The Architects' JOURNAL for February 5, 1959

THE ARCHITECTS' JOURNAL

No. 3336] [Vol. 129

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

Price 1s. 0d.

Registered as a Newspaper.

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

ILA	Institute of Landscape Architects. 1, Park Crescent, Portland Place, W.1.	Museum 3473
I of Arb	Institute of Arbitrators. Hastings House, 10 Norfolk Street, Strand, 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.	Welbeck 1859
IR	Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3.	Avenue 6851
IRA	Institute of Registered Architects. 68, Gloucester Place, W.1.	Welbeck 9966
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, Curzon Street, W.1.	Mayfair 9400
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' 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, Berkeley Square, W.1.	Mayfair 9494
MOW	Ministry of Works. Lambeth Bridge House, S.E.1.	Reliance 7611
NAMMC	Natural Asphalte Mine Owners and Manufacturers Council. 94/98, Petty France, S.W.1.	Abbey 1010
NAS	National Association of Shopfitters. 9, Victoria Street, S.W.1.	Abbey 4813
NBR	National Buildings Record, 31, Chester Terrace, Regent's Park, N.W.1.	Welbeck 0619
NCBMP	National Council of Building Material Producers, 10, Storey's Gate, S.W.1	Abbey5111
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 4451
NFHS	National Federation of Housing Societies. 12, Suffolk St., S.W.1.	Whitehall 1693
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 for Places of Historic Interest or Natural Beauty. 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
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
RIB	Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19.	Wimbledon 5101
SBPM	Society of British Pain Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.1.	Victoria 2186
SE	Society of Engineers. 17, Victoria Street, Westminster, 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

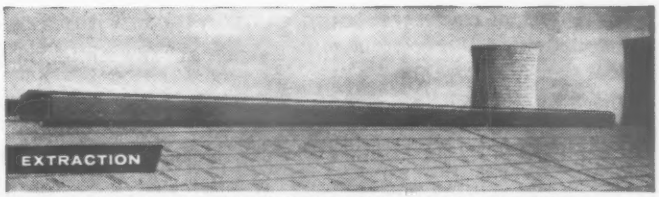
15 contracts from the United Kingdom Atomic Energy Authority endorse the supremacy of

COLT VENTILATION

Time and again, industrialists large and small place repeat orders with Colt. And for three good reasons. Colt ventilation systems depend in the main on internal convection currents—*not* external forces—and are therefore little affected by the vagaries of the wind. Colt offer an unparalleled range of ventilators. And most important, every Colt recommendation is based on a thorough analysis of the building, plant and process either from a site survey or drawings. Such thoroughness influences organisations such as the United Kingdom Atomic Energy Authority. It will impress you, too. Ask your secretary to send for a free manual to Dept. L 2/2A.

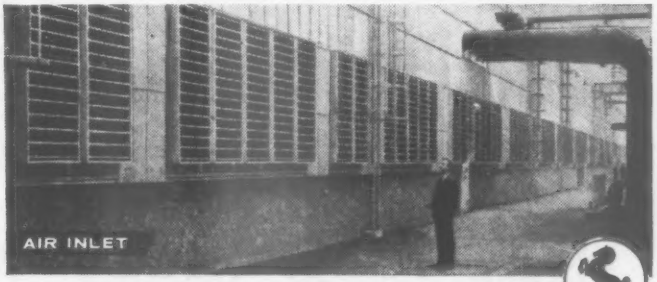
Among the 12,000 major Industrial Organisations using Colt equipment are:

22 contracts:	*Lever Bros. Port Sunlight Ltd.*
9 contracts:	*Joseph Lucas Ltd.*
29 contracts:	*National Coal Board*
19 contracts:	*Philips Electrical Industries Ltd.*
21 contracts:	*The Plessey Co. Ltd.*
20 contracts:	*Ruston and Hornsby Ltd.*
6 contracts:	*Smith Clayton Forge Ltd.*
35 contracts:	*Taylor Woodrow (Building Exports) Ltd.*



(ABOVE) ONE OF THE SIX 220′ COLT CONTINUOUS SR VENTILATORS AT CAPENHURST

(BELOW) SOME OF THE 316 COLT CO4480 CLEAR OPENING VENTILATORS



COLT VENTILATION LIMITED · SURBITON · SURREY · TELEPHONE: ELMBRIDGE 0161 (10 LINES)

A SCIENTIFIC FACT

General Contractors:
J. Jarvis & Sons Ltd.

Roderic Hill Building,
Imperial College of Science and Technology.

Architects and Consulting Engineers: Norman & Dawbarn.
Consultant Architect: Sir Hubert Worthington, R.A.

It's a scientific fact that the deliberate entrainment of microscopic bubbles of air in cement-sand mortar imparts the following properties — increased plasticity and workability, reduction in the w/c ratio, improved water retentivity, increased resistance to the passage of water and improved durability by the fact of increased resistance to repeated cycles of freezing and thawing. That's what Febmix Admix Mortar Plasticiser does and those are the advantages obtained from its use on bricklaying work, for which purpose Febmix Admix was used on this contract.

FOR BETTER DURABILITY—
BETTER USE

FEBMIX ADMIX
AIR-ENTRAINING
MORTAR PLASTICISER

FEB

FROM BUILDERS' MERCHANTS—EVERYWHERE

(GREAT BRITAIN) LIMITED

102 Kensington High Street, London, W.8 — WEStern 0444
Albany Road, Chorlton-cum-Hardy, Manchester 21 — CHOrlton 1063

DH8/7184

simply revolutionary!

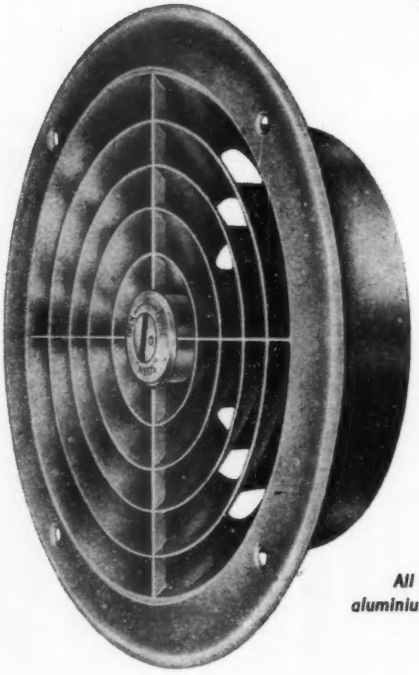
The NORMANTON

NEOS

ADJUSTABLE DIFFUSER

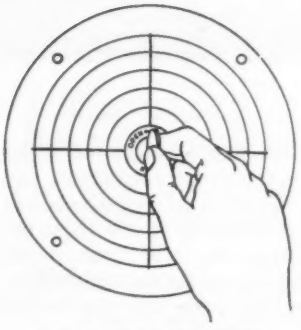
(PATENTS PENDING)

for warm air heating systems and ventilation



All anodised aluminium construction

The NEOS diffuser operates on a new principle with the following advantages



Instant, simple adjustment by coin slot

- pleasing appearance
- completely flush fitting
- simple to install
- exceptionally shallow design
- fully adjustable from open to closed
- maximum diffusion
- attractive range of colours
- corrosion resistant finish
- no maintenance
- can be locked for plenum systems
- smooth air flow with aerodynamic stability

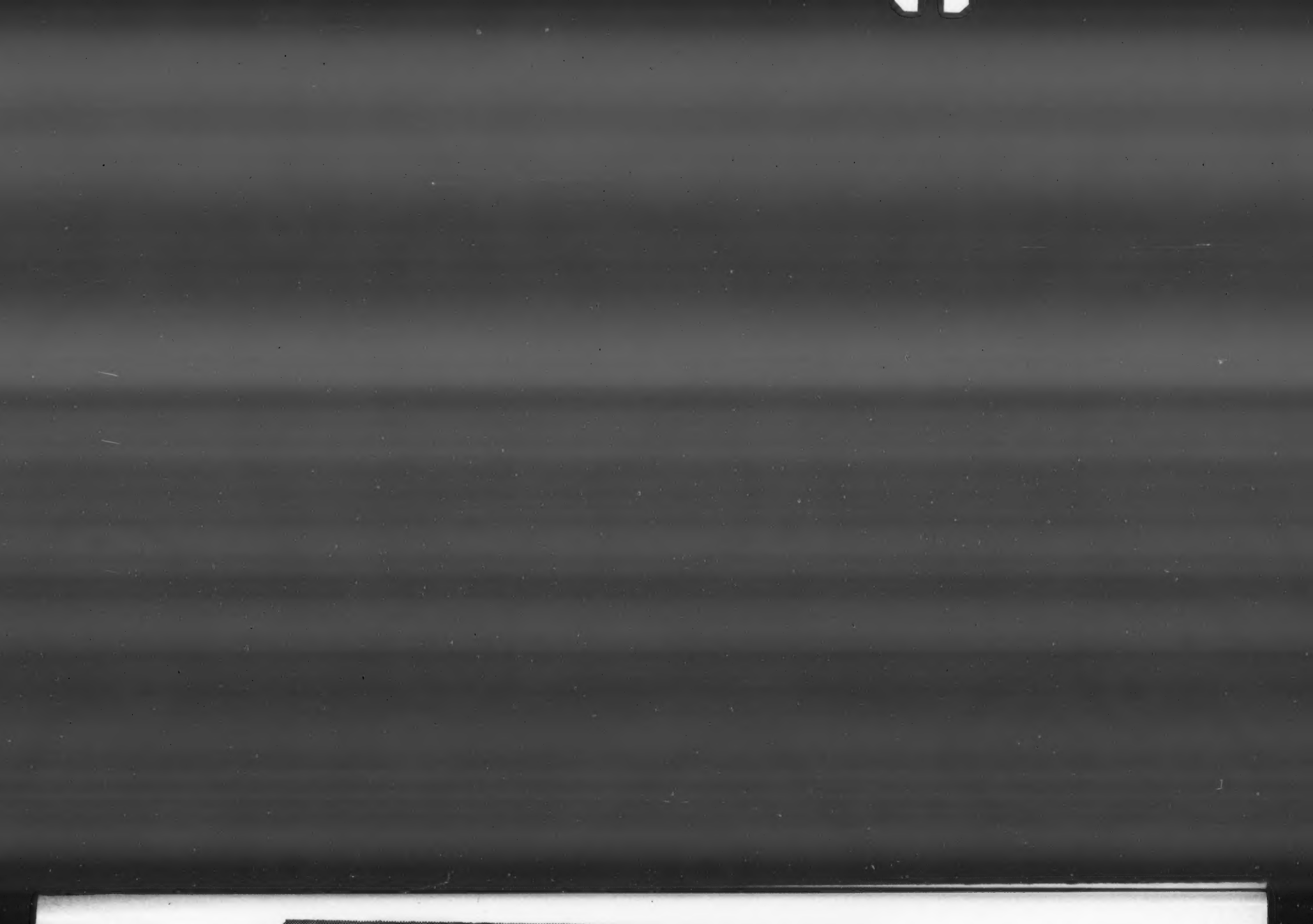
Illustrated literature is available on request. Please write for information sheet No. 1

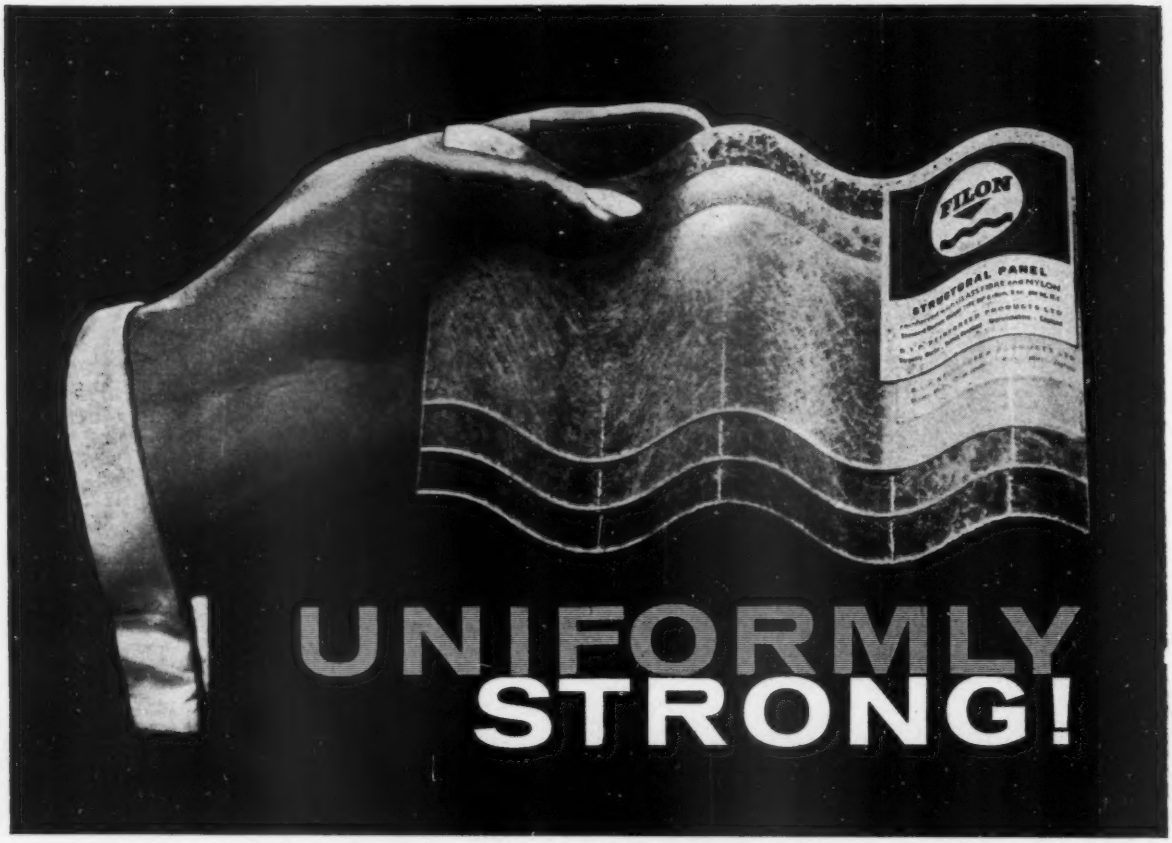
NORMANTON ENGINEERS LIMITED

REDCROSS WORKS · REDCROSS STREET · ROCHDALE · LANCS

Telephone: Rochdale 40214/5 Telegrams: Springs · Rochdale

NE 1





Uniformly strong at every point, because of its uniform thickness throughout the sheet—that's FILON; all this because FILON polyester/glass fibre/nylon structural sheeting is produced by a continuous process. FILON is non-corrodible, and needs little maintenance or protection throughout a long life. It is shatterproof, and weight-for-weight is stronger than steel. FILON is economical to install because it is light, and therefore easily handled. It is worked with ordinary carpenter's tools, and fixed by conventional methods.

IN COMMERCE
Counter Fronts · Movable Screens · Window Displays · Partitions · Lighting Effects · Awnings · Shopping Canopies · Diffused Lighting · Exhibition Stands

IN TRANSPORT
Gangways · Rolling Stock · Railway Station Roofs · Airports · Washing Sheds Bus Shelters · Awnings · Maintenance Sheds · Garage Roofs and Doors

IN INDUSTRY
Glazing · Luminous Ceilings · Partitions · Warehouse Roofs · Signs and Notices Dock Roofs · Shower Compartments · Cladding

IN THE HOME AND GARDEN
Verandah Roofs · Skylights · Movable Screens · Greenhouses · Fences Shower Compartments · Porches · Awnings · Wind Breaks · Garage Doors Pool Enclosures · Sun Lounges · Canopies · Partitions · Garden Sheds · Glazing

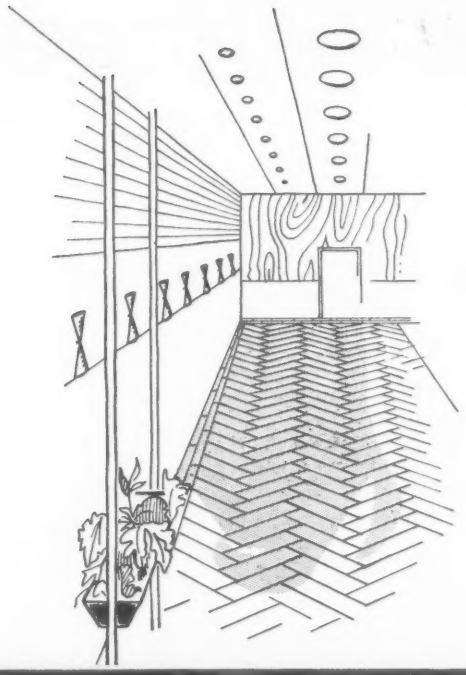
IN AGRICULTURE
Barn Skylights · Storage Sheds · Greenhouses · Dairy Roofing · Poultry Equipment · Cow Byres · Cloches & Frames · Piggeries · Machinery Storage Rooms · Granaries & Driers · Stockhouse Roofs

FILON

STRUCTURAL SHEETING

for light with lightness and strength with economy

B.I.P. Reinforced Products Ltd.
Streetly Works, Sutton Coldfield · Phone: Streetly 2411



HOLLIS FLOORS

of

WEST AFRICAN OPEPE

(SARCOCEPHALUS DIDERRICHII)

Opepe is without doubt, one of the outstanding hardwoods for flooring imported from the African Continent. Remarkably trouble free due to its natural stability, giving long and even service in wear, it also provides a floor of most attractive appearance by virtue of its beautiful grain, the colour toning to a rich golden brown.

Contracts on hand or recently executed with OPEPE include:—

CONTRACTS	ARCHITECTS
University of Birmingham, Mechanical and Electrical Engineering Departments.	Messrs. Peacock & Bewlay, Birmingham.
University College of Leicester, "N" Block Extension, Common Room and College Hall Extension.	University College of Leicester.
University of Sheffield, New Engineering Block.	Messrs. J. W. Beaumont & Son, Sheffield.
University College of Leicester, The Percy Gee Building.	Messrs. Thos. Worthington & Sons, Manchester.
Easingwold Grammar School.	Messrs. Gollins, Melvin Ward & Partners, London.
College of Further Education, Doncaster.	Borough Architect, Doncaster.
Grammar School, Wath-on-Dearne. Canon Slade Grammar School, Bolton.	Messrs. Taylor & Young, Manchester.
New Science Building, Grammar School, Ashby-de-la-Zouch.	Messrs. Pick, Everard, Keay & Gimson, Leicester.
Notre-Dame High School, Eccleston. St. Mary's College, Blackburn.	Messrs. Wm. and J. B. Ellis, St. Helens.
Teachers' Training College, Coventry.	Messrs. W. S. Hattrell & Partners, Coventry.
Drawing Offices, De-Haviland Aircraft Co. Ltd., Hatfield.	Messrs. J. M. Monro & Son, Watford.

In addition to the above, OPEPE has been used in over 50 Primary, Junior and Secondary Schools, also in Industrial Premises, Offices, Churches, etc.

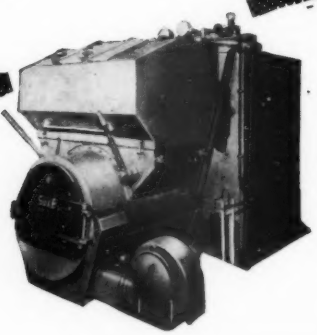
WE HAVE AN EXHIBIT AT THE BUILDING CENTRE
26 STORE STREET W.C.1

HOLLIS BROS. LTD.

LEICESTER • HULL • LONDON • BIRMINGHAM

Modernise with HARD COKE

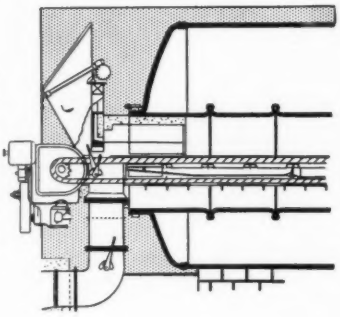
for high-efficiency automatic Central Heating with ECONOMY



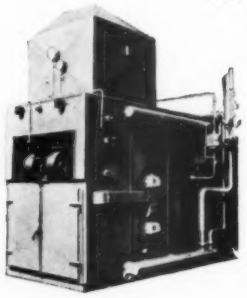
For heating offices, flats, hotels or factories, pre-burner units can be used. A 'SUXE' pre-burner unit is shown here fitted to a sectional boiler.

THERE is available a selection of automatic coke boilers, in a wide range of sizes, which can compete in efficiency with any other system and which operate unattended for long periods. For domestic heating schemes, there are gravity-feed boilers of the highest thermal efficiencies with full automatic stoking and ash removal and with complete temperature control.

WHAT IS HARD COKE? It is a smokeless fuel made in coke ovens from specially selected coal which is washed and crushed before carbonisation. Users prefer it because it is uniformly sized, consistent in quality and their appliances operate with greater efficiency. Hard Coke is made in a full range of sizes from which the exact grade technically suited to the appliance can be supplied by your merchant.



Hard Coke is highly efficient for both horizontal and vertical boilers. Chain grate stokers of special design are available. The cross-section shows an 'OLDBURY' chain grate stoker fitted to a Lancashire boiler.



For large-scale heating automatic coke boilers are available in a wide range of sizes, notable for their efficiency and economy. They operate with the minimum of attention. Shown here is a Redfyre 'EMMA' coke-fired boiler.

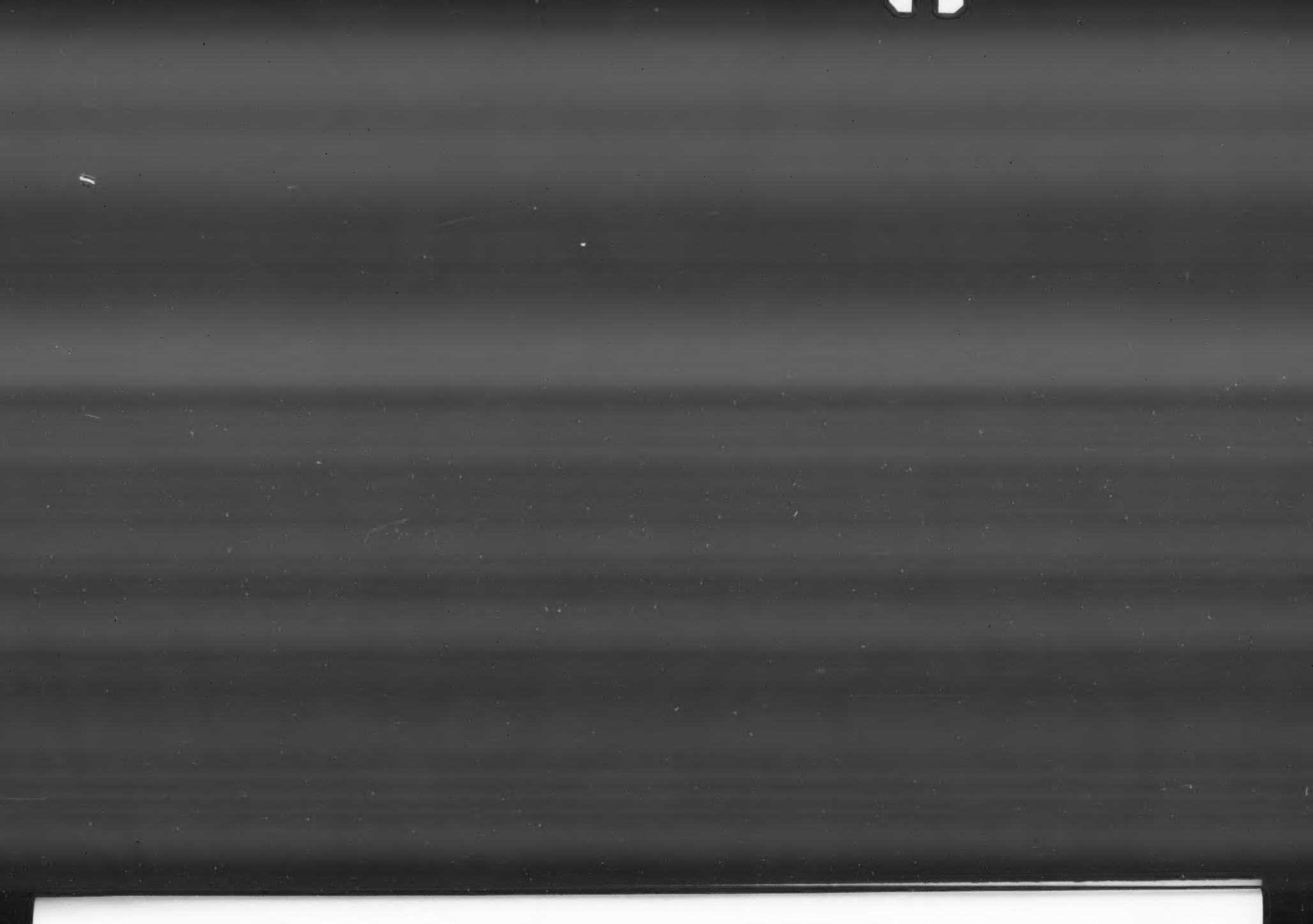
THE CLEAN AIR ACT

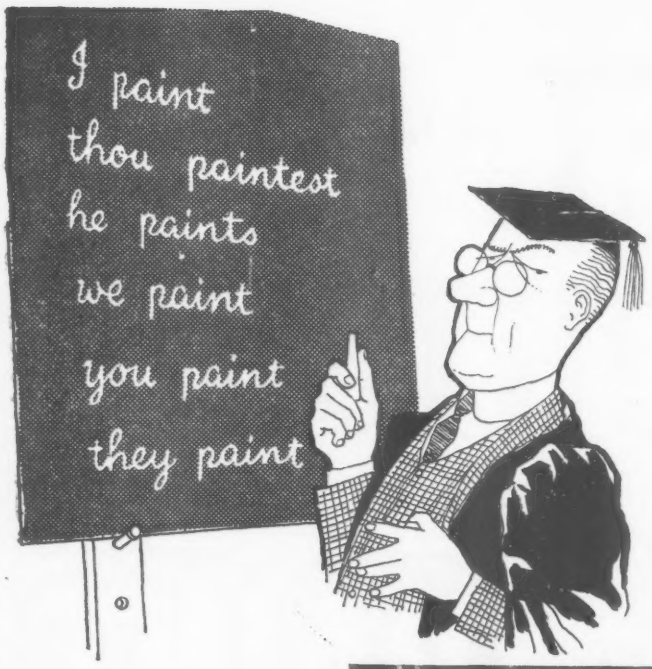
In 1958, the general industrial provisions of the Clean Air Act came into force. Have you a furnace or boiler which is difficult to operate smokelessly? A change to hard coke may very well be a simple solution to your problem. With attention to firing

If you would like advice or further information, write to this Association.

HC4A

THE BRITISH COKING INDUSTRY ASSOCIATION
14 Grosvenor Street, London, W.1. *Phone: MAYfair 9736*





You don't
have to be
a grammarian
to know the
present indicative
of paint is

DRYNAMELS

Birthplace of a thoroughbred. Restored section of Jaguar Works decorated throughout with Drynamels Paints.

Say **DRYNAMELS** and be word perfect

Full documentation of Decorative and Industrial Paints on request.
DRYNAMELS LIMITED, HALL GREEN, BIRMINGHAM, 28.

Melamine Faced Bartrev Particle Board

Avtrev is the newest factory-made board embodying Melamine plastic surfaces on a core of Bartrev particle board, providing a constructionally stable and rigid sheet material that is hard wearing, stain, heat and moisture resistant—colourful and attractive too—all at low cost. Avtrev is supplied either with one decorative Melamine face balanced by plain brown plastic, or with both sides faced with Melamine in any combination of the wide range of colours and patterns available . . . . . earning for Avtrev the description "The Best Dressed Board."

The fact that Avtrev can be supplied with a decorative Melamine face on both surfaces is of particular interest, since one sheet of Avtrev will often suffice for cupboard doors and partitions where previously two boards have been necessary to obtain a decorative surface on both sides.

Avtrev can save you time and reduce your costs. Simply cut to shape, lip and fix, and the job is done —and done well.

Use Avtrev in colourful patterns for doors, partitions and furniture, or wherever a decorative and hard wearing surface is required.

Sheet Sizes 6′ x 4′, 8′ x 4′.
Thicknesses $\frac{3}{4}$″, $\frac{1}{2}$″, $\frac{5}{8}$″ or $\frac{3}{4}$″.
Price from 4/8d. per sq. ft.

AVTREV

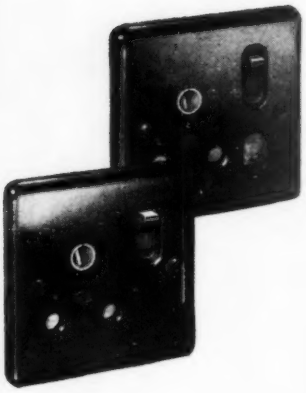
THE BEST DRESSED BOARD

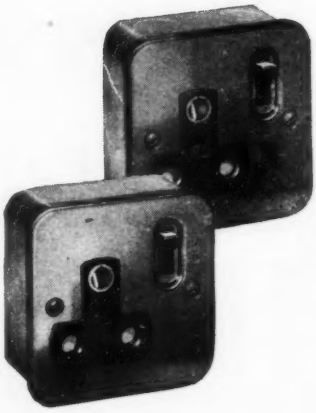
BARTREV BOARD COMPANY LIMITED,
Henrietta House, 9 Henrietta Place, London, W.1. Tel: LANgham 8041/8

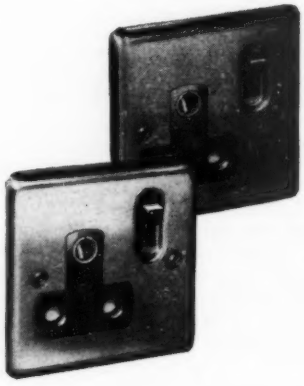
MK161 DHB

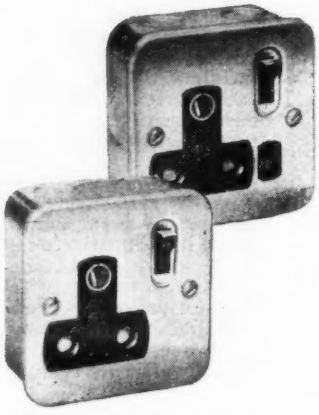
STANDARDISE WITH MK

An important new range of Round-Pin Switchsocket-outlets









This versatile new range consists of interchangeable designs with standard 2¾" fixing centres. Flush patterns are therefore suitable for mounting in all standard boxes with 2¾" centres. This is a decided advantage enabling stocking, ordering, installation and maintenance to be simplified. Surface mounting units have steel plates finished aluminium stove enamel or brass plates finished BMA or matt chrome. Flush mounting patterns are available moulded brown or ivory or with brass plates finished BMA or matt chrome.

All ratings . . . 2, 5 and 15 ampere — all of the same dimensions. All with new recessed switch handles. All with or without Pilot-lamps. One standard Box for flush mounting, with 2⅜" fixing centres. Leaflet 248 available on request.

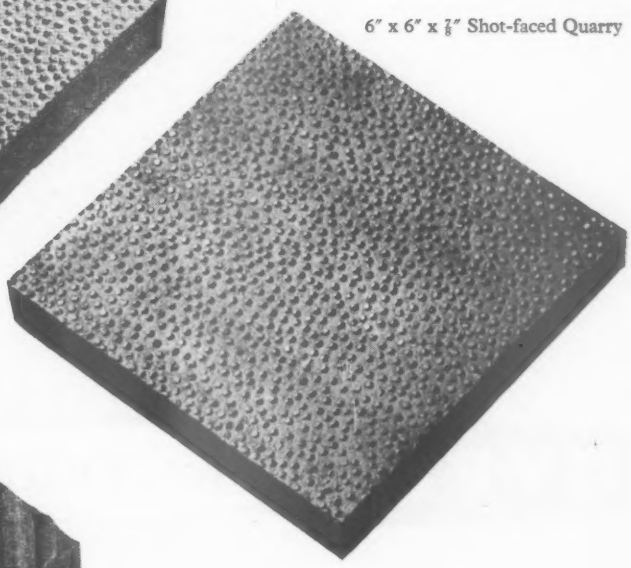
MK . . . the mark of leadership

M. K. Electric Limited, Wakefield Street, London N.18 Edmonton 5151

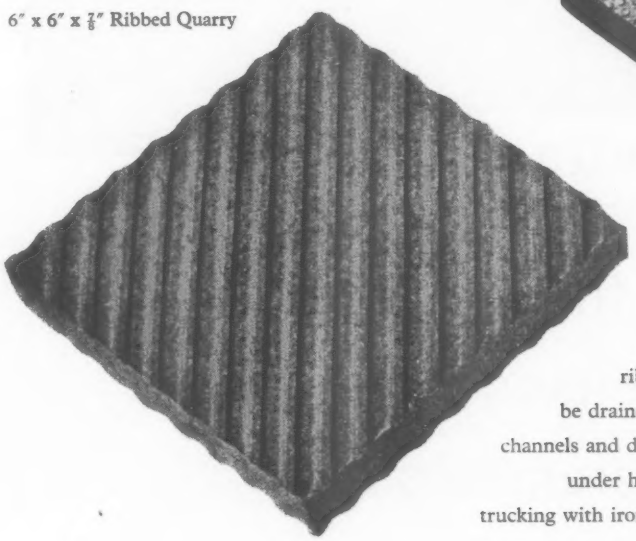
WHEATLY triton QUARRIES

for high performance floors under all conditions—

9″ x 4½″ x 1¼″ Shot-faced Quarry



6″ x 6″ x ⅞″ Shot-faced Quarry



6″ x 6″ x ⅞″ Ribbed Quarry

Illustrated are three non-slip Quarries which have a wide range of applications, particularly in industry. The ribbed pattern is ideally suited for floors where water has to be drained away since the grooves provide ready-made conduits to channels and drains. The shot-faced quarries will give high performance under heavy traffic conditions but are not intended to stand up to trucking with iron-shod wheels. All patterns are normally stocked in either Red or Russet Brown colour.

An illustrated leaflet (No. 58) giving full details of the wide range of WHEATLY triton QUARRIES AND FITTINGS, together with correct descriptions, key numbers and principal dimensions is freely available on request.

Specimens of Wheatly burnt clay products may be seen at the Building Centre, London. They include Single-lap Roofing Tiles, Ridge Tiles (blue & red), Floor Quarries, Air Bricks and Briquette Fireplaces.

WHEATLY
triton

W H E A T L Y & C O M P A N Y · L I M I T E D
Springfield Tileries, Trent Vale, Stoke-on-Trent
Telephone: Newcastle (Staffs) 66251 Telegrams: Wheatly Trentvale
WH96

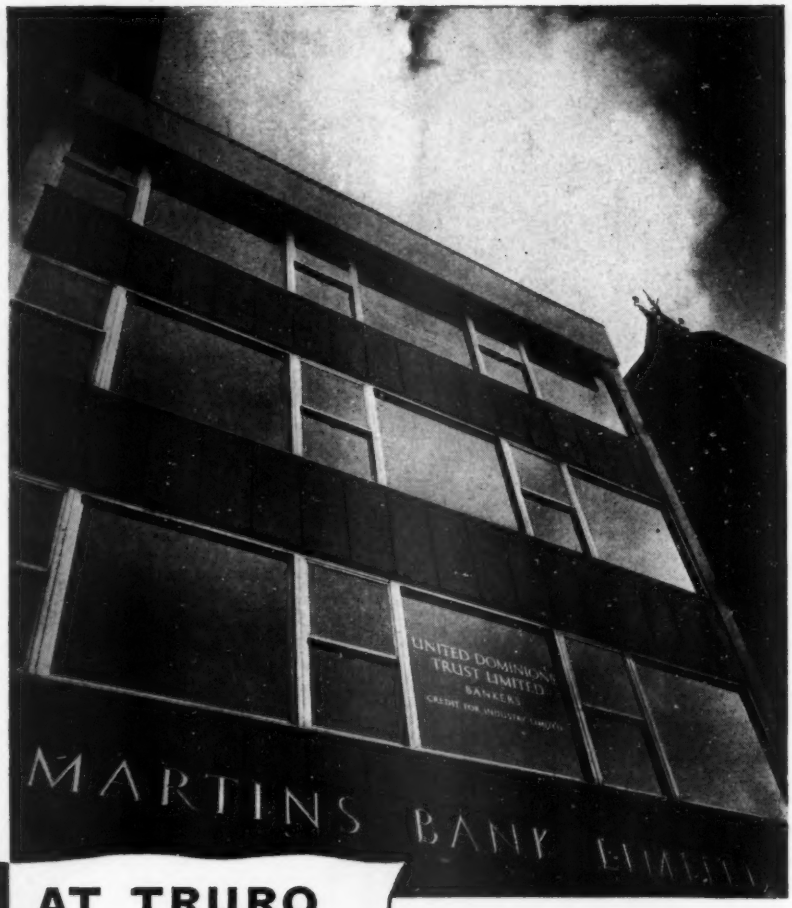
MARTINS BANK LTD., TRURO.

Architects:
Taylor & Crowther,
Chartered Architects.

Quantity Surveyors:
J. H. Snellgrove & Partners,
47 Coinagehall Street, Helston.

General Contractors:
John Garrett & Son Ltd.,
11 Union Place, Truro.

Plastering Contractors:
Watkins & Shinnery,
124 Slades Road, St. Austell.



GYPROC AT TRURO

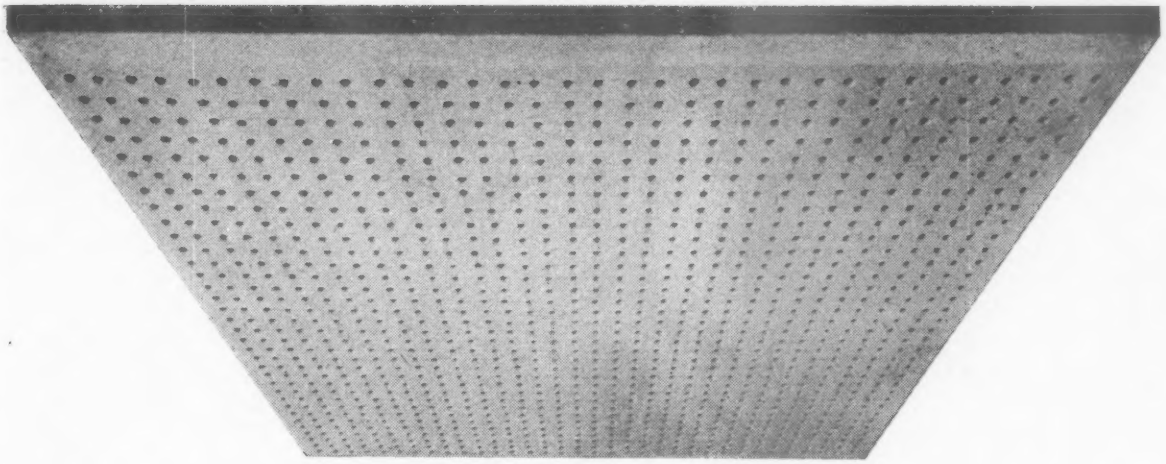
... provided the plasters which were used throughout the new premises of Martins Bank Limited ...

GYPROC PLASTERS

GYPROC know plasters. They know plastering technique and they know how to make gypsum plasters that are easy to apply, quick to dry and which ensure the highest standard of work. Typical of GYPROC general purpose plasters are PARISTONE Browning Plaster in its three grades and GYPSTONE Board Finishing Plaster. Special purpose plasters include CRETESTONE Concrete Bonding Plaster and DEKOOSTO Acoustic Plaster. Then GYPROC have made a special study of ready-mixed plaster: GYPLITE and GYPROC PERLITE Ready Mixed Plasters are scientifically mixed to give the operative a fast working and light-to-handle material. We have prepared information about GYPROC Plasters which you would find really worth studying. Write for leaflets and also state, if you desire, which class of plaster particularly interests you at the present time.

GYPROC PRODUCTS LIMITED

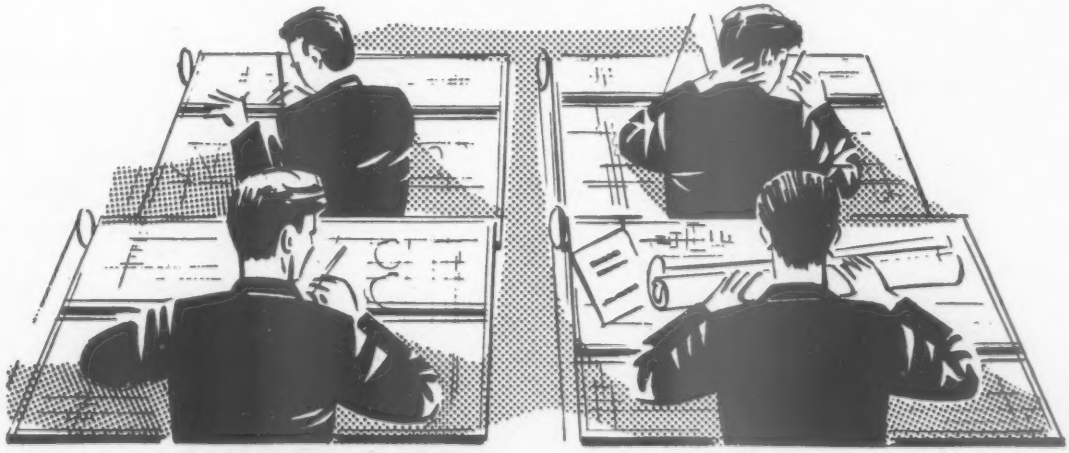
Head Office: Singlewell Road, Gravesend, Kent. *Gravesend 4251/4*
Glasgow Office: Gyproc Wharf, Shieldhall, Glasgow, S.W.1. *Govan 2141/3*
Midland Sales Office: 11 Musters Rd., West Bridgford, Nottingham. *Nottingham 82101*
London Office: Bath House, 82 Piccadilly, London, W.1. *Grosvenor 4617/9* SGP/6



PAXTILES above

Newalls (reg'd brand) PAXTILES are the most effective method of suppressing unwanted sound; they are also a decorative treatment in themselves, capable of being painted without impairing their acoustic qualities. Composed of asbestos they are absolutely FIRE-, rot- and vermin-proof, and they resist condensation. Additionally, they provide an appreciable degree of heat insulation. It is not surprising therefore, that all these practical attributes recommend PAXTILES to the attention of modern architects as the most suitable sound insulation medium available.

mean PRODUCTION below

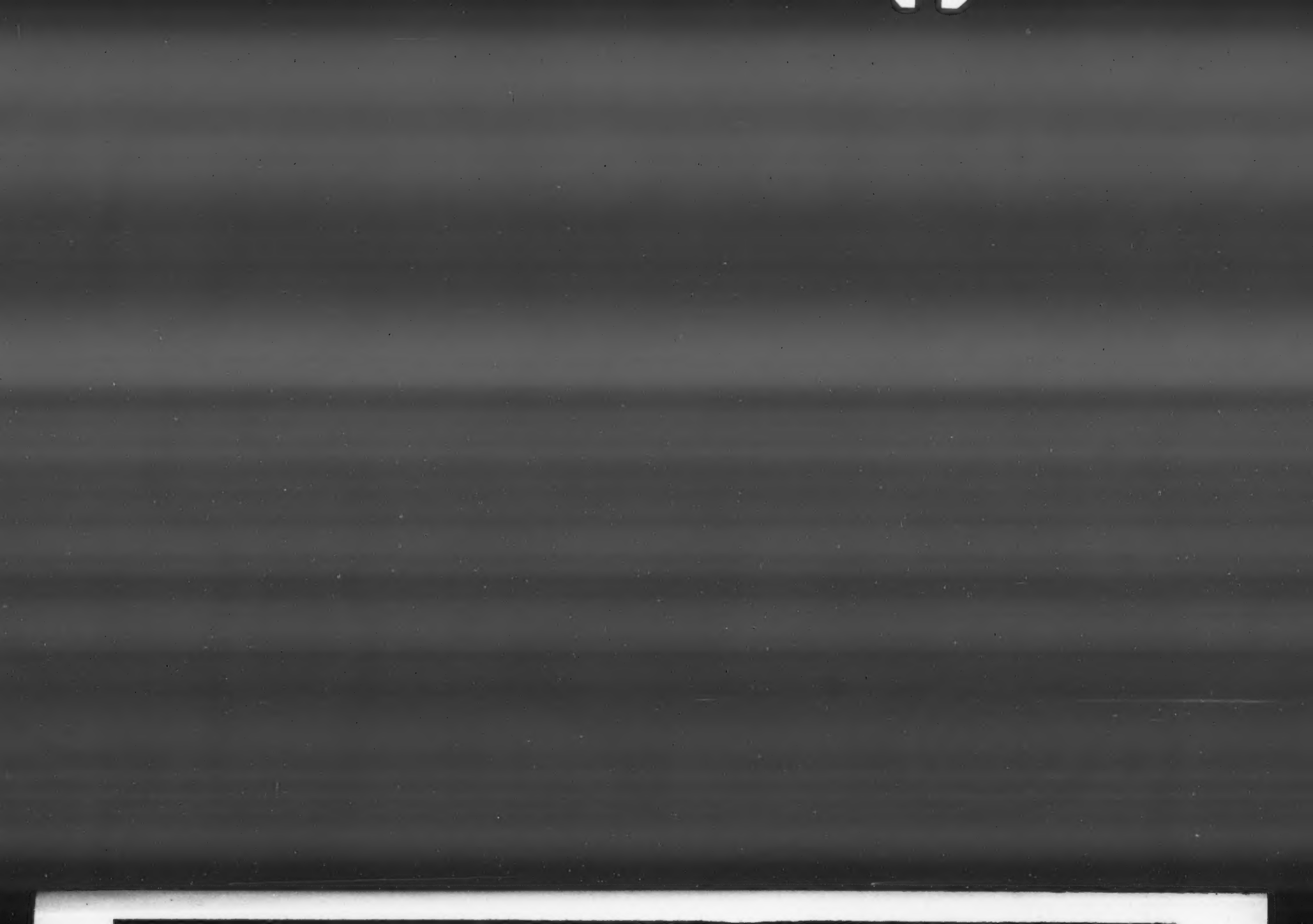


Newalls PAXTILES

NEWALLS INSULATION CO. LTD. WASHINGTON, CO. DURHAM

A member of the TURNER & NEWALL ORGANISATION Offices and Depots at LONDON, GLASGOW, MANCHESTER, NEWCASTLE UPON TYNE, BIRMINGHAM, BELFAST, BRISTOL & CARDIFF

Agents and Vendors in most markets abroad.



Fil
po
re

'U' values the facts

In 1954, after discussions with the Building Research Station of the Department of Scientific and Industrial Research, London Brick Company Limited initiated a series of tests on the thermal transmittance of walls, using various building materials under conditions of actual exposure to weather.

A scientific paper on the work undertaken over a period of four years was read at the Autumn Meeting of the British Ceramic Society in 1958 and the results have been summarised in a 16-page booklet.

The findings are of vital concern to architects, heating engineers and builders. It is in your interest to obtain a copy now.

★ See overleaf

LONDON BRICK COMPANY LIMITED in the service of the building industry

Head Office: Africa House, Kingsway, London, W.C.2. Telephone: HOLborn 8282
Midland District Office: Prudential Buildings, St. Philip's Place, Birmingham 3. Telephone: Central 4141
South-Western District Office: 11 Orchard Street, Bristol 1. Telephone: Bristol 23004/5
Northern District Office: St. Paul's House, 20-22 St. Paul's Street, Leeds. Telephone: Leeds 20771

Fill in and post this reply paid card

Postage will be paid by Licensee

No Postage Stamp necessary, if posted in Great Britain or Northern Ireland

BUSINESS REPLY SERVICE
Licence No. WC 1926

LONDON BRICK COMPANY LIMITED,
AFRICA HOUSE,
KINGSWAY,
LONDON, W.C.2.

Of importance to Architects

It is often the practice to quote *calculated* 'U' values of wall construction as a basis for determining thermal efficiency.

Calculated 'U' values derived from small-scale laboratory tests on individual samples of dry materials, however, can be most misleading and have little or no value unless the relevant moisture content of the material is known.

DID YOU KNOW

That there is a considerable difference between the conductivity of the brickwork in the inner leaf and that for similar bricks in the outer leaf of a cavity wall due to difference in moisture content?

That clay products take up very little moisture when exposed to normal atmospheric conditions inside a building?

That a very good 'U' value can be achieved by the use of an all-clay wall with the attendant advantages of cheapness and freedom from cracking?

These are facts

disclosed in a series of tests made by

LONDON BRICK COMPANY LIMITED

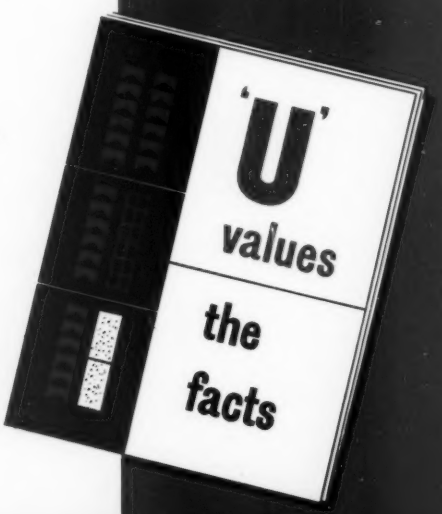
Please send me a copy of the Booklet...

Name .....

Address .....

.....

.....



Fill in and post this reply paid card

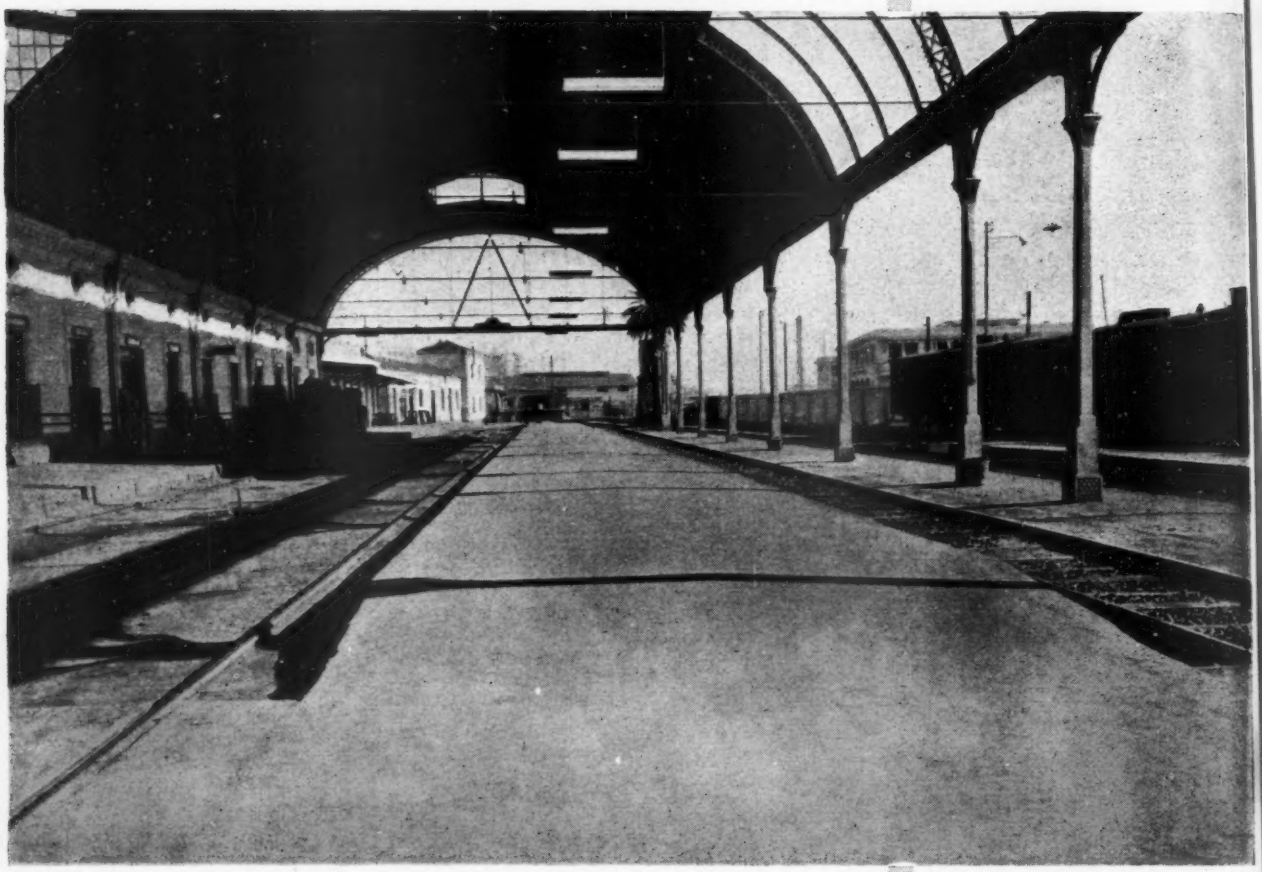
ts

d
s
d

A Flintkote Floor

REGD.

A Flintkote Mastic floor laid on a railway platform in Algeria.



Flintkote industrial flooring is:

Simple to apply · Cold laid · Economical · Self-healing

Tough and durable · Shock-absorbent · Fire resistant

Hygienic and odourless · Dustless · Non-slip

Resilient · Sound-deadening · Damp-proof

Available throughout the world

Backed by world-wide technical advisory service

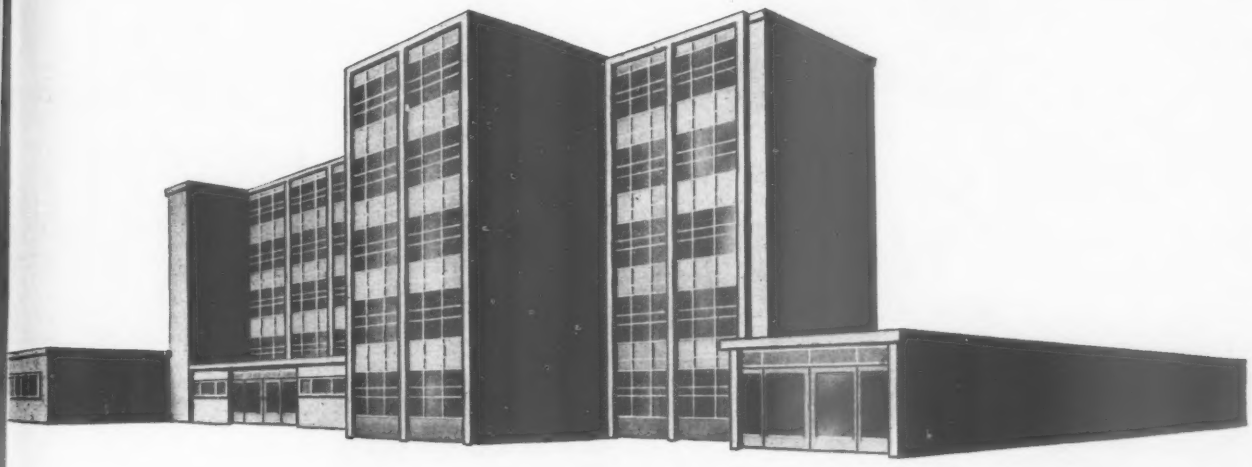
Details on application to:

THE FLINTKOTE COMPANY LIMITED

Adam House
One Fitzroy Square
London, W.1

Telephone: EUSton 7224
Telegrams: Flintkote, Wesdo, London
Cables: Flintkote, London

FROM TIME IMMEMORIAL...



Early man gave welcome to the daylight at his cave-mouth. Later he raised temples in which to worship it. Modern man still builds for the light, not now in worship, but from knowledge of its value to health and well-being. He gives it entry through curtains of glass; lets it flood into his offices, hospitals, schools, factories, and flats. For simplicity, economy and *maximum light admission* he uses Hills Glass Curtain Walling. Let us send you full information by return.

