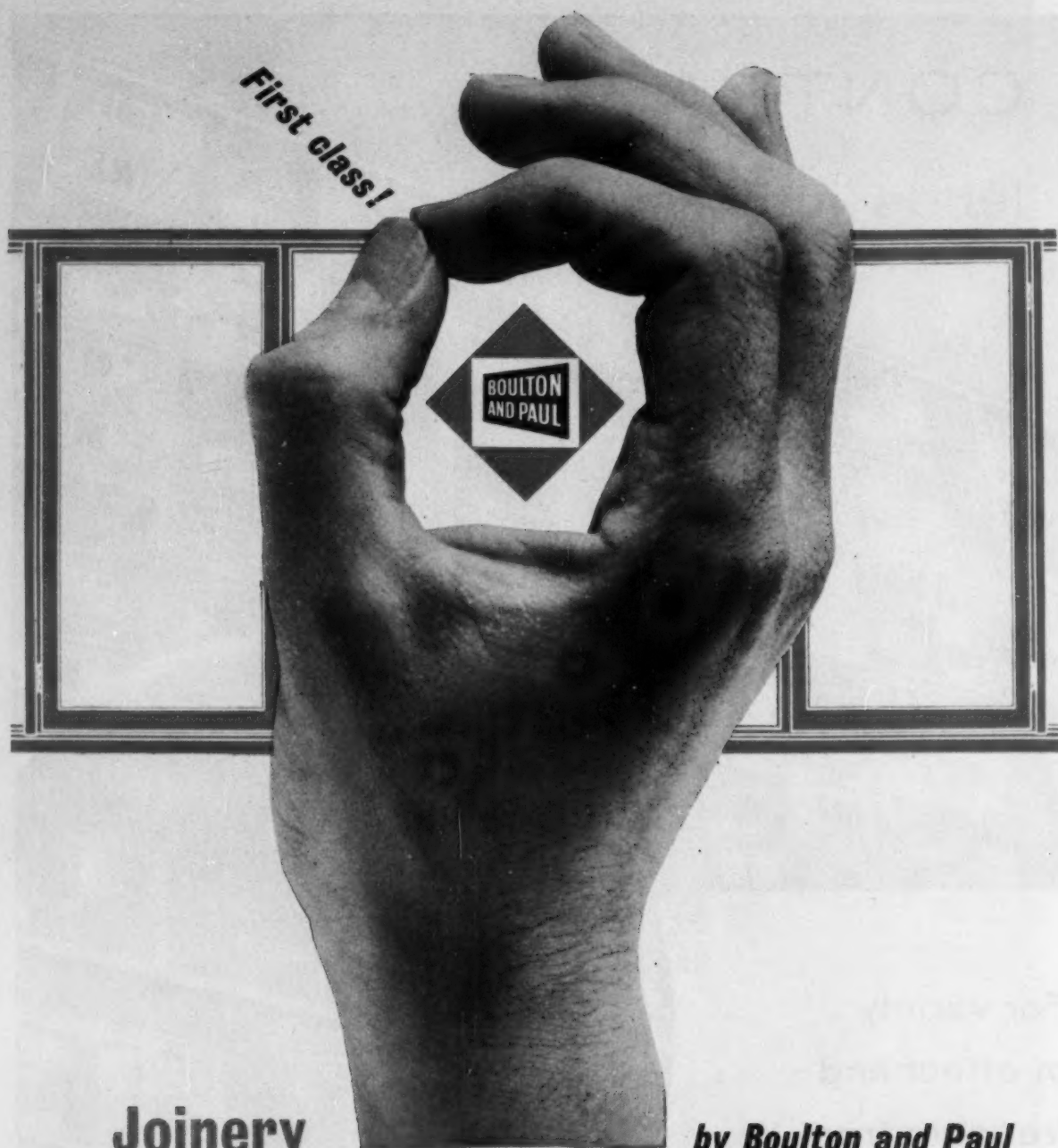


For variety
of effect and
freedom from
maintenance —

**BUILD IN
BRICK**

Issued by The National Federation of Clay Industries, London, W.C.1.

Netherfield Brow Flats, Liverpool.
Architect: R. Bradbury, PhD FRIBA AMPTI
City Architect & Director of Housing.



Joinery

by Boulton and Paul

High Quality Standard Joinery obtainable in a wide range of types and sizes. Manufactured from selected timber, with heads and cills out of the solid. First-class workmanship throughout. External Joinery treated with 100% lead priming paint carefully applied by brush. Write for a copy of the latest illustrated Catalogue or ask our local Representative to call.

Boulton and Paul Limited NORWICH LONDON BIRMINGHAM

J49

GLASCRETE

CURTAIN WALLING

INCORPORATING

“COL-O-ROCK”

(Registered Trade Mark)

EXPOSED AGGREGATE PANELS

By

J. A. KING & Co., LTD

181 Queen Victoria St., LONDON, E.C.4.

Telephone: Central 5866

It bonds without hacking

Laborious and costly preparation of concrete for plastering can be avoided by the use of

'SIRAPITE' (Regd.)

LIGHTWEIGHT BONDING

A retarded hemi-hydrate plaster, ready-mixed with Vermiculite as an aggregate, this new 'Sirapite' product is an effective bonding medium for plastering on concrete, pre-cast and in situ. Application may be followed by an undercoat and finish coat, or a finish coat only, of the appropriate 'Sirapite' plasters.

Lightweight Bonding is one of the range of

'SIRAPITE' LIGHTWEIGHT PLASTERS

supplied ready-mixed with Vermiculite or Perlite. They offer the following important advantages: REDUCED DEAD LOAD; IMPROVED THERMAL INSULATION; INCREASED FIRE RESISTANCE; ELIMINATION OF SHRINKAGE CRACKING; RESILIENCE under movement stresses; STRICT UNIFORMITY and EASE OF PREPARATION.

Specify or use these modern plasters for modern buildings. Please ask for literature.



THE GYPSUM MINES LTD

Kingston-on-Soar,
Nottingham.

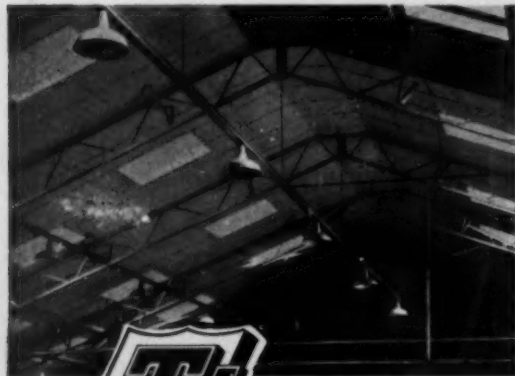
Telephone : Gotham 364/5

Mountfield, Robertsbridge,
Sussex.

Telephone : Robertsbridge 234

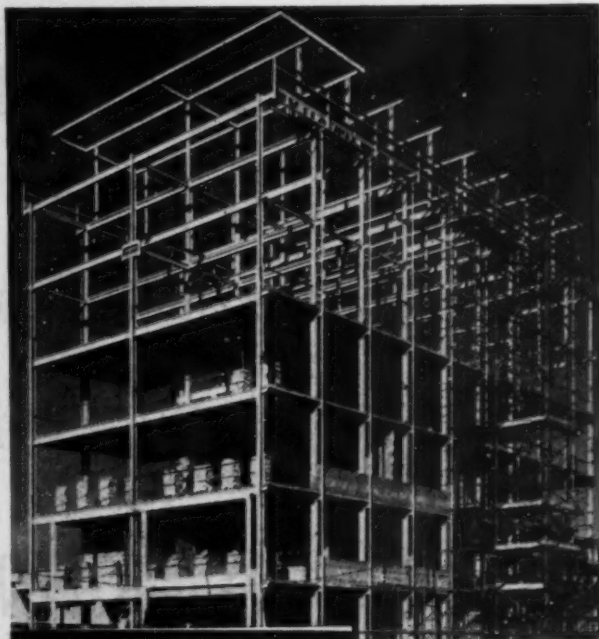
ROOF INSULATION

Thermos roof insulation (Patent app. for) gives double protection; it prevents fuel-wasting losses of warm air through the roof in winter, and keeps buildings cool in summer by excluding oppressive roof heat. At the same time an attractive decorative finish is obtained.



Thermos

HODGSON & HODGSON LIMITED
36 DERBY ROAD • BURTON-ON-TRENT • Tel: 4772
CARRINGTON • NOTTINGHAM • Tel: 61072



Croggon

CROGGON & CO. LTD. • ESTABLISHED 1835

SLOUGH COLLEGE OF FURTHER EDUCATION
GENERAL CONTRACTOR Y. J. Lovell & Son Ltd.
BUCKS COUNTY ARCHITECT
F. B. Pooley, F.R.I.B.A., F.R.I.C.S., A.M.T.P.I.

POYLE STEELWORKS • COLNBROOK, Nr. SLOUGH • TELEPHONE COLNBROOK 2801
230 Upper Thames Street, London, E.C.4 CENTRAL 4381 also at Liverpool & Glasgow

STEEL FRAMED BUILDINGS

Distinguished Fireplaces



Surrounds — modern or period — in Marble, Natural Quarried Stone, Old English Red Briquettes, Reeded Iron or Reeded Asbestos, Tiles and Faience—with or without Wood Mantels. Any type of fireparts are available in addition to the famous "WELL" Fire. Catalogue available on application. Your specifications gladly quoted on.

THE WELL FIRE & FOUNDRY CO. LTD.
Royal Victor Place, 234 Old Ford Rd., London, E.3
Tel: ADVance 2642



**MATS
MADE TO
MEASURE!
WHITTLE
LINK-MATS**

Whittle Link Mats can be made to your special requirements and in colours to conform to the Entrance Hall colour scheme.

Write now for full details:

Manufactured by

**THOMAS WHITTLE & SONS
LIMITED**

HEAD OFFICE AND WORKS: WARRINGTON

PHONE: WARRINGTON 33611 (3 LINES) GRAMS: BELT, WARRINGTON.

THE ARCHITECTS'
JOURNAL
for December 1,
1960



Restoration of a south
clerestory window
The Parish Church
High Wycombe

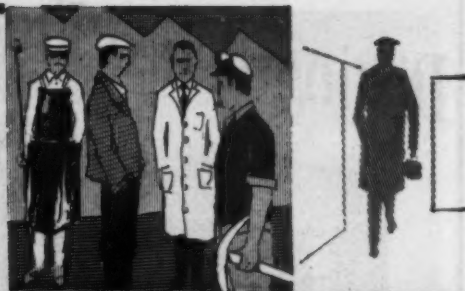


**Peter Cox
& Partners Ltd**

33 North Row, London W1
Mayfair 1306, 5076

Stone restoration
contractors

Send them home . . .



Industrial workers nowadays expect to return home clean. In many trades the law makes the provision of adequate drying and storage lockers compulsory. We have years of experience in the production of several different types of Plenum, Steam and Electrically heated lockers.

Our Technical Representative would be happy to call to discuss them with you. Illustrated leaflets and information sheets are available.



SPEEDWELL

GEAR CASE CO. LTD.

TAME ROAD, WITTON, BIRMINGHAM 6
Tel.: EAST 2261. GRAMS: SPEEDWELL, BIRMINGHAM

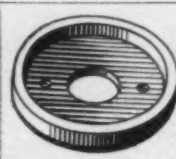


"TECO"
Double-Bevelled
Split Ring
To B.S. 1579

Essential Components for BETTER Timber Structures

AN ANNOUNCEMENT ABOUT

TIMBER CONNECTORS



"TECO"
Heavy-duty
Shear Plate
To B.S. 1579

"TECO" — "BULLDOG" — "TRIP-L-GRIP"

These three brands have become so well known over a period of years that they are in danger of being considered generic terms for types of timber connectors. It is necessary to make clear that these names are, in fact,

REGISTERED TRADE MARKS

applicable only to:—

"TECO" 2½in. dia. and 4in. dia. DOUBLE BEVELLED SPLIT-RINGS.

"TECO" 2½in. dia. and 4in. dia. heavy duty pressed and malleable SHEAR PLATES.

"BULLDOG" toothed-plate connectors (five sizes).

"TRIP-L-GRIP" FRAMING ANCHORS—for stronger nailed joints.

To specify and use these branded timber connectors is your assurance that they are manufactured to B.S.1579, where applicable.

DESIGN & GENERAL DATA AVAILABLE FROM

MACANDREWS & FORBES
LIMITED

2 CAXTON STREET · LONDON · S.W.1
TEL: ABBEY 4451-3

When ordering specify, and insist that you get—"TECO", "BULLDOG" and "TRIP-L-GRIP" brands.



"BULLDOG"
Circular
Toothed Plate
To B.S. 1579



"TRIP-L-GRIP"
Framing Anchors

basic

For architects planners builders borough engineers

'The spaces between buildings are as important as the buildings themselves. The importance of detail . . . everything is worth taking trouble with.'

Sir Hugh Casson in the Observer

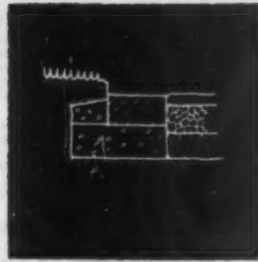
An invaluable handbook will shortly be published by the Architectural Press. It covers, among many other subjects

Paving materials, Trim, Surface drainage, Walls, Fences, Gates, Parking, Bicycle stands, Steps and ramps

It is aesthetic but entirely practical, fully illustrated, thoroughly indexed, and gives ample additional references.

Price 42s. It is called

Design and detail of the space between buildings by Elisabeth Beazley



The Mettexture Process

Floor Repairs Without Fuss



full particulars from

THE METROPOLITAN CONSTRUCTION CO. LTD.
BOW BELLS HOUSE, BREAD ST. (CHEAPSIDE) LONDON E.C.4

PATENTED MECHANICAL METHOD OF PRODUCING A FINE TEXTURED ROUGHENED SURFACE IDEAL FOR RECEIVING VARIOUS TYPES OF FLOOR TOPPING.

- ★ Provides permanent bonding.
- ★ Suitable for large or small areas.
- ★ Reduces existing levels, if required with up to 1/4 inch precision.
- ★ Minimum disturbance of traffic.
- ★ Skilled operators and all equipment provided.



Down in ye forest...

something WAS stirring. For Alf, yclept Leadbeater, had a noble gymnicke to put Robin and his merry men one jumpe ahead of ye Sheriff. "But be sure you bash 'em with ye joint," quoth Alf, "for a Securex joint is ye strongest part of ye system . . ." and ye staffs of many twentieth century concerns think lykewyse.

Be it known that ye full particulars of SECUREX are available to ye lieges of all manors on request by post, phone or bov:shot.

SECUREX
SOLDERLESS COMPRESSION JOINTS

JAMES H. LAMONT & CO. LTD.

ENGINEERS — BRASSFOUNDERS

GYLEMUIR WORKS, CORSTORPHINE, EDINBURGH, 12, SCOTLAND

Telephone: Corstorphine 2241-2-3

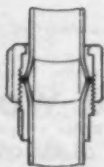
Telegrams: "Solderless, Edinburgh"

London Office:

NORFOLK HOUSE, LAURENCE POUNDNEY HILL, E.C.4

Telephone: Mansion House 5700

Telegrams: "Yutaka Cannon, London"





'DIG THIS

However staccato the stiletto Bulgomme - Silence rubber floors can come to (musical) terms with every flooring problem and only reach their finale after many years' hard traffic. How else to describe them? Endurance fortissimo — pianissimo acoustically — no glissando — cut down vibrato — colourful as Scherezade and as long-lasting as Greensleeves (well, nearly). Undoubtedly the pick of the pops for hard duty flooring for hospitals, offices, schools, show-rooms, etc.

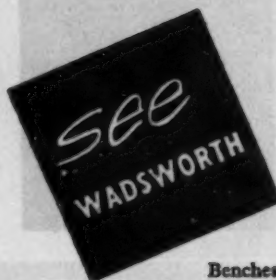
The photograph below, which is reproduced by courtesy of W. H. Smith & Son Ltd., shows the new Record department at their Ealing branch. Bulgomme-Silence flooring has also been used in their Finchley, Bradford and Bournemouth branches.



BULGOMME-SILENCE

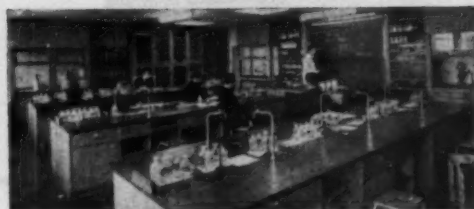
Send for full particulars to **BERNARD J. ARNULL,**
U.K. Commercial Manager,

11, Mount Park Crea, Ealing, London, W.5. Tel: PERivale 6550.



for LABORATORY furniture

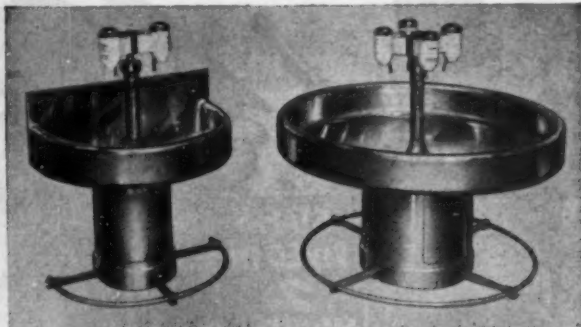
Wall Benches, Island Benches, Demonstration Benches, Fume Cupboards, Apparatus Cupboards, Stock Cupboards, Domestic Science Tables and Work Benches, Library Shelving and Tables.



Workshop Benches and Fittings, Pedestal Desks, Display cases, etc.

JAMES WADSWORTH & SONS LTD

WAKEFIELD ROAD, BRIGHOUSE, Yorks. Phone: Brighouse 1686



STAINLESS STEEL Ablutions Fountains

HAND OR FOOT OPERATED
(FOOT OPERATED MODELS ILLUSTRATED)

Round or Semi-circular to suit 3 to 8 persons

MODERATE COST

BEAUTIFUL FINISH

We can also supply sinks and sink units from a wide range of standard designs or built to your requirements.

ASSOCIATED METAL WORKS (GLASGOW) LIMITED

30, ST. ANDREWS SQUARE, GLASGOW, C.I.

Telephone: BELL 2004 (3 lines) Telegrams: "STAINLESS," GLASGOW

LONDON 7, Grosvenor Gardens, S.W.1. Telephone: VICTORIA 1977/8
and at Edinburgh, Liverpool, Birmingham, Manchester, Newcastle, Belfast and Dublin

CLASSIFIED ADVERTISEMENTS

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

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

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

Public and Official Announcements

36s. per inch; each additional line 3s.

CITY OF CAMBRIDGE
ASSISTANT ARCHITECTS

A number of posts exist in the Architects' Section for which keen and competent assistants are required.

Assistants are given full responsibility for their own jobs, including site supervision, and the posts offer excellent opportunities to obtain and/or widen all round experience in design, construction and contract administration.

(a) ONE SENIOR ASSISTANT ARCHITECT (Housing).

A.P.T. Grade IV (£1,140-£1,310 p.a.). To take charge of drawing office work in connection with the housing programme.

Experience of multi-storey structures would be an advantage.

Placing on scale according to qualifications etc. which should be at least A.R.I.B.A. and five years' office experience.

Casual users car allowance payable for official duties.

(b) THREE ASSISTANT ARCHITECTS (Schools and General).

A.P.T. Grade III (£960-£1,140 p.a.).

Applicants should have had good general experience and be at Final R.I.B.A. stage.

Placing on scale as appropriate.

Housing accommodation will be available in approved cases.

Application forms may be obtained from the City Surveyor, The Guildhall, Cambridge, and should be returned not later than Friday, 16th December, 1960.

ALAN H. I. SWIFT
Town Clerk.

The Guildhall, Cambridge. 4406

BOROUGH OF BASINGSTOKE

BOROUGH ARCHITECT'S DEPARTMENT. Applications are invited from Associates, R.I.B.A., for the post of SENIOR ASSISTANT in the Architect's Department of a town which is growing rapidly.

