

THE ARCHITECTS' JOURNAL



standard contents

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

NEWS and COMMENT

Astragal's Notes and Topics

Letters

News

Diary

Societies and Institutions

TECHNICAL SECTION

Information Sheets

Information Centre

Current Technique

Working Details

Questions and Answers

Prices

The Industry

CURRENT BUILDING

Major Buildings described:

Details of Planning, Construction,

Finishes and Costs

Buildings in the News

Building Costs Analysed

*Architectural Appointments
Wanted and Vacant*

No. 3244]

[Vol. 125

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 I one week, I to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

IHVE	Institution of Heating and Ventilating Engineers. 49, Cadogan Square. Sloane 1601/3158
IIBDID	Incorporated Institute of British Decorators and Interior Designers. 100, Park Street, Grosvenor Square, W.1. Mayfair 7086
ILA	Institute of Landscape Architects. 2, Guilford Place, W.C.1. Holborn 0281
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 7179
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. 47, Victoria Street, S.W.1. Abbey 6172
ISE	Institute of Structural Engineers. 11, Upper Belgrave Street, S.W.1. Sloane 7128
LDA	Lead Development Association. Eagle House, Jermyn Street, S.W.1. Whitehall 7264/4175
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1. Museum 3891
LSPC	Lead Sheet and Pipe Council. Eagle House, Jermyn Street, S.W.1. Whitehall 7264/4175
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 Asphalt 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. Abbey 5111
NEFMAI	National Employers Federation of the Mastic Asphalt Industry. 21, John Adam Street, Adelphi, W.C.2. Trafalgar 3927
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1. Langham 4041/4054
NFBTO	National Federation of Building Trades Operatives. Federal House, Cedars Road, Clapham, S.W.4. Macaulay 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 5721
RICS	Royal Institution of Chartered Surveyors. 12, Great George Street, S.W.1. Whitehall 5322/9242
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 Paint 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, London, E.C.3. Mansion House 3921
SIA	Society of Industrial Artists. 7, Woburn Square, London, 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

STEEL

FOR SAFETY, SERVICE

AND SATISFACTION...

FABRICATION

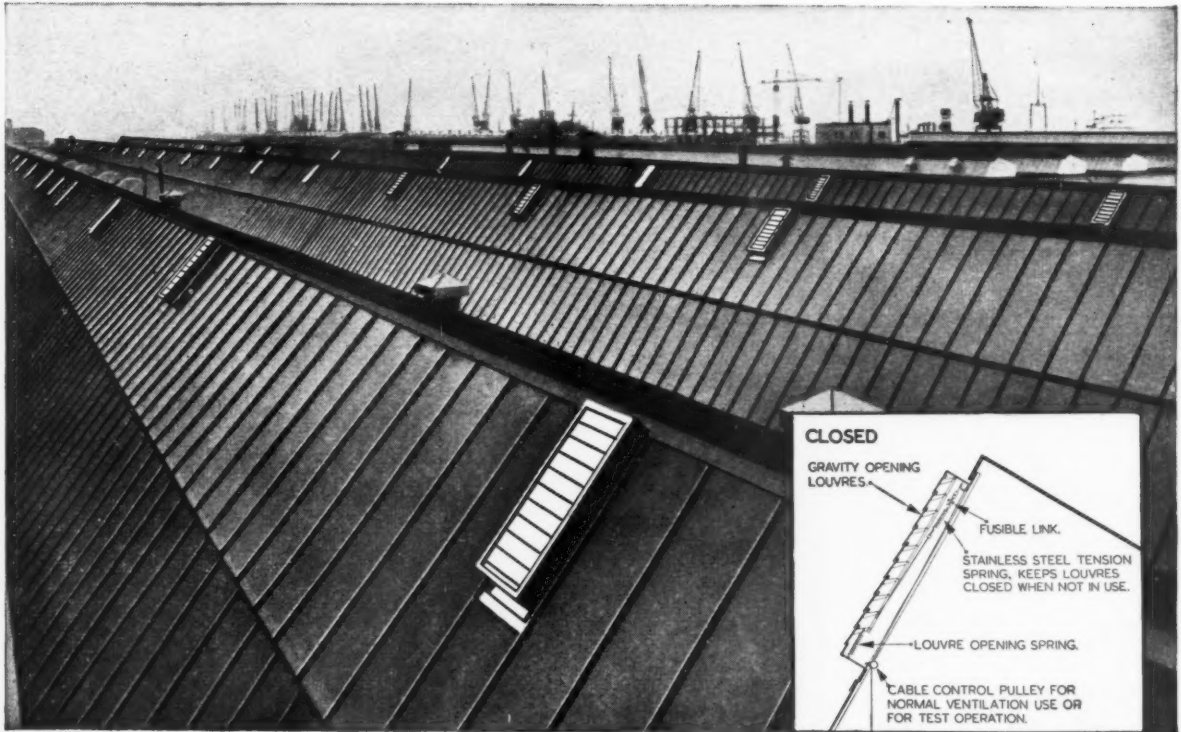
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with the COLT DUAL PURPOSE FIRE VENTILATOR

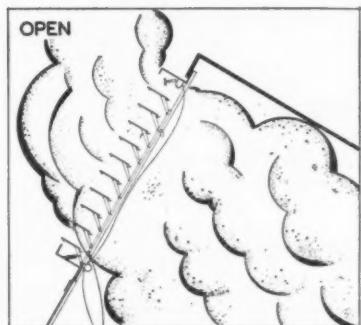
at AC-Delco, Division of General Motors Ltd., Southampton.

A study of industrial fires in Great Britain and in America has shown that the primary cause for the spread of fire is the super-heated air, smoke and explosive gases trapped under the roof. They build up in heat and intensity from the fire below and cause flash fires. Furthermore, the smoke rapidly extends downwards, entirely filling the premises and preventing the work of the fire fighters.

Colt have successfully solved this problem with the design of the Dual Purpose Fire Ventilator which provides ventilation during normal conditions and—in the event of fire—functions as a heat and smoke exhaust.

The installation of heat and smoke exhausts is standard practice in America and is rapidly being adopted by leading industrialists in the United Kingdom. Already, 1,290 Colt Dual Purpose Fire Ventilators have been installed in General Motors buildings in this country.

Write to Dept. L.9/5A for paper "Some Aspects of Fire Prevention in Industrial Buildings" by M. J. Reaney, which deals fully with this matter.



The insets illustrate the action of the ventilator as a Heat and Smoke Exhaust. In the event of fire, the fusible link fuses, providing Automatic Escape for Super-Heated Air and Smoke.



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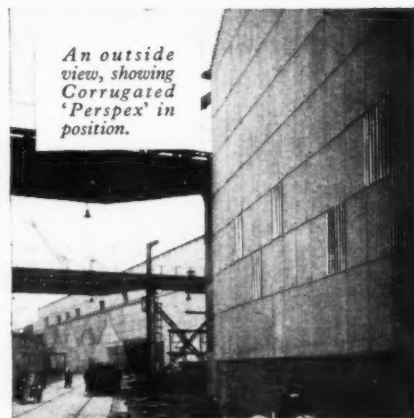
Corrugated 'Perspex' used as roof lighting in the shipyard of Alexander Stephen & Sons, Ltd., Linthouse, Glasgow. Photograph by arrangement with Newton, Robertson & Co. Ltd., Glasgow.

For roof lighting on the largest scale use Corrugated 'Perspex'

CORRUGATED 'PERSPEX' is the answer in all large buildings where good light conditions are important. Corrugated 'Perspex' acrylic sheet is tough, durable, and gives a very high transmission of daylight. It means good health, good morale and increased efficiency, as well as reduced lighting costs.

Corrugated 'Perspex' is light, easy to handle and inexpensive to install. It will stand up to weather conditions in any part of the world. It is not harmed by corrosive atmospheres in industrial areas. It is available in a wide range of profiles.

If diffused light is desired, Opal Corrugated 'Perspex' is available. Originally developed for intense light conditions overseas. Opal Corrugated 'Perspex' diffuses daylight evenly and efficiently.



An outside view, showing Corrugated 'Perspex' in position.

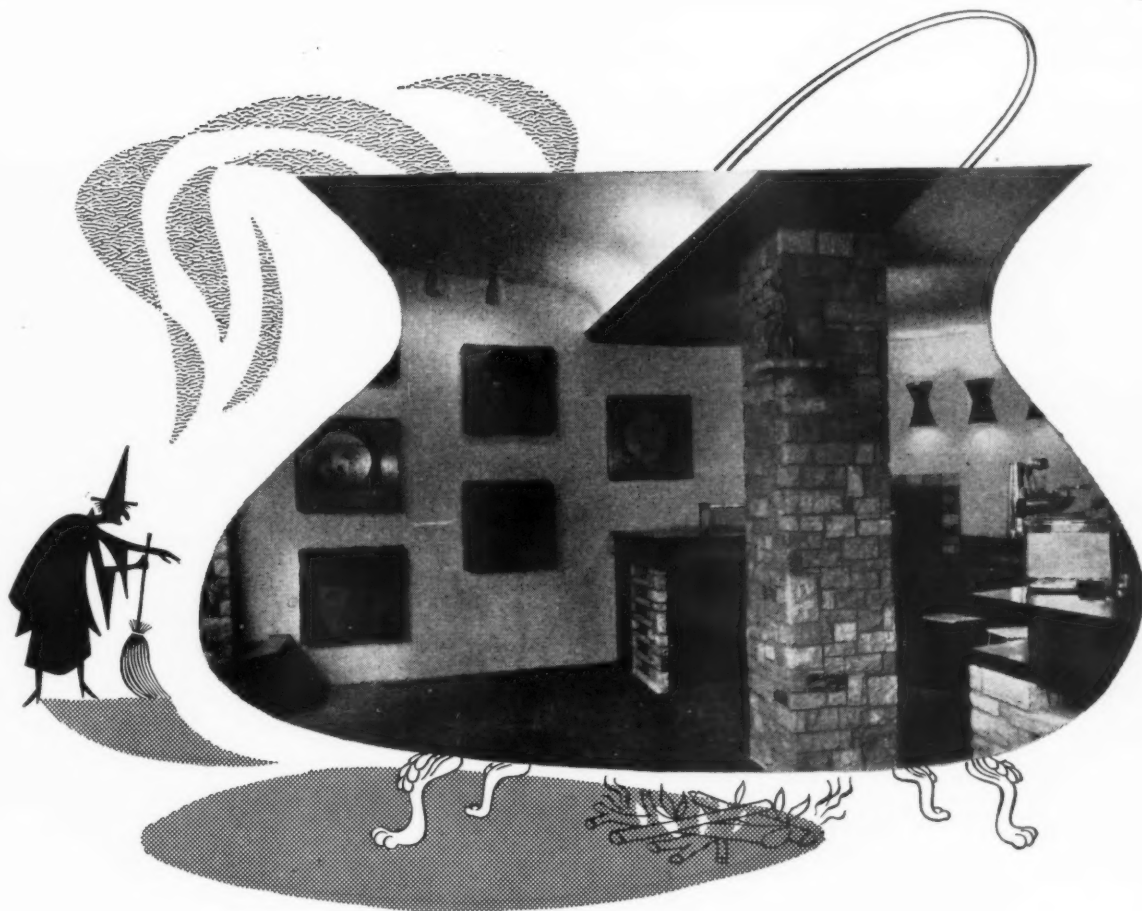


It's as clear as daylight—it must be
CORRUGATED 'PERSPEX'

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

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Evo-Stik Impact Adhesives are not magic, they are sheer technical wizardry! You simply apply Evo-Stik to *any* two surfaces, place them together and they are joined. Yes, an Evo-Stik bond 'takes' at once and becomes incredibly strong, quite permanent, oil and waterproof and heat-resistant within a matter of minutes. (No jigs or struts with Evo-Stik!)

The photograph composing our cauldron shows another successful application of Evo-Stik at Gaggia House, Dean St., London, W.1. All laminated walls and working surfaces have been bonded, wood to plaster, with Evo-Stik Impact Adhesive 528—making

possible an enormous saving in men, money and time.

Evo-Stik Impact Adhesives are used by practically every industry you can think of in practically every country in the world. It does not matter what you make or what materials you use, there are almost bound to be joining jobs which Evo-Stik can quicken and cheapen for you. Specify the job and our technical wizards will prescribe the right Evo-Stik adhesive. Write now for full technical details.



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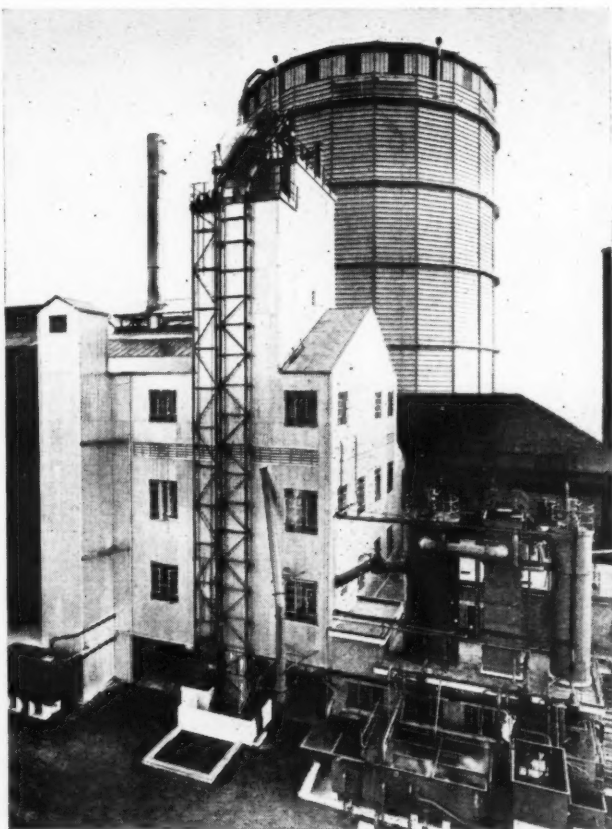
Rigidal for gasworks

The Complete Gasification Plant at Kensal Green, constructed for the North Thames Gas Board by Woodhall-Duckham Construction Co. Ltd., is the first installation in this country to incorporate the Gas Integral system.

For the entire cladding and roofing of the building the roofing contractors, Freeman Morrison Ltd. of London, Newcastle and Liverpool, used 'Rigidal' corrugated aluminium sheeting.

'Rigidal' offers important advantages for industrial installations of this type. It is highly resistant to the action of corrosive vapours and gases and therefore has a very long life, even in the most polluted atmosphere. It also retains its clean appearance and needs no painting, so that maintenance is reduced to the minimum.

*Photograph by courtesy of
The North Thames Gas Board and
Woodhall-Duckham Construction Co. Ltd.*



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PAINTING WALLS

as an alternative to

TILING

A hard, glazed wall surface that can be cleaned easily is a frequent requirement in a variety of buildings—especially on walls of corridors, staircase walls or in food preparation rooms, ablutions, toilets, etc.

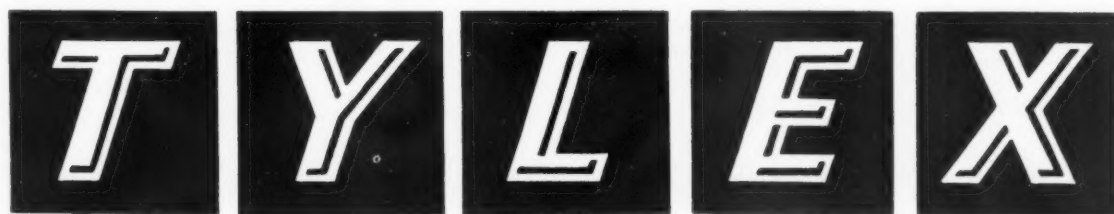
Cost may prohibit the use of glazed wall tiles and in some situations the liability of the joints of tiling to harbour dirt and germs may prove an objection.

TYLEX, the *tile-like* finish for walls is applied in the same manner as conventional paints and is available in black, white and colours. TYLEX does not absorb dirt; is resistant to mildew and many forms of chemical attack. It withstands humidity, steam, grease and oils and may be frequently washed. No preliminary sealing treatment is necessary on new walls. The **cost** of TYLEX is comparable with that of good quality paint.

TYLEX IS SUITABLE FOR

walls of hospital wards and corridors, sterilising rooms, kitchens, and other food preparation rooms, bakeries, brewhouses, food factories, indoor swimming baths, ablution rooms and laundries, school corridors, public lavatories, staircase walls of flats, etc.

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The Tile-Like Finish for Walls

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KEEP COOL

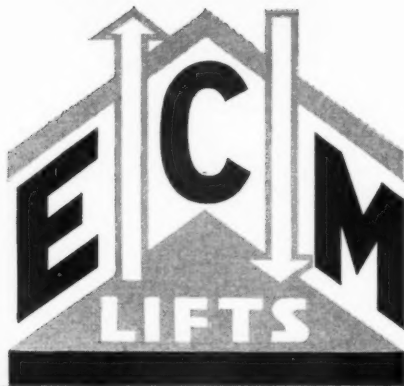
To keep an even temperature under all conditions is not always easy. When it's a question of thermal insulation in the factory, office or home, Fisher's Aluminium Foil will solve the problem — simply, speedily and economically. Fisher's Foils Limited specialise in rolling aluminium foil for thermal insulation.



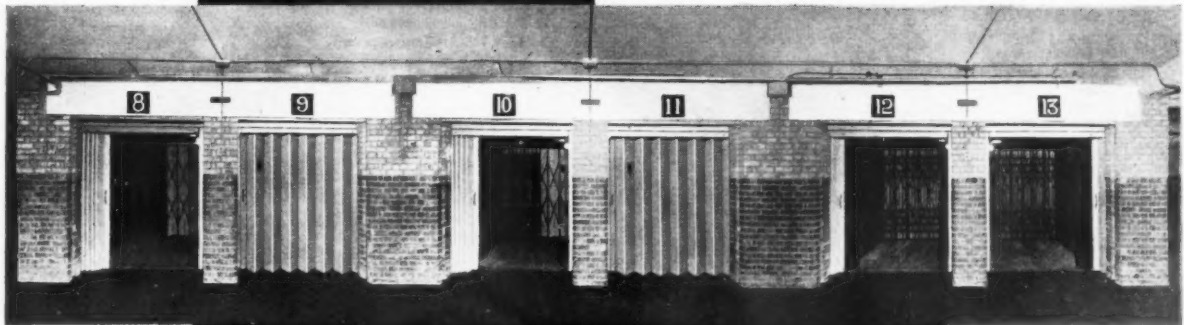
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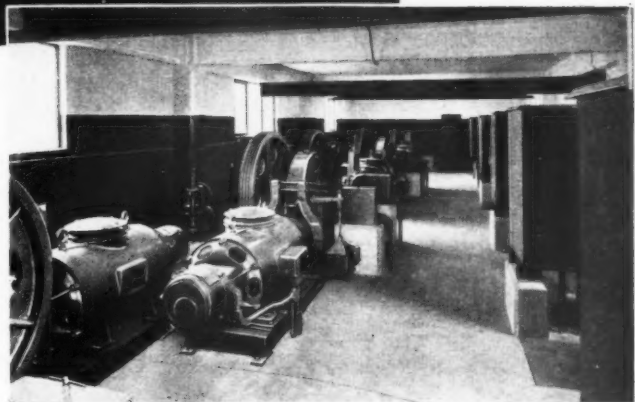