HILLS (WEST BROMWICH) **LTD.**

ALBION ROAD, WEST BROMWICH, STAFFS.

Telephone: West Bromwich 1811 (15 lines)

London: Chapone Place, Dean Street, W.1. Telephone: GERrard 0528/9

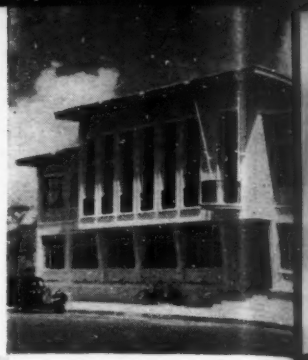
Branches at Manchester (Blackfriars 3382/3), Bristol (24765)

Newcastle-on-Tyne (25060), Glasgow (City 5564)

C.W.2.

DOLPHIN HOUSE
SALISBURY · S. RHODESIA
Architects:
W. D'Arcy Cathart & Son

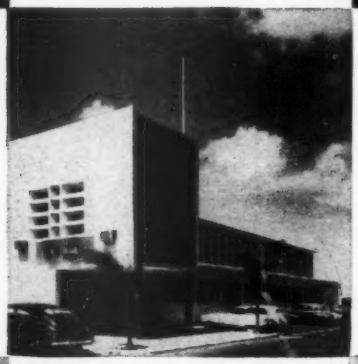
TOWN COUNCIL OF
CUREPIPE BUILDING · MAURITIUS
Architects:
Boulle-Lagesse & Schaub



BRITISH COLUMBIA PROVINCIAL
GOVERNMENT OFFICES · VICTORIA
Architects:
Provincial Government
Architectural Department

SHELL BUILDING · LAGOS
Architects:
Walker, Harwood & Cranswick

K.L.M. BUILDING · CURACAO
Architect:
Alec Van Ness



POLICE HEADQUARTERS
HONG KONG
Architects:
P. W. D. Hong Kong

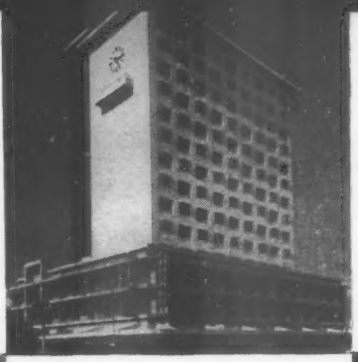
NGEE ANN KONGSI FLATS
SINGAPORE
Architect:
Ng Keng Siang

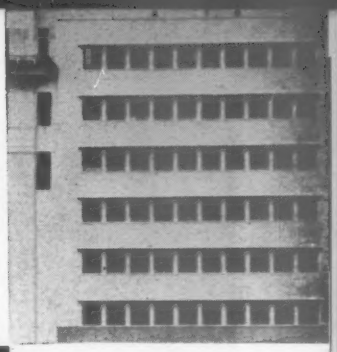
ADMIRALTY FLATS
MOUNT AUSTIN · HONG KONG
Architects:
Palmer & Turner

ASIATIC POLICE QUARTERS
KOWLOON
Architects:
P. W. D. Hong Kong

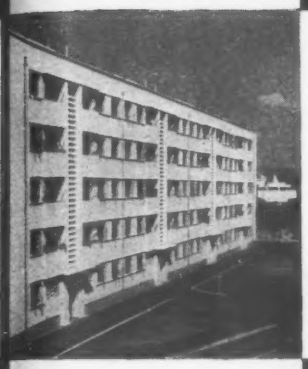
ALEXANDRA HOUSE · HONG KONG
Architects:
Spence, Robinson & Partners

AFRICAN LIFE BUILDING
BULAWAYO · S. RHODESIA
Architects:
MacGillivray & Son





R.N.V.R. BUILDING · HONG KONG
Architects:
P. W. D. Hong Kong



WORKING CLASS FLATS
HONG KONG
Architects:
Chan & Lee

OFFICES FOR TRANSVAAL
& CHAMBER OF MINES
JOHANNESBURG
Architects:
K. E. F. Gardiner &
MacFabgden

HOLLANDSCHE BANK
UNIE · CURACAO
Architect:
Ben Smit

FLATS FOR
SINGAPORE HARBOUR POARD
Architects:
Swan & McLaren

BANK OF CHINA
SINGAPORE
Architects:
Palmer & Turner

Overseas
outlook through...

CRITTALL WINDOWS

THE CRITTALL MANUFACTURING CO LTD · BRAINTREE · ESSEX · BRANCHES & DEPOTS THROUGHOUT THE COUNTRY

Plywood Sheathing

for roof decking, box beams, floors, shuttering and scores of outdoor uses

Produced with a full phenolic bond . . . waterproof, weatherproof and boil-tested . . . Seaboard Douglas fir plywood is now available in two sheathing grades at prices which open up an entirely new field of use for plywood

Known as SHEATHING and UNDERLAY SHEATHING, these grades have all the structural qualities of smooth, top quality grades. Each panel covers 32 square feet, greatly reducing time and labour costs; it is split-proof and draft-proof . . . requires fewer and smaller nails; it builds into the structure the extra strength and rigidity of a material pound for pound stronger than steel.

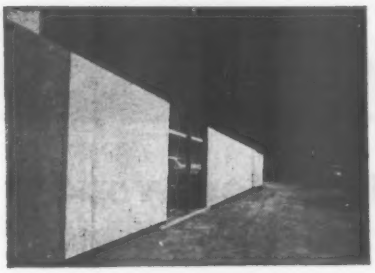
Uses for sheathing and underlay are almost unlimited — roof decking, sarking, laminated trusses, gussets, contractors' huts, farm structures and solid bases for other materials are just a few.

Investigate Seaboard fir plywood sheathing grades. If your supplier does not stock them he can order them for you.

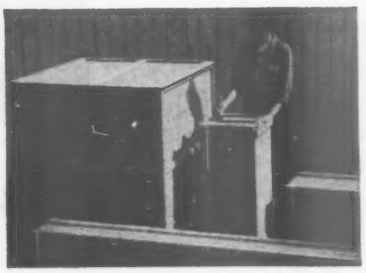
PHENOLIC BOND
WATERPROOF
WEATHERPROOF
BOIL TESTED

SEABOARD
CANADIAN DOUGLAS FIR
PLYWOOD

Seaboard Lumber Sales Co. Limited, Seaboard House, Vancouver 1, Canada



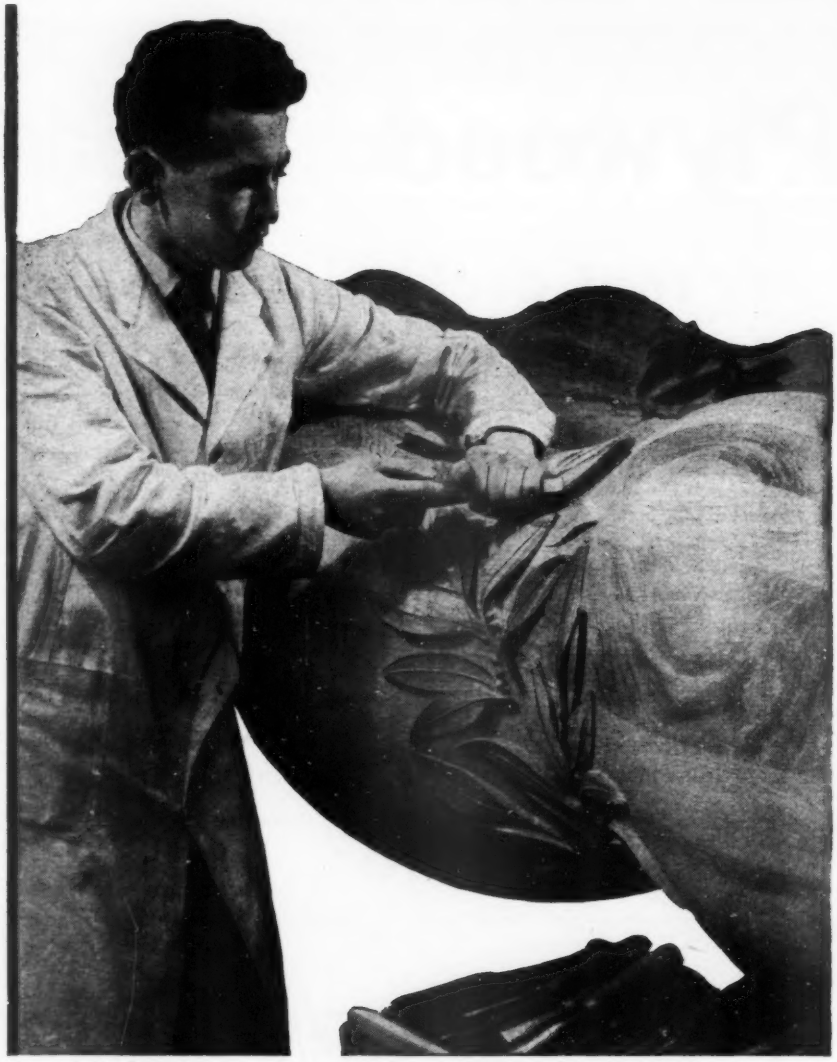
HOARDINGS



PACKING CASES

FLOOR UNDERLAY

Trees aren't big enough



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

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

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

Solid timber is rarely obtainable in the dimensions needed for work such as this—the carved columns for the new altar canopy of St. Paul's Cathedral. But it does not matter, because Aerolite resin glue is used to glue the wood sections permanently into a homogeneous whole, so that the material can be worked upon just as if it were solid timber.

There are four of these columns supporting the new altar canopy, each 15 ft long, and the glue had to withstand all stresses imposed by turning, cutting the spirals and carving. And now that the canopy is finished, Aerolite forms an integral part of the columns and of most of the decorative woodwork, withstanding if need be any moisture and bacteriological attack that might arise throughout the years.

Aerolite is used wherever wood is employed, for miniature modelling, boat-building, furniture, flush doors and joinery, chipboard and the largest timber structures.

If you use wood you will want to know more about Aerolite. Write today for technical bulletins and other literature on Aerolite glues for wood.

Aerolite

glues for wood

Aerolite is a registered trade name

CIBA (A.R.L.) LIMITED Duxford, Cambridge. Telephone: Sawston 2121

AP435

why you should use

DRY CONSTRUCTION

In building, the saving of time and labour is vital to the achievement of economy in cost. Since Dry Construction materials are factory-made, they eliminate the expensive delays normally caused by bad weather and prolonged drying-out periods. Entirely moisture-free before delivery to site, they permit work to proceed according to plan. Easy to cut, handle and erect, they speed construction and reduce overtime to the minimum. Being "dry" products, decoration can be carried out immediately after fixing, thus ensuring completion ahead of schedule. When Dry Construction is employed, structures are warm and dry right from the start.

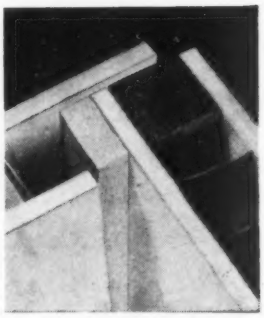
These cost-cutting considerations alone would recommend the use of Dry Construction in all building projects. But, when such essentials as improved thermal insulation and better fire protection are added benefits, the modern technique of Dry Construction merits closer study and further investigation by every Architect and Builder.

EARLY CO-OPERATION WILL ENSURE GOOD DESIGN

BLUE HAWK PRODUCTS

BRITISH PLASTER BOARD

for Houses, Flats, Offices



Paramount DRY PARTITION

Consists of two Paramount Plasterboards enclosing a fibrous core in the form of square cells. The complete construction is a ready-made non-load bearing wall unit of great strength and rigidity. Light in weight, highly fire-resistant, with good sound and thermal insulating properties, it is easy to handle, cut and erect, saving considerably on site labour. Off-cuts have the same strength as the original panel and are most useful for constructing built-in wardrobes, airing and meter cupboards, etc.

Supplied ready for immediate decoration or with one or both surfaces treated to take plaster.

Paramount PLASTERBOARD

The ideal building board—strong, light, rigid, adaptable and easy to erect. Does not expand or contract, warp or buckle. Because it has a core of Gypsum, the mineral that cannot burn, Paramount Plasterboard is the safest sheet lining for walls, ceilings and partitions. It is graded as a Class 1 material—that is, one that constitutes no fire hazard. Unlike many other boards, it requires no costly fire-retarding surface treatment or special impregnation. Costing about 4d. per sq. ft. it provides the most economical form of fire-safe construction and offers advantages of thermal and sound insulation for the same initial outlay.

Paramount Water Resisting Plasterboard is also available for use where condensation is a problem.

Paramount INSULATING PLASTERBOARD

Consists of Paramount Plasterboard with one surface covered by a veneer of bright aluminium foil, which greatly increases its thermal insulating properties. Strong, durable and inert, Paramount Insulating Plasterboard provides maximum thermal insulation plus high fire resistance plus economical cost (less than a penny per sq. ft. extra) plus the important advantage of easy, speedy Dry Construction.

The recent Thermal Insulation (Industrial Buildings) Act emphasizes the need for National Fuel Economy. Paramount Insulating Plasterboard complies with all the requirements of the Act.

Paramount COVE

Consisting of a core of Gypsum plaster encased in strong paper liner, Paramount Cove is, in effect, plasterboard moulded into a cove section. As such, it has all the advantages of plasterboard, including fire-resistance and ease of fixing. Paramount Cove, a factory-made cornice, is an excellent means of concealing unsightly cracks between walls and ceilings. Its simple but distinctive lines greatly improve the appearance of any room. Being a "dry" product, decoration can be carried out immediately.

DRY CONSTRUCTION PRODUCTS

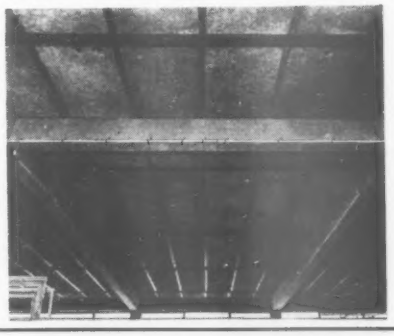
Factories, Works, Warehouses etc.

BLUE HAWK PRODUCTS

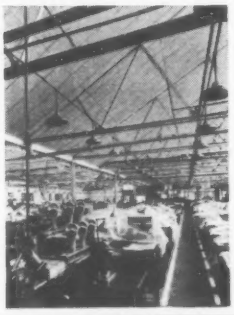
Paramount Dry Partition used as an internal lining in a modern house

Paramount Dry Partition used for conversion work in Lloyds Building in Leadenhall Street, London.

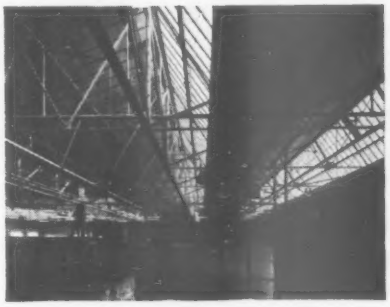
Paramount Plasterboard used as a lining to traditional walls.



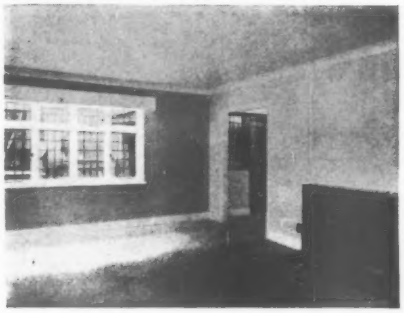
Blue Hawk RSJ Clips employed to clad beams with Paramount Plasterboard.



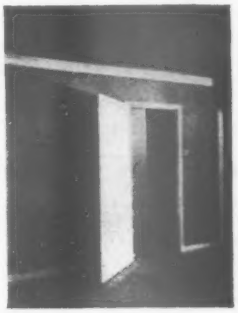
Paramount Insulating Plasterboard used as a roof lining in the factory of Venner Accumulators Ltd., New Malden. Note the parking meters for use in London.



Paramount Insulating Plasterboard used for the roof lining of the new Factory for Messrs. Bryant & May Ltd., Glasgow. Making matches safely— No fear of flame or smoke spread.



Paramount Cove used to mask junction of walls and ceilings in a modern bungalow. No unsightly cracks.



Paramount Cove used to modernise an old-fashioned interior.

BLUE HAWK PRODUCTS

the range of

BRITISH PLASTER BOARD

gypsum/fire-resisting products includes

Thistle

- ☐ Plaster Baseboard
- ☐ Plaster Lath
- ☐ Board Finish Plaster
- ☐ Browning and Wall Finish Plasters
- ☐ Metal Lathing Plaster
- ☐ Acoustic Plaster
- ☐ Concrete Bonding Plaster
- ☐ Insulating Plaster Baseboard
- ☐ Insulating Plaster Lath

Paramount

- ☐ Plasterboard
- ☐ Insulating Plasterboard
- ☐ ¾" Plasterboard for Two-inch Solid Partition
- ☐ Dry Partition
- ☐ Cove
- ☐ Water Resisting Plasterboard
- ☐ Plastic Faced Plasterboard

Paraclip

- ☐ System of Suspended Ceilings and Wall Linings

Blue Hawk

- ☐ Flooring
- ☐ RSJ Clip

For further information please
TICK the products in which you are interested.
PRINT your name and address below.
CUT OUT along dotted line.
SEND TO:

THE

BRITISH PLASTER BOARD

(Manufacturing) LTD

BATH HOUSE, 82 PICCADILLY LONDON, W.1. TELEPHONE GROSVENOR 8311

NAME & INITIALS .....

PROFESSION OR STATUS .....

COMPANY OR ORGANISATION .....

FULL POSTAL ADDRESS .....

.....

(BLOCK CAPITALS PLEASE) AJ

This advertisement is produced to B.S. 1311, 1956, governing Trade & Technical publications.

AP 158

Q·V·F

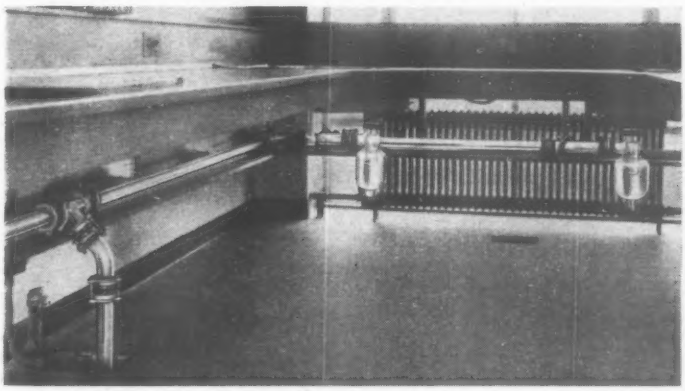
Glass Sink Traps and waste lines...

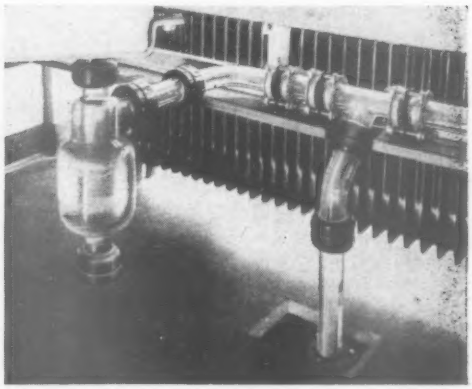
QUICKFIT Visible Flow

Q UICKLY FITTED

V ISIBLE IN OPERATION

F REE FROM CORROSION





Photographs by courtesy of Nottingham Technical College.

The Q.V.F. system of Glass Sink Traps and Waste-Lines is ideally suited for installations in chemical, Pharmaceutical and Biological Laboratories. The transparency of the system allows any build-up of solids to be instantly detected—an important point where the efficient disposal of noxious liquids is of paramount importance.

In addition, the smooth surface of the glass minimises scale formation, and will withstand thermal shock of alternate flushing with boiling and ice-cold liquids.

Full details are contained in our new Brochure "GLASS SINK TRAPS & WASTE-LINES". Write for your copy NOW!

Q·V·F

LIMITED

The Chemical Engineers in Glass

DUKE STREET · FENTON · STOKE-ON-TRENT · STAFFORDSHIRE

Tel: LONGTON, STAFFS 32104-8

Grams: 'GLASSPLANT', STAFFS

Secomastic was used extensively for sealing the window frames of these offices on the Albert Embankment, London. This renowned mastic is used the world over for joints that are subject to movement.

ARCHITECTS: T P. BENNETT & SON. MAIN CONTRACTORS: TAYLOR WOODROW CONSTRUCTION LTD.

For further information please write to Architectural Department

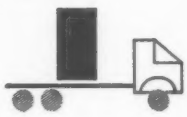
SECOMASTIC LIMITED.

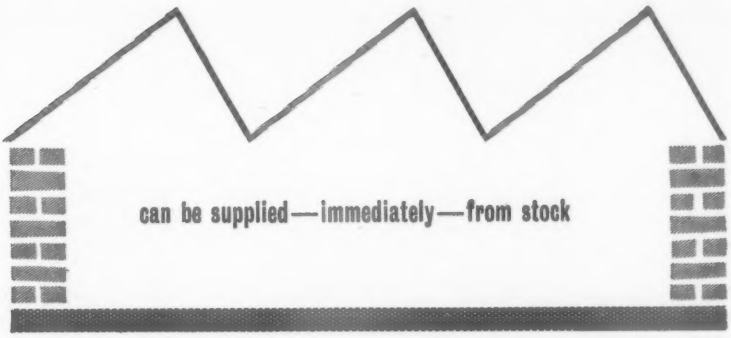
BRACKNELL, BERKSHIRE

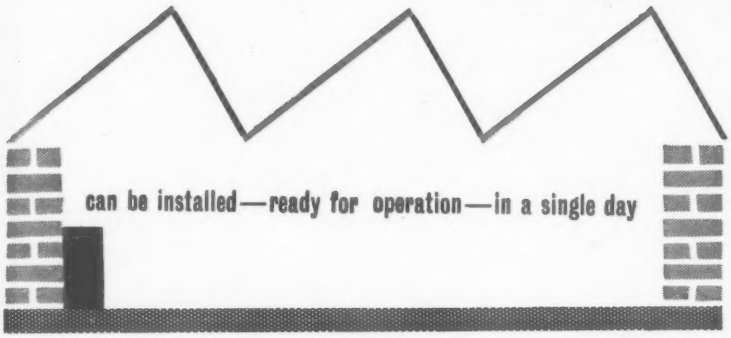
Telephone: Bracknell 910 (10 lines)

Secomastic products also include:
'Secostrip' pre-formed mastic strip.
'Galvafroid' zinc-rich paint.

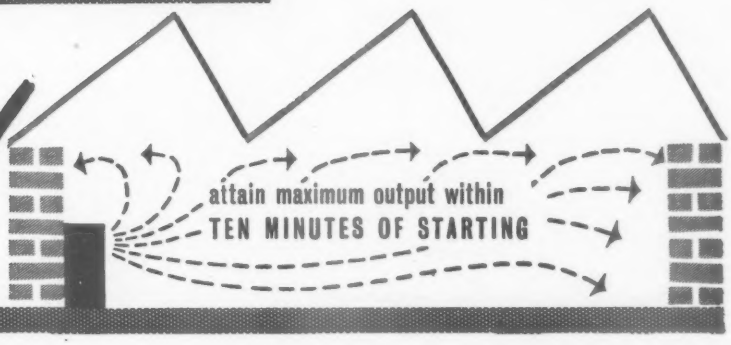
HEAT





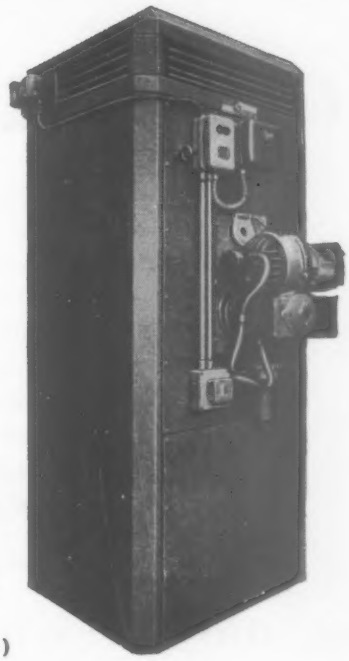


in a hurry!



But that's not all. Efficiency and economy are of prime importance too and Colt heaters score heavily here. The units are specially designed to ensure absolutely uniform heating throughout the building and the final cost for every 100,000 B.T.U. dissipated into the heated zone is reduced to as little as 11.95d. And every Colt heating installation is as scientifically planned as a Colt Ventilation Scheme. Colt heating engineers are always available for free consultation.

Write for further details to Dept L151/2

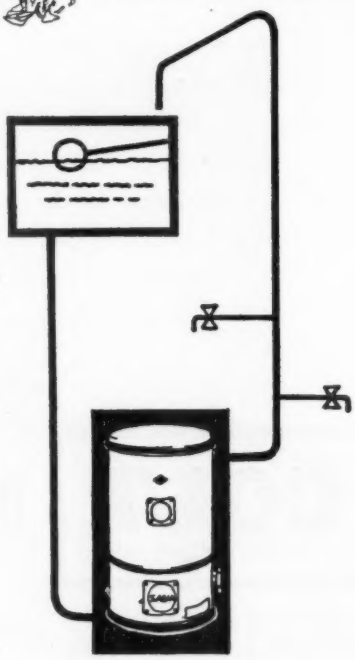


COLT Oil Fired Air Heaters

COLT VENTILATION LTD · SURBITON · SURREY · Tel. ELMbridge 0161 (10 lines)

Hot water by SADIA is simple

Sadia provide a complete domestic hot water system that is simple to plan, simple to install, and simple to use. And in terms of convenience, efficiency and economy, Sadia water heaters are easily the most satisfactory to the householder. Most modern homes would be better off with a Sadia. There is a Sadia (from 1½-gallons to 120-gallons capacity) for every water heating job. Recommendations for any particular installation will be gladly made by our Technical Advisory Service. Please use this service at any time to help solve any water heating problem.

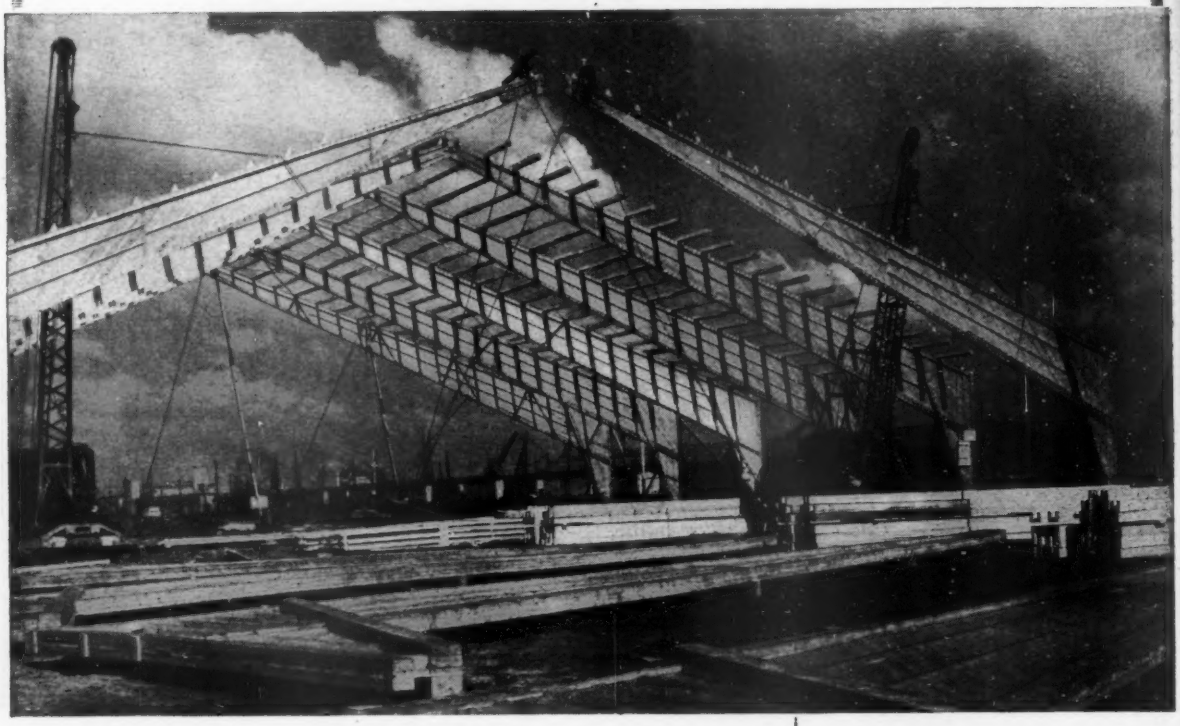


SADIA
HOT WATER BY ELECTRICITY

Aidas Electric Limited, Sadia Works, Rowdell Road, Northolt, Middx. Waxlow 2355

SPECIALISTS IN HOT WATER BY ELECTRICITY SINCE 1923

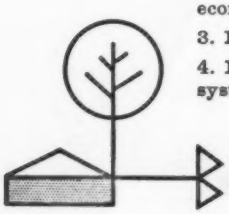
The **HB** System of Timber Construction



The H.B. system of timber construction has been used for twenty years in Scandinavia for every sort of wide span roof structure from barns to factories and from school halls to aircraft hangars. We have acquired the sole licence to manufacture in the United Kingdom under British Patent No. 754,303 and are now in production. The system is based upon the use of glued laminated flanges and boarded webs through-nailed together to form a versatile I section. Designs are prepared in our own office to meet the specified functional and architectural needs of each project. Some of the special merits of H.B. are :—

1. A free choice of design solutions to suit the purpose, i e. two or three pin portal frames, straight or low pitched roof beams, continuous beams over intermediate supports, and cantilevered eaves to roofs.
2. A range of clear spans from 40 ft. to 160 ft., all economically practicable.
3. Post spacing up to 40 ft. by the use of secondary beams.
4. Economic cost by comparison with any other design system or material.

Enquiries are welcomed.



BEVES & CO LTD

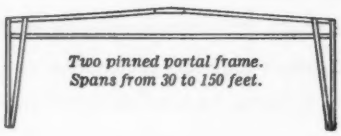
As T.D.A. Approved Manufacturers, we also make structures of Glulam, Boxed Plywood and Connectored Assemblies.

Constructional Engineers in Timber and Timber Importers.
Kingston Wharf, Shoreham-by-Sea, Sussex. Tel. Southwick 2285.

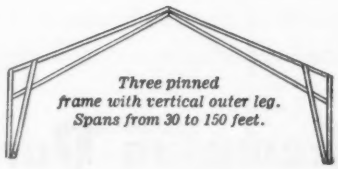
CFB-31

Ridge beam. Spans from 20 to 100 feet.

Northlight. Spans from 25 to 80 feet.



Two pinned portal frame. Spans from 30 to 150 feet.



Three pinned frame with vertical outer leg. Spans from 30 to 150 feet.

Two pinned portal frame with cantilevers. Spans from 15-40-15 to 30-80-30 feet.

Planning a colour scheme–quickly

JENSON & NICHOLSON OFFER PRACTICAL ASSISTANCE IN PLANNED COLOUR SCHEMES FOR OFFICES AND HOMES ETC.

Colour schemes in perspective using *actual paints* provided to your requirements in less than 24 hours

REALISING the increasing awareness amongst businessmen of the importance of colour in factories, offices and public buildings, Jenson & Nicholson have developed a special colour-scheme system, which is in addition to their established Architectural Service Bureau.

Architects who find themselves faced with the task of submitting to their clients a number of individual colour schemes for different rooms within a building need simply contact Jenson & Nicholson's Architectural Service Bureau. A representative will take details and if necessary visit the site.

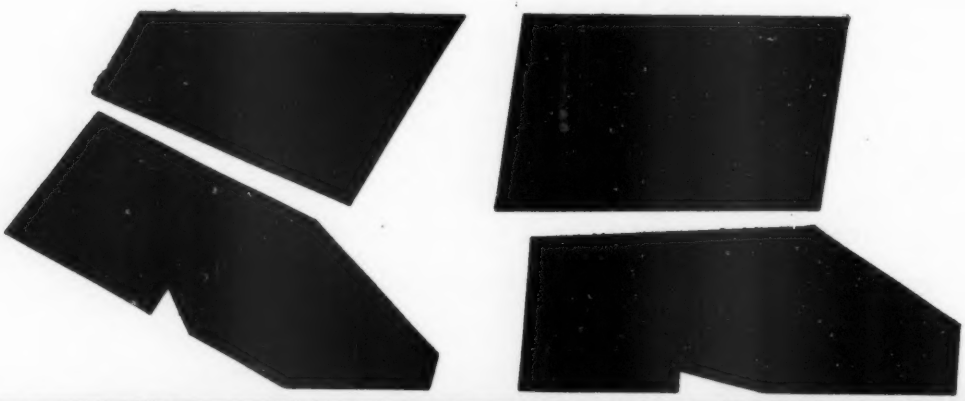
A selection of colour schemes will then be prepared on specially designed cards which show the walls, floors, ceilings, doors and windows in perspective. These surfaces on each card are *painted with the actual recommended finishes*. Because there is a far wider range of Robbialac Colorizer colours than of any other paint, each of these schemes can vary greatly in the imaginative use of colour.

✳ *For full details of this new unique service ask your secretary to write to:—*

ARCHITECTURAL SERVICE BUREAU, JENSON & NICHOLSON LIMITED, JENSON HOUSE, CARPENTERS ROAD, STRATFORD, E.15

MANUFACTURERS OF

ROBBIALAC Colorizer TRADE MARK PAINTS



GLAMOROCK TAKES THE FLOOR

with a magic carpet of natural *stone*

GLAMOROCK LIMITED announce with pride two truly revolutionary surfacing materials of *natural* stone for floors and also walls. Their names? Glamorock Glaze and Glamorock Granite. Both are beautiful and very hardwearing. Both are *outstandingly economical.*

GLAMOROCK GLAZE

Glamorock Glaze possesses all the decorative and wear-resistant advantages of polished granite or Terrazzo, plus a far greater and altogether more attractive range of *natural* stone colours. It is simple to lay and highly economical. Depending on the size of the job, and the locality, its cost works out at between 25/- and 45/- per square yard. Glamorock Glaze is the ideal material for private dwellings, or wherever a modern, very beautiful floor or wall surface is required.

GLAMOROCK GRANITE

Glamorock Granite was evolved to give an exceptional degree of wear-resistance under the most severe conditions, while retaining the beauty, colour and design possibilities of Glamorock Glaze. Glamorock Granite makes a perfect surfacing for factories, schools, hospitals, public buildings and similar places. It is completely slip-proof and after a normal floor polish has been applied it can be thoroughly cleaned simply by water.

Neither Glamorock Glaze nor Glamorock Granite will fade, craze or crack, structural faults excluded. Both surfaces are unaffected by oil, acid and other normally harmful substances. They are easy to keep clean and are comfortable to stand or walk on, maintaining room temperature. And they are both available in a superb range of 22 fade-free colours of the natural rock, without any added pigments whatsoever. These standard colours can be mixed to give an infinite variety of attractive blends.

Both materials (which are supplied ready-mixed) can easily and very rapidly be applied "in situ" on practically any surface—timber, stone, cement, etc.—provided it is free of oil and grease. And they are ideal for prefabrication in tile or sheet form. In either case only a comparatively thin application (say 3/16") is needed.

Glamorock Glaze and Granite open a new world of design and economy possibilities. They are of the utmost importance to every Architect, Designer and Contractor.

Important Note to Flooring Contractors

In view of the revolutionary nature of these products and the impact they will have on the Flooring Industry, you are invited to make full use of the Demonstration Service offered by:—

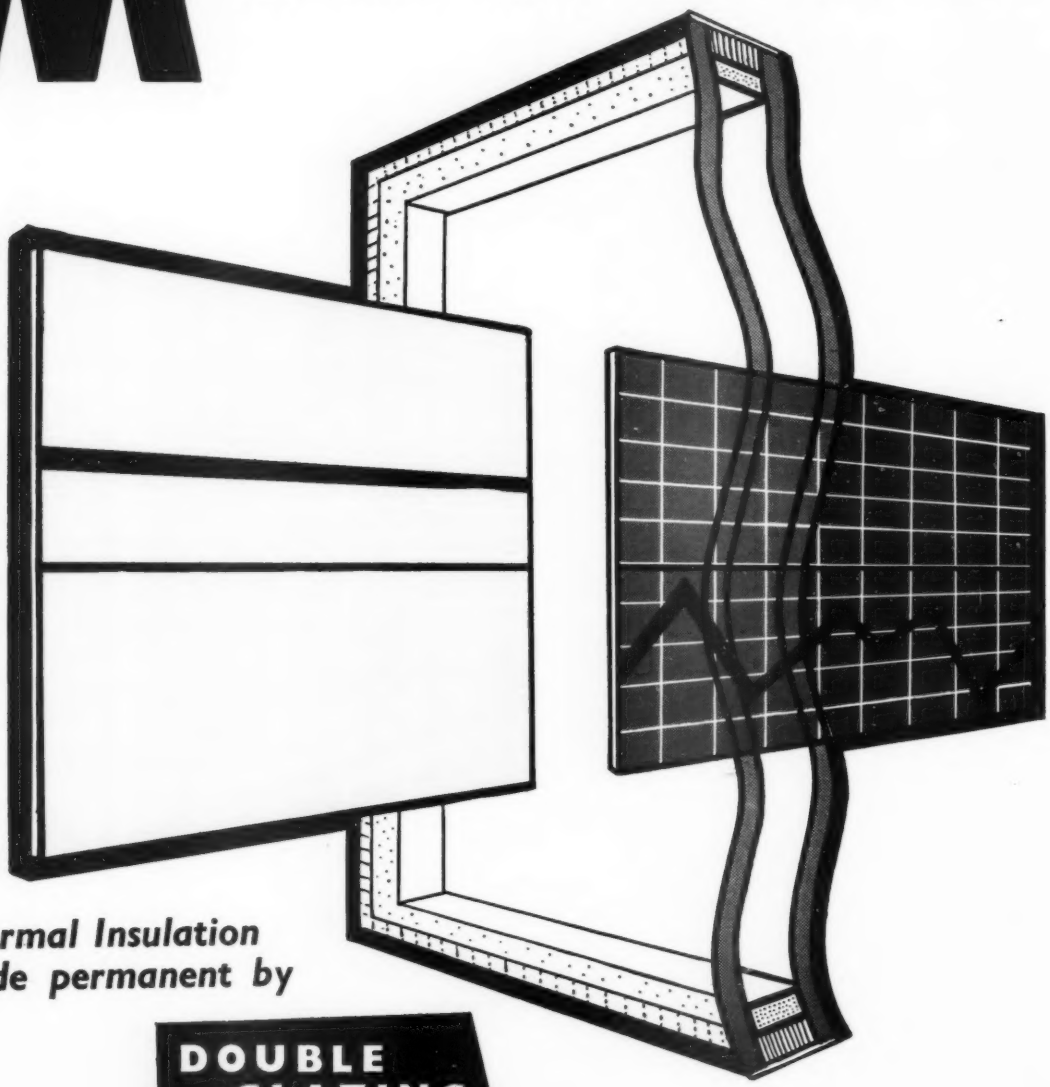
GLAMOROCK LIMITED
Monza Street, Wapping Wall, London, E1, Royal 6785/6

Glamorock Glaze used dramatically on a corridor floor and wall. The right hand wall is faced with standard Glamorock.

DOUBLE SEAL

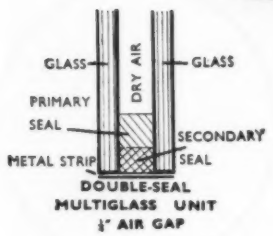
MULTIGLASS UNITS

for comfort in cold conditions



Thermal Insulation made permanent by

DOUBLE GLAZING



DOUBLE-SEAL MULTIGLASS UNIT ½" AIR GAP

THE PROBLEM

The fuel economy and comfort, and the reduction of noise, draughts and condensation, achieved by double glazing are established, but permanent efficiency depends upon permanent sealing.

OUR SOLUTION

Multiglass Units are double sealed. The internal one acts mainly as a moisture vapour barrier. The external one, which is extremely tough and proof against oils found in glazing compounds protects the primary seal and ensures the essential rigidity of the unit. An impervious metallic membrane completes the assembly.

Please write for detailed literature or ask for one of our technical representatives to call.

MULTIGLASS LIMITED 65 HAYMERLE ROAD, LONDON, S.E.15.
Telephone: NEW CROSS 3668/9

CARTER

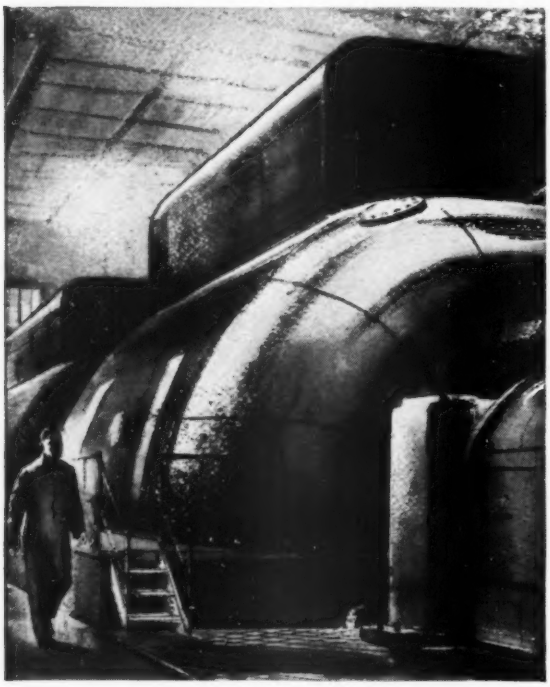
FLOORS TO WORK ON

THE DORSET RANGE . . . ROBUST AND RELIABLE

Ceramic Tiles of the Carter Dorset Range are made from the famous Dorset clay, which is renowned throughout the world for its purity and toughness. New production techniques have recently been installed which process this clay into very fine particles, giving the finished tiles high density and uniformity in size and shade.

Samples of these tiles will gladly be sent on request

CARTER TILES LIMITED
Poole, Dorset. *Poole* 125
Carter & Co. London Ltd, 29 Albert Embankment, SE11. *Reliance* 1471
Manchester Office: 27 Brazennose Street, Manchester 2. *Blackfriars* 2098
Commercial Marble & Tiles Ltd, Selborne Gardens,
Newcastle-upon-Tyne 2. *Newcastle* 811373.
Carter Tiling Edinburgh, 13 Steads Place, Edinburgh 6. *Leith* 39188



The world's largest Generators will help to fill the demand for still more power

The development of nuclear energy for generating electricity is still front-page news. Less publicised, though no less outstanding, are new developments in "conventional" generating plant. The turbo-alternator shown here is a 550,000 kilowatt unit – twice the capacity of the next largest on order for the Central Electricity Generating Board. It has been designed for the projected new power station at Thorpe Marsh. For Blythe 'B', another new station, 275,000 kilowatt in-line units are on order. They will be powered by steam at 2,350 lb. per sq. in. and 1,050°F, with reheat to 1,000°F.

Nuclear power will play an important part in meeting the ever-increasing demand for electricity. Work is now in progress on the first three nuclear power stations, at Bradwell, Berkeley and Hinkley Point. By 1966/7 some 5 to 6 million kilowatts of nuclear-generated electric power will be available.

Though these projects will not be completed for some time, the Central Electricity Generating Board plays an important part in today's fight against inflation. Power stations are being built at a cost no greater than in 1948 – £50 per kilowatt installed. And, although the output of the industry has doubled since 1948, the increase in manpower is only about one-third.

By providing today for the power we shall need in years to come, the Central Electricity Generating Board is building a secure foundation for our future prosperity.

CEGB

THE CENTRAL ELECTRICITY GENERATING BOARD

Mixing Dough. Photograph reproduced by courtesy of Baker, Perkins Ltd

plasticity and workability

Good plasticity and working qualities of a mortar or plaster are immediately recognized by the good craftsman. Not only do they facilitate the operation of bricklaying, internal plastering and external rendering, but give a better job.
These properties, traditionally obtained by running quicklime to putty on site, are now available by soaking hydrated lime to putty overnight in the modern method. LIME-sand mortar gauged with Portland cement gives excellent and reliable workability and good adhesion. The mix most widely recommended for general purposes in respect of these and other properties consists of two volumes of LIME mixed with nine volumes of sand and gauged with one volume of Portland cement.* Air bubbles incorporated by use of chemical plasticisers may give workability but this is dependent upon the amount of air entrainment which may vary according to the conditions of mixing and other factors.

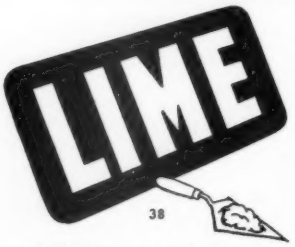
THERE IS NO ADEQUATE SUBSTITUTE FOR LIME

** Normally specified in the form 1 : 2 : 9—cement : LIME : sand*

THE SOUTHERN LIME ASSOCIATION
Hanover House, 73-78 High Holborn, London, W.C.1
Tel: HOLborn 5434

or

THE LIMESTONE FEDERATION
Manfield House, 376-8 Strand, London, W.C.2
Tel: COVent Garden 0621

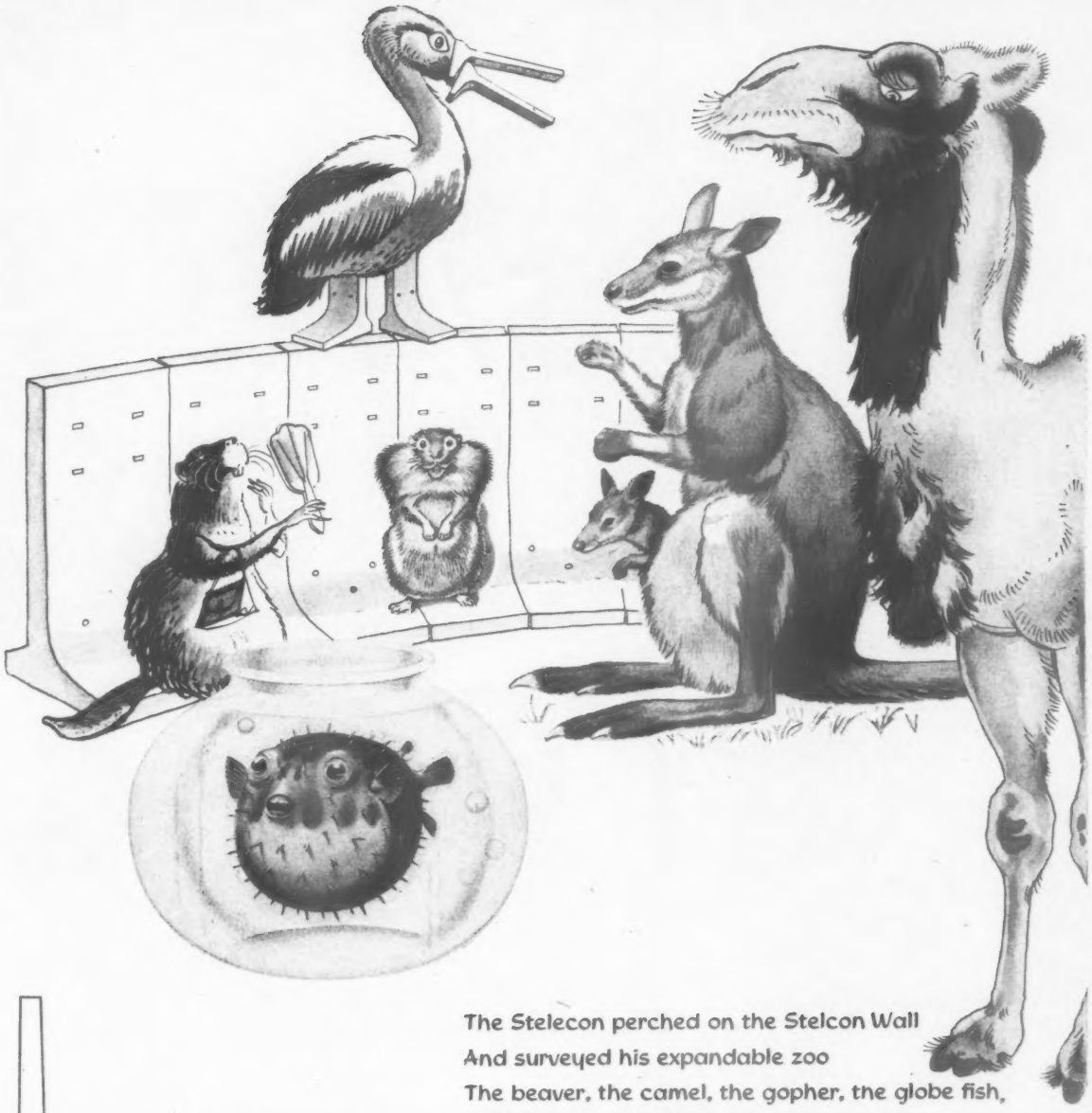


use **LIME** *tested by time*

A booklet on LIME/sand mixes gauged with cement and conforming to British Standard Codes of Practice will be sent free on application to either of the above.

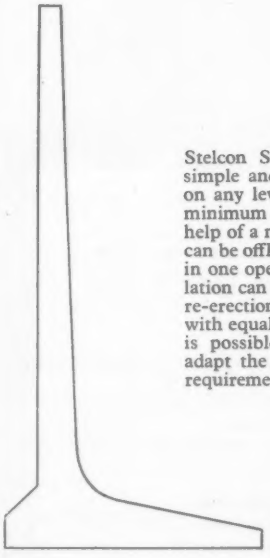
LIME
MANUFACTURED TO COMPLY WITH B.S. 890

This is your safeguard to ensure satisfaction.



The Stelcon perched on the Stelcon Wall
And surveyed his expandable zoo
The beaver, the camel, the gopher, the globe fish,
And also the wallaby, too!
"My friends" he observed "though different in shape
There's one thing that's common to all
We can each store a really surprising amount
Just like this most excellent wall."

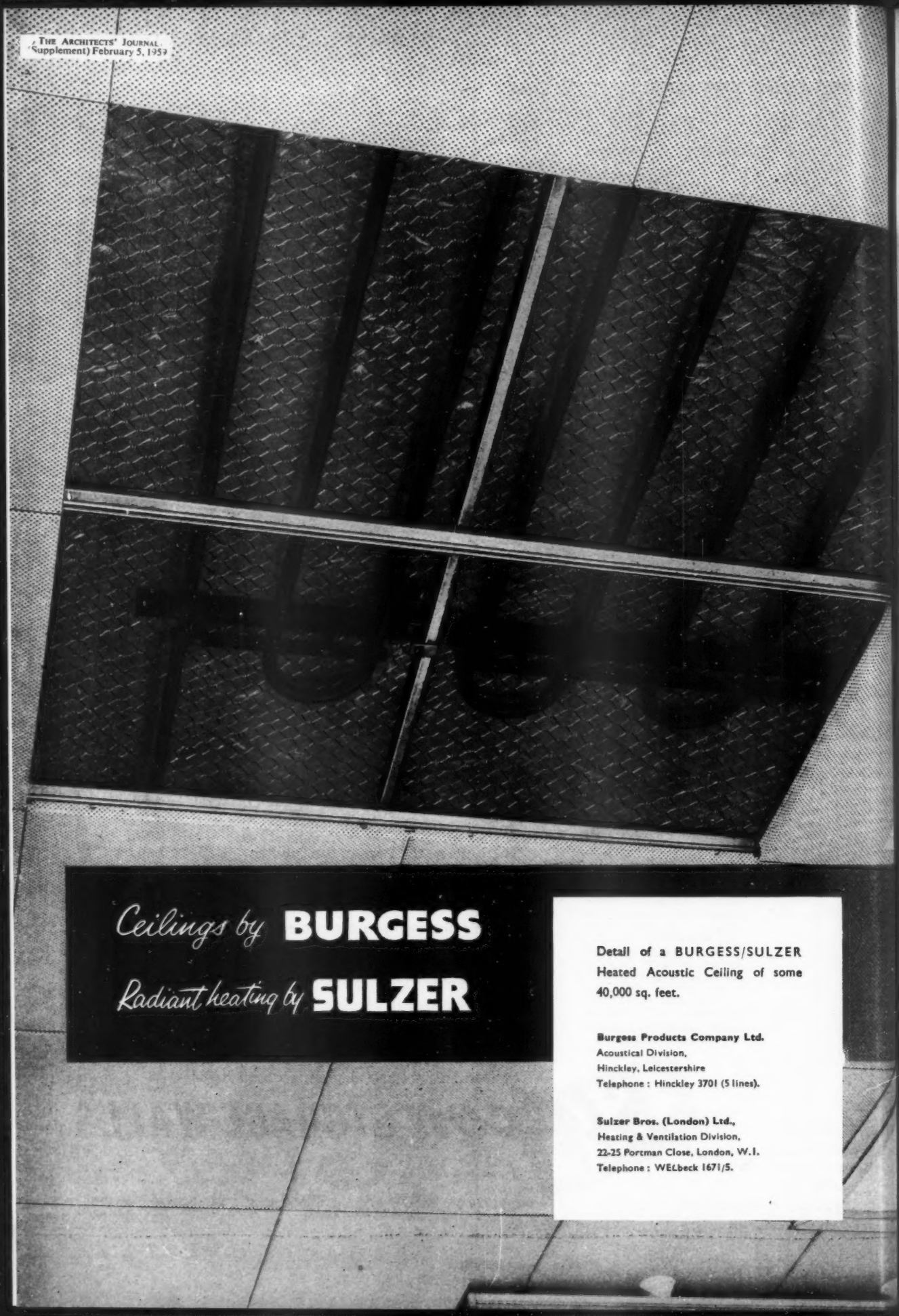
Stelcon Storage Walls are simple and quick to install on any level site. With the minimum of labour and the help of a mobile crane, they can be offloaded and erected in one operation. An installation can be dismantled for re-erection on another site with equal simplicity, and it is possible to re-plan and adapt the storage layout as requirements demand.