The work is varied and interesting, but applicants must have gained considerable housing knowledge. Experience with tall flats an advantage. Salary within range £1,140-£1,310 according to experience, N.J.C. conditions. Post pensionable. Medical examination. Casual user car allowance. Housing available in due course. Assistance with removal expenses. Five-day week.

Details of qualifications, training, experience, etc. and names and addresses of two referees to be sent to the Borough Architect, Eric Almond, Dipl. Arch., A.R.I.B.A., Municipal Buildings, Basingstoke, Hants, by 16th December, 1960.

L. WOMERSLEY,
Town Clerk. 4416

BOROUGH OF EALING

ARCHITECTURAL ASSISTANT within Scale A.P.T. IV according to experience (£1,185-£1,385 inclusive). Must have recognized architectural qualifications.

JUNIOR ARCHITECTURAL ASSISTANT. A.P.T. I (£645-£815) plus London weighting.

DRAUGHTSMAN for Civil Engineering work. Miscellaneous Grade V, £725-£900 inclusive.

Full particulars and forms of application obtainable from Borough Engineer, Town Hall, Ealing, W.5.

E. J. COPE BROWN,
Town Clerk. 4336

COUNTY BOROUGH OF SOUTHAMPTON

Applications are invited for the appointment of ASSISTANT ARCHITECT, Grade A.P.T. III/IV (£960/£1,310), for duties in connection with housing estate development. Applicants must have passed Parts I and II of the R.I.B.A. Final Examination. Commencing salary according to experience and qualifications. The appointment is subject to the N.J.C. conditions of service, with housing accommodation available in approved cases, and approved removal expenses reimbursable up to a maximum of £50.

Apply on forms obtainable from the Borough Engineer and Surveyor, Civic Centre, Southampton, returnable by Monday, 12th December, 1960. 4391

DEPARTMENT OF MUNICIPAL AFFAIRS
AND SUPPLY
PROVINCE OF NEWFOUNDLAND, CANADA

Appointment of:

(a) ASSISTANT DIRECTOR.

(b) SENIOR PLANNING ASSISTANT.

Applications are invited from suitably qualified and experienced persons for the above appointments in the Provincial Planning Division of the Department of Municipal Affairs and Supply in St. John's. The appointments will be contractual for a period of two years and subject to satisfactory service will be established at the end of that time. Salaries will be within the salary scales:

(a) \$6,150 x \$100-\$6,500.

(b) \$5,390 x \$100-\$5,530.

Duties will include the preparation of Municipal and Regional Plans including detailed designs for communities and districts throughout the Province, and the control of development in accordance with various Provincial Regulations.

The office is situated in St. John's but some travelling within the Province will be required. Candidates must have appropriate professional qualifications in Town Planning together with considerable practical post graduate experience. Experience in public relations and ability to address meetings of different types is very necessary.

Conditions of service, full details of which are available on request, provide free passage of applicant and family to St. John's.

Applications, giving full details of candidate's age, education, professional qualifications, appointments held, professional experience, together with the names of two referees, should be sent to J. T. Allston, Director of Urban and Rural Planning, Department of Municipal Affairs and Supply, Confederation Building, St. John's, Newfoundland.

C. W. POWELL,
Deputy Minister of Municipal Affairs. 4332

CARMARTHENSHIRE COUNTY COUNCIL
COUNTY PLANNING DEPARTMENT

PLANNING ASSISTANT-A.P.T. III (Dev. Control Section).

PLANNING ASSISTANT-A.P.T. III (Dev. Plan & Gen. Section).

JUNIOR ASSISTANT-A.P.T. I/II.

Salary placings according to qualifications and/or experience in planning or closely allied profession.

Appointments superannuable, subject to medical examination and N.J.C. conditions.

Applications, giving full details of education, training, qualifications and experience, with names and addresses of two referees, to be sent to undersigned by 7th December, 1960.

W. S. THOMAS,
Clerk of the County Council.

County Hall, Carmarthen. 4364

NORTH RIDING OF YORKSHIRE
COUNTY COUNCIL

Applications are invited for the appointment of ASSISTANT COUNTY ARCHITECT. Salary Scale C/D, from candidates of initiative with a flair for design and wide practical experience and also preferring to live in the country rather than exist in urban surroundings.

Conditions of service and application form from R. Allport Williams, M.B.E., B.Arch., F.R.I.B.A., County Hall, Northallerton, and applications to E. A. Witherspoon, Clerk of the County Council, at the same address before 13th December. 4329

URBAN DISTRICT COUNCIL OF CORBY

JUNIOR ARCHITECTURAL ASSISTANT

GRADE A.P.T. I OR II

Applications are invited for the above appointment in the Architectural Section of the Engineer and Surveyor's Department.

Applicants must have passed the R.I.B.A. Intermediate Examination or its equivalent at one of the recognised schools of architecture and the salary applicable to candidates of not less than one year's subsequent experience in an architectural office will be in accordance with Grade A.P.T. Grade II (£815-£960 p.a.). The salary, otherwise, will be in accordance with Grade A.P.T. I (£645-£815 p.a.).

The provisions of the Local Government Superannuation Acts, 1937/53, will apply to this appointment.

Housing accommodation will be made available to the successful candidate if married.

Forms of application may be obtained from the undersigned, to whom they should be returned not later than the first post on Saturday, 3rd December, 1960. Testimonials will be required only from applicants selected for interview.

G. B. BLACKALL,
Clerk of the Council.

Council Offices, Corby.

Northants. 14th November, 1960. 4343

BOROUGH OF EALING

EXTERNAL PAINTING

WALFORD SECONDARY SCHOOL

BENGARTH ROAD, NORTHOLT

Tenders are invited for the above-mentioned work.

Specification and Tender Form from Borough Engineer, Town Hall, Ealing, W.5. Closing date 22nd December, 1960.

E. J. COPE-BROWN,
Town Clerk. 4548

BOROUGH OF ILFORD
BOROUGH ENGINEER'S DEPARTMENT
APPOINTMENT OF ARCHITECTURAL
DRAUGHTSMAN

GRADE MISG. IV (Male or Female)

Applications are invited for this appointment. Salary £525-£585 (plus London Weighting depending on age and amounting to £60 p.a. if 25 or over). Commencing salary according to qualifications and experience. Maximum paid to suitable applicant. Five day week. Candidates should be competent draughtsmen and be capable of preparing working drawings under supervision. Appointment permanent, superannuable and subject to medical examination.

Form of application obtainable from Borough Engineer, Town Hall, Ilford. Closing date Friday, 9th December, 1960. 4404

ISLE OF WIGHT COUNTY COUNCIL

COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of SENIOR ASSISTANT ARCHITECT. Salary on

Grade V A.P.T. (£3,310-£3,460 per annum).

Candidates should be Associates of the Royal Institute of British Architects and have had considerable experience of the planning, design and construction of educational buildings and other architectural work undertaken by a Local Authority.

Forms of application obtainable from Clerk of the County Council, County Hall, Newport, I.W. Closing date 16th December, 1960. 4386

CITY OF PETERBOROUGH

Applications are invited from qualified Architects with Local Government experience for the appointment of a SENIOR ARCHITECTURAL ASSISTANT in Grade IV, A.P.T.

Housing accommodation, if desired, will be provided.

Forms of application from the City Engineer, Town Hall, Peterborough. Closing date for applications 9th December, 1960.

C. PETER CLARKE,
Town Clerk. 4379

LONDON COUNTY COUNCIL

ARCHITECTS' DEPARTMENT

ARCHITECTS AND BUILDING SURVEYORS

required for modernisation of older type Council

halls (jobs up to £20,000) and the rehabilitation

of dwellings acquired by the Council or for

improvements, alterations and extensions to

Council buildings (jobs up to £20,000).

Applicants should have experience of this type

of work and ability to act on their own judgment.

Every opportunity to carry jobs through

from beginning to end. Salaries up to £3,350.

Application form and particulars from Hubert

Bennett, F.R.I.B.A., Architect to the Council

(EK/AJ/297/12), County Hall, S.E.1. 4318

BOROUGH OF WREXHAM

ENGINEER & SURVEYOR'S DEPARTMENT

Applications are invited for the following

appointment:-

ASSISTANT ARCHITECT-Salary in the range

of A.P.T. Grade III (£960-£1,140 per

annum).

Candidates should have passed the Parts I and

2 of the R.I.B.A. examinations or equivalent.

Casual car allowance will be paid on the

instructions of the Borough Surveyor, and the

Council will consider the payment of removal

expenses.

Housing accommodation is available if required.

Form of application and particulars of duties

and works in hand are obtainable from the

Borough Surveyor, 31, Chester Street, Wrexham.

Applications to be returned to the undersigned

by not later than 12 noon on 10th December,

1960.

PHILIP J. WALTERS,
Town Clerk.

Guildhall, Wrexham. 4392

BOROUGH OF ENFIELD

BOROUGH ENGINEER & SURVEYOR'S

DEPARTMENT

Non-County Borough in the County of Middlesex.

Population 109,700. Area 12,400 acres.

Applications are invited, from suitably qualified persons, for the following permanent

appointments:-

1. ASSISTANT ARCHITECT-A.P.T. IV-

£1,140-£1,310 plus London weighting.

2. ARCHITECTURAL ASSISTANTS (TWO)

-A.P.T. III-£960-£1,140 plus London

weighting.

The commencing salary will be fixed at points

within the scale commensurate with qualifications and experience.

There is a large varied programme of work,

including the redevelopment of Clearance Areas

and other areas scheduled for Comprehensive

Development.

Housing accommodation may be made available

in appropriate cases. The Council is also prepared

to consider 100 per cent. advances to successful

applicants for house purchase within the Borough.

Saturday mornings are normally free from duty.

Application forms, obtainable from H. D. Peake, M.Sc. (Eng.), M.I.C.E., Borough Engineer

and Surveyor, 7, Little Park Gardens, Enfield, Middlesex, must be delivered to the undersigned

as soon as possible.

CYRIL H. C. E. PLATTEN,
Town Clerk.

Public Offices, Gentlemen's Row, Enfield, Middx. 4348

NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD

Hospital Building Programme

Appointment of Surveying Staff

For many years the hospital building programme has been impeded by lack of finance. The position has now changed and the capital programme in this region, which extends for about 50 miles north and west of London, has been greatly expanded. The programme already includes complete new hospitals and there are likely to be more in the years to come.

The Board's Architect's Department under the Regional Architect, F. A. C. Maunders, R.S., Dip.Arch, F.R.I.B.A., A.M.T.P.I., has been re-organised to meet the expanding programme and it is now necessary to augment the complementary surveying staff of the Department.

Quantity Surveyors are required mainly to undertake work in connection with cost research and cost planning of projects up to £2 million in value and to prepare the sub-contract bills of quantities required for specialist works included in the major schemes. Preparation of bills for main contract purposes will not normally be undertaken within the Department, but there will be opportunities for the production of quantities for tenders in specific cases where a particular aspect of building cost is under investigation, also for certain minor works of a general character.

Building Surveyors are required mainly for surveys of the sites of existing hospitals which are due for redevelopment, also for minor alterations and minor building work of an industrial character associated with a programme of plant replacement which is being undertaken by the Board's Engineering Department.

All posts are permanent and pensionable. The Board has modern offices and a five-day week is normally worked. Conditions of service are determined by a Whitley Council for professional and technical staff.

The Board operates a scheme of financial assistance to students preparing for professional examinations.

Applications are invited for the following appointments:

Senior Assistant Quantity Surveyor (Ref. 866) to specialise in estimating for all types of work including cost control of major works. Applicants must be corporate members of the R.I.C.S. (Quantities Sub-Division) with wide general experience in the profession and a sound knowledge of the economics of modern building techniques.

Assistant Quantity Surveyor (Ref. 867). Post (a) to be thoroughly experienced in taking off, abstracting and billing of quantities, measurement of work in progress and settlement of final accounts and to have a keen interest in cost control.

Post (b) to prepare bills of quantities and specifications for the specialist work involved in major contracts.

Assistant Surveying Assistant (Ref. 868) for working up bills of quantities and final accounts, measuring on site and taking off for small works. Preference will be given to those prepared to take an interest in cost control.

Assistant Building Surveyor (Ref. 869) to undertake extensive surveys of sites of existing hospitals for future development and to be capable of preparing working drawings and specifications for minor alteration works and minor industrial type buildings.

Building Surveying Assistant (Ref. 870) for assisting in surveys of hospital sites and preparation of working drawings and specifications under supervision for works of a minor character.

Applicants for posts of Assistant Quantity Surveyor and Assistant Building Surveyor must be corporate members of the R.I.C.S. Applicants for Surveying Assistant posts should have passed the Intermediate Examination of the R.I.C.S.

Salary scales:

Senior Assistant Quantity Surveyor: £1,350-£1,650.

Asst. Quantity and Asst. Building Surveyors: £945-£1,360

Surveying Assistants: £645-£940.

Apply, stating age, qualifications (with dates) and experience, with names of two referees, to Secretary, North West Metropolitan Regional Hospital Board, 40, Eastbourne Terrace, W.C.2, quoting appropriate reference number by 14th December.

Applied Lettering



Variety of alphabets and materials for internal or external use, Illuminated Letters and Box Signs. Send for lettering sheets and brochures.

WARD & CO. (Letters) LTD.,

6-12 WILDER ST., BRISTOL 2 TEL. 21536

EETO

CYLINDER JACKETS

THE ORIGINAL, used
and recommended by
almost every Municipal
Authority in the Kingdom.
Often copied
— NEVER equalled.

EETO INSULATIONS

RIVER STREET · BOLTON · LANCs

LAMP LIFE TREBLED

OVER QUARTER OF
A MILLION IN USE
HOME & OVERSEAS

One of many testimonials received.
H. Lees and Sons Ltd., Park Bridge, Ashton-U-Lyne.
Dear Sir,
Your patent shock absorber, fitted in 1944, has well proved its great saving over the last 16 years, and is still giving every satisfaction. We have no hesitation in saying that it has saved us many pounds.
Geo. H. Short, Director.

PROTECTAFIL[®] ANTI VIBRATOR SHOCK ABSORBERS

WILL FIT ALL LIGHTING POINTS
DISPERSIVE OR FLUORESCENT.
SAVES THE FILAMENT—REDUCES
MAINTENANCE COSTS.

Write today for full particulars illustrated catalogue to Dept. A.

J.E. WILDBORE LTD. PETER ST. OLDHAM · MAI. 4475

★

• AJ •

• readers •

• are invited •

• to send now for •

• a free copy of our •

• illustrated catalogue •

• of books: full descriptions •

• of all our current publications •

**PRESENT
BOOKS
THIS
XMAS**

THE ARCHITECTURAL PRESS 8 QUEEN ANNE'S GATE SW1

CUMBERLAND COUNTY COUNCIL
Applications are invited for the appointment of **SENIOR ASSISTANT QUANTITY SURVEYOR** in the County Architect's Department. Salary within A.P.T. Grade IV (£1,140-£1,310). N.J.C. Service Conditions. Post pensionable. Subject to medical examination. Essential User Grade D travelling allowance.

Applicants must be A.R.I.C.S. (Quantity), or equivalent qualification, preferably with experience on new school buildings.

Applications, on forms obtainable from H. R. Clark, L.R.I.B.A., Acting County Architect, 15, Portland Square, Carlisle, to be returned to him not later than Monday, 19th December, 1960.

G. N. C. SWIFT,
Clerk of the County Council. 4389

NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD

SENIOR ASSISTANT ARCHITECT required. Applicants must be registered Architects and have had considerable experience in design and construction, preferably in hospitals and associated buildings. The Board are engaged on a number of new building projects including large hospital schemes.

Salary scale £1,300 x £60 (5)—£1,500 plus £50 London weighting.

Apply, giving age, qualifications and experience with names of two referees, to Secretary, North West Metropolitan Regional Hospital Board, 40 Eastbourne Terrace, W.2, by 12th December quoting reference 875. 4434

ROYAL BURGH OF DUMFRIES

DEPUTY BURGH ARCHITECT

Applications are invited from qualified Architects, preferably with experience in Redevelopment Work.

The appointment, within the salary scale £1,140-£1,220 (i.e., £100 in excess of Admin. Grade D of the N.J.I.C. Scheme) will be subject to the Town Council's Superannuation Scheme and N.J.I.C. Conditions of Service, and the successful applicant will require to pass a medical examination.

If required, the tenancy of a Council house will be given to the successful applicant.

Applications, stating age, qualifications and experience, together with copies of three recent testimonials, or the names of three referees, should be lodged with the undersigned not later than 16th December, 1960.

GEORGE D. GRANT,
Town Clerk. 4561

Municipal Chambers,
Dumfries.
23rd November, 1960.

STAFFORDSHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited from suitably qualified candidates for the following posts:—

ASSISTANT ARCHITECTS
Grade A.P.T. IV (£1,140-£1,310).
Grade A.P.T. III (£960-£1,140).

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

ARCHITECTURAL ASSISTANTS
Grade A.P.T. II (£815-£960).

Applicants must hold Intermediate R.I.B.A.

The Architect's Department is a busy and expanding office, offering valuable experience within groups working on a wide variety of projects, including Colleges, Schools, Libraries, Hostels, Fire Stations, Police Stations, Offices, Ambulance Stations, Clinics, Training Centres, etc.

Pleasant offices in County Town and good working conditions.

The appointments will be subject to:—

(a) The National Scheme of Conditions of Service.

(b) The Local Government Superannuation Act and the passing of a medical examination.

The County Council are prepared to grant a lodging allowance of 35s. per week to married applicants maintaining a home outside the geographical County for a period of six months, also second-class rail travel home every second month during the initial six months. The Council are also prepared to give consideration to the granting of financial assistance in appropriate cases towards removal expenses.

The Council has a scheme for loans to employees wishing to purchase their own houses.

Forms of application, which must be returned by the 7th December, 1960, may be obtained from P. Woodcock, F.R.I.B.A., County Architect, Green Hall, Lichfield Road, Stafford.

T. H. EVANS,
Clerk of the County Council. 4447

LANCASHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

SENIOR ASSISTANT ARCHITECTS, N.J.C. Scale "B", £1,505 p.a. plus £65 (1)/£50 (2) to £1,570 p.a. (starting salary according to experience).

Applications are invited from experienced Registered Architects, required on the permanent staff of the County Architect, to deal with a wide variety of major projects, including large Technical Colleges, Magistrates Courts, Police Training Schools, etc.

Application forms and details of appointment obtainable from the County Architect, P.O. Box 26, County Hall, Preston, returnable by 16th December, 1960. 4576

EASTERN REGIONAL HOSPITAL BOARD
SCOTLAND

Applications are invited for the following posts:—

(a) ASSISTANT ARCHITECT, £905-£1,310.

(b) ARCHITECTURAL ASSISTANT, £665-£900.

Applicants for post (a) must be Registered Architects by examination, preferably having some experience of the design and construction of modern public buildings.

Applicants for post (b) must be of R.I.B.A. Intermediate standard with some practical experience.

Starting salaries according to age and experience.

Applications stating age, training, qualifications, past and present appointments, experience and the names and addresses of three referees should be sent to The Secretary, Eastern Regional Hospital Board, Vernonholme, Riverside Drive, Dundee, not later than 10th December, 1960. 4437

ARCHITECTURAL ASSISTANT

Required by NYASALAND GOVERNMENT PUBLIC WORKS DEPARTMENT on contract for one tour of 24-36 months in first instance. Commencing salary according to age and experience in scale £985 rising to £1,540 a year. Gratuity at rate of 10 per cent. of total salary drawn. Outfit allowance £30. Free passages. Liberal leave on full salary.

Candidates, 25-35, should have passed Intermediate R.I.B.A., have had at least five years' experience in Architect's Office, have a good standard of draughtsmanship and possess a sound knowledge of building construction, and be capable of carrying out site surveys including topographical work.