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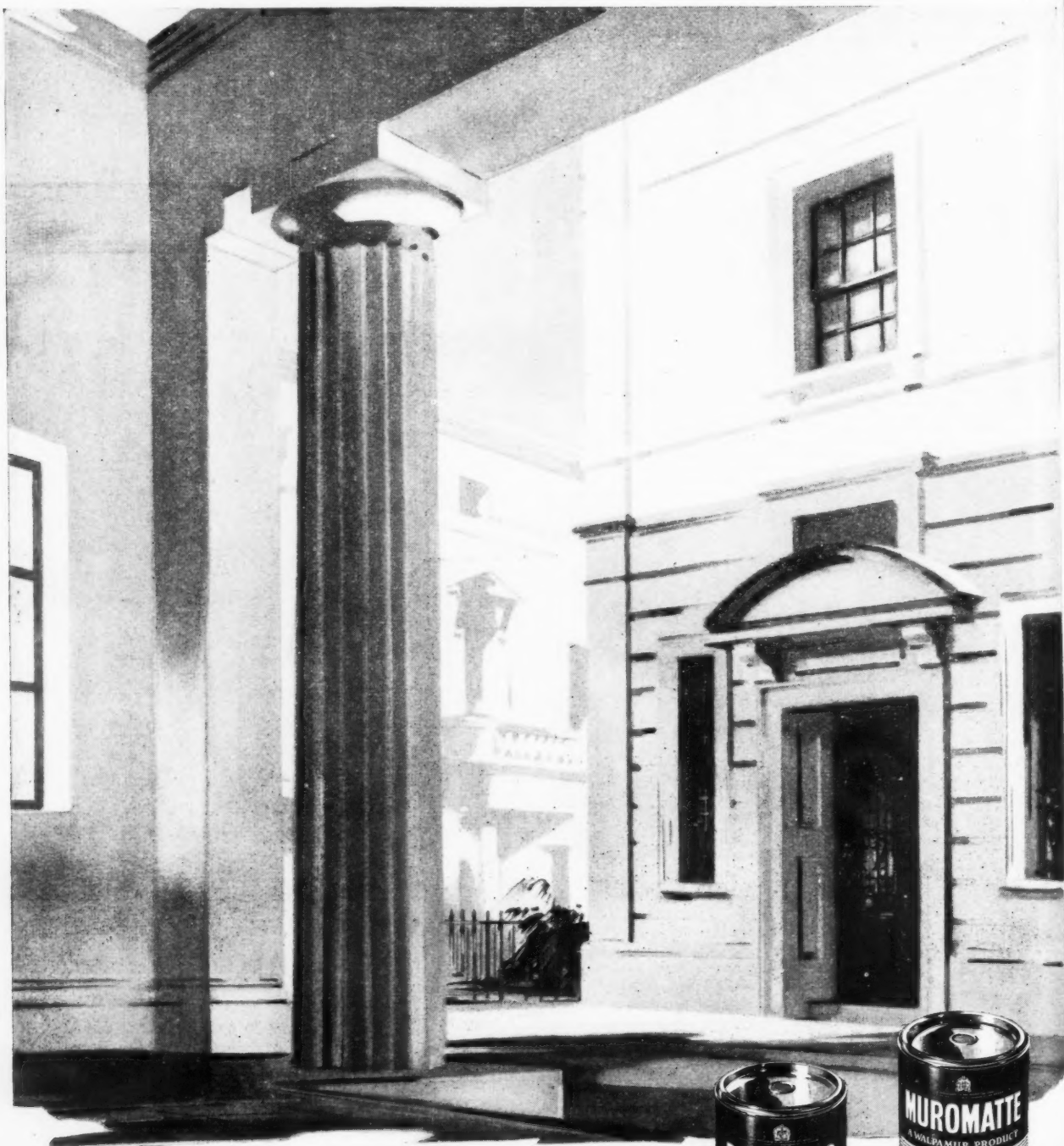
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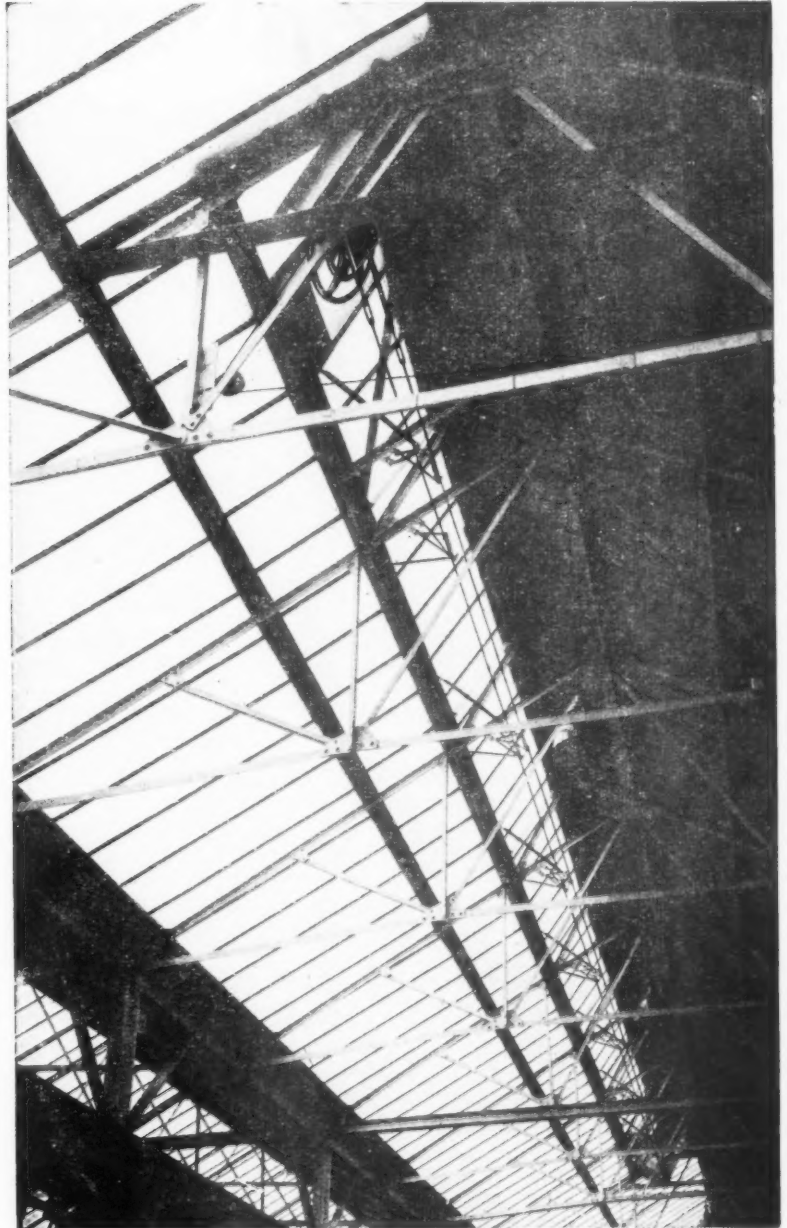


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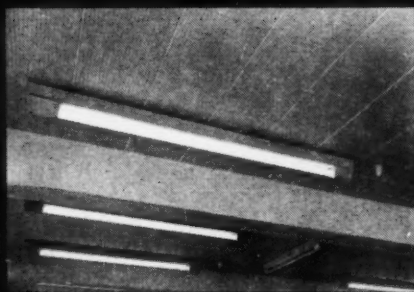
Acoustical Problems and their solution

No. **3**

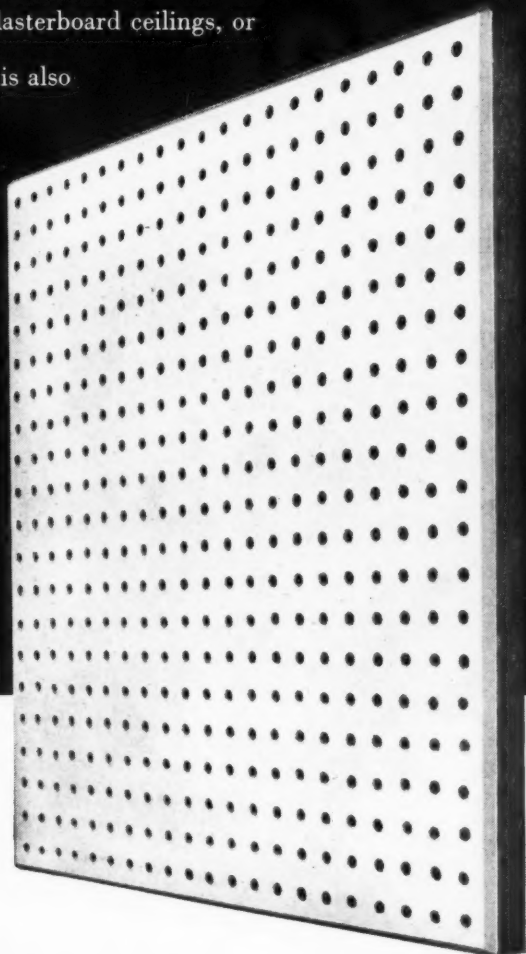
of a series by John Dale

Fibre Acoustic Panels

Ideal for low cost acoustical treatments. They are manufactured in bevelled fibre units in a variety of sizes and thicknesses. They can be stuck to plaster, rendered concrete or plasterboard ceilings, or fixed to battens. A demountable ceiling is also available using special clips.



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It deals with many aspects of noise and sound control, and illustrates some of the ways in which John Dale Engineers have dealt with them.

JOHN DALE

the Acoustical Engineers

*with an answer to **YOUR** Acoustic Problem*

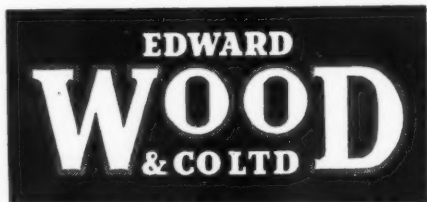
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LANDMARKS IN STEEL

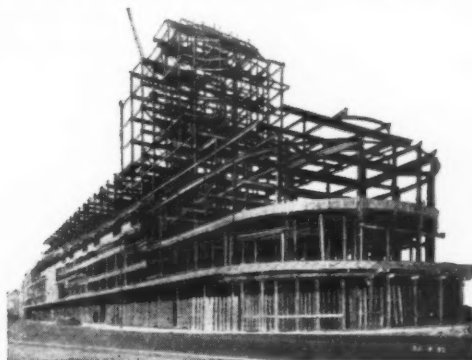


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General Contractors:
Griggs & Son Ltd.,
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London, S.W.1

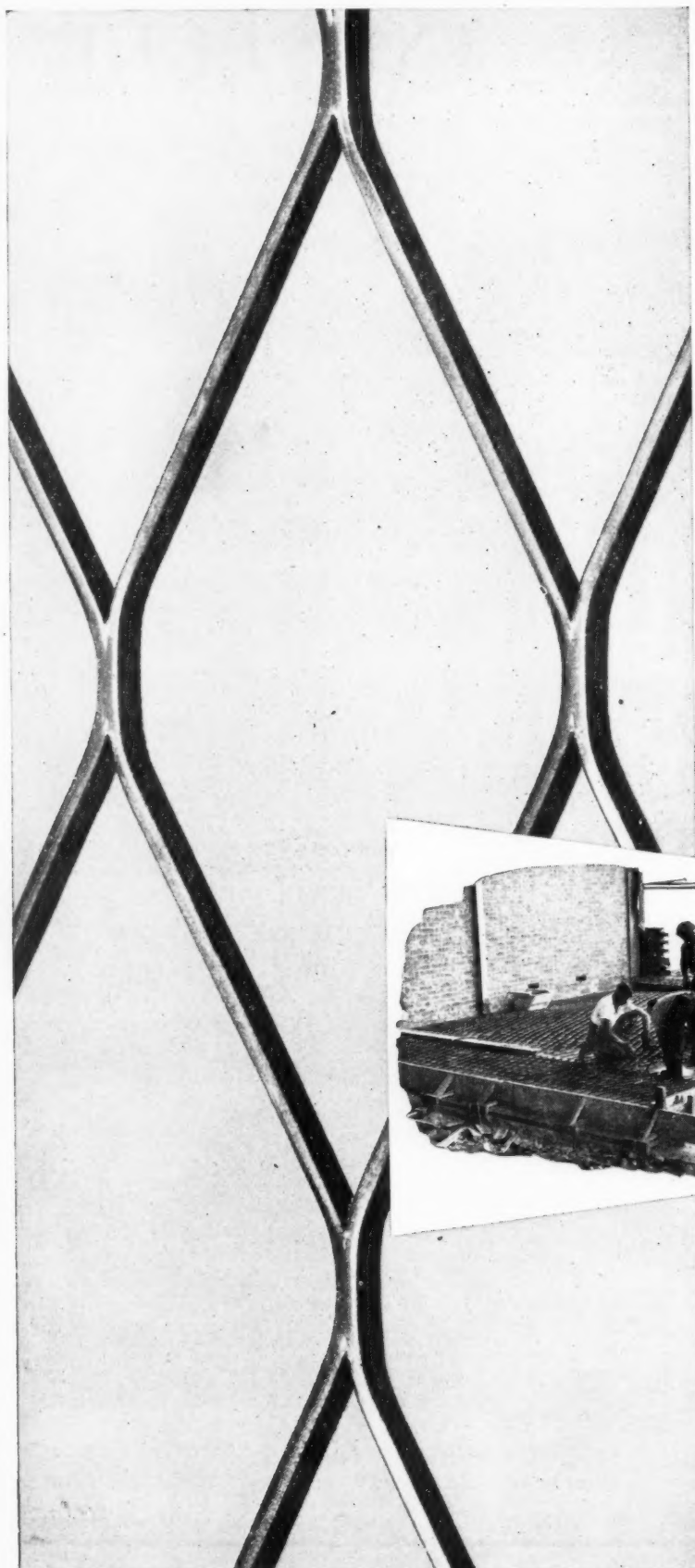


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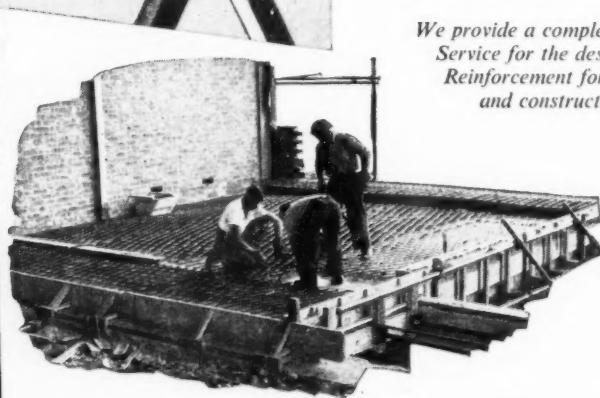


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We provide a complete Reinforcement Service for the design and supply of Reinforcement for all kinds of civil and constructional engineering.



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A

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We shall be very happy to answer all enquiries regarding any contracts you may have under consideration.

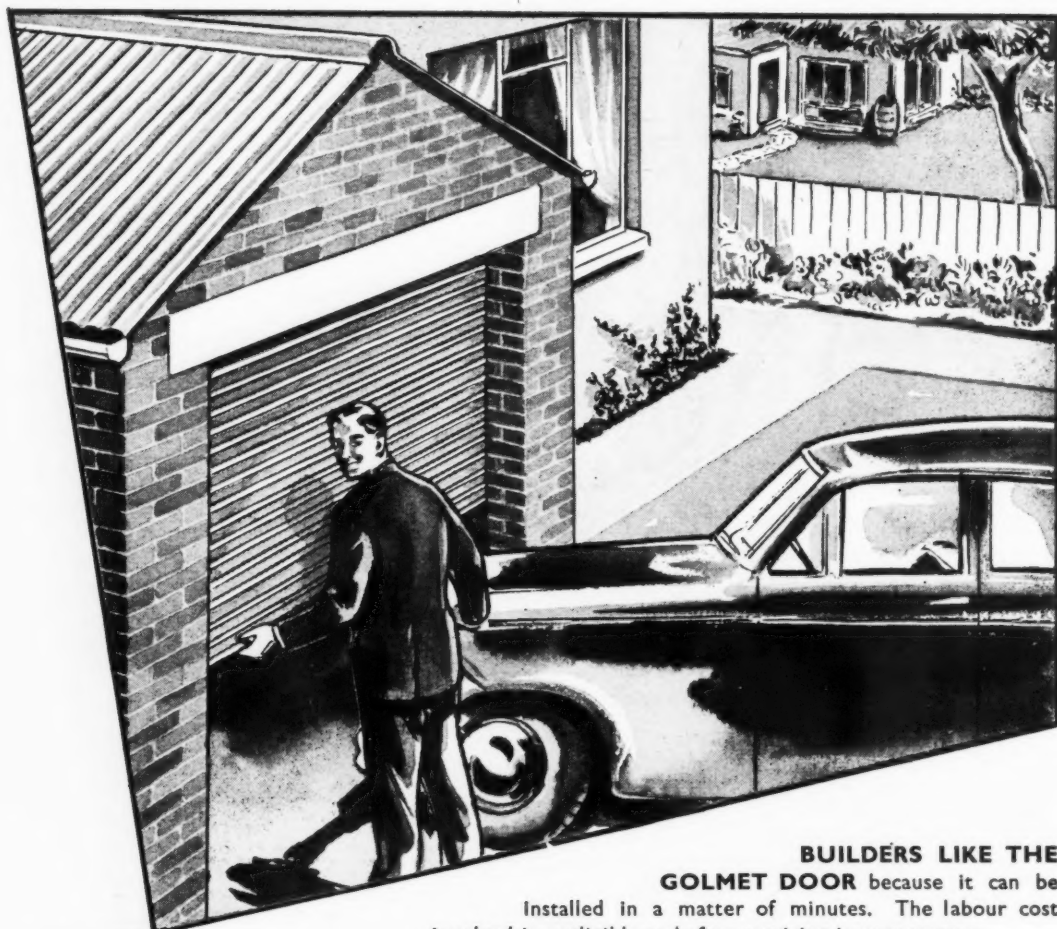
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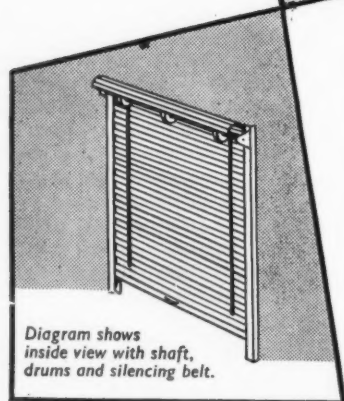


Diagram shows
inside view with shaft,
drums and silencing belt.

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Don't just say felt...

Specify

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There's a great difference between ordinary roofing felt and Black Sheathing Felt. A difference that is very important to the architect and builder. You can prove this for yourself by feeling the texture of B.S.F. —the tough fibres, evenly saturated with pitch, that become wedded so perfectly with hot asphalt. Split open a piece of B.S.F. and see how the open texture assures maximum insulation. In both cases, you will see the perfect penetration of the pitch with every fibre of the selected jute and felt used.

An experienced craftsman says this about B.S.F.: *"If the underlay is Black Sheathing Felt you've got a proved thermal insulator very much better than any other. Architects who specify Black Sheathing Felt do us a good turn!"*



- PLEASANT TO HANDLE
- DOES NOT FRACTURE
- DOES NOT ABSORB MOISTURE
- DOES NOT SHRINK



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- Provides rot and vermin proof asbestos coating which will withstand vibration
- Prevents condensation and consequent corrosion on steel surfaces

SPRAYED 'LIMPET' (Regd.) ASBESTOS was created to provide a form of thermal and sound insulation with many desirable features in one single operation. The process itself consists of the application, by means of a spray gun, of specially prepared forms of asbestos fibre which are discharged from

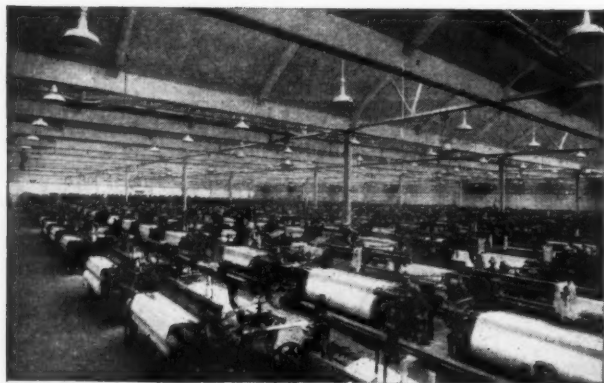
the main nozzle of the spray gun simultaneously with a spray of water. These thoroughly intermix on leaving the spray gun and firmly adhere to the surface being treated. Irrespective of the shape of the surface, Sprayed 'Limpet' Asbestos completely covers all joints, rivets, or protrusions in one continuous jointless coating, thus eliminating all air spaces with their accompanying disadvantages.

The nature of Sprayed 'Limpet' Asbestos coatings varies with the job in hand, but in all cases it is rot and vermin proof, will not be affected by vibration and for most applications is extremely light in weight. This is the ideal method of combining thermal insulation with sound absorption and admirably suits the needs of various types of auditoria, as well as for the reduction of noise levels in factories, offices and workshops. Full details are contained in our catalogue "Sprayed 'Limpet' Asbestos Insulation", sent on request.

CORROSION TEST



The photograph on the right shows the complete protection offered by Sprayed 'Limpet' Asbestos against corrosion. Both channels were subjected to the same conditions, the test being carried out in a dyeworks.



BIG NOISE REDUCTION

Sprayed 'Limpet' Asbestos has been used in this modern cotton weaving shed to reduce noise and for anti-condensation purposes. Photograph by courtesy of Richard Haworth & Co. Ltd., Hindley Green.