Stelcon STORAGE WALLS

Please send for illustrated technical booklet IE 8

STELCON (INDUSTRIAL FLOORS) LTD · CLIFFORDS INN · LONDON · E.C.4. TEL: CHAncery 9541



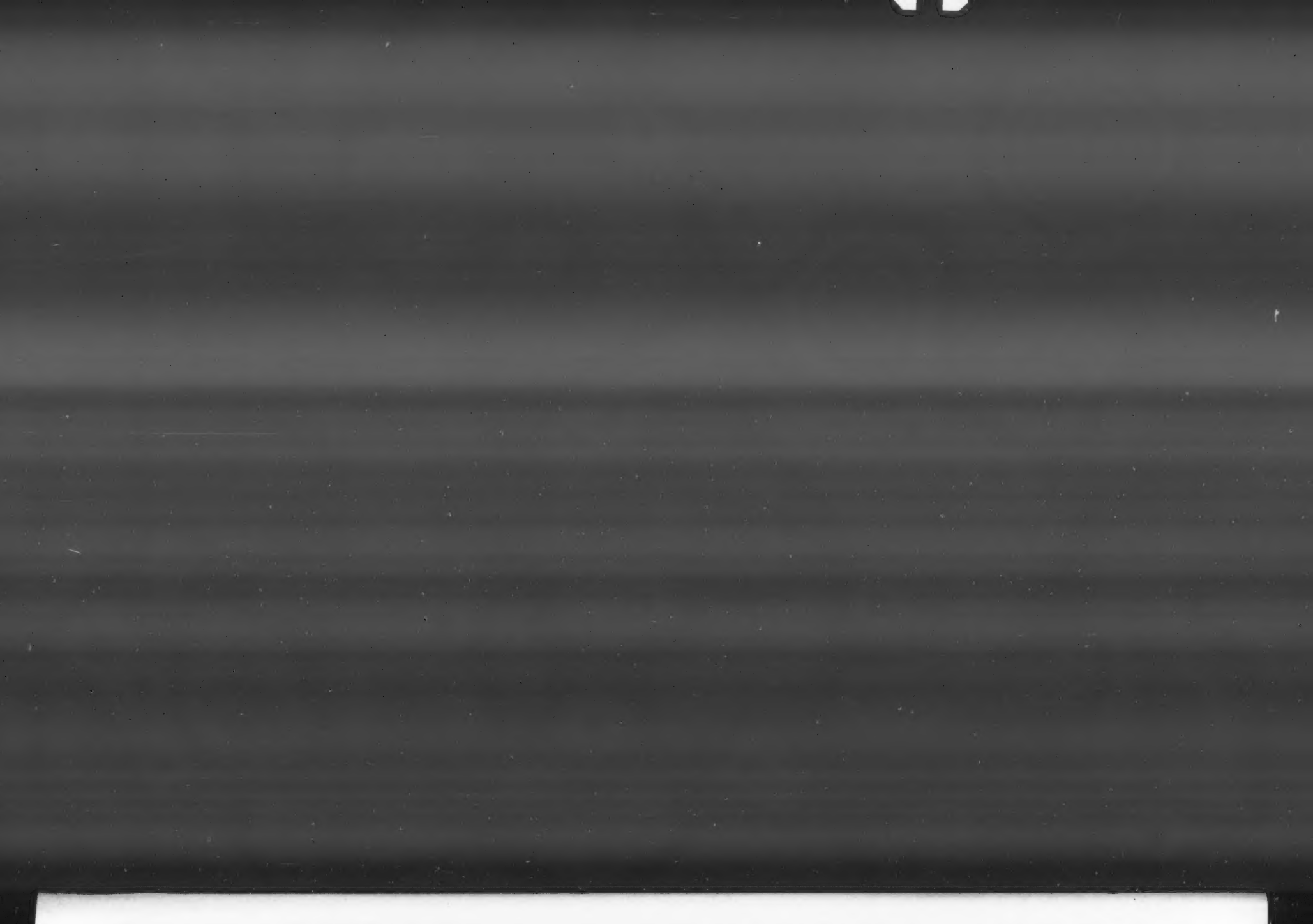
Ceilings by **BURGESS**

Radiant heating by **SULZER**

Detail of a BURGESS/SULZER Heated Acoustic Ceiling of some 40,000 sq. feet.

Burgess Products Company Ltd.
Acoustical Division,
Hinckley, Leicestershire
Telephone : Hinckley 3701 (5 lines).

Sulzer Bros. (London) Ltd.,
Heating & Ventilation Division,
22-25 Portman Close, London, W.1.
Telephone : WELbeck 1671/5.



Stage 3

3″ Reb. is the code symbol by which we describe our 3″ Rebated Channel Reinforced Wood Wool Roofing Slab. In conditions of abnormal humidity, the steel channels of reinforced slabs may suffer from condensation. This slab was designed to obviate this difficulty without impairing any of the advantages of Channel Reinforced Slabs. When butt-jointed the rebate on each edge of these slabs forms a cavity into which a 1″ thick strip of cork or ONAZOTE is laid. This treatment effectively overcomes the "cold bridge" effect which causes condensation. This is an exclusive Thermacoust feature. A roof composed of these slabs, screeded and felted in the usual way, has been tested by the fire Research Station at Boreham Wood, and effectively contained an INTERNAL fire of 1000°C. for over 2 hours. This slab is particularly suitable for kitchens, canteens, weaving sheds, church halls, sports pavilions, swimming baths, school assembly halls, in fact any atmosphere of abnormally high humidity by reason of occupation, special process or gas or oil convector heating.
Please write for full particulars to—

THERMACOUST LTD

ROOFING SLABS

20 ALBERT EMBANKMENT · LONDON S.E.11
TEL: RELiance 7281

When used in conjunction with inverted "T" purlins no special fixing arrangements are necessary.
Type 2 site fixing clips can be used with R.S.J. or flat topped purlins.
The slab may also be provided with any of the exclusive range of Thermacoust Pre-clips for fixing copper, SNAPRIB aluminium, slates, tiles or false ceilings.

The first—the best—the original

SOUTH AFRICAN MASONITE PRIMECOTE BOARD

is the only fully primed hardboard.

In standard and tempered grades—in thicknesses from ⅛″ to ½″—South African Masonite Primecote Board has been available in the United Kingdom for over two years—daily enjoying an ever-increasing demand!

Just look at the unique advantages SOUTH AFRICAN MASONITE PRIMECOTE BOARD offers:—

- **Saves paint—one finishing coat is enough.**
- **Cuts the work of applying the final coat by one-third to one-half.**
- **Needs no Pre-sanding before painting.**
- **Takes paint from brush, spray or roller.**
- **Takes oil or emulsion paint, enamel or lacquer.**
- **Resists chipping and flaking when sawn, drilled, punched or nailed.**

SOLD THROUGH IMPORTERS AND DISTRIBUTORS

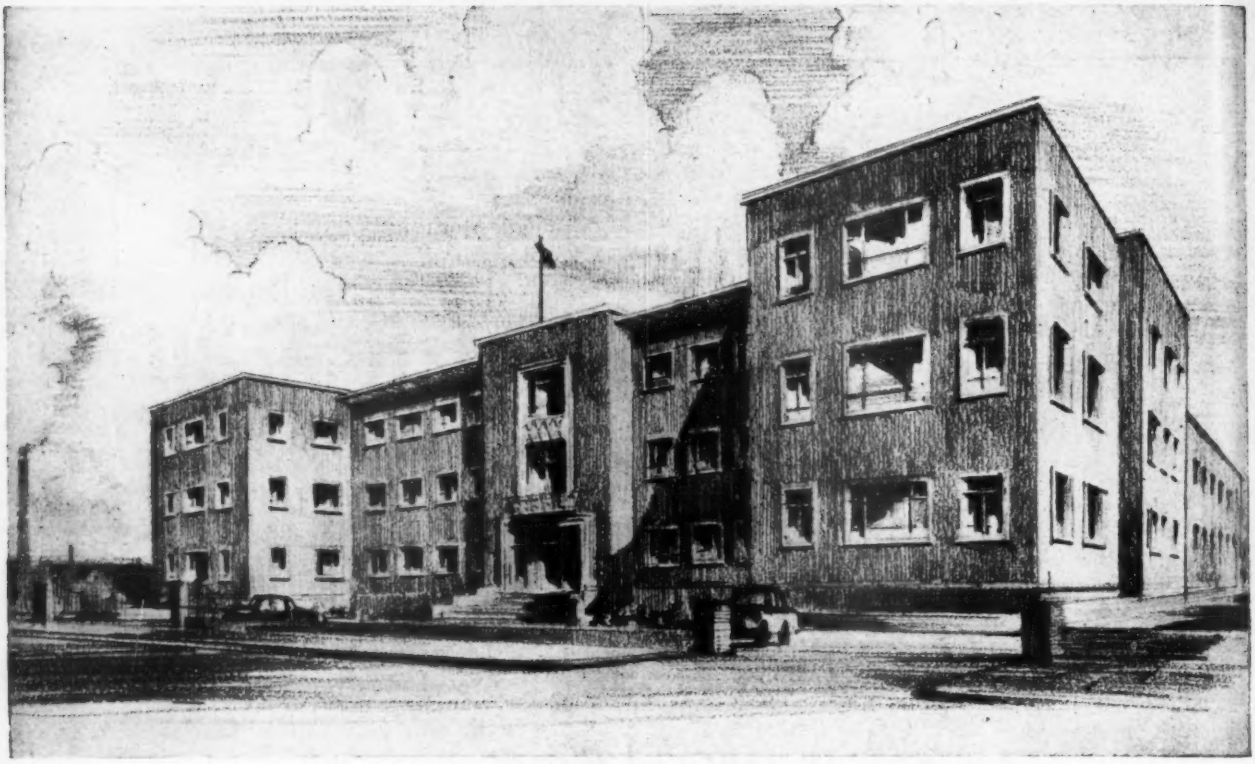
What a difference a coat makes!

Sole concessionaires in the United Kingdom:—

THE WOOD FIBRE WALLBOARD CO., LTD.

8, City Road, Finsbury Square,
London, E.C.1.

Telephone: MONarch 0455/9.



The new administrative offices of

THE WALPAMUR CO LTD

The opening of this impressive building is a landmark in the progress of The Walpamur Company Limited, whose products are the first choice of architects, decorators and householders alike. Best known are Walpamur Water Paint in interior and exterior qualities, Duradio the easy to apply, quick to dry, 5-year Enamel Paint and Darwen Satin Finish, a steamproof paint ideal for any room, particularly kitchens and bathrooms. The full Walpamur range provides paints, enamels and varnishes of the finest quality for every conceivable need.

BY APPOINTMENT
TO HER MAJESTY THE QUEEN MANUFACTURERS OF PAINT

THE WALPAMUR COMPANY LIMITED
DARWEN & LONDON

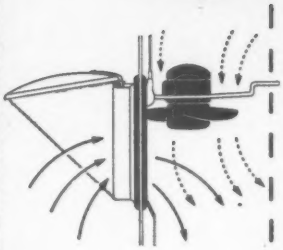
Depots and branches throughout the country

W787

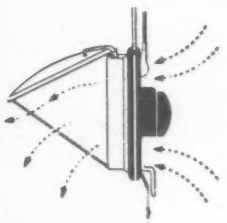
An outstanding advance in MODERN VENTILATION . . .

THE NEW Controlaire Indolator

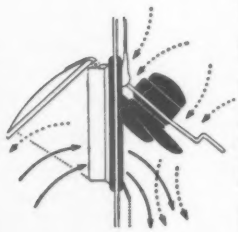
Instant fingertip adjustment gives you PERFECT VENTILATION under any conditions



FRESH AIR IN



STALE AIR OUT



FRESH AIR IN and STALE AIR OUT at the same time

Easy to clean —simply wipe with a damp cloth

When the demand is for an efficient window fan, and outside installation is costly and dangerous—specify the Controlaire.

It can be fitted and cleaned entirely from inside the room, and each operation requires very little time. The Controlaire is cheap to run and requires no maintenance because it is simple in design and sturdily made. The cream and black finish ensures freedom from corrosion and blends well with any decorative scheme.

TWO MODELS—each guaranteed for 12 months. A.C. current only. 240 volts, other voltages if required. 50 cycles. No interference with radio or T.V. Wall fixing fans also available, details on request.

Size	Extraction rate	Wattage	Minimum window size	Retail price
8" diameter blades	17,650 cu. ft. per hour	25	10½" x 10½"	£12.12.0
10" diameter blades	35,000 cu. ft. per hour	35	13½" x 13½"	£17.17.0

Complete this coupon and post TODAY
Please send me full details of the CONTROLAIRE Indolator

Name .....

Address .....

.....

A.J.3

MAIN DISTRIBUTORS
WM. MILLER (NEWCASTLE) LTD.
Railway Terrace, Newcastle upon Tyne, 4.
Telephone: Newcastle 3-4055 & 3-7504

LONDON & HOME COUNTIES DISTRIBUTORS
WINFIELD SMITH ENG. SUPPLIES LTD.
Orchard House, 14 Great Smith Street, London, S.W.1.
Telephone: Abbey 2770

CONFIDENCE...

MONTGOMERIE'S FINISHES FOR ALL DECORATIVE AND INDUSTRIAL PURPOSES

manufacturers of :-

PUROVAR ENAMEL.

ARTESCO EMULSION COATING.

Rustration Calcium Plumbate Anti-Corrosive Primer.

Emeskote Chemical Resisting Enamel—Air Drying Epikote Resin Based Coating.

Petrifoid 'S' Water Repellent—Solution Based on 'Dri-sil' Silicone.

PROTECTION DECORATION

the basis of the artists superb performance . . . the essential when you are specifying materials or PAINT for that new important assignment.

If it's PAINT, and if it's produced by montgomerie stobo—then you can have all the confidence in the world in recommending it for quality, durability, colour fastness and 'rightness for the job'—nothing is left to chance in its manufacture, which probably accounts for the number of new projects on which it is being used to-day!

★ Technical Advisory Service for specifications and colour schemes.

★ All shades to B.S.S. 2660. 1955 Colour Classification.

★ On Site Technical Service available to architect and builder.

montgomerie, stobo & CO LTD

Deeside, Saltney, Nr. Chester.
Telephone Chester 23128 (3 lines)
Telegrams 'Turpentine' Chester.

136/154 Stranmillis Road, Belfast.
Telephone Belfast 67978.
Telegrams 'Turpentine' Belfast.

52-72 Rogart Street, Glasgow, S.E.
Telephone Bridgeton 1005/6/7.
Telegrams 'Turpentine' Glasgow.

Also at Slough

FLOOR AS IT WOULD LIKE TO BE SEEN

This is the floor of the STOCK EXCHANGE first treated in 1955 with a Floor Treatments product.

The floor, of hardwood, was laid by *Messrs. Vigers Brothers Limited.*

Floor Treatments Limited specialise in the treatment of *floors that receive exceptionally heavy foot traffic.* It is a sphere in which they may claim exceptional experience, being responsible in an advisory capacity for some 35,000 floors in schools, public buildings and hospitals throughout the country.

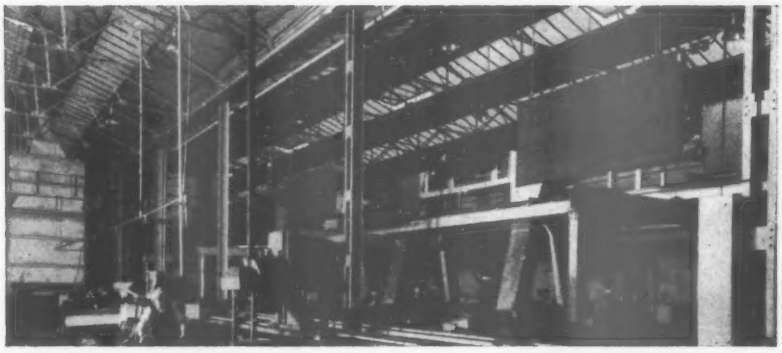
Working in conjunction with flooring contractors they maintain a service of advice and assistance which ensures that floors under their supervision will be maintained in superb condition.

Send for this outline of the service offered by Floor Treatments Limited— THE CARE OF FLOORS to:

FLOOR TREATMENTS LTD

HIGH WYCOMBE, BUCKS
Tel: High Wycombe 4214

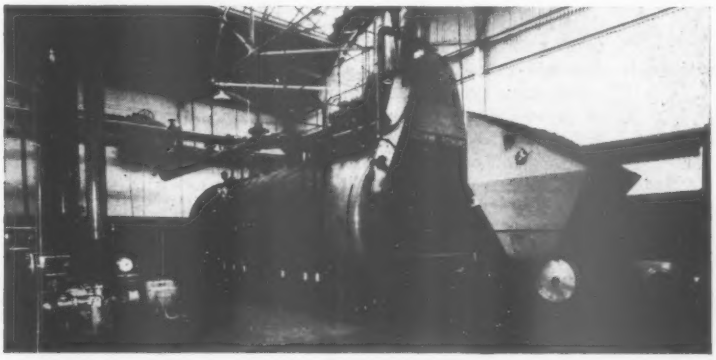
CONTRACTORS TO THE MINISTRY OF WORKS, ADMIRALTY and EDUCATION AUTHORITIES throughout the country.



MORRIS MOTORS LTD., WELLINGBOROUGH

RADIANT PANEL HEATING

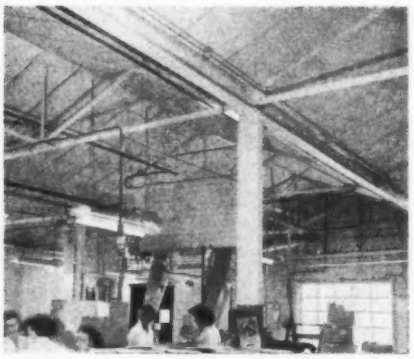
* High temperature hot water is circulated under pressure to the radiant panels, which are suspended immediately over working areas. The Economic boiler illustrated below is fired by our Underfeed Mechanical Stoker, which burns coal smokelessly and automatically and is one of the most economical producers of heat.



* *Extract from Publication No. 348, copies of which will gladly be sent gratis, on application to*

HOPE'S HEATING & ENGINEERING LTD

Smethwick, Birmingham & 16 Berners Street, London, W.1
Branch Offices at Leeds, Cardiff & Hull



Aerosols and Thermal Insulation

Over 9,000 sq. ft. of Insulating Gypsum Plasterboard were supplied for roof linings in this plant where fire resistance was of primary importance. Working conditions were greatly improved and an average annual saving of £192 in fuel bills has been achieved as a direct result of insulation. This saving alone pays for the total cost in less than five years.

The Pressure Aerosols Filling Co. Ltd, Berkhamsted, Herts
Contractors: Anderson, Lewin & Co. Ltd, Watford, Herts

FIRE RESISTANCE

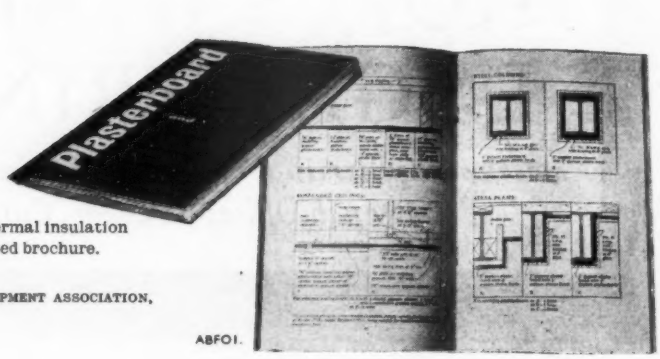
. . . high contribution at low cost

Gypsum Plasterboard conforms to Section II of B.S.476, having Class 1 surfaces of very low flame spread on both sides. It costs approximately 4d. per sq. ft. and is easy to handle, erect and decorate.

Insulating Gypsum Plasterboard, costs approximately 5d. per sq. ft., provides the same degree of fire resistance as normal plasterboard and in addition a high degree of thermal insulation. The aluminium foil on one face of this board, in conjunction with an air space, provides a structure with a U value comparable with that obtained when any other building board is used—and at a very competitive price.

IT'S THE CORE THAT COUNTS

All plasterboard has an incombustible core of Gypsum, which contains 20% combined water. During a fire this water is gradually released in the form of vapour, which provides an effective barrier to the fire's progress.

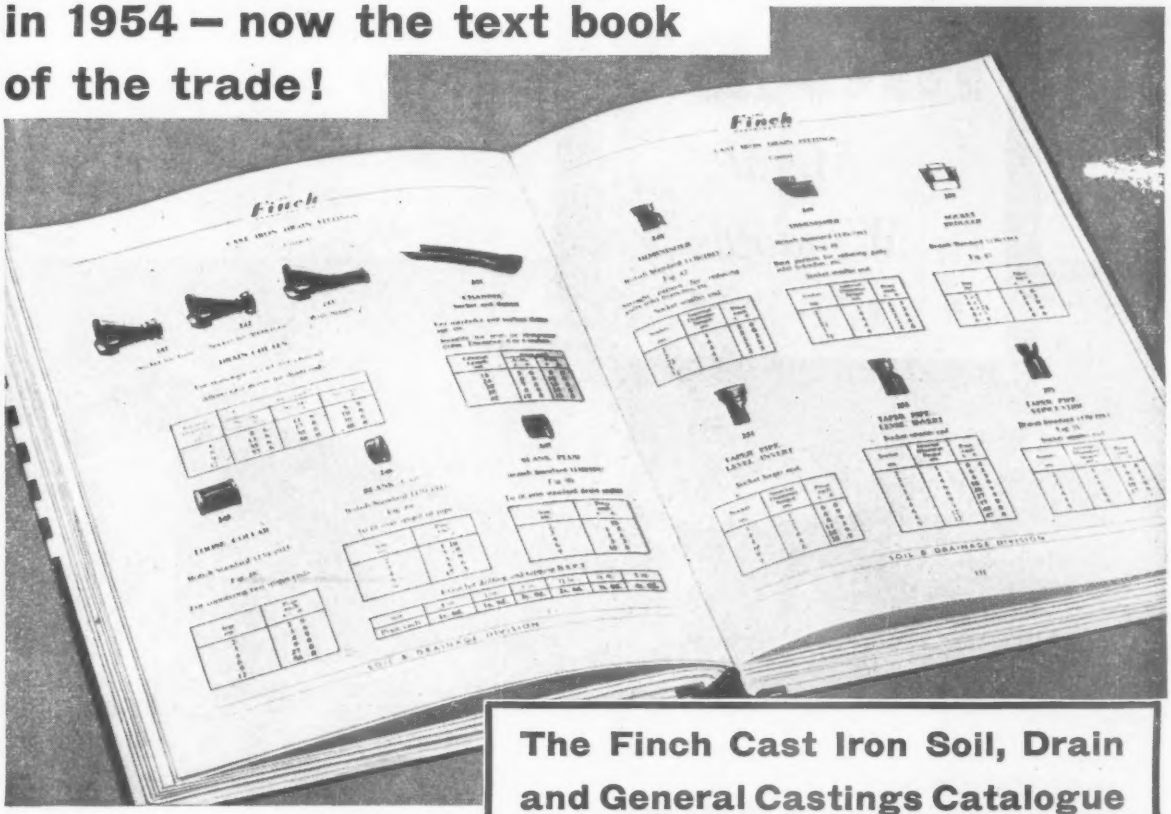


FACTS AND DIAGRAMS
concerning fire resistance and thermal insulation are contained in our free illustrated brochure.

Write today to:
THE GYPSUM PLASTERBOARD DEVELOPMENT ASSOCIATION,
G.P.O. BOX 321, LONDON W1

ABFO1.

A *SENSATIONAL* technical catalogue issued in 1954 — now the text book of the trade!



The Finch Cast Iron Soil, Drain and General Castings Catalogue

NEW 1959 EDITION NOW AVAILABLE!

Original editions of this catalogue have already been accepted as the finest and most comprehensive text book of its kind ever issued to the trade. Now, Finch bring it right up-to-date with this new, more comprehensive than ever edition.

An essential reference book for Architects, Surveyors, Builders and Plumbers, it is divided into sections for quick reference and contains a mass of carefully tabulated technical information, as well as Tables of Measurements, latest fittings, Prices, etc.

Over 20,000 copies of the first edition are already in circulation. An overwhelming demand is anticipated for this new special Library Edition which can obviously only have a limited circulation to Architects, Surveyors, Building and Plumbing Contractors. Write today giving name of your Company.

COMPLETELY INDEXED AND PRICED
Including 24-page Price List for periodic revision.

the catalogue deals fully with the following subjects

SOIL & WASTE PIPES & FITTINGS · RAINWATER PIPES & FITTINGS WATERMAIN PIPES & FITTINGS · GUTTERS & RAINWATER HEADS GENERAL CASTINGS · DRAIN PIPES & FITTINGS & ACCESSORIES MANHOLE COVERS & FRAMES & ROAD GULLY GRATINGS · SEWAGE DISPOSAL EQUIPMENT · SLUICE VALVE & WATER CONTROL APPARATUS · PLUMBERS' TOOLS & DRAIN-TESTING APPARATUS

HANDBOOK EDITION

For general distribution there is this more compact edition of the catalogue designed for practical everyday use both in the office and on the site. Available on application.

THE *Finch* ORGANIZATION

B. FINCH & CO. LTD · BELVEDERE WORKS · BARKINGSIDE · ESSEX
VALentine 8888 (30 lines)

Unatap

One tap instead of two

giving both hot and cold

Wash in the running spray

halves the hot water

Unatap was designed by our Technical Staff in collaboration with the Building Research Station. More about it from Walker, Crosweller & Co. Ltd. in pamphlet UA/2.

WALKER, CROSWELLER & CO. LTD., CHELTENHAM

Telephone: CHELTENHAM 56317

M

f

Eng
G

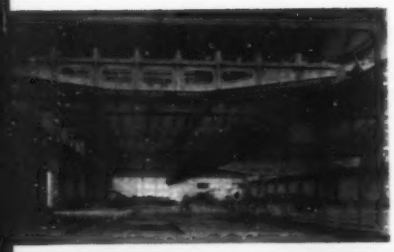
t

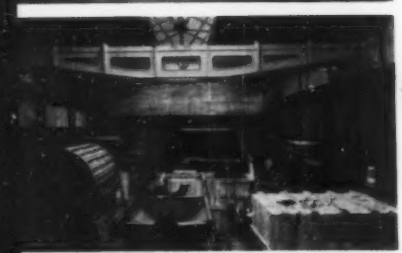
b

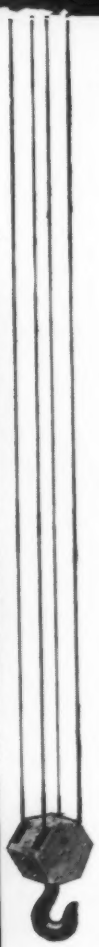
A new conception in Crane Design

THE BRITISH "REEL" OVERHEAD *Crane*

anufactured under licence from Ferrand & Frantz Ing.
lleurbanne British Patent No. 705,148







Revolutionary in concept, yet proven and established throughout Europe, the REEL Crane sets a new standard in crane manufacture. Its advanced design commends itself to the Industrial Architect who must find suitable equipment for the modern factory. It commends itself also to the Engineer who must have down-to-earth efficiency and reliability. The design of the REEL Crane is strictly functional, giving maximum height of lift to as near the roof as possible. The bridge and other constructional parts are fully shop welded-fabrications, ensuring great rigidity against vertical and horizontal forces, yet the crane remains comparatively small in dead weight. *Contact us for full information and specifications.*

BRITISH INDUSTRIAL
ENGINEERING COMPANY (STAFFS) LIMITED
CORONATION WORKS · HAINGE ROAD · TIVIDALE · TIPTON · STAFF

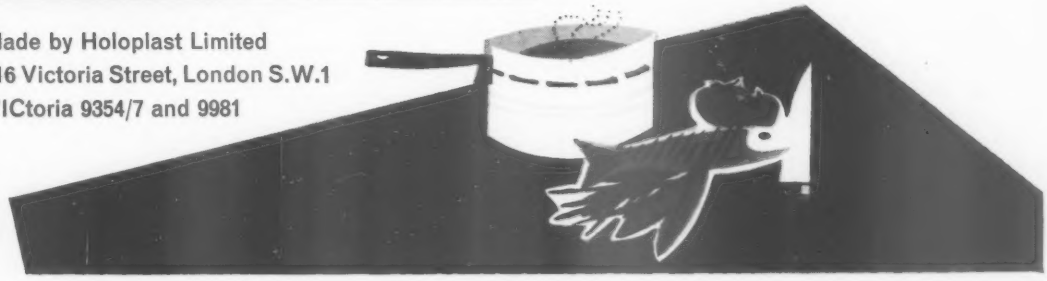
Decorplast gives you **47** exciting colours and patterns

New Decorplast makes working-surfaces and walls really *glow* with colour—sets a new standard in top-class melamine-faced laminated plastics. It's as tough as it's beautiful. Doesn't easily crack, chip, stain or fade. It's cleaned with a damp cloth—because dirt cannot stick. Boiling water, grease, spirits, dilute acids and heat up to 310° F leave new Decorplast bright and colourful as the day it was made.

The whole new range, now in sheets 9′ x 4′ as well as 8′ x 4′, thickness $\frac{1}{16}$″, is *always available* in matt and gloss finishes—plus new wood veneers that really do look like wood! Write to the address below and ask for facsimile Colour Chart and list of Distributors.

Decorplast LAMINATED PLASTIC

Made by Holoplast Limited
SALES OFFICE: 116 Victoria Street, London S.W.1
TELEPHONE: VICtoria 9354/7 and 9981



Reed PAPER GROUP

Canterbury Cathedral

Architectural Heritage . . .

In a Modern World . . . . today, buildings are erected speedily, and the desire for high quality flooring continues to be in greater demand. **GRANWOOD** meets the challenge. Granwood is fire and damp resisting, and is now available in ten colours. It is proof against dry rot, vermin and insects. It does not expand or contract and is eminently suitable for electric and other forms of under floor warming.

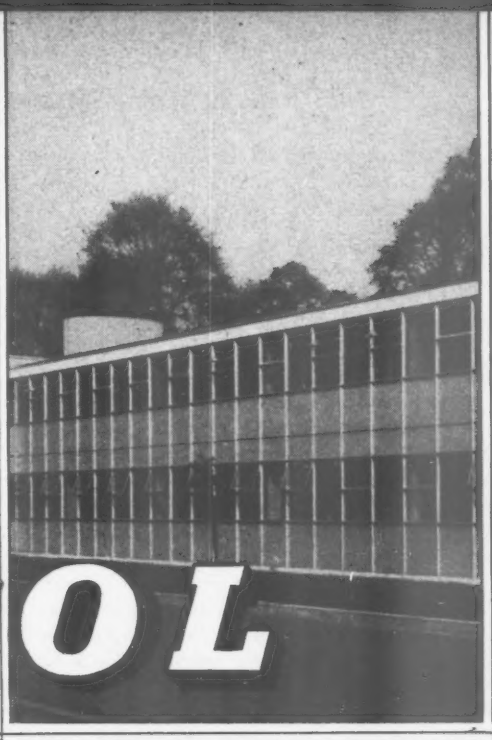
GRANWOOD FLOORING CO LTD

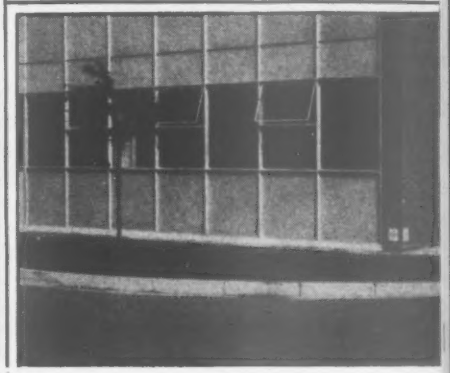
RIDDINGS · DERBY *Telephone:* Leabrooks 341/2/3 *Telegrams:* Granflor, Alfreton

London Office: BATTLEBRIDGE HOUSE, TOOLEY STREET, LONDON, S.E.1. *Tel:* HOP 2929

THE ARCHITECTS' JOURNAL
for February 5, 1959

Project for : National Physical Laboratory, Teddington.
Architect : A. S. Reid, A.R.I.B.A., of the Chief Architect's Division, Ministry of Works
Contractor : W. E. Chivers & Son.
ESCOL panels shown are in pale grey (B.S.I. 7-078) and those on the north elevation in brown (B.S.I. 3-039) and yellow (B.S.I. 4-055)



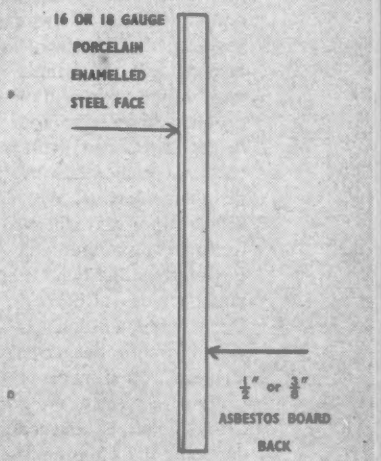


ESCOL

PORCELAIN ENAMELLED STEEL INFILLING PANELS

(Bonding Patent No. 796118)

Stewart and Gray are the patentees and sole manufacturers of ESCOL products. The process has been entirely pioneered and developed in the U.K. for many years, and the Company, which is entirely British and has no connections with foreign manufacturers, are unrivalled leaders in the manufacture of porcelain enamelled steel infilling panels.



...has been specified at home & overseas for:

SCHOOLS
OFFICE AND FACTORY BUILDINGS
LABORATORIES
NUCLEAR POWER STATIONS
GENERATING STATIONS

RAILWAY STATION BUILDINGS & BRIDGES
AIRPORT INSTALLATIONS
HOSPITALS
CINEMAS
MULTI-STOREY FLATS
SHOPS & STORES

PANEL SECTION TYPE A
Composite panel consisting of 16 or 18 gau... vitreous porcelain enamelled steel sheet bon... to ½" or ⅜" asbestos board. The asbestos back... may also be covered by an enamelled steel sh... or galvanized sheet. Weight: 5 lb./sq. U value: 0.48.

Our experience, gained in 4 years of panel production and backed by ...research and development organisation, is at your service.
...is an ESCOL panel to meet your specific requirements

ESCOL PANELS ARE MANUFACTURED IN THEIR ENTIRETY BY

STEWART & GRAY LTD

SWAINS ROAD, TOOTING, S.W.17

Telephone: MITcham 1634

MEMBERS OF THE VITREOUS ENAMEL DEVELOPMENT COUNCIL AND THE PORCELAIN ENAMEL INSTITUTE

monthly review by WILLIAMS & WILLIAMS

'WALLSPAN' FOR NEW B.O.A.C. WING HANGAR

1 Both ends of this vast new maintenance hangar at London Airport are glazed by Williams & Williams—the 2-story central workshop block being emphasized by a panel of 'Wallspan' set in a projecting concrete frame. Aluminium windows are set in the 'Wallspan' grid and three types of opening lights—top-hung, projected, and vertical-pivoted are incorporated. The spandrel panels are Vitroslab.

The basic design is an interesting solution to a recurrent problem in the design of aeroplane hangars whose height, after allowing for high-level services, is dictated solely by the tail-fin height of the various aircraft to be accommodated. Airliner design in recent years has tended towards increasing tail heights, and the hangar designer has been faced with a difficult economic problem since every foot of increased height is reflected in increased capital cost and higher heating, lighting and maintenance costs. Whatever height is decided upon may still prove inadequate for some new aircraft a few years hence. But on the other hand a reversal of the present trend—airliners designed on the Delta configuration for example—would result in hangar height becoming so much wasted space.

The new B.O.A.C. Wing Hangar, as the name implies, is designed to accommodate only the wings and fuselage of the aircraft—the sliding doors are shaped to close around the rear fuselage leaving the tail unit outside. Engines, undercarriage, flight deck, passenger cabin, wing fuel tanks and wing control surfaces—the usual objects of routine maintenance—are all under cover.

The reinforced concrete structure consists of a pair of hangar pens, each with a completely unobstructed 565 ft. wide opening and depth of 110 ft. arranged back-to-back but separated by a central two-floor workshop block. The hangar pen roofs are suspended by ties from this central block.

'ALOMEGA' WINDOWS FOR CORNISH COMFORT

2 This study flat is high up, midway between the coasts of Cornwall. The client wanted big windows for the sake of the panoramic views across to St. Ives but had misgivings about draughts. The architects' solution to his problem was to install 'Alomega' double hung sashes—heads, sills, jambs, and meeting rails all designed with integral weather-stripping to keep draughts out, even in a blustery south-wester coming across thousands of miles of Atlantic! Other reasons for specifying 'Alomega' —**no maintenance:** no cords or counter weights or balances to go wrong; no painting because the windows are all-aluminium: **easily adapted to a 3 ft. building module:** the 2 ft. 8½ in. width was used—others from 1 ft. 2½ in. to 3 ft. 5½ in.: **ideal combination with picture window**—see illustration opposite.

Last (but not least in these Subtopian days), the sash window is considered in a special way to be *the* window for the West Country and 'Alomega' happily combines the technical resources of today with the graceful design of the eighteenth century.

A further advantage which was not applicable in this particular instance, but of considerable value in congested urban sites, is the fact that with 'Alomega' the building can come right up to the building line.

NEW STANDARD WINDOWS CUT SITE COSTS—NEED ONLY ONE COAT OF PAINT

3 Williams & Williams standard domestic windows to BS 990 in both 1 ft. 8 in. and 2 ft. ('Z' range) modules are now available galvanized, primed and *painted*. The windows are processed in an entirely automatic plant which is believed to be the largest of its kind in the world.

The assembled frames are loaded on to a conveyor—chemically cleaned, etched and electro-galvanized. Still on the same mechanical conveyor, the windows are dipped in a primer bath and stoved for 25 minutes at 350°F. They then receive a sandy-beige coat and are finally stoved a further 25 minutes —again at 350° F. The paint technology of the operation has been worked out in collaboration with ICI and the second coat is their beige No. B215/166/2.

This process offers four major advantages:

1. Since the human element is eliminated, a much more even distribution of paint is assured.
2. *All* surfaces of the frames are painted, including those which will be in contact with the masonry and which in the ordinary course of events *could* not be painted.
3. The fact that both primer *and second coat* are stoved lends greater durability to the paint giving together with the galvanizing coat an efficient triple protection to the steel surface.
4. The second stoved coat can be regarded as an undercoat. Because of its light shade **only one finishing coat need be applied on site.**

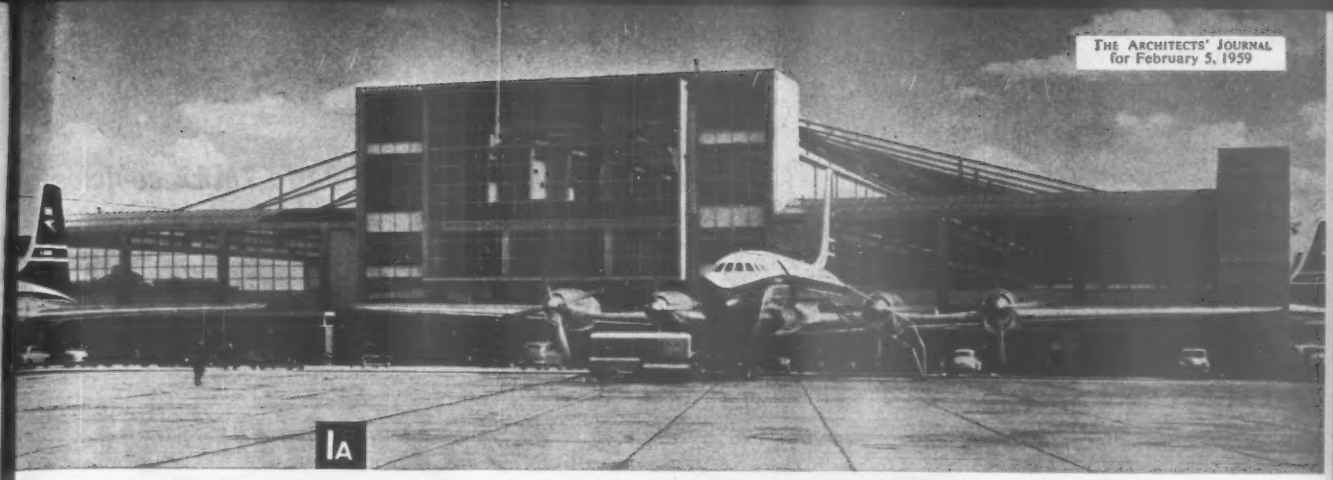
WILLIAMS & WILLIAMS
RELIANCE WORKS · CHESTER

Member of the Metal Window Association

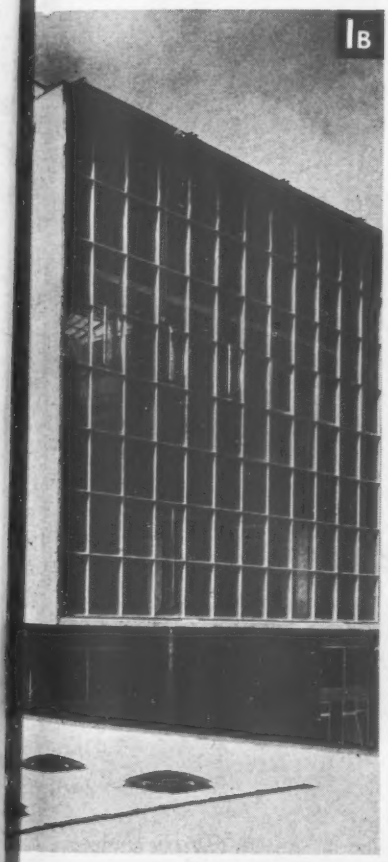
1 **B.O.A.C. WING HANGAR, LONDON AIRPORT**
Engineers for reinforced concrete structure: Sir Owen Williams & Partners.
New Works Manager, B.O.A.C.: L. B. Haley, M.ENG., A.M.I.C.E., A.M.I.H.V.E.
General Contractors: W. & C. French Limited.
A *General view—note the tails of Britannia aircraft protruding from the hangar pen on the extreme right of the photograph.*
B *Detail of the 'Wallspan' on the central workshop block—3 types of opening lights can be seen in the aluminium windows. Note the permanent railway along the cornice for the cleaners' cradle.*

2 **'LITTLE TREFEWHA', PRAZE, CORNWALL**
Architects: Taylor & Crowther, Chartered Architects.
A *Exterior.*
B *Interior of the study showing how the 'Alomega' sash forms part of the glazed corner.*
C *Draughtproofing plastic extrusions at head, meeting rail and sill of 'Alomega' double-hung window.*

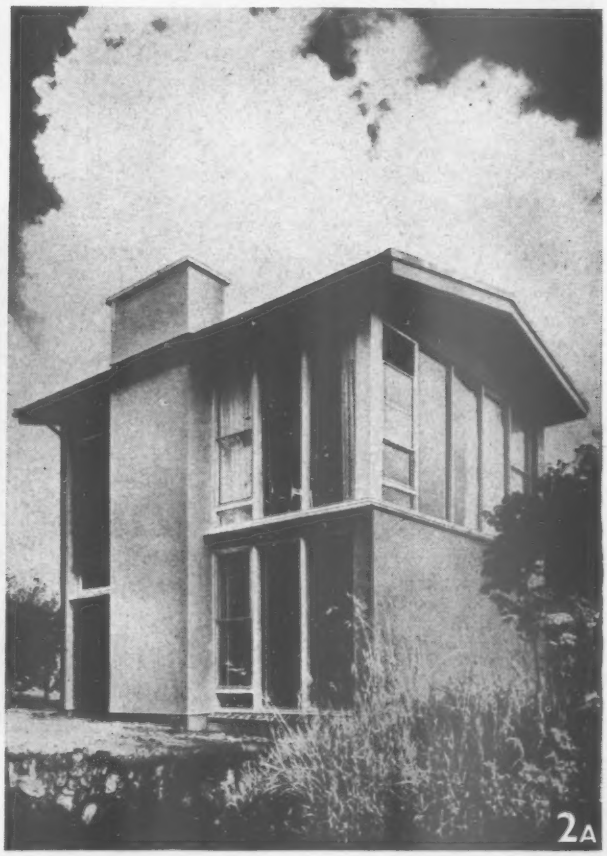
3 *Part of the automatic conveyor system on which Williams & Williams new standard paint-finished metal windows are processed.*



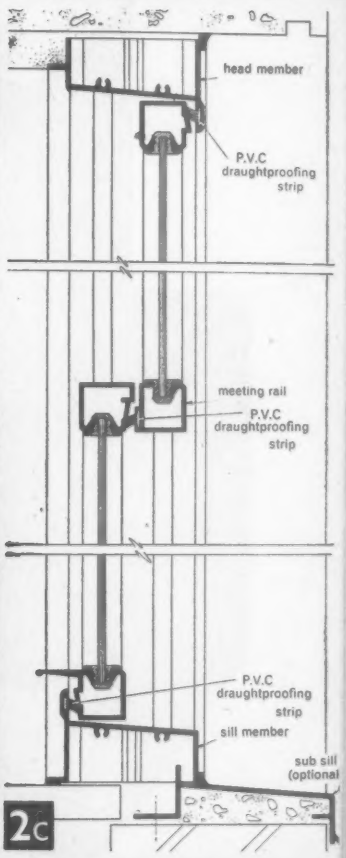
1A



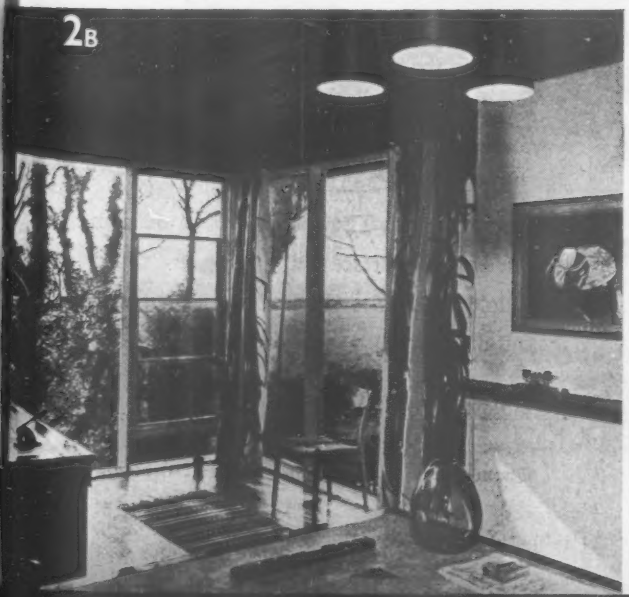
1B



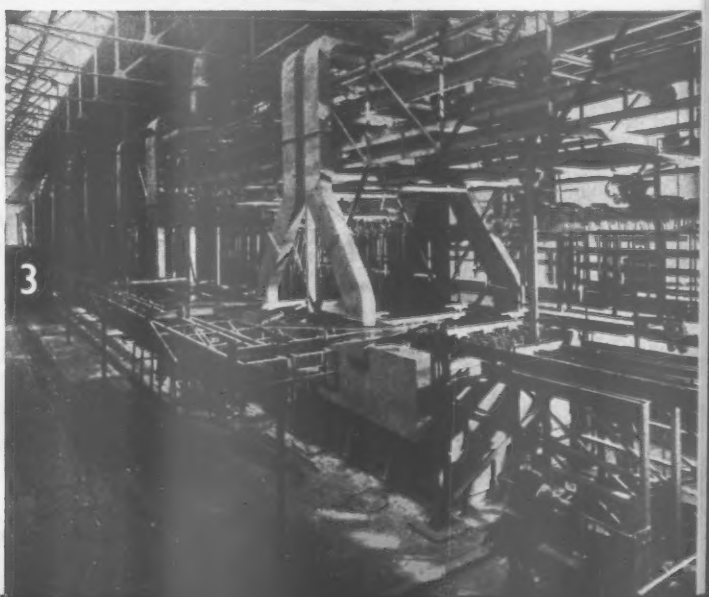
2A



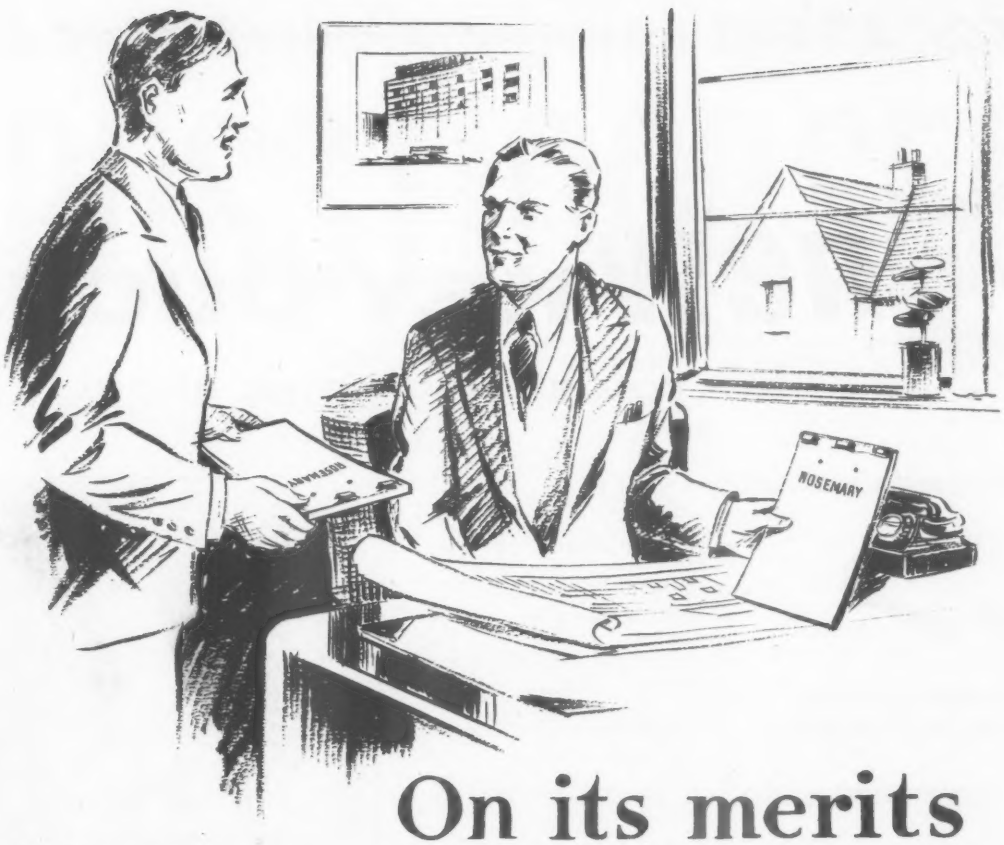
2C



2B



3



On its merits

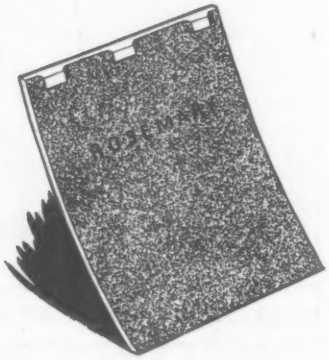
G. W. Lewis' Tileries Ltd. are associated with Haunchwood Brick and Tile Co. Ltd., makers of blue engineering bricks, rustic facing bricks, chimney pots, hollow floor and partition blocks, brick fireplaces and other clay building materials.

" What I want Smith, is a roof which will retain its colour for ever. Long experience has taught me that 'Rosemary' tiles are the answer, and what is more, they have a wide range of colours from which to choose."

" I agree Sir, but colour is not the ONLY thing to look for, is it? "

" Of course not, Smith, but when, in addition to that colour, you have the clean shape and freedom from distortion, and also that very essential quality known as durability, then you have the ideal roofing tile."

" So for this and all the other jobs, we are having



ROSEMARY
CLAY ROOF TILES

A full range of the colours in which Rosemary Roof Tiles are made is illustrated in our brochure " Colour in the Roof ". If you have not one of these in your possession, may we send you one?

G.W.LEWIS' TILERIES LTD.
STOCKINGFORD NUNEATON • PHONE:- NUNEATON 3125

8ft

by far the finest 8 ft. range in the country

The brilliantly successful G.E.C. 101 range of fluorescent fittings offers a wide choice of designs for every lighting requirement. The 8 ft. fittings are available in many variations. All use the G.E.C. Basic Channel with Osram Guaranteed Tubes with recessed double contact caps. Tube replacement is made easier as it can be carried out by one person from one ladder position. For full information send for publication F 4068.

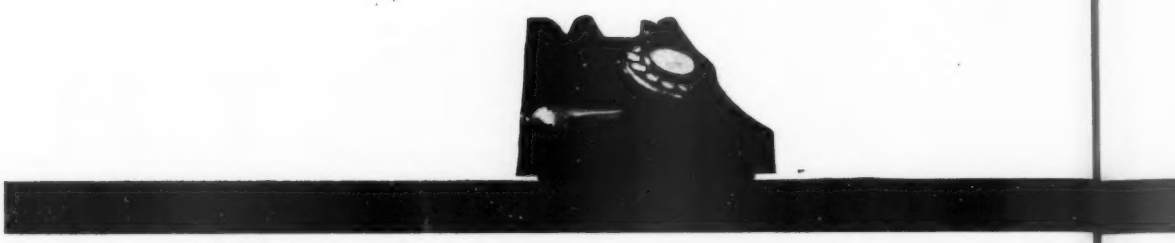
101 range

stove enamelled, vitreous enamelled and Perspex reflectors.

G.E.C.

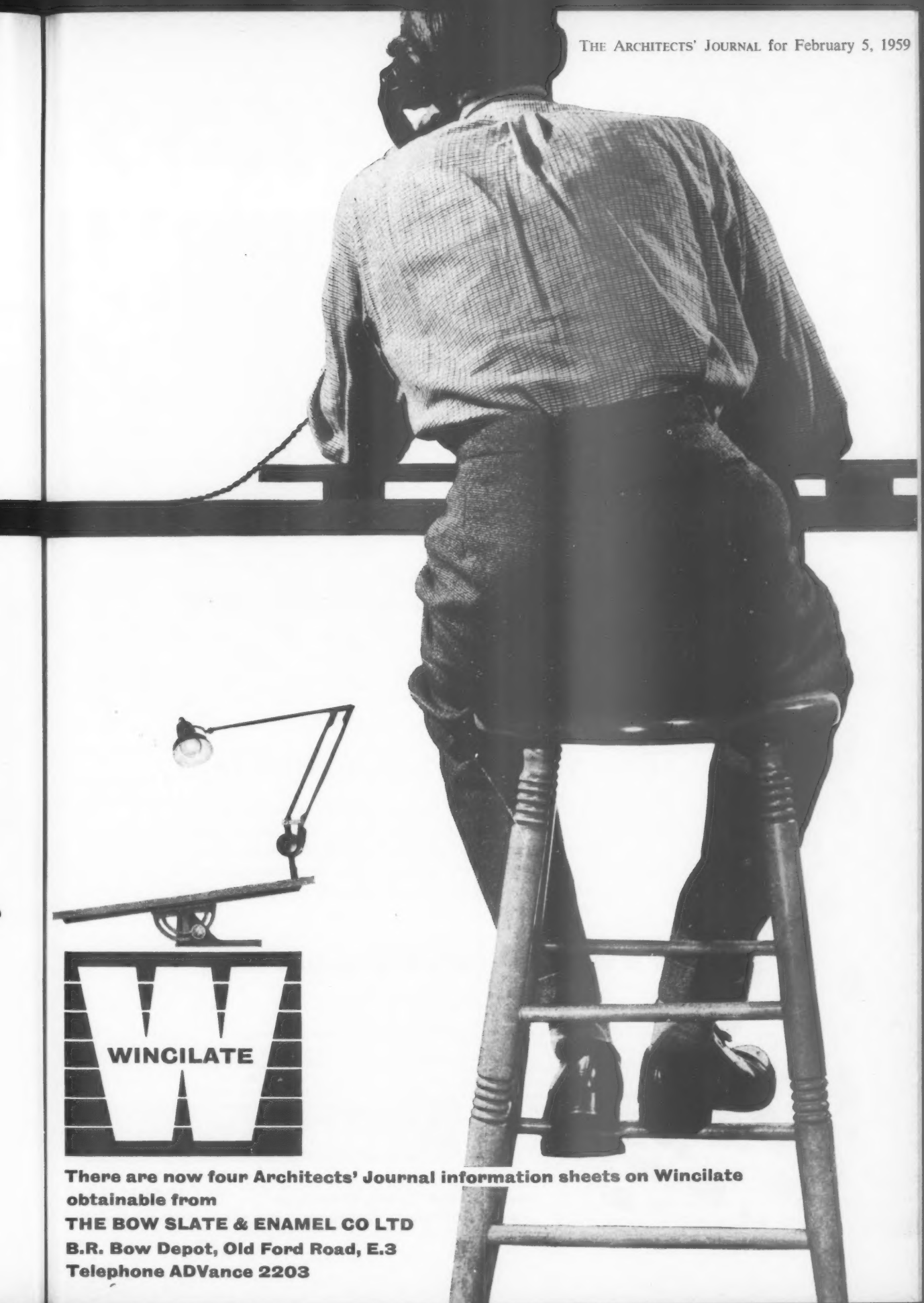
The General Electric Company Limited,
Magnet House, Kingsway, London, W.C.2.

more and more architects are calling for WINCILATE



for

- cills & surrounds
- wall cladding
- copings
- floors & skirtings
- plaques
- fireplaces
- sinks & shelves
- stairtreads



WINCILATE

There are now four Architects' Journal information sheets on Wincilate obtainable from

THE BOW SLATE & ENAMEL CO LTD

B.R. Bow Depot, Old Ford Road, E.3

Telephone ADVance 2203

The steps of 1,000,000 feet...