Apply to Crown Agents, 4 Millbank, London, S.W.1, for application form and further particulars, stating age, name, brief details of qualifications and experience and quoting reference M2B/51065/AG. 4564

LANCASHIRE COUNTY COUNCIL

PLANNING ASSISTANTS required at Preston.

Salary A.P.T. Grade III (£960-£1,140) or A.P.T. Grade IV (£1,140-£1,310) according to qualifications and experience.

Applicants should possess a recognised qualification in planning, architecture, surveying or engineering or a degree in geography, economics or other social subjects.

Applications giving age, qualifications, present appointment, experience, etc., and two referees, to the County Planning Officer, East Cliff County Offices, Preston, by the 13th December, 1960. 4514

ARCHITECTS ASSISTANT ARCHITECTS

A leading firm of London Consulting Engineers have vacancies in their Architect's Department (Chief Architect: Mr. K. A Brundle, F.R.I.B.A., A.A. Dipl.) for work in a wide and interesting field of Industrial Projects. These are permanent and pensionable positions; five-day week, luncheon vouchers.

Applications, stating qualifications, experience and present salary should be sent in confidence, to the

Personnel Manager,
W. S. Atkins & Partners,
158 Victoria Street, London, S.W.1

Save Time, Labour and Money!

FIT THE **NEW TRUFLUSH UNDERCOATED DOOR**

*No Sealing, Filling or Priming necessary!



The popular Truflush Door is **NOW UNDERCOATED.**

SAVE TIME, LABOUR AND MONEY!

- ★ Precision construction containing over 1,000 cells. Honeycomb interior eliminates "core-shadow".
- ★ Panels secured by 400 feet of waterproof resin glue line.
- ★ Hardboard or plywood facings.
- ★ Kiln-dried timber throughout with knot-free lipping.
- ★ A mortice block centrally placed can be supplied if required.

The Truflush Door has a wonderful marble-smooth and hard white surface. This mechanically applied super finish permits the final decoration to be far more easily, speedily and economically completed. Bailey and Whites Limited employ the most modern technique and plant to apply the Undercoat. The curtain coating machine provides a precise and even coverage—the speed and accuracy, coupled with the elimination of waste obtained by the adoption of the methods developed by the Company enable them to offer the Truflush Undercoated Door at a price which represents the most substantial saving on any other method of undercoating doors. Thus, Truflush Undercoated Doors will be delivered to you already protected and requiring only their final decoration. Architects, Builders and Contractors will find the new Truflush UNDERCOATED Door a real boon—next time your best plan is to fit Truflush—the door that is designed constructed and finished to give years of lasting service.

Manufactured solely by

BAILEY and WHITES Ltd.

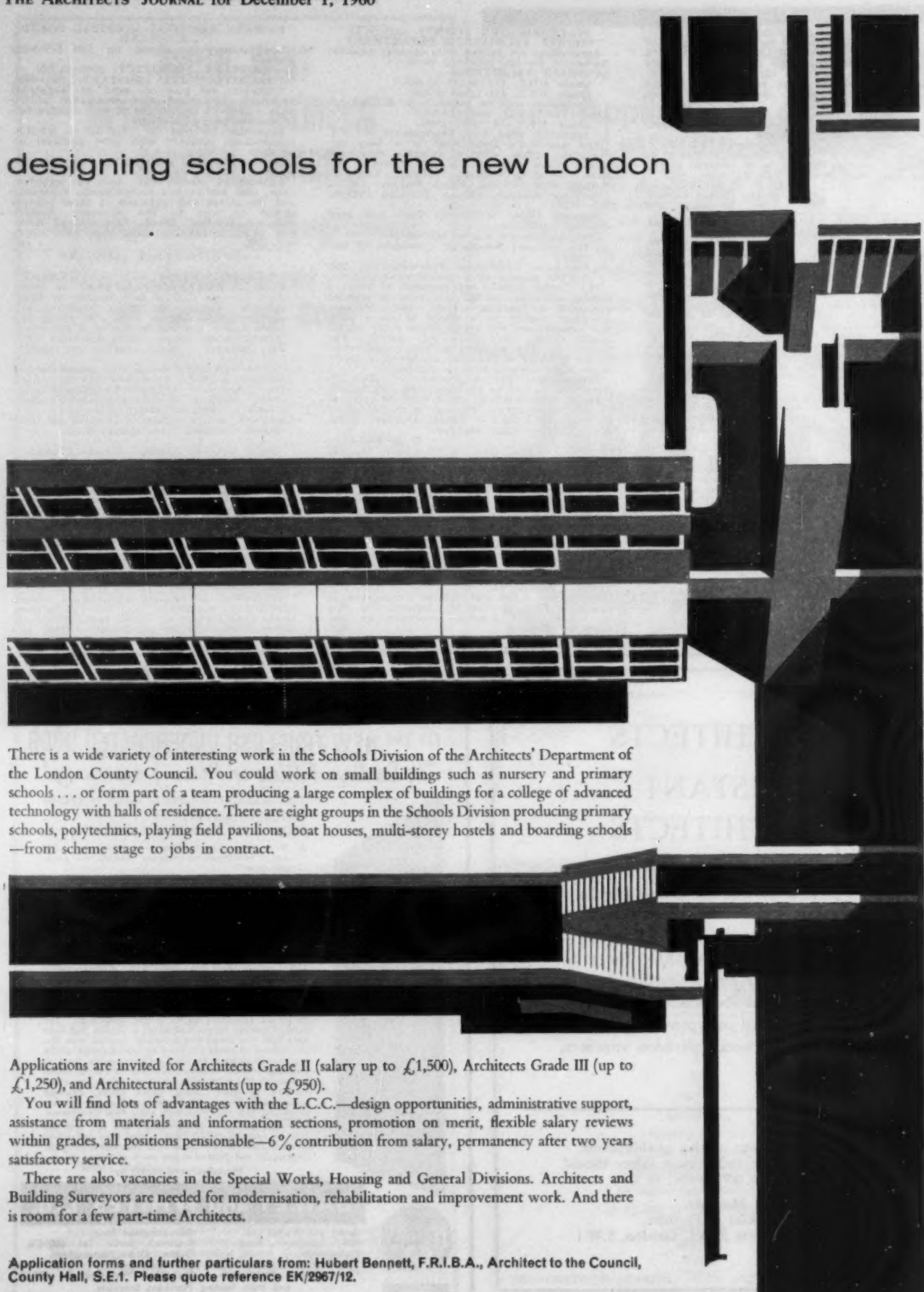
Bailey and Whites Ltd.
453-7, Commercial Road,
Portsmouth.
Tel.: 24461.
Grams: Baileys, Portsmouth.

Eastchamptoad Road,
Bracknell, Berks. Tel.: 680/476.
Queen's Drive, Nottingham.
Tel.: 82138.
Diglis Dock, Worcester. Tel.: 27277

and from leading Merchant Stockists.



designing schools for the new London



There is a wide variety of interesting work in the Schools Division of the Architects' Department of the London County Council. You could work on small buildings such as nursery and primary schools... or form part of a team producing a large complex of buildings for a college of advanced technology with halls of residence. There are eight groups in the Schools Division producing primary schools, polytechnics, playing field pavilions, boat houses, multi-storey hostels and boarding schools—from scheme stage to jobs in contract.

Applications are invited for Architects Grade II (salary up to £1,500), Architects Grade III (up to £1,250), and Architectural Assistants (up to £950).

You will find lots of advantages with the L.C.C.—design opportunities, administrative support, assistance from materials and information sections, promotion on merit, flexible salary reviews within grades, all positions pensionable—6% contribution from salary, permanency after two years satisfactory service.

There are also vacancies in the Special Works, Housing and General Divisions. Architects and Building Surveyors are needed for modernisation, rehabilitation and improvement work. And there is room for a few part-time Architects.

Application forms and further particulars from: Hubert Bennett, F.R.I.B.A., Architect to the Council, County Hall, S.E.1. Please quote reference EK/2967/12.

LANCASHIRE COUNTY COUNCIL
ARCHITECTURAL ASSISTANT required at Preston, A.P.T. Grade V, salary £1,510-£1,490.
 Applicants must be qualified architects. Duties include the design of housing layouts and central area redevelopment schemes, and the preparation of working drawings for houses, flats and shops.
 Applications giving age, qualifications, present appointment, experience, etc., and two referees, to the County Planning Officer, East Cliff County Offices, Preston, by the 13th December, 1960. 4513

COVENTRY
 Architects of outstanding design ability required for:
 (a) Reconstruction of City Centre.
 (b) Extensive School Building Programme.
 Experience of C.L.A.S.P. Construction will be an advantage.
 Salary: £1,470-£1,670 p.a.
 Apply City Architect, Council House, Coventry, for application form, returnable by 12th December. 4422

COVENTRY
 £1,470-£1,670 p.a. offered for ARCHITECTS of outstanding design ability required for (a) construction of City Centre and (b) Extensive Schools Building Programme.
 Apply to City Architect, Council House, Coventry, for application form returnable by 12th December. 4421

CITY OF SHEFFIELD
CITY ENGINEER & SURVEYOR'S DEPARTMENT
 Applications are invited for the following appointments on the staff of the City Engineer & Surveyor & Town Planning Officer:
 (a) CHIEF PLANNING ASSISTANT, Grade C (£1,560-£1,825 p.a.).
 (b) AREA PLANNING OFFICER, Grade B (£1,480-£1,670 p.a.).
 (c) SENIOR PLANNING ASSISTANT, Grade A.P.T. V (£1,510-£1,490 p.a.).
 Candidates for these posts will be required to be members of the Town Planning Institute and an additional qualification will be an advantage. Commencing salary in each case will be in accordance with experience and qualifications.
 Consideration will be given if required to assistance with housing accommodation and removal expenses in suitable cases.
 Superannuable posts, N.J.C. Conditions of Service, Medical Examination.
 Applications, stating age, education and training, qualifications, experience, present and past appointments (with dates and salaries) and quoting the names of two referees should be submitted to the undersigned by the 12th December, 1960.

JOHN HEYS,
 Town Clerk.
 Town Hall, Sheffield 1. 4441

STAFFORDSHIRE COUNTY COUNCIL
COUNTY PLANNING AND DEVELOPMENT DEPARTMENT

Applications are invited for the appointment in the Northern Area Planning Office at Newcastle-under-Lyme of a Deputy Area Planning Officer on A.P.T. Grade V (£1,510-£1,490 per annum).
 Applicants must be corporate members of the Town Planning Institute and in addition a recognised qualification in architecture, engineering or surveying will be an advantage.
 The person appointed will be required to act as Deputy to the Area Planning Officer, who is responsible for the control of development in the area and for assistance in the preparation of development and redevelopment schemes.
 The Council are prepared to grant lodging allowances of 35s. per week for a period of six months and second class railway travel home every two months during the initial six months to married applicants maintaining a home outside the geographical County. Consideration will also be given to the granting of financial assistance in appropriate cases towards removal expenses.
 Applications, giving details of age, education, qualifications, present and previous appointments, experience, and the names of two persons to whom reference may be made, should be sent to D. W. Riley, County Planning and Development Officer, 41a Eastgate Street, Stafford, not later than 8th December, 1960.
 Relationship to any member or senior officer of the County Council must be disclosed. Canvassing will disqualify.

T. H. EVANS,
 Clerk of the County Council.
 4556

PETERLEE DEVELOPMENT CORPORATION
Chapel Hill IV-Housing Scheme

Fixed price tenders are to be sought for the erection of 196 two-storey houses of three basic types together with 66 garages, paving, drainage and certain site works.

Contractors wishing to be included on the selected list of tenderers are invited to submit their names to: The General Manager, Peterlee Development Corporation, Shotton Hall, Peterlee, Co. Durham, not later than 1st December, 1960.

The R.I.B.A. Form of Contract specially adapted for the use of Local Authorities will be used. The Corporation reserve the right to select the Contractors to whom Tender Documents will be sent.

Schedules and Bills of Quantities relative to this Contract will be available on or before 1st January, 1961.

The Corporation has in prospect Contracts for further 670 houses during the first quarter of 1961.

URBAN DISTRICT COUNCIL OF CORBY
ARCHITECTURAL ASSISTANTS

Applications are invited for the undermentioned appointments in the Architectural Section of the Engineer and Surveyor's Department:-

(i) SENIOR ARCHITECTURAL ASSISTANT
 Applicants must be qualified Architects of not less than five years' experience (including the period of theoretical training). Salary within Grade A.P.T. III/IV (£960-£1,140-£1,310) according to experience.

(ii) JUNIOR ARCHITECTURAL ASSISTANT
 Salary Grade A.P.T. I (£845-£815) or A.P.T. II (£815-£960) according to qualifications and experience.

Corby is a rapidly expanding town and the Council's building programme is substantial and varied, with opportunities for good experience.

The provisions of the Local Government Superannuation Acts, 1937/53, will apply to this appointment.

Housing accommodation will be made available to the successful candidates, if married.

Forms of application may be obtained from the undersigned, to whom they should be returned not later than the first post on Friday, 16th December, 1960. Testimonials will be required only from applicants selected for interview.

G. B. BLACKALL,
 Clerk of the Council.

Council Offices,
 Corby,
 Northants.
 22nd November, 1960. 4555

METROPOLITAN POLICE
RECEIVER'S OFFICE

requires staff for interesting and varied work in connection with an extensive Police Building Programme.

LEADING DRAUGHTSMEN (New Works)
LEADING DRAUGHTSMEN (Sanitary Engineering)

Salary: £980 p.a. rising by annual increments to £1,145 p.a.

Qualifications required: Intermediate-R.I.B.A., Higher National Certificate (New Works), Higher National Certificate (Sanitary Engineering) or equivalent training.

BASIC GRADE DRAUGHTSMEN (New Works)
BASIC GRADE DRAUGHTSMEN (Sanitary Engineering)

Salary: £560 p.a. at age 21 rising by annual increments to £980 p.a. (maximum salary on entry £985 p.a. being age 33 point on scale.)

Qualifications required: Ordinary National Certificate or to be of Intermediate-R.I.B.A. standard (New Works), Ordinary National Certificate (Sanitary Engineering) or equivalent training.

Application forms can be obtained from Chief Clerk, Architect & Surveyor's Department, New Scotland Yard, S.W.1. 4598

BOROUGH OF HESTON AND ISLEWORTH
 Applications are invited for the undermentioned appointments in the Borough Engineer and Surveyor's Department:-

(a) SENIOR PLANNING ASSISTANT
 Salary in accordance with A.P.T. Grades II-III (£815-£1,140 plus London weighting).

(b) PLANNING ASSISTANT
 Salary in accordance with A.P.T. Grades I-II (£645-£960 plus London weighting).

Applicants should have passed the Intermediate examination of the Town Planning Institute or other equivalent and have had experience in a town planning department of a local authority.

Commencing salary to be in accordance with qualifications and experience.

The Council is unable to assist the successful candidates with housing accommodation.

Applications are to be submitted by 19th December, 1960, on forms to be obtained from and returned to the Borough Engineer and Surveyor, 88 Lampton Road, Hounslow.

D. MATHIESON,
 Town Clerk.
 Town Hall, Hounslow, Middlesex. 4596

REBUILDING OF ST. THOMAS'S HOSPITAL
ARCHITECTS

Salary Scale

A. Senior Assistant Architect
 £1,300 × 65 to £1,600 + £50 London Weighting.

B. Assistant Architect
 £905 × 35(1) × 45(6) × 50(2) to £1,318 + £40 - £50 London Weighting.

Opportunities occur for young, imaginative architects to assist in carrying out the design and construction of a complete new 300 bed teaching hospital. Working drawings for Stage 1 are now under way and planning studies for Stage 2 will be commencing shortly.

Applicants for A. should be qualified members of the R.I.B.A. with experience in preparing and supervising work on medium sized projects. For B. preference will be given to qualified architects who have recently completed a full-time course at a recognised School of Architecture.

Previous hospital experience is not essential. Applications should be returned to me within two weeks indicating post applied for and giving particulars of education, qualifications and experience, together with the names of two referees.

W. FOWLER HOWITT, A.R.I.B.A.,
 Architect to the Board of Governors.
 45 Lambeth Palace Road,
 London, S.E.1. 4595

BOROUGH OF WIDNES
ARCHITECT'S DEPARTMENT
APPOINTMENT OF JUNIOR ASSISTANT
 Grade Misc. IV (Male or Female)

Applications are invited for this appointment. Salary £525-£485. Commencing salary according to qualifications and experience. Candidates should be competent draughtsmen and be capable of preparing working drawings under supervision. Appointment superannuable and subject to medical examination. Five-day week.

Application, stating age, previous experience and any qualifications, together with names and addresses of two referees to the Borough Architect, Brendan Howe, Widnes Road, Widnes, by 22nd December, 1960.

FRANK HOWARTH,
 Town Clerk.

Town Hall,
 Widnes.
 November, 1960. 4580

LANCASHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT
ARCHITECTURAL ASSISTANTS (within salary range of £815-£1,140 p.a.).

Applications are invited from Architectural Assistants for appointments to the permanent staff of the County Architect's Department, which is engaged on a large and varied programme of major projects.

It is desirable that applicants should have attained at least Intermediate R.I.B.A. standard and, within this stage of qualification, to have a reasonably varied experience.

Application forms and details of appointment obtainable from the County Architect, P.O. Box 26, County Hall, Preston, and are returnable by 16th December, 1960. 4676

ASSISTANT TOWN AND COUNTRY
PLANNING OFFICER

GOVERNMENT OF BARBADOS

To assist the Town and Country Planning Officer in the preparation and administration of development plans.

Contract appointment (three years). Salary £1,500. Gratuity 20 per cent. of salary. Free passages. Unfurnished quarters at moderate rent.

Candidates must be A.M.T.P.I. preferably with an additional qualification.

Write Director of Recruitment, Colonial Office, London, S.W.1, giving full names, age, qualifications and experience, quoting BCD, 62/28/02/E2. 4566

LANCASHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT
ASSISTANT ARCHITECTS, A.P.T. V, £1,510-£1,490 p.a. (starting salary according to experience).

Applications are invited from qualified Architects of initiative, keen on design and modern constructional methods, to work on a large and varied programme.

Application forms and details of appointment obtainable from the County Architect, P.O. Box 26, County Hall, Preston, returnable by 16th December, 1960. 4677

BOROUGH OF WILLESDEN

Applications are invited for the following permanent appointment:-

ARCHITECTURAL ASSISTANT within Grade A.P.T. II (£815-£960 p.a.).

London weighting is payable in addition to the above salary.

Candidates should have passed the Intermediate Examination of the R.I.B.A.

A programme of interesting and varied work is expected to continue for many years and opportunities are offered to imaginative designers of any age with a contemporary and practical outlook.

The appointment will be superannuable and subject to the National Conditions of Service.

The Council is unable to assist with housing accommodation.

Forms of application and conditions of appointment may be obtained from the Borough Engineer and Surveyor, Town Hall, Dyne Road, Kilburn, N.W.6. Applications to be returned to the undersigned not later than 10 a.m. on Monday, 12th December, 1960.

R. S. FORSTER,
 Town Clerk.
 4567

BOROUGH OF SOUTHALL
APPOINTMENT OF ARCHITECTURAL ASSISTANT

Applications are invited for the above appointment on the Permanent Staff of the Corporation. Salary in accordance with A.P.T. Grade II (£815-£960) plus London weighting.

Candidates should have passed the Intermediate Examination of the Royal Institute of British Architects or an equivalent and have had practical experience of design and construction.

Favourable consideration will be given to the provision of housing accommodation, if required, on a private estate.

Applications, on forms to be obtained from the Borough Engineer and Surveyor, Town Hall, Southall, Middlesex, must be returned to him on or before Saturday, 17th December, 1960.