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(Regd.)

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ELECTRIC LAUNDRIES

COMMUNAL INSTALLATIONS

The provision of adequate facilities for the washing and drying of tenants' laundry in blocks of flats has presented problems which in the past have rarely been solved to the satisfaction of both tenants and landlords. As it is usually not considered desirable to provide these facilities in every flat, it has become the practice to build communal laundries for the use of the tenants.

Preliminary Considerations

As a rule, only two of the three main laundry operations—washing and drying—are carried out in a communal laundry; the third, ironing, is done in the tenant's flat. The time required for each tenant to do her weekly wash in comfort with the machines and equipment provided is of primary importance, as it usually forms the basis of charging for the use of the laundry; the machines and equipment are chosen to reduce this time to the minimum so that each laundry can serve a sufficient number of tenants in a day to make it self-supporting. Experience has shown, however, that the success of these laundries depends on good organisation and control by the landlord as much as on the equipment provided and its layout.

Water Supply

In all cases an ample supply of soft water (i.e., below 8 degrees hardness) is essential. The quantity required is determined by the type of washing machine installed (see below) and the frequency of daily use; it may vary between wide limits and is often critically influenced by the efficiency of supervision provided.

The hot water required can be provided simply and economically by a night storage installation taking electricity at off-peak rates. This is often arranged on the constant temperature varying volume principle in which the hot water is drawn off by gravity and not displaced by incoming cold water (see WH.1): the stand pipe is perforated, the lowest hole being just above the level of the immersion heaters so that the latter cannot be uncovered during operation (see Fig. 1). The storage vessel is refilled automatically via a ball-valve tank and the electricity switched on, at the end of each day: efficient insulation (4" granulated cork or its equivalent) is essential and it should be possible to withdraw the immersion heaters and thermostats for maintenance if required.

The Washing Operation

Four types of washing machine are in use in communal laundries in conjunction with sinks for rinsing and the washing of personal articles, woollens, etc., while the main load is in the machine.

- (i) The standard domestic type with power-operated wringer, and pump for emptying.
- (ii) The fully automatic type very similar to the domestic model which washes, rinses and partially dries the load without attention.
- (iii) Machines of the type used in commercial laundries, but smaller, which incorporate means of heating and boiling the water.
- (iv) A machine specially designed for communal laundries, incorporating its own heater and intended to be used in conjunction with the same maker's hydro-extractor.

Types (i) and (ii) are of comparatively small capacity (about 8 or 9 lbs. dryweight of clothes, etc.) and need to be supplied with hot water, type (i) from an ordinary tap via a short length of hose, and type (ii) by direct connection; a cold supply is also required. Type (iii) requires permanent connection with stop-cocks to the cold and sometimes the hot supply, whilst type (iv) with a maximum load of 22 lbs. dryweight should be fed by a tap discharging cold water into an opening in the top of the machine.

The amount of hot water required for each type of machine for an average family wash varies widely in practice, and is further modified by the amount of rinsing done by the various users. For a night-load water heater (as in Fig. 1) the total capacity may be based on an allowance of 20 gallons for type (i) washing machines, provided that careful supervision is employed, otherwise an allowance 50% greater may be advisable. Type (ii) machines require 35-40 gallons of hot water for an average family wash.

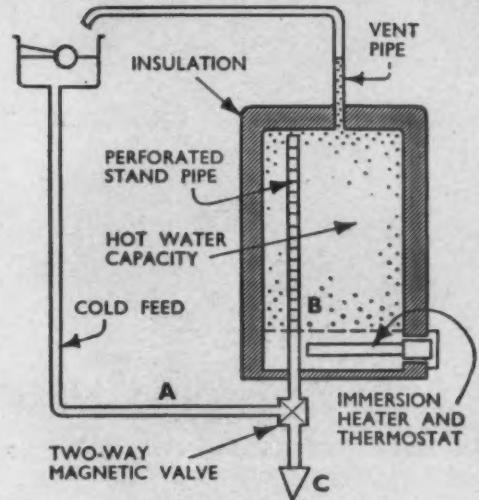
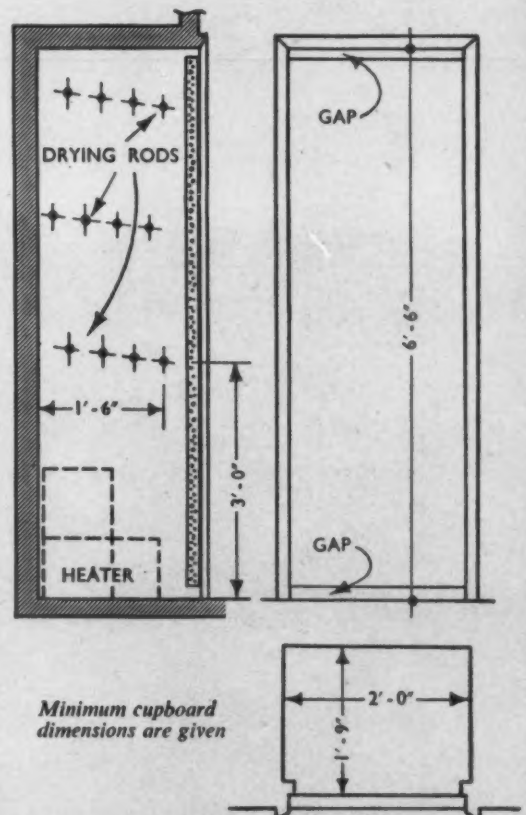


Fig. 1 Night-load water heater

During the day, valve opens in direction B C to permit draw-off of hot water; at night B C is closed, A B open, to refill tank, and electricity is switched on.



Minimum cupboard dimensions are given

Fig. 2 Drying cupboard

EL.2

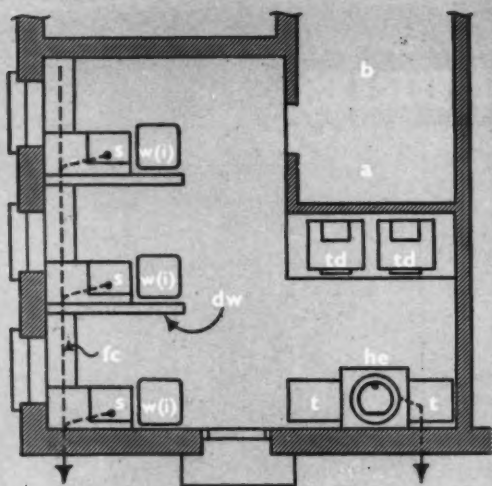


Fig. 3 Laundry with tumbler driers

SCALE: 1 INCH EQUALS 8 FEET

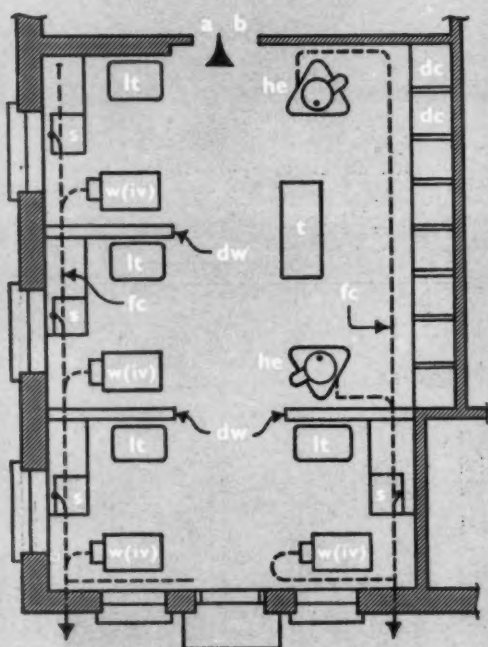


Fig. 4 Laundry with drying cupboards

SCALE: 1 INCH EQUALS 8 FEET

- a** Control gear
- b** Water heater and softener
- fc** Floor channel
- dc** Drying cupboards
- dw** Dwarf wall
- he** Hydro-extractor
- lt** Laundry tub
- s** Sink
- t** Table
- td** Tumbler drier
- w(i)** Washing machine, type (i)
- w(iv)** Washing machine, type (iv)

KEY TO FIGS. 3 and 4

All these machines can discharge into floor channels which can take the wastes from sinks and hydro-extractors as well. Types (ii), (iii) and (iv) should be set level, types (ii) and (iii) bolted down, and type (iv) located with dowel pins grouted into the floor. The electricity supply required for types (iii) and (iv) is 3-phase, and single phase for types (i) and (ii): all machines must be effectively earthed and installed in accordance with the I.E.E. Wiring Regulations.

The Drying Operation

In the past this has been a lengthy process, not easy to incorporate economically into a communal laundry schedule, and often giving rise to dissatisfaction. These difficulties are avoided by the use of a hydro-extractor to remove the bulk of water from the clothes, etc., before attempting to "dry" them, an operation that is still necessary after wringing or spinning in the smaller types of machine referred to above: 4 to 5 minutes in a hydro-extractor is sufficient to extract all the water that it is possible to remove by mechanical means. The clothes come to no harm, and when removed, the lighter articles are ready for ironing; items requiring further drying can be 'finished off' as required in a tumbler dryer or a drying cupboard.

In a tumbler dryer, the damp clothes are placed in a revolving drum and continually turned over in a current of air warmed by an electric heater and discharged through a duct to the outside. The kW loading varies widely from one make of machine to another, and determines the time necessary to dry off the clothes: 6 to 10 minutes has been found sufficient in a 30 kW tumbler. With such rapid action, one hydro-extractor and one tumbler dryer can handle the loads from two or three washing machines giving a very low consumption of electricity per wash.

When drying cupboards are preferred, it is normal to provide two to each washing machine in order to accommodate a complete wash and so eliminate waiting. Several types of electric heater are made for this purpose; they are placed in the bottom of the cupboards and may be controlled by pre-payment meter. The arrangement is very simple (see Fig. 2). No direct discharge to the open air is required, but owing to the differences in design of the heaters, the areas of inlet and outlet vents in the cupboard doors should be checked with the makers. In all cases the interiors of the cupboards, including the backs of the doors, should be lined with a smooth, impervious material such as glazed asbestos sheeting.

Communal Laundry Layout

Planning requirements are simple, once the organisation has been settled and the types of machine and equipment decided. Privacy being an essential requirement, a number of washing bays separated by dwarf walls should be provided. Each bay should contain a washing machine, if of types (i) or (iv), a deep sink and draining board and a table top for sorting the wash with space below for a clothes basket or other form of container. In the case of type (iv) machines, which are larger than type (i) and have no wringer, a laundry tub is made for carrying the wet clothes to the hydro-extractor, and rather more space is required (see Figs. 3 and 4).

The fully automatic machines are grouped together in blocks, and the heavier commercial type of machine (iii) is also placed apart from the bays, which in these two instances can be smaller as they contain only sink, drainer and table top.

The siting of the hydro-extractor is determined in practice by the shape and area of the space available for the laundry, but it should preferably be grouped with the tumbler dryer or drying cabinets rather than with the washing machines or washing bays. Consideration should be given to the provision of a stand-by tumbler: it is usual to run each of these machines on alternate days so that the air filters can be cleaned after each day's use. Table or counter space is required for the reception and folding of the wash, and an extract fan near the washing bays for the removal of moisture-laden air.