Over these steps in the entrance hall of the Buxton Pavilion, more than a million feet have trodden their happy ways to dances, concerts, plays and many other occasions since 1952. More than a million feet have known the firm, reassuring grip of the Ferodo non-slip stairtreads, and as you can see, they still look almost new.

FERODO non-slip stairtreads

* non-slip moulded material in red, white, blue, green, black, brown or grey, or brown fabric treads.
* aluminium, silver bronze or manganese bronze channels.
* a range of shapes adaptable to every type of stair nosing.
* simply fitted to any type of stair by concealed screws fitted through ready-drilled holes.
* supplied cut to fit, in any length.

Send to Stairtread Department for catalogue illustrated in full colour. A Ferodo technical advisory service is available and a technical representative is in your area.

FERODO LIMITED · CHAPEL-EN-LE-FRITH
A Member of the Turner & Newall Organisation

The Architects' Journal

No 3336. Vol 129. February 5, 1959

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

'TOWN ROADS FOR TODAY AND TOMORROW'

A clever title for this Exhibition, gentle and disarming, making you think of towns rather than cities, and of "town houses," and leading you on to recall gracious and comfortable 18th century town development. A clever drawing on the front of the brochure too, a peaceful Stockholm waterway with a slender bridge, and an unobstrusive double-carriageway road slipped in along the bank of the canal. So you are led into the Exhibition in a calm and complacent mood, and then given the most brutal slap in the face. It is doubtful if there ever was an exhibition which left the visitor with a deeper single abiding impression than this one. The impression is of vast, sinuous roadways of enormous width driving their way ruthlessly across solidly built-up city areas, spewing off complex side shoots at intervals and flaring out into spiralling patterns of fantastic complexity where they occasionally meet another similar roadway. You can recognize different urban backgrounds in the photographs—the radial patterns of European cities and the rectangular "lots" of America, but the new roads themselves are much the same everywhere and seem to drive their way forward like the swaythes of some Cyclopean steamroller, in utter disregard of the old street patterns. The American examples, as might be expected, dominate the whole Exhibition. The display has one purpose and one purpose only and that is to drive home the kind of roads we ought, in the opinion of the organizers, to be building here. It is none too clear what purpose is served by the few examples of British work—they seem to have been included in a benevolent way to show that we are doing something—but they stand in almost pathetic contrast to these foreign schemes.

"The new roads seem to drive their way forward like the swaythes of some Cyclopean steamroller, in utter disregard of the old street patterns". Right, an urban "Expressway" in Boston carves its way through the city: below, an intersection. Two photographs from the "Town Roads For Today And Tomorrow" exhibition arranged by the British Road Federation.

What is the purpose of these roads? What will they gain us? Are they road engineering gone stark, staring mad, or do they really represent the price we have got to pay for having the motor vehicle? There really cannot be any doubt to any thoughtful person that roads of this kind do represent a price, and a very severe one. These roads absorb a great deal of land, they savagely disrupt and sever the land-use pattern, if built on embankments or viaducts (which is mostly the case in the exhibition), they cast a blighting influence on adjoining property, and for the civic designer they are the most awkward possible embarrassment with their uncompromising slewing lines and their upward and downward slopes. These schemes, of course, can only be illustrated comprehensively by means of aerial photographs, but these hardly give a fair picture for the ordinary person who will have to live with them on the ground. It is not perhaps quite fair to say that the roads are the same everywhere, some of the European examples, particularly those that are sub-surface, do seem to have a good deal more regard for civic decencies than the American examples.

•

The general purpose of these roads seems to be to provide a through-connection from a main road approaching a city to the centre of that city. Consider one of the London radial roads, for instance. Take A10 which leads northwards from the City. It reaches for some 10 miles through a solidly built up area, passing consecutively through the old, but still flourishing, centres of long-since coalesced towns. It obviously carries a vast amount of traffic, and though it may

be questioned whether anyone really knows what this traffic is doing, it is a fair assumption that much of it is "through," if not in relation to the whole length of the road, at least to long sections of it. It doesn't take long to conclude that widening the road on its existing alignment is a hopeless proposition, and that the only possible solution is to thread a new limited-access road on a more or less parallel line through the less densely developed hinterland. So is born the urban motorway. It is a case that is difficult to fault, for the new road not only benefits the through-traffic, but brings relief to the old road.

*

What can be argued for one road, however, can be argued for another. Abercrombie, in his Greater London Plan, distinguished *ten* major radials, and that would seem to be the minimum programme of routes requiring this drastic treatment. Though it is the minimum, it is in fact a gigantic programme. In the outer regions of such a vast sprawl as London, 10 radial motorways could probably be absorbed, but what is to happen to them when they converge on the centre? Abercombie brought his modestly-improved radials to within ¾ mile of the centre and then cut them short, joining them up with the "A" Ring which he hoped (on no evidence at all, as far as one can see) would divert sufficient traffic from the centre to reduce the problem therein to manageable proportions. Presumably the same would be done for these 10 full-blooded urban motorways, or would they just be left pointing at the centre, or terminated in multi-storey car parks, or what?

*

The Exhibition leaves speculations of this kind completely unanswered. You realize after a while that it is an engineers' exhibition demonstrating pretty convincingly and rather frighteningly the kind of roads you need for through-traffic in city areas. It is in no sense a planners' exhibition to show how you come to terms with all the motor vehicles which sooner or later, somewhere or other must pour off the motorways, let alone all those vehicles that never get onto them. Perhaps it is unfair to level this as a criticism at the Exhibition, which had a limited purpose only, but the case for urban motorways would be more convincing if it could be shown that they are linked to some sound, overall, strategic plan for dealing with motor traffic in urban areas, and that they are not just going to pour more traffic than ever into city centres and so render confusion worse confounded. The considerable sacrifices they involve might then appear more acceptable. Meanwhile it would seem a matter of positive urgency that someone should make a frank assessment of the benefits these roads are bringing in those cities where they have been built, benefits in the broadest sense of the term that is to say, not mere calculations of financial savings per vehicle/mile, on which narrow basis we could easily be led to lay waste a substantial part of every city.

B. D.

The Editors

THE SCANDAL OF THE MOTORWAYS

WE view the construction of new motorways, and the probable construction of urban motor roads, with very mixed feelings. The prospect of some relief from intolerable delays and congestion must please any motorist. But it is far from certain that the cure of urban congestion is anything like as simple as those who are clamouring for urban motor roads seem to think. Our correspondent's report on the Roads Today and Tomorrow Exhibition (pages 211-213) clearly exposes the dangers of over-simplification.

This is primarily a planning problem, and it is all too easy, in providing the new motor roads, to create visual outrage in town and country on the largest scale, and to disrupt the communities in which we live, without solving the long-term problem of congestion.

It is a national scandal that, after all the experience of motorways in other countries, Britain's first motorways are being designed without the fullest consultation and co-operation of planners, landscape architects and architects. It is not consultation to submit three designs for an overpass to a county architect, and to invite him to say which he likes best, or to invite the landscape architect to titivate a road with planting after its line has been decided, or to confront the planner with a line that cuts a neighbourhood in two or leaves sites incapable of sound development. The planning and design of motor roads should be the job of design teams of engineers, planners, landscape architects and architects, all working under the planning officer who alone is in a position to take an overall view of the problems to be solved. The provision of motor roads must be part of a comprehensive planning solution to the biggest planning problem of today, —motor traffic. No more urgent task faces the Ministry of Housing and Local Government, the Ministry nominally responsible for planning.

Unless consultation and co-operation begin at the inception of the design process a massive programme of motor road construction could be utterly disastrous. How real this danger is can be seen, not only from looking at the Roads Today and Tomorrow Exhibition, but also from reading the lamentable story (on page 218) of the RIBA's vain attempt to secure the representation of architects, and of all others technically qualified to assist, in the Committees that are studying new motor roads in built-up areas.

Were the RIBA merely attempting, as has been maliciously suggested, to take the engineers' jobs away from them it could not have won the support of the Royal Fine Art Commission, the Civic Trust, the Institute of Landscape Architects and the Central Council of Civic Societies. But the voices of the RIBA and its supporters (who, we hope, will soon include the TPI) must be raised very much more loudly. They should, without delay, concert a policy and then, with

the support of as many organisations and individuals as possible, launch a powerful campaign to put it before the government. This, surely, is where the Civic Trust (President: Duncan Sandys) or the Public Relations Committee of the RIBA could take the lead.

There are good reasons for believing that public opinion can be won over. Even the Minister of Transport, Harold Watkinson, may not be so obdurate as his rebuffs to the RIBA suggest. For, at the opening of the road exhibition before the television cameras, he spoke about fitting the roads into their "background," and said "this is perhaps where architects and others can help." There is no "perhaps" about it, but what Mr. Watkinson should understand is that architects and others cannot really help within the present administrative set-up.

NO ROOM FOR TOP ARCHITECTURE

We are always blaming building societies and deadheads on planning committees for the suppression of good modern architecture, but we too often forget Mr. Brown. The film of *Room at the Top* reminds us about him. Mr. Brown, the small-town tycoon, is first seen on the screen interviewing the architect who is designing him a new factory. Several models are put on his desk—all very nice and contemporary—but with a roar of rage he throws them at the architect and tells him he won't have any of this fancy stuff because "its not a nylon stocking factory." I can't help thinking there is a Message here for some of us. Insist on client-architect co-operation or—like the poor young man in the film—you may find you have made some expensive models of just the sort of thing your client doesn't like.

DO IT THEMSELVES

One day the building industry will have to become responsible for its own research. That is the opinion of K. J. Pearce, the new president of the London Master Builders Association. How right he is! If his views reflect those of builders it seems there has been a tremendous and welcome change of heart.

*

I shouldn't be mentioning this at all because Mr. Pearce aired his views at an off-the-record, not-to-be-published lunch meeting for the Press. However, *The Builder* has been uninhibited enough to blow the gaff, so there is no reason why JOURNAL readers should not be told a few secrets. Mr. Pearce gave the impression that the NFBTE is discussing how research work should be financed, whether advice should continue to be free and, if so, whether it should be free to people like architects who might not be contributing to funds.

*

Now that the news is out, will the NFBTE please tell us more? And will the LCC tell us about the proposed College of Building which, according to Mr. Pearce, will be opened much earlier than expected on a site already chosen? Apparently it will be residential (excellent) and will offer a degree in building. But how will it be related to the LCC, London University, the AA and the Brixton School? For years it has been said that the last two will be closely connected. Why the secrecy?

CHURCHILL COLLEGE

The architects selected for the first stage of the competition for Churchill College (given on page 220) both pleases and perplexes. It pleases because all the dead wood has been cut out. None of the older generation who have cluttered up British universities with tasteless lumps, between the wars and immediately after, gets a look in. Instead we have a very imposing list of leading architects of the modern movement. That, I think, is the phrase, though one or two have been leading rather a long time, and one or two have barely started. The list includes two concessions to local architects: David Wyn Roberts, the Cambridge architect, and Tayler and Green; and, very interestingly, three relatively untried members of the "younger" school (middle-aged by layman standards) the Smithsons, William Howell, and James Stirling and James Gowan. The inclusion of this particular group of architects suggests more than a sensible endeavour to give younger ideas a chance. It suggests that the Trustees have a definite idea of the kind of architecture they want.

*

The list perplexes, however, just because it *is*, apart from the last named, so varied in character. Twenty firms is a large number for a limited, two-stage competition. Once the decision was made to make it a two-stage competition, why not make the first stage open to everyone? Nothing would be lost, and some genuinely (and reasonably so) hurt feelings could have been avoided, and Cambridge, which matters more, could hardly have lost by it. It would have meant harder work for the assessors though.

*

Incidentally, ASTRAGAL was delighted to learn of Churchill's alleged impatient growl: "When am I going to hear the sound of chisel on stone?" This suggests his design preference, but he's more likely to hear the "glup, glup" of the concrete mixer if the brutalists win.

AFFRONT TO BACK GARDEN?

Mr. Wood, of Hedge End, Hants, built a boat in his back garden. And then, just to keep out the weather, he put a canvas shelter over it. This was "detrimental to the visual amenities of the area," so down it must come. No doubt the local planning boys have the law well on their side, but isn't it a

pity that they do things of this kind, thus encouraging the public to think of planning only as gratuitous interference?

GOOD STAFFS WORK

Last November I said something pleasant about an enterprising county architect's department, and then asked what other counties were doing—naming nine. One of these, Staffordshire, has built a two-form entry grammar school in nine months, which the MOE say is a record time. Congratulations to the county architect, A. C. H. Stillman, and the builder, A. F. R. Godfrey.

*

What about the other eight counties? Any offers?

CHANGES AT THE COID

Sir Gordon Russell is to retire from the directorship of the CoID at the end of the year. This will seem like the removal of a familiar landmark from the London scene. Sir Gordon was a founder-member in 1944 and became director in 1947, and the present organization has grown up under his eye and guidance. Whatever the younger and brasher boys may find to fault in the Council, they must admit that it has made its mark and has achieved much of what it set out to do—and that this is largely the director's doing.

*

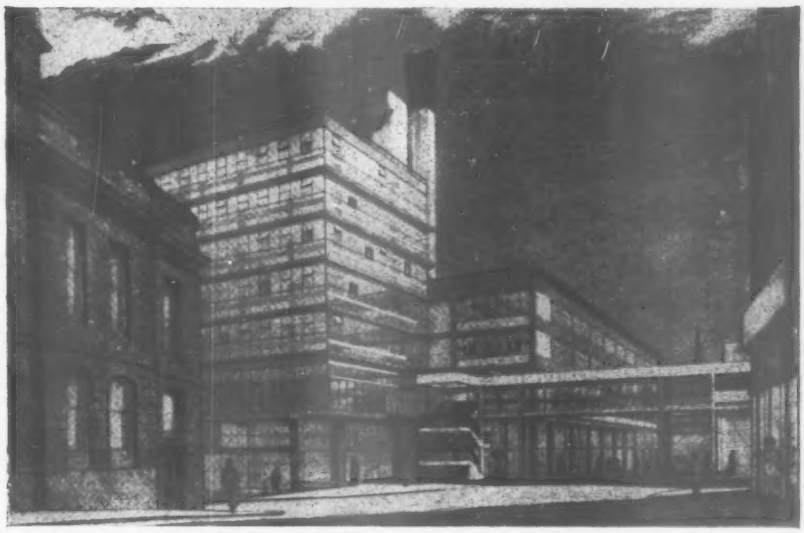
Paul Reilly, who has been Sir Gordon's deputy since 1954, is to take over the directorship, which is just as it should be. It may be a little early to wish both well, but let me do so and run the risk of repeating myself at the end of the year.

"STEADY WORTHINGTON"

"Potter ducked and the lump of butter hit the great man's door—a minute later I seemed to be alone in the Drawing Office. Sir Edwin stood in the doorway. 'Steady Worthington,' he said, and the door closed quietly."

*

There were a great many other reminiscences in a Lutyens evening at the AA last Wednesday. Strange figures from another age crowded round the dining-room tables to discuss a golden age of prosperity, measured by the number of Earls and Dukes whose carriages came to the office door—and by the names of industrialists who complained because final accounts were four times greater than they had budgeted for but they paid up and came back for more. The reminiscences often revealed the character of Lutyens. And some new unknown drawings of fantasy projects of his early youth added an even greater touch of unreality to the high Edwardianism of the occasion.



Coventry's circular, car-topped retail market is likely to be surpassed in interest by Sheffield's retail market (J. L. Womersley, city architect; project architect, Andrew Derbyshire). The market will be finished this summer, but some of the offices and shops will not be finished until next year. Concrete cantilevered platforms over the market area provide stockrooms for the stalls. The markets are on two levels, with a further gallery level over, which is connected by pedestrian bridges over the street to a new department store opposite. This is the first stage in a policy of multi-level traffic segregation in the reconstruction of Sheffield's central area—a development other cities should study and emulate.

*

Speaking for this generation, Robert Jordan gave a lively assessment of the man he described as a brilliant "pasticher." He used Britannic House to sum up his view of Lutyens: "If you want to see how good it was, look at Baker's Bank of England, and if you want to see how bad it was look at the Palazzo Farnese."

ALL TIMES AND STYLES

The SPAB has published a report* to mark its 80th birthday. In his original manifesto, William Morris wrote "It is for all these (ancient) buildings, therefore, of all times and styles that we plead and call upon those who have to deal with them to put protection in the place of restoration." The Society took many years to establish itself and has always held small funds, yet it survived to achieve much more important work in a quiet way.

*

The birthday report lists landmarks in the lifetime of the Society. Among these were the Ancient Monuments Protection Act of 1900, the formation of the National Buildings Record and the historic Building and Ancient Monuments Act of 1953. But the most important work of the Society is its vigilant watch on all attempts to destroy and "improve" ancient buildings, not only of all times and styles but all classes worthy of preservation—any work, to quote Morris, "over which dedicated and artistic people would think it worth while to argue at all."

DON'T LET'S BOAST

Architectural papers are more modest about their circulations than the daily Press. The AJ doesn't boast about being "the greatest architectural weekly on earth," but its editors do take a legitimate pleasure in the circulation figures published in the current issue of *Rate and Data*—the advertisers' bible of circulations and advertisement rates. For January-June 1958 the certified net circulation was 14,055 copies. What about the other papers? *Architect and Building News* does not publish a certified net sale, but gives its "audited" circulation for January-December 1957 as "over 10,000." *The Builder* gives an Audit Bureau of Circulation figure of 15,567 for January-June 1958 (how many of these are architects?). *The*

* Society for the Protection of Ancient Buildings. Report of the Committee for the 74th-80th years.

Architectural Review comes first among the monthlies with a certified 9,996; *Architectural Design* has 7,945; *Architecture and Building* 5,770 (no period specified); *The Architect and Surveyor* "approximately 3,750"; *Industrial Architecture* "Published Statement, 6,000" and *Official Architecture and Planning* makes no circulation claims at all.

*

Surely it is better to publish no figures than to publish one of these nicely rounded off figures without a certificate behind them.

HOW HOT IS YOUR FLOOR?

Have you ever specified electrical underfloor heating in a small house, either for yourself or for a client with a responsible and scientific frame of mind? If so, would you be willing to undertake tests with equipment by BRS, who are planning an investigation of underfloor heating in small houses? ASTRAGAL has been asked to find some guinea pigs. Let me have your name if you are eligible and willing.

MAN BITES MAN

The Coal Utilisation Council has launched a £600,000 publicity campaign to persuade us all to burn more raw coal, and miners are marching to the House of Commons to protest against pit closures. Yet the National Coal Board has installed oil-fired central heating within, one supposes, a mile or so of a pithead. For further details see the study (on page 239) of the miners' social club at Nivensknowe.

COUNTER-ATTACK COUNTERED

ASTRAGAL has just heard a sad story of the defeat of a zealous counter-attacker. This man appealed, on behalf of fellow residents of his neighbourhood, against the local authority's decision to put up some thoroughly unsuitable concrete lamp standards. The authority was very nice about it, and said it was simply a matter of cost. The good citizen asked the difference between what was going up and the steel posts that he and his fellow critics wanted. He was politely given a figure, and off he went to collect the money. When he went back triumphantly to the town hall, bearing enough pound notes to buy off a bit of Subtopia he was told, in effect, to mind his own business.

ASTRAGAL

"Critics are often criticized," said Edward Mills at Portland Place this week, when giving the annual criticism of RIBA Prizes and Studentships. We venture to take him at his word.

CRITICIZING THE CRITIC

Edward Mills criticizes RIBA Prizes

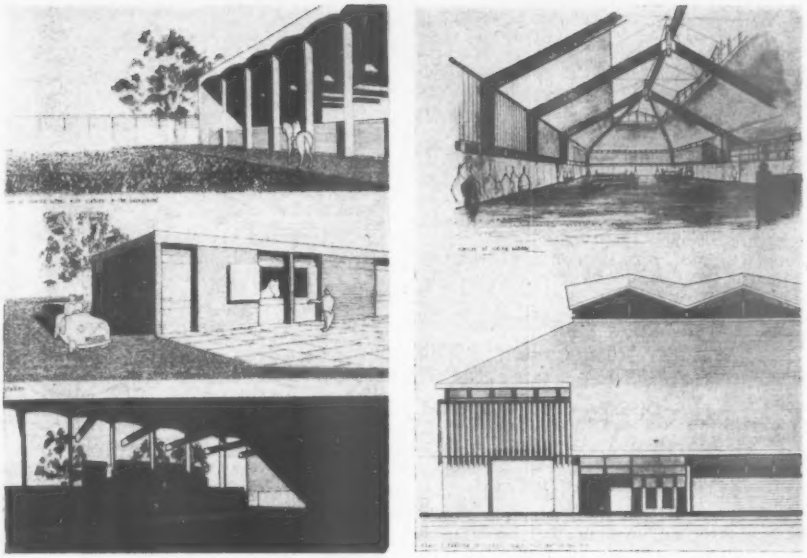
Will the visitor to 66, Portland Place this week agree with this year's RIBA critic Edward D. Mills that the entries "with a few notable exceptions were scanty and poor"? For 12 of the competitions there was a total of only 67 entrants, an average of a little over 5 people per prize. The biggest entry amongst these 12 competitions was, needless to say, for the biggest prize, the Rose Shipman Studentship of £600. The removal of this event reduces the average to a mere four entrants per prize. This seems to confirm Edward Mills' point that the entries were scanty. Nine of these competitions were open to the whole membership of the RIBA: eighteen thousand or so architects. Two competitions have not been included in these figures. They are the two design competitions: the RIBA Intermediate Design Prize and the Victory Scholarship, open respectively to students and members (or students who have passed finals). These competitions attracted 275 and 132 entries to the first stage of the competition, and these were then reduced by the juries to 10 for each. This seems a reasonable participation (at least from a poor juryman's viewpoint) in a gamble for prizes of a mere £100 and £150. Edward Mills describes the prizes as "considerable sums." The Rose Shipman at £600 certainly is, but the others, in the days of football pools and Premium Bonds, are small beer. In this peculiar and harassed age, to trouble to enter for these low-prize competitions must indicate either tremendous enthusiasm for hard, extra work, a strong-willed yearmaster, or supreme confidence in one's ability to win.

If we accept Edward Mills' comment that the entries were scanty (with two exceptions) were they also poor? It is harder to judge this because not all the work submitted (essays for instance), is exhibited. A brief appraisal of the drawings hung for the two design prizes, for the study of colour, and of measured work, seemed to confirm Edward Mills' statement. The drawings hung do not impress either by the painstaking presentation which might have been lavished on them in the five months available (for the two design competitions) nor for any startling imaginative qualities on the part of the architects.

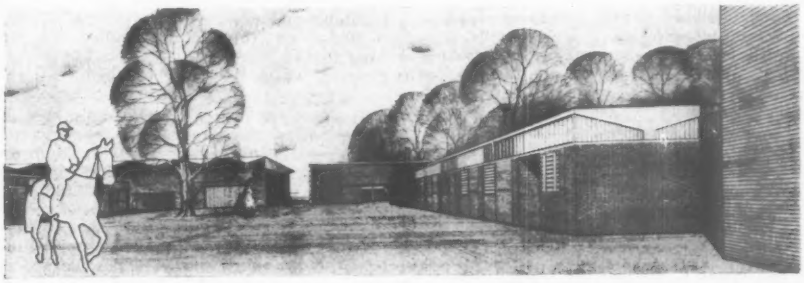
If, then, Edward Mills is right, and this year's entry is poor, by what standards is he judging? Let us take the two design subjects: the RIBA Intermediate Design Prize and the Victory Scholarship. The jury for the first (Peter Chamberlin, R. Meadows, J. E. Moore, J. H. Moya, John Ratcliff, Alan Reed and Edward Mills) decided to split the prize between two of the ten participants in the second stage. And the jury for the second, the Victory, consisting of Frankland Dark, R. J. Howrie, Leonard Manasseh, Sir Leslie Martin, Miss Betty Scott and Edward Mills, decided not to award the prize at all, they were so "disappointed with the quality of work submitted" and they awarded three certificates of Honourable Mention instead. How bad was this work? The answer depends, of course, on the judges' familiarity with the work of architectural schools. By their standards it was not high. *But if it is judged by the standard of the profession as a whole it is excellent.* This suggests a topsy-turvey state in the profession. In what other could the performance of students (admittedly in one aspect only of their subject) be better than the bulk of the practitioners? On the opposite page, for the benefit of the disbelieving, are the winning and commended designs, and also two of the failures. The failed design for the intermediate prize (centre, opposite page) gets the briefest, but not quite the rudest comment from the critic: "Mope's drawings were reasonable, but his plan was dull, his administration block badly planned and his elevations pedestrian." The harshness of this last comment at least can be judged from Mope's sketch. These buildings for a small riding school and stabling seem quite exciting enough for their relatively humble purpose; of the two winning designs, Mr. Mills praises Cowasjee's sketches, but criticizes his tight planning and the fact that the riding hall was not enclosed (a competition requirement the lack of which cost Cowasjee half the prize-money.) His fellow prize-winner, Hugh Cannings, was praised for architectural character and sound structure, of the remaining unsuccessful eight, only one was totally inadequate (Marco) and as his *en loge* drawings were similar, one wonders how he ever came to be selected for the second stage. The others were all designs which editors of architectural journals would be prepared to publish if they were, and capable of being, built, and rather preferable to the average work done by the profession.

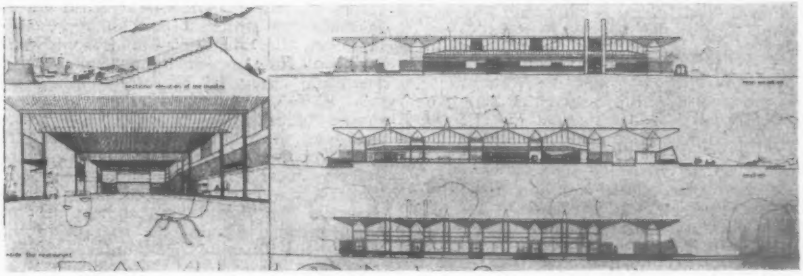
In the Victory Scholarship, which is open to members, as well as students, the standard is not much higher, if at all. The subject chosen, Pleasure Pavilions in Richmond Park, is however, harder. The building designs required were for an open air theatre, a restaurant (serving eggs and bacon, sausages and, rather oddly, wine) and a bandstand. Once again, one entry should never have passed the first stage. Of the commended, A. Sangster (showing no supports for his covered ways) is praised for allowing the park to dominate the buildings, A. G. Batty (A.R.I.B.A.) has a design which is called over-elaborate, overformed, unreadable, but well planned, and John Newton's buildings are clumsy but well presented. Roda, an also ran, has a scheme which is harsh, geometrical, hard to read, and he "has not appreciated the lighter side of the programme." A comment which, however, one could equally well apply to the winners. Of Mr. Mills's other comments two merit attention. The juries for the two major "research" fellowships (Alfred Bossom, £250 and Rose Shipman, £600) asked him to state that "intended research work must be *original* (our italics) and not merely finding out what other people are doing." One hesitates to query the statements of distinguished jurists such as Llewelyn Davies or C. C. Handisyde, but what subjects have they in mind suitable for "original research" by one man on £250 or £600? Is it possible on this scale?

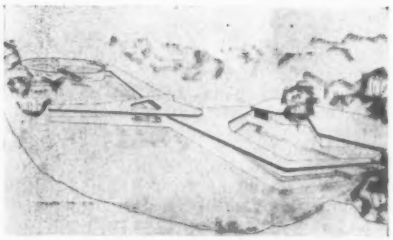
Lastly, he appeals for more entries from older members. We agree, but appeals have been made before, and still neither numbers nor standards improve. The RIBA prizes are, regrettably little valued. They command little respect. The situation will not be mended by appeals. Some rethinking of aims and means must be carried out.



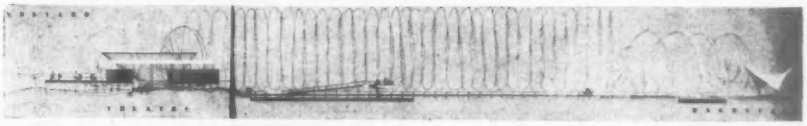
Above left, joint winning design for riding stables by Noshirwan Cowasjee; above right, joint winning design by Hugh Cannings. Below, unsuccessful entry with "pedestrian elevations" by "Mopes."

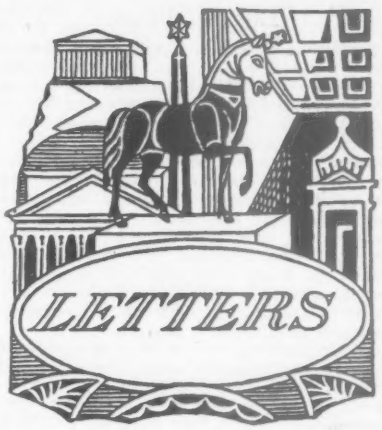






Above and left, Honourable Mentions were given to these designs for Pleasure Pavilions in Richmond Park by A. G. Batt and A. Sangster. Below, unsuccessful entry by "Roda" which, according to Critic Edward Mills, "has not appreciated the lighter side of the programme."





Michael Kirkbride, A.R.I.B.A.

B. P. Hutton,
Director, Marryat & Scott, Ltd.

E. G. English, *Building Inspector*

E. G. B. Bush,
Director, Concrete Limited

John Basing

National Architecture

SIR,—I write from another foreign country, curiously not mentioned by Peter Womersley. I would go further and say that loose talk about "souls" of small (or large) areas of land is the sort of talk that conceals sloppy and pretentious thinking. If national characteristics exist, they have got to be more specific before they can be recognizable.

In the field of architecture, modern techniques of building and systems of communication have not, as far as I can see, emancipated us altogether from regionalism, nor do I think that they are likely to do so. Until it is as cheap to send a large factory-made component 300 miles as 30 miles communications will not be playing their full part; and when will this be? At any rate, the difference in climate and geology between, for instance, Cornwall and East Anglia, is always likely to produce regionalism of a sort. Bricks are not made in Cornwall, but the ingredients of concrete are plentiful; therefore brick buildings not only look out of place, but are out of place. Concrete blocks are now made to dimensions which are multiples of 4½ in., but no doubt will eventually get around to 4 in. Whereas steel construction is cheap, it is cheaper to have steel components custom made in, say, Exeter, than ordered out of the catalogue from Birmingham.

I am also impressed by the fact that an intimate knowledge of local conditions, which only the designer on the spot can acquire, is strictly necessary to produce good buildings (I hesitate to say great architecture; we have as yet, alas, none).

These are the sort of facts which can produce a genuine regional architecture. I am aware that perhaps they apply only to the extreme periphery of these islands, but they are likely to remain relevant, and also over the whole wide world. I cannot see the sort of international architecture Peter Womersley talks about, actually coming about. Systems of geometry and æsthetics are international currency, but habits of life and the wherewithal to build are bound to vary.

MICHAEL KIRKBRIDE.

Truro.

Lifts in Flats

SIR,—I have read with interest the article by Eastwick-Field and Stillman (AJ, December 18, 1958) especially the section dealing with lifts on pages 884 and 885.

In fairness it should be understood that Continental standards are not acceptable in Britain so that true comparison is not possible. The standard German lift shown is no different from the simple equipment which has been available in this country for many years, and the main objection to it is that very few architects will permit the use of hinged doors on lift entrances. This alone would prevent manufacturers in this country from standardizing such an arrangement however economical it might be.

The authors criticism of the appearance of our reeded aluminium against the enamelled steel is partly answered by their own comments about the scratching, but when one considers the really foul purposes to which lift-cars are subjected in flats, consideration of fine finish is out of place.

If an answer were required to the rhetorical question "Have we faced the problem of taking furniture—perhaps even a piano—to the twentieth floor?" it would be—Yes. No experienced architect would plan lifts of only eight-persons capacity in a twenty-storey building, and in fact many of the point blocks in this country have lifts designed to carry a stretcher.

Returning again to the comparison between the two lifts, the British machine illustrated is not made to a price but to a rigid client's specification (the LCC) and from my own experience in overseas trading a German lift made to a similar specification would be considerably dearer than the British counterpart.

In this country we now have the British Standard Specification for lifts BS2655, Parts 1 and 3, and we also have the British Standard Code of Practice CP407.101, in which public authorities, insurance companies, professional institutions, as well as architects and lift makers, were all responsible, and having decided on this high standard of design it is worthy of full support. This, however, is not being given at the present time and the lift maker is bedevilled by dozens of different specifications, all calling for different types of design, many of them detailed and some of them even specifying equipment which if made could be dangerous.

I should like to know, as a lift maker, which way it is that we are to go; whether it is mass production for lower costs, higher standards regardless of cost or hand made lifts to individual specifications. Until this decision is made the lift industry will continue to operate in small groups and no real progress can be made in the reduction of costs, or what is more important, in the improvement of our ability to face Continental and American competition in the lucrative overseas markets.

B. P. HUTTON.
Director, Marryat & Scott, Ltd.

Bye-law Control

SIR,—I refer to the letter from J. D. H. Wickham (AJ, December 11), and the subject of fire resistance. In a similar case of a building in the same (warehouse or factory) class but much smaller, an approach to the Ministry of Housing & Local Government, for an opinion, revealed that if an application under Section 67 of the Public Health Act, 1936, was made to the Minister, the Ministry would be prepared favourably to consider an application for relaxation under Section 63, bearing in mind, however, that the interpretation of the Bye-laws is a matter for the Local Authority.

E. G. ENGLISH.
Building Inspector.
Worksop.

Coventry College

SIR,—We were pleased to see your presentation of the Coventry College of Art and Technology (AJ, November 27). It is a job which will undoubtedly be of considerable interest to your readers.

We regret, however, that we unfortunately omitted to give you information about the item which is of vital importance to architects and engineers—cost!

The contract cost of the precast concrete structural frame (with H-frames), upper floors and roof, precast staircases, including 2,500 sq. yds. of *in-situ* concrete walling, was £41,500. This is the equivalent of 15s. 4d. per sq. ft. for the area of 54,000 sq. ft.

You may care to tell your readers this to complete the information.

E. G. B. BUSH.
Director, Concrete Limited
London.

Assessors' Reports

SIR,—I cannot see why ASTRAGAL should be so surprised to find that reports on competitions are made in confidence and that instructions to assessors are given in confidence; after all he knows that the RIBA decides in confidence whether to recommend a scheme for competition and if not, who, in confidence, shall be given the work.

Why quibble about the confidential reasons for awarding a few crumbs to a known recipient when millions of pounds of our bread and butter are farmed out confidentially every year to anonymous architects.

JOHN BASING.
London.

DIARY

Why Modern Architecture During the Last 100 Years has been Unable to Create a Cultural Tradition. Lecture by Professor Bruno Zevi at the AA, 36, Bedford Square, W.C.1. 8 p.m. FEBRUARY 5

Space in Antiquity and the Renaissance. Second lecture by Professor G. de Santillana at University College, Anatomy Lecture Theatre, Gower Street, W.C.1. 5.30 p.m. FEBRUARY 6

Le Corbusier. Discussion on the BBC Third Programme. Speakers Berthold Lubetkin, Graeme Shankland, James Stirling, Colin Rowe and George Kassaboff. 9.45 p.m. FEBRUARY 6

David Mocatta by David Cole. RIBA Library Group Meeting at 66, Portland Place, W.1. 6 p.m. FEBRUARY 9

Dissemination and Assimilation of Technical Literature, A Growing Problem. Discussion at the IEE, Savoy Place, Victoria Embankment, W.C.2. 5.30 p.m. FEBRUARY 9

Prague Revisited and Reassessed. Talk by Walter Bor at the Housing Centre, 13, Suffolk Street, S.W.1. 6 p.m. FEBRUARY 10

Symposium on Modern Homes. Liverpool Architectural Society Symposium, at Bluecoat Chambers, Liverpool. FEBRUARY 13

Planning South. An exhibition of architecture and planning in South London. At County Hall, North Block Extension. 9 a.m. to 5 p.m. UNTIL FEBRUARY 21

Le Corbusier Exhibition. At the BC, 26, Store Street, W.C.1. Monday to Friday, 9.30 a.m.—5 p.m. (Thursdays till 7 p.m.). Saturday, 9.30 a.m.—1 p.m. Sunday, 2—6 p.m. UNTIL MARCH 6

RIBA

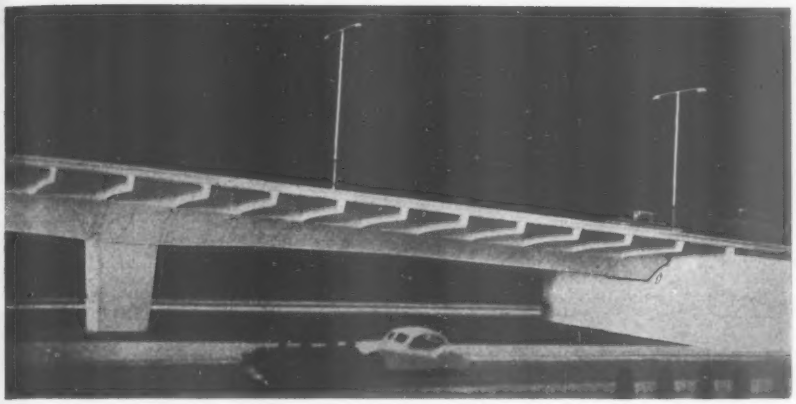
Motor Roads Campaign

The RIBA has received the support of the Royal Fine Art Commission, the Civic Trust, the Institute of Landscape Architects, and the Central Council of Civic Societies in its attempt to secure better planning and design of motor roads. But it has been completely rebuffed by the Ministry of Transport and the Local Authorities which it has approached.

In December the Minister of Transport announced the formation of Committees in a number of the larger cities to study the planning of new motor roads in built-up areas related to the new system of national motor ways. The RIBA Council felt that "the impact of this new construction on the plan of towns and cities was insufficiently appreciated, and that representations on the need for the fullest co-operation of all those technically qualified should be made." The Council also agreed to make the strongest possible representations on the planning, landscaping and design of structures on national motorways. Therefore, after the Ministry had rejected the RIBA's suggestion that architects should be members of the urban motor road committees, the Council decided to make representations to the city authorities who were setting up these committees, to draw the attention of the Ministry of Housing and Local Government to the problem, and to enlist the support of the RFAC, the Institute of Landscape Architects, the Association of Municipal Corporations and the Civic Trust, for their support.

The replies from the Town Clerks of the Cities approached have been illuminating. Birmingham (where it is understood that a working group has been set up, presumably under Sir Herbert Manzoni the City Engineer) has not bothered to reply. Newcastle-upon-Tyne has sent a bare acknowledgment. Leeds replied that a Committee has been set up of West Riding local authorities, composed of two councillors, the Clerk and the Engineer from each authority. Manchester replied that a Working Party has been set up for south-east Lancashire, consisting of the Surveyors to the County and Borough Councils. Their work is of a "preliminary and technical nature, comprising a survey of traffic requirements, estimation of adequacy of present systems and consideration of what can be done to alleviate conditions by better control, parking, etc." The Town Clerk does not consider it necessary to appoint the City Architect having regard to the present work.

Liverpool has not yet set up a Committee, although an exploratory meeting of local



The new Hammersmith flyover, designed by G. Maunsell and Partners in association with Joseph Rawlinson the LCC's Chief Engineer, and Hubert Bennett, the LCC Architect, will carry two lanes of traffic in each direction for half a mile. The roadway is cantilevered from a central spine carried on thirteen single columns with spans of 140 ft. The cost is estimated at £1,201,000. In the first designs prepared in the Chief Engineer's department the bridge was supported on rows of four columns at 40 ft. intervals. The new design costs no more in total, the extra cost of the bridge being offset by savings on the acquisition of land and re-arrangement of the ground level layout. The result is not only a more graceful bridge but a very much more open and useful ground layout.

authorities in the Merseyside area has been held under the chairmanship of the Divisional Road Engineer. If a Committee is ultimately set up the Town Clerk undertakes that the RIBA's suggestion "will be borne in mind."

The Council of the RIBA has now approached the Town Planning Institute, Central Council of Civic Societies, Association of Building Technicians and the Arts and Amenities Committee of Members of Parliament. So far the RFAC, the Civic Trust, ILA and Central Council of Civic Societies have pledged support. The Presidents of the Allied Societies in Liverpool, Manchester, Birmingham, Leeds, and Newcastle-upon-Tyne have been asked to take the matter up locally, and some individual approaches have been made at a high level on certain quarters.

LGAS

To Be "Association of Official Architects"

The Local Government Architects' Society and the other professional societies in local government hope to win the right to take part in negotiations with the employers—but not on the terms they originally expected. To get agreement with the National Association of Local Government Officers the professional societies will have to abandon their aim of securing a negotiating Panel in which the staff side would consist entirely of representatives appointed by professional societies. But they hope to get a professional Panel appointed through NALGO, that would enable architects to participate in negotiations.

This was the picture of the present state of negotiations between the professional societies in local government, NALGO and the employers, given at the general meeting of the LGAS on Saturday. Arthur Ling was in the chair, and Basil Spence sent greetings from the RIBA which were reinforced with a personal welcome from Gordon Ricketts, who hinted that the RIBA would go as far as its Charter and Byelaws permitted to give material help to the new Society. The meeting transformed the Society from a provisional to a permanent organization, with an annual subscription of 15s., approved a draft Constitution (providing for a General Council of about 30 members, 12 to be elected nationally) and changed its name to the Association of Official Architects. The new Society will confine its membership to chartered and registered architects (motions to include students and unqualified assistants being heavily defeated), and will not organize salaried assistants in private practice. But it held the door open by giving the General Council power to admit architects in other forms of employment later.

The Executive's report to the meeting stated that the Society had been accepted by the group of professional societies in local government as a constituent member. The group had submitted a memorandum to NALGO and the Employers proposing the formation of a Panel for the discussion of all matters affecting salaries or conditions of professional officers, to consist of equal numbers of employers and staff (the latter to be nominated by the professional societies), the decisions of the Panel to be subject to ratification by the National Joint Council (on which NALGO represents the staff). NALGO has replied that a Panel is agreed in principle, subject to certain amendments. A satisfactory Panel to NALGO would be one in which the professional societies would nominate representatives through the NALGO machinery, while the staff side and the employers' side of the NJC would appoint the representatives. But NALGO rejected a proposal that grading and other disputes affecting individual professional officers should be heard by an Appeals Committee appointed from the Panel.

The Executive commented in its report that while NALGO was prepared to allow increasing co-operation with the professional societies, and some form of Panel, it considered that all negotiations must be taken by and through NALGO as the appropriate trade union. It also recorded that in a frank exchange of views NALGO representatives made it clear that if the Society were to restrict itself to being a "professional" society relations were likely to be friendlier than if LGAS were to become a trade union. "In that event LGAS would be considered as a rival to NALGO, as an extension of sectional unions could lead to the extinction of NALGO itself."

Thurston Williams, Chairman of the Provisional Executive Committee, was not able to clear up this confused situation entirely, because confidential negotiations were continuing. It had become clear in the negotiations with NALGO, he said, that both sides would have to make concessions. A professional panel in which the staff side consisted entirely of professional representatives negotiating directly with the employers was acceptable neither to NALGO nor to the employers.

Thurston Williams was very emphatic that agreement was possible in the near future, and put two alternatives before the meeting. They could either accept a form of negotiating machinery with NALGO, not necessarily and probably not at all what had been anticipated, but which would bring architects to the negotiating table. Or they could decide to have no truck with NALGO and assert their rights as an independent society to represent their members direct to the employers, to go into isolation and fight it out. The other professional societies, he warned, had done this for 10 years or more, and there was no future in it for their Association.

On NALGO's objection to the Society becoming a trade union he explained that while NALGO did not want competition in the trade union field, it had issued a statement jointly with the Association of Local Government Engineers and Surveyors recognizing that both were trade unions, and that it was better for them to co-operate than to conflict.

After questions and some discussion the following resolution was passed, almost unanimously:

"That the meeting believes it to be in the interest of local government architects that they be directly represented on the body responsible for defining their conditions of service. It believes that this may be achieved in agreement with NALGO, representing local government officers as a whole. It instructs its representatives, together with the other professional societies, to continue their discussions with NALGO and the Local Government Associations to achieve this objective."

The meeting also decided that the Association should become a certificated trade union.

M. M.

NFBTE

Fewer Apprentices

The Builders' AGM is never without at least one exciting moment. This year it was provided by a house builder who got up from the body of the hall to make an impassioned denunciation of local authority architects who "empire build" direct labour departments and take work away from local builders. "This," he said, "is a serious menace that threatens our future and our children's future!" and went on to hint at the "Terrifying ideas that one hears from socialists in their unguarded moments" and asked for the formation of a "vigilance committee" by the NFBTE.

Although he was clapped to the echo, no one took up the theme. It is a sign of the times in the building world that the builders were much more concerned about the recruitment of apprentices.

It appears that many building employers are unwilling to take on apprentices because they are not at first able to earn very much money for them. There were 3,000 fewer boys on the register last year than the year before and A. H. Bowden of Swindon asked "what are we going to do about the 3,000 we haven't got when the pipeline flows full again?—we can blame the government for some things and the manufacturers for others, but if we are short of men we have only ourselves to blame." This led to a conflicting discussion on Building Advisory Committees which link (or should link) Further Education Colleges with the industry, the low standards of education required for apprenticeship and the difficulties of working the day release system of training. One contractor got up to criticize the out of date methods taught at schools, another to say that boys are not interested unless they have to sacrifice something.

Earlier in the meeting the pending operatives' claim for 4d. an hour and a shorter working week aroused, besides the inevitable resistance, a suggestion that the sliding scale adjustment of February in each year, in fact only represents about 55 per cent. of the increase in the cost of living and that this is why the industry has to face the tendering uncertainties of other claims during the year. There was clapping when the speaker said "it is not fair for the National Federation to set its face against all claims!" Other items in the discussion were these: A suggestion that the answer to firm price tendering was to delete clause 9 of the RIBA contract; a report that the outer London wage zone (4s. 8d. an hour) is to be abolished and made the same as the inner zone (4s. 8½d.); a plea for builders to become members of the IOB—to gain the same professional solidarity as "the architects and dentists" and farewell tributes to Stanley Hearder, the retiring Director, and a welcome to the new one, Peter Trench.

J. C.

RICS

Value in Town Planning

When presenting a paper at the RICS on January 27 called "Value for Money in Town Planning," Dr. N. Lichfield attempted to introduce a form of cost analysis into town planning. Dr. Lichfield said that we had always to ask what the benefits of a particular planning proposal might be and whether their benefits were as high and their costs as low as they might be. To do this he suggested a comparative analysis between alternative proposals.

When faced with a land-use problem, sufficiently complex to require analysis, the planner could do what others do when tackling development problems—prepare a "balance sheet." He would list as precisely as possible the likely implications of the completed proposal or alternatives. These would be in terms not only of the expected costs and benefits to the local planning authority, but also the expected costs or benefits to others. Dr. Lichfield realized that there were certain intangibles always to be taken into consideration which were not measurable in money, the unpleasant smell of a tannery, or the beauty of a clump of trees. However, he said that as far as possible items should be measured in comparable terms. When farmland was taken for housing the community lost agricultural produce but gained vegetables and fruit grown by householders. It was preferable to put this in terms of money value than to try to compare the loss of wheat with a gain in apples and brassicas.

Dr. Lichfield went on to illustrate his system with the situation arising in a small attractive village of some 3,000 inhabitants. The village straddled a main trunk road and something had to be done to alleviate traffic congestion in the town and its attendant evils. Road widening was out of the question due to cost and loss of local amenities, thus leaving a by-pass as the only solution. The problem was to decide whether the northern or southern route would give value for money. The table shows what factors were taken into consideration and summarizes how much more (+) or less (−) the southern route (S) would cost than the northern (N). The result of this analysis was to show that route S was considerably the cheaper in total money.

Turning to the intangibles, however, Dr. Lichfield said that route S would result in noise to 25 dwellings (J), interfere with the use by the villagers of their heath for recreational purposes, involve the destruction of fine trees (C), and injure the view of the hills in the distance.

Route S would injure local amenities and perhaps life, but would save money for the Ministry of Transport. Route N would save local amenities but involve considerable net money costs.

In these cases the analysis did not show clearly that one alternative shows less cost and greater benefit. The issues were clear but the balance was not. Judgment was necessary and the analysis helped in making it.

Dr. Lichfield concluded his paper with a plan for the extension of the recent work of the Cost Research Panel of the Institution, relating to the cost of building dwellings at different heights and density to the measurement of the variation with density of other development costs. Was it practicable to find methods of attaching money values to non-remunerative uses such as playing fields and parks?

Item	Extra cost (+) or savings (−) of route S compared with route N				Incidence
	Capital		Annual		
	+	−	+	−	
	£	£	£	£	
1. Capital Cost		60,000			Ministry of Transport
2. Repairs, etc., New ..				500	Ministry of Transport
Existing				75	Ministry of Transport
Existing				75	County Council
3. Re-accommodation ..	21,000				Ministry of Transport
4. Amenities of dwellings	6,000				Owners and occupiers
6. Trade of hotel ..		10,000			Hotel owner
7. Farming		10,000			Ministry of Transport
8. Recreation	4,000				Ministry of Transport
9. Development values ..	2,000				Landowner
	4,000				Central Land Board
10. Rateable Values ..				300	Local Authority
13. Traffic				2,000	Motorists
	25,000	70,000		575	Ministry of Transport
	4,000				Central Land Board
				75	County Council
				300	Local Authority
	8,000	10,000			Various owners and occupiers
				2,000	Motorists
Total	37,000	80,000		2,950	All

Table of planning "balance sheet" (left) and plan (below) showing two alternative by-pass routes referred to by Dr. N. Lichfield.

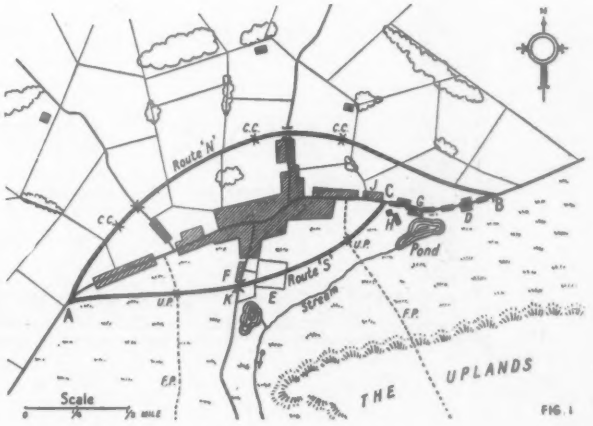


FIG. 1

CHURCHILL COLLEGE

A Closed Competition

A two stage closed competition for the design of the new Churchill College on a site in Madingley Road, Cambridge, has been arranged by the Churchill College Trust Fund. The assessors are Sir John Cockroft, the Master of the College, Noel Annan, Provost of Kings, Sir William Holford, Sir Leslie Martin and Basil Spence. The following 21 firms of architects were asked if they would like to compete:

Architect's Co-Partnership, Sir Hugh Casson and Neville Conder, Chamberlin, Powell and Bon, Yorke, Rosenberg and Mardall, David du R. Aberdeen and Partners, H. T. Cadbury-Brown, James Cubitt and Partners, Fry, Drew, Drake and Lasdun, Frederick Gibberd, Erno Goldfinger, William Howell, Lyons, Israel and Ellis, Robert Matthew and Johnson-Marshall, Powell and Moya, David Wyn Roberts, Richard Sheppard, Robson and Partners, James Stirling and James Gowan, Tayler and Green, Alison and Peter Smithson, Lionel Brett, Norman and Dawbarn. Of these, 20 are understood to have accepted the invitation.

No fee is offered for work in the first stage of the competition, which closes on April 13. Four architects will be selected for the second stage, which closes on June 29, and will each be paid a premium of £500. In the event of the Trustees not approving the winning design it will be open to them to reject it on paying "an appropriate fee." The trustees are not bound to carry out the design if the architect cannot bring the tender within the original estimate. In that event no further fee is payable. If the trustees do not appoint the author of the selected design as architect for the works for any other reason an additional fee is payable.

Architects have been appointed for the design of two other new Cambridge Colleges on neighbouring sites: Chamberlin, Powell and Bon for a new women's college, New Hall, and Denys Lasdun for Fitzwilliam House.

CIB CONFERENCE

Research, Documentation

The International Council for Building Research, Studies and Documentation (CIB) will organize an international congress (open to members of the CIB, their representatives and any other experts in the sphere of building) in Rotterdam from September 21 to 25 inclusive.

The subjects concerned will relate to building research—both fundamental and applied—and to building documentation and transmission of knowledge. Attention will be given to a number of special aspects of building in tropical regions. Dargan Bullivant, AJ Research Fellow, will attend the conference.

The following are some of the subjects to be discussed: "Design and calculation of structures; safety factors." Introductory lecture by Prof. E. Torroja, Director of the "Instituto Técnico de la Construcción y del Cemento," Spain.

"Research problems relating to the application of heavy concrete elements." Introductory lectures by Prof. G. Kutznetsow of the Academy of Building and Architecture of the USSR and Dr. M. Jacobsson, Director of *Statens Nämnd för Byggnadsforskning*, Sweden.

"Fundamental aspects of transmission of knowledge." Introductory lecture by L. M. Giertz, architect, Director of the Swedish Institute for Building Documentation.

Further information can be obtained from: The Secretariat of the CIB, c/o Bouwcentrum, P.O. Box 299, Rotterdam, The Netherlands.

HOUSING CENTRE

Landscape in Housing

Sylvia Crowe, giving a lunch-hour talk on landscaping of housing estates at the Housing Centre, ran true to her brisk and well-established form. Her three main points could be summed up as follows:

Landscaping is an integral part of the layout and the architecture and should be developed simultaneously with the rest of the scheme by a team of planners, architects and landscape architects; each site has its own sense of place which should be brought out to its best advantage.

The social side of landscaping should be fully appreciated. Open-air rooms should be provided in form of inter-connecting open spaces, graduated from the private back garden and the intimate sitting-out space and playground to the large public open space where people meet and a variety of activities can be pursued. These various open spaces should be linked with pedestrian ways which could be attractively designed to avoid the dreary alley way between concrete posts and wire netting, and lead to different places of interest such as schools and shops. The morale of people living in a new housing estate depends a good deal on whether or not the landscaping is carried out before they move in—once you start them off amongst a heap of builders' brick bats it will be very difficult to establish good landscaping later on.

Landscaping makes a tremendous contribution to the architectural composition, particularly trees are an important element. There should always be at least a few big trees to give a sense of containment and scale (they require plenty of space around them unless you build on rock). Some large open-branched trees, *e.g.*, robinias, help to frame buildings while small trees (thorns, peaches, hornbeams) are very useful for screening corners, gaps and untidy allotments. Trees help to accentuate closure and openess.

Miss Crowe made a special plea for using more hard surfacing of varying colour and texture, especially in places where heavy foot traffic can be expected (at corners, around bus stops and telephone kiosks). She also suggested an answer to those unhappy triangular grass patches which so often degenerate into mud at road junctions—break back your hard surface as close to the buildings as possible, you thus keep your corners tidy and you regain the continuity of the floor space; at the same time, keep people away from ground floor windows by means of cobbles or planting. Introduce hazards to stop people from going where they shouldn't—the lamp post or telephone box may come in useful here.

All this may not be startingly new but is surely common sense and convincing. Maybe some of the ideas Sylvia Crowe put forward are a little more expensive than the stock answers, but would not more sensible and more sensitive landscaping pay in the long run?

W. G. B.

BC

Recorded Talks

The Building Centre has started a new loan service of illustrated recorded talks by architects and other authorities on technical subjects. Each talk lasts 45 minutes and is on a double-sided long playing record. The illustrations are in a film strip containing from 80 to 150 pictures.

At present only one recorded talk is available for borrowing. It is "Coventry Cathedral" by Basil Spence. A talk on "Curtain Walling" by William Allen, and Edward Mills, will be available shortly. Other talks are in preparation and it is hoped to issue them at the rate of about three a year.