J. S. SYRETT,
 Town Clerk.
 4438

LONDON COUNTY COUNCIL
BRIXTON SCHOOL OF BUILDING
 Visiting LECTURERS required for day classes in surveying courses. Subjects covered include Building Construction, Quantities, Mathematics, Land Surveying, Bookkeeping, Economics and legal subjects. Fees from 47s. to 96s. 6d. per half-day session depending on stage of course. Applicants should be Corporate Member of E.I.C.S. or hold other appropriate graduate or professional qualifications. Applications to Secretary, (FE.3/A/2830/12), Brixton School of Building, Ferndale Road, S.W.4. 4574

METROPOLITAN BOROUGH OF GREENWICH
APPOINTMENT OF SENIOR ARCHITECTURAL ASSISTANT
 Applications are invited from suitably qualified persons with experience of multi-storey building, for appointment in the Borough Engineer and Surveyor's Department. Salary Grade A.P.T. III/IV (£980-£1,355 per annum, including London Weighting at age 26 or above). The commencing salary will be according to qualifications and experience.

The successful candidate will be given opportunities for designing schemes and bringing them through to completion, as part of a varied and imaginative building programme in historic Greenwich.

Application form obtainable from the undersigned and returnable by noon on Friday, 9th December, 1960.

G. C. TURK,
 Town Clerk.

Town Hall,
 Greenwich, S.E.10. 4601

BOROUGH OF CHESTERFIELD
 Applications are invited for a SENIOR ARCHITECT within Grade A.P.T. IV (£1,140-£1,310) in the Borough Engineer's Department (C. Bond, F.R.I.B.A., Chief Architect). The commencing salary will depend on qualifications and experience.

A car allowance is payable and housing accommodation will be provided if required. A five-day week is in operation.

A substantial programme of capital works is envisaged for completion during the next few years.

Chesterfield, which has a population of about 70,000, is situated bordering the Peak District National Park.

Applications stating age, qualifications, training and experience, naming two referees, to the Borough Engineer, Town Hall, Chesterfield, not later than Monday, 12th December, 1960.

RICHARD CLEGG,
 Town Clerk.

18th November, 1960. 4436

ADMINISTRATIVE COUNTY OF LEICESTER
 (a) PRINCIPAL ASSISTANT ARCHITECTS, £1,410-£1,565.
 (b) CHIEF ASSISTANT ARCHITECT, £1,310-£1,460.
 (c) SENIOR ASSISTANT ARCHITECTS, £1,140-£1,310.

Candidates for (a) must be members of the R.I.B.A., have had sound experience and be capable of acting as Group Leaders on an extensive programme of education buildings. For (b), candidates must be members of the R.I.B.A., have had considerable office experience and be capable of taking charge of contracts from inception to completion, and for (c) should be members of the R.I.B.A., have had office experience and be capable of taking charge of small contracts.

Lodging allowance and removal expenses may be paid to a married man. Apply by Monday, 19th December, 1960, on forms obtainable from County Architect, 123 London Road, Leicester. 4632

COUNTY BOROUGH OF ROTHERHAM
ARCHITECTS
 Applications are invited for the following appointments:-

(a) ARCHITECTURAL ASSISTANTS, A.P.T. I £645-£815 to A.P.T. III (£960-£1,140).
 (b) SENIOR ASSISTANT ARCHITECT, A.P.T. IV (£1,140-£1,310).

The department has a varied and interesting programme of architectural work and candidates for (a) are required to have passed Parts I and II of the R.I.B.A. final examination and (b) to be Associate Member of the R.I.B.A. with good general experience in design and construction. The commencing salary in the grades will be according to capabilities and experience. Housing accommodation will be available if necessary for the higher grade appointments.

Applications to be endorsed "Architects," stating age, qualifications and details of experience, together with names of two referees, should be received by me not later than Wednesday, 21st December, 1960.

Canvassing will disqualify.

JOHN S. WALL,
 Town Clerk.

Municipal Offices,
 Rotherham,
 November, 1960. 4631

STEPNEY M.B.C.
 require TOWN PLANNING ASSISTANT, salary £1,005-£1,185. Permanent appointment and pension rights; person required for Town Planning and Building Act matters and other co-related work and should therefore possess suitable qualifications and have had appropriate experience. Further particulars and form of application from Town Clerk, 227 Commercial Road, E.1. Closing date 9th December, 1960. 4590

WEST SUFFOLK COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT
 Applications are invited from suitably qualified persons (R.I.B.A. Intermediate standard) for the post of ARCHITECTURAL ASSISTANT within A.P.T. Grade II (£815-£960).

The person appointed will be required to work in a small team on a varied programme of Education, Police and Health projects. Five-day week.

Application forms obtainable from The County Architect, 13 Westgate Street, Bury St. Edmunds, to be returned as soon as possible. 4549

BASIC GRADE ARCHITECTS
 Salary:- £830 0s. 0d. p.a. at age 25 rising by annual increments to £1,300 0s. 0d. p.a. (Maximum salary on entry: £1,125 0s. 0d. being age 34 point on scale).

Qualifications required:- Applicants must be registered Architects.

Application forms can be obtained from Chief Clerk, Architect & Surveyor's Department, New Scotland Yard, S.W.1. 4621

HAYES AND HARTINGTON URBAN DISTRICT COUNCIL

Applications are invited for ARCHITECTURAL ASSISTANTS (2). Salary Grade A.P.T.II, £815-£960 per annum plus appropriate London Weighting. Candidates should have passed the intermediate examination of the R.I.B.A. and must have good general architectural experience. Five day week. Housing accommodation will be made available for one of the appointments. Further particulars and conditions of service, and form of application obtainable from the undersigned, which when completed must be returned by the 14th December, 1960.

GEORGE HOOPER,
 Clerk and Solicitor.

Town Hall,
 Hayes, Middlesex. 4618

EAST RIDING OF YORKSHIRE COUNTY COUNCIL

Applications are invited for the appointment of ASSISTANT ARCHITECTS on the staff of the County Architect.

Salaries will be in accordance with the N.J.C. Special Scale (£840-£1,145 per annum) or Grade A.P.T. IV (£1,140-£1,310 per annum) according to experience and qualification.

Particulars of qualifications, age, experience, past and present appointments with salaries, together with the names of three referees, should be sent to the County Architect, County Hall, Beverley, not later than Friday, 16th December, 1960.

Assistance towards removal, lodging and travelling expenses may be granted.

THOMAS STEPHENSON,
 Clerk of the Council. 4610

DURHAM COUNTY COUNCIL
ARCHITECTS' DEPARTMENT

ARCHITECTURAL STAFF-Grade APT IV-£1,140 to £1,310. Must be A.R.I.B.A.

Full particulars from County Architect, South Street, Durham, to whom completed application forms are returnable by 16th December, 1960.

Personally canvassing the members of the Council is prohibited, and the Council may declare any candidate infringing this rule to be disqualified for appointment.

J. K. HOPE,
 Clerk of the County Council. 4604

CITY OF LEICESTER
CITY ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of ASSISTANT ARCHITECT (Housing Section) Grade A.P.T. III, £960-£1,140 per annum, commencing salary up to maximum according to experience.

The work of the section includes the redevelopment of central areas. Previous local government experience not essential.

Housing accommodation at an economic rent will be provided if necessary.

National Conditions of Service apply. Applications with names of two referees should reach my office not later than Monday, 12th December.

J. H. LLOYD OWEN,
 City Architect.

10 Loseby Lane,
 Leicester. 4602

COUNTY COUNCIL OF THE STEWARTRY OF KIRKCUDBRIGHT
ASSISTANT ARCHITECT

Applications are invited for the post of Assistant Architect from persons who have passed the final examination of the Royal Institute of British Architects and who have had ample experience in the design and construction of school buildings and/or housing schemes. Salary scale £1,048 by £63 to £1,306. Five day week. Successful applicant will require to provide a car for the use of which an allowance will be paid; car purchase scheme available. Applications giving age, qualifications and details of previous experience and the names and addresses of two referees, to be lodged with the undersigned not later than 16th December, 1960.

ROBT. C. MONTEATH,
 County Clerk.

County Offices,
 KIRKCUDBRIGHT,
 27th October, 1960. 4604

BOROUGH OF WALTHAMSTOW
BOROUGH ARCHITECTS' DEPARTMENT
 Walthamstow is a municipal borough within the County of Essex, population 113,000, rateable value £1,747,737. It is a progressive authority and there is a large programme of interesting architectural and redevelopment schemes to be undertaken.

Applications are invited for the following permanent appointments:-
 ONE SENIOR ASSISTANT ARCHITECT £1,185-£1,355 per annum, inclusive of London Weighting.

Applicants must be professionally qualified and have had extensive experience.

HOUSING ACCOMMODATION will be made available if required, or alternatively the Council will make a 100% advance for house purchase within the Borough or in adjoining Boroughs.

Application forms, obtainable from the Borough Architect (P. G. Southgate, A.R.I.B.A., A.M.T.P.I., M.I.Mun.E.), Town Hall, Walthamstow, London, E.17, must be returned to the undersigned by NOON on FRIDAY, 16th DECEMBER, 1960.

G. A. BLAKELEY,
 Town Clerk.

Town Hall,
 Walthamstow, E.17.
 23rd November, 1960. 4603

COUNTY BOROUGH OF CROYDON
ARCHITECTURAL STAFF

Applications are invited for these appointments in the Corporation's housing and general architectural work which includes a considerable variety of large interesting projects.

(a) ASSISTANT ARCHITECT (Team Leader), R.I.B.A. Final required, A.P.T. V (£1,355-£1,525 including London weighting).

(b) ARCHITECTURAL ASSISTANT, A.P.T. I/II/III/IV (£660-£1,355 including London weighting).

"Essential user" car allowance payable for appointment (a); similar allowance for appointment (b) when graded in A.P.T. IV with R.I.B.A. Final.

Pensionable posts; commencing salaries according to qualifications and experience. Five-day week (38 hours).

Housing:- Assistance with rented housing accommodation will be considered. Advances up to 100 per cent. of Borough Valuer's valuation will be made available where needed for the purchase of suitable houses in Croydon by successful applicants.

Further particulars and application forms from the Borough Engineer, Town Hall, Croydon. Closing date 19th December, 1960. 4636

CITY OF BIRMINGHAM

Applications are invited from suitably qualified candidates for appointments as ASSISTANT ARCHITECTS in the CITY ARCHITECT'S DEPARTMENT at commencing salaries according to experience and capabilities, within Grade A.P.T. IV, £1,140-£1,310 per annum.

A large new Exhibition Hall with multi-storey car park and other public buildings, forming part of the new Civic Centre plan, are included in a building programme which also comprises Schools, Technical Colleges, Colleges of Further Education, and Schemes of Comprehensive Housing Development, including tall blocks of dwellings, Shopping Centres and ancillary buildings.

A great opportunity exists for enthusiastic and imaginative Architects who wish to assist in work of such architectural importance.

Pension Scheme. Five-day week. Medical Examination.

Applications stating age, present position and salary, qualifications, experience and two referees to reach the undersigned by 9th December, 1960.

A. G. SHEPPARD FIDLER,
 City Architect.

Civic Centre,
 Birmingham, 1. 4531

STAFFORDSHIRE COUNTY COUNCIL
COUNTY PLANNING AND DEVELOPMENT DEPARTMENT

Applications are invited for the post of ASSISTANT in the Design Section (Landscape) on Special Grade (£840-£1,145 per annum).

The duties will be concerned with the preparation of tree planting schemes for housing, industrial and other projects, tree preservation orders, and the reclamation of derelict land. Applicants should be qualified in horticulture with special regard to arboriculture. Additional qualifications in landscape design and forestry and experience in nursery work would be an advantage.

The Council are prepared to grant lodging allowances of 35s. per week for a period of six months and second class railway travel home every two months during the initial six months to married applicants maintaining a home outside the geographical county. Consideration will also be given to the granting of financial assistance in appropriate cases towards removal expenses.

Applications giving details of age, education, qualifications, present and previous appointments, experience and the names of two persons to whom reference may be made should be sent to D. W. Riley, County Planning and Development Officer, 41A Eastgate Street, Stafford, not later than 7th December, 1960.

Relationship to any member or senior officer of the County Council must be disclosed. Canvassing will disqualify.

T. H. EVANS,
 Clerk of the County Council. 4617

BOROUGH OF WORTHING
APPOINTMENT OF ASSISTANT ARCHITECT
 Applications are invited for the appointment of an Assistant Architect in the Borough Engineer's Department on Grade A.P.T. III/IV, i.e. £960-£1,310 per annum, commencing salary according to experience and qualifications.
 Candidates must have passed the Intermediate Examination of the R.I.B.A. or its equivalent at a recognised school of Architecture.
 The appointment will be subject to the National Scheme of Conditions of Service of Local Government Officers, to the provisions of the Local Government Superannuation Act, and to the successful candidate passing satisfactorily a medical examination.
 Applications, stating age, qualifications, experience, present and past appointments, with dates, and accompanied by copies of two recent testimonials, should be submitted to the Borough Engineer and Surveyor, Town Hall, Worthing, not later than the 5th December.
ERNEST G. TOWNSEND,
 Town Clerk.
 4530

FEDERAL GOVERNMENT OF NIGERIA
 require
ARCHITECTS

Architects are required in the Works Division of the Federal Ministry of Works and Surveys to prepare sketch plans, working drawings, and detailed specifications for various types of buildings and carry out the general work of a very busy Architectural office. Candidates should hold a degree or diploma in Architecture or the Final examination of the R.I.B.A. and have had wide general experience. Applicants must be between the ages of 27 and 51 years.

Salary according to age and experience, £1,434 to £2,196 p.a. (including Inducement Addition) plus gratuity of £150 for satisfactory service. An out-of-pocket allowance of £60 is paid on salaries up to £1,740 p.a.

Contract appointment for one tour of 15 to 18 months in the first instance. Free passages for officer and wife. Children's allowances whilst separated. Home leave on full pay. Income Tax at low local rate. Quarters at low rent.

Candidates should write for application and further particulars, stating age, qualifications and experience, to the Appointments Secretary, Federal Public Service Commission, Nigeria House, 9 Northumberland Avenue, London, W.C.2, quoting V.1/1. 4525

BOROUGH OF SCUNTHORPE
 (An expanding North Lincolnshire town of 62,000 population, area 7,895 acres, R.V. £1,562,541).
 Applications are invited for the following appointments in the Borough Engineer & Surveyor's Department:-

- (a) ONE SENIOR ASSISTANT ARCHITECT, Grade A.P.T. IV (£1,140-£1,310 p.a.).
- (b) TWO ARCHITECTURAL ASSISTANTS OR DRAUGHTSMEN, Grade A.P.T. III (£960-£1,140 p.a.).

Applicants for appointment (a) should be qualified Architects and have a good knowledge of Architectural practice and procedure. For appointments (b) applicants should be fully competent in the preparation of detailed drawings for all classes of building works. Local Government experience is not essential and commencing salaries will be fixed within the appropriate scale according to qualifications and experience.

Housing accommodation available if required, approved removal expenses reimbursed in full, five-day working week.

Applications giving age, details of present and past appointments, training, qualifications and experience, together with the names of two persons to whom reference may be made should be sent to the Town Clerk, 34 High Street, Scunthorpe, within 14 days of this publication. 4533

LINDSEY (LINCOLNSHIRE) COUNTY COUNCIL
ARCHITECT'S DEPARTMENT
SENIOR QUANTITY SURVEYORS, Grade A.P.T. IV, £1,140-£1,310, required for taking off. Should be A.R.I.C.S.

Commencing salary within the grade dependent upon experience. Five-day week. N.J.O. Conditions of Service. Candidates will disclose to their knowledge they are related to any Member or Senior Officer of the Council.

Applications giving age, qualifications, experience, present post and salary, and the names of two persons to whom reference can be made to be sent to the County Architect, County Offices, Lincoln, not later than 7th December, 1960. 4536

CORPORATION OF LONDON
 Require **BUILDING SURVEYOR** (Permanent Staff). Salary £630-£990. Work will comprise assistance in maintenance and surveys.
 Applicants should be at approximately Intermediate R.I.C.S. (Building Sub-section) level and good draughtsmen.
 Medical examination; superannuation scheme. City Surveyor, Guildhall, E.C.2. 4532

ARCHITECT
PUBLIC WORKS DEPARTMENT, BARBADOS
 To assist the Director of Public Works in the design and preparation of plans of buildings and institutions and to supervise their construction.
 Three-year Contract. Salary £1,500. Gratuity 20 per cent. of salary. Free passages. Unfurnished quarters at moderate rent.
 Candidates must be A.R.I.B.A.
 Write Director of Recruitment, Colonial Office, London, S.W.1, giving full names, age, qualifications and experience quoting BCD.12/28/05/E2. 4524

LANCASHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT
 Applications are invited for the following appointments on the permanent staff. The Quantity Surveying Branch of the Department undertakes work in all stages, from Cost Planning to Final Accounts, and the programme is both interesting and varied.

(a) **SENIOR ASSISTANT QUANTITY SURVEYOR**, A.P.T. V, £1,510-£1,480 p.a.
 Applicants should be Chartered Quantity Surveyors and the person appointed will be a senior member of a team of Surveyors.

(b) **QUANTITY SURVEYING ASSISTANT**, A.P.T. II, £815-£960 p.a.
 Applicants should have passed the Intermediate Examination of the R.I.C.S.

(c) **QUANTITY SURVEYING ASSISTANT**, A.P.T. I, £645-£815 p.a.
 Applicants should have passed the First Examination of the R.I.C.S.

Forms of application obtainable from and returnable to the County Architect, P.O. Box 25, County Hall, Preston, by 14th December, 1960. 4501

CITY AND COUNTY OF NEWCASTLE UPON TYNE
NEW TOWN HALL
APPOINTMENT OF

ASSISTANT CLERK OF WORKS
 Applications are invited for the appointment of Assistant Clerk of Works in connection with the New Town Hall now in course of erection at Barras Bridge, Newcastle upon Tyne.

The salary for this appointment will be in accordance with A.P.T. Division Grade III (£960-£1,140 per annum).

Intending applicants should apply in the first instance for forms of application and further particulars to George Kenyon, A.R.I.B.A., A.M.T.P.I., City Architect, 18 Cloth Market, Newcastle upon Tyne, 1.

JOHN ATKINSON,
 Town Clerk.
 Newcastle upon Tyne, 1.
 22nd November, 1960. 4560

Architectural Appointments Vacant
 3s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

RONALD WARD AND PARTNERS invite applications from **ARCHITECTS**, Senior and Junior. Long-term prospects. Scope for initiative and responsibility in interesting commercial, industrial and civic projects in British Isles, West Africa and Australia. Salaries commensurate with ability. Non-contributory Pension and Life Insurance schemes. Five-day week. Pleasant offices. Apply 29, Chesham Place, Belgrave Square, London, S.W.1. Tel.: BELGRAVIA 3361. 3950

ARCHITECTURAL ASSISTANT required in busy City Office. Assistants should be capable of carrying through schemes from sketch stage to final construction. Mainly office and residential buildings in London area. Varied and interesting projects. Long term engagement to right person. £1,600 per annum plus luncheon vouchers. Five-day week. Applicants must be capable of producing sketch schemes on contemporary buildings, and preparing working drawings. Box 4228.

BASIL SPENCE & PARTNERS require qualified and experienced **ARCHITECTS** to fill positions of responsibility on a major building programme. Write to 49, Queen Anne Street, W.1, stating experience and salary required. 9824

WEST END OFFICE requires **ASSISTANT ARCHITECTS** of Final and Intermediate standards for interesting industrial projects in Home Counties. Good salaries offered to men with initiative and ability. Bonus Scheme, five-day week, holiday arrangements honoured. Box 3039.

ARCHITECTURAL ASSISTANTS required in busy Bloomsbury office with varied practice. Good salary and prospects for suitable applicants. Five-day week. Write giving particulars of age, qualifications, experience, etc., to Box 910, c/o 7 Antic Street, W.C.1. 8818

ELIE MATROZAS requires **ARCHITECTURAL ASSISTANTS** with a minimum of three years' office experience in this country. Write giving brief particulars of architectural education and experience, and salary required, to 13, David Mews, Baker Street, W.1. 3293

£1,000 (£2,000 p.a. will be paid to experienced competent **ARCHITECTS** by a private practice in the City of London. The work will be primarily on the drawing board on new and interesting projects of magnitude. A high standard of design and detailing ability is required. Please apply in writing to Box 9360.