For further information on the uses of electricity apply to



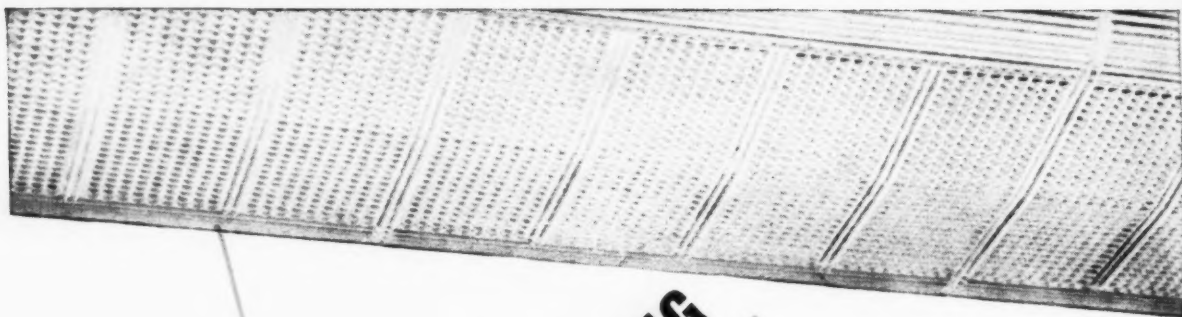
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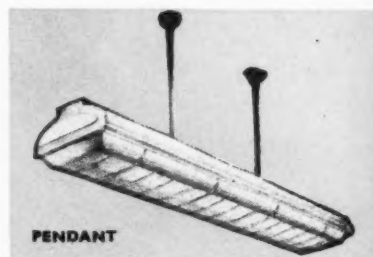
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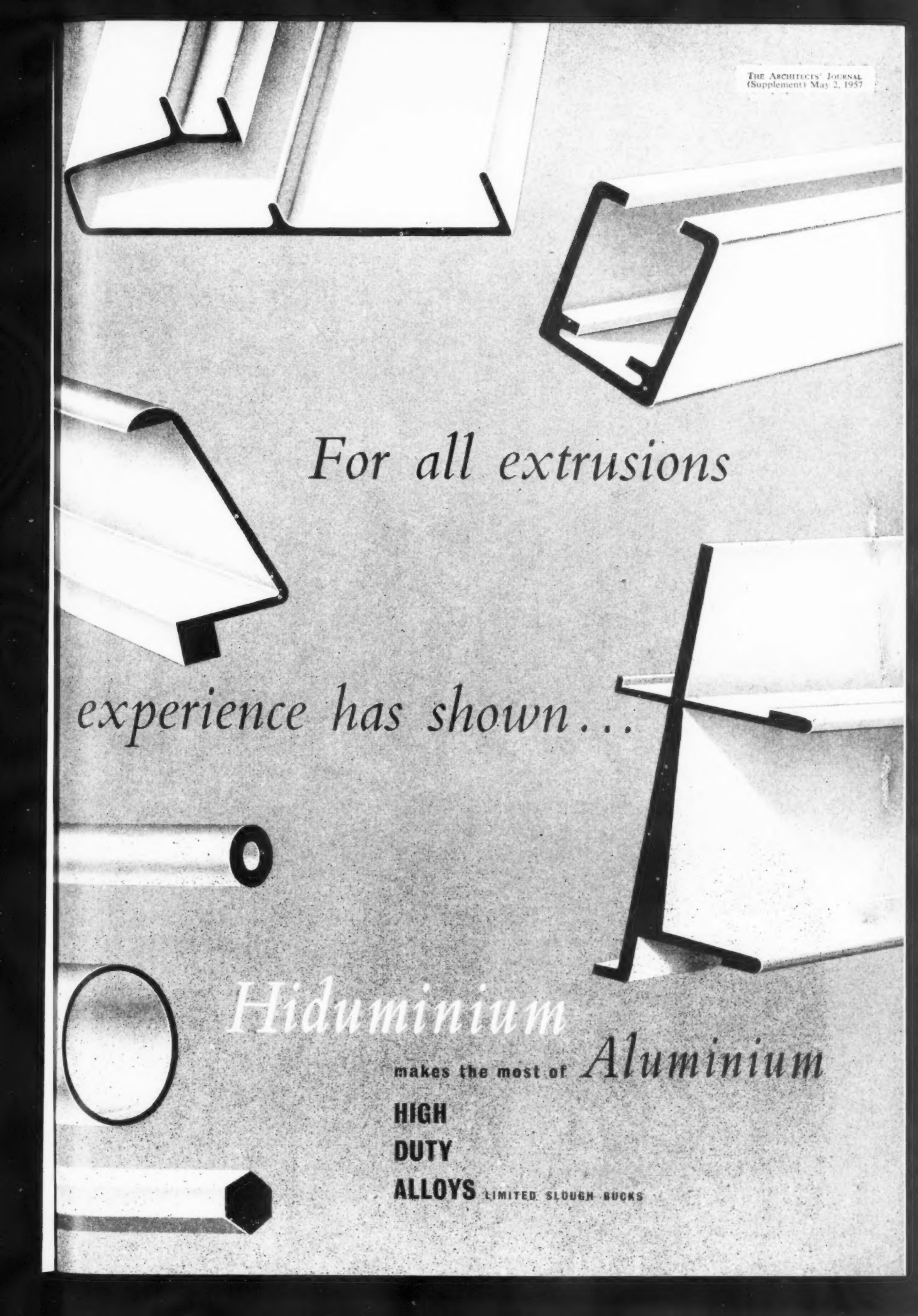
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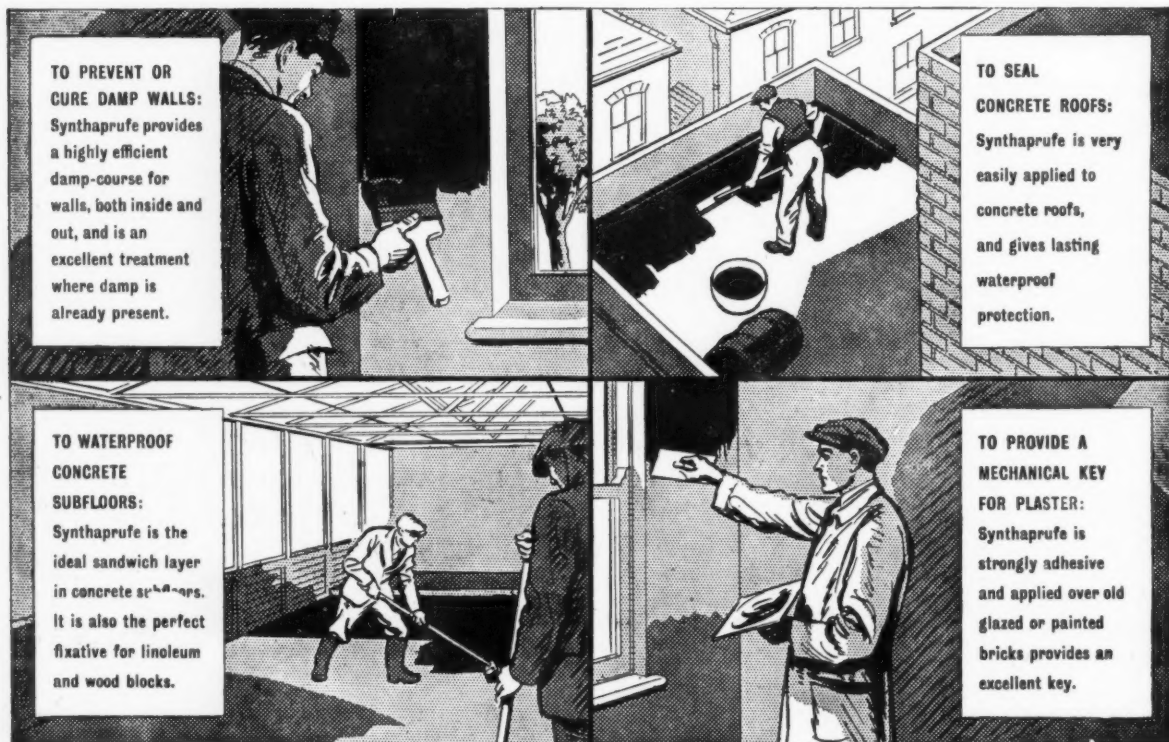
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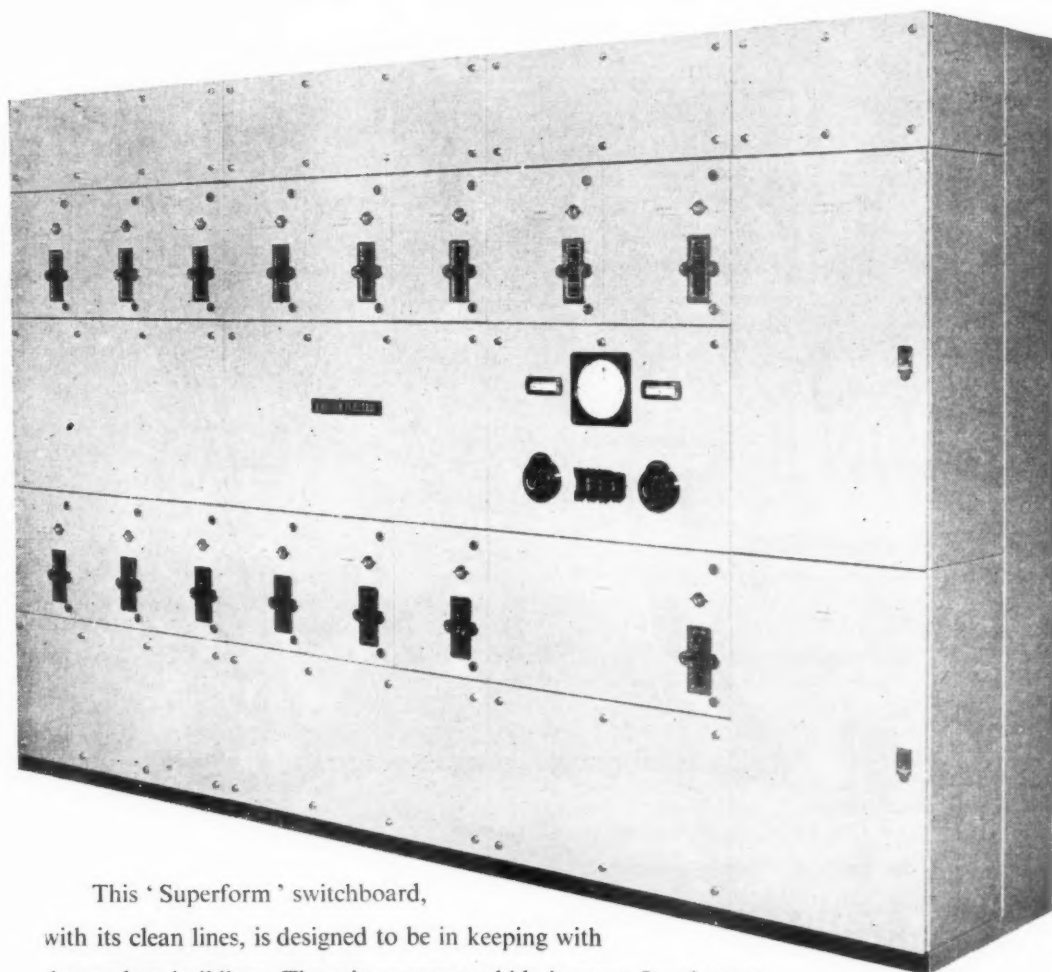
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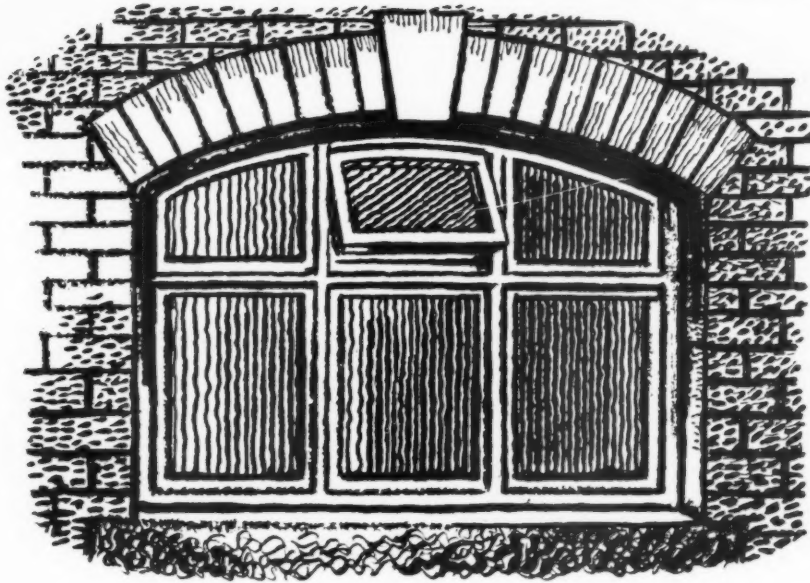
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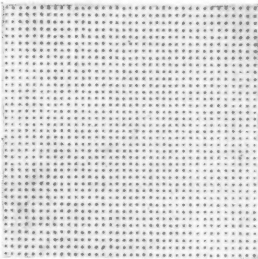
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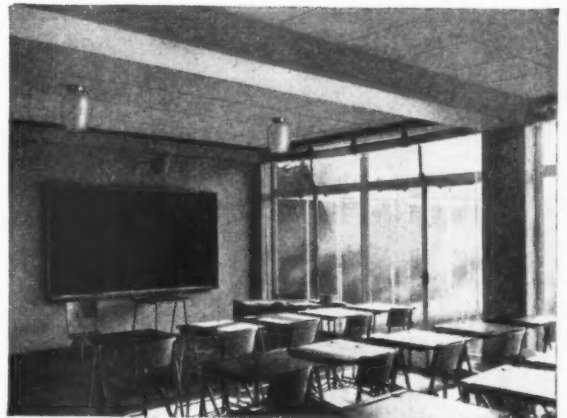
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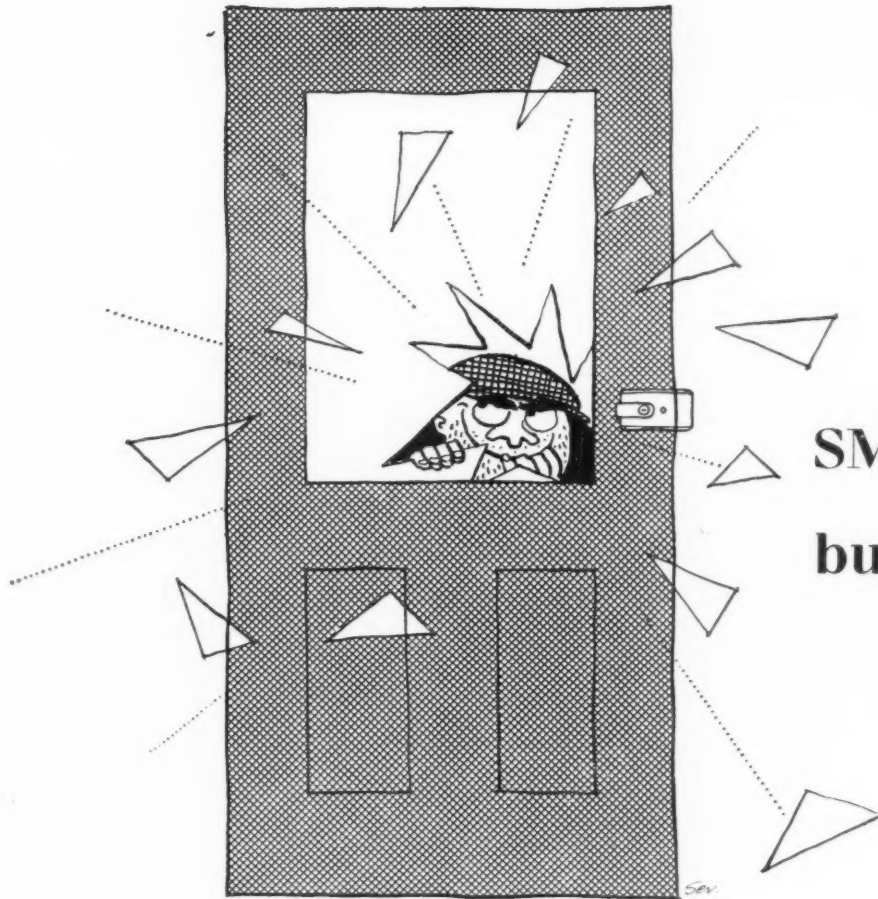
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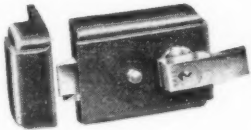
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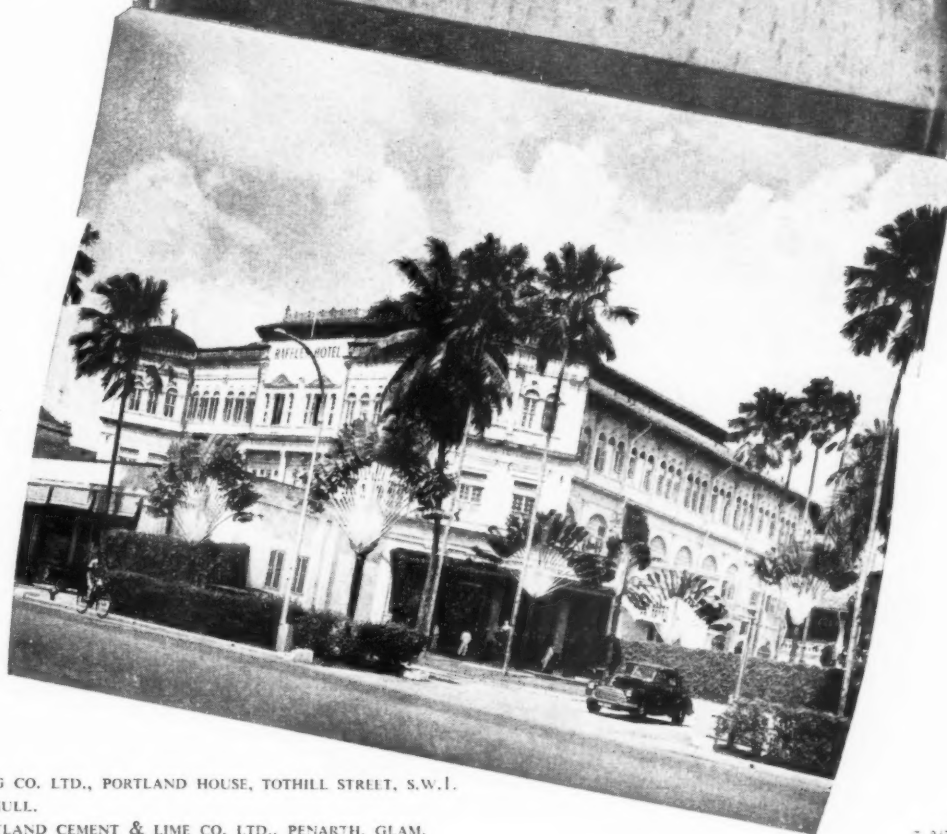
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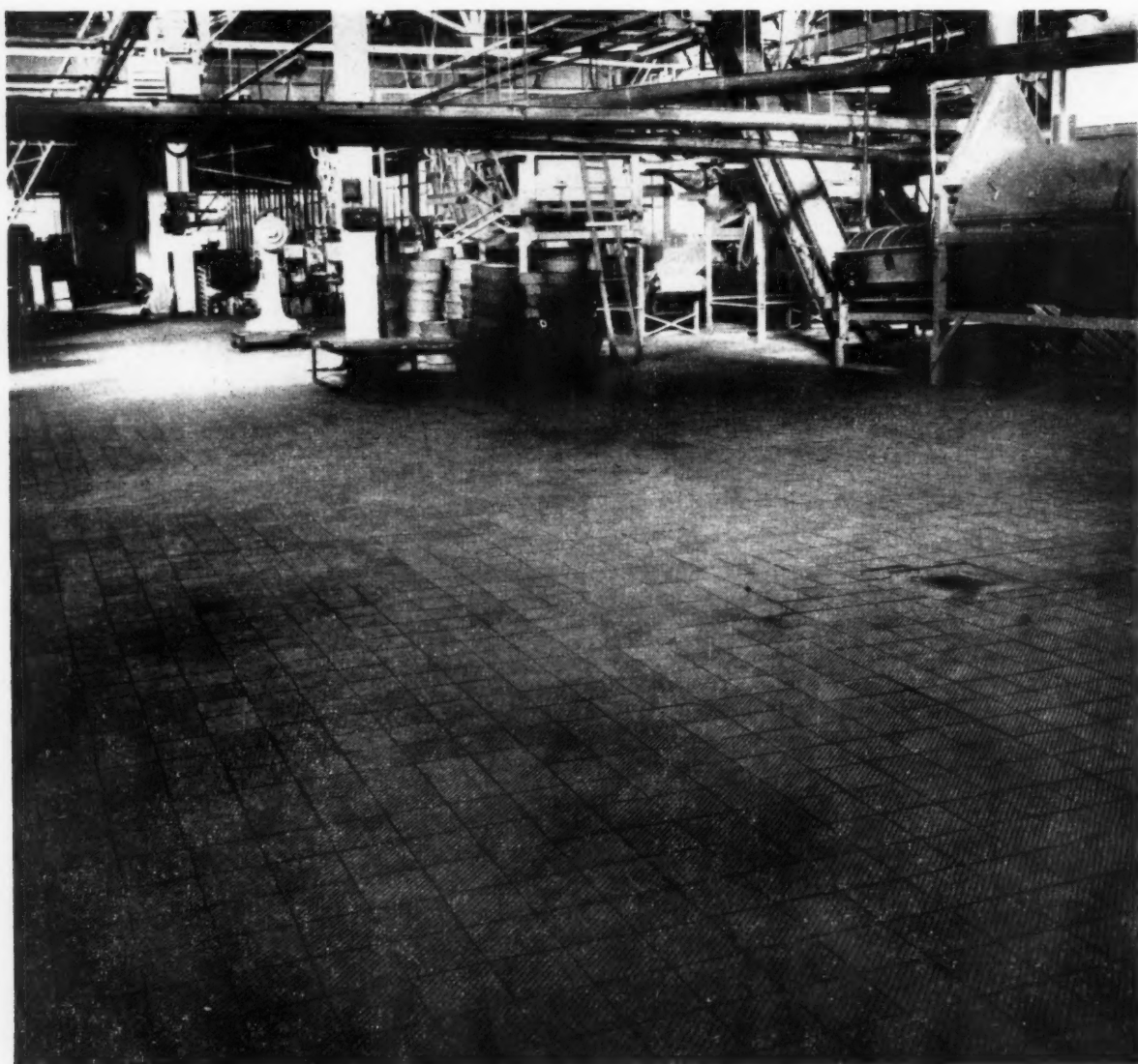
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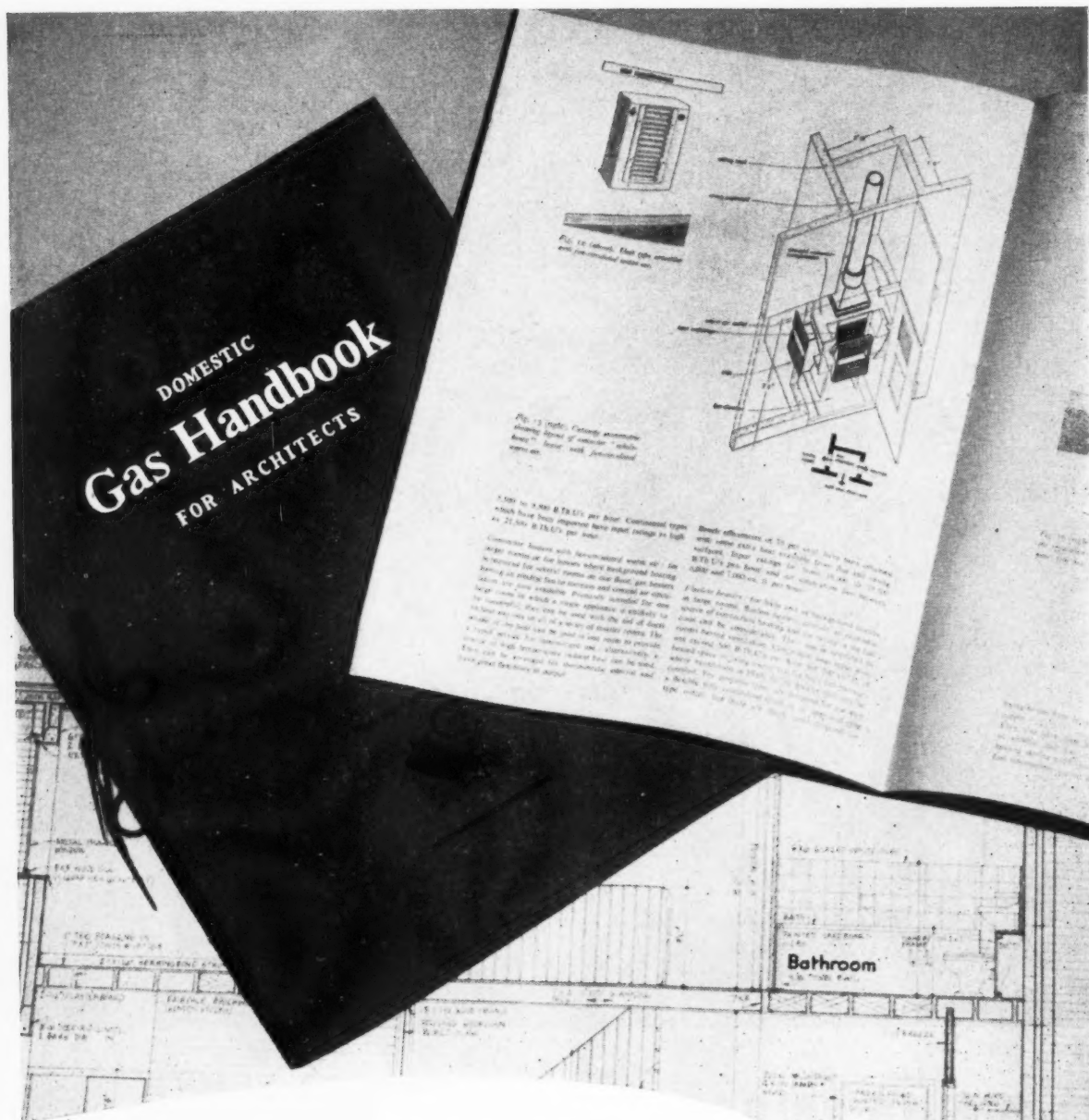
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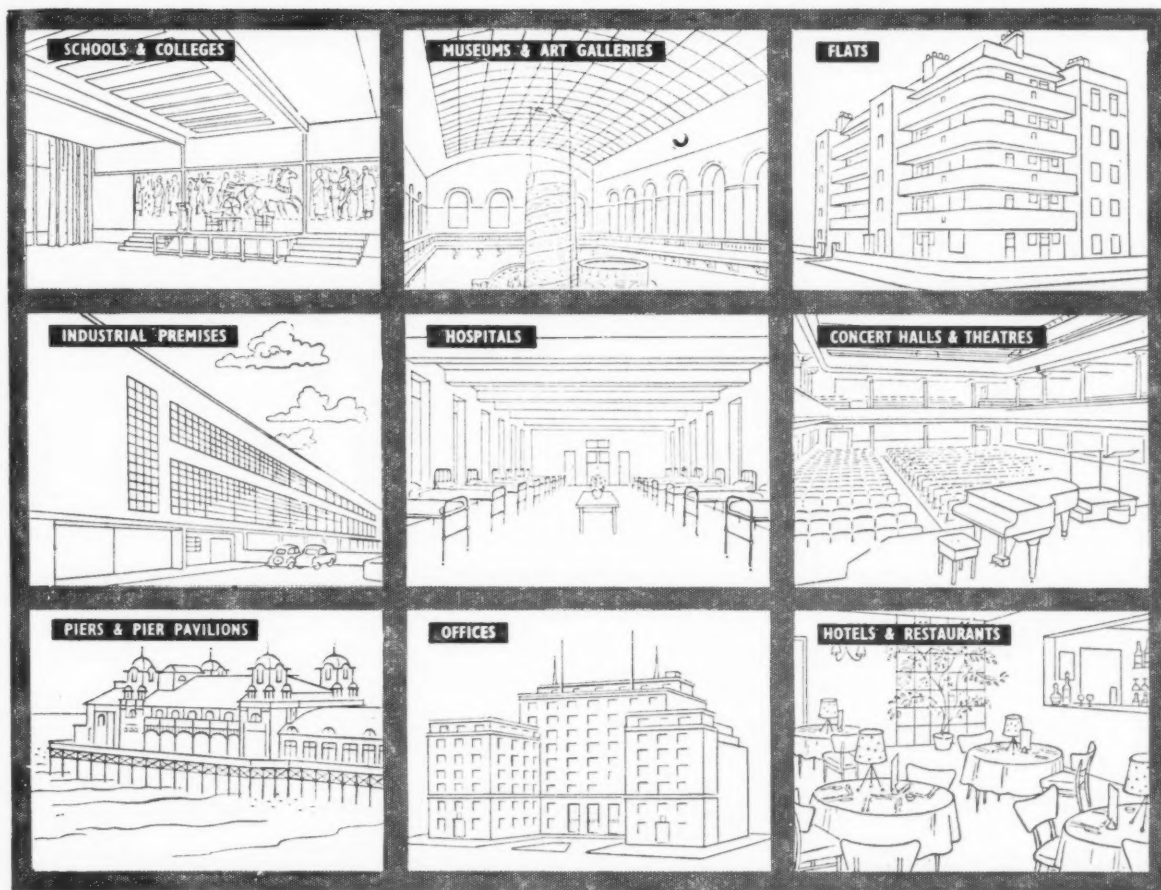