Borrowers must provide themselves with an ordinary record player or radiogram and a 35 mm. film strip projector. Synchronization of the two instruments is not necessary, change of picture being signalled to the projector operator by a "pip" sound in the recording, similar to a radio time signal.

At present the talks are being made available to RIBA Allied Societies and Schools of Architecture, but it is hoped to extend the range of borrowers shortly. There is no charge for borrowing, except payment of return postage. There are several copies of each recorded talk so that requests to borrow should be met without delay. Societies and schools are, however, asked to give ample notice of the date of the meeting for which they wish to have the talk and to return the recorded talks promptly.

LIVERPOOL

Research Programme

The Department of Building Science, established last year, at the University of Liverpool School of Architecture, has begun its teaching programme and has initiated several research projects on specialized topics within the general field of science in building. Of particular interest to architects is an investigation of problems in factory design and construction with special emphasis on the economics of daylighting, to be started early in the new year in collaboration with the School of Architecture.

Two appointments have been authorized in the Department of Building Science. One is a permanent teaching and research appointment for an architect to work on the application of scientific principles to the design of building elements and to develop appropriate advanced courses for students taking a post-graduate diploma in Building Science. The other is a temporary appointment (approximately two years) for an architect to lead a small research project.

HOUSING IN 1958

273,695 Completions

The number of houses completed fell below 300,000 in 1958 for the first time in six years. Completions in Great Britain numbered 273,695 compared with 301,090 in 1957. Of these 145,547 were by public authorities and 128,148 by private builders. In England and Wales 241,525 houses were completed, 117,438 by public authorities, 124,087 by private builders.

In Brief

Nominations are invited for buildings completed in the years 1956-8 in the area of the Sheffield, S. Yorkshire and District Society of Architects and Surveyors for the award of a Bronze Medal.

H. J. Whitfield Lewis, Principal Housing Architect to the LCC since 1950, has been appointed Architect to Middlesex County Council.

Sir Gordon Russell has decided to retire from the Directorship of the Council of Industrial Design on December 31, 1959, when he will be 67 years of age. He was an original Member of the Council when it was set up in 1944 and was appointed its Director in 1947. The Council has appointed Paul Reilly, who joined the staff in 1948 and has been Deputy Director since 1954, to succeed Sir Gordon Russell on January 1, 1960.

The Leeds School of Architecture announces that the closing date for the Arthur Louis Aaron VC Scholarship for 1959 is February 23. The scholarship, value £250, is an annual travelling scholarship for post-diploma study in architecture.

The National Council of the Incorporated Association of Architects and Surveyors has elected R. E. J. Harding, F.I.A.S., A.M.S.E., formerly Senior Vce-Presdent, to the office of National President for the ensuing year. He is Surveyor to the South Eastern Electricity Board.

The Imperial College of Science and Technology has appointed Miss Sylvia Crowe, President of the Institute of Landscape Architects, as landscape consultant in connection wth the development of the College's central site in South Kensington.

It is reported from Sydney that the building of Joern Utzon's Opera House, the winning design in the international competition, is to begin this year. The clearance of the site is almost complete, and Utzon, who has visited Sydney twice to inspect the site and discuss details, is now engaged on the working drawings. The estimated cost is £A3,500,000.

The four films made by the BBC Television Service in collaboration with the Civic Trust are to be shown on Tuesday at 10.15 p.m., beginning on February 17 under the title *Who Cares*? The first, *Any Old Iron* tells the story of the volunteers who clear up military eyesores, the second, *A New Way Home* was shot in Birmingham in the slums and in a new housing estate. The third, *A Road To Ruin*, deals with "subtopia," and the last, *Spare That Tree* is concerned with trees in towns.

Of the 354 candidates examined in the RIBA Final Examination in November-December 1958, 92 passed the whole examination, 1 passed subject to approval of thesis, 79 passed Part 1 only, and 182 were relegated.

BOOK REVIEW

Architecture of the North

Scandinavian Architecture. By Thomas Paulsson (Leonard Hill [Books] Ltd.). 42s.

For the first time in any language we are presented with a comprehensive and coherent account of the architecture and town-planning of Sweden, Denmark, Norway and Finland from Irón Age to Aalto. The author is the son of that famous Swedish architect, Gregor Paulsson, and is himself well known in his country as a writer and critic on architecture, town-planning and the fine arts. This conscientious and scholarly job manages well to condense a vast subject into 250 pages of text, thus revealing the disparities, unities and inter-connections of the architecture and town planning of the four closely-linked countries.

Like the presentation of the book with its 80 line drawings and 184 half-tone pictures (mostly photographs but some old prints and sketches), the style of writing is plain, factual and somewhat cold, the approach being less critically æsthetic and less technical than sociological. The book's sub-title advisedly includes the phrase "Buildings and Society . . .," and the blurb states: "Monasteries, palaces, farmhouses, and walled towns are seen in their context; banks, railway stations, villas, restaurants in theirs; for every period, town planning or the lack of it is characterized as well." Written in Swedish and translated into English by the author's wife, the book is described in the preface as "a handbook, as complete as possible, addressed both to the person interested in architecture and the person interested in Scandinavia in general." Reasonably the selective balance favours Sweden and Denmark because history and geography have been comparatively unfavourable to architectural development in Norway and Finland—at least up to recent decades.

The book makes clear how strong have been the influences of the rest of Europe on the North through the centuries and right up to this century, when designers native to the countries have come into their own and Scandinavia has made returns with interest. In the past all the Scandinavian countries have often called on the services of foreign architects, and many of them, like the first Tessin and Jean de la Vallée in Sweden, settled down in the countries to which they had been invited. Back in the Middle Ages the English influence was particularly strong in Sweden, and after the Reformation there, Dutch influence dominated for a while. Nevertheless, in glancing through the picture pages, one is frequently struck by fascinating eccentricities—the stave churches of Norway (probably developed from pagan temples), the bold round, defensive mediæval church of Osterlar on Bornholm, the strange church of Kalundborg with its Greek-cross plan and its close cluster of five towers, the fantastic palaces of that fabulous builder, Christian IV of Denmark, with their rich decorations and romantic, turreted silhouettes. Even Stockholm's Royal Palace, so grandly baroque and European in its planning and detailing, has something Scandinavian in its serene and simple massing, especially when seen across the waters in the snowy dusk of a winter's evening.

Of course there are many omissions in the book and more might have been written and illustrated about the indigenous and charming timber vernacular of the peasants and about that remarkable native Swedish engraver, military engineer and architect of the 17th century, Eric Dahlberg. But this is on the whole a balanced, competent and intelligent work which was badly needed.

ERIC DE MARE.

THE ARCHITECT'S RESPONSIBILITY

A Planning Officer's View on Aesthetic Control

In this contribution to the argument about aesthetic control a Scottish planning officer says that it is time architects came to terms with their social responsibilities.

There are probably few architects who would not recognize that they have a social responsibility as well as their responsibilities to their client and to the advancement of their art. Many architects as soon as they receive a commission from a client seek to clarify the public interest by consulting the Local Planning Authority and then view their job as an endeavour to obtain an acceptable design out of both the private and public requirements.

This early consultation with the Local Planning Authority can be of immense value to an architect. He will find in one office up-to-date survey maps giving full information about the site, its utility services, information on special aspects of the site such as subsidence or flooding risks, and a history of recent or proposed developments in the area. In addition there will be for larger projects quite a wealth of demographic, economic and traffic information and analysis. He will be able to find out to what degree public policy or plans have been formulated for the area, either in such things as road-widening lines, density, redevelopment, preservation or general civic design and standards in excess of the bye-law ones. Planners are only too ready to be helpful with information and to be positive, and there are many cases where architects have used planners as allies in the struggle to raise architectural standards and persuade clients to take longer term views of their requirements.

It almost amounts to professional negligence if the architect does not take cognisance of this. He is also unfair to his private client if building plans should be produced in ignorance of the planning requirements. The majority of cases where architects' designs are rejected are those in which there has been no prior consultation. Once plans have been produced compromise is seldom possible and the results are seldom worth the effort. The best that can be achieved is that better materials are used, more care given to the building's surroundings and (that most useful dodge of architectural students) trees put in at strategic points.

Few Scottish Planning Authorities have detailed, three-dimensional plans prepared for their areas and thus are very willing to let architects work out their own detailed solutions to suit their clients' needs. Planners have to rely in this way on architects to create the better environment that they are trying to bring about. Most prefer to lay down the broad landscape, the layout or the street setting in which the building is to be designed. Successful examples of this are comprehensive development areas such as the Gorbals or cases where planners have negotiated with land proprietors that tree belts will be retained or planted to background private house development, and that only architect-designed houses are built, where small town precincts are to be retained or created. However, most planning officers are convinced that if a positive design policy is to be pursued then it cannot be left to the architectural profession in general, but only to a nominated few—so diverse and dissimilar are the architects, and several authorities are trying to negotiate such arrangements with developers and landowners of feuing areas as they are termed in Scotland. (A feu is, for practical purposes, a lease in perpetuity.) Planning Authorities are by no means given the credit for this work in background arrangement or for their efforts to ensure that correct professional advice is sought from the architects, engineers or landscape architects.

Planners are naturally most disappointed that so very few architects are prepared to recognize a wider responsibility than that which they owe to their clients and themselves. This can simply be demonstrated by the very few plans that arrive in a planning office which show the elevations on either side of a proposed new building or the setting in which it is to be placed, or even the fall in level across the site. Only the very best architects seem both to work out the main lines of the garden layout to private houses or even to design the path and the garden walls. Townscape seems to be beyond all but the most conscientious. In many cases their drawings make no attempt to help the Planning Committee understand their proposals, but rather by their starkness and lack of local detail on the drawings frighten and antagonize them.

It is time that all architects came to terms with their social responsibilities and the planning profession, of which many distinguished members are architects; that architects consulted the planning authorities earlier, co-operated in framing and furthering community plans and stopped designing in a void. Once this is done there will be less news of modern buildings being refused planning permission, and more of satisfactory urban renewal. It is also to be hoped that the current trend for architects to play a distinguished part in local affairs will continue. The majority of planners welcome and indeed encourage this local interest as a positive force in moulding the future, and the Planning Committees are quick to respond to informed and vigorous local interest.

Escalator Panels

An easy way out!

This new easy way out from Highgate Underground station is greatly appreciated by over 3,000 people who use the escalator every day.

The panels forming the casing, decking and wall linings were manufactured in our factory at Crayford, Kent, employing a construction which has been developed as a result of many years' experience in the making of panels for this very arduous duty on London's Underground.

The panels are faced with 'Warerite' plastic and present a neat and attractive appearance while considerably simplifying the problems of regular cleaning.

William Mallinson and Sons Ltd.

TIMBER and VENEER MERCHANTS

130 HACKNEY ROAD · LONDON · E.2

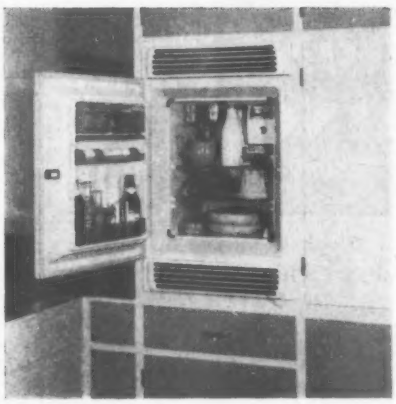
Telephone: Shoreditch 7654 Telegrams: Almoner, London

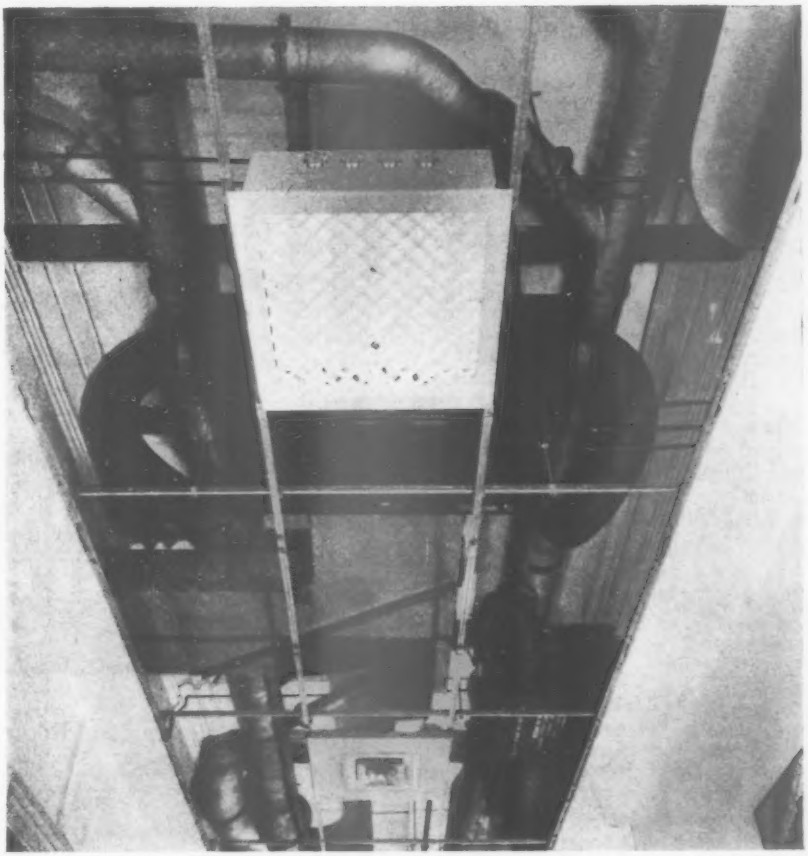
MANUFACTURERS OF PLYWOOD · ARMOURPLY · PANELS AND COMPOSITE PARTITIONING

THE INDUSTRY

Brian Grant describes two refrigerators, a new air-conditioning system, plastic-coated steel and a booklet on the application of asphalt.

Below, two new Electrolux refrigerators: top, the L.26; bottom, the M.27: Below right, the Brightside high velocity air conditioning system; the ceiling is removed to show hot and cold ducts, attenuation boxes and low pressure distribution ductwork to rooms and ceiling diffusers.





New refrigerators

Two new models have been introduced by Electrolux during the past few months. The newer is the L.26, which costs only £49 7s. and has a capacity of 2½ cub. ft., with three internal shelves. Standard colours are white and cream. The other model is an enlarged version of the well-established M.17, and is known as the M.27, having a capacity of 2¾ cub. ft. With a depth of 24 in. and a width of just over 22 in., it is too large to be built into the BS range of cabinets, but at £55 it seems better value than the smaller model which costs £45 for a capacity of 1¾ cub. ft. Both the L.26 and the M.27 have the usual shelves in the inner face of the door. (*Electrolux Ltd.*, 153, *Regent Street, London, W.*1.)

High-velocity air conditioning

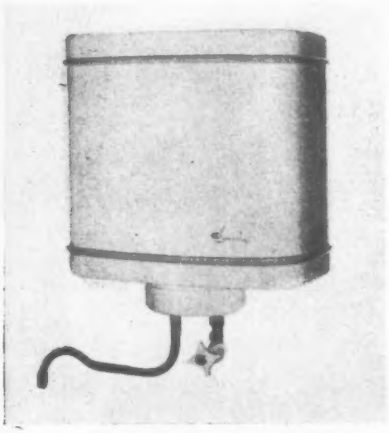
Brightsides have recently installed in their Sheffield offices a high-velocity air conditioning plant which is partly for experimental purposes, but which is also available for inspection. With the present-day relatively low speed air conditioning plants the areas of ducting become quite considerable, and from the building owners' point of view are waste space. If higher air velocities allow duct sizes to be reduced in depth by, say, 1 ft., then this will allow an extra floor in a 10-storey building for the same overall height, and the vertical duct sizes can also be reduced, giving increased floor areas. High velocities are defined as 6,000 to 8,000 ft. per minute with a fan pressure of about 6 in. w.g. Brightsides have installed a dual duct system in which the air is heated by high pressure hot water. The hot duct raises the air temperature to 130 deg. F., the "cool" duct providing air at 60 deg., though both

technical section

these figures can be varied if necessary. Each space to be heated has a mixing box and outlet in which the air streams are mixed as required, the outlet temperature being controlled by a room thermostat. One of the troubles with a high velocity system is excessive noise, so that a good deal of care has to be taken in the design of sound attenuators both in the outlets and in the connections to the fan. I understand that the system was originally evolved in this country, but has been developed in America, where its advantages for multi-storey buildings have been appreciated. Now that we, too, are going a lot higher it should be well worth investigating. *(The Brightside Heating & Engineering Co. Ltd., Don Road, Sheffield.)*

Plastic-coated steel

When Stelvetite plastic-coated steel was introduced some 18 months ago, it was suggested in these notes that the material might have considerable possibilities for all sorts of fittings in the building industry. Since the material can be formed, welded and deep drawn with normal steel working tools, this suggestion involved no particular degree of intelligence or optimism, but it is interesting to see that quite a number of



The Santon Lincoln water heater, which is made of plastic-coated steel by John Summers & Sons Ltd.

firms have already started using it for purposes as far apart as roofing and furniture. For some reason the finish of the p.v.c. coating does not appear to be distorted in any way by deep drawing, although it must, of course, be considerably stretched, but samples of sinks, shown at a recent exhibition, showed no failure of the coating, even at the sharp corners. Uses involving less forming, such as water heater cases (Santon), kitchen work tops (Ezee) and clock cases (Smith), provide a pleasant appearance at reasonable cost, and another useful application is in fume ducting, where the p.v.c. lining provides the corrosion resistance and the steel provides the strength. About roofing applications there may be some doubt, for the cost (22 gauge) is 2s. 8d. a sq. ft. for material only, and this seems rather a lot to pay for a coloured finish, although the p.v.c. will admittedly be more corrosion resistant than a galvanized surface. Another likely outlet is in office furniture, where stove enamelled desks are often an uninteresting colour, and cold to the touch, both of which troubles could be avoided with the p.v.c. coating. There is also the likelihood of a Stelvetite covered refrigerator before long, and it is also suggested that the material could be used for the lining as well. At the moment the standard colours are red, green, grey, white and black, the latter with a smooth finish. Other colours can be supplied in minimum quantities of 25,000 sq. ft. *(John Summers & Sons Ltd., Hawarden Bridge Steelworks, Shotton, Cheshire.)*

The application of asphalt

The NAMMC has just issued a useful pocket book on the correct application of asphalt to basements, roofs and floors. While it may be assumed that most of the specialist firms know a good deal about their job, it may often be something of a relief to the clerk of works, or the architect, to have some independent means of checking what is being done. The booklet is pocket (A.6 paper) size, and makes a convenient summary without unnecessary trimmings. Copies are free. *(The Natural Asphalte Mine-Owners and Manufacturers' Council, 94/98, Petty France, London, S.W.1.)*

INFORMATION CENTRE INDEX FOR 1958

An alphabetical index covering Information Centre items and special articles published in the Technical Section during the twelve months ended December 31, 1958, is being prepared. Readers who wish to have a copy—it is free of charge—should complete the form below and post it to the Technical Editor, THE ARCHITECTS' JOURNAL, not later than March 9, 1959. This form will not be acknowledged.

Please send me the Information Centre Index for 1958 :

Name .....
(Block letters)

.....

Address.....
(Block letters)

.....

.....

AJ, 5.2.59

INFORMATION CENTRE

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

10.175 design: building types
HOUSING HANDBOOK

Flats and Maisonettes, 1958—Design and Economy. (HMSO. 10s.)

This handbook was reviewed in the JOURNAL on December 18, 1958. It is chiefly concerned with a comparison of building costs between high and low level buildings on rehabilitation schemes; but also incorporates a considerable amount of information of interest to the architect concerned with the design of flats and maisonettes in general. Most of this information is found in the appendices.

In the main text, however, the subject of access is dealt with quite fully. The treatment of this subject falls into two parts. First, in chapter two, the problem of vehicle and pedestrian access to the buildings is discussed and, second, in the latter part of chapter four, there is a survey of the different forms of access to the dwellings themselves from within the buildings. This section covers comprehensively the different methods of access and discusses their respective uses as well as qualities. The methods include staircases, balconies and also lifts.

Chapter four also gives a number of other items for consideration: heating, storage and washing space, refuse disposal and safety precautions.

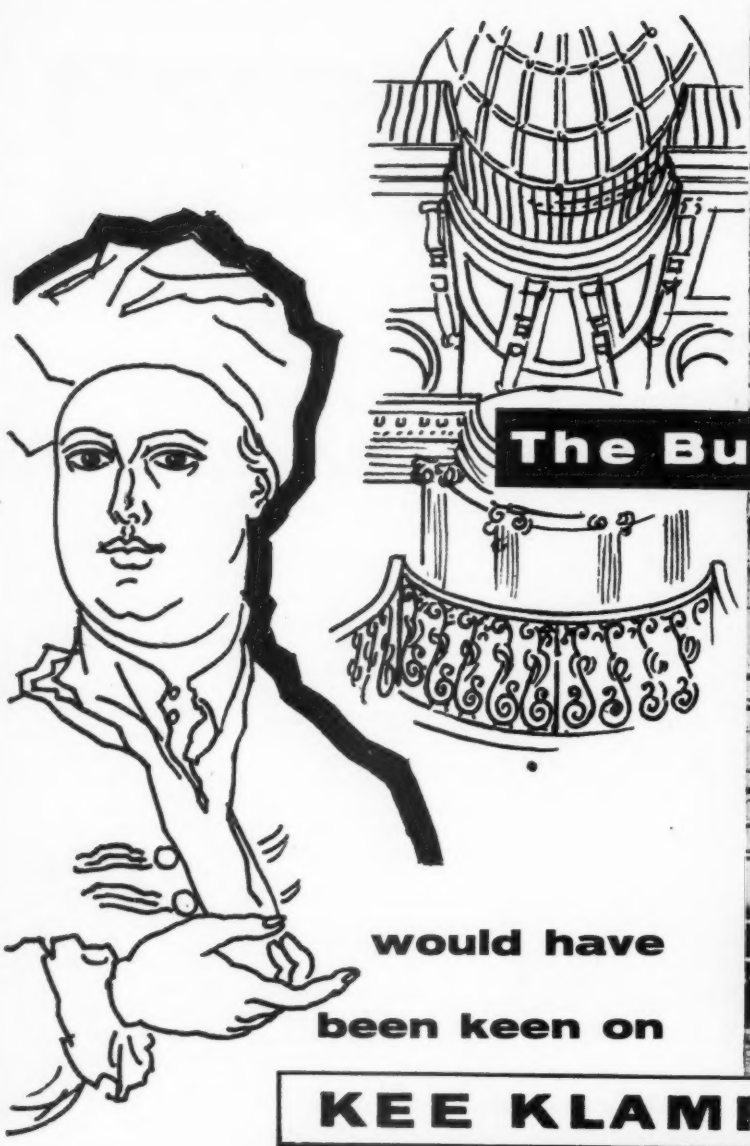
One section of the appendices is of particular interest. This gives an interpretation of the LCC code for means of escape in so far as it affects the planning of flats and maisonettes. The subject is treated fully and is illustrated with diagrams.

Appendix A gives advice on the calculation of the number of dwellings of different types required for a given density of habitable rooms per acre; and such differing subjects as sunlighting and minimum floor space requirements are dealt with in other appendices.

15.142 materials: applied finishes and treatments
WOOD PRESERVATIVES

Coal Tar Oil Types of Wood Preservation. BS 3051:1958. (BSI. 5s.)

This booklet follows two earlier publications, *Coal Tar Creosote for the Preservation of Timber* (BS 144) and *Pressure Creosoting of Timber* (BS 913). This new Standard covers tar oils obtained from coal. These are not included in BS 144.

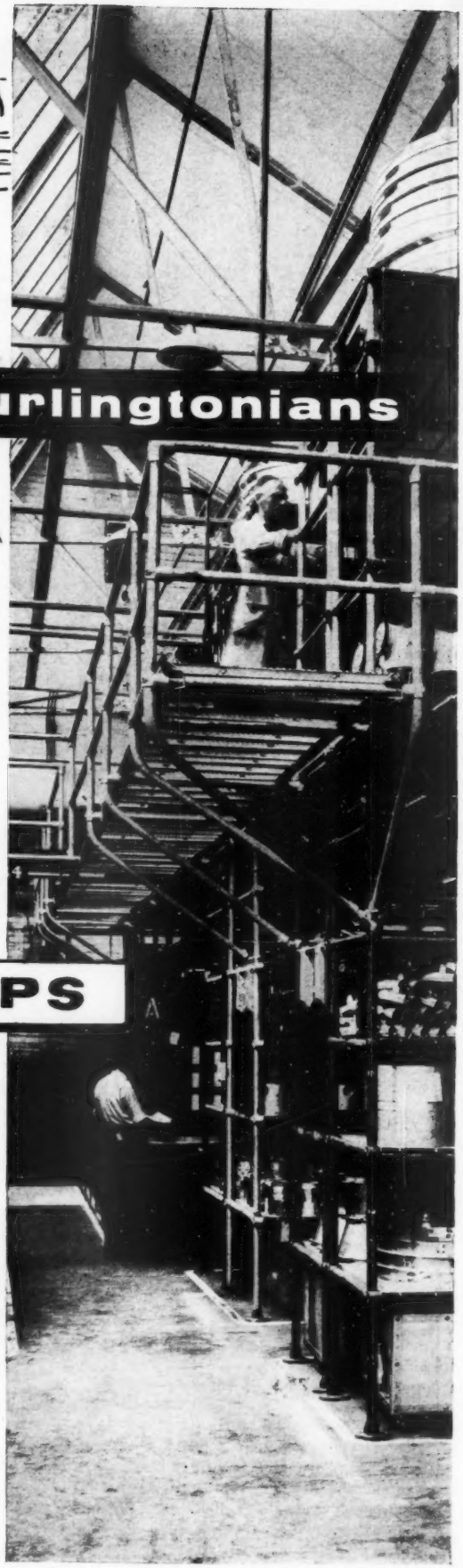


The Burlingtonians

would have been keen on

KEE KLAMPS

Registered Trade Mark



The splendid staircase at 44 Berkeley Square is undoubtedly a miracle of constructive invention. Kent knew well how to utilise *space* in the production of this 'beautiful piece of scenery'. Perhaps he anticipated the possibilities of tubular construction that Kee Klamps provide the architect with today.

GEO. H. GASCOIGNE CO. LTD.,
578 GASCOIGNE HOUSE, READING, BERKS
Telephone READING 54417 (3 lines)

technical section

16.129 materials: miscellaneous
ASPHALT FOR DPCs

Mastic Asphalt for Tanking and Damp-proof Courses. BS 1418:1958. (BSI. 4s. 6d.)
This new standard forms part of a series dealing with mastic asphalt for building and is a revision of the 1947 publication. There is useful information in the appendix on the important aspects of the application of mastic asphalt tanking. Among the 12 subjects dealt with are the protection of horizontal asphalt, brickwork and keying, and continuity of lining.

22.93 sound insulation and acoustics
FOLDING PARTITIONS

Noise Reduction of Folding Partitions. By Howard C. Hardy and James E. Ancell.
Noise Control. Vol. 4. No. 6. November, 1958.
This article refers to the concertina type folding partition formed of leather cloth or some other fabric mounted on a patent metal folding mechanism. This device originated in USA, is now available in this country, and architects will need to consider its performance as a sound insulator very carefully before using it. It must be accepted that the demand for "moving walls" will continue, either because of a need to economize by duplicating the uses of space or because modern notions of "space organization" must be served. The article points out that because these structures are very light in weight they cannot have high sound insulation. There is also strong likelihood that the "fit" of the partition will not be good, and the resulting gaps will lower insulation even further. Assessed insulation based on a "mass law" curve which seems to bear no relation to the accepted values in this country and Europe generally, are compared with actual measurements and found to give good agreement. This could be because the accepted weight of the partition appears to include the metalwork. This cannot possibly contribute to the "acoustic" weight of the partition any more than the weight of studs in a stud partition can be taken into account in assessing sound insulation. If one takes a reduced weight value (for the facing materials only) and uses the commonly accepted "mass—law" the insulation comes to about the same as the authors give. Typical values (average over the frequency range 125 to 4,000 c/s) are, for a "typically good" installation 22 dB, and for a "typically poor" installation 11 dB.
The last part of the article discusses whether and in what circumstances this order of insulation is enough. It is concluded that a "typically good" folding partition will provide a suitable acoustic barrier between two areas in which meetings, conferences, luncheons, class exercises or lectures can be held, subject to the following conditions existing:
1. Both sides should be served with about the same sound power. For example, if one side has an amplification system, then the other side must have one too.
2. The greater the amount of absorption on either side of the partition the better.
3. The "sweep strips" at top and bottom of the partition must fit properly.
4. The area of the partition should be kept as small as possible.
5. All listeners should be as close to the speakers as possible.
6. Where there are two lecturers they should be placed back to back with the partition separating them.
7. A small amount of background noise (such as traffic, ventilation) is an advantage.
To this list the writer would wish to add one more item. Warn your clients that this type of partition should really only be regarded as a visual space divider, and that its use as a sound barrier will almost certainly lead to complaints about its poor performance.

25.131 water supply: sanitation
BUILDING DRAINAGE

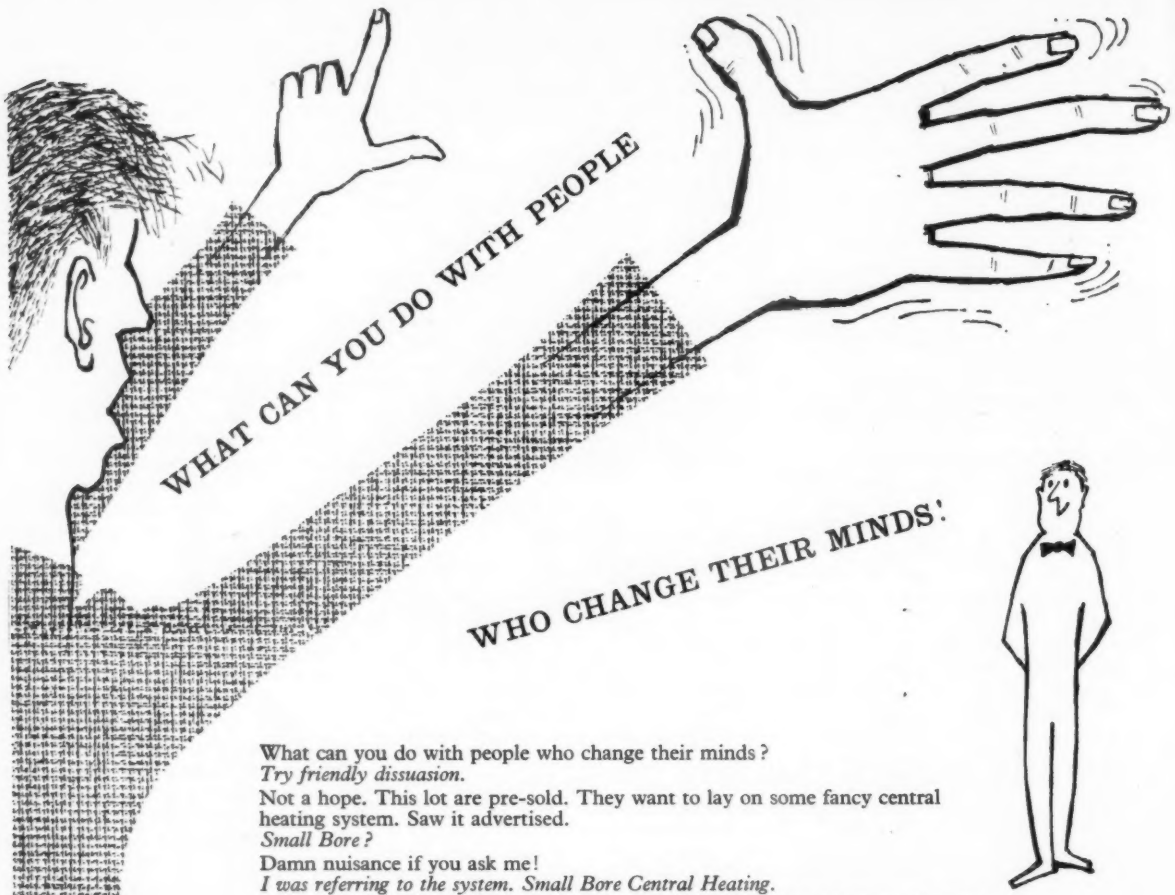
New Trends in Plumbing and Sanitation. Symposium at the Royal Society for the Promotion of Health. *Journal of RSH* for January-February, 1958. 10s.
In October of last year, the RSH gathered together four experts to report on the latest findings in the field of plumbing and sanitation. Clarke, Sobolev and Griffiths—all of BRS—and W. M. Collinson were the speakers; on the subjects of ball valves, spray taps, single stack plumbing and underground drains and sewers.
The greater part of the papers gave what is by now well known knowledge, but two aspects of the sanitation problem that are not yet common currency were revealed—both of them significant and one surprising: unvented rows of sanitary fittings and failures of underground drains.
Since the pioneer work of Wise and Croft, research on unvented single stack plumbing has proceeded. It is very nearly standard practice by now to use the single stack system up to four storeys; and above this height to vent only the w.c. traps. One advance on this is to vent every other w.c., and a further advance it now seems, may be to use a larger diameter stack. One scheme in Hamburg, with a 5-in. stack copes adequately with 15 storeys. Tests with 6-in. stacks by BRS show a substantial safety factor against induced siphonage and back-pressure. It now seems ironic that the coming of a BSS to the cast iron pipe trade eliminated the 5 in. pipe from their catalogues.
There has now been further research into the possibility of using rows of w.c.'s and basins without venting. Conclusive recommendations have yet to appear in public, but it seems that a top floor row of eight w.c.'s will not lose its seals if unvented. Below a top floor, one vent may be needed, and it may not even have to be at the "upsteam" end of the row. This is all very encouraging. With basins, the waste pipe design depends very much upon whether or not there are spray taps fitted. With them, we could perhaps use much smaller wastes than has been thought necessary hitherto.
The most unsettling part of the symposium dealt with failures of underground pipes: "... it would appear that most rigidly jointed brittle pipelines even when laid in accordance with the current Code requirements and so satisfying the model byelaws, will be fractured sooner or later." The paper gives a detailed account of the various types of failure—mainly due to thermal or moisture movement of concrete jointing, haunching and bedding, or to ground movement. All three kinds of pipe—ceramic, concrete and cast iron are liable to fail. The solution to the problem firstly is some form of flexible joint, which, for smaller pipes of ceramic, has yet to be discovered. Secondly, if pipes have to be encased, the encasement should be interrupted at the joints. Pitch fibre pipes offer a small risk, provided long lengths have some kind of telescopic joint. How the sanitary inspectors will react to proposals based on this paper is less certain.

26.133 services and equipment: miscellaneous
LIFTS

Electric Lifts Part 1—General Requirements. BS 2655:1958. (BSI. 15s.)
This Standard is a confirmation rather than a revision of the one published in 1957. It forms part of a series of three and deals largely with safety precautions. It is split into four sections, *i.e.*, specification, specific requirements for passengers and goods lifts, testing and lastly service lifts. The appendices contain notes on the Factories Acts, structural requirements, doors and gates, and the suppression of radio and television interference. A further revision is contemplated to include more detailed design requirements. Part 3, which is not yet published, will be on outline dimensions for electrical lifts giving recommended dimensions for lift wells, and areas for machine rooms.

27.22 furniture and fittings
LOCKS

An Encyclopædia of Locks and Builders Hardware. By F. J. Butter. (Josiah Parkes Ltd., Union Works, Willenhall. 21s.)
This is in fact a re-appearance in a slightly different guise and an amplification of the same author's classic *Locks and Builders Hardware: Design, Manufacture and History*, published in 1948. It has the same elegant line illustrations (though more of them) and the same clear, succinct descriptions; while the adoption of the encyclopædic form makes it easier to find out what exactly is a monkey tail bolt or a puzzle lock when you are in a hurry.
The only criticism we have to offer is that the content seems more comprehensive with regard to locks than with regard to the other items of hardware and that rather less than justice is done to recent American and Continental practices. The book naturally has a slight bias in favour of the products of Messrs. Josiah Parkes, but this does not seriously impair its value as an architect's work of reference.



What can you do with people who change their minds?
Try friendly dissuasion.
Not a hope. This lot are pre-sold. They want to lay on some fancy central heating system. Saw it advertised.
Small Bore?
Damn nuisance if you ask me!
I was referring to the system. Small Bore Central Heating.
Who cares! Look! All these plans botched up. And knowing this type of client, they're bound to moan about the cost after the job's done.
Look here! What exactly do you know *about Small Bore?*
Absolutely nothing! But I've got a delicious set of prejudices—that it's a nine-day wonder, that it costs the earth . . . and that I might as well use these plans now for wrapping up fish-and-chips!
Well, let's uninhibit you . . . in the first place, Small Bore Heating was developed by the British Coal Utilisation Research Council and has thousands of successful installations to its credit. Secondly, it costs a fraction of what you would normally estimate for Central Heating. Thirdly, it can be installed with almost no alteration to your plans whatsoever except for the saving of chimney breasts and the odd flue or two.
Oil Firing, Solid Fuel, or what?
Yes, just that—or gas if you want it. And you lay on radiators, convectors, skirting panels, just whichever suits the job best.
What about the Small Bore bit?
That refers to the diameter of the pipes. That's why they're so neat—only about as thick as your little finger.
Then how the dickens do they ever get hot enough?
The water's pumped round the system by a small electric pump. They call it the Sigmund ThermoPak, I think.
Look, old boy! This is all great stuff! But are you an ad. reading maniac, too —or does your sister work in the place where they're made?
Oh, I keep my ear to the ground, you know!
That's a pretty undignified position for a professional man!
Yes, but not half as bad as when the client catches you bending . . .

Our Architect's Advisory Service will supply you, by return of post, with full technical details of the Small Bore System of Central Heating if you simply send your letterheading marked "Architect's Journal", to the address below.

SIGMUND PUMPS LIMITED

TEAM VALLEY TRADING ESTATE · GATESHEAD 11

technical section

7. PRACTICE

architectural management: a method study, 4 supervision and control

Having completed their review of the architect's work at the pre-contract stage*, the authors, W. Sinclair Gauldie and Arthur F. S. Wright, now pass to the post-contract stage. They propose (among other things) a method enabling the architect to take his own copy of the contract documents on his site visits, a drill for recording variations and systems for keeping a check on the progress of the work in terms both of time and of money.

POST-CONTRACT STAGE—GENERAL

Once the contract is let and the contractor has been supplied with full and correct drawings, specification and/or bills of quantities, the architect has only to provide "such periodical inspection and supervision as may be necessary to ensure that the works are being executed in general accordance with the contract." That is all we are engaged (and paid) to do—at least in theory. In practice, the position is rather different, especially here in Scotland where each trade is normally contracted separately, so that the work of co-ordinating their several activities falls willy-nilly upon the architect.

Our own attitude to the post-contract stage of our work is inevitably coloured by this separate-trades background, but it seems to us that similar conditions must often be faced today even where a single main contractor is employed. Modern building increasingly involves the employment of specialist or nominated subcontractors, whose work has to be correlated by the architect almost as if they were independent contractors. Consequently, much of the time of the architect and clerk of works tends to be taken up by these administrative matters, instead of being spent in the proper field of supervision—a fact only too often reflected in the quality of the finished work.

In these circumstances, any lack of organizational efficiency within the architect's practice is reflected quite clearly in his activities during the "supervisory" stage, especially if the time expended is compared with the one-third proportion of the total fee, as laid down in the Scale. In point of fact, his time and effort at this stage, if the work is to be properly supervised and administered, can amount to a good deal more than a third of the total, and it is common experience that a job which has shown a profit up to the signing of the contract will often show a decided loss by the time the final settlement is complete.

Two further factors must be taken into account:

(*i*) Actions or counterclaims for negligence are commonly founded on allegations of faulty supervision.

(*ii*) Supervision and contract-administration are skills in which the newly-qualified architect has received virtually no formal education. He has to pick them up on the "learn-while-you-earn" principle—which often means at the expense of his employer or the client. In particular, it is both unfair and unwise to have him constantly making snap decisions on the site about matters which should have been settled in the pre-contract stage.

Broadly speaking, then, the whole of the architect's work must be so organized that the people responsible for site-supervision have command of the job through the existence of complete information prepared in the pre-contract stage. Furthermore, procedures must be adopted to make the inevitable tasks of co-ordination less burdensome, and to regularize those aspects of supervision for which the architect carries a heavy legal responsibility.

The following sections will show how we have applied the Information-Decision-Communication breakdown to these problems.

POST-CONTRACT STAGE—INFORMATION

Information which should be at the disposal of the site supervisor can be divided into two categories:

I. "Prior" information, *i.e.*, information available from the pre-contract stage.

II. "Concurrent" information, *i.e.*, information which is built-up as the work proceeds, providing a back-reference to the successive stages of the site-work.

It will be convenient to consider the two categories separately.

I. Prior information

The pre-contract procedure already described enables the architect to start supervision with a complete but not unwieldy set of working drawings: a specification drawn up in a form which enables all broad standards of materials and workmanship to be readily checked: and bills of quantities for reference to detailed points of specification and cost.

Problems

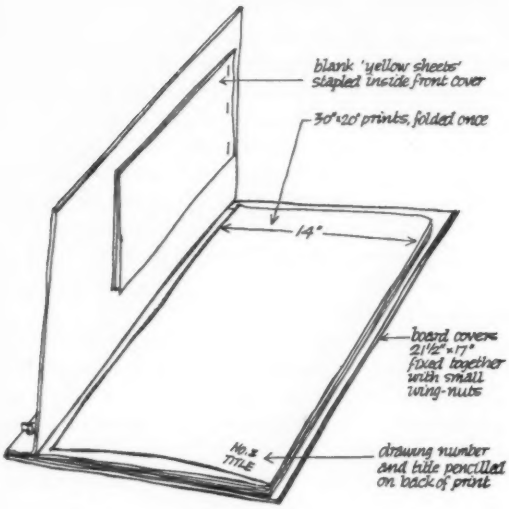
The main remaining problem is the old one of *availability* of information: much valuable time can be wasted in a search for the foreman's battered site-copy. Furthermore, the architect must have a consistent method of noting any amendments, which should be transferred to the office-copies of the drawings. Therefore the architect should always be able to visit the job with a complete set of drawings *of his own*, which he can annotate as necessary.

Solutions

We deal with this in two ways. For smaller jobs, each drawing is folded once (to 20 in. × 14 in.) and they are fixed between stiff covers to make a book of that size (Fig. 1). This is satisfactory up to about 20 drawings, beyond which it becomes unwieldy.

* See AJ January 8, 22 and 29, 1959.

technical section



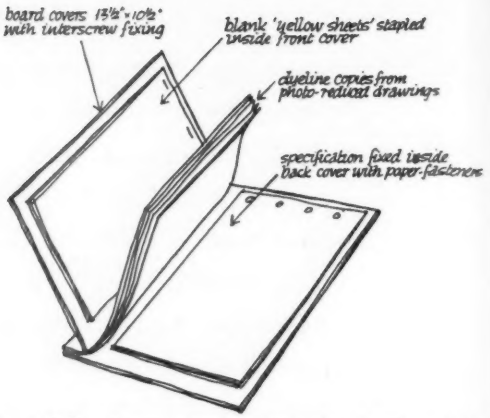


Fig. 1 (left). Large size site book for carrying folded imperial sheets. For use on small jobs. Fig. 2 (above). Small size site book for carrying photo reduced drawings. For use on large jobs.

For larger jobs we use foolscap-size prints made from photo-reduced sub-masters, and inserted, together with the specification, in a binder (Fig. 2). This is the better way and, although it is relatively expensive, the initial cost must be balanced against time saved on the site. We cannot stress too strongly that a building cannot be effectively supervised unless unnecessary obstruction and loss of architect's time on the site are cut to the minimum.

II. Concurrent information

We can assume that, as a matter of ordinary procedure, all correspondence and telephone messages are brought promptly to the notice of people concerned and are competently filed.

Apart from these, the concurrent information will consist of:

Problems

(*a*) *Periodical record of site activities.*

The architect in charge must be able to get a general picture of progress at any given minute without having to sift the memory of an assistant.

On distant jobs especially, he needs prior notification of certain stages which will require inspection.*

(*b*) *Amendments and variations.*

Recordings of amendments to drawings, etc., is essential, but will be neglected unless made easy.

Variation orders are contractually most important, but are liable to be slipshod if the method of issue is too casual or too cumbersome.

(*c*) *Programming relative to time and cost targets.*

Programmes are easily upset by architect's afterthoughts, and by his acceptance of over-optimistic promises from nominated suppliers or sub-contractors. The danger of over-running a cost target is sometimes not apparent until it is too late to take effective counter-measures.

Solutions

(*a*) A periodical record of this kind is commonly required from a Clerk of Works as part of his routine duties, and a *pro-forma* of similar (although less detailed) character (Fig. 3) is used by us to record the architect's site visits. Its "official" title is "Architect's Job Record," but more commonly we refer to these *pro formas* as "the yellow sheets," since they are cyclostyled on yellow paper for easy identification.

It is a rule that blank "yellow sheets" are *always* taken on visits of inspection, and that they are filed as written (not typed out) so that a holograph entry can be produced in the event of dispute.

On distant jobs, there is always a danger that the contractor will fail to give timely notice of certain operations at which the architect ought to be present. The liability for failure to inspect at such times is potentially heavy enough to make it worth while to supply the contractor with a set of stamped addressed postcards carrying such messages as "Sandwich floor d.p.c. to be laid on ..../...../.. Please attend." The postcards are punched for hooking on to the "reminder board" already mentioned, as a double check on the appointments book. This procedure eliminates the more dangerous lapses in supervision.

It should be added that a contractor too lazy or disorganized to post a stamped card is unlikely to be employed again. Perhaps we ought also to point out, for the benefit of the unconverted, that a stamp is appreciably cheaper than a trunk call.

(*b*) Amendments may become necessary even on the best-regulated jobs, and the recording of these is greatly assisted by having the drawings, specification and blank "yellow sheets" all together on the job in a kind of book, as already noted. Alterations of dimension or construction are noted on the drawings for subsequent transfer to the originals. Amendments

* Important in view of the decision in a recent law case, when it was held that clause 1 (*b*) of the RIBA Scale (absolving the architect from constant supervision) is no defence against a negligence claim arising out of failure to inspect at a critical stage of the work.

technical section

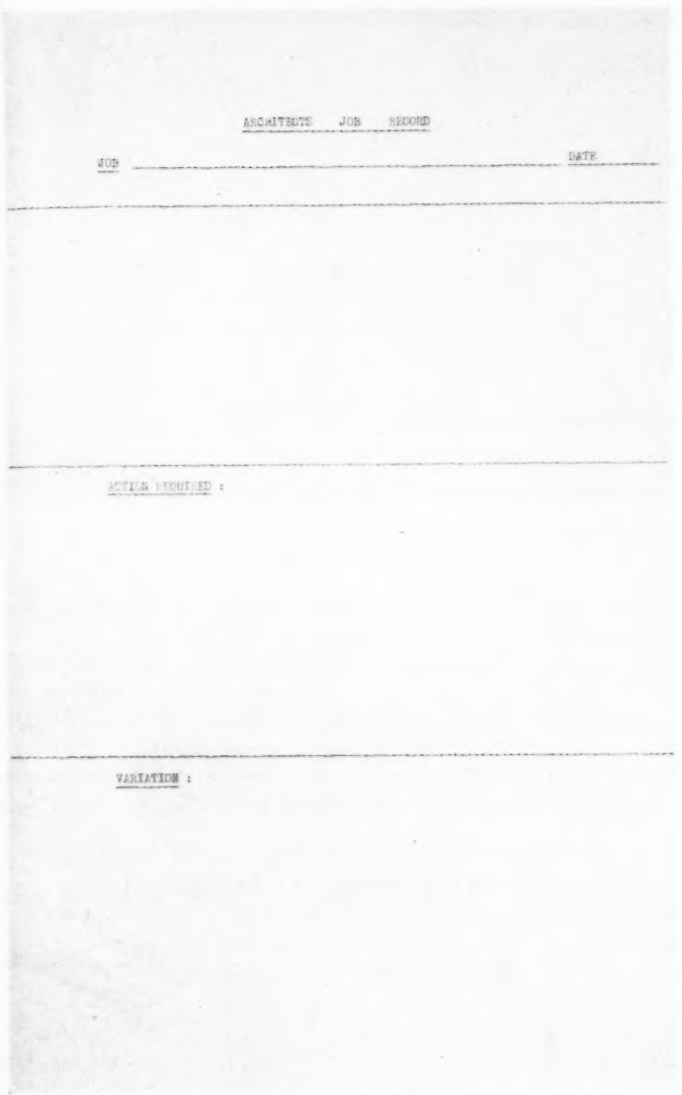


Fig. 3 Architect's job record form ("Yellow sheet").

of materials are noted on the specification, so that on completion it gives a true record for cost-comparison purposes. Reference to the BQ's at this stage is then normally necessary only for purposes of comparing prices when spot decisions on variations are inescapable: this saves a good deal of time.

Any procedure for issuing variation orders should take into account the fact that such an order is really a highly important piece of *correspondence,* being essential evidence in cases of dispute. Chiefly for that reason, we have rejected the method of writing orders in a carbon-interleaved book on the site: a variation order is not just a memorandum-flimsy, and its wording may need deliberate care.

Instead, we provide space at the foot of the "yellow sheet," for drafting variation orders on the site. On return to the office, the draft order is vetted by the partner in charge before turning over the sheet to a typist for filing. When she gets it, she types the wording of the order into a *pro forma* letter, a copy of which is filed separately.

In this way we have, within one set of covers, not only the full information handed down from the pre-contract stage, but also a simple method of recording site-decisions and amendments, and of issuing variation orders.

(*c*) Programming (or, more accurately, time scheduling) of main contracts is already a well-documented subject, and the technique of programming our Scottish separate-trades contracts is rather a specialized study. We shall therefore confine ourselves here to some observations on the extent of the architect's control over several factors which upset programmes.

He must first of all avoid upsetting the applecart himself by unnecessary amendments: this is a well-worn truism which we are repeating simply to emphasize the value of the studied routine of briefing and preplanning already described.

Secondly, he must keep himself informed of the deadlines for delivery of any detail drawings which have been unavoidably held-over until this stage.

Thirdly, he must keep himself informed of the delivery periods of nominated suppliers and sub-contractors, and should check that the main contractor places these orders in time. The contractor is only too liable to lay the blame for delays upon the architect's nominees, and he may be justified if they have been chosen without proper regard to availability, or with too trusting a belief in their initial promises.

Therefore, in our view, a time-schedule which does not incorporate datelines for (*a*) delivery of drawings, either from architect or specialist, and (*b*) ordering of nominated materials or services, is, at the best, only half-effective. There is probably a good case for supplying the contractor with *pro formas* on which he must report:

1. That he has confirmed the supplier's delivery date.
2. That he has placed the order.

The danger of over-running cost targets is always present where unknown factors are present, as, for instance, on many alteration jobs. It is complicated in our practice by the necessity of checking the cost-to-date of each trade to obtain a check on the cost-to-date of the job as a whole. We are therefore changing over from the old-fashioned "contract book" to a record system which we have devised in collaboration with Shannon Systems, and which gives at a glance the *running* totals for each trade and for the job as a whole (Fig. 4).

The *card* provides, on one side, an index to the various contract amounts, with an elemental breakdown of the total price. The reverse gives our own office costs and compares them with fees: marginal panels provide for signalling the fees position at the various stages of the work, by means of coloured tags —green for "ought to be rendered," black for "rendered-awaiting payments," red for "rendered and paid."

The *overlay* provides the means of recording running totals at the date of issue of each certificate. The amount entered is *not* the amount of the certificate

technical section

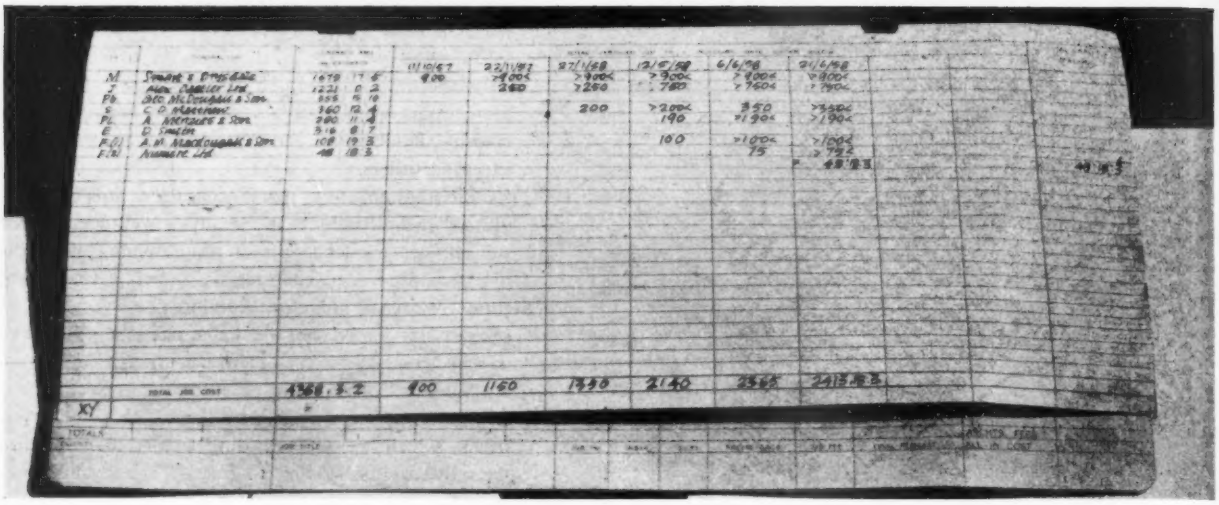


Fig. 4. Shannon record card with overlay showing running totals for each trade.

(which can easily be checked elsewhere) but the "total certified to date." The whole total is added-up each time a certificate is issued for any of the trades: for any trade which does not receive a certificate on that date, the previous total is carried forward—in brackets, to avoid confusion.

To check the amount of any individual certificate, it is necessary to refer to the counterfoil in the certificate book. In practice we find that it is much more commonly necessary to check the cost-to-date, so we have accepted the lesser inconvenience.

The same visible record system also provides running information on our own office costs for each job, signals the stages at which our fees fall due, and gives an abstract and analysis of total costs at completion.

POST-CONTRACT STAGE—DECISION

The essential difference between drawing-board decisions and site-decisions is the element of time: in the latter case the time allowed for the decision may be measurable in minutes. The architect's leadership will be judged by his ability to meet this situation effectively. Failure in this respect undermines his authority and always has a destructive effect on morale, which is soon reflected in the progress of the work. For this reason, we have laid stress on the importance of making all possible decisions at the pre-contract stage.

For those which *must* be taken during construction—*e.g.*, condemnation of bad work, or amendments due to site conditions—the "yellow sheet" is invaluable. Decisions made on the spot are recorded in the top section, and decisions or action which must be taken on return to the office are noted under "Action Required" in the middle section.

Back in the office, this "action" must be taken right away; if any part of it has to be postponed, it is transferred *before the end of the day* to a punched card and hung on the reminder-board so that the "yellow sheet" can be filed. This routine keeps the urgent decisions constantly under the eye, and ensures that they are not shelved or overlooked.

The ability to make site-decisions swiftly, correctly and painlessly is partly a matter of temperament and will be considered further in the section on "People." For people not temperamentally endowed with this gift, the most that can be done is to systematize the process by means of such simple "drills" as we have described.

POST-CONTRACT STAGE—COMMUNICATIONS

This normally consists of:

(*a*) Any delayed or revised drawings.
(*b*) Word-of-mouth instructions.
(*c*) Correspondence.
(*d*) Routine issue of certificates.
(*e*) Variation orders.

(*a*) needs no comment here, apart from noting the value of the "job-book" of drawings for conveying amendments from the site to the office. (*b*), (*c*), and (*d*) likewise should require no amplification. (*e*) has already been dealt with above.