ARCHITECTURAL ASSISTANT required for City Office. Qualifications unnecessary, but experience in the preparation of working drawings essential. Salary £1,000 per annum plus luncheon vouchers. Five-day week. Box 4289.

£850-£1,400. **ARCHITECTURAL ASSISTANTS** with imagination and designing ability required to assist with large and important new developments in the central London Area. Telephone or write—Treharne & Norman, Preston & Partners, 33, Kingsway, W.C.2. HOLBORN 4971. 2118

MONROE AND PARTNERS require **ARCHITECTURAL ASSISTANTS** of Intermediate or Final R.I.B.A. standard in their London, Watford, and Glasgow Offices for work on interesting industrial and commercial projects. Salary range £800-£1,000 p.a. Non-contributory Pension Scheme. Five-day week. Apply in writing to 22, Clarendon Road, Watford. 8609

SIR JOHN BURNETT, TAIT & PARTNERS have vacancies for **ARCHITECTURAL ASSISTANTS** of all grades. Salaries ranging from £1,500 to £1,800 per annum. Luncheon vouchers. Pension and Medical schemes (non-contributory). Telephone LAngham 3626 for appointment. 2113

ARCHITECTURAL ASSISTANT required, with at least two years' office experience. Apply in writing to Thomas Mitchell & Partners, 20, Bedford Square, London, W.C.1. 7282

BRYAN & NORMAN WESTWOOD & PARTNERS require Senior and Junior **ARCHITECTURAL ASSISTANTS**. Please apply to 21 Suffolk Street, London, S.W.1. Trafalgar 4411. 4188

SENIOR ASSISTANTS required immediately. Salary by arrangement. Theo. H. Birks, 38, Portland Place, London, W.1. LAN. 7236. 1486

ASSISTANT ARCHITECTS required for staffing a new office opening in Southampton for work on interesting projects including University, War Department and Ecclesiastical programmes. Juniors also required. Apply stating age, qualifications, experience and salary required to Robert Potter, F.R.I.B.A. & Richard Hare, B.Arch., A.R.I.B.A., De Vaux House, Salisbury. 3167

WILLIAM H. ROBBINS, A.R.I.B.A., requires **ARCHITECTURAL ASSISTANTS** of Final and Intermediate standard for interesting work in expanding office. Applicants should be experienced in design and construction and taking responsibility. Excellent opportunity of advancement. Salary range from £750 to £1,400 per annum according to experience. Five-day week. Apply to 77 Wigmore Street, London, W.1. WELbeck 6274/5. 3841

DOUGLAS J. OLIVER & PARTNERS require **ARCHITECTS** in their Rugby Office. Salaries £1,000-£1,500 per annum for qualified Architects according to ability and experience. Salaries reviewed annually. Office Superannuation Scheme in operation. Apply to Douglas J. Oliver, F.R.I.B.A., 10 St. Matthew's Street, Rugby. Telephone No. Rugby 4452. 4075

EDINBURGH
RIGHT men for small varied practice (e.g. patio housing, industrial and office buildings, shops and interiors) gain responsibility, reward and opportunity in congenial conditions with **MICHAEL LAIRD**, 22, Moray Place. £1,000-£1,300 p.a. on commencement. 4206

HOWARD V. LOBE & PARTNERS require **ASSISTANT ARCHITECTS**. Salaries would be between £750 and £1,250 per year. Please write to 29 Gower Street, London, W.C.1. 3646

BOOTH, LEDEBOER AND PINCKHEARD require **ASSISTANTS** in the salary range £750-£1,250. Apply 17-20, Mason's Yard, Duke Street, 84, James's, S.W.1. Tel.: TRAFALGAR 1866. 5119

INTERMEDIATE to Final **ASSISTANTS** required immediately. Salary according to ability and experience. Theo. H. Birks, 38, Portland Place, London, W.1. LAN. 7236. 9739

RICHARD SHEPPARD, ROBSON & PARTNERS require **ASSISTANTS** of Intermediate and Final standard; salary range £750-£1,000 according to ability. 8 Southampton Place, W.C.1. CHANCERY 4261. 2996

BIGGINS AND ASSOCIATES invite you, if you have an eye to the future, to write to Richmond House, Boughton, Chester. 3977

WALLIS GILBERT AND PARTNERS ALSO
NEED STAFF URGENTLY. S. Cromwell Road, S.W.7 KENington 1460. 3814

ERNO GOLDFINGER requires **ASSISTANTS** with sound knowledge of construction. Expanding programme of work includes office buildings, schools, shops, factories, local authority and private housing. Local Authority Rates. Telephone: HYde Park 5687. 4129

A VACANCY occurs in the West End Branch of large provincial Architectural Practice, for an **ASSISTANT** at Intermediate standard. The post offers considerable scope on varied projects. Five-day week. Luncheon Vouchers. Write giving particulars of age, experience and salary required to Box 4135.

SENIOR ASSISTANT ARCHITECTS required immediately for a wide variety of interesting work. Applicants should be experienced in all aspects of modern building design and construction. Attractive remuneration to right men capable of working on own initiative under ideal conditions for self expression. Preference given to men over 45 years of age although all applications will be considered on merit irrespective of age. Applications should be made, in writing, to Kenneth F. Mason, Esq., A.R.I.B.A., Chief Architect, S.C.W.S. Ltd., Architectural Division, 76 Morrison Street, Glasgow, C.5. 4159

EXPERIENCED ARCHITECTURAL ASSISTANT required for busy West End office. General practice but mainly office and commercial projects. Bernard Gold & Partners, 4/6, Savile Row, W.1. REGent 7661. 3742

A QUALIFIED ARCHITECTURAL ASSISTANT required immediately in Home Counties office. Successful applicant will have the opportunity of working on widely varying industrial, commercial and housing schemes. Five-day week. Write full particulars to Box 4136.

C. H. ELSOM & PARTNERS need experienced ARCHITECTS for a wide range of public and commercial projects. VICTORIA 4304. 19, Lower Grosvenor Place, W.1. 4271

ARCHITECTS AND PLANNERS required. Large City Development Area, University work, Schools, etc. D. Harvey & A. Scott, 2, Lynedoch Place, Glasgow, C.3. Tel. No.: Douglas 8388. 4287

ERIO G. V. HIVES AND SONS require ARCHITECTURAL ASSISTANTS of Intermediate/Final R.I.B.A. standard in their London, Reading and Derby Offices for varied work of contemporary nature. Good salaries. Apply in writing to 46, Queen's Road, Reading. 4269

£1,000 TO £1,500. or higher in special cases. Experienced Assistants and Assistant Architects required on a variety of interesting projects at home and overseas in large progressive Office, which, owing to size, offers outstanding opportunities for advancement, both at home and abroad. Excellent working conditions, five-day week, three weeks' annual leave, luncheon vouchers, bonus scheme and generous sick pay provision. Write or telephone, Norman & Daburn, Architects & Consulting Engineers, 7, Portland Place, London, W.1. LANgdom 8011. 4292

SMALL progressive office requires good ASSISTANT. Intermediate to Final standard. Capable of carrying work from start to finish. Norrish & Stainton, Architects, 2, Augustus Road, Edgbaston, Birmingham, 15. 4299

SOUTHAMPTON. Senior and Junior ARCHITECTURAL ASSISTANTS required for interesting contracts in the Southern Counties. Apply with details of experience and salary required to E. M. Galloway & Partners, P./A.R.I.B.A., 10 Portland Street, Southampton. 3665

ASSISTANT with several years' office experience and accustomed to preparing working drawings from sketches, required immediately by West End Architects. Should be interested in supervising the work and have a sound knowledge of construction. Write for interview to Box 3667.

LEITCHWORTH
Would anybody like to change the grime of the town for the freshness of the First Garden City? ASSISTANT required for small general expanding practice. Five-day week in pleasant office. Please write, stating age, experience and salary required, to William H. Barnes, F.R.I.B.A., St. Margarets, Broadway, Leitchworth, Herts. 4233

TWO first class ARCHITECTURAL ASSISTANTS required. Salary range £1,250-£1,750 p.a. depending upon experience. Write with fullest details of experience. Box 4227.

WATKINS, GRAY & PARTNERS, 57, Catherine Place, S.W.1, require ASSISTANTS of Intermediate and Final standards for work on large hospital projects. Excellent opportunities for those seeking first hand experience in this most interesting and rapidly developing field. Luncheon vouchers and pension scheme in operation. Write giving full particulars. 4233

ASSISTANT wanted by young expanding firm of Quantity Surveyors in new Hampstead office. Must be able to work closely with Architects on own initiative. About Final R.I.C.S. standard. Johns & Stevens, 3a, London Road, Maidstone, Kent. 4355

WILLIAM RYDER require ASSISTANTS in the salary range £800 to £1,100, according to age and experience. Hours 9.30 to 5.30. Five-day week. Apply in writing to 21, Bruton Street, Berkeley Square, W.1. 4264

INTERMEDIATE to FINAL STANDARD. Expanding practice engaged large scale commercial projects requires ARCHITECTURAL ASSISTANTS with design and supervision initiative. Good salaries according capabilities. Five-day week. L.V.s. Raymond Spratley & Partners, 9, Hertford Street, Park Lane, W.1. GRO 1532. 4366

LEWELLYN SMITH & WATERS require ASSISTANTS in London and Worcester for projects in London and the Provinces. Opportunity for varied experience. Generous Pension Scheme, L.V.s. Salaries in the range of £700 to £1,000. Please telephone KEN. 4477 for an appointment or write stating experience and salary required, to 103, Old Brompton Road, S.W.7. There are also vacancies for ASSISTANT ARCHITECTS in the London Office. 4265

F. W. WOOLWORTH & CO. LIMITED KENSINGTON OFFICE

ARCHITECTURAL ASSISTANTS AND DRAUGHTSMEN required. Five-day week, pension scheme, dining-room facilities.

Good salaries according to age and experience. Apply: Staff Architect, giving age and experience, 26/40, Kensington High Street, W.8. 4263

£700-£1,300 P.A. WILL BE PAID ACCORDING TO EXPERIENCE AND ABILITY TO ARCHITECTS AND ARCHITECTURAL ASSISTANTS WORKING ON VARIED AND INTERESTING PROJECTS AT HOME AND ABROAD. FIVE-DAY WEEK. NON-CONTRIBUTORY AND CONTRIBUTORY PENSION SCHEME, SALARIES REVIEWED ANNUALLY. PLEASE APPLY: E. J. D. MANSFIELD, A.R.I.B.A., SIR WILLIAM HALCROW & PARTNERS, STANHOPE HOUSE, 47, PARK LANE, LONDON, W.1. 4373

GOLLINS, MELVIN, WARD & PARTNERS HAVE VACANCIES FOR JUNIOR STAFF OF INTERMEDIATE STANDARD INTERESTED IN THE CONTEMPORARY DESIGN OF HOSPITALS AND EDUCATIONAL BUILDINGS. FIVE-DAY WEEK. PENSION SCHEME. QUARTERLY BONUSES. TELEPHONE: WELBECK 9991. 4387

BRIGHTON & HOVE. Experienced ASSISTANTS in all grades required. Details please to: H. Hubbard Ford & Associates, 67, Church Road, Hove, 3, Sussex. 4339

W. J. LEWIS AND SONS require an ARCHITECTURAL ASSISTANT of Final and Intermediate R.I.B.A. standard, for interesting and varied work in busy office, and with opportunities for future. Salary will be according to age and experience. Five-day week. Apply by letter to 68 Cranbrook Road, Ilford, Essex, or telephone Ilford 3595. 4396

WELCH AND LANDER require ASSISTANTS. Intermediate to Final standard, preferably with office experience. 38 Gloucester Place, W.1. Tel. WELbeck 6551. 4376

ASSISTANT required to carry out medium size projects under supervision but with scope for initiative. Preferably used to commercial or school work. Excellent prospects. Box 4375.

SURVEYORS ASSISTANTS required for a wide variety of work in Architect's office. Should be proficient in chain surveying and levelling, a good draughtsman and of Intermediate R.I.C.S. standard. Good salary offered in accordance with ability. Applications to: John H. D. Madin, 83/85 Hagley Road, Edgbaston, Birmingham 16. 4372

ARCHITECTS, male and female, interested in a change of work and environment would find it worth the few minutes required to make an enquiry and fix an appointment about vacancies in a large London City Office. Excellent salaries. L.V.s and Pension. Box 4369.

LEY COLBECK & PARTNERS, F.R.I.B.A., require ARCHITECTS for interesting new projects. Good salaries. L.V.s and pension. 51 Bishopsgate, London, E.C.2, or telephone Lon 3836. 4370

COOK, CULLING & ILLINGWORTH require experienced ASSISTANT ARCHITECT for busy industrial practice. Pleasant conditions. House available. Apply: Meeting Lane, Gold Street, Kettering. 4325

A FIRM of Chartered Surveyors in East Anglia require a SENIOR ASSISTANT to take charge of a small drawing office in the Design Department. Mature outlook, ability to deal with people, and comprehensive building construction knowledge are first requirements. Salary £725 per annum. Box 4361.

ASSISTANTS, ASSISTANTS, ASSISTANTS. Share in the Profit (if any). Salaries £200-£1,200 p.a. Stanley R. Nevell & Partners, Abbey 3971. 4336

ASSISTANT ARCHITECTS with some experience required by Kenneth Lindy & Partners. Offices in City and at Loughton, Essex. Good salaries, varied practice. Every opportunity for initiative and responsibility. Write to 24 St. Mary Axe, or telephone Avenue 4430 or Loughton 4161. 4330

ARCHITECTS, ASSISTANT ARCHITECTS, DRAUGHTSMEN required in expanding contemporary office. Experience and ability well rewarded. Pension scheme in operation. Assistance with housing and removal considered. Shepherd, Fowler & Marshall, L.A.R.I.B.A., 15 St. James' Row, Sheffield, 1. 28854. 4351

BUSY private practice has vacancy for ARCHITECTURAL ASSISTANT, preferably a car driver. Pleasant office and working conditions. Five-day week. Scope for initiative and responsibility on varied and interesting works including Domestic, Commercial, Industrial and Ecclesiastical, over wide area of the country. Commencing salary according to experience and ability up to £1,000. Please apply giving full details to A. B. Laing, Deacon & Laing, 65 Goldington Road, Bedford. 4394

ARCHITECTS. Experienced ASSISTANTS required for work on major schemes, able to take initiative and responsibility. Bonus, Pension and Life Assurance Schemes. Salary according to experience and ability. Full particulars to Hadfield Cawkwell & Davidson, 17 Broomgrove Road, Sheffield, 10. 4353

ARCHITECTURAL ASSISTANT required, with good general experience for varied work mainly industrial and commercial. Write giving experience and salary required to Howell, Freeman & Batten, Chartered Architects, Reading. 4397

OSCAR GARRY AND PARTNERS require one or two SENIOR ASSISTANTS to work on large projects at present at early design stage. Minimum five years' experience essential. Salaries not less than £1,100. Luncheon Vouchers. Apply 66 Gloucester Place, London, W.1. or phone WELbeck 2509. 4320

CLERK OF WORKS required in War Office. Grade Technical III construction for £40,000 Contract in Plymouth commencing early 1961. Prospects of re-employment on subsequent Contract for substantial building works on same site. Salary £875 p.a. Written applications with age and experience to be sent to: Geoffrey Bazeley & Barbary, Chartered Architects, 5, Portland Square, Plymouth. 4425

LIBYA. SENIOR ARCHITECT required in Tripoli for two years or more. Interesting work. Must be capable of taking full charge of Department and should have overseas experience, preferably Middle East. Write Box 4413.

SENIOR ARCHITECTURAL ASSISTANT EXPANDING and progressive Company requires the services of a Senior Architectural Assistant in their Housing Division. Experienced in design and the preparation of working detailed drawings in connection with multi-storey flat developments. Salary according to experience and qualifications. Luncheon Voucher and Superannuation Schemes in operation. Phone or write Chief Building Surveyor, Housing Division, Percy Bilton Ltd., 54/58 Uxbridge Road, Ealing, Telephone EALing 7777. 4563

£750-£1,750 initially. ASSISTANTS required for exciting projects of all kinds. Help will be given with removal costs. Independent or group work as preferred; no Saturdays. A profit sharing scheme is being developed and there is no slowness in rewarding initiative. Belper is near fine countryside and we are moving shortly to new offices of our own design. G. E. Grey, ARIBA, AADipl., Penman House, Belper, Derbyshire. 4617

SOUTH DEVON-ASSISTANT ARCHITECT required for varied and responsible work covering a wide area of the S.W. Salary range £700-£1,000. Full details in writing to Antony Lamb, A.R.I.B.A., A.M.T.P.L., Ottery St. Mary, Devon. 4551

The new aids to
Roof Construction
FULLY GUARANTEED

Patent No. 764973



ARCHITECTS' JOURNAL
INFORMATION SHEET AND
FULLY ILLUSTRATED
BROCHURE AND PRICE LIST
FROM
PARAMOUNT ASPHALTE
LIMITED
149 KENNINGTON PARK ROAD
LONDON, S.E.11
Tel.: RELiance 2373-2191

THE Research Section of Chamberlin Powell and Bon under the direction of Dargan Halliwell is being expanded. ARCHITECTS and ASSISTANTS specially interested and experienced in applying research to building the Barbican and to University development should apply in writing now. The work includes planning and design investigation as well as research and development work in techniques. Good library and other facilities for information work. Applicants not immediately available should also apply as engagement will take place over a period. Please refer in writing to Avenue Studios, 15 Sydney Mews, Fulham Road, London, S.W.3. 4606

REQUIRED in the Development Section of a large Public Company to deal with the design of:—MULTI STOREY FLATS
Full scope will be given for the exercise of personal initiative, ideas, etc. The successful candidate will head a team dealing with this class of development. Salary commensurate with the high degree of responsibility the position envisages. Very good working conditions, five day week, Superannuation scheme, etc. Immediate assistance with housing accommodation if required. Write in complete confidence giving full details of qualifications to Chief Architect. **NEW IDEAL HOMESTEADS LTD.**, 61, South Street, Epsom, Surrey. 4609

QUALIFIED ARCHITECTS and ARCHITECTURAL ASSISTANTS URGENTLY required for the formation of Groups dealing with the following:
(a) Multi Storey flats.
(b) General Housing.
(c) Estate layouts.

Full scope will be given for exercise of personal initiative and ability. Very good working conditions. Five day week. Superannuation scheme. Immediate assistance with housing accommodation if required. Write in complete confidence giving full details of experience and present salary to Chief Architect. **NEW IDEAL HOMESTEADS LTD.**, 61, South Street, Epsom, Surrey. 4608

ARCHITECTURAL ASSISTANTS required (male or female), experienced in residential, industrial and commercial work in busy private office. E. Austen Johnson, Esq., Cloth Hall Street, Huddersfield. 4646

IMPERIAL CHEMICAL INDUSTRIES LIMITED, PLASTICS DIVISION, has a vacancy for an ARCHITECTURAL ASSISTANT of Final standard for employment in the Civil Architectural Section of its Engineering Department at Welwyn Garden City.

It is implicit in the function of this Section that it should co-operate easily with other technical staffs both inside and outside the Chief Engineer's Department.

The work is interesting and varied and will include site development with multi-storey R.C. and steel frame buildings to house manufacturing plant and all ancillaries such as offices, laboratories, amenity and welfare buildings. Five-day, 37-hour week. Pension and Profit Sharing schemes in operation.