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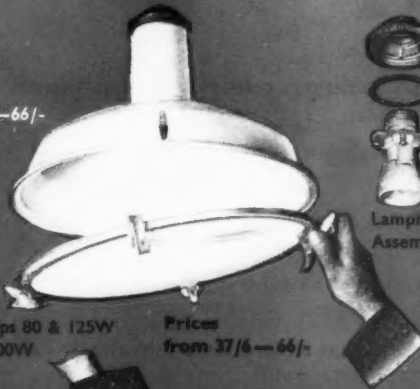
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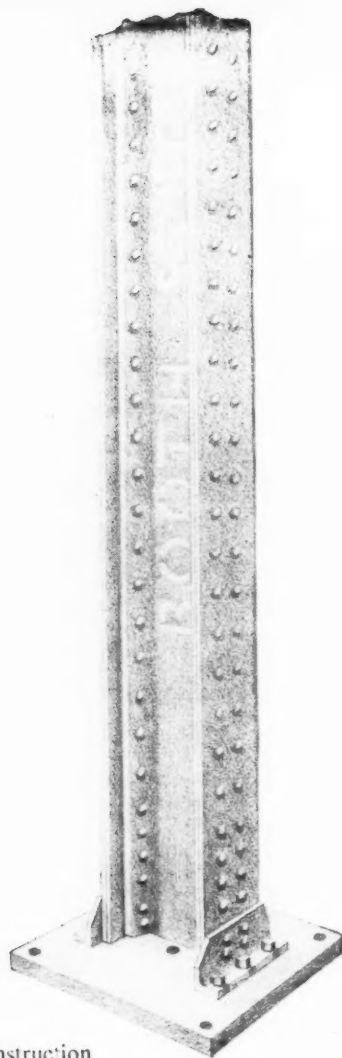
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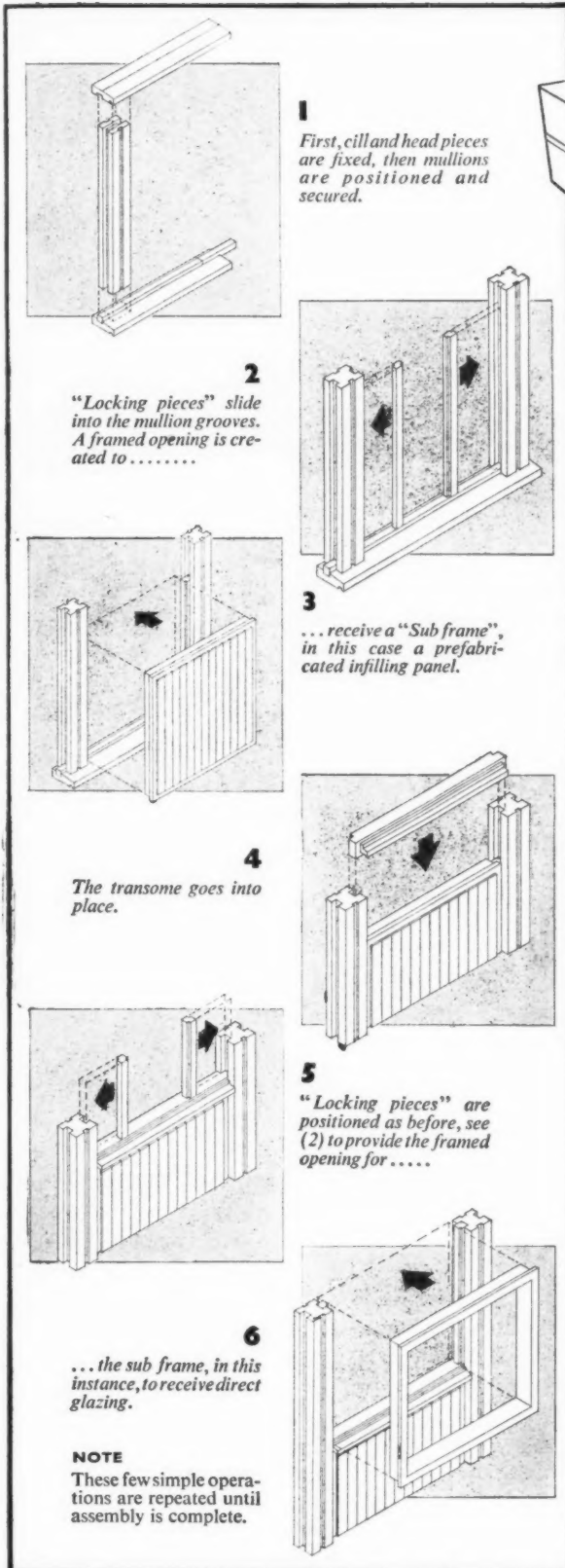
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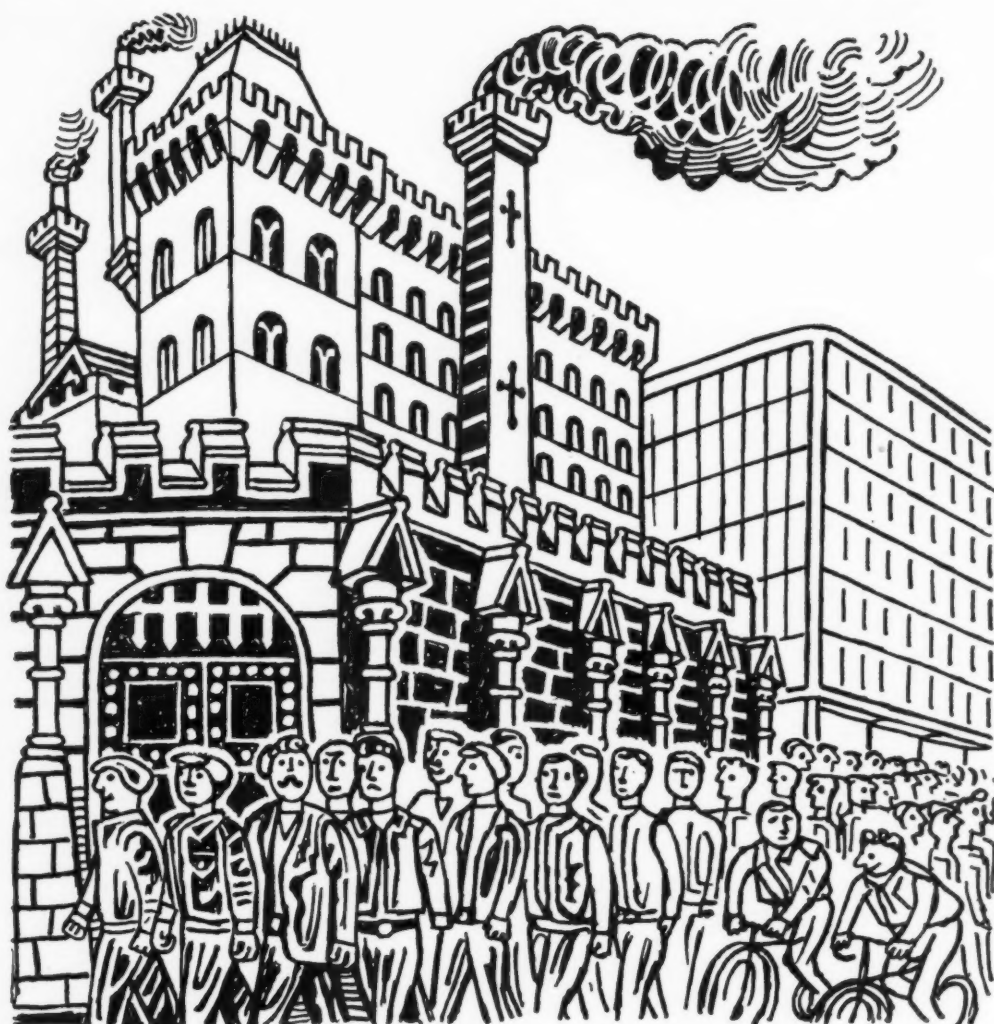