The shortness of this section is in itself a result of the closely-integrated nature of the system we have been describing, the aim of which is to leave nothing for the architect to do in the post-contract stage except to see that the work is properly done at the contract price within the time available. This ideal is not always attainable, but it is by no means as impossible as is sometimes supposed.

From this study of the architect's operations before and after the letting of the contract, it will be apparent that the systematization of a practice involves fresh thinking about the architect's functions, since they are interdependent and "streamlining" any one of them automatically means reviewing all the others.

This in turn may lead to re-examination of the rôles of the various people in the practice. We will deal with this in the next, final article.

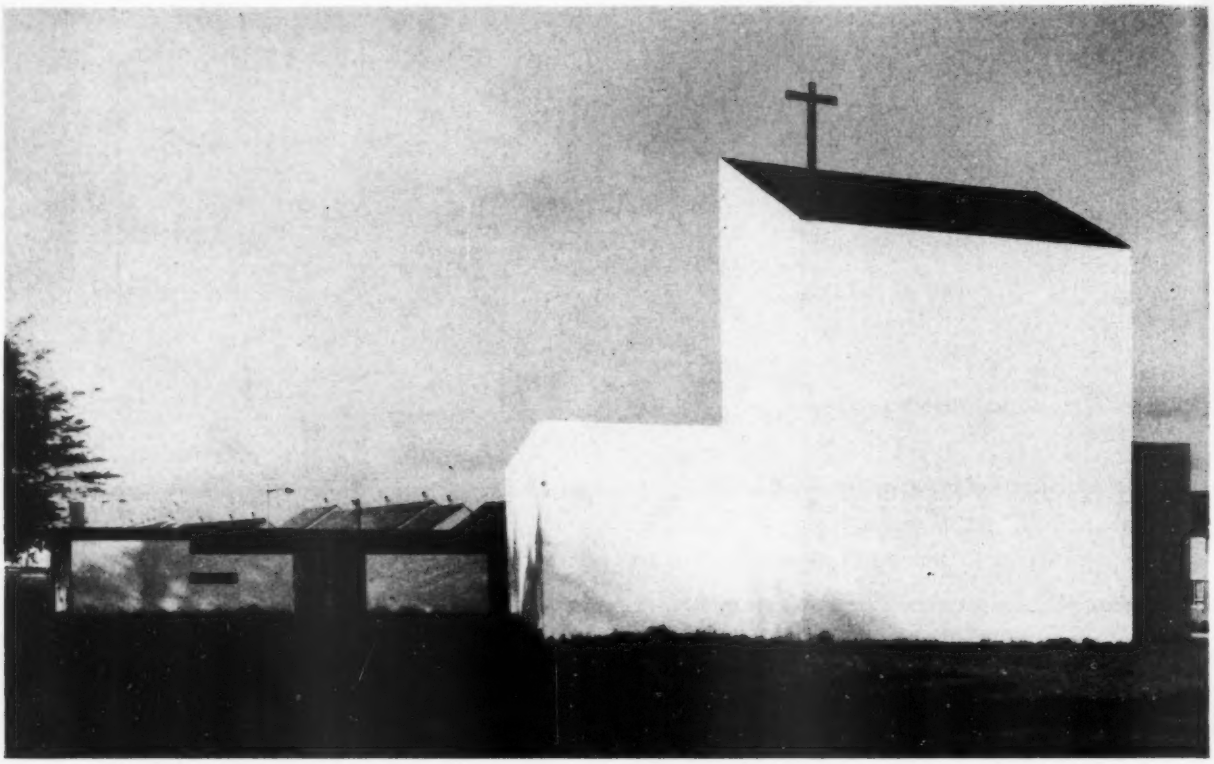
CHURCH and PRESBYTERY

ST. PAUL'S CHURCH and PRESBYTERY at GLENROTHES NEW TOWN, FIFE; designed by GILLESPIE, KIDD and COIA; assistant architects A. MACMILLAN, I. METZSTEIN and J. COWELL; quantity surveyors MACKINTOSH and ROBERTSON

This Roman Catholic church stands on a prominent site in the New Town, which is still at an early stage of construction. It is not only by far the best building yet to be seen in the New Town (the architectural standards of which are poor), but despite certain mannerisms is probably the most successful modern church to be built on this side of the English Channel. The church will be one of the subjects of a critical article to be published later in the JOURNAL.

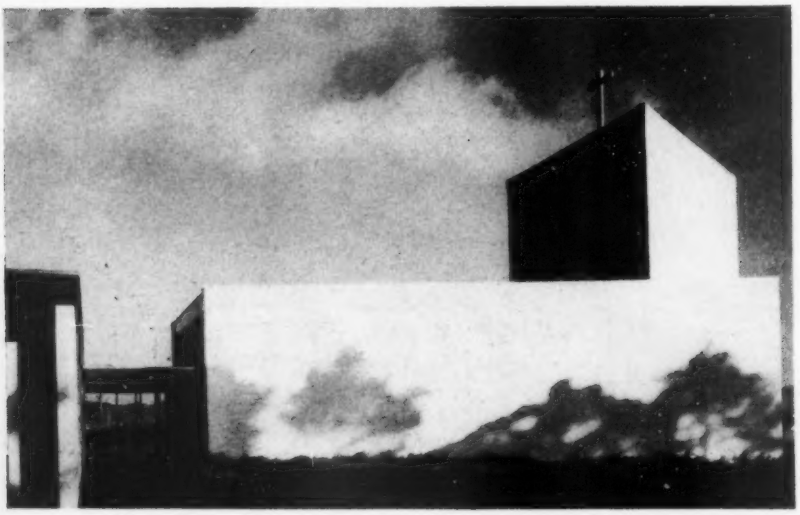
Viewpoint 1: the two buildings from the south-west.

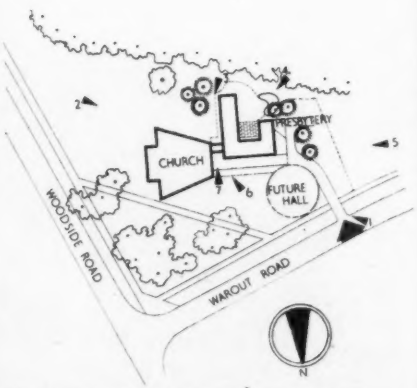
building illustrated



The church is trapezoidal in plan with a rectangular sanctuary built out at the wide end. These two main spaces are lit only from behind; the "nave" of the church from a completely glazed entrance wall and the sanctuary from a high concealed clerestory. Approaching the site along Woodside Road from the east, therefore, no windows are visible and the two forms appear clear-cut against the sky (viewpoint 2, above). The roof of the sanctuary is covered with Scottish slates, with the copper rainwater gutter let into it short of the eaves in order to avoid any overhang.

Viewpoint 3, below, shows the tall clerestory window of the sanctuary and the glazed porch connecting the church to the presbytery. The clerestory has laminated timber transomes, triangular in section to resist wind pressure, with random-spaced mullions spanning between them. It will be the subject of a Working Detail in a later issue of the JOURNAL.



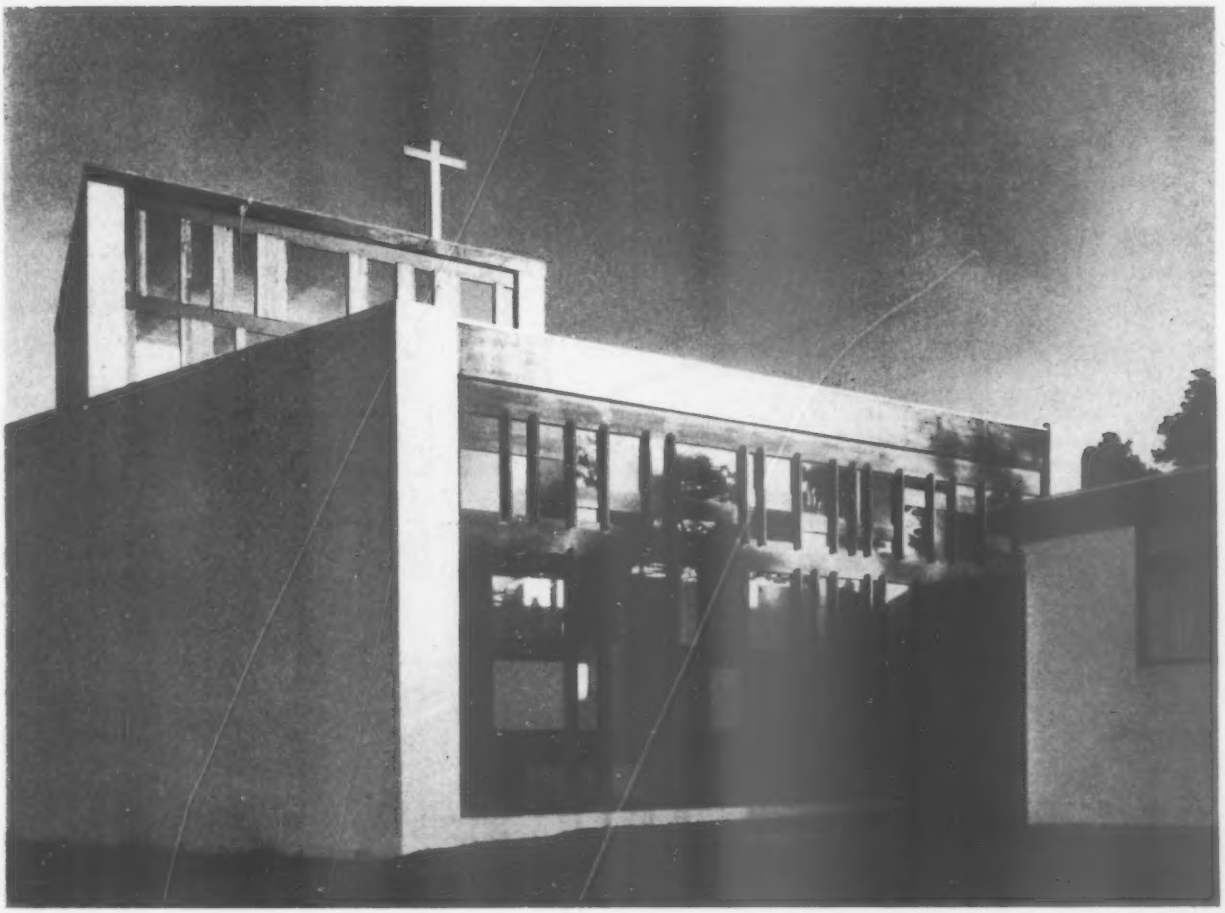


Site plan showing photographic viewpoints

The presbytery, seen top left from the south-west (viewpoint 4), displays fashionable mannerisms to a greater extent than the church, where for example, "randomizing" has been confined to the sub-division of the two large glazed areas. On the presbytery, however, different window shapes, sizes and positions abound. The three windows in the long wall light the corridor of the priest's wing; the room at the end of this wing is his sitting room. Its south wall consists of a free-standing "brick sculpture" containing a fireplace, bookshelves, etc., surrounded by glazing.

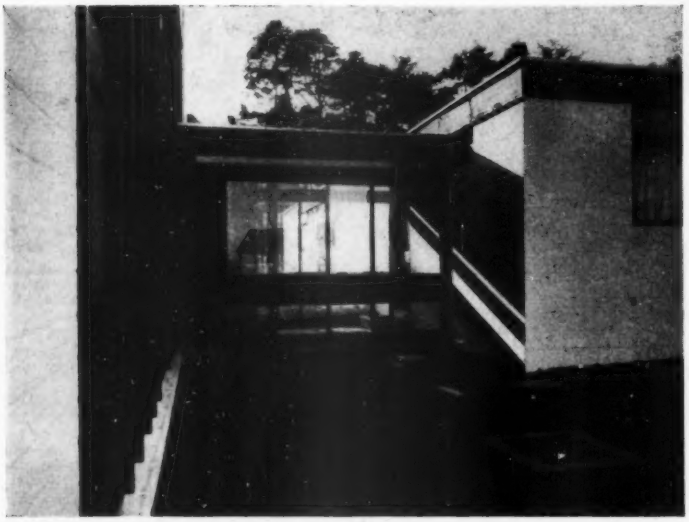
Centre left (viewpoint 5), the building group from the west. The future hall, circular on plan, will stand in the curve of the approach road on the left of the photograph.

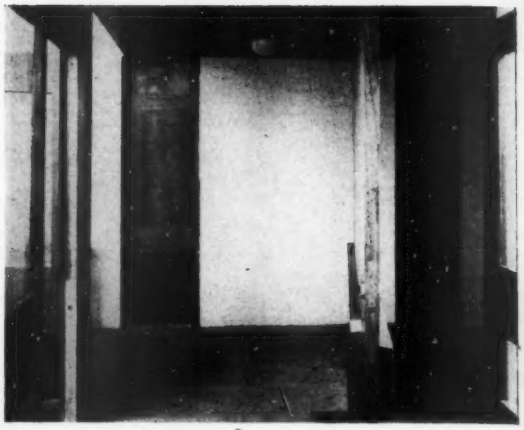
Viewpoint 6, below, shows the glazed west wall of the church; the random subdivisions are filled with painted glass. All timber exposed externally is treated with a dark stain and varnished. The north wall, on the left of the photograph, shows signs of peeling paint. This is, however, the only place where this has happened; the more exposed faces to the north-east are in good condition and it may be that this one wall was painted before it had dried out sufficiently. The painting specification is: one coat sealer, one white undercoat, one coat semi-gloss oil paint.



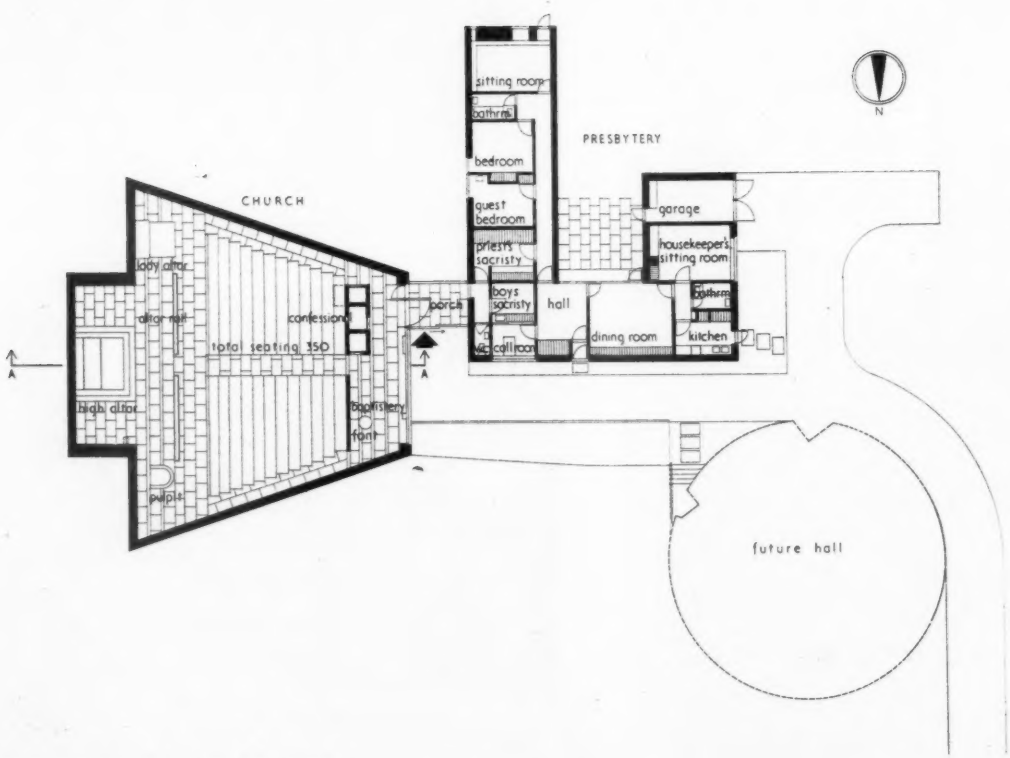
building illustrated

Entry to the church is through the glazed timber porch (viewpoint 7, below) which has a sliding door occupying half its north side.

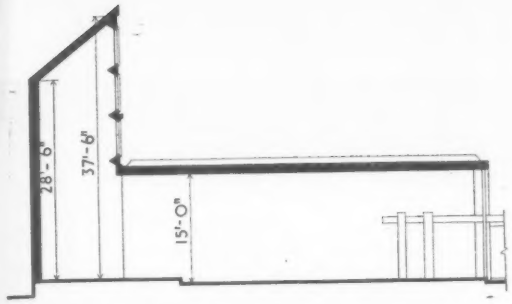




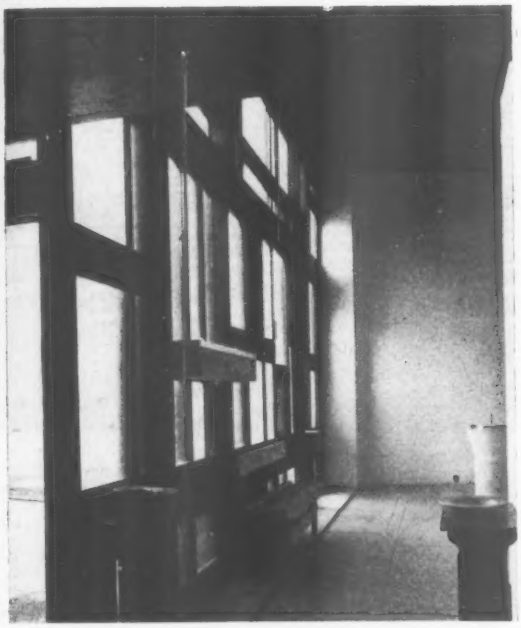
The porch is separated from the church by a pivoted door across its entire width, seen open, above, of solid Douglas fir boards. This door, although very heavy, runs smoothly on a floor spring and is arranged to remain open at 90 deg. The boarded ceiling of the porch is continued into the church, forming a bridge to the brick confessional (the priest's door of which is visible in the centre of the photograph).



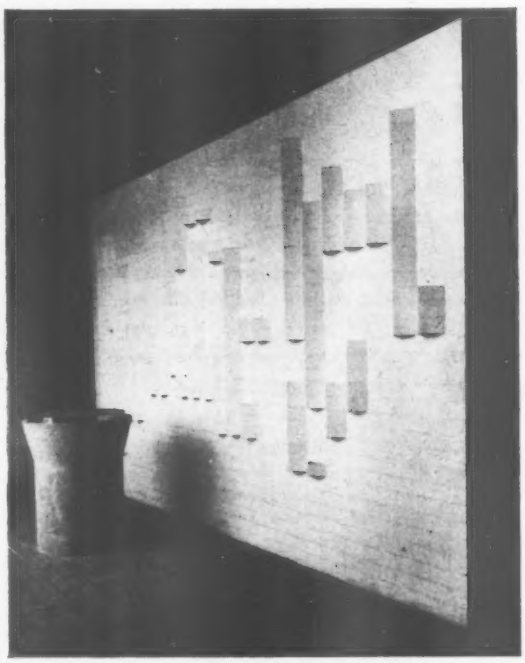
Ground floor plan [Scale: $\frac{1}{32}$" = 1' 0"]



Section A-A [Scale: $\frac{1}{32}$" = 1' 0"]



Turning left from the porch, one passes into the baptistery, above, at the west end of the church and screened from the remainder of the space by a 9-in. brick wall with a random pattern of diagonally-placed bricks, below, against which the font is set.



analysis

CLIENT'S REQUIREMENTS

A church to seat 350 people, with high altar, side altar, baptistery and confessionals, and a presbytery for a priest and his household, including two sacristies, and a call room. A hall is to be built later.

PLANNING AIMS

The site provided by the Development Corporation, close to the town centre, is roughly triangular, bounded on two sides by roads and backed by a fine belt of mature trees. The buildings are placed on the higher part of the site and are visible from a considerable distance all round the town. They were designed to embody the relatively modest accommodation in such a way as to establish and maintain their identity although surrounded by new town housing, the character sought being that of a parish church rather than a miniature cathedral.

The presbytery has been kept low and subordinated to the church, which is dominated by a large slated tower over the sanctuary. This tower not only serves as a landmark but internally floods the high altar with light from a concealed source above, thereby heightening the ceremony of the Mass. A feature of the exterior is the absence of windows in the traditional sense; instead the main entrance wall and the face of the tower take the form of glazed screens, the degree of interest and modelling being related to their position. Attention is thereby concentrated on the liturgical elements of the building, the high altar, the font and the confessionals. The simple character of the exterior is maintained inside, where the white painted walls form a background for the movement and colour of the ceremony and set off the warm tones of the timber ceiling and seats. Natural Blaxter stone has been used for the liturgical elements, *i.e.*, altars, pulpit, font, sanctuary lamp and holy water stoup; both for its symbolic associations and to help establish the desired simple parochial character. The floor is of concrete paving slabs.

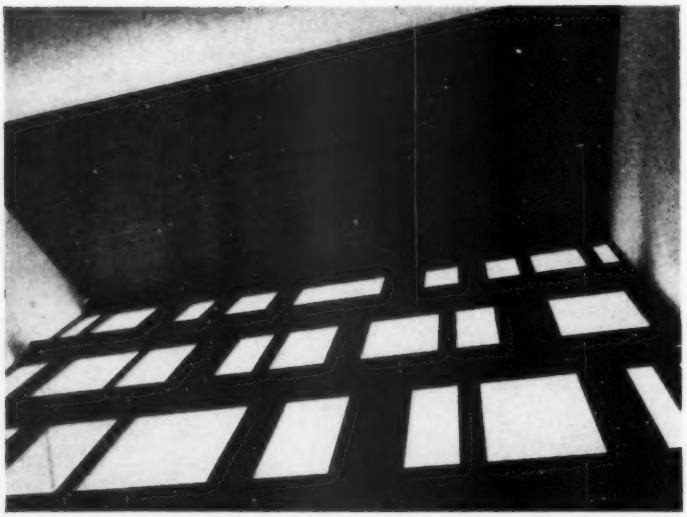
The presbytery is a single-storey U-shaped building with a flat roof, presenting to the public plain facades with relatively few and small openings set in plain brick walls providing the necessary privacy and visually directing attention to the front screen and church entrance. The future hall is to be circular on plan.

SUMMARY

Ground floor area: (church) 3,050 sq. ft.; (presbytery) 1,650 sq. ft.
Total floor area: (church) 3,050 sq. ft.; (presbytery) 1,650 sq. ft.
Type of contract: Scottish National Building Code, separate trades, fixed price materials, variable wages.
Tender date: January 4, 1957.
Work began: May 1, 1957.
Work finished: June 28, 1958.
Final cost of foundations, superstructure and finishings (including all furniture): (church) £12,408; (presbytery) £7,512.
Final cost of external works: (church) £1,705; (presbytery) £788.
Total: (church) £14,113; (presbytery) £8,300.

building illustrated

The main church interior, above, appears shorter than it is in reality on account of the perspective foreshortening of the splayed side walls. This device brings the sanctuary apparently closer to the congregation. The blank east walls on either side of the sanctuary are used as backgrounds to the pulpit (right of photograph) and side altar (off picture to the right). The altars, font, pulpit and other important items are of Blaxter stone. The altar crucifix, extended to support symbols of the Passion and additional figures, was designed and made by Benno Schotz. Candlesticks and furniture were designed by the architects. The altar stands clear of the east wall.



Centre left, looking back from the sanctuary towards the two brick screens; the confessional to the left (which is box-like) and the baptistery wall to the right (a slab). The porch roof, reduced to half its width, protrudes as a cantilever beyond the confessional for no apparent reason. The ceiling is of Douglas fir boarding with random holes through which the church is lit after dark. The pews are also of Douglas fir and will be the subject of a Working Detail in a later issue of the JOURNAL.

Left, a view (not normally seen by anyone) of the interior face of the sanctuary clerestory window. The sanctuary is artificially lit by concealed fluorescent tubes on the fascia at the bottom of the clerestory window.

analysis

cost per sq. ft.	*Church* s	d	*Presbytery* s	d
Preliminaries and insurances	8	0	11	6
Contingencies: nil (not allowed for in Scottish contracts).				
Work below ground floor level	9	7¾	7	7
Normal concrete strip foundations.				
STRUCTURAL ELEMENTS				
External walls	13	4	6	10
1-ft. 9½-in. cavity wall for church; 11-in. cavity for presbytery, both using grey facing brick, painted, outside and inside.				
Ratio: solid wall / floor area = church 1·6 / 1; presbytery 0·87 / 1				
Windows	3	7¼	3	0¼
Church: laminated transome beams with irregular centred mullions in Douglas fir.				
Ratio: windows / floor area = 0·29 / 1				
Presbytery: timber framed with standard section metal opening lights.				
Ratio: windows / floor area = 0·30 / 1				
External doors		7¾		7½
Church: solid Douglas fir boarded pivoted door and glazed timber sliding door.				
Ratio: doors / floor area = 0·02 / 1				
Presbytery: glazed timber.				
Ratio: doors / floor area = 0·06 / 1				
Roof construction	12	10½	9	9¼
Church: two main castellated steel beams with patent plywood decking. Tower: 7-in. × 2-in. joists and sarking. Presbytery: plywood decking with 2-in. woodwool slabs.				
Glazing		8¾	1	10
Church: polished plate and painted glass. Presbytery: 24-oz. sheet glass and ¼-in. polished plate.				
Total of structural elements	31	2¼	22	1
PARTITIONING AND FITTINGS				
Internal partitions		11¾	1	10
Church: brick partitions; area, 468 sq. ft. Presbytery: 1,467 sq. ft. of brick partitions, 62 sq. ft. of timber.				
Screens				5¾
None in church. Glazed timber in presbytery.				
Internal doors		2¼	2	5
Church: 3 single doors of flush plywood. Presbytery: 15 single doors of glazed timber.				
Ironmongery		1	3	3¾
All Swedish, nickel silver.				
Fittings	16	5¾	12	9
Church: altars, font, pulpit, stoup, altar rail, sedilia, credence table, seating for 350 people. Presbytery: built-in wardrobe in Douglas fir, drawer cupboard and shelving, bookcases, cupboards.				
Total of partitions and fittings	17	8¾	20	9½
FINISHES				
Floor finishes	1	9½	6	2½
Church: concrete slabs with polished concrete slabs in sanctuary. Area, 3,050 sq. ft. Price per sq. yd., 13s 6d. Presbytery: hardwood strip (1,386 sq. ft. at 38s 6d per sq. yd); ribbed tiles (198 sq. ft. at 81s 9d per sq. yd.).				
Wall finishes		6	3	3½
Church: brickwork, flush pointed and painted. Presbytery: ¾-in. cement plaster or facing brick.				
Ceiling finishes		10¾	1	4½
Church: 6-in. tongued and grooved Douglas fir boarding. Presbytery: 4-in. tongued and grooved Douglas fir boarding, ⅜-in. plasterboard and ⅜-in. plaster.				
Roof finishes	3	8½	3	3¼
Church: 3-layer mineral surfaced felt on woodwool slabs. Area, 2,720 sq. ft. Tower: Scottish slates. Presbytery: 3-layer mineral surfaced felt. Area, 1,971 sq. ft.				
Decorations		8	2	2
Church: brick walls, white emulsion paint; ceiling, varnished; windows, stained and varnished. Presbytery: white emulsion paint on plaster walls; joinery varnished internally and stained and varnished externally.				
Total of finishes	7	6¾	16	3¾
SERVICES				
External plumbing	1	7¾	1	10
Church: 3-in. copper r.w.p.s in brick chases and copper gutter on tower roof. Presbytery: 3-in. copper r.w.p.s, placed within building.				

analysis

	Church s d	*Presbytery* s d
Hot and cold water installation Church: nil. Presbytery: two storage cylinders with immersion heaters.	—	1 1
Sanitary fittings Church: none. Presbytery: *Type of fitting* — *No. of each type* W.c.s 3 Lavatory basins 3 Baths 2 Sink (double bowl) 1	—	1 10¼
Heating and Ventilation Electric floor heating in both buildings. *Church* — *Presbytery* U of walls 0·27 — 0·3 U of roof 0·25 — 0·25	3 11¼	3 7½
Gas installation Mains supply to cooker point in kitchen of presbytery.	—	10¼
Electrical installation Church: tungsten, with concealed fluorescent lighting in sanctuary. Conduit generally with some patent copper-sheathed. A.C. power supply. Presbytery: mainly mild steel enamelled conduit and tungsten lighting.	1 8	3 6
Total of services	7 3	12 9
Drainage Rainwater to storm water sewer, soil and waste to street sewer.	2 2¾	2 1¾
Other external works		
Paving, grass, tree planting.	9 0	7 5

Shillings per sq. ft. of floor area:

Church: £12,408 (excluding external works) / 3,050 (measured inside external walls) = **81s 4½d**

Presbytery: £7,512 (excluding external works) / 1,650 (measured inside external walls) = **91s 0½d**

COST COMMENTS

Following closely on the two church analyses published on December 4, 1958, there is an interesting examination to be made here of the effect on cost of the difference in architectural approach. The following table gives a summary of costs of element groups:

	Glenrothes s d	*Crawley* s d	*Ipswich* s d
Preliminaries	8 0	6 7¾	1 7¾
Foundations	9 7¾	7 6¾	6 5½
Structure	31 2¾	25 3½	32 10
Partitions and fittings	17 8¾	5 5¼	3 5¼
Finishes	7 6¾	15 0½	13 11½
Services	7 3	10 6¾	8 5¾
Total	81 4¼	70 6½	66 9¾
Sq. ft.	3,050	3,100	4,590
Number of places	350	250	—

Points to note when comparing:

1. Furniture and fittings in the Glenrothes church amount to 16s 5¾d; these are not included in the other two analyses. Subtracting this, a figure of 1s 3d is obtained for *Partitions and fittings*, and 64s 10¼d for the total.
2. The services for Glenrothes are lower than the other two, although a certain allowance should be made for the lavatory accommodation included in the nearby presbytery.
3. The basic difference of structural shape, especially of roofs, appears to have no radical effect in total cost of the structural elements although the disposition of costs between the individual elements of this section varies considerably.
4. The simplicity of finishings has a very apparent effect on cost in the Glenrothes church. The ceiling cost is particularly low for the finish provided.

The presbytery at Glenrothes, analysed separately, shows perhaps a rather surprisingly high cost in comparison with the church, especially as a number of the main forms of construction are similar. It is rather difficult to see where the additional money has been spent, although there are two finishes which are expensive compared with the church:

(*a*) Plastering to only part of the wall surfaces accounts for 3s 3½d per sq. ft. of floor area. In the ceiling element, by deducting the cost of the Oregon pine, there results a high yardage cost for plasterboard and skim. Both these high costs for plastering might possibly be due to the form of contract, where each trade is let.

(*b*) Wood flooring at 38s 6d per sq. yd. compared with concrete slabs at 13s 6d per sq. yd. in the church.

CONTRACTORS

Builder: J. Ramsay Leslie. *Joinery:* J. Anderson & Sons. *Glazing:* J. Thow Ltd. *Plumbing:* Wm. Spittal & Son. *Bituminous felt roofing:* Ruberoid Co. Ltd. *Plastering:* Howie & Rougvie. *Tiling:* Galbraith & Winton Ltd. *Electrical work:* Ellis & McDougall Ltd. *Painting:* A. T Rolland Ltd. *Sanitary fittings:* Shanks. *Paints:* Sherwoods.

critical study

MINERS' SOCIAL CLUB AT NIVENSKNOWE, BILSTON, SCOTLAND

This building, designed by T. Bowhill, Gibson and Laing (associate architects) under the direction of D. D. Jack (chief welfare architect, National Coal Board, Scottish Division), is rather remarkable for several reasons:

(*a*) 30,000 sq. ft. of well-equipped building at a cost of a little over 67s. per sq. ft.

(*b*) The positive—and imaginative—contribution to miners' social welfare which it represents.

(*c*) The quantity and quality of decorative art, by designers in allied fields, which it accommodates.

(*d*) The comparatively rapid building time (one year) and apparently careful control of costs.

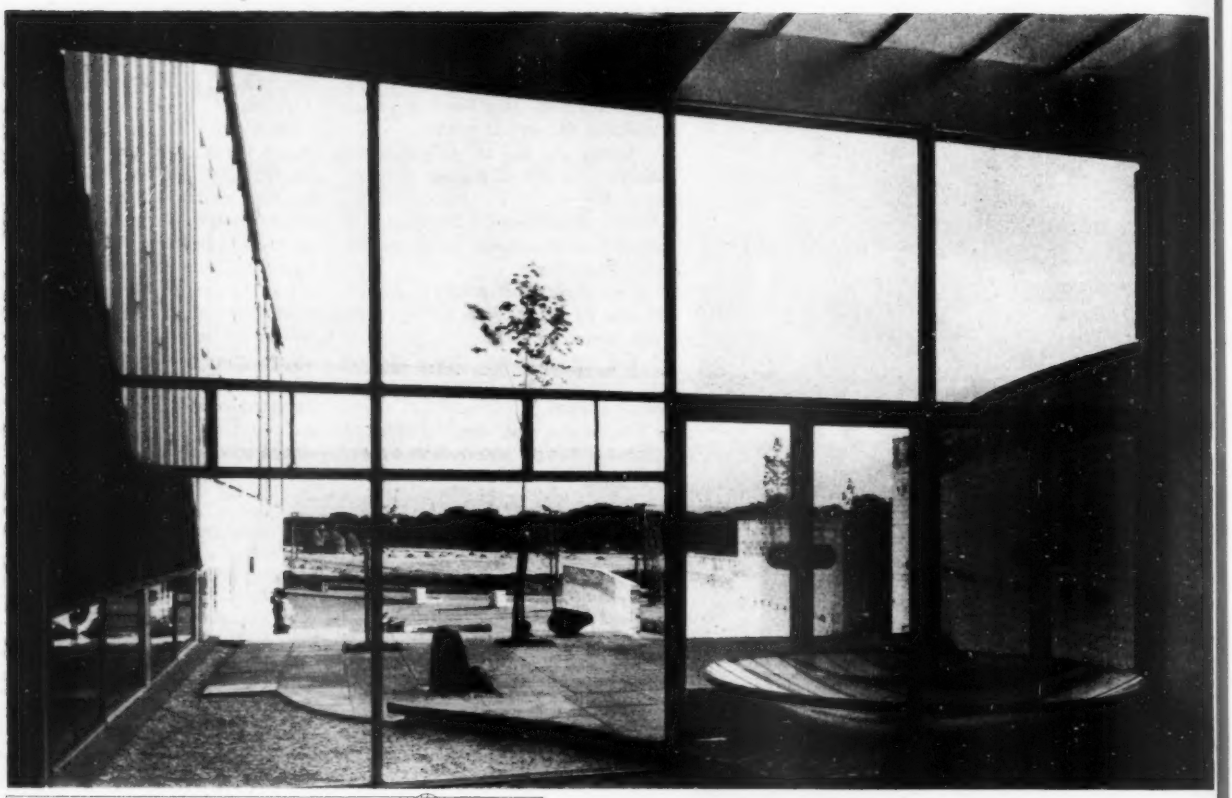
(*e*) The number and variety of facilities it includes, and the arrangement whereby they can almost all go on at the same time.

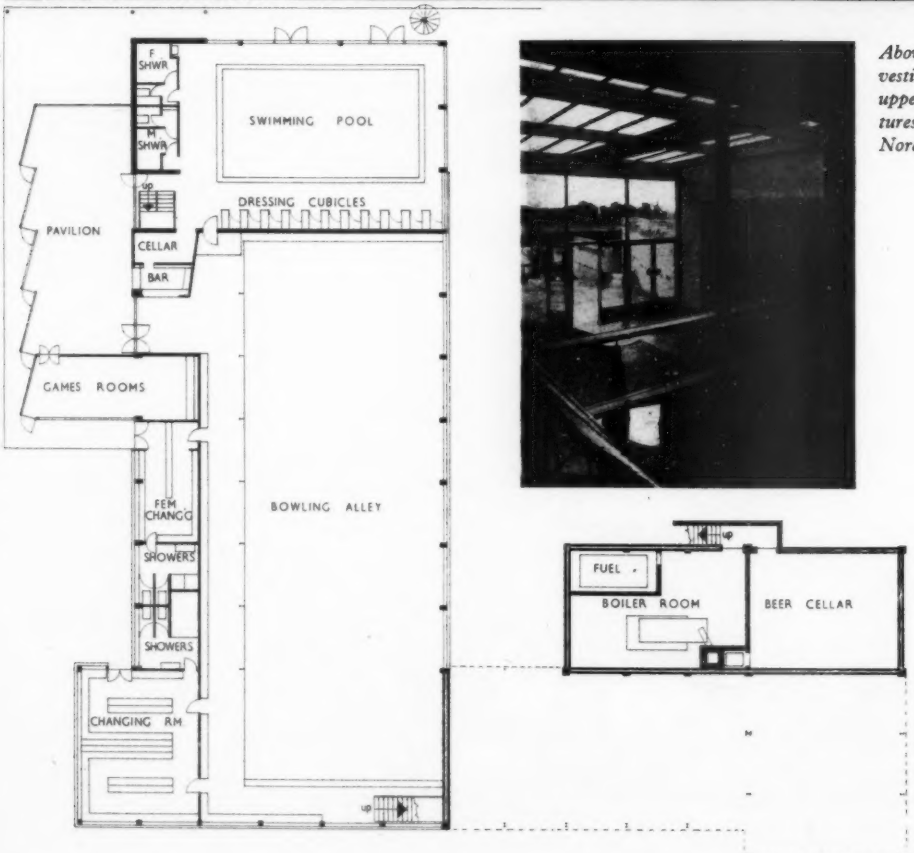
Apart from all this, it claims to be the first building of its kind in the country. The object of the scheme is to provide a social centre for the Lothians area—within a radius of about 25 miles. Here, the industrial and non-industrial staffs of the mining industry and their families, can meet and enjoy themselves in various pursuits. The imaginative faculties of the architects engaged is surely matched by the imagination and sheer drive of those whose idea it all was in the first place. Apart from an infinite number of cigarette burns over floors and counters plus a badly damaged fountain (now restored) at the main entrance, there were signs generally of only approval and respect some

Above left, the building from the north west. Left to right: changing rooms, main hall, lavatories and committee rooms, and lounges far right. The timber cladding to the main hall is red oxide dyed, and the vertical joints covered with red cedar beads. Centre left, general view from the south west. The spandrel panels to cafeteria and lounge windows are of coloured glass. The water tank on the roof is clad with Douglas fir, and the odd-looking projection beyond houses the stair to the projection room, which was a later addition to the specification. Below, view from the south east showing main entrance and car park. This photograph also shows the kitchen entrance which is unfortunately immediately alongside the main entrance, though the high screen wall successfully separates these two on the closer approach. The small windows in the gable end of the main hall light dressing rooms, etc. Here again, several changes were made and it was apparently difficult to avoid this.

critical study

MINERS' SOCIAL CLUB AT NIVENSKNOWE, BILSTON, SC





Lower ground floor plan
Scale: $\frac{1}{16}$" = 1' 0"

Above, view to the west from the entrance vestibule. Left, the vestibule from the upper foyer level. The three wood sculptures on the right-hand wall are by Norelle Keddie.

TON,

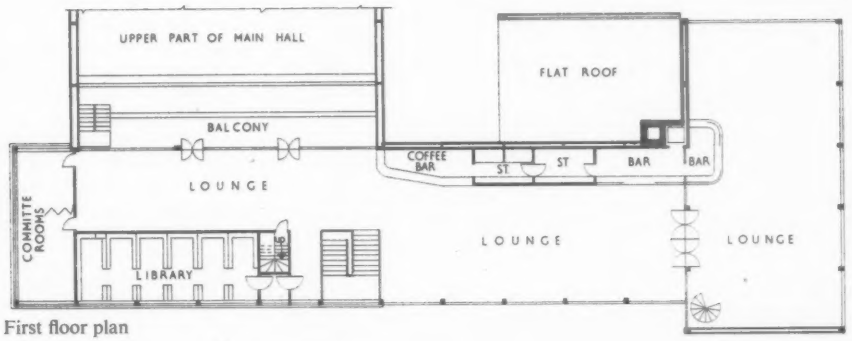
SCOTLAND: continued

two months after the opening. Now, six months later, there are changes in behaviour almost certainly due to the nature of the architecture which many of the more cynical club members, who were vociferously doubtful early on, now appreciate very much.

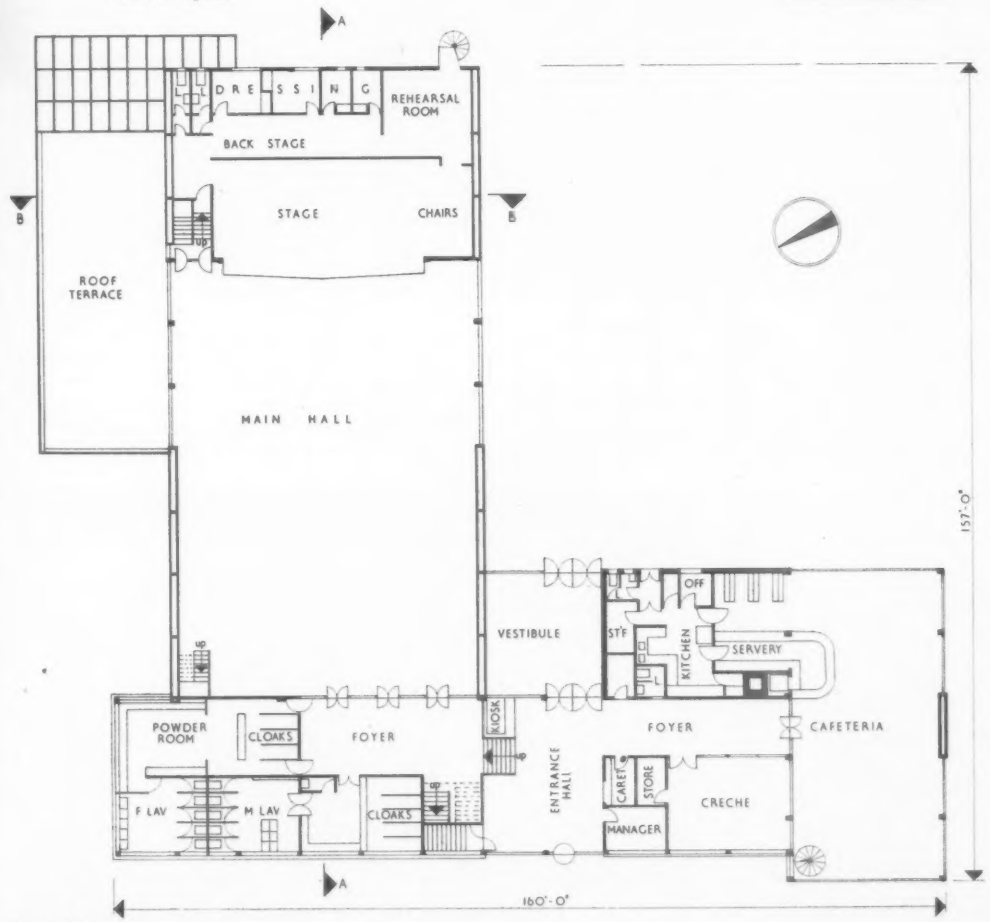
The building contains ample foyers, children's crèche, cloakrooms, cafeteria, kitchen, staff rooms, library, committee rooms, lounges, cocktail bar, coffee bar, indoor bowling alley, open-air balconies, games rooms, changing rooms, showers, swimming pool with gallery, and a pavilion (to be used in conjunction with the playing fields) with its own bar. That in itself would be fairly good going for £100,000 but when you add an assembly hall with seating for 1,200, a properly equipped stage, dressing and rehearsal rooms, then the whole thing is hard to believe. This enterprise is the result of the joint efforts of the miners themselves and the Coal Board, together with associate architects, working so well with each other that it seems each part of that team is agreeably surprised at the outcome. General impressions vary:

"... I thought—a helluva lookin' place, yon ... then when it was built a bit—fascinatin' ... y'know, Billy Butlin' come to Bilston, sort o'style. ..." (Coal Board Official).

"... terrific. There's nothing like it anywhere. All the miners' doing too. Our own idea you know. ..." (Miners' Union Official). The latter opinion was among those expressed by the Scottish Miners' President, who was also disappointed because the swimming pool was not suitable for children, nor the bowling alley (at present 2½ rinks) large enough for international competitions (3 rinks). Asked if they had directed



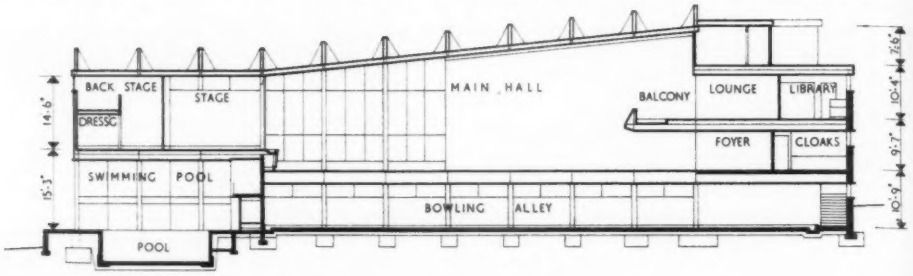
First floor plan



Ground floor plan

critical study

MINERS' SOCIAL CLUB AT NIVENSKNOWE, BILSTON,



Section A-A [Scale: $\frac{1}{32}$" = 1' 0"]

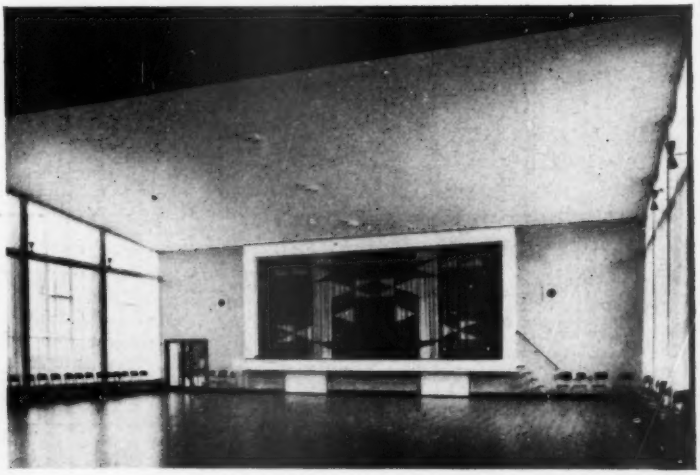
that this should be so, it soon became clear that no proper specification from the clients had been made in these respects. This situation, arising in what generally appears as close client-architect understanding, indicates yet again the urgent need for some kind of *pro forma* for all jobs with which many committees are concerned.

SITE: The building is some six miles south of Edinburgh and is set upon a knoll in flattish country commanding magnificent views to the Pentland Hills to the west and overlooking the mining areas to the east.

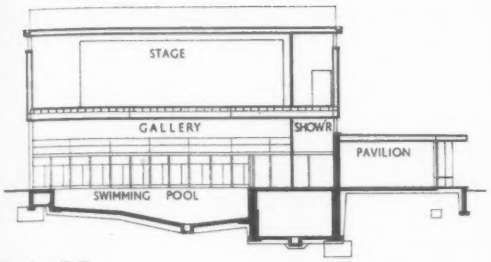
North-east of the building there will be a properly landscaped recreation ground and meanwhile landscaping is confined to the immediate environs. This aspect of the design was also handled by the associate architects and includes areas of turf, granite setts, concrete slabs, grass banking, and asphalt (over car-parking area), occasionally interrupted by brick walls (high) and stone walls (low). Transplanted trees include birch, chestnut, and plane.

CONSTRUCTION AND SERVICES: The building generally is of rigid steel frame construction, with lattice girder booms carrying the roof over the main hall.

Above, the main lounge on the first floor, looking towards the cocktail lounge from the top of the stairs. Below left, the cocktail lounge, looking towards Norman Forrest's wood carved feature panel on the end wall. An interesting aspect of this building is the visual emphasis given to each part of the interior by the grouping of the light fittings; in fact, the suspended lights over the window tables on the left were preferred by the architects to be at a lower level, but they were forced to raise the level due to fears of their being damaged —particularly in the bar. All furnishings except the tables and chairs at the window are Danish and this applies throughout the building. Below right, a view from inside the doors of the main hall.

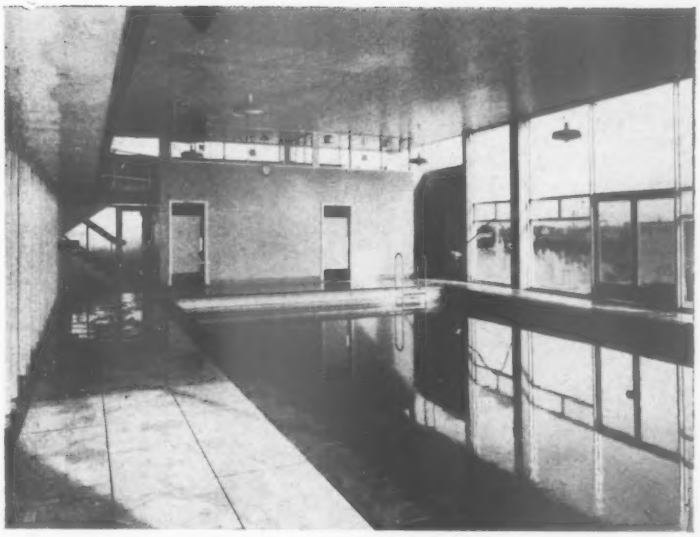


SCOTLAND: continued

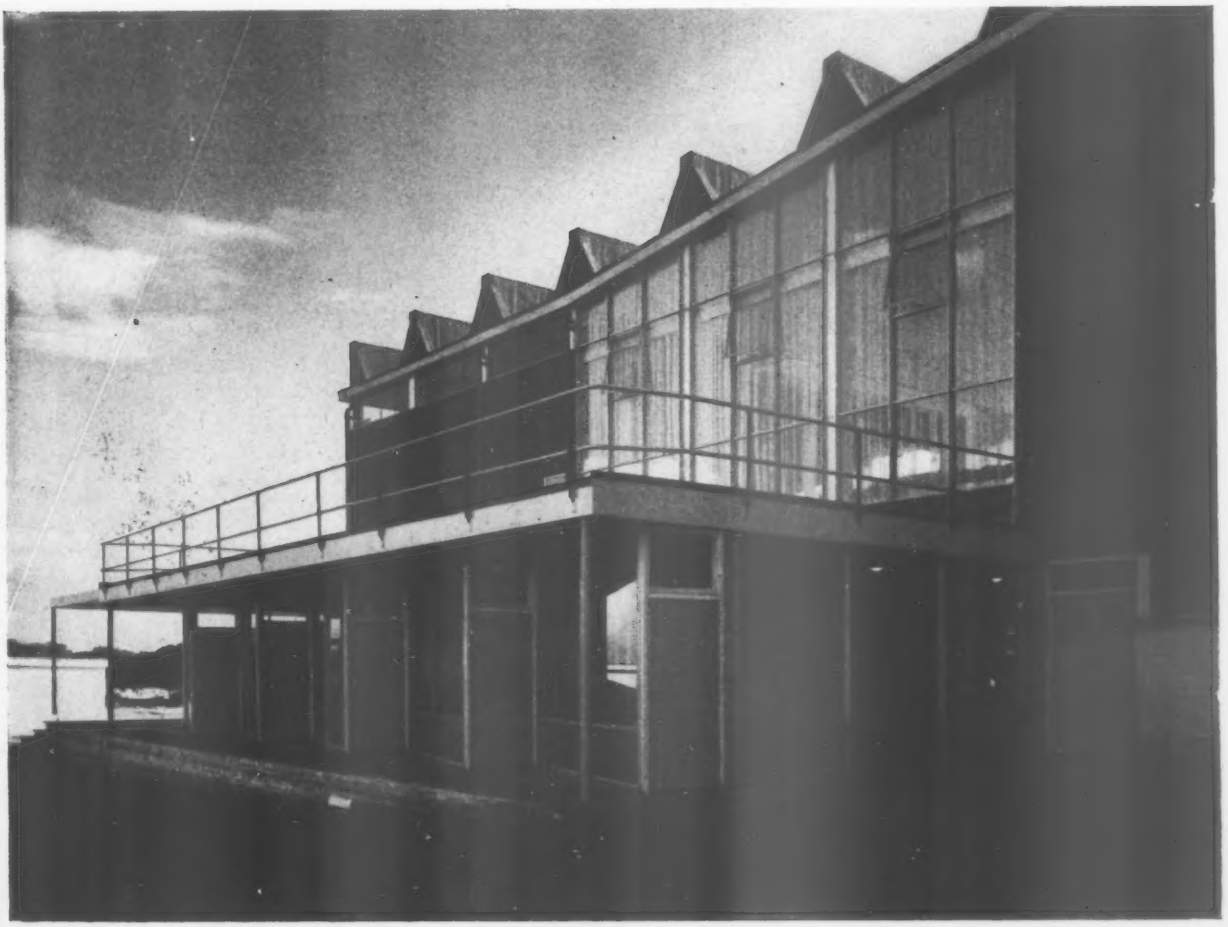


Section B-B
[Scale: $\frac{1}{16}$" = 1' 0"]

Normal pad foundations are used, together with strip where necessary under brick screen walls. External walls are either of facing brick (sand lime of Scots manufacture), aluminium curtain walling with 32-oz. or ¼-in. plate glass infill, or Canadian "ranch-wall" construction with external quality plywood sheet infill. Windows are generally of aluminium with purpose-made sashes. Staircases include two small spiral stairs in steel, one simple concrete stair with grano finish over treads, and three broad beam concrete stairs with teak treads. The beams spanning 60 ft. over the main hall area are set at about 12-ft. centres, and the r.s.j.'s over the lounge wing span 30 ft. and are set at about the same centres; in both cases

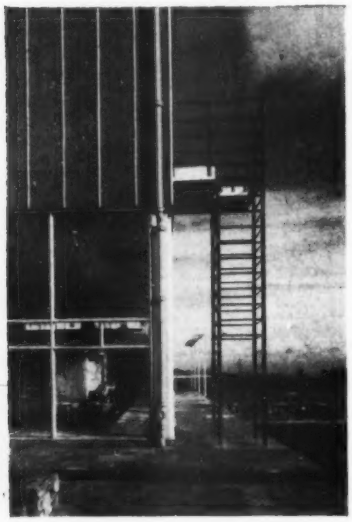


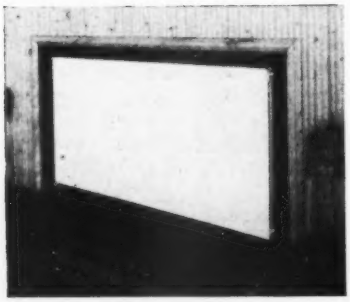
Below the stage of the main hall is the small swimming pool, above, with its own observation gallery. Below, the open air terrace over the pavilion on the north side. This terrace is directly accessible from the main hall area and can be used during intervals. The large lattice girder upstand beams over the main hall required some lateral restraint and this is effected by light rolled steel sections running diagonally between the lower flanges of these beams and stays from the upper flanges. These stays form rather a strong triangular pattern; crinkling of the bituminous felt which covers the beams is emphasised by the sun in this photograph.



critical study

MINERS' SOCIAL CLUB AT NIVENSKNOWE, SCOTLAND: continued





the roof deck is formed with timber joists spanning the intervening 12 ft. between these beams, and built-up bituminous roofing forms the finish. Where roof lights are necessary, plastic domes are used.

Internal partitions in brick are sometimes plastered, sometimes of facing brick with raked joists. Elsewhere screen partitions are 3 in. × 2 in. timber stud with veneered plywood panels of 5 in. × 2 in. mahogany frames with decorated glass infill.