Apply briefly to the Staff Manager, Imperial Chemical Industries Limited, Plastics Division, Bessemer Road, Welwyn Garden City, Herts., quoting ref. No. 5059/AA. 4657

THE LAND & GENERAL GROUP have a vacancy for a

SENIOR ARCHITECTURAL ASSISTANT ABLE to work on his own initiative and carry through preliminary schemes to full completion of detail drawings. Specialist experience in estate layout, houses, flats or commercial development an advantage. Good salary and excellent prospects to first class man. Write giving details of experience and qualifications to the Chief Architect, Land & General Developments Ltd., 9, Berkeley Street, London, W.1. 4653

ARCHITECTURAL ASSISTANT required for small busy Practice in Bedford Row, W.C.1. Experience more important than qualifications. Must be good draughtsman. Surveys, sketch plans, working drawings, details, etc. Opportunity given to handle small contracts including site supervision. Salary by arrangement. Tel. CHA. 7611. 4652

TRIPLE & WAKEHAM, Chartered Architects, require ASSISTANTS in all grades to work in their London office on interesting projects both in this country and abroad. Salary by arrangement. Telephone WELBECK 7744 or write to 16, Fitzhardinge Street, London, W.1, for an appointment. 4650

GOOD ALLROUNDER required with a minimum of four years' experience to personally assist a Partner in charge of a team and also to run jobs on own initiative. To start immediately in the New Year. Apply, stating age and general experience, to J. M. Austin-Smith and Partners, 29, Sackville Street, London, W.1. 4646

£850-£1,550 WILL be paid, commensurate with ability and experience to ARCHITECTS and ARCHITECTURAL ASSISTANTS by a Birmingham firm of Architects, who require men of experience and initiative to work on interesting large scale projects providing scope for advancement. Five-day week. Canteen facilities and Pension Scheme. Box 4691.

CHESTERFIELD-ASSISTANT required in busy and expanding office offering excellent opportunity for all round experience. Write or ring Glossop, Brayshaw & Bailey, 44, Glumangate, Chesterfield 3373. 4644

ASSISTANT ARCHITECT with experience and/or interest in schools and multi-storey flats. Write **ERIC LYONS, MILL HOUSE, BRIDGE ROAD, HAMPTON COURT, SURREY.** 3562

ARCHITECTURAL ASSISTANT about Intermediate Standard required for busy office dealing with wide variety of Commercial, Industrial and Domestic Work. Ability to do perspectives an advantage. Apply: Bostock & Partners, Southall 3491. 4696

ARCHITECTS ASSISTANT with office experience required for widely varied and interesting work. Perspective drawing ability desirable. Apply A. Beaumont Owles, A.R.I.B.A., Wells & Wakefield, 6-8 Sackville Street, W.1. 4697

QUALIFIED ARCHITECTS looking for some really interesting new work should apply to George, Trew and Dunn at their new offices, 50, Eastbourne Terrace, W.2. 4698

ARCHITECTURAL ASSISTANTS who are looking for some really interesting work where wide experience can be gained, should apply to George, Trew and Dunn at their new offices, 50, Eastbourne Terrace, W.2. 4699

SIR HUGH CASSON, Neville Conder and partners require intermediate or newly qualified ASSISTANTS. Please write 35 Thurloe Place, S.W.7. 4600

ARCHITECTURAL ASSISTANT urgently required for building surveys. Permanent position, 5-day week. Must be prepared to work out of London as required. Salary according to qualifications and experience. Phone for interview to Ground Surveys Ltd., 13 Queen Anne St., W.1. LAN.4501. 4613

SMALL Architect's Office requires ASSISTANT of Intermediate standard with some office experience for work on buildings, some of 10-30 storeys. Immaculate detailing essential, interest in certain wall techniques an advantage. Salary £700-£850 p.a. plus L.V.s according to experience. Apply W. H. Rogers, A.R.I.B.A., 16, Mark Lane, E.C.3. 4614

WESTCLIFF-ON-SEA. ASSISTANT required to fill new position in progressive office dealing with varied interesting projects. Final Standard. Salary by arrangement. Kenneth C. Cheeseman, A.R.I.B.A., 861b, London Road, Westcliff-on-Sea, Essex. 4615

WESTCLIFF-ON-SEA. ASSISTANT, Intermediate Standard, required to assist on variety of interesting projects. Must be prepared to use own initiative. Salary by arrangement. Kenneth C. Cheeseman, A.R.I.B.A., 861b, London Road, Westcliff-on-Sea, Essex. 4616

SENIOR ASSISTANT ARCHITECT with Schools experience, new and remodel projects, early thirties preferable. Apply with all particulars to Hargreaves and Mawson, 7, Finkle Street, Kendal, Westmorland. 4617

ERIC COLE & PARTNERS, F.F.R.I.B.A., have vacancies for all grades of Staff at their Cirencester and Swindon Offices. Salaries by arrangement. 5-day week. 4619

SENIOR ARCHITECT required immediately to take charge of section dealing with Hospital work. Commencing salary £2,000-£2,500 per annum dependent on qualifications and experience. Write, giving full particulars, to Box 4620.

ARCHITECTURAL ASSISTANT, male or female, Intermediate standard, required for a small, busy, central practice. Office experience essential. Varied and interesting work. Box 4626.

NORTH & PARTNERS, Chartered Architects, N. Maidenhead, require experienced ARCHITECTURAL ASSISTANTS—salary range £900/£1,150—pension scheme operating. 4627

ARCHITECTURAL ASSISTANTS required. Senior and Junior, for busy Country Practice. Varied work in congenial surroundings. Salary by arrangement. Pemberton & Bateman, Vine Street, Evesham, Worcs. 4629

MOBIL OIL COMPANY invites applications for the position of ASSISTANT ARCHITECT in their London Head Office. Applicants must be of Final Standard or be A.R.I.B.A. They must have experience of contemporary design, be interested in research and capable of supervising staff. Pension scheme and other employee benefits. Write giving details of age, experience and salary required to Employment Adviser, Caxton House, Westminster, S.W.1, quoting ref. AAL 228 A. 4633

QUALIFIED ARCHITECT required to take charge of a branch office in Sheffield. Applicants should be capable of supervising staff and must be car drivers. Full employee benefits. Write giving full details of salary required, age and experience, to Box 4635.

ARCHITECTURAL ASSISTANTS, qualified, required. Salary £800-£1,350 per annum according to experience. Glasgow Office. Five-day week. Schools, Offices, Redevelopment, etc. State experience. D. Harvey & A. Scott, 2, Lynedoch Place, Glasgow, C.3. Tel. No. Douglas 8388. 4668

ARDIN & BROOKES & PARTNERS require ASSISTANTS, salary range £2000-£1,200 per annum. Busy office with progressive design policy. Spacious offices near Polytechnic, Regent Street. Phone LANham 5257. 4643

EXPERIENCED ASSISTANT ARCHITECT with design ability required for small London practice to take charge of important tasks. Possibility of partnership after trial period. Full details and salary required to Box 4652.

INTERMEDIATE to FINAL ARCHITECTURAL ASSISTANTS required in busy commercial and industrial office. Permanent positions, variety of work and scope for initiative. Five-day week, staff bonus and superannuation schemes. Time off allowed for continuation of studies. Salary according to ability and experience. Apply in writing, giving full particulars, salary required, etc. to W. J. Betts & Son, 41, Bridgford Road, West Bridgford, Nottingham. 4681

A building and civil engineering organisation requires the services of an ARCHITECT in their Building Division

APPLICANTS should be experienced in the design and execution of working drawings in connection with Industrial, Commercial, Housing and Flat Development schemes. Permanent and progressive position. Salary £1,500 plus bonus. Box 4679.

JUNIOR ARCHITECTURAL ASSISTANT up to Intermediate standard required in Watford. Pleasant office. Five-day week. Details of age, experience and salary required to Box 4678.

£800-£1,100. PRODUCTION-ENGINEERING LTD., MANAGEMENT AND INDUSTRIAL CONSULTANTS. Immediate vacancies exist in the Technical Division of this Company for ARCHITECTURAL ASSISTANTS of all grades who will be given the full range of architectural duties from inception in final account. The work involves a wide range of industrial projects at home and abroad and will involve liaison with other professional specialists of the project team. The Drawing Office is based at Egham, Surrey. A non-contributory pension scheme is in operation. Apply in writing to the Architect, Production-Engineering Ltd., Park House, Wick Road, Egham, Surrey. 4672

SENIOR ASSISTANT ARCHITECT (A.R.I.B.A.) required for interesting and varied construction projects—no housing. Location S.W.1. Full scope given to progressive designer in modern materials and finishes including aluminium. Engineering and costing staffs in support. Permanent post with contributory pension scheme. Five-day week operated. Excellent promotion prospects open in return for ability, drive and qualities of leadership. Preferred age 30/35. Write giving full particulars and commencing salary required to Box AJ 996 LPE 60/52, St. Martin's Lane, W.C.2. 4671

ASSISTANT approaching Finals required busy Country Practice, 45 miles London. Office experience and ability to take responsibility essential. Salary not difficult to agree. Box 4670

SENIOR ARCHITECTURAL ASSISTANT required by development co. Varied work, salary £1,000-£1,200 p.a. Staff Bonus and Pension Scheme. Apply in writing to Prowling Ltd., Bury Street, Ruislip, Middlesex. 4669

HALLIDAY & AGATE, Manchester, require a number of Qualified ARCHITECTS and ARCHITECTURAL ASSISTANTS, for a varied and extensive programme of work. Good salaries are paid, in accordance with experience. Apply in writing, giving full details of previous experience, to 4, Fountain Street, Manchester, 2. 4666

MUNCE & KENNEDY, ARCHITECTS AND CONSULTING ENGINEERS, URGENTLY REQUIRE ASSISTANTS IN THEIR LONDON OFFICE. SALARY RANGE £600-£1,200, DEPENDING ON EXPERIENCE AND ABILITY. BONUS SCHEME IN OPERATION. EXPANDING OFFICE OFFERS ALL ROUND EXPERIENCE IN ALL TYPES OF CONTEMPORARY WORK, AT HOME AND OVERSEAS. APPLY IN WRITING TO: JOHN SHELTON A.R.I.B.A. M.S.I.A. AT 10/11, BULSTRODE PLACE, LONDON, W.1. 4662

VACANCIES—OCCUR FOR QUALIFIED ARCHITECT WITH MODERN DESIGN GROUP SPECIALISING PRIMARILY IN HAIRDRESSING AND RESTAURANTS. STC. APPLICANT WILL BE REQUIRED TO TAKE CHARGE OF THE UNIT, SUPERVISE DRAWINGS AND SPECIFICATIONS AND HAVE SOME KNOWLEDGE OF DEALING WITH CLIENTS. INTERESTING AND PROGRESSIVE POSITION WITH HIGH SALARY COMMENSURATE WITH EXPERIENCE. APPLY IN FIRST INSTANCE IN WRITING TO MANAGING DIRECTOR, HENRY SERVETTI LTD., 61/3, BEAK STREET, LONDON, W.1. 4669

EXPERIENCED ARCHITECTS AND ARCHITECTURAL ASSISTANTS of all grades urgently required for the Architects' Department of a firm of Consultants for their offices in Southern England. Good salaries commensurate with experience and qualifications. Please apply in writing, giving details of experience, training and other relevant details to Box 4688.

ARCHITECTURAL ASSISTANT, qualified, pref. single, approximately 25 years old, required by Canadian architects in NEW-FOUNDLAND. Commencing salary \$450.00 per month, passage paid, two-year contract. At least two years' practical experience essential. Apply immediately with full details to Overseas Technical Service, 4, Lion Street, Kidderminster, quoting 131/1. 4599

YOUNG ARCHITECT WITH EXPANDING PRACTICE IN THE SOUTH MANCHESTER DISTRICT requires an ASSISTANT, INTERMEDIATE R.I.B.A. STANDARD AND WITH OFFICE EXPERIENCE. PLEASE STATE SALARY REQUIRED. BOX 4588.

TEATHER & HADFIELD, Chartered Architects, Mazda Buildings, Campo Lane, Sheffield, 1, invite applications for the following: ASSISTANT ARCHITECTS capable of taking charge of contracts from sketch design to completion.

ARCHITECTURAL ASSISTANT, up to Intermediate standard. Applications to be made by letter. 4587

DENYS LASDUN & PARTNERS require qualified and experienced ARCHITECTS to fill positions of responsibility. Salaries from £1,100 p.a. according to ability and experience. Write to 3, Albany Terrace, N.W.1, or telephone HUNTER 1822 for an appointment. 4542

PROPERTY DEVELOPER (Public Company in London area) WITH large scale STORE, SHOP and OFFICE DEVELOPMENTS wishes to establish own

ARCHITECTS DEPARTMENT and invites applications from ambitious and energetic SENIOR ARCHITECTS (salaries according to qualifications and experience), JUNIOR ARCHITECTS, DRAUGHTSMEN, ENGINEERS, QUANTITY SURVEYORS, etc. Send full details of qualifications, experience, present salary, etc., together with information on types of work previously undertaken to Chairman, Box 4540.

FREDERICK GIBBERD requires at HARLOW Office: (a) Qualified ASSISTANT ARCHITECTS and (b) Intermediate standard ASSISTANTS. Good salaries in accordance with ability. Work includes central area redevelopment, public and commercial buildings, swimming baths, technical colleges, shopping centres and housing in the provinces and in Harlow. Houses and flats available. Please apply in writing to Frederick Gibberd, 19, The Rows, Stone Cross, Harlow, Essex. 4529

ASSISTANT required immediately by Surrey commercial company. Intermediate/Final standard. Experience in conversions and interior design preferred. Salary £800-£1,100. Housing assistance if required. Box 4537.

SENIOR AND JUNIOR ASSISTANTS and **DRAUGHTSMEN** required by Multiple Shop Company's Architects Department. Five-day week, excellent salaries, staff canteen, etc. Work consists of detail working drawings both 1/4 in. and 1/2 in. together with travelling throughout the country. Please reply, stating age, salary required and past experience to Box 4534.

£1,000-£1,500. ASSISTANT ARCHITECTS required in the Dundee and Edinburgh offices of Robert Matthew and Johnson-Marshall for work on major hospital projects. Apply to 31, Regent Terrace, Edinburgh, 7. 4449

SENIOR AND JUNIOR ASSISTANTS required for small Office with interesting and varied work.

Green, Lloyd & Son,
5 Pickering Place,
St. James's Street, S.W.1.
Telephone WHITEhall 8926. 4500

TWO Senior and two Intermediate standard ARCHITECTURAL ASSISTANTS required for rapidly growing practice. Interesting, varied and responsible work on schools and churches. Good salary paid to right men. Apply giving details of training and experience to F. G. BROADBENT & PARTNERS, 13, Manchester Square, W.1. 4578

BIRMINGHAM—We need a young ARCHITECT, either qualified or in training, with a good sense for clean and straight forward design. There is plenty of scope for the right man. Top salary according to experience. Apply J. Alfred Harper & Son, 63, Temple Row, Birmingham. 4527

TWO responsible Intermediate ASSISTANTS required with contemporary outlook. South Manchester. Minimum salary £600. Box 4445.

VACANCIES in office of architect dealing with work for big multiple company for:—
(1) FINAL STANDARD (or near).
(2) INTERMEDIATE.

(1) involves responsibility for jobs from and including design stage to completion; (2) will be concerned with design detail and close association with jobs in progress.

Both posts require keen interest in contemporary design and modern methods. Excellent salaries and prospects. Luncheon vouchers and Pension Scheme. Apply Nadine Beddington, A.R.I.B.A., F.R.S.A., M.S.I.A., 301-307, Oxford Street, London, W.1. HYD 1037. 4593

£1,500 offered to very SENIOR ARCHITECT in BRIGHTON office of GOTCH & PARTNERS, working on a varied programme of large contracts here and abroad. Design and constructional experience both in the office and on site, as important as initiative and imagination. Pension Scheme, luncheon vouchers and five-day week. Applications in writing to 26, Regency Square, Brighton. 4526

ARCHITECTURAL ASSISTANT, R.I.B.A. Intermediate or near Intermediate standard. Salary in accordance with experience and qualifications. F. Tomkinson & Son, Architects, 180, Edleston Road, Crewe. 4518

GENERAL ALL-ROUNDER REQUIRED TO JOIN YOUNG FIRM WHERE MOST VARIED MODERN WORK IS STARTING. ESSENTIAL TO BE FIRST CLASS DRAUGHTSMAN AND KEEN ON ORGANISATION AND ADMINISTRATION. PARTNERSHIP POSSIBILITY AFTER TRIAL PERIOD. ATTRACTIVE WEST END OFFICE. WRITE EXPERIENCE, ETC., TO BOX 4516.

YOUNG QUALIFIED ASSISTANT WITH CREATIVE ABILITY REQUIRED IN SOUTH LONDON

TO work on multi-storey housing schemes and shops, community buildings, etc. Excellent working conditions in profit-sharing co-partnership office. Assistance with housing accommodation if necessary.

Harry Moncrieff, F.R.I.B.A., A.M.T.P.I., Co-operative Planning Ltd., 73b, South Side, S.W.4. TULee Hill 4871.

SALARY
£1,000 — £1,250. 4520

ARCHITECTS
QUALIFIED Men or Women required, to run Church, School, and industrial projects. Starting salary £1,000 to £1,600 or more for outstanding ability.

WEIGHTMAN & HULLEN, ARCHITECTS
76, Rodney Street, Liverpool, 1.
Five-day week, Bonus and Pension Scheme. 4515

ASSISTANT required capable of designing and preparing full working drawings, details and specifications, etc., under partners' supervision and of taking responsibility for smaller contracts and controlling junior staff. In small drawing office in South Bucks. Write, stating age, experience and salary required, to Box 4444.

WE believe in team work. We have an expanding practice. The work includes multi-storey development projects, and even country cottages. The offices are near Five Ways, Edgbaston, Birmingham.

We are looking for one or two ASSISTANTS. Only those who would be interested in the development of the practice, and are primarily interested in the production of good architecture need apply. Normally the working hours are civilized: There are three weeks' holiday with pay, and we might even manage to pay you the salary for which you ask. Box 4446.

EXPERIENCED No. 1 required in small but busy City Office. Interesting and varied work. Excellent prospects for suitable applicant. Write giving details of age and experience to Box 4448.

COWES—ASSISTANT ARCHITECT required for work mainly on schools building programme. Salary by arrangement. Please write to Howard V. Lobb & Partners, 16, Bath Road, Cowes, I.W. 4532

ARCHITECTURAL ASSISTANTS
(at least Intermediate standard)
AND JUNIORS

R required for interesting, varied work on Bowling Lanes, Ballrooms, Cinemas, Restaurants. Knowledge of interior design useful. Permanent, pensionable posts, offering excellent prospects, progressive salary, etc. Please write, giving age, experience, salary required, to Personnel Officer, The Rank Organisation, 11, Belgrave Road, S.W.1. 4504

ARCHITECTS AND DRAUGHTSMEN (both structural and shopfitting) required by nationally known multiple firm for their permanent staff. Excellent working conditions and plenty of scope for interested men. A number of posts are available for men ranging from 22 years to those fully qualified and experienced. Superannuation Fund, Staff restaurant. Please send details of experience and salary required to Box 4505.

COMPETITION WINNERS require Senior and Junior ASSISTANTS to work on interesting modern public building. Write or phone: Goodwin & Tatam, 6, Bedford Row, W.C.1. CHA. 5811. 4507

ARCHITECT required. Must be a good, experienced Draughtsman in Housing, Flat and Shop Designs, Estate Layouts and Site Surveying. The position carries a good starting salary with unlimited prospects for a person with initiative and who is able to investigate potentials. Degrees not essential. Age immaterial. A. H. Field (Developers) Ltd., 107, Dale End, Birmingham. 4510

A FIRM of industrial consultants require the following staff:—

(1) SENIOR ASSISTANT ARCHITECT
£1,100—£1,300.
Applicants for this appointment must be qualified and have had post graduate experience.