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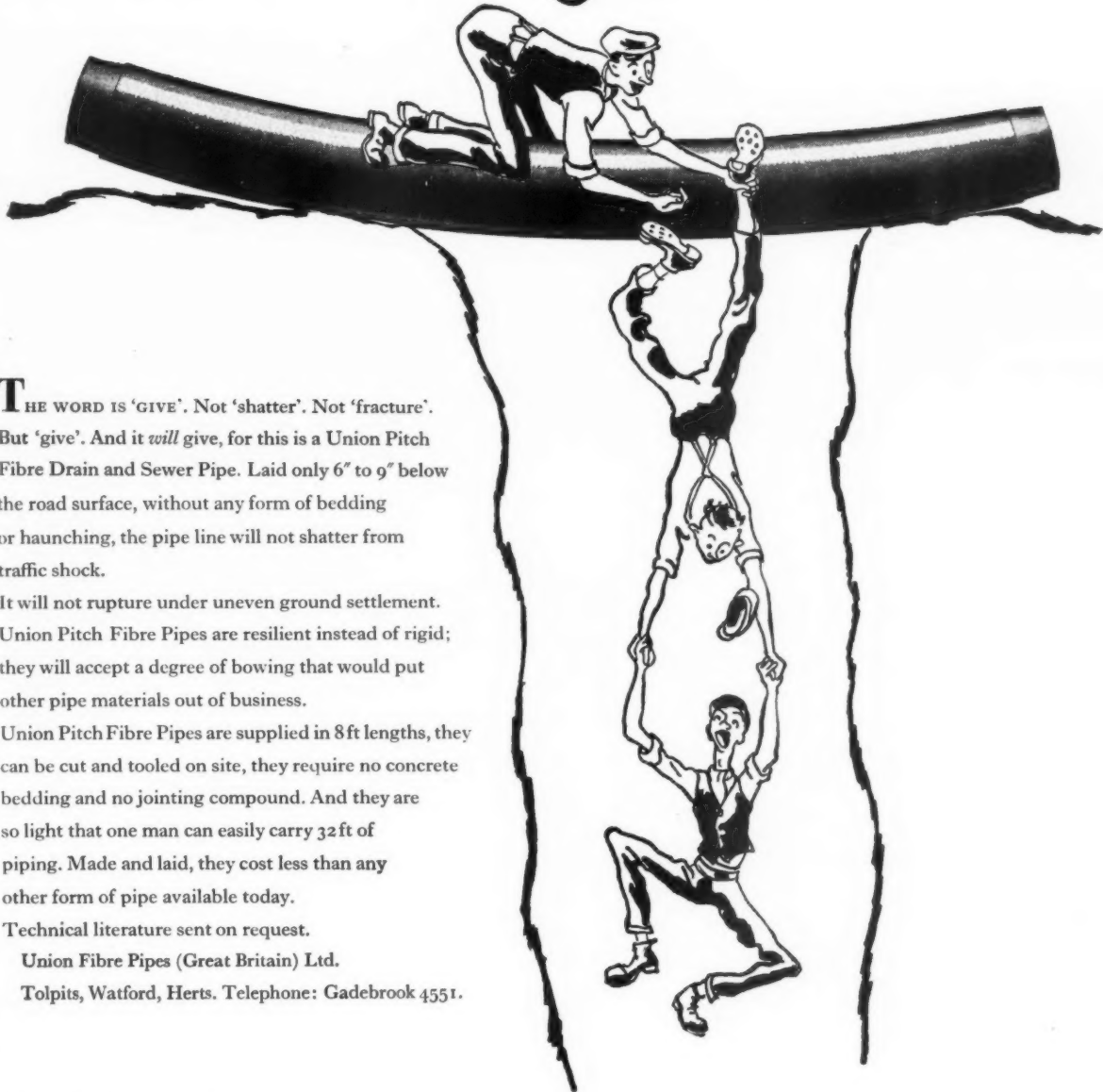
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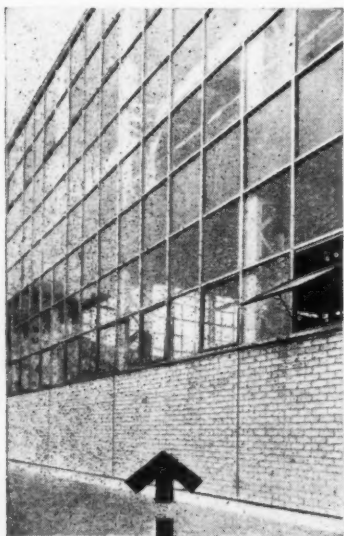
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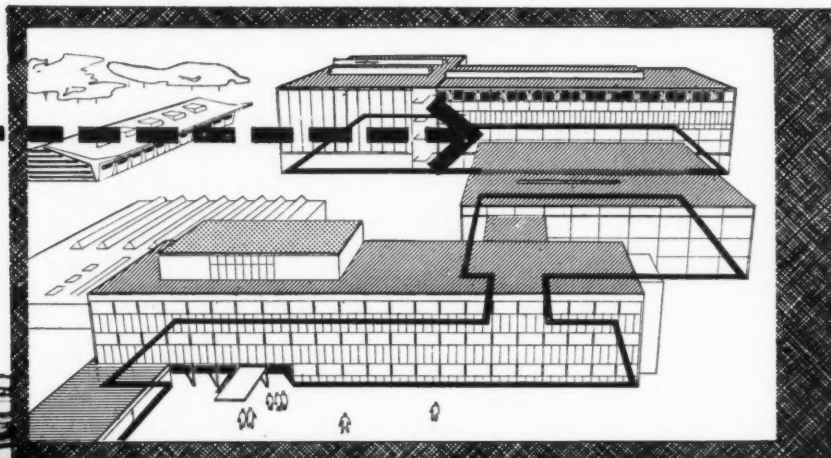
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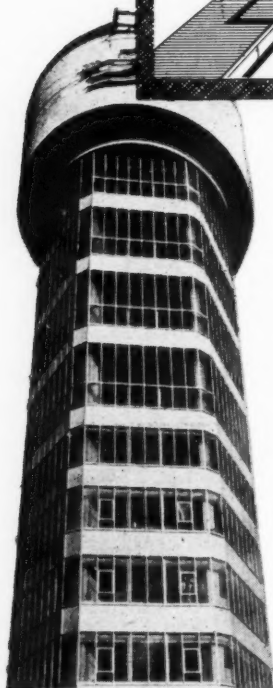
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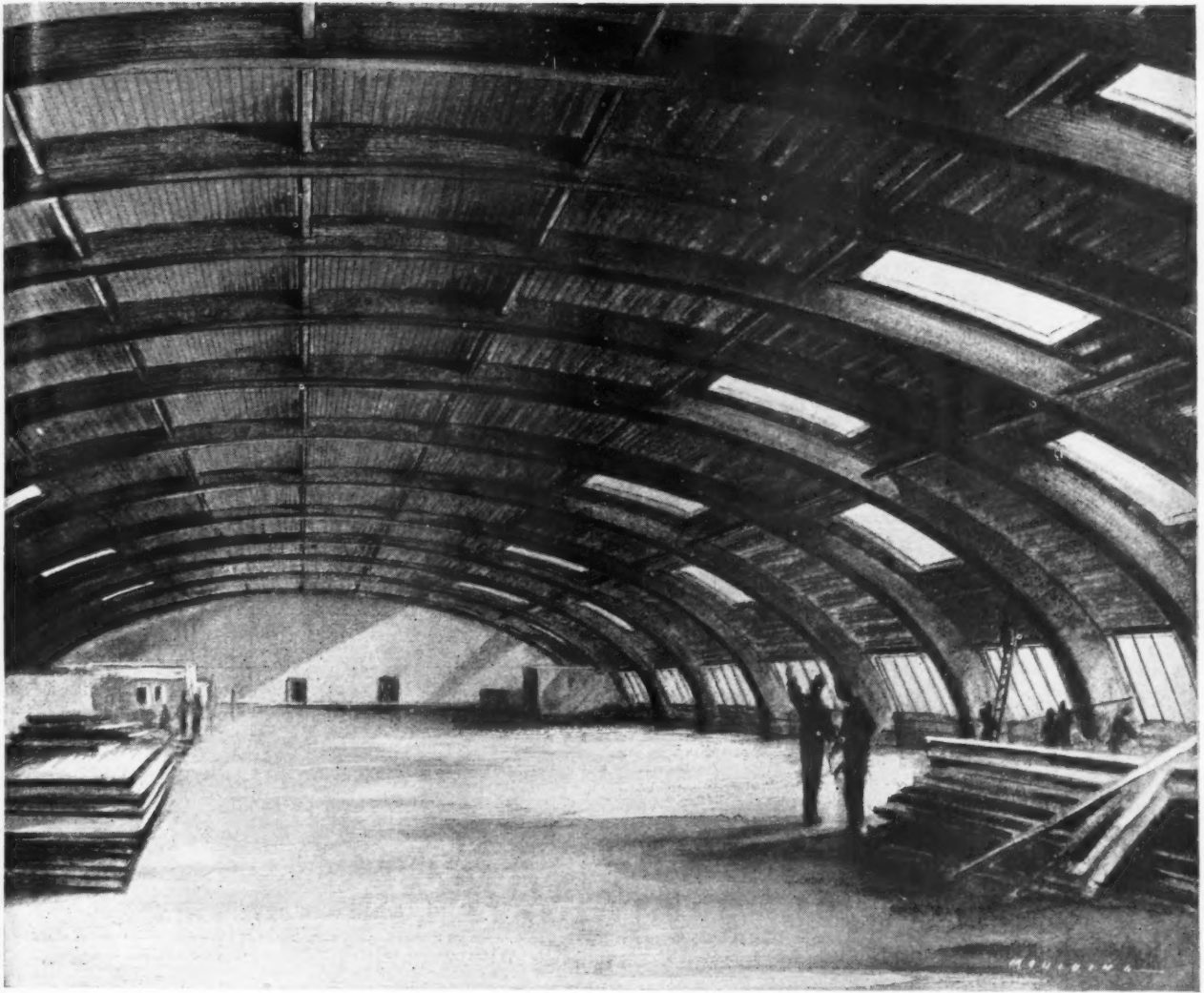
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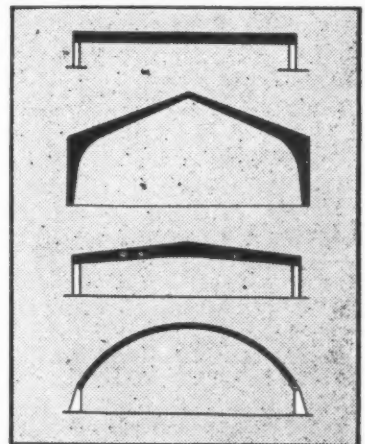
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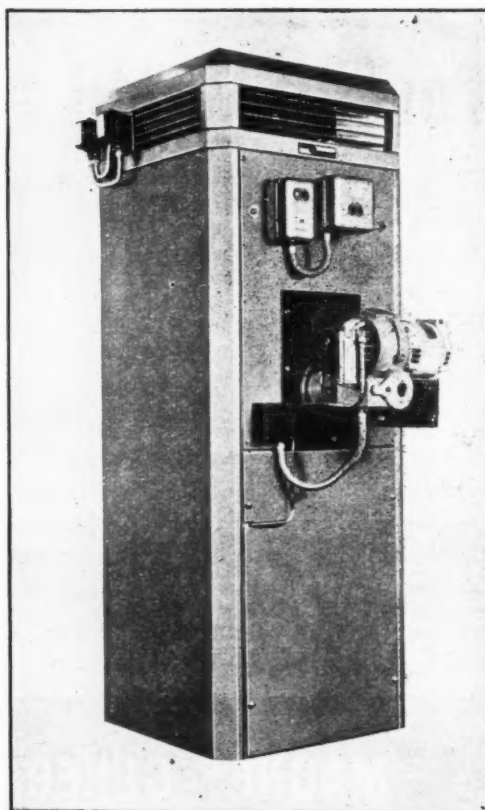
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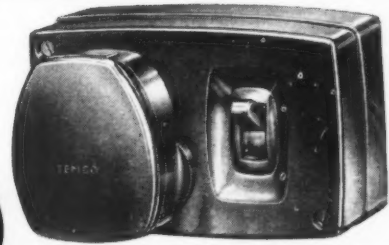
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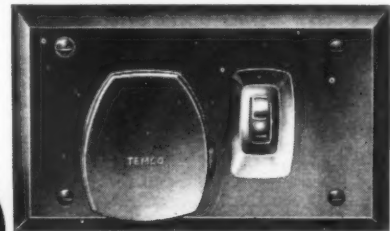
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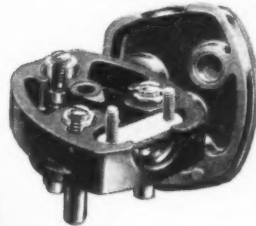
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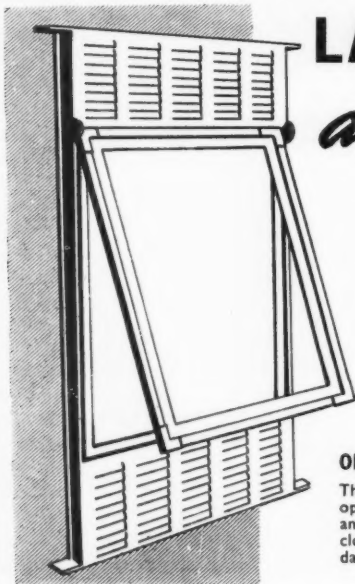
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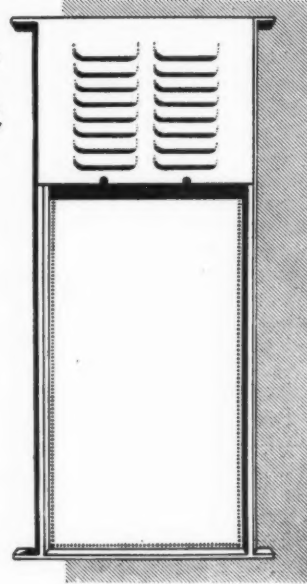
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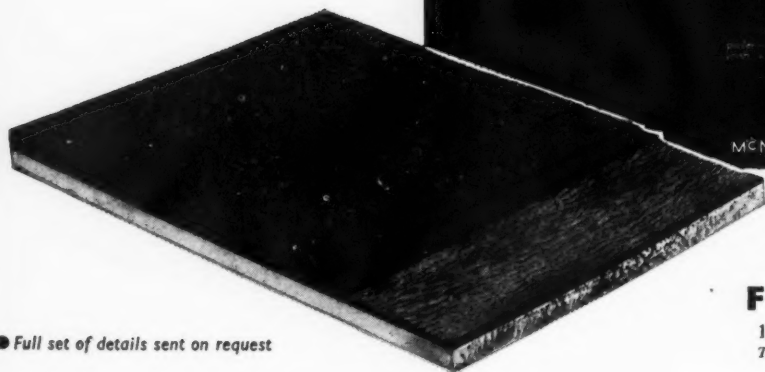
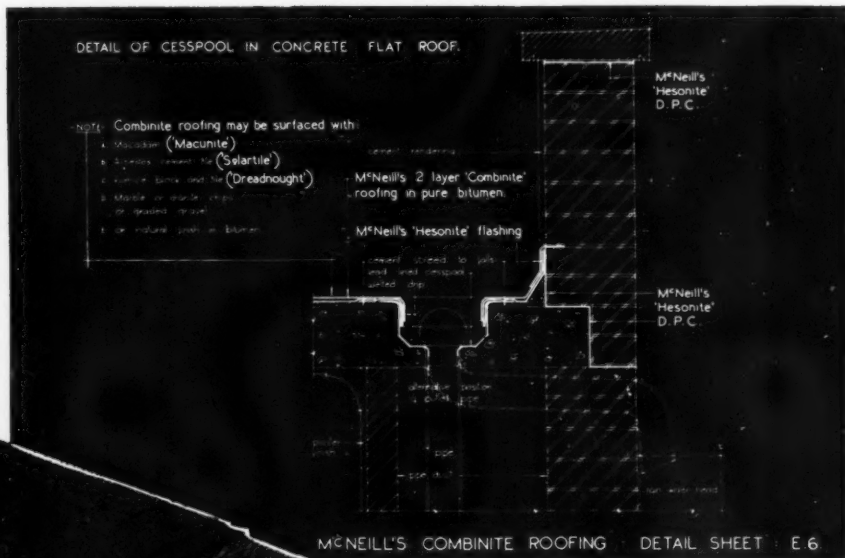
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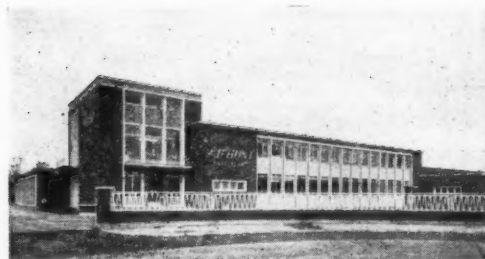
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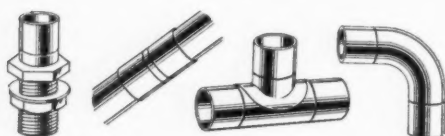
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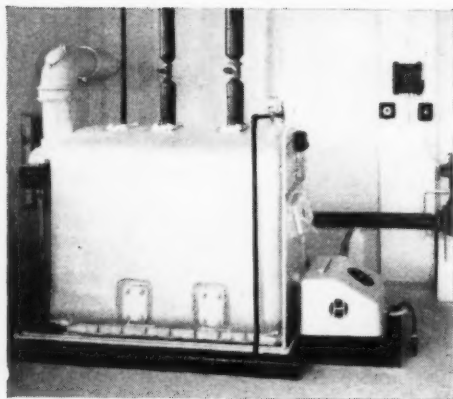
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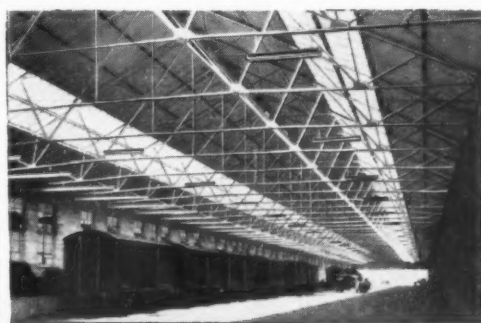
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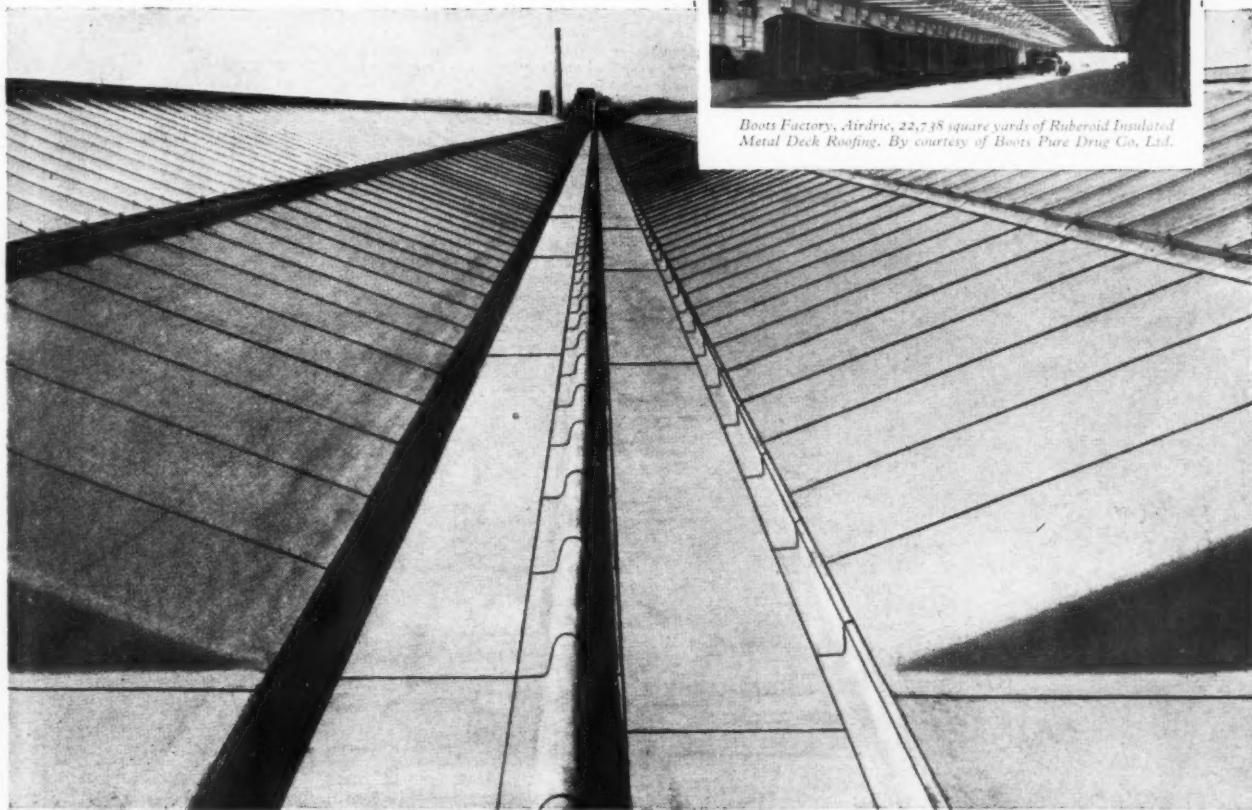
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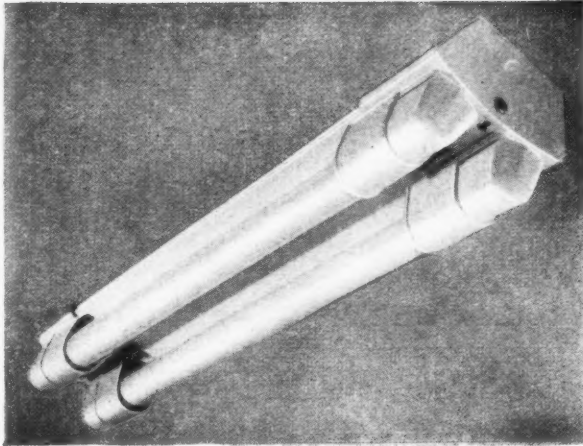
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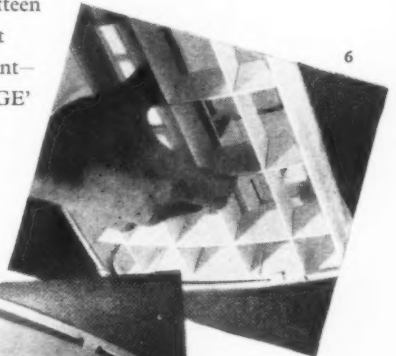
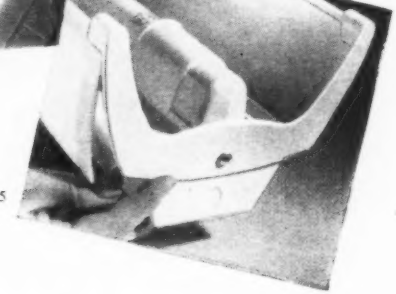
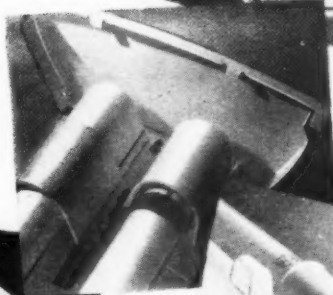
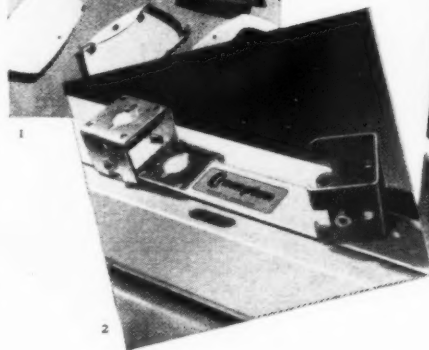
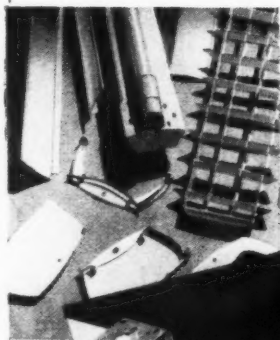
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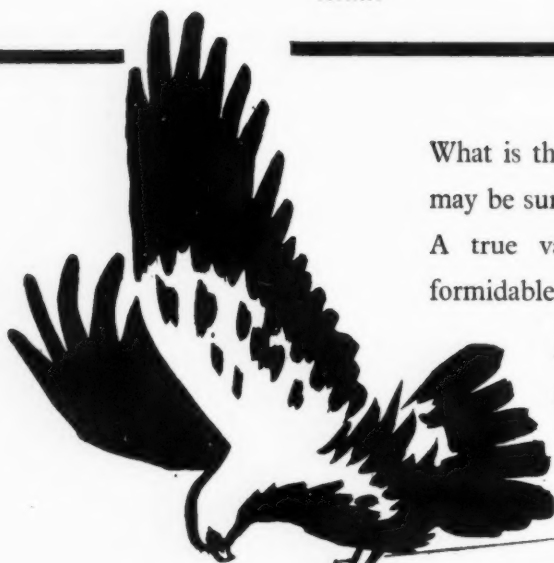
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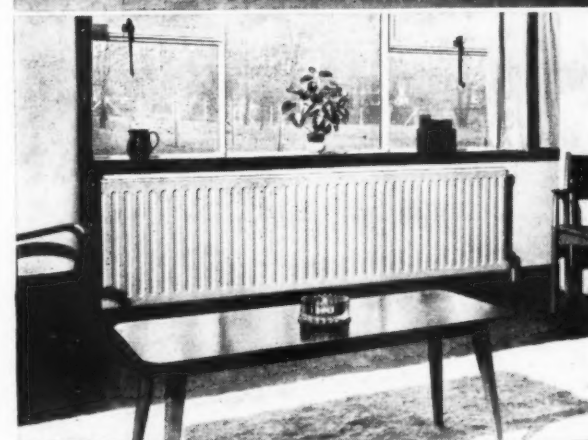
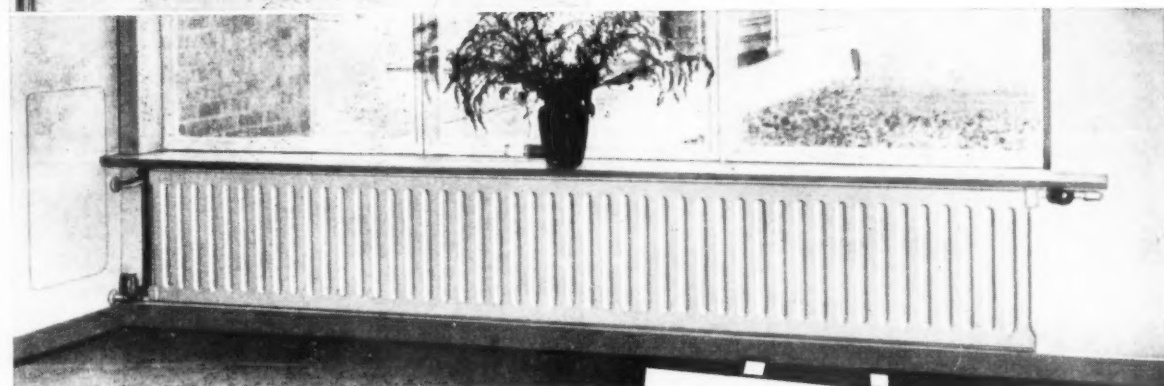
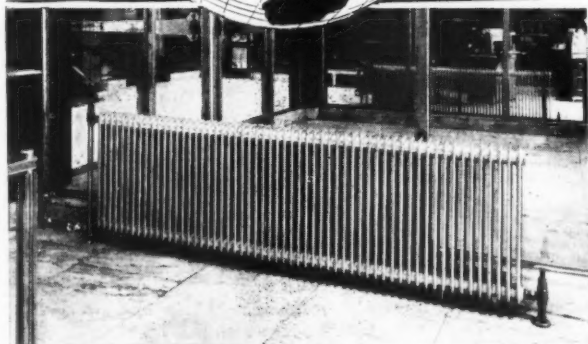
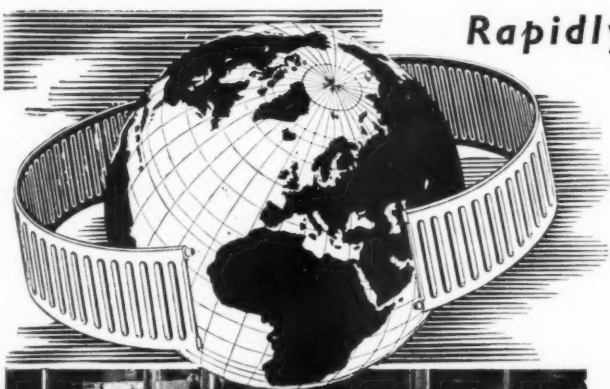


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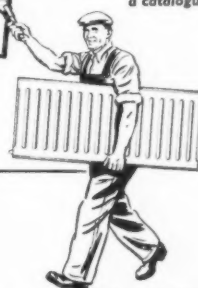