Heating is by low pressure hot water from a calorifier (in conjunction with an oil-fired installation) and copper flow and returns are employed generally. The lighting is 95 per cent tungsten and 5 per cent fluorescent. All kitchen equipment is electric, and the only hoist in the building is an electric lift in the kitchen area to the lounges and bars above.

FITTINGS AND FINISHES: Floors are either of wood block (about 4,500 sq. ft.), thermoplastic tile (about 3,000 sq. ft.), or terrazzo in certain restricted areas. There is also more than a thousand square feet of linoleum, and more than 10,000 sq. ft. of hardwood strip in the main hall and lounges. Ceilings are of asbestos insulation board or V-jointed timber strip.

Almost all the furniture and most of the light fittings come from Denmark.

The several pieces of sculpture, ceramic panels, decorative glass, etc., were designed and executed by a group of artists who are all connected with Edinburgh: John Lawrie and Val Rossi (associated with the Juniper Workshop) (glass and ceramic work); Norman Forrest (sculptor); and Norelle Keddie (wood, metal and ceramics).

The tender date was in May, 1957, and work began in the August of the same year and was finished in August, 1958. The partner in charge at the office of the associate architects was W. Reid; the architect in charge I. Marshall, and the assistant architect I. H. Oliver. The quantity surveyors were Thomas and Adamson, in association with J. H. Schofield, quantity surveyor to the National Coal Board. For contractors, see page 246.

Outside the swimming pool on the south-east corner of the building is a fire escape, above left, from the stage area above. This is very simply designed, and painted black and white. Left, detail of a radiator (Danish type) in Baltic whitewood panelling. Finally, below, perhaps the finest room in the building. This is the bowling "green" with a floor of rubber-backed green bowling felt on building paper on grano finish, and an illuminated ceiling over. The steelwork is exposed and painted black and white, while the walls are of white-painted brick.

nued

more
strip
ilings
or V-

of the
.
ramic
were
up of
with
Rossi
shop)
orman
eddie

7, and
same
1958.
of the
d; the
, and
r. The
s and
J. H.
o the
actors,

owling
backed
per on
ceiling
d and
e walls

working detail

GLAZED WALL: HOUSE AT DUSSELDORF

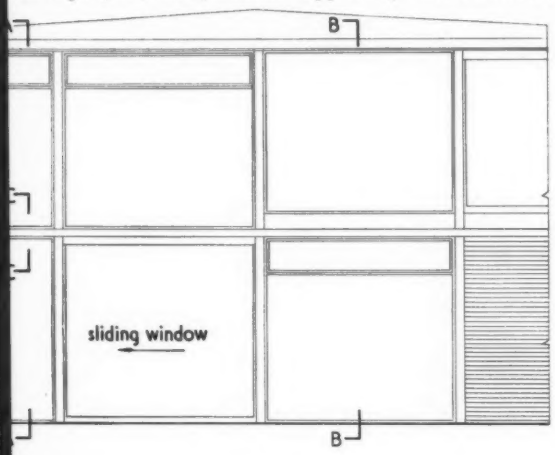
B. M. Pfau, architect (Material supplied by Barrie Sheldon)

This is an unusual example of the use of steel in domestic detailing to produce an effect of extreme lightness and simplicity. Though it is barely visible in the photograph, a glazed canopy extends outwards from the horizontal member at first floor height. Within a depth of about 8 inches are accommodated the gutter for this canopy, the overhead gear for the sliding doors and the furled venetian blinds.

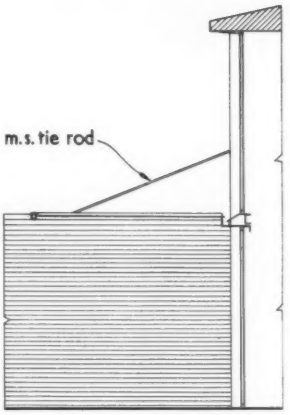
working detail

LAZED WALL: HOUSE AT DUSSELDORF

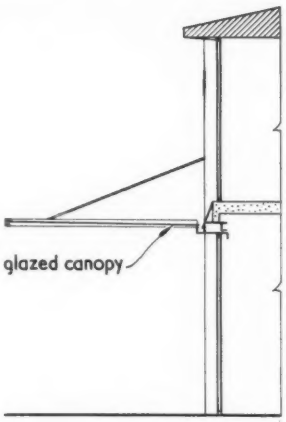
. M. Pfau, architect (Material supplied by Barrie Sheldon)



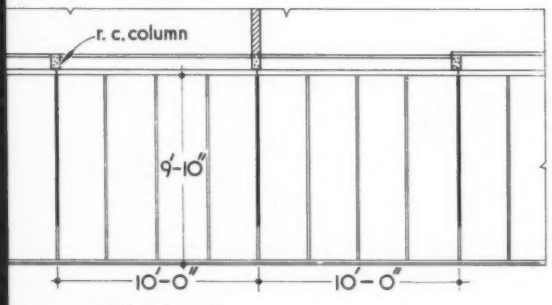
EVATION. scale 1/8" = 1'-0"



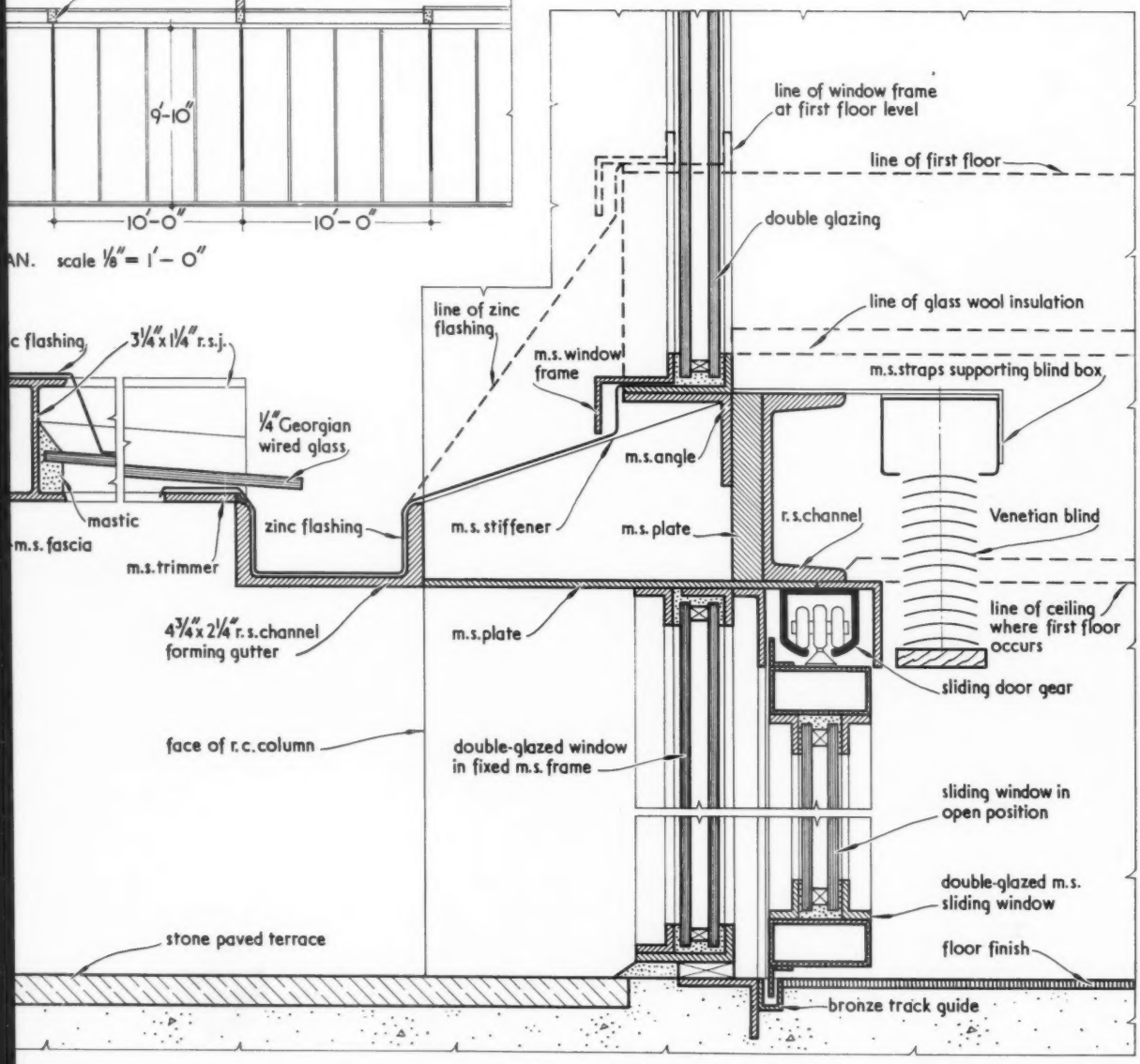
SECTION A-A.



SECTION B-B.



AN. scale 1/8" = 1'-0"



CTION C-C. scale ¼ full size

note: figured dimensions in feet and inches are approximate.

working detail

GLAZED WALL: TECHNICAL SCHOOL AT DELFT

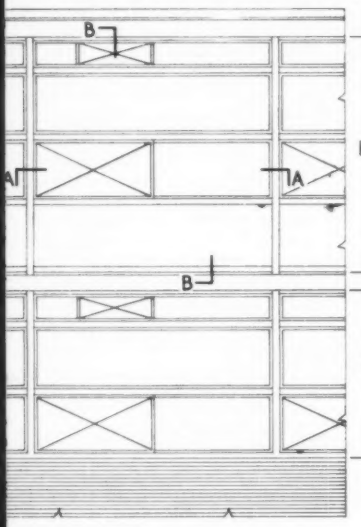
J. H. van den Broek and J. B. Bakema, architects. (Material supplied by Ranjit Sabikhi)

This detail shows once more the excellent use Dutch architects make of precast concrete. Notice the use of chases in the transom sections to minimise the effect of the metal frames and the detail of the horizontal sash which opens by sliding outside the fixed sash.

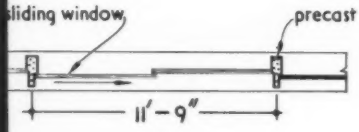
working detail

GLAZED WALL: TECHNICAL SCHOOL AT DELFT

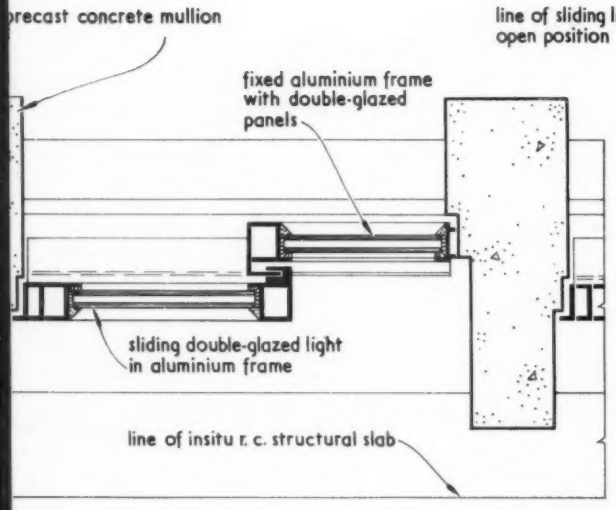
J. H. van den Broek and J. B. Bakema, architects. (*Material supplied by Ranjit Sabikhi*)



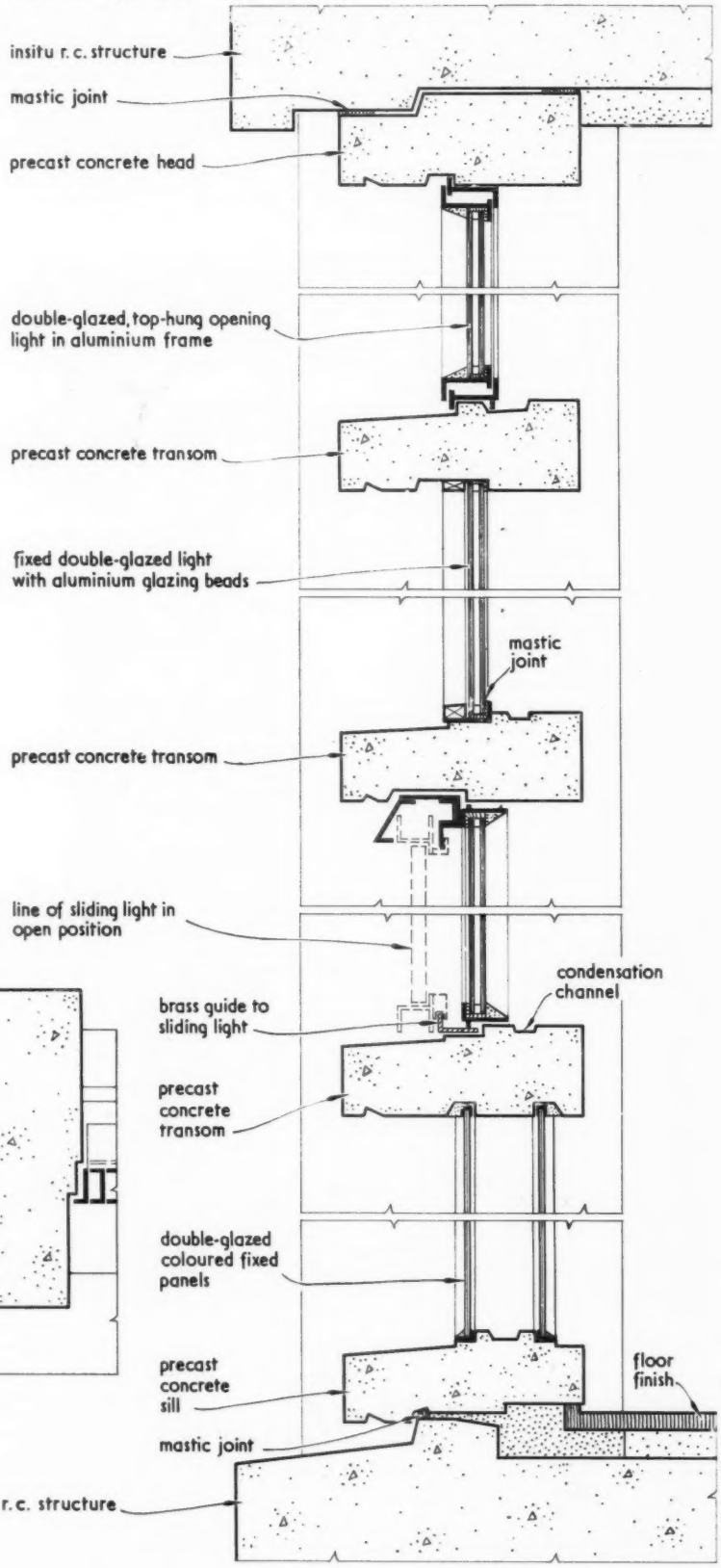
ELEVATION. scale 1/8" = 1'-0"



PLAN. scale 1/8" = 1'-0"

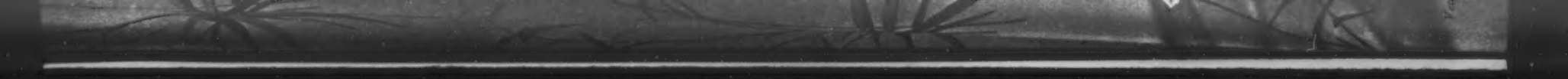


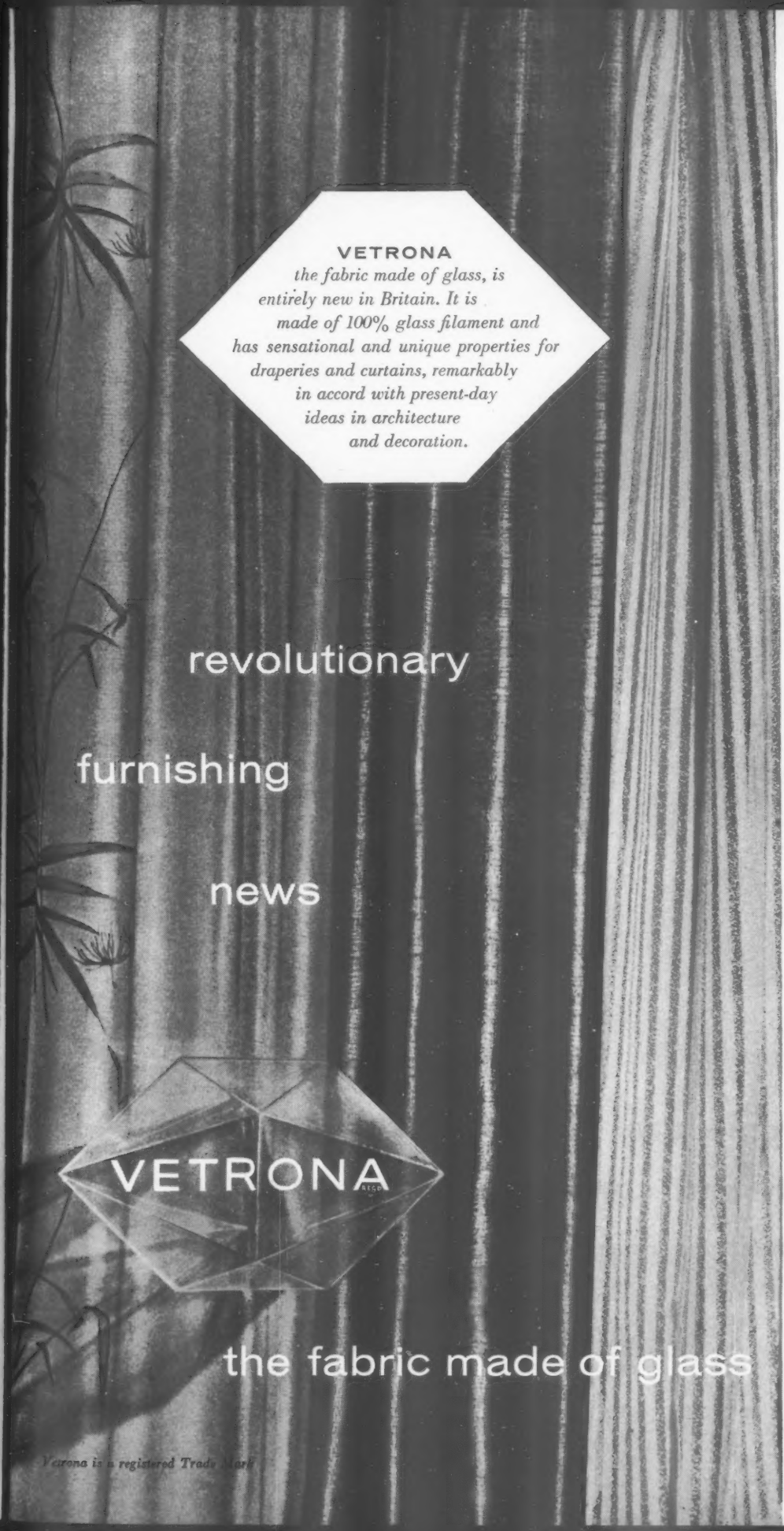
PLAN AT A – A. scale 1/8 full size



SECTION B – B. scale 1/8 full size

note: figured dimensions in feet and inches are approximate





VETRONA
has long life!

It won't rot, shrink, sag, stretch, fade, or run. Neither mould, moth, salt air, sun, bacteria, nor atmospheric degradation will harm it.

VETRONA
is easy to keep clean!

It can't absorb dirt any more than a crystal can, so needs little cleaning. Wash lightly in soap-suds or detergent, rinse, and hang up. It dries in minutes with no creases, is never ironed.

VETRONA is fireproof!

It is permanently non-combustible. There is no need for periodic flame-proofing.

VETRONA is translucent!

It filters and reflects light, giving unique translucency without loss of warmth or privacy, needs no lining.

VETRONA is varied!

It is made in marquisettes, textured satin-like plains in many colours, and brilliantly designed prints.

VETRONA
has great advantages!

For contract furnishings – schools, hotels, clubs, hospitals, theatres, ships, aeroplanes, exhibitions, Vetrona has unique new qualities. Specially created designs can also be made for a minimum length of 200 yards.

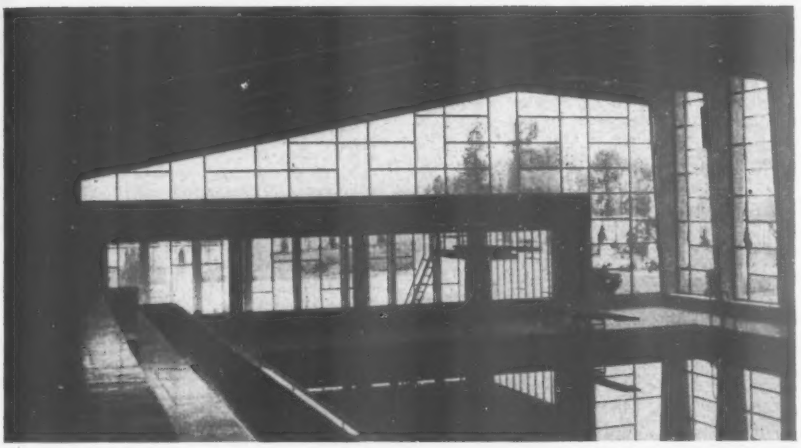
We invite inquiries :-
Vetrona Fabrics Limited
90, Great Bridgewater St.
Manchester 1

people are beginning to expect warmth and comfort – peace and quiet with

FIBREGLASS
TRADE MARK

FIBREGLASS LTD., ST. HELENS, LANCS · ST. HELENS 4224

SWIMMING BATHS AT BIELLA, ITALY



This new swimming baths in Biella, a textile town at the foot of the Italian Alps, designed by G. Ravezza, has greater sophistication and assurance than any swimming baths being built in this country, although a little mannered in some details. The scheme includes indoor and outdoor pools with separate changing facilities; two bars, and a well-equipped gymnasium. Above, left, the front of the building, showing the assymmetrical reinforced concrete portal frame spanning the indoor pool and gymnasium, and projecting, glass-fronted foyer and main entrance, with sunbathing "beach" in the foreground and terrace bar on the left. Below, left, the indoor pool, looking outward through the glazed walls to the sun-bathing beach and bar. The indoor pool and the gymnasium are linked by a central block of offices and changing rooms, with the basement housing the water purification plant.

Contractors

Miners Social Welfare Club, Nivensknowe, Bilston, Scotland (pages 239-244). *Architect:* D. D. Jack, F.R.I.B.A., Chief Welfare Architect, National Coal Board, Scottish Division. *Associate Architects:* T. Bowhill, Gibson & Laing. *Partner-in-charge:* W. Reid, A.R.I.A.S. *Architect-in-charge:* I. Marshall, A.R.I.B.A., *Assistant architect:* I. H. Oliver, A.R.I.B.A. *Quantity Surveyors:* Thomas and Adamson in association with J. H. Schofield, quantity surveyor to the National Coal Board. *General contractors:* Crudens Ltd. *Sub-contractors: Formica mural:* John Ford. *Bars and kitchen equipment:* Gaskell & Chambers Ltd. *Heating:* G. N. Haden & Sons. *Electricians:* James Scott & Co. Ltd. *Furnishings (general):* Scottish Co-operative Wholesale Society Ltd. *Curtain walling and windows:* Williams & Williams Ltd. *Glazier:* George Lindsay & Co. *External Canadian timber ranch walling and panelling:* Graham & Wylie Ltd. *Indoor bowling alley:* H. Nelmes & Co. *Decorating glass panels, fountains, stage curtain and ceramic panel:* Juniper Workshops. *Timber incised murals and carvings:* Regent Studios. *Hardwood floors:* A. M. MacDougall & Son. *Wrought iron work:* Waddell Bros. *Painters:* W. C. Simpson & Son. *Paint:* Goodlass Wall & Co. Ltd. *Ironmongery:* W. K. White Ltd. and Wm. McGeoch & Co. Ltd. *Hung ceilings:* The Scottish Speedwell Co. Ltd. *Steelwork:* Edwards Jamieson & Co. Ltd. *Danish furnishing, special fabrics, electric light fittings and radiators:* Scandinavian Furnishings Ltd. *Thermoplastic tile floors:* The Marley Tile Co. Ltd. *Wall tiles:* A. Campbell & Sons. *Terrazzo:* James & Son. *Landscaping:* Bannerman & Jackson. *Communication systems:* Communication Systems Ltd. *Decorative commemoration plaques (calligraphy):* Avril V. Gibb.

Announcements

PROFESSIONAL

David Mylne, A.R.I.B.A., A.R.I.A.S., has relinquished his post with the British Aluminium Co. Ltd., Edinburgh, and has taken over the practice known as Walter Duns, Langtongate, Duns, Berwickshire (telephone Duns 3189) and will continue the business under that style and at that address.

A. W. Haward, E.R.D., A.R.I.C.S., M.R.S.H., has now moved to 47B, London Road, Sevenoaks, Kent (telephone Sevenoaks 3350).

Manning and Clamp have moved their Grimsby office to 1, Old Market Place, Grimsby, Lincs (telephone Grimsby 57955), where they will be pleased to receive trade catalogues.

A. Stanley Barnes, DIP.ARCH., F.R.I.B.A., has taken into partnership John G. Dallow, A.R.I.B.A. The practice will continue at 7, Hamilton Square, Birkenhead, Cheshire, under the style of A. Stanley Barnes and Dallow, DIP.ARCH., F./A.R.I.B.A.

TRADE

Turiff Construction Corporation Ltd. has appointed T. W. Jameson to the Board of Directors in the capacity of Chief Executive, Building and Civil Engineering (Warwick).

Philips Electrical Limited have appointed A. M. Seggar as Lighting Engineer for the Bristol area.

The address of the AEI Lamp and Lighting Co,. Preston Area Office, is now Strand Road, Preston (telephone Preston 86701).

Scaffolding (Great Britain) Limited have completed the rebuilding and extension of their depot premises at Bournemouth. The address is Hawthorn Road, Winton, Bournemouth (telephone Winton 1231). They have also opened a new depot at Bradford—50, Edward Street, Bradford (telephone Bradford 26014).

A. Bell & Co. (Eire) Ltd. are responsible for the manufacture and distribution of Claygate briquette fireplaces in Eire.

The Benjamin Electric Ltd. have appointed C. W. Embers to the Head Office Staff at the Tottenham Works as Senior Sales Engineer responsible for liaison with architects and consultants throughout the British Isles.

Jablo Plastics Industries Ltd., incorporating Jablo Propellers Ltd., and Moulded Components (Jablo) Ltd., have made the following changes on the Board of Directors: Colonel H. Delacombe, O.B.E., has retired because of ill-health, and W. Dunn has been elected to the Board.

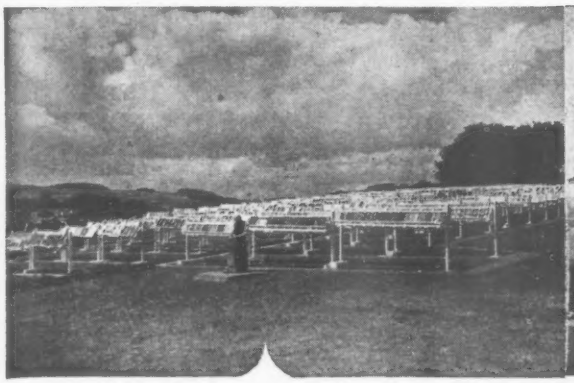
Acknowledgments

The diagrams which appear on pages 149 to 156 of the gas supplement in the AJ for January 22 are based on information contained in *Fuel Stores for Houses and Flats* and *Architectural Design Data* and were published by permission of the Coal Utilization Council.

Correction

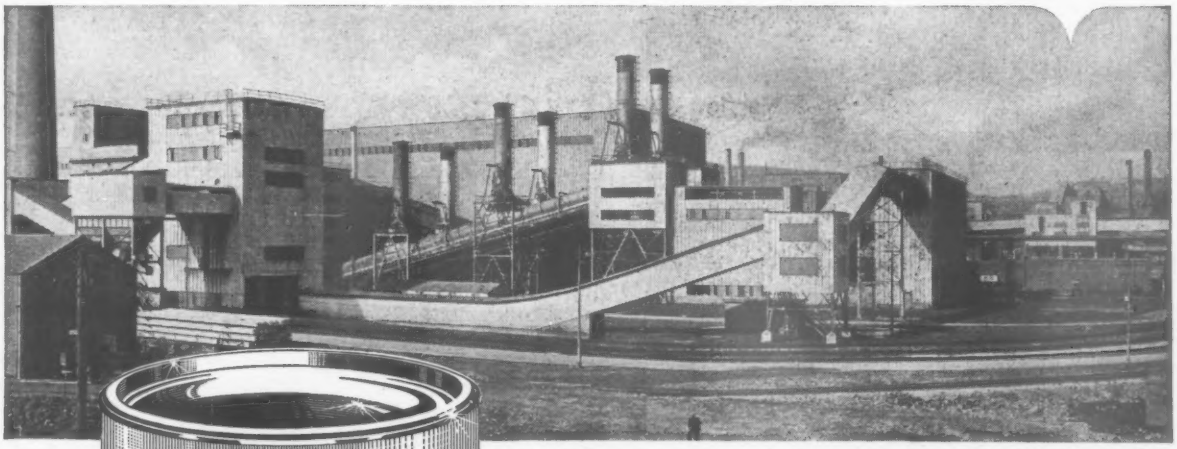
In our issue of January 22, the name of the suppliers of mosaic for the Washington Hotel was given as P. Bennion Ltd. This should have read P. Barwin Ltd.

Our South Coast test farm provides extreme conditions.

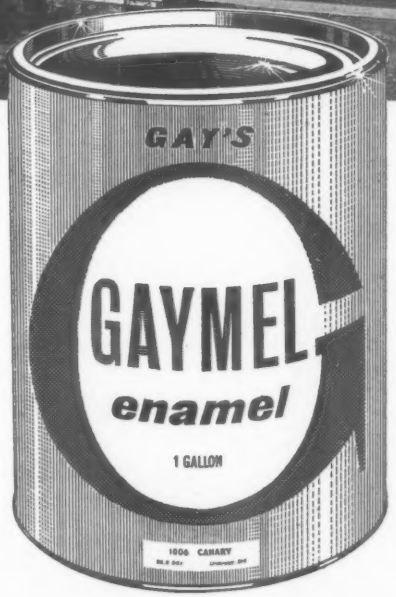


A house on the Hampshire coast.

Proved in field tests . . . On residential property . . . On industrial buildings



The Ore Preparation Plant at the Margam Works of the Steel Company of Wales.



GAYMEL *enamel*

proves best

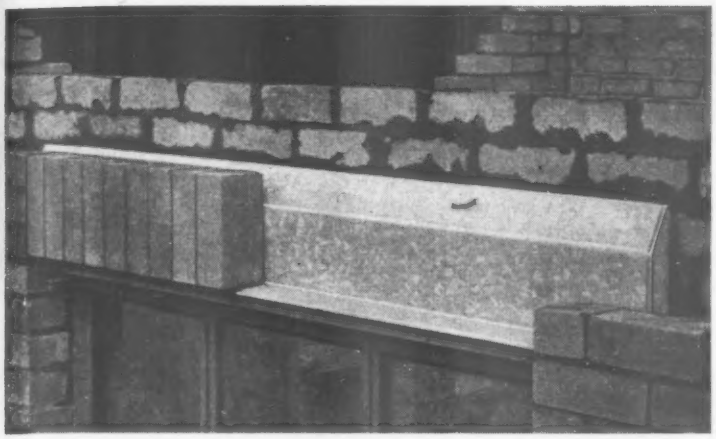
Gay's new, brilliant gloss finish, GAYMEL is the product of many years' planned research. Selected from hundreds of formulations tested in Gay's South Coast proving station, Gaymel was then given practical trials on residential and industrial property.

Alongside standard, accepted materials, Gaymel proves best. In city smoke as on exposed coastal sites Gaymel reveals outstanding tenacity in gloss and colour retention, year after year.

MANUFACTURED BY R. GAY & CO.
93/97 NEW CAVENDISH STREET,
LONDON W.1. *Telephone: Langham 0831*

another ***sound paint—by GAY'S***

BRANCHES IN • BIRMINGHAM • BRISTOL • BELFAST • GLASGOW • LEEDS • MANCHESTER



THE DORMAN LONG LINTEL

Combined Angle Arch Support & Dampcourse Tray

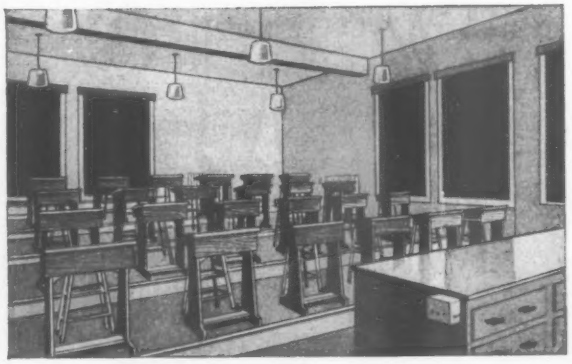
IN HOT-DIP GALVANIZED STEEL, FOR USE AT THE HEADS OF OPENINGS IN EXTERNAL CAVITY WALLS

Comes on site to required length ready to fix. Large saving in site labour costs. Cannot be damaged in cavity cleaning. The Dorman Long Lintel has only to be placed into position over the head of the opening and without delay the work carries on.

Prices and details from:
DORMAN LONG *(Steel)* LTD., Sheet Dept., Middlesbrough or from district offices at London, Birmingham, Manchester, Newcastle, Belfast, Glasgow.

DORMAN LONG

LONDON BLINDS



Translucent Plastic Venetian Blinds

and heavy-duty blackout blinds

We have recently fitted venetian blinds in the following schools: LONG SUTTON S.M. SCHOOL. *Architect*, Architects Co. Partnership in association with the County Architect, Holland County. BRYANSTON SCIENCE BUILDING. *Architect*, Architects Co. Partnership. KING HENRY VIII SCHOOL, COVENTRY. *Architect*, W. S. Hattrell & Partners.

These translucent plastic venetian blinds let through the maximum amount of light whilst still keeping out the sun's glare. They are available in an exceptionally wide range of colours with either matching or contrasting webs and will brighten any office, home or school. The blackout blinds are made in P.V.C. coated satin finish blackout material with blinds housed in light case units constructed of 20 guage pressed steel, comprising head box, side and cill channels and self-acting spring roller.

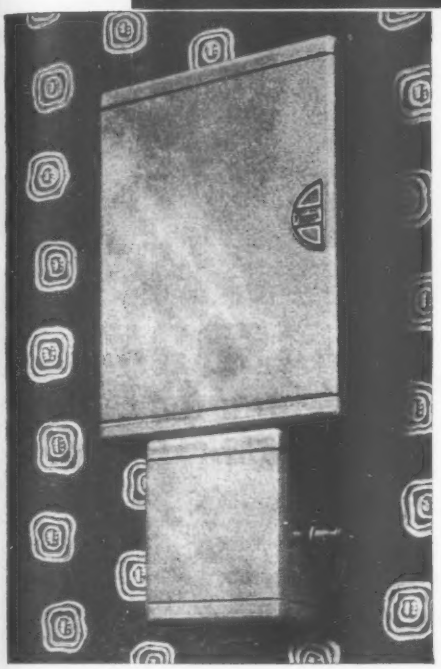
For further details telephone REGIance 4360 *or write to:*

LONDON BLINDS LIMITED · MELBOURNE SQUARE · LONDON · S.W.9

H

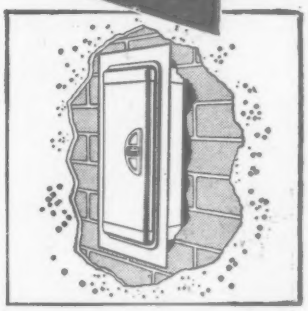
AEROFLEX
Fluvent

CABINET STYLE



DISTRIBUTION BOARDS

All boards are equipped with Aeroflex Energy Limiting High Breaking Capacity rewireable Cartridge fuse-links and where an isolating switch is required the units can be supplied in pairs as shown in the illustration (left). Cabinet Style Boards have exteriors which are designed to be harmonious in almost any surroundings.



The range of Cabinet Style distribution boards has been augmented by the production of recessed mounting alternatives, as here illustrated (right) which are suitable for mounting so that the main body of the board is sunk in a wall cavity of appropriate depth, and the plasterwork and wall finish made up to the surface plate provided.

Parmiter Hope & Sugden Ltd.

FLUVENT ELECTRICAL WORKS LONGSIGHT MANCHESTER 12

London: 34 Victoria St., S.W.1. Glasgow: 5 Somerset Place, C.3. Birmingham: 39/41 Carrs Lane, 4.

dmPH146

FUEL STORAGE

The problem which has a perfect answer!

Used by leading authorities in London and throughout the Country ... ideal for houses and flats ...

FUEL STORAGE UNITS BY

LOGICOL
PATENTED

Write for illustrated folder and full details to:

Telephone: HUDDERSFIELD 174/4174

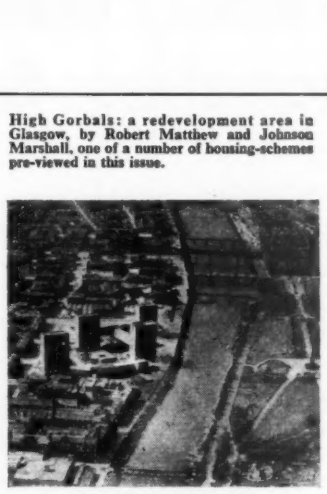
LOGICOL FUEL STORAGE UNITS · TAVU WORKS · WATERLOO · HUDDERSFIELD

ar

JANUARY

Special Preview Issue

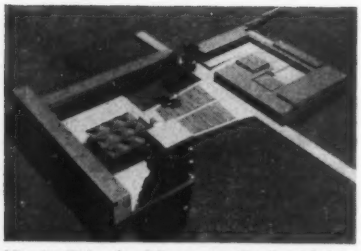
New Town Multi-storey; an office block for the town centre of Hemel Hempstead, designed by H. K. Ablett, chief architect to the Development Corporation.



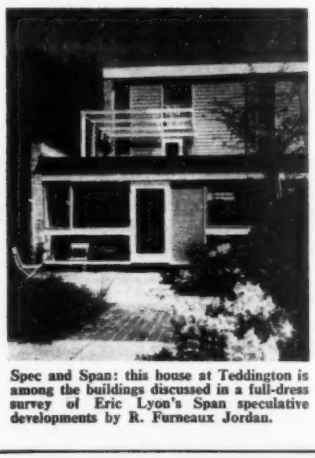
High Gorbals: a redevelopment area in Glasgow, by Robert Matthew and Johnson Marshall, one of a number of housing-schemes pre-viewed in this issue.

Northern Methodist: a projected church in Fulwell, Co. Durham, designed by S. W. Milburn and Partners for a Methodist congregation.

FEBRUARY

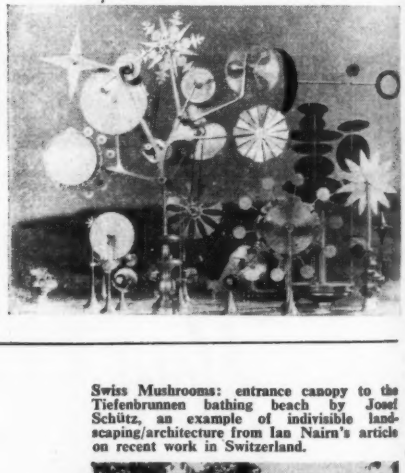


Nigerian University: Library, Arts Faculty, Administration and Students' Union buildings, and an open-air auditorium, at Nsukka, Eastern Nigeria, designed by James Cubitt and Partners, and pre-viewed in this issue.



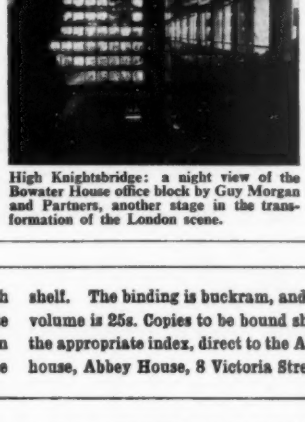
Spec and Span: this house at Teddington is among the buildings discussed in a full-dress survey of Eric Lyon's Span speculative developments by R. Furneaux Jordan.

Sun Mill: the ingenious solar toy designed by the ever-inventive Charles Eames, to dramatise the potentialities of the sun as a source of energy, a cosmic mobile.



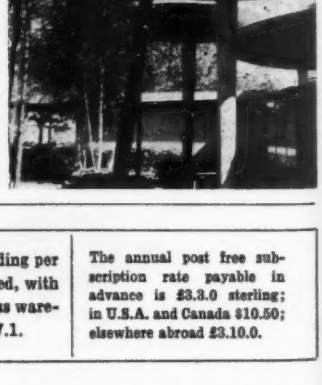
MARCH

Royal College re-housed: Sir Hugh Casson's impression of the view along Kensington Gore, past the Albert Hall, to the proposed new building for the Royal College of Art. Architect: H. T. Cadbury-Brown.



High Knightsbridge: a night view of the Bowater House office block by Guy Morgan and Partners, another stage in the transformation of the London scene.

Swiss Mushrooms: entrance canopy to the Tiefenbrunnen bathing beach by Josef Schütz, an example of indivisible landscaping/architecture from Ian Nairn's article on recent work in Switzerland.



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

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

THE ARCHITECTURAL REVIEW, 9-13 QUEEN ANNE'S GATE, WESTMINSTER, S.W.1

CLASSIFIED ADVERTISEMENTS

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

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

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

Public and Official Announcements

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

COUNTY BOROUGH OF SOUTH SHIELDS
PRINCIPAL ASSISTANT QUANTITY SURVEYOR

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

Housing accommodation will be made available to the successful applicant if necessary.

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

Application forms are obtainable from the Borough Engineer, Town Hall, South Shields, and should be returned to him not later than 10 a.m. on Monday, 9th February, 1959.

R. S. YOUNG,
Town Clerk.
2656

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Vacancies for SURVEYING ASSISTANTS in Building Regulation Division and District Surveyors' Service for work in connection with applications under London Building Acts, and bye-laws. District Surveyors' Offices are located in Metropolitan Boroughs and work involves negotiations with developers and supervision of works in progress.

Salaries up to £860 with starting rates according to qualifications and experience.

Application form and particulars from Hubert Bennett, F.R.I.B.A., Architect to Council, EK/56/58, County Hall, S.E.1 (2282). 2159

ADMIRALTY

Good quality ARCHITECTURAL ASSISTANTS are required at Pinner (Middlesex) for work with Professional Architects on the preparation of designs for the following wide range of new works:—

(*a*) New Housing designs and estate layouts.
(*b*) All forms of single accommodation comprising sleeping, messing and recreational buildings, including gymnasia, stores, educational buildings and cinema/lecture halls.
(*c*) Specialized buildings for technical equipment.
(*d*) Industrial buildings, stores and offices associated with H.M. Dockyards.

Facilities can be granted to those still studying for professional qualifications, but preference given to near qualified candidates wishing to obtain widest possible experience.

Salary according to age, qualifications and experience, ranges from £550/£870, and opportunities occur for promotion to Leading Grade, salary maximum £1,015. Five-day week. Annual leave 18 days rising to 22 days after 10 years' service. Appointments are temporary but with long term possibilities.

Candidates, who must be British subjects, are invited to apply in writing, giving details of experience, to Civil Engineer-in-Chief, Admiralty, Chamberlain Way, Pinner, Middlesex. 2704

DENTON URBAN DISTRICT COUNCIL
JUNIOR ARCHITECTURAL ASSISTANT

Applications are invited for the permanent appointment of a Junior Architectural Assistant in the Engineer and Surveyor's Department, A.P.T. I (£575—£725 p.a.), the commencing point to be fixed according to qualifications and experience.

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

Applications stating age, qualifications and experience, together with the names and addresses of three referees, should be delivered to the undersigned not later than Monday, 9th February, 1959.

Canvassing, directly or indirectly will be deemed a disqualification.

JAS. SMITH,
Clerk of the Council,
Town Hall,
Denton, Nr. Manchester. 2735

COUNTY BOROUGH OF SOUTH SHIELDS
PRINCIPAL ASSISTANT ARCHITECTS

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

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

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

Application forms are obtainable from the Borough Engineer, Town Hall, South Shields, and should be returned to him not later than 10 a.m. on Monday, 9th February, 1959.

R. S. YOUNG,
Town Clerk.
2566

ARCHITECTURAL ASSISTANTS
Required by
MINISTRY OF WORKS

For employment in London and Provinces on design and detailing work on construction and maintenance of all types of public buildings.

Salary range £550 (age 21) to £870 p.a. London (slightly less elsewhere).

Five-day week. 3½ weeks annual leave initially. Starting pay according to age, qualifications and experience. Good prospects of promotion with salaries of £1,015 p.a. and above.

Opportunities for permanent posts leading to pensions (non contributory).

Interviews at Regional Offices where possible. Applicants should be of Intermediate R.I.B.A. standard. State age, training and experience to Chief Architect, Ministry of Works, Room 435, Abell House, John Islip Street, S.W.1. 2444

GLASGOW CORPORATION TRANSPORT
VACANCY FOR ARCHITECTURAL ASSISTANT

Applications are invited for the appointment of an Architectural Assistant.

Applicants must have served a recognised apprenticeship and have had the appropriate technical education. Experience in the design of industrial buildings will be an advantage.

The salary scale will be A.P. IV (£700 × £20—£760 per annum).

Applications, stating age, experience, qualifications, etc., should be lodged with the Subscriber not later than 14 days after publication of this notice.

E. R. L. FITZPAYNE,
General Manager.
46, Bath Street,
Glasgow, C.2.
17th January, 1959. 2758

BOROUGH OF WILLESDEN
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT

Applications are invited from suitably qualified and experienced persons for the following permanent appointments:—

(*a*) ASSISTANT ARCHITECT within Grade A.P.T. IV (£1,025—£1,175 p.a.).
(*b*) ASSISTANT ARCHITECT within Special Grade (£750—£1,030 p.a.).
(*c*) TECHNICAL ASSISTANT within Grade A.P.T. II (£725—£845 p.a.). (Maintenance work and improvements on schools. Intermediate R.I.C.S. (Building) is advantageous.)

London weighting, maximum £30 p.a. is payable in addition to the above salaries.

The Council is unable to assist with housing accommodation.

Forms of application and conditions of appointment may be obtained from the Borough Engineer & Surveyor, Town Hall, Dyne Road, Kilburn, N.W.6. Applications to be returned to the undersigned not later than 9 a.m. on Monday, 9th February, 1959.

When writing for application forms candidates must state for which appointment they wish to apply.

R. S. FORSTER,
Town Clerk.
2719

BOROUGH OF WREXHAM

Applications are invited for the appointment of ARCHITECTURAL ASSISTANT. Salary A.P.T. I (£575 to £725 per annum). Point of entry according to qualifications and experience.

HOUSE provided if required.

Applications to the undersigned by 12 noon, 9th February, 1959.

PHILIP J. WALTERS,
Town Clerk.
Guildhall,
Wrexham.
19th January, 1959. 2823

LEEDS: CLERK OF WORKS: UNIVERSITY OF LEEDS

Applications for appointment of Clerk of Works invited for new Weetwood Student Hostel. Work on advance roads to start March 1959, and Stage 1 Building (£400,000) June, 1959. Total contract to complete over approximately five years £900,000.

Appointment will be temporary but for the duration of the contract. Commencing salary £900. No grade or fixed increment but salary to be periodically reviewed. No child allowance.

Membership of University Pension and Insurance Scheme considered after probationery period of three months.

Holidays: Two weeks plus statutory holidays. After three years, usually increased to three weeks.

Apply in writing by 12 noon, 9th February, stating age, experience, testimonials, to Jones & Stocks, F/F.R.I.B.A., 7, Blenheim Terrace, Leeds, 2. 2881

WARWICKSHIRE COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

ASSISTANT ARCHITECTS: Salary scale £750—£1,030.

Applications are invited for appointment of Assistant Architects from persons who have passed Parts I and II of the R.I.B.A. Final or Special Examination or their equivalent at one of the recognised schools of architecture. The successful applicants will work in teams on large projects, but opportunity will be given to men with enthusiasm and ability to design and carry out smaller projects under a Group Architect.

The appointments are on the established staff and subject to the Scheme and Conditions of Service of the National Joint Council for Local Authorities and the Local Government Superannuation Acts, 1937-1953. The Council is unable to offer housing accommodation but consideration will be given to the granting of financial assistance towards the payment of removal expenses. The commencing salary will be determined upon the successful applicant's ability and experience.

Applications are to be on forms which can be obtained from G. R. Barnsley, F.R.I.B.A., County Architect, Shire Hall, Warwick.

L. EDGAR STEPHENS,
Clerk of the Council.
Shire Hall,
Warwick. 2865

COUNTY BOROUGH OF BLACKBURN
ARCHITECTURAL ASSISTANTS

Applications are invited for the above established posts on the Special A.P.T. Grade (£750—£1,030).

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

Application forms (from the Borough Engineer, Town Hall, Blackburn) are to be returned by Saturday, February 14th.

FRANK SQUIRES,
Town Clerk.
2866

NOTTINGHAMSHIRE COUNTY COUNCIL
APPOINTMENT OF ASSISTANT ARCHITECTS

Applications are invited from qualified Architects for posts within the following scales:—
A.P.T. Special Grade (£750 × £40—£1,030) and A.P.T. IV (£1,025 × £50—£1,175).

The work of the office includes a large programme of architect-controlled prefabricated construction, entailing continual technical development work and research into planning requirements.

Forms of application from the County Architect, County Hall, West Bridgford, Nottingham, to whom they should be returned as soon as possible.

A. R. DAVIS,
Clerk of the County Council.
2867

SOUTHAMPTON COUNTY BOROUGH COUNCIL requires under N.J.C. conditions of service:

(*a*) SENIOR ASSISTANT ARCHITECT—salary within A.P.T. Grade IV (£1,025/£1,175 p.a.).
(*b*) SENIOR ASSISTANT QUANTITY SURVEYOR—salary within A.P.T. Grade IV (£1,025/£1,175 p.a.).
(*c*) ASSISTANT QUANTITY SURVEYOR—salary within Special Grade (£750/£1,030 p.a.).

Applicants must be Chartered Architects or Chartered Quantity Surveyors respectively, with experience in municipal housing including multi-storey flats and shopping centres.

Apply on application forms obtainable from the Borough Engineer and Surveyor, Civic Centre, Southampton, by Monday, 16th February, 1959. 2869

CORBY DEVELOPMENT CORPORATION
ASSISTANT ARCHITECT

Applications are invited for an appointment as an Assistant Architect on the staff of the Corporation's Chief Architect. The salary will be within Grade A.P.T. V (£844—£1,029) of the Whitley Council scales for New Towns Staff, and the commencing point will depend upon experience and qualifications.

The work of the Corporation offers wide experience in the design of houses, Town Centre buildings, and factories, both in large schemes and in individual buildings.

The appointment will be subject to Superannuation under the Local Government Scheme.

Housing is available and assistance will be given with removal expenses.

Applications stating age, education, training, qualifications, experience, present and past appointments and salary, together with the names of two referees, must reach the undersigned by Monday, 16th February, 1959.

R. F. BROOKS GRUNDY,
General Manager.
Spencer House,
Corby,
Northants. 2872

LAMBETH METROPOLITAN BOROUGH COUNCIL requires ARCHITECTURAL ASSISTANTS in Housing Department. Salary £725—£845 p.a., plus £20/£30 London weighting (A.P.T. II). Applicants must have passed Intermediate R.I.B.A. or equivalent and have two or three years' practical experience.