(2) ARCHITECTURAL ASSISTANTS
£750—£1,100.
Applicants should have had several years' office experience in an Architect's office and be capable of producing working drawings with the minimum of supervision. The Company operates an optional contributory pension scheme, a five day week and an Annual salary review.

Detailed applications for the appointments which are available in London, Bristol and Reading should be sent to the Senior Architect. Box 4612.

DO YOU USE COPPER STRIP

COPPER FOR ROOFING IN ALL WIDTHS UP TO 27" AND ALL GAUGES DOWN TO AND INCLUDING .004".



J.F. RATCLIFF (METALS) LTD.

NEW SUMMER ST. BIRMINGHAM 19

Telephone: ASTon Cross 4116 (5 lines) Telegrams: 'RODENT' BIRMINGHAM 19

Architectural Appointments Wanted

3s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

EXPERIENCED ARCHITECT would assist professional firms also overseas as Research, Planning, Design Consultant. Box 4538.**ARCHITECT**, 12 years' varied experience, A weeks a four-day (but 36 hour) week in Hertfordshire or North London. Box 4573.**YOUNG married ARCHITECT** now anticipates a partial release from domesticity is anxious to do working drawings, etc., at home or part-time. Phone Barnet 7384. 4340**ARCHITECT** with wide general experience at home and abroad seeks position of responsibility preferably with prospects of Partnership in London or Southern Counties. 4636**FIRST ASSISTANT** for fourteen years, left owing to shortage of work therefore shortage of money. Two years multi-storey office development, now wishes to resume post as first assistant in small or medium sized architect's office. Twenty-six years' London experience, industrial, commercial, chain stores, transport, etc. If you contemplate offering less than £1,500 without bonus, profit share or superannuation please do not write to Box 4593.**ASSOCIATE**, 33, 16 years' first class comprehensive experience. Interested in progressive design and office procedure. Not wealthy. Does not drive. Box 4443.**SENIOR ASSISTANT**, 18 years' varied first class experience. London area W. or S.W. preferred. Salary £1,500 with share of profits. Box 4543.**DISILLUSIONED** idealist seeks work. Qualified, experienced, competent, poor but still interested in architecture. Progressive outlook, £1,200 p.a. Box 4611.**DIPL. ARCH.**, A.R.I.B.A. (31), eight years' post graduate experience private practice London in senior executive position, requires senior post in London/S. Herts Area. All positions will be considered in confidence. Box 4547.**Other Appointments Vacant**

3s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

DRAUGHTSMAN**SHELL-MEX AND B.P. LIMITED** require for their London Office one **ARCHITECTURAL DRAUGHTSMAN** for work on various commercial projects. Applicants should be quick and accurate draughtsmen and should have a sound knowledge of building construction. Salary according to experience. Excellent working conditions, staff restaurant, sports club, etc. We regret that second applications cannot be considered. Apply in writing giving full details of age, qualifications and experience to:—The Staff Manager (Ref. CA/126),
Shell-Mex and B.P. Ltd.,
Shell-Mex House,
Strand,
London, W.C.2. 4606**MOBIL OIL COMPANY** invites applicants for the position of **BUILDING SURVEYOR** in their Newcastle branch office. The work is in connection with the development and re-modelling of service stations. Applicants should have a sound knowledge of building construction and be capable of carrying out site supervision. Must be car drivers. Pension scheme, sickness benefits, luncheon vouchers. Write giving full details of age, experience and salary required to Employment Adviser, Carlton House, Westminster, S.W.1, quoting ref. BSN 2207A. 4634**SENIOR ARCHITECTURAL DRAUGHTSMAN**. Taylor Woodrow (Arcan) Ltd. require a **SENIOR ARCHITECTURAL DRAUGHTSMAN**. The work is interesting and varied, and is generally concerned with prefabrication. Applicants should have first class practical experience, and ability to take responsibility. Please reply, giving full details of age, experience and salary, to the Office Manager, 41, Welbeck Street, London, W.1. 4654**BUSINESS VACANCIES BUREAU** have vacancies for **DRAUGHTSMEN, ESTIMATORS, QUANTITY SURVEYORS, etc.** Permanent Positions. (No Fees.) Call: 38, Victoria Street, Victoria, S.W.1. Abbey 4624.**READING Architect** requires: **TWO ARCHITECTURAL DRAUGHTSMEN** to assist in specialist design work in which accuracy is essential. Initial salary £500-£750 p.a. according to ability. Good prospects of early advancement for right man or woman. Apply in writing (in confidence) to Box 4593.**VENTILATION SILENCING**. Specialists in the design, manufacture and marketing of high efficiency silencers for air-conditioning ventilating systems, require a live man with full knowledge of all aspects of ventilation to act as their **TECHNICAL SALES REPRESENTATIVE**, principally in the London Area. Salary, expenses, and Pension Scheme in operation. Full details in writing to Sound Control Ltd., Colnseide Works, Trout Road, West Drayton, Middlesex. 4439**INDUSTRIAL design and furniture. Competent DRAUGHTSMAN** required, preferably with office experience. Interest in interior and exhibition design would be an advantage. Please telephone FLAXman 1455 or write, stating age and salary required, to Box 4522.**DRAWING OFFICE MANAGER** required in London office. Must be fully conversant with organisation, administration and practical supervision of various building works of all kinds. Five-day week, luncheon vouchers. Salary starting at £1,800 p.a. based on capabilities and experience. Box 4519.**QUANTITY SURVEYOR**, approaching Final standard, capable of carrying out final accounts and all normal Quantity Surveyor's duties, required for West End Office. Salary according to age and experience. Please write giving full particulars to Box 4584.**QUANTITY SURVEYOR**, approaching Final standard, capable of carrying out final accounts and all normal Quantity Surveyor's duties, required for Home Counties Office. Salary according to age and experience. Please write giving full particulars to Box 4565.**DESIGN UNIT** offers an attractive appointment to a **DESIGNER** competent and experienced in contemporary exhibition and showroom design. An interest and some success in product styling would be an extra attraction. This designer, who would be in control of a design studio, could be an architect with some successes in this field. Box 4592.**Other Appointments Wanted**

3s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

SECRETARY, architectural experience, car driver, seeks varied post, preferably with interior designer and decorator. 4625**Services Offered**

3s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

"DON" ARCHITECTURAL MODEL MAKERS. We offer the highest grade work with speed and reliability.—Please 'Phone Woolwich 1264 or write 6, Pelham Crescent, Hastings. 1673**ARCHITECTURAL, Civil Engineering, Land, Building and Quantity Surveying services** on fee, lump sum or quantum merit basis. Tel. SILVERTHORNE 7551. 3868**SURVEYS**. Large or small, drawn to large scales, accuracy guaranteed. Structural sewerage, sewage disposal, sanitary plumbing and drainage design. The Site Survey Company, London, S.E.3. Telephone LEE Green 7444. 6088**FULLY experienced** in all Building and Architectural work, I am available to undertake: Designs, Working Drawings, Details, Surveys, Specifications, Models, etc. Just telephone Wallington 9883 (near Croydon) and I will call anywhere and take your instructions. Box 5548.**SURVEY OF LAND** or buildings also Specifications, quantities and final accounts prepared for new or conversion work. LIV. 1839, 2356**MODELS AND COLOUR PERSPECTIVES**. Charles Houthuesen offers work of the highest quality. 16, Thames Street, Sunbury-on-Thames, Middlesex. Sunbury 3728. 2339**ARCHITECTURAL MODELS**—Thomas E. Bartlett and Partners specialise in this work. 5 King's Ave., W.S. Phone Perivale 6283 6176**"NAPIER Models"** Specialists in Architectural work. Stanley Studios, S.W.16. FLAXMAN 2118. 3861**PLUMBING, DRAINAGE and Water Services**. Schemes designed by fully qualified engineers having unrivalled knowledge of tall buildings and latest techniques. General arrangement drawings only or fully detailed schemes and quantities. Strictly confidential. Box 4351.**NAMEPLATES, PLAQUES, CRESTS, etc.**, in bronze, brass, and plastic; quotations and lay-outs submitted.—Abbey Craftsmen, Ltd., Abbey Works, 109a, Old Street, London, E.C.1. CLE 3845. 4155**FOUNDATION STONES**. Sculptured Panels, Commemorative Tablets, etc., designed and executed by experienced sculptors and expert lettering craftsmen. Carved heraldry, bronze plaques. Sculptured Memorials, 67, Ebury Street, S.W.1. 1983**YOUNG practice**, early stages, can offer qualified services to profession. Design and working drawings; perspectives. Box 4628.**S P E E D P L A N**

ONE WORSLEY COURT, LONDON N.W.3.

SPEEDPLAN offer a comprehensive design and advisory service to all concerned with **HEATING, AIR-CONDITIONING, PLUMBING OR ELECTRICAL INSTALLATIONS**. Telephone Swiss Cottage 3884. 4630**For Sale and Wanted**

3s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

WANTED. Complete set of Architects' Journals 1985 to 1999. Carriage will be paid. Write: J. D. Coxon, 14, Grey Street, Newcastle upon Tyne 1. 4622**IF** readers who do not want the Technical Section of the Architects' Journal for November 10, 1960, would kindly send them to Paul Ritter, 7, Magdala Road, Nottingham, he will gladly refund the price and postage. 4440**CREOSOTE**, 40 gallons 90s., delivered in free drum; **REFINED TAR** (needs heating), 93s. 4d.; **BARN TAR** (can be painted on cold), 96s. 8d. Coopers, Builders' Merchants, Ashford, Kent. 4511**Partnership and Financial**

3s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

ASSOCIATE suffering sharp decline in commissions willing to consider any workable offer from Partnership to sharing accommodation, etc., in own London office. Box 4607.**ARCHITECT** with substantial design and professional experience would consider partnership with young expanding firm also in provincial town. Box 4539.**Premises To Let**

3s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

DECENTRALIZED OFFICES. **SOUTH LONDON** (near Croydon) opposite main S.R. station. Floor areas of 400, 2,000 and 2,600 sq. ft. at 13/-d. per sq. ft. **KEITH CARDALE, GROVES & CO.**, 43 North Audley Street, W.1. GRO. 8551. 4637**Miscellaneous**

3s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

A. J. BINNS, LTD., Specialists in the supply and fixing of all types of Fencing, Gates and Cloakroom Equipment. — Harvest Works, 96/197, St. Pauls Road, N.1. Canonbury 2961. 2963**HANDMADE, CLAY TILES** available in many beautiful colours. The perfect roofing material with the longest life. Particulars, samples and brochure from G. Tucker & Son, Ltd., Loughborough, Leicestershire. Phones: Loughborough 2446/7. 1609**CROGGON & CO. LTD.**—Chain Link Fencing and all types of Wrought Iron Fencing supplied and erected.—230, Upper Thames Street, London, E.C.4. CENTRAL 4382. 9429**Educational Announcements**

3s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

R.I.B.A. and T.P.I. EXAMS—Stuart Stanley (Ex Tutor Sch. of Arch. Lond. Univ.) and G. A. Crockett, M.A./D.A., F.F.R.I.B.A., M./A.M.T.P.I., prepare Students by correspondence, 10, Adelaide Street, Strand, W.C.2. TWM. 1603/4. 9963**THE POLYTECHNIC, REGENT STREET, W.1. SCHOOL OF ARCHITECTURE, SURVEYING AND TOWN PLANNING**. Head of the School: JOHN S. WALKER, F.R.I.B.A., M.T.P.I.**A COURSE** of eleven post-graduate lectures for architects and builders on:—**SPACE STRUCTURES**. Modern Trends and Recent Developments will be given on

Fridays from 6.30 to 8.30 p.m. Commencing 13th January, 1961, in the Fyvie Hall of The Polytechnic.

Lecturer: Z. S. MAKOWSKI, Ph.D., Dipl. Ing. D.I.C. A.M.I.C.E. (Imperial College of Science and Technology).

Fee for the course: £1 1s. 6d. (including registration fee). Further details and application forms can be obtained from the Registrar of the School of Architecture, Surveying and Town Planning. 4602

BROUGHTON MOOR

LIGHT
SEA GREEN
OLIVE GREEN
AND BLUE

SLATE

for Facings, Foundation Stones, Paving and
Flooring, Steps, Cills, Shop Fronts, Surrounds
Pilasters, Fireplaces and all architectural work

Send for
technical
pamphlet

1. Floorings 2. Facings
3. Coping 4. Cills
5. Riven Faced Slabs

**The BROUGHTON MOOR
GREEN SLATE QUARRIES Ltd**

CONISTON, LANCASHIRE
Telephone: Coniston 225/6 Telegrams: Cann, Coniston

BROAD-ACHESON
BLOCKS for
unvarying quality

PRODUCTION OF ALL SIZES NOW
CENTRALISED AT GREENWICH WORKS
ROAD & CO LTD GREENWICH SE18 6JG

KIRKSTONE

GREEN SLATE FOR WALL
CLADDING, CILLS,
COPING, FLOORING, PAV-
ING, ETC.

The slate from our quarries has
been used for these purposes for
over 50 years. Our accumulated
experience is offered to Architects in
the services of our Technical Staff
and illustrated literature.

Service in Slate
KIRKSTONE GREEN
SLATE QUARRIES Ltd.
Ambleside, Westmorland

Tel.: Amb. 3270

FULL OR SUPPLEMENTARY TUITION
Provided by correspondence for R.I.B.A. examina-
tions. Revision Courses also available in any subject.
Descriptive brochure on application
ELLIS SCHOOL OF ARCHITECTURE
Principal: A. S. Waters F.R.I.B.A., F.I.Arb.
103B, Old Brompton Rd., London, S.W. 7
and at Albany House, Worcester.

VERMICULITE CLADDING LIMITED
Precast Fire Resisting Casings for
R.S.J.'s and Stanchions.
LONDON ROAD, CHALFONT—ST. GILES
Telephone Nos. 45 & 46

HY-RIB

combined shuttering
and reinforcement
long span metal lathing.

HY-RIB DIVISION
15, 41, Lower Marsh, London SE1
Telephone: WSA 9500 9522

SANDLIME FACING

BRICKS

TO B.S.S. 187/55

BRICKS FOR SPECIAL PURPOSES
WHITE — S.P.W. BRAND
COLOURED — M.C.C. BRAND

ALSO

CLASS 'A' and CLASS 'B'

M. McCARTHY & SONS, LTD.

BULWELL • NOTTINGHAM
Telephone: BULwell 27-8237 (4 lines)

GUARANTEED EXAMINATION COACHING
for R.I.Ch. Surveyors, R.I.B.A., (Inter.), I. Qry.
Surveyors, I.Mun.E., I.Struc.E., etc.
FIRST-CLASS INSTRUCTION COURSES
In all aspects of Architecture, Building, Draughts-
manship, Surveying, Civil, Municipal, Structural
and Sanitary Engineering.

Write for FREE prospectus:
INTERNATIONAL CORRESPONDENCE SCHOOLS,
Interfax House, Parkgate Road (Dept. 472),
London, S.W.11.

'SYSTON' ROLLING SHUTTERS
IN STEEL, WOOD AND ALUMINIUM
'SYSTON' SERVERY HATCHES

MANUFACTURED TO YOUR OWN SPECIFICATION
AT COMPETITIVE PRICES WITH RAPID DELIVERY

J. TAYLOR (SYSTON) LTD. • SYSTON • LEICESTER
TEL: SYSTON 2133 • MANCHESTER: RINGWAY 3996

today's slate
WINCILATE

PROTECTION
PERMANENCE
PRECISION

specialist manufacturers of slate
cills, surrounds, copings and cladd-
ing to architects' specifications
The Bow Slate & Enamel Co. Ltd
The Town Hall, Bow Rd, E3. ADV 2383

W

BUILDING ROUNDAABOUT

reprinted from articles in

The Builder

by **Arthur W. Kenyon,**
CBE, FRIBA, Dis: TP, MTPI!

Here are the writings of an
architect on his tours throughout
England. He writes on the craft
of building; the interesting items
that escape the normal vision; the
points of interest for the artist, the
rapidly fading call of craft.
Written in easy flowing language
by one who can, himself an
artist (the book is illustrated by
the author), appreciate the old
standards and uphold the virtues
and necessities of the new.

Price 10/6 plus postage
A BUILDER BOOK

The Builder Bookshop,
4 Catherine St., Aldwych, WC2.
Telephone: TEMple Bar 6251
(6 lines).

MODERNEON

MODERN ELECTRIC (INSTALLATIONS) LTD
BREWERY ROAD, LONDON N.7. TEL. NORTH 7311/6608 10 LINES

NEW COMPLETE REFERENCE BOOK OF
"SIGN LANGUAGE"

50 pages of LETTERING, TYPEFACES, COLOUR
DATA-SHEETS, PHOTOGRAPHS, ETC.

PLEASE REQUEST A COPY WITH OUR COMPLIMENTS

FIRST FOLD HERE

FOLD HERE

AJ enquiry service

If you require catalogues and further information on building products and services referred to in the advertisements appearing in this issue of the Architects' Journal please mark with a tick the relevant names given in the index to advertisers overleaf. Then detach this page, write in block letters, or type, your name, profession or trade and address in the space overleaf, fold the page so that the post-paid address is on the outside and despatch. We will ensure that your request reaches the advertisers concerned.

Postage
will be paid
by
Licensee

No Postage Stamp
necessary
if posted
in Great Britain or
Northern Ireland

BUSINESS REPLY FOLDER
Licence No. S.W. 1761

THE ARCHITECTS' JOURNAL

9-13 Queen Anne's Gate

London, S.W.1.