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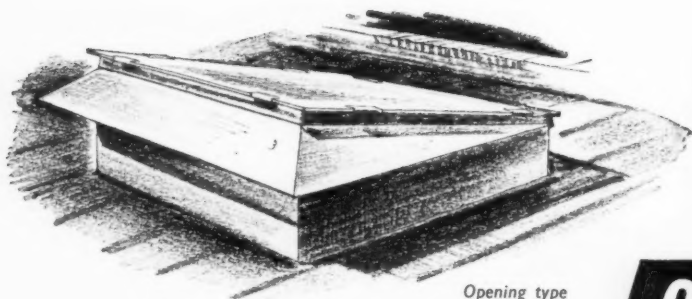
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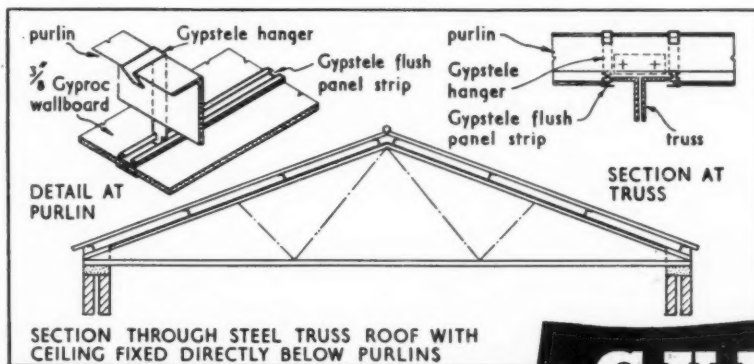
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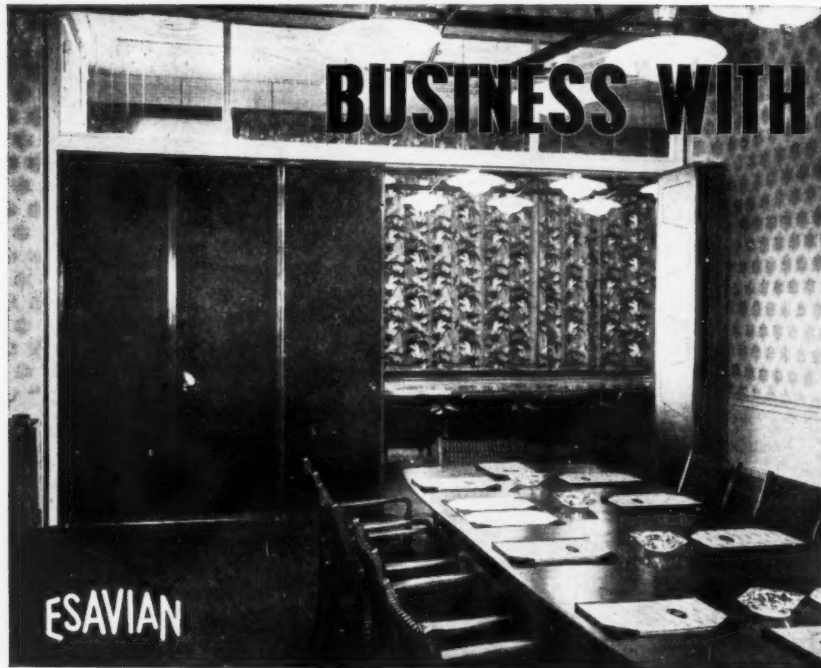
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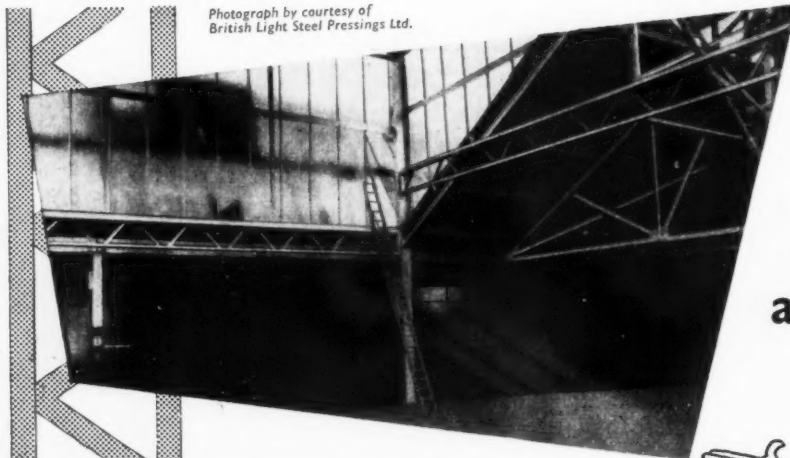
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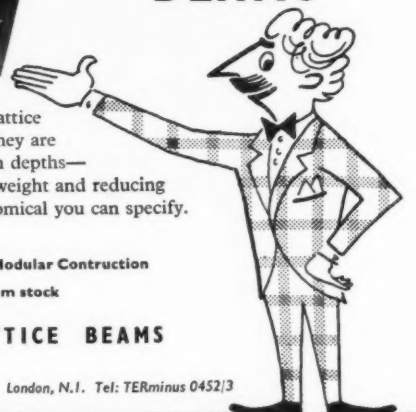
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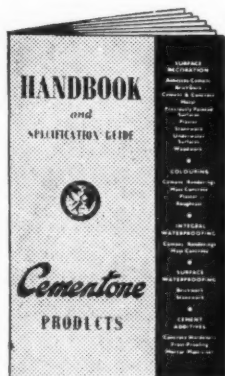
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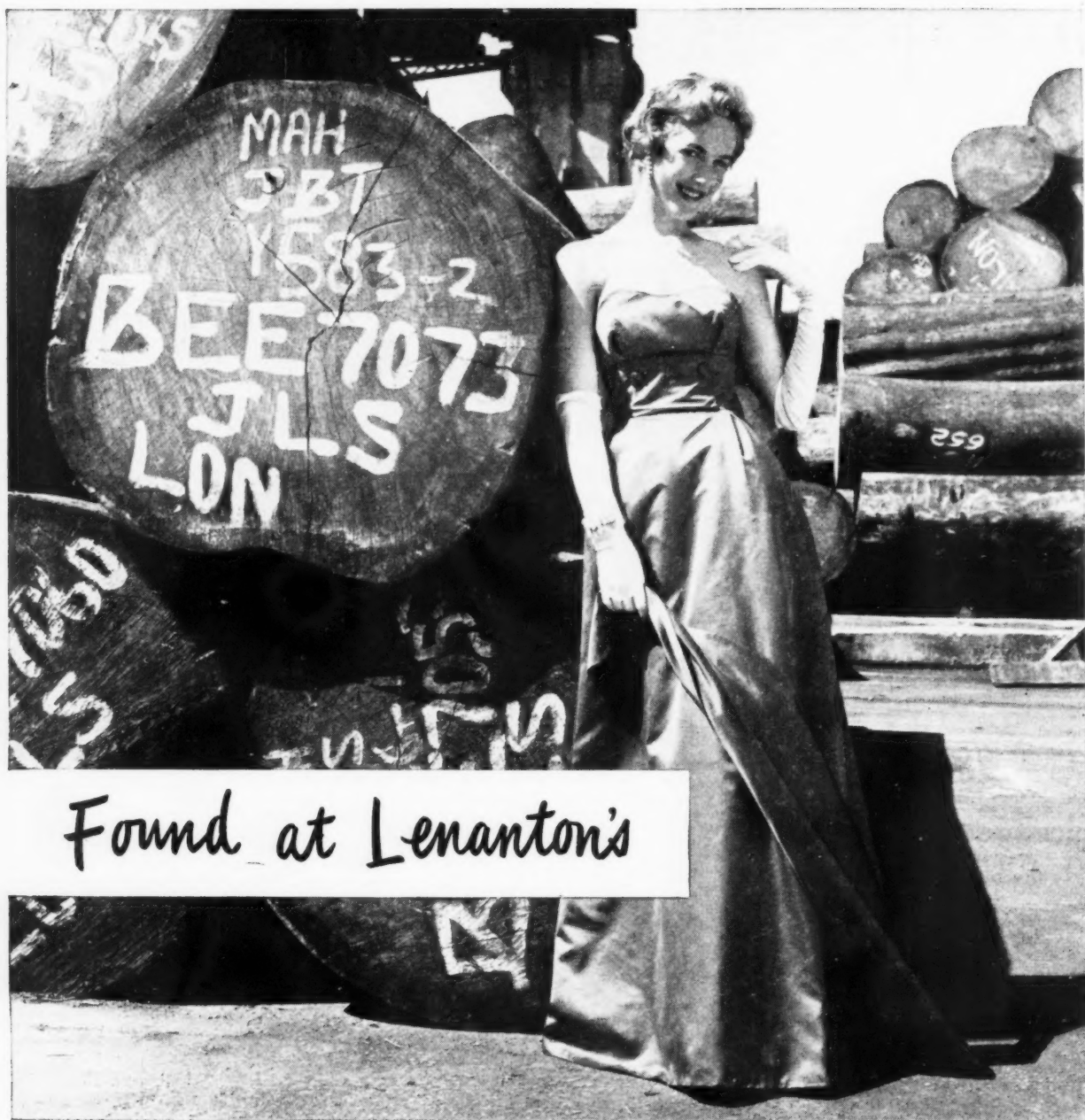
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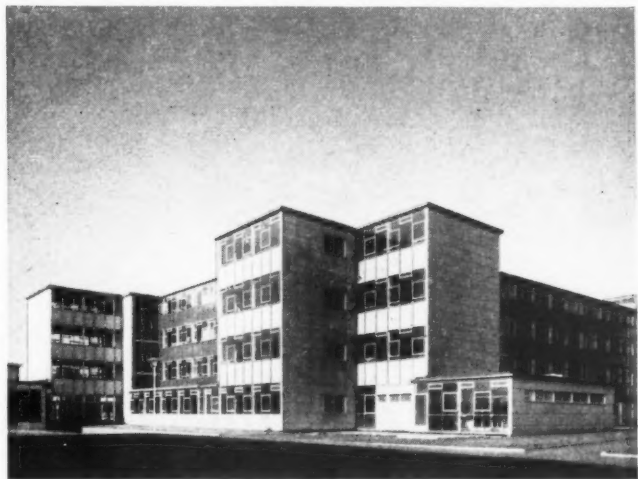
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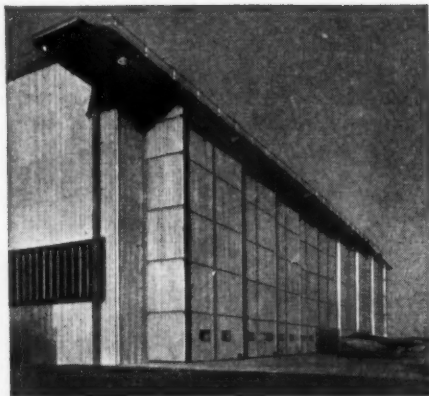
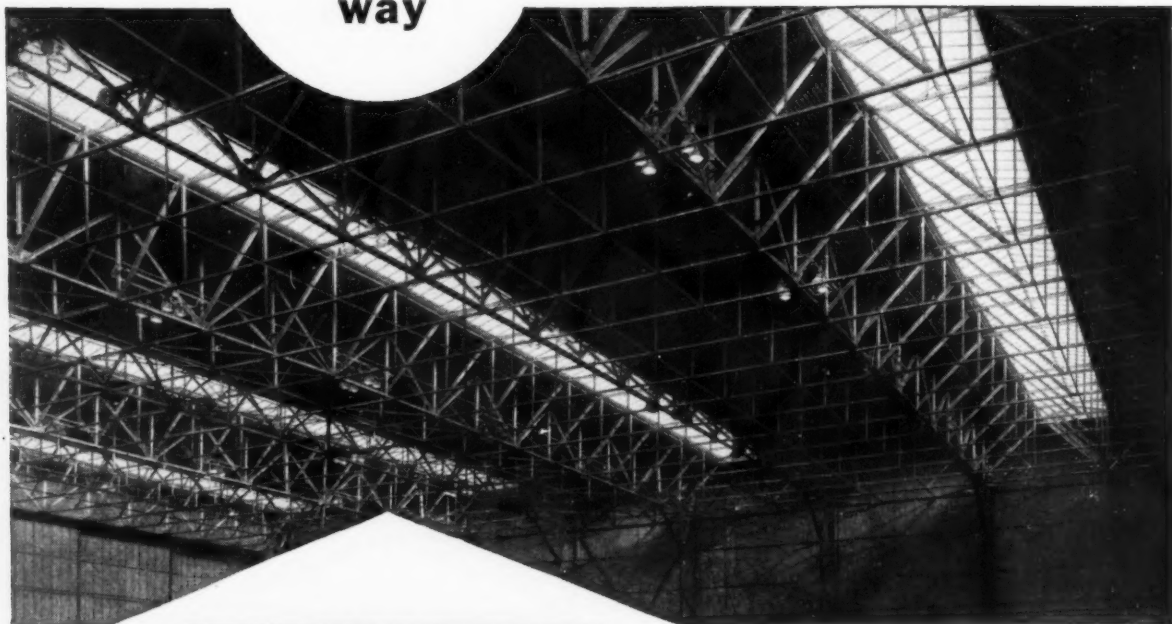
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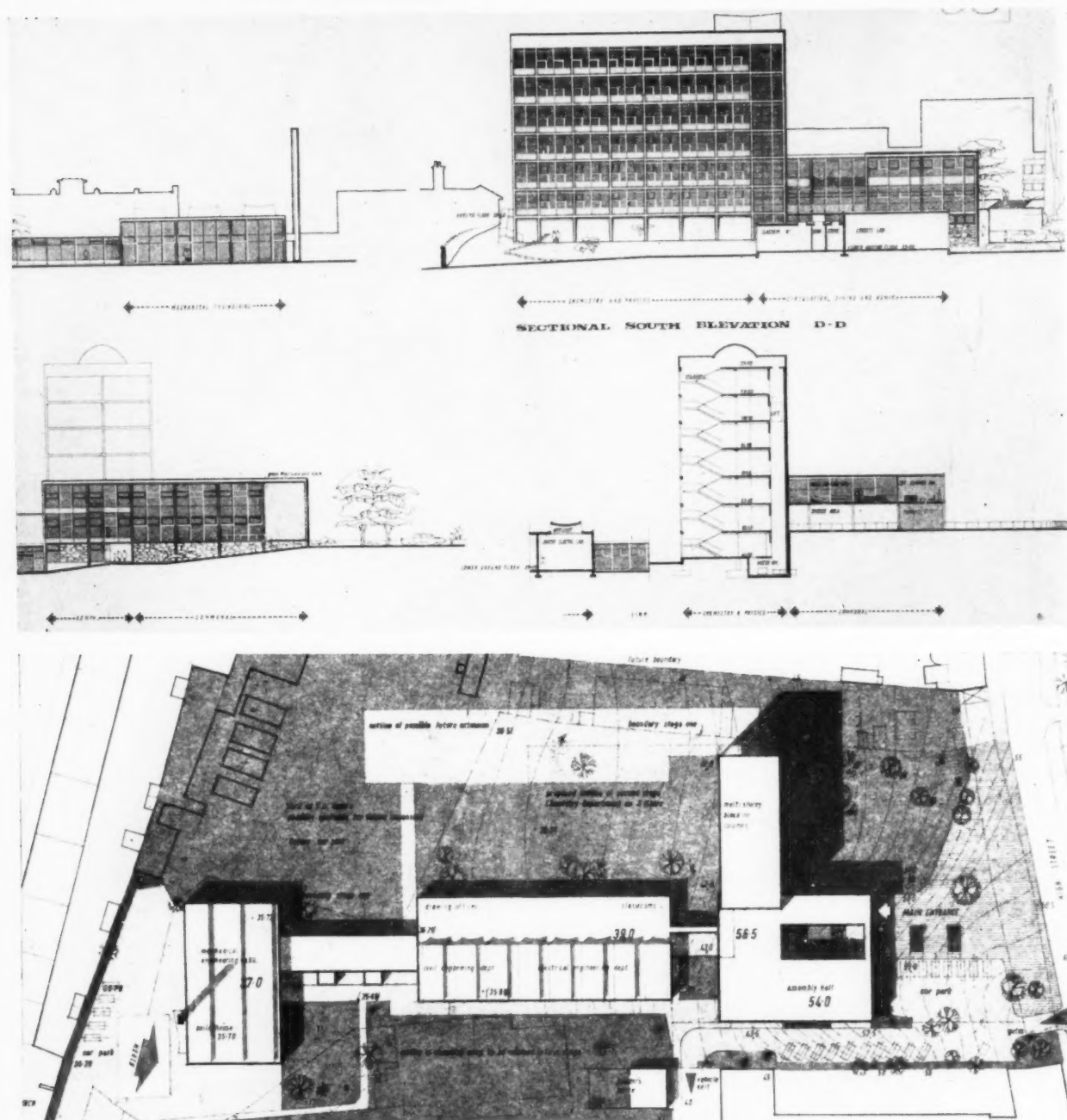
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THE BIG BUSTLE MYSTERY

Unless one is prepared to be thought impossibly gauche it is best not to mention the bustle at all. At last Mies is building in New York; that is all ye need to know. Mies is in Park Avenue and all's right with the world. But after paying obeisance to the great brown shaft of 38 stories for the Seagram's whiskey people (*Mies van der Rohe and Philip Johnson, architects*) I had to go and ask in wide-eyed search of knowledge: "What is the bustle at the back?" Immediately I felt like the little boy at the Emperor's parade. I could have bitten my tongue off. I slunk back to stand directly in front of the tower and admire it along with some dozens of New Yorkers who paused in passing and threw back their





Paisley: "An Example of Modern Architecture"

The first prize of £1,500 in the competition for new buildings for the Paisley Technical College, for which over 500 architects entered, has been awarded to Alison and Hutchison and Partners, Edinburgh, whose design is illustrated above. The second and third prizes, totalling £1,500, will be shared by three competitors: G. P. Hutchinson, K. H. Murta and J. B. Hall, Sunderland; James Cubitt and Partners, London; Claus Seligmann, London, in association with J. Warren Chalk and Ronald Herron, students. These designs are illustrated on later pages. The assessor was Professor R. Gardner-Medwin, assisted by T. A. Jeffries, Chief Architect and Chief Technical Planner to the Department of Health for Scotland, and Robert Morton, Deputy Chief Architect and Technical Planner. In his report the assessor said of the first prize-winning project:

"The design of this project is quite outstanding. If the building and landscaping can be carried out in the spirit of this design, Paisley will have an example of modern architecture and town planning which visitors may travel many miles to see." The recommendations for the award of the second and third prizes was, the assessor said, much more difficult: There were, however, "three designs, very different in their approach but each equally skilful and imaginative in their own way," which he considered were worthy of sharing equally the second and third prizes. The assessor will later make a fuller report, in which he will refer to several other schemes which he found worthy of mention. The Governors of the college have decided to proceed with the winning design. Further illustrations on pages 659 to 665.

heads. "Heights really frighten me," said a man in an Ivy League suit.

The building is now clothed in its bronze and smoked-glass curtain, although still surrounded at the base by builder's hoardings and debris. Strangely enough, considering the familiarity of glass cliffs in this part of the city, the people are obviously impressed by this impeccably detailed tower, which shows that less is becoming more to more and more. I asked a group of young architects about the bustle at the back, the little cluster of additions, five to eleven stories high, which break the mullion module as they attach themselves to the main shaft. No one answered. Someone mentioned New York's zoning laws. The subject changed. I had pointed out something unspeakable on the tail of a sacred cow, and I felt terrible. Private investigation, however, led me to the magnificently-mounted show of six important "Buildings for Business and Government" at the Museum of Modern Art. Here is the Seagram's design expounded, and a brilliant device displays its curtain wall. A bay of the building is presented at full scale with mirrors above and below. The reflections multiply to a twisted infinity overhead and underfoot: you are a window cleaner suspended outside the middle of a skyscraper. A smaller model throws no light, literally, on the bustle; and no sign of it appears on the plans in the brochure. But suddenly I was confronted with more than I ever expected: a picture frankly focused on the bustle. It was like finding a front view of Epstein's Adam in the *Ladies' Home Journal*. And a caption above gave the explanation at last:

Students of his earlier work have been surprised by Mies' willingness to discard, where they prove unsuitable, such ideal forms as the pure rectangular tower, while at the same time insisting on absolute integrity of structural expression. Thus the tower is an undifferentiated space on a bay module of 27 feet in both directions, but where the program required unusually large rooms Mies did not attempt to fit them into this module. Instead they are treated as low auxiliary masses flanking the tower at the rear, and the rectangle of the tower itself is broken by the projection on the rear of an extra bay. This arrangement compensates for the loss of office space within the rectangle to elevators and services, while at the same time preserving the classic ratio of 3:5 on which the tower is based.

Here is a sort of official explanation, and yet I'm not satisfied. It might have been wholly convincing if there had been a bustle at the front and all the bulges were not kept at the back. If we are to accept this argument the new classicism is already, so early in its reign, abandoning form, and is content to monkey about on the wall surface with the Golden Section. I prefer to think that we owe the bustle to the zoning laws or some commercial ukase. Let's not try to explain it. Viewed from the front, as millions will uncritically view it, this giant bourbon high-ball on its pink granite napkin will doubtless be as fine a statement as the master has ever made.

ROBIN BOYD

The Editors

THE NEW OUTLOOK OF THE RIBA

THE report (see page 657) by Richard Sheppard, the chairman of the *ad hoc* committee appointed to examine the representation of members in salaried employment and to review the structure of the profession, is doubly welcome. First because it demonstrates the new policy of the RIBA of keeping its members as fully informed as possible—in an easily readable manner—on the issues with which it is grappling; and second because it expresses so clearly the new role which the RIBA has adopted. To its task of being a learned society, devoted to the furtherance of architecture, the RIBA has accepted and extended further its responsibility as the active guardian of all its members' interests.

As society becomes more and more complex and closely knit, and the bargaining of the various interests more and more shrewd, it is obvious that success will only go to those sections of society who have taken sufficient pains to adapt and fit themselves to contemporary needs. Hence the very great value of the work begun by Richard Sheppard's *ad hoc* committee and being carried on by the new RIBA secretary of professional relations, Gordon Ricketts. This work can be divided into two complementary kinds: the first task is to find out the architect's responsibilities to society, and to ensure that he is giving society the service it needs. And the second task is to ensure that the architect is receiving a fair return from society for that service. That, in general terms, is the ultimate aim. The job is too big for one man, or even one committee. It is the job of the RIBA Council and all its committees. But much of the essential, basic, fact-finding (which is essential before policy decisions can be made) is the first task of the new secretary of professional relations.

As is announced in this latest report of the *ad hoc* committee, members will shortly be asked to provide a great deal of information about themselves, about the work they are doing, their income, and the responsibilities they carry. It would be ridiculously shortsighted if members considered such enquiries unnecessarily inquisitive. The amount of information about the profession that the RIBA can obtain is the measure of its strength when fighting on behalf of architects and architecture. The RIBA must, as a first task, know the fortunes and responsibilities of architects from graduation (or earlier) to the grave. We hope all members will readily provide this information, and keep the RIBA regularly notified, as automatically, and as willingly, as they pay their membership fees.

INSURANCE AGAINST BUILDING FAILURE

A letter on page 656 refers to our leader of February 28 entitled "That Guarantee" and raises a question that is important in these days of rapid technical change in building—

the question of who should carry the added liability for failure implicit in the use of comparatively untried materials. Since the war a very large number of buildings has been put up using materials and techniques which are "new." We are in no doubt at all that the architects who chose to use these materials and techniques were, generally speaking, amply justified. Nevertheless, it would be idle to pretend that the risks taken were not greater than those taken by architects who chose (usually to their client's disadvantage) to stick to traditional methods.

To meet this our correspondents suggest some form of building-failure insurance covering the whole building and made out in favour of the building owner; the premiums of such insurance to be divided between the suppliers and contractors in an agreed proportion. This would have the advantage of releasing to the building industry the capital now locked up in retention monies, and it would give the building owner the protection which he has the right to expect. It would also seem to offer some prospect of a rational balance of liability as between the manufacturers of tried and of comparatively untried materials, for the latter would have higher premiums to pay. Such a suggestion would also have the great incidental virtue that it would cause systematic attention to be paid to the whole question of building failure and maintenance. For insurance companies would certainly make it their business to establish, on a statistical basis, facts which the architect can only guess at from the chance costly experience.