Work of department includes design and construction of housing estates, including multi-storey buildings, and conversion and improvement of older type residential property. No housing accommodation provided. Application form from Town Clerk, Town Hall, Brixton Hill, S.W.2. Closing date: 14th February. 2873

LONDON COUNTY COUNCIL
ARCHITECTURAL ASSISTANTS and LANDSCAPE ASSISTANTS experienced in preparing schemes, working drawings, specifications, and supervising contracts. Land surveying and good draughtsmanship essential. Interesting work on construction of new parks and open spaces and ancillary buildings and laying-out works at housing estates, schools and playing fields. Up to £1,090 or £860 according to qualifications and experience. Apply giving brief particulars to Chief Officer, Parks Dept., County Hall, London, S.E.1 (WATerloo 5000, Ext. 8076). (191.) 2877

COUNTY BOROUGH OF HUDDERSFIELD
BOROUGH ARCHITECT AND PLANNING OFFICER'S DEPARTMENT
Applications are invited for the following posts:—
(*a*) ASSISTANT ARCHITECT—Grade A.P.T. V (£1,175—£1,325).
(*b*) TOWN PLANNING ASSISTANT—Grade A.P.T. I (£575—£725).
Applicants for post (*a*) must be Associate Members of the Royal Institute of British Architects. The Department has in hand a large programme of building including a new Civic Centre.
Applicants for post (*b*) should have experience in Development Plan survey work and development control procedure.
The posts are subject to the National Scheme of Conditions of Service, as adopted by the Council, and to medical examination.
Housing accommodation will be made available if necessary.
Applications, with the names of two referees, to reach the Borough Architect and Planning Officer, High Street Buildings, Huddersfield, not later than Monday, 16th February, 1959.
Canvassing directly or indirectly will disqualify.
HARRY BANN,
Town Clerk.
Town Hall,
Huddersfield. 2883

CITY OF SHEFFIELD
CITY ENGINEER & SURVEYOR'S DEPARTMENT
SENIOR PLANNING ASSISTANT—GRADE A.P.T. V
Applications are invited for the position of Senior Planning Assistant on the permanent staff of the City Engineer & Surveyor & Town Planning Officer (H. Foster, M.A., M.I.C.E., M.I.Mun.E.). The post is established in Grade A.P.T. V (£1,175—£1,325 p.a.); commencing salary will be in accordance with experience and qualifications.
Candidates must possess both Planning and Architectural experience, and will be required to be Members of either the Town Planning Institute or the Royal Institute of British Architects.
Superannuable post. 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 27th February, 1959.
JOHN HEYS,
Town Clerk.
Town Hall,
Sheffield, 1. 2884

LANARK COUNTY COUNCIL
ARCHITECTURAL ASSISTANTS required for County Architect's Department, Motherwell. Must be A.R.I.B.A. with office experience. Salary scale A. & P. Grades VI and VII (£880/£1,025). Placing according to qualifications and experience.
In addition to large School Building Programme, work in Department embraces every aspect of building with exception of Housing. Appointments therefore provide excellent opportunity for extending experience on an interesting and varied programme.
Medical examination. Superannuation. No canvassing.
Applications, stating age, qualifications and experience, together with names of three referees, should be lodged with County Clerk, P.O. Box 1, Glasgow, within two weeks of date of advertisement. 2828

ESSEX COUNTY COUNCIL
ILFORD COMMITTEE FOR EDUCATION
Applications are invited for the appointment to the following posts in the Education Architect's Section of the Borough Engineer's Office:—
(*a*) SENIOR ASSISTANT ARCHITECT, A.P.T. Grade III-IV (£845—£1,175 per annum).
(*b*) ASSISTANT ARCHITECT, A.P.T. Special Grade (£750 × £40—£1,030 per annum).
(*c*) ASSISTANT ARCHITECT, A.P.T. Grade I (£575 × £30—£725 per annum).
Plus appropriate London weighting in each case.
The posts are superannuable and subject to medical examination.
Commencing salaries will be fixed within the grades according to experience.
Applicants for posts (*a*) and (*b*) must be Associates of the R.I.B.A. and have suitable experience in the design and development of school buildings.
Applicants for post (*c*) must have passed the Intermediate R.I.B.A. examination or its equivalent at a recognised School of Architecture.
Applications should be made on a form to be obtained from and returned to the Borough Engineer and Surveyor, Town Hall, Ilford, together with copies of not more than three recent testimonials, within 14 days of the appearance of this advertisement. 2839

COUNTY BOROUGH OF WEST HAM
BOROUGH ARCHITECT AND PLANNING OFFICER'S DEPARTMENT
RE-ADVERTISEMENT
Applications invited for the permanent post of SENIOR GROUP ARCHITECT: A.P.T. Grade V (£1,175 × £50—£1,325 p.a. and L.A.). Commencing salary according to qualifications and experience.
Must be A.R.I.B.A., capable of handling large and high density housing schemes and controlling staff.
Application forms and details from Borough Architect & Planning Officer, 70, West Ham Lane, Stratford, E.15, returnable by Tuesday, 24th February, 1959. 2848

BOROUGH OF GOSPORT
APPOINTMENTS OF ASSISTANT ARCHITECT AND JUNIOR QUANTITY SURVEYOR
Applications are invited for the following appointments in the Borough Engineer's Department:—
(*a*) ASSISTANT ARCHITECT—Special Grade, £750 × £40—£1,030 per annum.
(*b*) JUNIOR QUANTITY SURVEYOR—Either Grade A.P.T. I (£575—£725 per annum) or A.P.T. II (£725—£845 per annum), according to qualifications and experience.
Applicants for (*a*) should have passed Parts I and II of the R.I.B.A. Final examination, and will be required to work in conjunction with low-cost housing and multi-storey development.
For (*b*), applicants should possess an appropriate Intermediate qualification and will be engaged mainly to assist on housing work.
Both appointments will be subject to the following:—
(*i*) The National Scheme of Conditions of Service.
(*ii*) Medical Examination.
(*iii*) The Local Government Superannuation Acts.
(*iv*) One month's notice on either side.
Applications, giving age, full details of qualifications and experience, together with the names and addresses of two referees, should reach the undersigned not later than first post on Wednesday, the 18th February, 1959.
EDWARD ADDENBROOKE.
Town Clerk.
Town Hall,
Gosport, Hants. 2863

INVERNESS COUNTY COUNCIL
COUNTY ARCHITECT & PLANNING OFFICER'S DEPARTMENT
Applications are invited for the following appointments in connection with the preparation and carrying out of an expanding programme of major capital works:
(*a*) SENIOR ASSISTANT TO COUNTY ARCHITECT AND PLANNING OFFICER: Salary £1,317 13s.—£1,533 19s. The successful applicant may be considered for the vacant appointment as Depute.
(*b*) FOUR SENIOR ASSISTANT ARCHITECTS AS SECTION LEADERS: Salary £1,025—£1,235.
(*c*) SENIOR and ASSISTANT ARCHITECTS: Salary £770—£1,085.
Appropriate placing on scales will be given in accordance with qualifications and experience. For appointments under (*b*) and (*c*) housing accommodation may be made available, if required.
Forms of application from County Clerk, County Buildings, Inverness, with whom applications should be lodged by 14th February. 2859

HUNTINGDONSHIRE
COUNTY ARCHITECT'S DEPARTMENT
Applications are invited for the following appointments:
(*a*) ARCHITECTURAL ASSISTANTS, Special Grade (£750—£1,030) or Grade A.P.T. III (£845—£1,025) according to qualifications.
(*b*) ARCHITECTURAL ASSISTANT, Grade A.P.T. II (£725—£845).
Further details and application forms may be obtained from The County Architect, County Buildings, Huntingdon. Completed application forms should be returned to the undersigned by Thursday, 19th February, 1959.
A. C. AYLWARD,
Clerk of the County Council.
County Buildings,
Huntingdon. 2868

COVENTRY
ARCHITECTURAL AND PLANNING DEPARTMENT
(*a*) SENIOR GROUP PLANNING OFFICER (Development Control): N.J.C. "A" (£1,200 × £60—£1,380)
(*b*) PLANNING OFFICERS: Special Grade (£750 × £40—£1,030).
(*c*) PLANNING ASSISTANTS: A.P.T. I (£575 × £30—£725).
Additional £26 on salary up to £795 in approved cases.
Vacancies exist in Development Control, Central Area Reconstruction, Comprehensive Development Areas and Redevelopment Plan and Research Sections. For (*b*) applicants must be qualified planners and, in Development Control Section, possess additional appropriate qualification. For (*c*) Intermediate qualification essential.
Appointments may be made within the grade in special circumstances. Posts permanent and pensionable subject to satisfactory medical history.
Housing accommodation in approved cases. Removal expenses loan available.
Application forms, etc., from Bull Yard, Coventry, returnable within 14 days of publication. 2862

CIVIL SERVICE.—QUANTITY SURVEYORS and ASSISTANT QUANTITY SURVEYORS required by Admiralty, War Office, Air Ministry and Ministry of Works, in most parts of United Kingdom and occasionally overseas. Although unestablished, these posts have long term possibilities. London salaries for those suitably qualified and experienced over 25 years of age, range from £805 to £1,250 per annum. Vacancies also exist for Quantity Surveying Assistants and others having some experience in Quantity Surveying at salaries ranging from £350 per annum upwards. Write, quoting reference J.Q.S., to Room 403, M.L.N.S., Technical and Scientific Register (J), 26, King Street, London, S.W.1. 2834

KENT COUNTY COUNCIL
SURVEYING ASSISTANT required for work in connection with the selection and purchase of sites and buildings for the Council's large and varied building programme.
Applicants must be experienced in the surveying of land and buildings and in dealing with site and property matters generally. A knowledge of valuation is desirable but not essential. They must have passed the Final R.I.C.S. Examination or hold a similar qualification.
Salary within scale £750—£1,030 a year. Commencing salary according to qualifications and experience. N.J.C. Conditions of Service. Further details and application forms from County Architect, Springfield, Maidstone. Closing date 18th February, 1959. 2851

THE SOUTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD desire it to be known among practising Architects that they are considering the appointment of an ARCHITECT to be responsible for the design and erection of a new hospital at Sidcup in Kent. Architects who wish to be considered for appointment are invited to inform the Secretary of the Board at 40, Eastbourne Terrace, W.2, and to give details of their qualifications and ability to undertake a commission of this nature. 2864

CITY AND COUNTY OF NEWCASTLE UPON TYNE
CITY ARCHITECT'S DEPARTMENT
The City Architect will be pleased to receive applications for the following vacancies in the NEW TOWN HALL SECTION of the Department:—
(*i*) PRINCIPAL ASSISTANT ARCHITECT, Lettered Scale "A" (£1,205—£1,380 per annum).
(*ii*) SENIOR ASSISTANT ARCHITECT, A.P.T. Division, Grade V (£1,175—£1,325 per annum).
(*iii*) SENIOR ASSISTANT ARCHITECTS, A.P.T. Division, Grade IV (£1,025—£1,175 per annum).
The post of Principal Assistant Architect will involve day-to-day responsibility for the development of the design and for the preparation of working drawings for this large scheme. A high standard of design ability and an appreciation of and experience in good quality building work is essential.
Application forms and full particulars may be obtained from George Kenyon, A.R.I.B.A., A.M.T.P.I., City Architect, 18, Cloth Market, Newcastle upon Tyne, 1. Applicants must state the post applied for when requesting particulars.
Closing date for receipt of completed applications, Saturday, 21st February 1959.
JOHN ATKINSON,
Town Clerk.
Town Hall,
Newcastle upon Tyne, 1.
27th January, 1959. 2889

DURHAM COUNTY COUNCIL
PLANNING DEPARTMENT
ASSISTANT FOR DESIGN SECTION—Salary £750 to £1,030 p.a.
Applicants must be Associates of the Royal Institute of British Architects, or Associate Members of the Town Planning Institute with Design experience. Housing available at Peterlee and Newton Aycliffe, 12 miles from Durham. Forms and further particulars from County Planning Officer, 10, Church Street, Durham.
Closing date 17th February, 1959. Canvassing members of the Council is prohibited.
J. K. HOPE,
Clerk of the County Council.
2891

BOROUGH OF EPSOM AND EWELL
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT
APPOINTMENT OF ARCHITECTURAL ASSISTANT—A.P.T. II
Applications are invited for the appointment of an Architectural Assistant on Grade A.P.T. II at a commencing salary up to £875 per annum including London weighting, according to qualifications and experience.
The Department, at present, has a considerable volume of architectural work on hand and applicants should have had experience in the preparation of plans, specifications, etc., and preference will be given to candidates holding a part of the examination leading to associateship of the R.I.B.A.
Applications, stating age, qualifications and experience, with the names of three referees, should be sent to Mr. Colin Cobbett, A.M.I.C.E., M.I.Mun.E., Borough Engineer and Surveyor, Town Hall, The Parade, Epsom, so as to reach him not later than Wednesday, the 18th February, 1959.
EDWARD MOORE,
Town Clerk.
January, 1959. 2901

NOTTINGHAMSHIRE COUNTY COUNCIL
COUNTY PLANNING DEPARTMENT
APPOINTMENT OF DEVELOPMENT PLAN OFFICER

Applications are invited for the appointment of Development Plan Officer, on J.N.C. Grade A, at present £1,100—£1,380 per annum. The appointment will have effect from 1st April, 1959. Applicants must have experience of the administration of the Town & Country Planning Acts, particularly in relation to the preparation of Development Plans.

Applicants must be Corporate Members of the Town Planning Institute by examination and should in addition have a recognised qualification in Engineering, Surveying or Architecture. Further particulars from the County Director of Planning, Shire Hall, Nottingham, to whom applications should be submitted by 16th February, 1959.

A. R. DAVIS,
Clerk of the County Council.
2892

NOTTINGHAMSHIRE COUNTY COUNCIL
COUNTY PLANNING DEPARTMENT
APPOINTMENT OF ARCHITECT

Applications are invited for the appointment of Architect on J.N.C. Grade A, salary at present £1,100—£1,380 per annum. The appointment will have effect from 1st April, 1959. Applicants must be Associates of the Royal Institute of British Architects, and in addition membership of the Town Planning Institute would be an advantage. Experience in the design and grouping of buildings, the re-development of built-up areas and preparation of housing layouts required.

Further particulars from the County Director of Planning, Shire Hall, Nottingham, to whom applications should be submitted by 16th February, 1959.

A. R. DAVIS,
Clerk of the County Council.
2894

BOROUGH OF CROSBY
CAPITAL WORKS PROGRAMME
ARCHITECTURAL ASSISTANT

Applications are invited for the appointment of an Architectural Assistant in the Borough Engineer's Department at a salary within the Special Grade for Architectural Assistants (£750 × £40—£1,030), according to qualifications and experience.

The successful applicant will be engaged mainly upon works of a Capital nature, including the construction of a new Swimming Bath, and some experience in such work will be an advantage.

Housing accommodation will be made available upon satisfactory proof of need.

Applications on forms obtainable from the Borough Engineer at the address below must be received, suitably endorsed, as soon as possible.

Canvassing directly or indirectly will disqualify.

HAROLD O. ROBERTS,
Town Clerk.

Town Hall,
Waterloo,
Liverpool, 22. 2905

BUCKS COUNTY COUNCIL

Applications are invited for the following appointments in the County Architect's Department:—

(*a*) ASSISTANT QUANTITY SURVEYOR, A.P.T. V (£1,175—£1,325 p.a.).

(*b*) ASSISTANT QUANTITY SURVEYOR A.P.T. IV (£1,025—£1,175 p.a.).

Applicants must be Associates of the Royal Institution of Chartered Surveyors with considerable experience in the preparation of Bills of Quantities and settlement of final accounts.

The appointments are superannuable and subject to medical examination.

A weekly allowance of 25s. and return fare home once every two months may be paid for six months to newly appointed married officers of the Council unable to find accommodation.

Applications, on forms provided, must be returned by 14th March, 1959.

F. B. POOLEY,
County Architect.

County Offices,
Aylesbury. 2895

BOROUGH OF MAIDSTONE
ASSISTANT ARCHITECT

Special Grade (£750—£1,030); commencing salary according to qualifications and experience. The successful applicant will be engaged in the first instance on the working drawings for a new Central Library. Housing accommodation if required. Forms and particulars from Borough Surveyor, Palace Avenue, Maidstone.

T. SCHOLES,
Town Clerk.
2893

THURROCK U.D.C. (Engineer and Surveyor's Department) require ARCHITECTURAL ASSISTANT under Architect to the Council. Salary—A.P.T. III: £845—£1,025 p.a. Candidates should be associates of the R.I.B.A. and must be experienced in the design, preparation of drawings and specifications of various building and architectural work undertaken by a local authority. Appointment pensionable. Housing accommodation may be provided if successful candidate resides more than 20 miles from Thurrock. Applications, stating age, qualifications, and experience, and quoting three referees, to Clerk of the Council, Council Offices, Grays, Essex, by 11th February, 1959. Canvassing disqualifies. Relationship with Members or Senior Officers of the Council must be disclosed. 2824

EDINBURGH CORPORATION
PLANNING ASSISTANT, A.P.T. Grade VIII (£1,005—£1,085).

Applications are invited for the above-mentioned appointment. Qualifications—Corporate membership of the Town Planning Institute, additional qualification in Architecture, Engineering or Surveying would be an advantage. Previous experience in Town and Country Planning Department of a local authority is essential. The appointment is to the permanent staff and will be subject to National Conditions of Service, Superannuation Acts, and to the passing of a medical examination. The appointment will be terminable by one month's notice on either side.

Applications, stating age, qualifications, experience, present and past appointments, together with copies of two recent testimonials, should reach the Town Planning Officer, City Chambers, Edinburgh, not later than Monday, 23rd February, 1959. 2897

NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD

ASSISTANT ARCHITECT required — good experience of design and construction necessary, preferably in hospital work. Applicants must be Associate Members of the R.I.B.A. Salary scale £700 × £25 (3) × £30 (1) × £35 (6)—£1,015 plus £20—£30 London weighting. *Ref.* 696.

ARCHITECTURAL ASSISTANTS also required. Applicants must have Intermediate R.I.B.A. Salary scale £525 (age 21) × £20 (4) × £25 (5)—£730 plus £20—£30 London weighting. *Ref.* 697.

Commencing salary above minimum may be paid according to relevant practical experience appropriate to the posts. Whitley Council conditions, superannuable.

Apply, stating age, qualifications (with date) and experience, with names of two referees, to Secretary, North West Metropolitan Regional Hospital Board, 40, Eastbourne Terrace, W.2, by 19th February, *quoting appropriate reference number.* 2930

CITY OF BIRMINGHAM EDUCATION COMMITTEE
COLLEGE OF ART AND CRAFTS
BIRMINGHAM SCHOOL OF ARCHITECTURE

Principal: MEREDITH W. HAWES, A.R.C.A., A.R.W.S., N.R.D.

Director of the School of Architecture: DOUGLAS JONES, DIP.ARCH. (L'POOL), F.R.I.B.A.

RESEARCH AND TEACHING APPOINTMENT

Applications are invited for a full-time appointment for a period of one year, which combines research and teaching. The subject for study relates to the visual qualities of architecture.

Salary will be in accordance with the Burnham (Further Education) Scale 1956 (Grade A), £475 × £25—£900 plus 5 per cent.

The successful applicant will be required to take up duty on May 1st, 1959.

Forms of application may be obtained from the Principal, College of Art and Crafts, Margaret Street, Birmingham, 3 (s.a.e.).

Closing date: 23rd February, 1959.

E. L. RUSSELL,
Chief Education Officer.
2925

BOROUGH OF WALTHAMSTOW
ASSISTANT ARCHITECT

Applications are invited for the above appointment in the Borough Architect, Engineer and Surveyor's Department (F. G. Southgate, A.R.I.B.A., M.I.Mun.E., A.M.T.P.I., Borough Architect, Engineer and Surveyor) at a salary in accordance with the Special Grade A.P.T. Division (£750—£1,030 exclusive of London weighting) with the commencing salary according to experience.

Applicants must be Associates of the R.I.B.A. and have had experience of housing schemes.

Applications, stating age, qualifications, experience and present occupation, together with the names of two referees, one of whom should be the present or former employer, are to be received by the undersigned not later than noon on Friday, 20th February, 1959, endorsed "Assistant Architect."

G. A. BLAKELEY,
Town Clerk.

Town Hall,
Walthamstow, E.17.
29th January, 1959. 2923

PETERLEE DEVELOPMENT CORPORATION
APPOINTMENT OF TWO ARCHITECTURAL ASSISTANTS

Applications are invited for the appointment of two Architectural Assistants on Salary Grade £679—£811. They are required for work on industrial and housing projects and should be of Intermediate R.I.B.A. standard with office experience.

The appointments, which are superannuable, are subject to the Corporation's Conditions of Service and will be terminable by one month's notice on either side. The successful applicants will be required to pass a medical examination.

Housing accommodation will be made available if required.

Applications, stating age, experience, qualifications and giving the names of two persons to whom reference may be made, should reach the undersigned **not** later than 12th February, 1959.

A. V. WILLIAMS,
General Manager.

Shotton Hall,
Old Shotton,
Peterlee, Horden,
Co. Durham. 2929

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Vacancies for PLANNING ASSISTANTS. Duties include investigation of development proposals, surveys, report writing, preparation of data for Public Inquiries. Starting salaries up to £860 according to experience and qualifications. Application form and particulars from Hubert Bennett, F.R.I.B.A., Architect to Council (Ref. AR/EK/11/59), County Hall, S.E.1. (186.) 2917

BEDFORDSHIRE COUNTY COUNCIL invite applications from QUALIFIED ARCHITECTS for posts in County Architect's Department which has a programme of varied and interesting jobs, including Colleges, Civic Buildings and new buildings for the various county services. Salary £750—£1,030. Application forms from County Architect, Shire Hall, Bedford, to be returned by 14th February. 2896

BRACKNELL DEVELOPMENT CORPORATION

Applications are invited for the post of ARCHITECTURAL ASSISTANT in the Chief Architect's Department. The salary will be in the Higher General Division which rises to a maximum of £531. Commencing salary will be determined according to experience.

Superannuation Scheme, medical examination. Housing available. Apply by 23rd February, 1959, giving age, education and qualifications, experience and appointments held (with dates and salaries), with names of two referees, to General Manager (A.A.), Bracknell Development Corporation, Farley Hall, Bracknell, Berks. 2926

COUNTY BOROUGH OF WOLVERHAMPTON
APPOINTMENT OF PLANNING ASSISTANT

Planning Assistant required in the Planning Section of the Borough Engineer's Department. Salary A.P.T. Grade I (£575—£725 per annum). Commencing salary in accordance with qualifications and experience. Candidates should be good draughtsmen preferably with experience in a Planning Office.

N.J.C. conditions of service. One month's notice on either side. Medical examination. Superannuable post.

Applications, stating age, training and experience, naming two referees, to the Borough Engineer, Town Hall, Wolverhampton, by 17th February, 1959. 2924

COUNTY BOROUGH OF CROYDON
ARCHITECTURAL ASSISTANT

Applications are invited for this appointment in the School Architect's Section from persons of the R.I.B.A. Intermediate examination standard.

Salary, commencing according to qualifications and experience, between £695 per annum and £875 per annum on a scale rising (when fully qualified) to £1,060 per annum.

Application forms from Chief Education Officer, 19, Katharine Street, Croydon. Closing date 23rd February, 1959.

E. TABERNER,
Town Clerk.
2912

CITY AND ROYAL BURGH OF DUNFERMLINE
DEPARTMENT OF BURGH ARCHITECT AND TOWN PLANNING OFFICER

Applications are invited for the post of ARCHITECTURAL ASSISTANT, Grade A.P.T. IV-V (£700—£830), with placing according to experience. Applicants should be Intermediate R.I.B.A. or equal, and should have had experience in Local Authority work.

Applications, stating age, experience, qualifications and present appointment, together with copies of two recent testimonials, should be lodged with Leonard Howarth, Burgh Architect and Town Planning Officer, 6, Abbot Street, Dunfermline, not later than Monday, 16th February, 1959.

Applicants must disclose in writing whether to their knowledge they are related to any Member or Senior Officer of the Town Council, and canvassing, either directly or indirectly, will be a disqualification.

Housing accommodation may be arranged for suitable applicant.

J. DOUGLAS,
Town Clerk.

City Chambers,
Dunfermline.
19th January. 924

Architectural Appointments Vacant

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

A COMPETENT ASSISTANT, with several years' experience and capable of working with little supervision, required in Branch Office, Birmingham, engaged on a varied and interesting programme of commercial projects. Applications, giving full particulars and salary required, to: G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester, 4. 1874

KUWAIT. Qualified ARCHITECT required for office in Kuwait. Applicants should be capable of starting and supervising office, negotiating with Kuwait Government, Kuwait Oil Company, etc., for design and erection of buildings. Bachelor quarters provided, salary subject to negotiation according to experience. State age, experience and qualifications to L. W. VASS LIMITED, AMPTHILL, BEDFORD. 2700

WILL any JUNIOR ASSISTANT who prefers to work in a small Private Office, and is interested in the preservation of Historic Buildings, please apply to L. H. Bond & R. W. Read, 44, Castlegate, Grantham. 2553

ASSISTANT required in busy West End practice, about 25 years of age and R.I.B.A. Intermediate standard. Good opportunities for taking responsibility. Please write giving details of experience and salary required. Box 2580.

JUNIOR ASSISTANT required in busy West End practice. Good opportunities for obtaining all round experience. Write giving age, salary required, etc. Box 2581.

ARCHITECTURAL ASSISTANTS with three years' training, experience in Architect's Office, of Intermediate R.I.B.A. standard, and with a keen interest in Historic Architecture, required by MINISTRY OF WORKS HISTORIC BUILDINGS AND ANCIENT MONUMENTS DRAWING OFFICES, LONDON. Applicants must have surveying experience and a sound knowledge of construction. Work involves Surveying and Preservation of Ancient Monuments and Historic Buildings.

Pay between £550 and £870 per annum, according to age and experience. Five-day week, three-and-a-half weeks annual leave. Opportunities for promotion and permanency.

FEMALE LEARNER TRACERS and TRACERS are also required in these Drawing Offices. Pay for Learners, £3 16s.—£6 8s. per week; Tracers, £4 4s.—£10 10s. per week, according to age and experience.

State age, qualifications and experience to Chief Architect, Ministry of Works (F), Room 435, Abell House, London, S.W.1. 2588

ROBERT MATTHEW & JOHNSON-MARSHALL have vacancies in their London office for qualified ARCHITECTS at various levels to work on a variety of interesting projects. Apply in writing with full particulars to 24, Park Square East, N.W.1. 2729

INTERMEDIATE and Final standard ASSISTANTS required. Minimum two years' office experience. Salary according to ability. Theo. H. Birks, 38, Portland Place, W.1. LAN. 7236. 2728

ARCHITECTURAL ASSISTANTS, Senior and Junior, required at once. Apply by letter, stating qualifications and salary required. Martin & Martin & W. H. Ward, 106, Colmore Row, Birmingham, 3. 2756

ASSISTANT required by Chartered Architects practising in South Coast town. Qualifications secondary to office experience (two years minimum). Pension Scheme, five-day week, £750 p.a. Apply Box 2733.

ARCHITECTURAL ASSISTANT required, Intermediate or recently qualified standard, to assist the Company Architect on new buildings and alterations connected with the development of a Chemical Works. Apply in writing, stating age, experience, etc., to the Chief Engineer, Messrs. Hickson & Welch Ltd., Ings Lane, Castleford, Yorkshire. Salary will be by arrangement. 2734

INTERMEDIATE ASSISTANT, with several years' office experience, required. Five-day week. Salary according to ability and experience. Details of training, experience, etc., to: Felix Walter, F.R.L.B.A., 4, Raymond Buildings, Gray's Inn, W.C.1. 2736

RILEY & GLANFIELD require MALE ASSISTANT of Intermediate standard. Work: Church, industrial, housing and public house. Some general office experience is necessary. Tel. CHA. 7328. 2737

CROYDON.—Experienced and competent ARCHITECTURAL ASSISTANTS required. Write, stating fullest particulars, to Graham Crump and Denis Crump, F/A.R.I.B.A., Chartered Architects, 43, George Street, Croydon. 2744

ASSISTANT ARCHITECTS for Co-operative Wholesale Society Ltd., Architect's Department, Cardiff. Salary scale £600—£870 p.a.

Applications are invited to fill positions at the Cardiff Branch Office. Salary according to age, qualifications and experience. The posts are superannuable, subject to medical examination. Five-day week in operation.

Applications, stating age, experience, qualifications and salary required, to: W. J. Reed, F.R.I.B.A., Chief Architect, Co-operative Wholesale Society Ltd., 99, Leman Street, London, E.1. 2743

ASSISTANTS required in small but busy office in West Country. Wide variety of work. Five-day week. Please send full particulars of experience, training, etc. Salary by arrangement. Ronald Vallis, F.R.I.B.A., 6, North Parade, Frome, Somerset. 2750

ASSISTANT ARCHITECTS, recently qualified men, or those near finals, required in the Architect's Department of Richard Costain Ltd. Permanent and pensionable posts. Address applications to Assistant Personnel Officer, 111, Westminster Bridge Road, London, S.E.1. 2752

ARCHITECTURAL ASSISTANTS required by Sir William Halcrow & Partners for Architects' Department. Intermediate and Final standard. Salary according to age and experience. Apply, giving particulars of age, qualifications and experience, to E. J. D. Mansfield, A.R.I.B.A., Sir William Halcrow & Partners, 47, Park Lane, London, W.1. 2761

ASSISTANT for general practice. Either keen Junior or good Draughtsman up to Final standard. Ability and enthusiasm more important than qualifications. Details and availability to Saunders & Partners, 18, Queens Parade, Grimsby, Lincs. 2732

ASSISTANTS required by Mayfair Architects and Planning Consultants with varied home and overseas practice (five-day week). Telephone for appointment, Regent 2291. 2766

ARCHITECTS' Department, Groves & Whitnall Ltd., require permanent ARCHITECTURAL ASSISTANT, £750—£800, capable of preparing working drawings and details from sketches, providing information for Q.S., writing specifications for minor works, and generally taking charge of projects to completion. Age 25 to 35 preferred. Driving licence an asset. Modern, well equipped, progressive office, small in numbers. Canteen. Contributory Pension Scheme. Applications, with maximum information, to Company Architect, Regent Road Brewery, Salford, 5. Applicants for previous post may re-apply. 2726

SCHWEPPES Architects Department requires ASSISTANTS of R.I.B.A. Intermediate standard. Interesting and varied work in connection with company expansion. Some travelling involved. Applicants must be resourceful and able to work with minimum supervision. Five-day week; canteen; pension scheme. Write stating age (which must be under 30), previous experience and salary required to Personnel Manager, Schweppes House, Connaught Place, W.2. 2845

ARCHITECTS are required by the United Kingdom Atomic Energy Authority, in the Chief Architect's Department at its Industrial Group Headquarters, Risley, Warrington, Lancashire, to work on a large building project, and be responsible for detailed design of individual buildings within the project. Close co-operation with engineering sections will be involved.

Candidates must hold the professional qualification of Associateship of the R.I.B.A. or be Registered Architects. A thorough knowledge of modern building construction, specifications, costs, and contractual procedure is essential.

Salary between £1,300 and £1,740 according to qualifications and experience.

Contributory Superannuation. Staff housing scheme.

Send postcard for application form, quoting reference 2902/J41, to Recruitment Officer at above address.

Closing date: 16th February, 1959. 2841

COMPANY ARCHITECT required to take charge of Architect's Department of large firm of building and civil engineering contractors. Candidates must be capable of designing and supervising building projects from inception to completion. An interest in the use of modern materials and new building techniques would be an advantage. Apply giving full particulars of experience, qualifications, salary required, etc., to Box 2856.

MATKIN & HAWKINS require competent ARCHITECTURAL ASSISTANT. A responsible and progressive post. Varied and interesting programme. Good salary offered according to experience. Pension scheme available. Applications giving full particulars and salary required to Barclays Bank Chambers, Fawcett Street, Sunderland. 2890

SCHERRER & HICKS require in their London Office ARCHITECTURAL ASSISTANTS with contemporary outlook willing to use own initiative. Salary £600 to £900. Write giving full particulars of experience and salary required to 19, Cavendish Square, W.1. 2829

LANCHESTER & LODGE urgently require an ARCHITECTURAL ASSISTANT nearing Final standard to assist on large and interesting University project. Write full particulars: 10, Woburn Square, London, W.C.1. 2832

LANCHESTER & LODGE urgently require a JUNIOR ASSISTANT with minimum of 2 years' experience. Write full particulars: 10, Woburn Square, London, W.C.1. 2833

ARCHITECTURAL ASSISTANTS, Intermediate standard, required in Architect's Department for work in connection with flat, maisonette, shop and housing developments throughout the country. Applicants must be competent draughtsmen with contemporary outlook. Good salary and prospects. Pension scheme in operation. Apply T. W. Matthews, Esq., Davis Estates Ltd., 346-350, Kilburn High Road, N.W.6. 2835

COLLINS, MELVIN, WARD & PARTNERS, require ARCHITECTURAL ASSISTANT for their Sheffield office. Write: 281, Glossop Road, Sheffield, 10, or telephone 29922, for an appointment. 2836

ASSISTANT required in small but busy office specialising in commercial development, about Intermediate standard but not necessarily school trained. Good prospects to keen ambitious man. Salary £650. Philip Nicolle, Chartered Architect, 53, London Road, St. Albans. 2846

SENIOR ARCHITECTURAL ASSISTANTS required with good training and experience, capable of handling jobs from beginning to end. Excellent opportunities for suitable applicants. Apply in writing stating age, training, experience and salary required to J. Stanley Beard, Bennett & Wilkins, National Bank House, 101, Baker Street, London, W.1. 2855

PRINCIPAL in new practice in Ilford requires part-time ASSISTANT, contemporary outlook essential. Post might suit married woman. Write Box 2847.

JUNIOR ASSISTANT required for varied work in private practice, Croydon district. Write with age, experience and salary required to Box 2844.

BRIGHTON AND HOVE. Experienced Senior and Junior ASSISTANTS required for small office. Salaries up to £800 per annum. Box 2843.

ARCHITECTURAL ASSISTANTS required by London Architects, should have experience of Commercial and Industrial work and City Buildings. Salary £750 to £1,100 according to experience and ability. Five-day week, luncheon vouchers and pension scheme. Write Box JA/122, c/o 95, Bishopsgate, E.C.2. 2840

CORNISH firm requires young qualified ASSISTANT to develop and run Newquay office. Box 2850.

ARCHITECTURAL ASSISTANT, Intermediate/Final standard, for industrial and commercial projects. Five-day week, excellent prospects. Particulars of age, experience, and salary required to Hal Williams & Company, 43, Bedford Square, W.C.1. 2852

ARCHITECTURAL ASSISTANTS of Senior and Intermediate standard required for varied and interesting programme of work. Experience in contemporary design and construction essential. Salary by arrangement. Applications giving full details of experience to Cruickshank & Seward, F.R.I.B.A., 196, Deansgate, Manchester 3. 2853

ARCHITECTURAL ASSISTANT with at least five years' experience required in small but busy London practice. Varied and interesting work. First-class Draughtsmanship essential. Applications giving full particulars and salary required to Box 2854.

ARCHITECTURAL ASSISTANT required, about Intermediate standard, knowledge of specifications an advantage. Full particulars to D. B. Lawrence, A.R.I.B.A., 59A, Southgate, Sleaford, Lincs. 2857

I REQUIRE a young architect enthusiast at once for my growing Norwich practice. Junior partnership offered as soon as able to take charge. Starting salary approximately £750. But will increase quickly as justified. Very interesting small and large jobs coming on. Car owner essential. Send full particulars. Box 2937.

ASSISTANT ARCHITECT (Associate) required by private firm in Nigeria. Single man. Eighteen month tour in first instance. Passages, living accommodation and car provided. Salary according to age and experience. Box 2933.

INTERMEDIATE ASSISTANT required by Guy Morgan & Partners in their London office. 'Phone SLOANE 0624 for appointment. 2936

NORFOLK Office requires Single ARCHITECTURAL ASSISTANT of about Intermediate Standard. Experience in Local Authority Housing an advantage. Reply with details of age and salary required to Box 2935.

ARCHITECTURAL ASSISTANT required for Brewery Architect's Office. Capable of proceeding from sketch stage, largely licensed houses and hotels; good knowledge of design and construction essential; previous experience in brewery work not necessary. Full details, age and salary required to the Architect, Thomas Ramsden & Son Ltd., Stone Trough Brewery, Halifax. 2941

TAYLOR WOODROW require two ASSISTANT ARCHITECTS capable of producing working drawings and details. Age immaterial if experienced. Salary £800 to £1,000 p.a. Please write Personnel Manager, Taylor Woodrow Services Limited, Western House, Western Avenue, Ealing, W.5. 2940

BUCKINGHAMSHIRE firm of Architects within 30 miles of London, with a varied practice, require two qualified ARCHITECTURAL ASSISTANTS. Five-day week, salary according to age and experience. Please write giving full particulars to Box 2861.

ONE ARCHITECTURAL ASSISTANT, qualified and two ARCHITECTURAL ASSISTANTS, Intermediate standard, for Manchester firm of Architects. Write stating age, qualifications and experience to Box 2860.

NORTH & PARTNERS, Chartered Architects, Broadway, Maidenhead, have a vacancy in their Drawing Office for ARCHITECTURAL Senior and Intermediate ASSISTANT in the salary range £750 to £1,000. 2874

ARCHITECT (Chartered) required for West Midland practice with branch offices in Shropshire. Suitable recently qualified applicant. Basic salary in range £650—£750 plus share of profits. Modernised country cottage available. Apply giving full particulars, Box 2875.

ASSISTANT required to Architect and Surveyor. Some experience and good draughtsmanship essential. Apply to Herbert Cox & Gear, 2, Harpenden Road, St. Albans, Herts. 2876

TWO JUNIOR ASSISTANTS required, must be probationers of the R.I.B.A. and prepared to join an office scheme of day release for study at Hammersmith School of Architecture, for Intermediate R.I.B.A. Hare & Pert, A./A.R.I.B.A., 29, Elm Street, Ipswich, Suffolk. 2882

OPPORTUNITY for ARCHITECTURAL ASSISTANT, preferably with school training, at least two years' office experience, to handle complete jobs, mainly domestic, with the minimum of supervision. Very pleasant office, young staff, contemporary outlook. Salary £500—£600 a year, according to ability. Write, giving details of experience, etc., to Kenneth Steel & Hadley Colman, A./A.R.I.B.A., Chartered Architects, 7, The Crescent, Taunton. 2878

TECHNICAL OFFICER required, Bristol Building Centre, to answer enquiries on building products, etc. Salary commencing £350 p.a. Apply in writing to the Secretary, Bristol Building Centre, Colston Avenue, Bristol 1. 2879

BIRMINGHAM. Clifford Tee & Gale, F./F.R.I.B.A. require an Intermediate standard ASSISTANT and a qualified ARCHITECT for interesting commercial and industrial work. Please apply to Mr. R. G. Cox, F.R.I.B.A., 43, Frederick Road, Birmingham 15. Tel.: Edgbaston 3016. 2886

ARCHITECTURAL ASSISTANTS required in London and Bishop's Stortford Offices. Intermediate to Final standard. Apply: Gerald Lacoste & Partners, 24/, Regent Street, W.1. 2887

YOUNG ARCHITECT required. Croydon area. Must be conversant with housing schemes and estate development and capable of working on own initiative. Survey, planning and submission of complete schemes for approval. Preference given to man with qualifications. State age, salary, experience, and if car owner. Box 2910.

KENNETH SCOTT ASSOCIATES urgently require one qualified unmarried ASSISTANT to work in their Accra office and two ASSISTANTS of Intermediate R.I.B.A. standard with some office experience to work in their London Office on a hospital project. Write with full particulars of qualifications and experience to: 154, Shepherds Bush Road, London, W.6. 2907

VERNER REES, LAURENCE & MITCHELL urgently require two ASSISTANTS between Intermediate and Final. Salary by arrangement. Prospects. Ring PARK 3900 for interview or write 38, Holland Villas Road, W.14. 2906

NORMAN & DAWBARN invite applications from ARCHITECTURAL ASSISTANTS at Intermediate/Final standard with at least three years' office experience. Salary between £750 and £900. Work mostly in London. Write to: 7, Portland Place, W.1, giving full particulars. 2904

INTERMEDIATE standard ARCHITECTURAL ASSISTANTS required. Office in Holborn area. Salary range £500/£800, dependent on experience and capability. Write Box 2903.

HAMMETT & NORTON require ARCHITECTURAL ASSISTANTS with contemporary outlook and sound knowledge of construction to work on Hospital, Hotel and University projects. Salary £600—£900. Apply in writing giving full particulars to 29 Sackville Street, London, W.1. 2902

ARCHITECTURAL ASSISTANT, Intermediate standard required, for Bath Office. Salary in accordance with experience, maximum £500 p.a. Box 2898.

ANDREW BUCHAN'S BREWERIES, LIMITED, RHYMNEY, MON., requires a SENIOR ARCHITECTURAL ASSISTANT in their Estate Department for work on alterations to licensed premises. Applicants should be experienced in all phases of Architectural work, and should preferably be under 35 years of age. Salary £850. Superannuation Scheme. Car Allowance. Accommodation provided if required. Particulars of training, qualifications and experience should be forwarded to the Company Architect. 2914

CLYDE NAVIGATION TRUST
ARCHITECTURAL ASSISTANT

APPLICATIONS are invited for the appointment of a qualified Architectural Assistant on the Staff of the Trust.

Applicants must have several years' experience in the design and construction of industrial and office buildings. A knowledge of estimating and the preparation of specifications and bills of quantities would be an advantage.

The appointment will be initially in the salary range of £1,080/£1,280 per annum according to age, qualifications and experience. The post is pensionable and carries good prospects of early promotion to the higher senior salary grade.

The successful applicant will require to pass a medical examination and become a member of the Trustees' Superannuation Fund.

Applicants should state age, education, qualifications, full particulars of training and experience, and present salary.

Applications, which will be treated in strictest confidence, should be lodged with the Engineer, Clyde Navigation Trust, 16 Robertson Street, Glasgow, C.2. 2919

ASSISTANT required, with a sound all-round knowledge. Good detailer and draughtsman to fit into an office carrying out many types of work. Experience in domestic and school building essential. Write or telephone A. R. Dannatt & Son, F./F.R.I.B.A., 65A, Duke Street, Chelmsford 3957. 2927

LLEWELLYN SMITH & WATERS require SENIOR and JUNIOR ASSISTANTS for a widely varied programme of work. Salary according to experience. Please write, stating qualifications, experience and age, to 103, Old Brompton Road, S.W.7. 2446

SHELL-MEX AND B.P. LTD. require for their Birmingham Office a fully qualified and experienced SENIOR ARCHITECTURAL ASSISTANT for work on varied commercial projects, including Service Stations. Salary according to experience. Position will be pensionable. Excellent working conditions. Apply in writing giving full details of age, qualifications and experience to the Staff Supervisor, Shell-Mex and B.P. Ltd., 14, Bennetts Hill, Birmingham, 2. Second applications cannot be accepted. 2918

IPSWICH. ARCHITECTURAL ASSISTANT, Intermediate or up to Final standard, required immediately for interesting work on domestic, commercial, and hospital schemes. Salary according to experience. Applications also invited now for SENIOR ASSISTANT, to be appointed later this year; position of responsibility requiring initiative. Apply in writing with full details to Leslie & Peter Barefoot, 22, Thorofare, Ipswich. 2921

BURLES & NEWTON require JUNIOR ARCHITECTURAL ASSISTANTS. The appointments offer experience and opportunity. Reply 25, Bedford Row, W.C.1. 2920

INTERMEDIATE and Final standard ASSISTANTS required. Minimum two years' office experience. Salary according to ability. Theo. H. Birks, 38, Portland Place, W.1. LAN 7236. 2932

EXPERIENCED ASSISTANTS required immediately by Hasker & Hall, L./F.R.I.B.A., for work in their London and Midland offices. Telephone Welbeck 0061 or Birmingham Knowle 3502. 2928

TAYLOR WOODROW CONSTRUCTION LTD., require ARCHITECTURAL ASSISTANT of Intermediate to Final standard and contemporary outlook. Perspective ability an advantage but not essential. Good salary commensurate with experience. Pension Scheme. Canteen facilities. Apply Personnel Manager, Ruislip Road, Southall, Middlesex. 2922

BIRMINGHAM firm of Architects require Final and Intermediate ASSISTANTS. Apply, giving full particulars, to Box 2763.

ARCHITECT'S ASSISTANT required for the London Office of a firm of Architects with interests throughout the country. Must be of Intermediate R.I.B.A. or R.I.C.S. standard. Superannuation scheme. Apply to: Cotton, Ballard & Blow, 5, Baker Street, London, W.1. WELbeck 3364. 2818

G. E. GREY, A.R.I.B.A., A.A.Dipl., requires ASSISTANTS for very interesting projects. Salary range £500—£900; scope for initiative. Five-day week, congenial working conditions. "Penmaen House," Belper, Derby. 2817

WELL-KNOWN progressive Architect, in West-Central London, whose current work includes a Town Hall, high flats, bank modernizations, schools, requires TWO forward-looking ASSISTANTS; one to work immediately under an associate partner, also one more junior, about sixth year Evening School standard. Five-day week, salaries according to ability and experience. Write Box 2814.

STREATHAM Architects with young Practice require Pre-Intermediate ASSISTANTS. Office experience essential. Good opportunity for responsibility and experience. Ring STR. 8077. 2793

CAPABLE and experienced ASSISTANT ARCHITECTS required. Interesting and varied work; good salary and prospects for suitable applicants. Non-contributive Pension Scheme. State age, experience and salary required. Tom Mellor, B.Arch., A.R.I.B.A., A.M.T.P.I., 8, The Old Market Hall, Lytham, Lancashire. 2770

ARCHITECTURAL ASSISTANT required from about Intermediate standard to recently Qualified, for interesting and varied work in practice mainly concerned with commercial projects. Five-day week. Congenial working conditions. Salary by arrangement. Apply in writing, giving full particulars, age, to J. Alfred Harper & Son, Union Chambers, 63, Temple Row, Birmingham. 2447

RONALD WARD & PARTNERS require ARCHITECTURAL ASSISTANTS with contemporary outlook and willing to use own initiative. Salary range £600 to £900. Congenial working conditions. Five-day week. Apply 29, Chesham Place, Belgrave Square, S.W.1. Telephone Belgravia 3361. 2309

LEADING Firm of Building Surveyors (City of London) requires JUNIOR ASSISTANT for Architect's Department. Must be well educated and keen to progress in profession. Salary according to ability. Box 2900.

SENIOR ASSISTANT required of Intermediate/Final standard in Croydon office. Varied practice of interesting work. Good draughtsman and sound knowledge of construction essential, together with ability to manage jobs. Five-day week. Salary according to experience. Apply George Lowe & Partner, 4, High Street, Croydon 3608/9. 2611

Architectural Appointments Wanted

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

ARCHITECT, 34, returning from overseas government service, requires post in U.K. from February 1st. Box 2899.

SENIOR ASSISTANT (31), Final standard, 12 years' varied experience, two in London, seeks change. Present earnings £950 p.a. Box 2784.

A.R.I.B.A. (45), Senior partner in progressive Colonial practice now returned U.K., available top level appointment London area. Remuneration by arrangement. Box 2938.

A. R.I.B.A. (38), 13 years' wide experience both here and overseas, car owner, at present holding responsible senior appointment, desires change to position with prospects, preferably south of England, but anywnere considered. Box 2721.

IMAGINATIVE 20-year-old Junior Architectural Assistant, with three-and-a-half years' office experience and schooling, seeks employment with a practical, creative architect. Only those with a genuine interest in furthering my future should reply. Box 2741.

A.R.I.B.A., school trained, seeks administrative position. Any interesting offer considered but Midlands area preferred. Salary £1,000 per annum. Box 2880.

SENIOR ARCHITECTURAL ASSISTANT desires change. Brighton or district. Thirty-two years' experience, from surveys to working drawings and F.S. details. Also site supervision. Salary £850. Box 2711.

ASSOCIATE, experienced in taking full control of first quality work, seeking appointment in Central London. Salary £1,250. Box 2915.

Other Appointments Vacant

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

CO-OPERATIVE WHOLESALE SOCIETY LTD. ARCHITECT'S DEPARTMENT, MANCHESTER
SENIOR SHOPFITTING DESIGNER required, experienced in shop equipment and modernisation of interiors. The position calls for the preparation of layouts and perspectives with a modern approach to store fitting problems. The post is pensionable, subject to medical examination. Five-day week in operation. Applications giving age, details of previous experience and salary required to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society Ltd., 1, Balloon Street, Manchester, 4. 2242

HENING & CHITTY, F.R.I.B.A., require SENIOR and JUNIOR DRAUGHTSMEN for design and construction of new Teacher Training Colleges. Write particulars to 30, Percy Street, London, W.1, or telephone MUS. 8577. 2749

YOUNG LADY required by Shopfitters to prepare layouts of schemes and presentation drawings. Shopfitting experience not essential, but must be good draughtswoman. Interesting and progressive post with expanding organisation. Write, giving full details, Storefitting Division, Constructional Units Ltd., Oxgate Lane, Cricklewood, N.W.2. 2767

QUANTITY SURVEYOR / ESTIMATOR (Senior) required by Building and Civil Engineering Contractors, London. Only man capable of measuring on site, intermediate taking off and working up on own initiative need apply. Experience of variations and handling of Civil Engineering and housing Contracts required. Excellent salary and prospects. Reply Box 2718.

IMPERIAL CHEMICAL INDUSTRIES LIMITED, PLASTICS DIVISION, has vacancies for two STRUCTURAL / CIVIL ENGINEERING DESIGN DRAUGHTSMEN and for one ARCHITECTURAL ASSISTANT, all of Final standard.

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.

It is implicit in the function of the CIVIL/ARCHITECTURAL section that it should co-operate easily with other technical staffs both inside and outside the Chief Engineer's Department.

Five-day, 39-hour week. Pension and Profit Sharing schemes in operation. Apply briefly to the Staff Manager, Imperial Chemical Industries Limited, Plastics Division, Black Fan Road, Welwyn Garden City, Herts. 2803

A DESIGNER with Architectural experience, imagination and progressive ideas required. Apply Trehearne & Norman, Preston & Partners, Architects & Surveyors, 83, Kingsway, W.C.2. HOL 4071. 2888

EXPERIENCED SHOPFITTING DRAUGHTSMAN. An experienced designer/draughtsman is required by Shopfitters. Write in first instance Ref. AJ/D. Courtney, Pope Limited, Amhurst Park Works, Tottenham, N.15. 2885

MONRO & PARTNERS require ARCHITECTURAL DRAUGHTSMEN for their London Office. Salary £600—£800 depending on experience. Five-day week. Apply 32, Clarendon Road, Watford. 2838

ARCHITECTURAL DRAUGHTSMAN required by large Building Company in Cornwall. Applicants should have at least two years' experience as a senior. Apply stating experience, age and salary required to Box 2831.

SHOPFITTING DRAUGHTSMAN. Progressive post. H. Mills & Sons Ltd., 1,068 High Road, N.20. Hillside 3345. 2849

WATER COLOUR ARTIST required for employment in the Colour Service Studio, Paints Division, Imperial Chemical Industries Ltd., to prepare drawings showing colour schemes for buildings. Exceptional skill in draughtsmanship and a well-developed colouring technique, adaptable to the speedy production of freely drawn and coloured sketches, are essential qualities. Some knowledge of architectural design is desirable. Pensionable post. Apply giving full particulars of experience to the Staff Officer, Imperial Chemical Industries Ltd., Paints Division, Wexham Road, Slough, Bucks. 2842

DRAUGHTSMAN—ARCHITECTURAL. To assist in preparation of design and detail drawings in connection with the A.75 system of construction. Work covers a wide field of buildings, schools, community centres, libraries, laboratories, health clinics, etc. Previous experience on this type of work not essential. Commencing salary £520 p.a. Applications to: Staff Architect, A. H. Anderson Ltd., 66, Victoria Street, S.W.1. 2916

Other Appointments Wanted

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

SENIOR ARCHITECTURAL DRAUGHTSMEN Our Architectural Section does a large, varied and interesting range of work.

It is situated in a locality which is rural, yet only five miles from the City of Cardiff.

To help maintain our standards in serving over 600,000 consumers we need senior architectural draughtsmen who have obtained, or are studying for, membership of the R.I.B.A.

The Salary will be £790—£890 and applications to our Personnel Officer at St. Mellons, Cardiff, will receive careful and prompt consideration.

THE SOUTH WALES ELECTRICITY BOARD
(Closing date for applications—
Thursday, 12th February) 2934

Services Offered

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

"DON" ARCHITECTURAL MODEL MAKERS. We offer the highest grade work with speed and reliability.—Please 'Phone Erith 3843 or Hastings 1366. 1673

MODELS FOR ARCHITECTS. Charles Longbotham specialises in this work and offers first class personal service to architects in the London area. Northcroft Studio, Northcroft Road, West Ealing, W.13. Phone Ealing 7349. 1436

THE SITE SURVEY COMPANY
Blackheath, S.E.3. Tel.: LEE Green 7444-5
Fully equipped to undertake urgent Engineering and Architectural surveys in any part of the country and abroad. Specialists in 1 in. scale detailed surveys for extensive city development areas. 1890

SURVEY of land or buildings, also drawings, specifications, quantities, final accounts. Estimates prepared for new, existing or conversion work. LIV. 1839. 2356

STONE Restoration and Cleaning Contracts undertaken throughout the country. Peter Cox & Partners Ltd., 33 North Row, W.1. MAY 1306. 2642

ARCHITECTURAL Assistant, R.I.B.A. Final standard, 11 years' experience, offers part-time assistance, working drawings, details, etc. London area. Box 2939.

DALMO MODELS. Architectural and Industrial Models skilfully executed. Particulars from 89, Park Avenue, Hull. Tel. No. 17960. 2837

FIRST CLASS ARCHITECTURAL PERSPECTIVE ARTIST is now in a position to undertake Commissions. Fully experienced in all periods of architecture and interior decoration. Box 2931.

For Sale and Wanted

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

WANTED. Copies of *The Architectural Review* for May, June, July and September, 1957, and February, 1958. Box 2871.

DRAWING BOARD, 36 in. × 54 in. and steel insert "T" Square. £7 o.n.o. Weaver, Coach House, Yeoveney Lodge, Moor Lane, Staines, Middx 2908

LAND FOR SALE, Green Belt, Middx., 17 miles London. Permission 3 or 4 dwellings. Might split. Box 2909.

E.N. MASON 32 in. HORIZONTAL CONTINUOUS PHOTO COPIER for sale. Suitable for making copies from linen tracings. Two 10 amp. arc lamps. Motor driven for 230 volts, 1 phase, 50 cycles. F. J. Edwards Limited, 359, Euston Road, N.W.1, or 41, Water Street, Birmingham 3. 2870

Premises To Let

Six lines or under, 15s.; each additional line, 2s. 6d. Box No. including forwarding replies, 2s. extra.

PROFESSIONAL OFFICES in central Manchester. Suite of eight good rooms with excellent light for immediate occupation. Other suites in preparation. Apply to A. H. Kelly, 28, Oxford Street, Manchester, 1. CENtral 0718. 2738

Miscellaneous

4 lines or under, 9s. 6d.; each additional line, 2s. 6d. 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, 96/107, St. Paul's Road, N.1. Canonbury 2061.

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

ARCHITECTURAL METALWORK of all types supplied and fitted. Gates, doors, balustrades, staircases, steel structures. Design staff available.—Clayton & Bamber, Ltd., Carterfield Road, Waltham Abbey, Essex. 5823

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. 1600

SURVEYOR seeks small office, one or two rooms, in W.1, W.C. or N.W. districts. Reply to P. J. Wood & Co., 17, Clarges Street, W.1. MAY 1994. 2858

TIP for good hardcore available, approximately 3,000 cubic yards. Site in Battersea. Replies to Sir Robert Tasker & Partners, 3 Field Court, Gray's Inn Road, London, W.C.1. 2911

THE BRITISH ARCHITECTURAL STUDENTS' ASSOCIATION is compiling a list of offices willing to take students during vacation. Will any interested offices please write to The Permanent Secretary, BASA, The Building Centre, Store Street, W.C.1, stating minimum period, type of work, and possible salary. 2913

Educational Announcements

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

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

TUITION—Correspondence and Personal Tuition given for the R.I.B.A. Institute of Builders and Clerk of Works Institute Examinations, also in all aspects of Building, Engineering and Draughtsmanship. C. W. Box, F.R.I.B.A., 118, Gower Street, W.C.1. Euston 3906. 9911

COURSES for all R.I.B.A. EXAMS.
Postal tuition in Draughtsmanship, Design, History, Construction, Building Science, Structures, Materials, Testimonies, Professional Practice, etc.
Also Courses for G.C.E.
ELLIS SCHOOL OF ARCHITECTURE
Principal: A. B. Waters, M.B.E., G.M., F.R.I.B.A.
103B, Old Brompton Rd., London, S.W.7.
and at Albany House, Worcester

MODELS
Invaluable to Engineers, Consultants, Work Study experts and laymen alike.
For details of our stage-by-stage model scheme consult:—
Architectural & Industrial Model Co., Ltd.,
The Basement, 33 North Audley Street, W.1
Telephone: Mayfair 1697

WINCILATE
precision cut from blue slate
The Bow Slate & Enamel Co. Ltd.
B.R.Bow Depot
Old Ford Rd. E.3
ADVance 2203
cladding
cills
copings
flooring
paving
fireplaces
surrounds
skirtings
stairtreads
shelves

MODELS
for Architects & Civil Engineers
by John B. Thorp
EST. 1883
98 GRAY'S INN ROAD, LONDON, W.C.1. Tel.: HOLborn 1011

DALE ELECTRIC
CONTRACTORS (B'HAM) LTD.
25, BRISTOL ROAD,
BIRMINGHAM, 5. CAL. 3641

ANCHORAGES TO CONCRETE
SPEARPOINT Floor Clips to anchor wood floors to concrete.
DOVETAIL Masonry Slot and Anchors to anchor brick and stone facings to concrete.
ANKORTITE Box Fittings.
ABBEY BUILDING SUPPLIES CO.
26 Glenburnie Road, London, S.W.17
Telephone BALham 4451-4452

GUARANTEED EXAMINATION COACHING
for R.I.B.A., R.I.Ch. Surveyors, I. Qty. Surveyors, I.Mun.E., I.Struct.E., etc.
FIRST-CLASS INSTRUCTION COURSES
in all aspects of Architecture, Building, Draughtsmanship, Surveying, Civil, Municipal, Structural, and Sanitary Engineering.
Write for FREE prospectus.
INTERNATIONAL CORRESPONDENCE SCHOOLS,
71 Kingsway, (Dept. 472), London, W.C.2.

FIRST 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.

FOLD HERE

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

TUCK IN THIS END

Alphabetical index to advertisers

For Appointments (Wanted or Vacant), Competitions Open, Drawings, Tracings, etc., Education, Legal Notices, Miscellaneous, Property, Land and Sales, see 117, 118, 119, 120, 121, 122.

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_____

_____

5.2.59

CODE

- [ ]
- [ ] 0409
- [ ] 1154
- [ ] 0822
- [ ] 0422
- [ ] 0426
- [ ] 0815
- [ ] 0443
- [ ] 1043
- [ ] 0703
- [ ] 0460
- [ ] 0645
- [ ] 0734
- [ ] 0471
- [ ]
- [ ] 0496
- [ ] 0501
- [ ] 1121
- [ ] 1200
- [ ] 1108
- [ ] 0529
- [ ] 0531
- [ ] 0767
- [ ] 0352
- [ ] 0535
- [ ] 0908
- [ ] 0538
- [ ] 1201
- [ ] 0546
- [ ] 0547
- [ ] 0552
- [ ] 0558
- [ ] 0562
- [ ] 0811
- [ ] 1202
- [ ] 0586
- [ ] 0588
- [ ] 1095
- [ ] 0589
- [ ] 0599
- [ ] 0600
- [ ] 0604
- [ ] 0606
- [ ] 0610

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