FOLD HERE

SEEK IN THIS END

Alphabetical index to advertisers

	PAGE	CODE		PAGE	CODE		PAGE	CODE
Airscrew Company & Hicwood, Ltd.	68	0011	Gordon, J. R., & Co., Ltd.	46	0257	Panel-Lastic Construction Co., Ltd.	114	0073
Alax Aluminium	82	0012	Green Systems, Ltd.	118	0260	Panther Ceilings, Ltd.	6	1132
Alcon Industries, Ltd.	50, 51	0441	Greenwood's & Alrvac Ventilating Co., Ltd.	11	0263	Paramount Asphalt, Ltd.	134	0451
Allom, Heffer & Co., Ltd.	90	0018	Gyproc Products, Ltd.	74	0266	Patent Glazing Conference	27	1069
Architectural Press	78, 84, 126, 128	0026	Gypsum Mines, Ltd.	122	0720	Philips Electrical, Ltd.	55	1175
Art Metal Construction Co.	102	0030				Pickering, Ltd.	40	1101
Associated Fire Alarms, Ltd.	67	0035				Pilkington Brothers, Ltd.	95	0812
Associated Metal Works (Glasgow), Ltd.	126	0125				Preservation Developments	81	1013
Atkins, W. S.	129	—				Protim, Ltd.	79	0897
Austin, James, & Sons (Dewsbury), Ltd.	88	0040						
Autotype Co., Ltd.	116	0043						
B.I.P. Reinforced Products, Ltd.	36	0066						
Bailey & White	129	1172						
Bath & Portland Stone Firms, Ltd.	26	1147						
Benda, Ltd.	82	0056						
Bilston Foundries, Ltd.	91	0067						
Boulton & Paul, Ltd.	120	1112						
Bow Slate & Enamel Co., Ltd.	143	0083						
British Ceramic Tile Council	85	0254						
British Plaster Board (Manufacturing), Ltd.	58	0102						
British Visqueen, Ltd.	110	0110						
Broad & Co., Ltd.	143	0111						
Broads Manufacturing Co., Ltd.	119	0112						
Brooks Ventilation Units, Ltd.	21	0114						
Broughton Moor Green Slate Quarries, Ltd.	143	0115						
Bulgomme-Silence Flooring	126	0119						
Burgess Products Co., Ltd.	30	0121						
Burn, George, Ltd.	116	0123						
Byrd, A. A., & Co., Ltd.	66	0124						
Canadian Government	34	0191						
Cape Building Products, Ltd.	87	0130						
Carrier Engineering	107	0855						
Catesby, Ltd.	83	0134						
Central Electricity Generating Board	2	0842						
Chilton Electric Products, Ltd.	47	0140						
Coburn Engineers, Ltd.	80	0148						
Colt, W. H. (London), Ltd.	19	0785						
Coughtrie, J. & G., Ltd.	87	0162						
Cox, Peter, & Partners, Ltd.	123	0164						
Crane, Ltd.	105	0166						
Crittall Mfg. Co., Ltd.	14	0169						
Croogon & Co., Ltd.	122	0171						
Cuprinol, Ltd.	78	0128						
Dixon's Paints, Ltd.	80	0183						
Dreadnought Fireproof Doors (1930) Ltd.	81	0190						
Eastwood's Sales, Ltd.	101	0198						
Eeto Installations, Ltd.	128	0200						
Ellis School of Architecture	148	0202						
English Electric Co., Ltd.	52	0206						
Expanded Metal Co., Ltd.	78	0211						
F.E.B. (Great Britain), Ltd.	3	0216						
Formaco, Ltd.	49	0233						
G.K.N. Reinforcements, Ltd.	143	0244						
General Electric Co., Ltd.	72	0929						
Gerrard, J., & Sons, Ltd.	59	0750						
Haden, G. N., & Sons, Ltd.	42	0922						
Harrison (Birmingham), Ltd.	78	0281						
Harvey, G. A., & Co. (London), Ltd.	12	0284						
Heal's Contracts, Ltd.	28	0286						
Hill, Richard, Ltd.	20	0708						
Hills, F., & Sons, Ltd.	24	1001						
Hills (West Bromwich), Ltd.	53	0297						
Hodgson & Hodgson, Ltd.	122	0299						
Holts Shutters, Ltd.	99	0952						
Hope, Henry, & Sons, Ltd.	92	0309						
Horsley, Smith & Co., Ltd.	69	0311						
Hot Dip Galvanizers Association	27	0313						
Imperial Chemical Industries, Ltd.	43	0319						
Imperial Chemical Industries, Ltd. International Correspondence Schools	111	0617						
	143	0325						
James, W., & Co., Ltd.	116	0330						
Johnson, S. C., & Son, Ltd.	102, 103	0776						
Jones, T. C., & Co., Ltd.	50	0333						
Kenwood Manufacturing (Woking), Ltd.	31	0976						
King, J. A., & Co., Ltd.	121	0343						
Kings Langley Engineering Co., Ltd.	100	0120						
Kirkstone Green Slate Quarries, Ltd.	143	0739						
Lamont, James H., & Co., Ltd.	125	0346						
Le Bas Tube Co., Ltd.	75	0348						
Litholeum Manufacturers' Association	60	0361						
London County Council	130	—						
Lovell & Hanson, Ltd.	108, 109	0904						
McCarthy, M., & Sons, Ltd.	143	0374						
McNeill, F., & Co., Ltd.	5	0376						
MacAndrews & Forbes, Ltd.	124	0372						
Medway Buildings & Supplies, Ltd.	73	0402						
Mellows & Co., Ltd.	41	0406						
Merchant Trading Co., Ltd.	116	0408						
Metropolitan Construction Co., Ltd.	125	1180						
Metal Sections, Ltd.	44	0403						
Mint, Birmingham, Ltd., The	114	0415						
Modern Electric (Installation), Ltd.	143	1149						
Morris Rubber Industries, Ltd.	79	0759						
Nairn, Michael, & Co., Ltd.	88	0427						
National Federation of Clay Industries	119	0430						
Newman, William, & Sons, Ltd.	54	0435						
Newton, Chambers & Co., Ltd.	16, 17	0437						
North West Metropolitan Regional Hospital Board	125	—						
Nuralite Co., Ltd.	15	1113						
Patent Glazing Conference	27	1069						
Philips Electrical, Ltd.	55	1175						
Pickering, Ltd.	40	1101						
Pilkington Brothers, Ltd.	95	0812						
Preservation Developments	81	1013						
Protim, Ltd.	79	0897						
Quickset Water Sealers, Ltd.	79	0795						
Ratcliffe, J. & E.	136	1150						
Reliance Telephone Co., Ltd.	7	0503						
Richards, Charles, & Sons, Ltd.	104	0728						
Riley, A. J., & Son, Ltd.	4	0510						
Rippers, Ltd.	18	0512						
Ronuk, Ltd.	112	0519						
Ruberoid Co., Ltd.	93	0521						
Rustless Iron Co., Ltd.	106	0525						
Sanders, Wm., & Co. (Wednesbury) Ltd.	10	0532						
Savage & Parsons, Ltd.	70, 71	0539						
Shanks & Co., Ltd.	35	1014						
Siegmart Floor Co., Ltd.	25	0556						
Siemens Edison Swan, Ltd.	61	0559						
Simplex Electric Co., Ltd.	36	0584						
Southern, Ltd.	96	0580						
Speedwell Gear Case Co., Ltd.	124	0581						
Sposo Products, Ltd.	117	0583						
Stott, James, Ltd.	84	0602						
Stramax Ceilings (G.B.), Ltd.	89	0603						
Strand Electric & Engineering Co., Ltd.	141	0764						
Super Silent, Ltd.	48	1171						
Taylor, J. (Syston), Ltd.	143	0619						
Teleflex Products, Ltd.	64	0622						
Thermacoust, Ltd.	115	0629						
Thermalite Ytong, Ltd.	98	0630						
Tnompeon, John, Beacon Windows, Ltd.	63	0631						
Thorn, J., & Sons, Ltd.	8	0632						
Timber Development Association, Ltd.	22, 23	0635						
Tretol, Ltd.	33	0638						
Truscon, Ltd.	143	0645						
Tunnel Portland Cement Co., Ltd.	57	0647						
Turners Asbestos Cement Co., Ltd.	39	0644						
Tyne Board Company, Ltd.	13	1179						
Ulster Chipboard Co., Ltd.	62	1136						
Uni-Tubes, Ltd.	104	0652						
Valor Co., Ltd.	94	0833						
Venesta Plywood, Ltd.	9	0658						
Vermiculite Cladding, Ltd.	143	0662						
Vickers-Armstrongs (Engineers), Ltd.	45	1156						
Wadsworth, James, & Sons, Ltd.	126	0980						
Ward & Co. (Lesters), Ltd.	128	0676						
Wardle Engineering Co., Ltd.	56	0678						
Well Fire & Foundry Co., Ltd.	123	1015						
Wheatley & Co., Ltd.	65	0689						
Whittle, T., & Sons, Ltd.	123	1028						
Wildbore, J. E., Ltd.	128	1151						
Wood Preservation, Ltd.	33	1163						
Wright, John, & Sons Veneers, Ltd.	116	1176						
Zinc Alloy Rust-Proofing Co., Ltd.	143	0796						

For Appointments (Wanted or Vacant), Competitions Open, Drawings, Tracings, etc., Educational, Legal Notices, Miscellaneous, Property and Land Sales, see 127, 129, 131, 132, 133, 134, 135, 136, 137.

Write in block letters, or type, your name, profession, and address below, and fold so that the post-paid address is on the outside.

NAME

PROFESSION

ADDRESS

YOURS *for the Asking*

This book shows that maintenance considerations for the after-treatment or prevention of rust need not arise, where Sherardizing is specified. May we send you a copy together with a reprint of the Architects' Journal Information Sheet, reference Corrosion prevention 40 B1?



SHERARDIZING

**ZINC ALLOY
RUST-PROOFING CO. LTD.**

SHAKESPEARE STREET, WOLVERHAMPTON
TELEPHONE: WOLVERHAMPTON 27531 (Five lines)
ALSO AT LONDON & ROCHDALE



**brand
new
right
through**

Write for your copy.

Our new catalogue brings you right up-to-date on stage and television lighting and control equipment. Packed with real easy-to-find information including full optical and mechanical data and prices from which precise specifications and estimates can be prepared.

STRAND ELECTRIC & ENGINEERING CO. LTD., 29 KING ST., COVENT GARDEN, LONDON, W.C.2

Alphabetical index to advertisers

	PAGE	CODE
Aircrew Company & Jicwood, Ltd.	68	0011
Ajax Aluminium	82	0012
Alcon Industries, Ltd.	50, 51	0441
Allom, Heffer & Co., Ltd.	90	0018
Architectural Press	78, 84, 125, 128	0026
Art Metal Construction Co.	102	0030
Associated Fire Alarms, Ltd.	67	0035
Associated Metal Works (Glasgow), Ltd.	126	0125
Atkins, W. S.	129	—
Austin, James, & Sons (Dewsbury), Ltd.	38	0040
Autotype Co., Ltd.	116	0043

B.I.P. Reinforced Products, Ltd.	86	0066
Bailey & White	129	1172
Bath & Portland Stone Firms, Ltd.	26	1147
Bendz, Ltd.	82	0056
Bilston Foundries, Ltd.	91	0067
Boulton & Paul, Ltd.	120	1112
Bow Slate & Enamel Co., Ltd.	143	0083
British Ceramic Tile Council	85	0254
British Plaster Board (Manufacturing), Ltd.	58	0102
British Visqueen, Ltd.	110	0110
Broad & Co., Ltd.	143	0111
Broads Manufacturing Co., Ltd.	112	0112
Brooks Ventilation Units, Ltd.	21	0114
Broughton Moor Green Slate Quarries, Ltd.	143	0115
Bulgomme-Silence Flooring	126	0119
Burgess Products Co., Ltd.	20	0121
Burn, George, Ltd.	115	0123
Byrd, A. A., & Co., Ltd.	66	0124

Canadian Government	34	0191
Cape Building Products, Ltd.	37	0130
Carrier Engineering	107	0855
Catesbys, Ltd.	83	0134
Central Electricity Generating Board	2	0842
Chilton Electric Products, Ltd.	47	0140
Coburn Engineers, Ltd.	80	0148
Colt, W. H. (London), Ltd.	19	0785
Coughtrie, J. & G., Ltd.	87	0162
Cox, Peter, & Partners, Ltd.	123	0164
Crane, Ltd.	105	0166
Crittall Mfg. Co., Ltd.	14	0169
Croogon & Co., Ltd.	122	0171
Cuprinol, Ltd.	78	0128

Dixon's Paints, Ltd.	80	0183
Dreadnought Fireproof Doors (1930) Ltd.	81	0190

Eastwood's Sales, Ltd.	101	0198
Eeto Installations, Ltd.	128	0200
Ellis School of Architecture	143	0202
English Electric Co., Ltd.	52	0206
Expanded Metal Co., Ltd.	78	0211

F.E.B. (Great Britain), Ltd.	3	0216
Formica, Ltd.	49	0233

G.K.N. Reinforcements, Ltd.	142	0244
General Electric Co., Ltd.	72	0929
Gerrard, J., & Sons, Ltd.	59	0756

Gordon, J. R., & Co., Ltd.	46	0257
Grecon Systems, Ltd.	113	0260
Greenwood's & Alrva Ventilating Co., Ltd.	11	0263
Gyproc Products, Ltd.	74	0266
Gypsum Mines, Ltd.	122	0720

Haden, G. N., & Sons, Ltd.	42	0922
Harrison (Birmingham), Ltd.	78	0281
Harvey, G. A., & Co. (London), Ltd.	12	0284
Heal's Contracts, Ltd.	28	0286
Hill, Richard, Ltd.	39	0708
Hills, F., & Sons, Ltd.	24	1001
Hills (West Bromwich), Ltd.	53	0297
Hodgson & Hodgson, Ltd.	122	0299
Holts Shutters, Ltd.	99	0952
Hope, Henry, & Sons, Ltd.	92	0309
Horsley, Smith & Co., Ltd.	69	0311
Hot Dip Galvanizers Association	27	0313

Imperial Chemical Industries, Ltd.	43	0319
Imperial Chemical Industries, Ltd. International Correspondence Schools	111	0617
	143	0325

James, W., & Co., Ltd.	116	0330
Johnson, S. C., & Son, Ltd.	102, 103	0776
Jones, T. C., & Co., Ltd.	30	0333

Kenwood Manufacturing (Woking), Ltd.	31	0976
King, J. A., & Co., Ltd.	121	0343
Kings Langley Engineering Co., Ltd.	100	0120
Kirkstone Green Slate Quarries, Ltd.	143	0739

Lamont, James H., & Co., Ltd.	125	0346
Le Bas Tube Co., Ltd.	75	0348
Linoleum Manufacturers' Association	60	0361
London County Council	130	—
Lovell & Hanson, Ltd.	108, 109	0904

McCarthy, M., & Sons, Ltd.	143	0374
McNeill, F., & Co., Ltd.	5	0376
MacAndrews & Forbes, Ltd.	124	0372
Medway Buildings & Supplies, Ltd.	73	0402
Mellowes & Co., Ltd.	41	0406
Merchant Trading Co., Ltd.	116	0408
Metropolitan Construction Co., Ltd.	125	1180
Metal Sections, Ltd.	44	0403
Mint, Birmingham, Ltd., The	114	0415
Modern Electric (Installation), Ltd.	143	1149
Morris Rubber Industries, Ltd.	79	0759

Nairn, Michael, & Co., Ltd.	88	0427
National Federation of Clay Industries	119	0430
Newman, William, & Sons, Ltd.	54	0435
Newton, Chambers & Co., Ltd.	16, 17	0437
North West Metropolitan Regional Hospital Board	125	—
Nuralite Co., Ltd.	15	1113

Panel-Lastic Construction Co., Ltd.	114	0973
Panther Ceilings, Ltd.	6	1132
Paramount Asphalte, Ltd.	134	0451
Patent Glazing Conference	97	1069
Phillips Electrical, Ltd.	55	1175
Pickerings, Ltd.	40	1101
Pilkington Brothers, Ltd.	95	0812
Preservation Developments	81	1013
Protim, Ltd.	79	0897

Quickset Water Sealers, Ltd.	79	0795
------------------------------	----	------

Ratcliffe, J. & E.	136	1150
Reliance Telephone Co., Ltd.	7	0503
Richards, Charles, & Sons, Ltd.	104	0728
Riley, A. J., & Son, Ltd.	4	0510
Rippers, Ltd.	18	0512
Ronuk, Ltd.	112	0519
Ruberold Co., Ltd.	93	0521
Rustless Iron Co., Ltd.	106	0525

Sanders, Wm., & Co. (Wednesbury) Ltd.	10	0532
Savage & Parsons, Ltd.	70, 71	0539
Shanks & Co., Ltd.	35	1014
Siegmart Floor Co., Ltd.	25	0556
Siemens Edison Swan, Ltd.	61	0559
Simplex Electric Co., Ltd.	36	0564
Southern, Ltd.	96	0580
Speedwell Gear Case Co., Ltd.	124	0581
Sposo Products, Ltd.	117	0583
Stott, James, Ltd.	84	0602
Stramax Ceilings (G.B.), Ltd.	89	0603
Strand Electric & Engineering Co., Ltd.	141	0764
Super Silent, Ltd.	48	1171

Taylor, J. (Syston), Ltd.	143	0619
Teleflex Products, Ltd.	64	0622
Thermacoust, Ltd.	115	0629
Thermalite Ytong, Ltd.	98	0630
Thompson, John, Beacon Windows, Ltd.	63	0631
Thorn, J., & Sons, Ltd.	8	0632
Timber Development Association, Ltd.	22, 23	0635
Tretol, Ltd.	33	0638
Truscon, Ltd.	143	0645
Tunnel Portland Cement Co., Ltd.	57	0647
Turners Asbestos Cement Co., Ltd.	39	0644
Tyne Board Company, Ltd.	13	1179

Ulster Chipboard Co., Ltd.	62	1136
Uni-Tubes, Ltd.	104	0652

Valor Co., Ltd.	94	0833
Venesta Plywood, Ltd.	9	0658
Vermiculite Cladding, Ltd.	143	0662
Vickers-Armstrongs (Engineers), Ltd.	45	1156

Wadsworth, James, & Sons, Ltd.	126	0980
Ward & Co. (Letters), Ltd.	128	0676
Wardle Engineering Co., Ltd.	56	0678
Well Fire & Foundry Co., Ltd.	123	1015
Wheatley & Co., Ltd.	65	0689
Whittle, T., & Sons, Ltd.	123	1028
Wildbore, J. E., Ltd.	128	1151
Wood Preservation, Ltd.	32	1163
Wright, John, & Sons Veneers, Ltd.	118	1176

Zinc Alloy Rust-Proofing Co., Ltd.	149	0796
------------------------------------	-----	------

For Appointments (Wanted or Vacant), Competitions Open, Drawings, Tracings, etc., Educational, Legal Notices, Miscellaneous, Property and Land Sales, see 127, 129, 131, 132, 133, 134, 135, 136, 137.

Write in block letters, or type, your name, profession, and address below, and fold so that the post-paid address is on the outside.

NAME

PROFESSION

ADDRESS

YOURS *for the Asking*

This book shows that maintenance considerations for the after-treatment or prevention of rust need not arise, where Sherardizing is specified. May we send you a copy together with a reprint of the Architects' Journal Information Sheet, reference Corrosion prevention 40 Br?



SHERARDIZING

**ZINC ALLOY
RUST-PROOFING CO. LTD.**

SHAKESPEARE STREET, WOLVERHAMPTON
TELEPHONE: WOLVERHAMPTON 27531 (Five lines)
ALSO AT LONDON & ROCHDALE



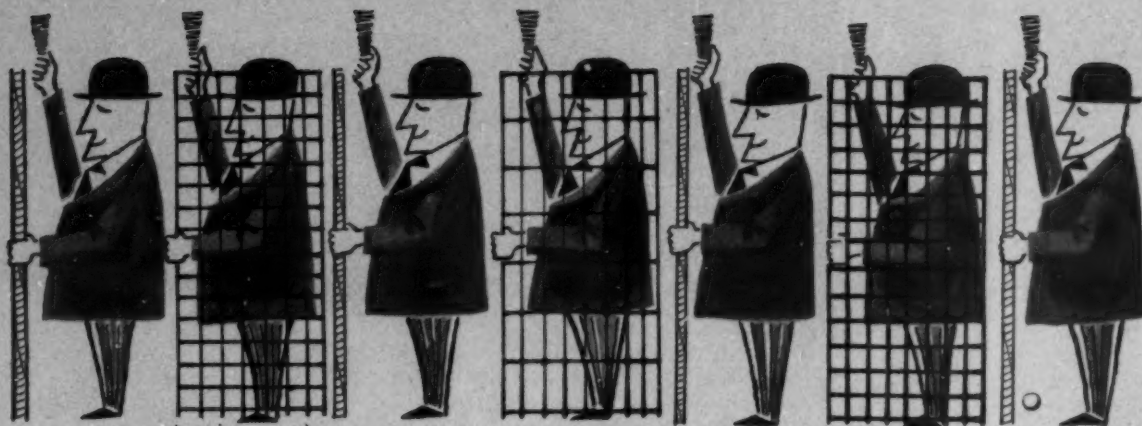
**brand
new
right
through**

Write for your copy.

Our new catalogue brings you right up-to-date on stage and television lighting and control equipment. Packed with real easy-to-find information including full optical and mechanical data and prices from which precise specifications and estimates can be prepared.

STRAND ELECTRIC & ENGINEERING CO. LTD., 29 KING ST., COVENT GARDEN, LONDON, W.C.2

NEXT STOP GKN'SWAY*



A well gknown company,
which for the moment shall remain nameless,
announces that their London office is moving from
Gknightsbridge to Gkn'sway (*sorry-KINGSWAY!).
At these new premises (of reinforced concrete,
of course) the business of supplying and designing
everything connected with putting steel into concrete
will continue gknormally.

Pausing only to engage a new copywriter, we will once
again repeat the theme. Our new address, from
9th January 1961, will be:—

**G.K.N. House,
22 KINGSWAY,
LONDON, W.C.2
Telephone: CHAncery 1616**

... and if you still don't gknow who we are, then
we suggest you reinforce your gknowledge with ...

GKN Reinforcements Ltd.