Against this suggestion is the fact that the real client would tend to be the insurance company and not the building owner, as has already happened in the case of the building societies and the small developer; and that this transference of power has evident risks. How could we ensure that these new masters did not inflict punishing premiums on new materials, or perhaps refuse to allow their use altogether? These are certainly the kind of liberties which are taken by people who lend money for the construction of buildings, and it is only reasonable to assume that they would be taken equally by those who underwrite them. It would be a catastrophe if we were to be pinned down to well tried but inherently uneconomic methods simply because the risks attaching to less tried methods were grossly over-estimated.

To point out the dangers of such a solution to the problem is not to deny that the problem exists. In order to offset the conservative influence which any such insurance must exert, it would be necessary to establish that it was in the interest of the nation that new materials and methods were used with as much freedom as the evidence would allow. Though it would seem logical for those accustomed to handling insurance to handle this also, it might also be necessary to create a special fund to pay a proportion of the higher premiums attaching to the use of "experimental" materials and to exert sufficient control to ensure that the system favoured reasonable development.



ALARM IN ESSEX

The disclosure that the plans for the atomic power station at Bradwell-on-Sea, on the Essex marshes, will now include substantial switchgear occupying some 17 acres must shake what little confidence still exists in the public inquiry procedure. When Mr. Renton, the Parliamentary Secretary to the Ministry of Power, was questioned about this in the House of Commons before the Easter recess, he offered a thoroughly bureaucratic explanation to M.P.s who wanted to know why nothing was said about the switchgear at the public inquiry, and who complained that it completely changed the original plans. Mr. Renton retorted: (a) that no plans either of the nuclear power station or of the switchgear were submitted to the inquiry (which may be technically true but ignores the fact that the plans of the station had been published), (b) that the switchgear is a separate item connected with transmission, and (c) that the purpose of the inquiry was only to enable the Minister to decide whether there should be a power station at Bradwell.

Mr. Snow, an M.P. who attended the inquiry, also said that although it was promised at the inquiry there would be no subsidiary industries, a second subsidiary industry was now being planned, so that two promises had been broken. Mr. Renton's reply

to this observation was to say it was a "separate matter."

All of which carries the alarming implication that once the public inquiry has been held, and the Minister's consent given, the Central Electricity Authority can do what it likes, and can disregard any undertakings given at the inquiry.

WELL, I DECLARE!

When does the Inland Revenue decide to prosecute a businessman for making incorrect income tax returns? The question is prompted by the fate of a Glasgow architect, who was sentenced to nine months' imprisonment and a fine of £5,000 (or an additional six months in default). He had defrauded the Inland Revenue of £9,461 between 1941 and 1952 by misrepresenting the fees he had received, and had attempted to defraud the Inland Revenue of a further £4,146 in the years 1952 to 1954.

ASTRAGAL, who has made quite a study of this sort of thing (not for the reason that you suppose), understands that the Inland Revenue has a very simple method. It collects all the information it requires before it confronts the taxpayer (or should one say the non-payer?) with its allegations, and invites him to make a full disclosure. If the taxpayer agrees, then (generally speaking) he has to pay up the tax he has dodged and a penalty as well, but he is not prosecuted. Some non-taxpayers, however, are foolish enough to think that, having been caught once they can cheat the Inland Revenue a second time, and make a "full disclosure" that is anything but full. When this happens the Inland Revenue prosecutes. You have been warned.

JUDICIAL GEORGIAN

Parliaments and Governments often have a decisive voice in architecture, but the reasons that lie behind the stylistic ideas of Ministers or Members are usually kept discreetly veiled. In Northern Rhodesia, however, there has recently been a debate in the Legislative Council on the architecture of the new High Court to be built in its capital, Lusaka. The picture of ignorance and prejudice revealed by the debate is terrifying.

The debate took place primarily be-

cause some Members objected to the surveying and architectural work going outside Northern Rhodesia, although they objected, incidentally, to the decision to build in the Georgian style. The Member for Works and Mines explained that the staff of the Public Works Department was only capable of preparing designs in the "contemporary style," and had in fact spent two years preparing designs which Mr. McCall, the Attorney-General, said were "splendid" in every way bar one: they were not in the "classical style." Therefore, Mr. McCall insisted, the work must go to a Johannesburg architect, a former assistant of Lutyens at New Delhi, who was the cat's whiskers at designing in the Georgian style.

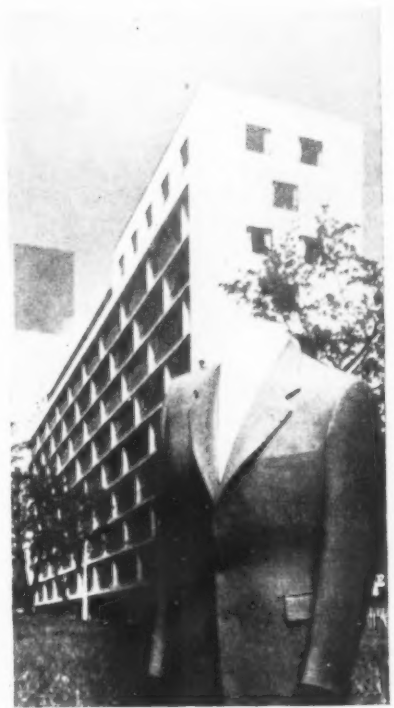
Why the Georgian style? Harken to Mr. McCall: "the Georgian design is a distinctive, traditional and nowadays a judicial design. It is most important that buildings of this character be recognized for what they are." He went on to say that although they could have had buildings by such magnificent architects as Frank Lloyd Wright and Le Corbusier, he and the judges were satisfied, and he was sure the accused would be satisfied too. A Member interjected "they could not care less," but Mr. McCall could not agree: "When one is in peril of one's liberty, at least one ought to be in such peril in surroundings of great dignity!" And a Mr. Malcolmson interjected: "It softens the blow." While ASTRAGAL doubts whether a jail sentence feels any better in a neo-Georgian courthouse, it softens the blow for him to read two letters in the *Lusaka Northern News*, from an architect and a student, protesting against the Georgian design as a "monstrosity" and a "ghastly anachronism." They enquire pertinently where the craftsmen are to be found in Northern Rhodesia to execute the mouldings, copings and cornices. Perhaps they will have to be prefabricated in the old country and imported in sections.

IMPORTED EAMES

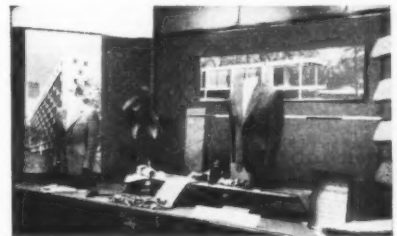
The object of a party at Hille's the



For those in peril: a new High Court building for Lusaka. See "Judicial Georgian."



Above: not an awful warning to egg-head architects, but part of a display (below) in the City of London by Hector Powe, the tailor.



other night was to show some new additions to their line of furniture. This was a pure formality in the early part of the proceedings, because the crush of guests prevented one seeing anything below shoulder level, but later, as the human tide subsided, three Eames chairs became visible, among the regular Robin Day items, and enquiries revealed that the underlying excuse for the party was that Hille's have successfully concluded negotiations with the Herman Miller Company to produce Eames chairs over

here. Let me repeat—to produce Eames chairs over here—and then move to one side to avoid getting trampled underfoot in the rush.

AT THE EXHIBITIONS

There is, as you will have noticed, a spray of smart new words for the smart new kinds of painting—Metavision, Nuclear, Tachiste, Cobra-group. But let me assure you that a recent tour of the galleries confirmed my suspicions that all that is really smart or new are the words. The good old labels of Brutalist and Action-Painting will cover most of the exhibits. Karel Appel, a Dutchman who once studied under that mystery man of modern architecture, Mart Stam, is probably the only one of the new names who matters. At the ICA he has been showing large, slosh-about pictures, mostly cheerful in colour and loud in conception, that look as Brutalist now as they did three years ago, and none the worse for that.

*

Down at the Tate there is an exhibition with a good gilt-edged name, The Guggenheim Collection, containing aluminium-edged paintings by most of the big names of the first half of the present century. Don't imagine that this is a complete spread of all the treasures that will eventually be housed in Frank Lloyd Wright's spiral museum, when the opposition finally run out of ways to stop him building it. This is a fair, if random, sampling of the Guggenheim pictures, and contains a good many by well-known friends of modern architecture—Moholy-Nagy, Léger, Ozenfant, Mondrian, Malevitch, Severini—as well as a fine cockeyed Cézanne that makes rings round the rest of the exhibition. The aluminium frames give a dry, orderly air to the show, but can't really be said to help some of the pictures.

ANOTHER PEVSNER PENGUIN

A new book starts with the Emperor Claudius and ends with a footnote about a bust of Pope; in between it covers a lot of ground (literally), compares Westminster Central Hall to a very substantially-built Kursaal, finds the Time-Life building acceptable, notes that St. James's Park was a swamp in the Middle Ages, and that Pimlico is said to mean some kind of

a drink. As you may have guessed, it is the latest volume of the *Buildings of England*—the long-awaited *Cities of London and Westminster*.^{*} This is Pevsner at his most Pevsnerian. For fifteen shillings—but not expensive for what you get—this conducted *rundschau* by the most erudite architectural eye we possess in England is a fantastic performance, and a must for anyone who wants to know what the heart of the Empire is made of. The eighty-page introduction is one of the best concentrated building histories that ASTRAGAL has ever come across, the gazetteer mixes historical fact with lively opinion, some of it even livelier than usual.

*

Inevitably, any compact work about so vast a subject will leave you with a few mental reservations, but Penguins have thoughtfully provided eight blank pages at the back for you to write them on.

WHAT DID THE PRINCESS SAY?

Princess Margaret asked the 64,000-dollar question when she visited East Kilbride last week. Sir Patrick Dollan, the chairman of the Development Corporation, and Major-Gen. Dixon, the general manager, had “proudly pointed to the progress of the new town in the models that were arrayed in the boardroom of Torrance House.” After studying the models Princess Margaret asked the question which, the *Scotsman* says, has been on the lips of every East Kilbride housewife: “Where do the people go to do their shopping?” Sir Patrick replied “they go to Glasgow” (eight miles away). The *Scotsman* adds, tantalizingly, “People near Princess Margaret laughed at a remark she made to Sir Patrick’s answer.”

*

Earlier Sir Patrick had been enlarging enthusiastically on the “amenities” that are about to shower upon East Kilbride, which now has 18,000 inhabitants: a Woolworths when it reaches 20,000 population and a Marks & Spencers when it reaches 25,000. All very helpful and interesting: but what was the remark that gave the Princess the last laugh?

ASTRAGAL

^{*}The *Buildings of England*: London, Vol. I, *The Cities of London and Westminster*, Penguin Books, 15s.

LETTERS

John Brunton, R. B. Hellard and
E. Hunwick Boobyer,

A./A./A.R.I.B.A.

F. St. J. Hetherington, Student RIBA

“That Guarantee”

SIR,—Your editorial comment entitled “That Guarantee” (AJ, February 28, 1957) raises some interesting issues on the subject of both guarantees and Retention Monies. Although there is much to be said for the asphalt and roofing contractor's point of view in reducing their guarantee from 20 years to 12 months, the position of the building owner does call for some kind of guarantee. To be a practical one for both sides, the underlying question is, what kind?

Existing guarantees usually involve the replacement of the faulty material or work free of charge, together with, in a few instances, some provision for other liabilities. The total liability being related directly or indirectly to the value of the work or material involved. A state of affairs that might be likened to shutting the stable door after the horse has bolted.

What use to a building owner is the replacement of the roof covering when the failure has necessitated substantial repairs to the roof structure? The mind boggles at the financial implications of a failure in a proprietary cramp for stone facing slabs.

A failure of a mastic in a curtain wall to a large building might necessitate replacement and repairs to substantial areas of wall, floor and ceiling finishes, the curtain wall frame and cladding and even the structure itself. This is not to mention the disorganization to the building user and damage to his property. One can imagine the building owner's comments on being told that the mastic manufacturer is only too willing to replace the mastic free of charge! A successful action for negligence against the architect is not likely to produce the desired result either, since you can't get blood out of a stone even with an indemnity policy.

On the other side of the fence no company could give guarantees related to the cost of the whole building, particularly when the value of their work or material is small. Neither can they afford to guarantee periods longer than their material has been in use—even after extensive tests—a factor which is one of the biggest brakes on the development of new techniques. It would be absurd to suggest that the companies should provide guarantees in proportion to their share of the value of the whole building for the same reasons that the present 10 per cent. retention is absurd. The liabilities for maintenance on a large capital item like steelwork never approach the 10 per cent. retention of a building contract, while on an item like glazing or decoration it is often exceeded.

How, then, can the industry give the building owner reasonable guarantee against building failure without adding further to building costs and greater difficulties to the development of new materials? Everything seems to point to some third party or, as was suggested recently, some form of building failure insurance, undertaken wholly or in part by the manufacturers, sub-contractors, etc., on behalf of the building owner.

Naturally the technical details of the

building would have to be submitted by the architect to the technical advisers of the insurance company for approval. This, however, would present no difficulties provided that such advisers were in close collaboration with, or were even part of, some research organization like BRS, and well abreast of latest developments. New materials and techniques would automatically seek approval and any showing a tendency towards unreasonable liabilities would be penalized by an increase in their share of premiums.

The advantages of a scheme of this nature are many—elimination of retention money thereby greatly decreasing the working capital required by the industry; a measure of safeguard against the "catch penny" or ill-considered products; quicker spread of the use of new products due to greater confidence; and so on.

The details of such a scheme would be complex but not insurmountably so, because a scheme on similar lines is being used by glazing manufacturers in Switzerland; it would be interesting to know more about this Swiss experience.

JOHN BRUNTON,
R. B. HELLARD and
E. HUNWICK BOOBYER.

Trade Literature

Sir,—I commend the views that you express in your first leading article of April 4.

The BS for Trade Literature specifies that binding should not add more than $\frac{1}{4}$ in. to the leaflet size, and if $\frac{1}{4}$ in. is added to both the dimensions of the size $11\frac{1}{2}$ in. by $8\frac{1}{2}$ in., it becomes 12 in. by $8\frac{1}{2}$ in., a simplification, and the proportion is improved from $1:\sqrt{2}\cdot03$ to $1:\sqrt{2}\cdot00$. The conclusion from this is that the smaller leaflet sizes might well be:—

Bound		Leaflet	
6 in. by $8\frac{1}{2}$ in.	$5\frac{1}{2}$ in. by $8\frac{1}{2}$ in.		
6 in. by $4\frac{1}{2}$ in.	$5\frac{1}{2}$ in. by 4 in.		

The fact that these sizes are only slightly removed from the BS sizes, is no bar to their adoption. The division of the area of the bound size 12 in. by $8\frac{1}{2}$ in. is interesting, and in the following diagrams $\sqrt{2}$ signifies the proportion of $1:\sqrt{2}$, 1 the proportion of the square.

$2\frac{1}{2}$ "	$3\frac{1}{2}$ "	$2\frac{1}{2}$ "	$3\frac{1}{2}$ "	5"	$3\frac{1}{2}$ "
$\sqrt{2}$	1	$\sqrt{2}$	$3\frac{1}{2}$ "	1	$\sqrt{2}$
			1	$\sqrt{2}$	1
			$8\frac{1}{2}$ "		$5"$

It is pertinent also, I feel, that while 12 in. occurs in the BRS Number Pattern, $8\frac{1}{2}$ in. does not, the nearest numbers to $8\frac{1}{2}$ in. in the Pattern being 8 in. and 9 in.

Finally, I would add that I find the JOURNAL particularly easy to file because its pages, coincidence or not, fit *exactly* the file that I use. This is the "Vertilok Patent Folder File" in its quarto size. No punching is necessary, the file is flat, and sheets are quickly added, moved, or removed. It is curious that this file was not mentioned in your résumé of filing methods published last November.

F. ST. J. HETHERINGTON,

Birmingham.

CRITICISM: Robert Maguire and Keith Fendall write here again about the church in Basildon New Town which J. M. Richards criticized on April 4. Their first letter was published on April 11.

Sir,—We do not think we have misunderstood Mr. Richards, as he claims in his answer to our letter on criticism of church design. In clarification of his original remarks, he says, "in the case of a church it is not the rôle of the architect to help his

client determine its function . . . he must surely accept liturgical and other requirements as they are given to him." This is precisely where we disagree.

In the first place, the programme the architect initially receives will almost always be constructed around planning preconceptions. This is because most clergymen (in common with other architectural "laymen") are not used to setting down requirements in a detached manner; they think of them in terms of the kind of building with which they are familiar, having no knowledge of architectural possibilities. The architect must therefore help his client, in order to obtain the real liturgical and other requirements, but he can only do this if he has a proper functional discipline and has taken it upon himself to find the right questions to ask.

We will give two examples of the kind of question we have in mind: "What relationship should there be between the people and the priest at the altar?", and "What is the relationship between the Church and the community at large?" These are indeed theological questions, but how can the architect possibly design a church until they are answered? The first will determine a large part of the plan and its three-dimensional ramifications; the second will to a great extent control the external, symbolic character of the building in relation to surrounding housing, and until it is answered we shall continue to produce solutions based on sentimentality or aggressiveness.

There are hundreds of such questions which must be asked—all of them, we believe, functional in the right sense of that word. We do not see why it should be presumptuous for the architect, "as such," to ask them; it is part of his job. And he will not be "setting up as a guide in matters of theology" any more than those architects who have done so much for school-building have set up as guides in matters of education.

ROBERT MAGUIRE and KEITH FENDALL.

London.

J. M. Richards replies: I don't think we really disagree. I was making the rather obvious point that a church presents rather more circumscribed planning problems than a building designed *ad hoc*, like a factory, and Messrs. Maguire and Fendall read more into this than I meant. I agree with all they say above.

NEWS

COMPETITIONS

Enfield Civic Centre

Prizes of £1,000, £750 and £250 are being offered in a competition for a civic centre at Enfield, Middlesex—a centre that will include municipal offices, council suite and public assembly halls. Questions must be sent to the Town Clerk, Public Office, Enfield, Middlesex (accompanied by a deposit of £2 2s.) by July 15, 1957. Applicants for the conditions, which will not be available until May 15, must state their registration numbers. Designs must be submitted by November 18, 1957. The assessor will be S. Rowland Pierce.

A Solar-Heated House

The winner of an international competition for a solar-heated house, suitable for the arid atmosphere of south-west America, will be awarded 2,500 dollars and a contract to supply architectural services for

building the design. Other prizes will be 1,000 dollars, 750 dollars and 500 dollars. The competition will be closed on August 15, 1957. Applications may be made to James M. Hunter, F.A.I.A., Professional Advisor, 1126, Spruce Street, Boulder, Colorado, up to June 1. The sponsors are the Association for Applied Solar Energy, Phoenix, Arizona. The assessors will be Pietro Belluschi, F.A.I.A., Dean of Architecture and Planning at Massachusetts Institute of Technology; Carlos Contreras, Hon. F.A.I.A., architect and planner of Mexico City; Thomas A. Creighton, A.I.A., editor of *Progressive Architecture*; Nathaniel Owings, F.A.I.A., architect, of Skidmore, Owings and Merrill, and James Elmore, A.I.A., professor of architecture, Arizona State College.

AA

New President

John Brandon-Jones, A.R.I.B.A., has been elected president of the AA for its 111th session, commencing on June 1, 1957. Mr. Brandon-Jones, who was born in 1908, was a pupil of Oswald P. Milne in 1926 and went to the AA School in 1928. Before the war he practised independently and in association with C. Cowles-Voysey and was a lecturer at Liverpool University. He was released from the Admiralty, where he had worked during the war, in 1945, and became a senior master at the AA school. Four years later he resumed his partnership with Mr. Cowles-Voysey, who retired in 1955. Mr. Brandon-Jones then entered into partnership with Robert Ashton and John D. Broadbent. He has written and lectured on 19th-century architecture and has served on the committees of the Wren Society and the Art Workers' Guild, as well as several committees of the RIBA and ARCUK. He was elected to the AA Council in 1951, became honorary secretary in 1954 and vice-president in 1955-56.

RIBA

Report on Income and Structure of the Profession

The following is a statement from the chairman of the RIBA Committee for "Representation of Members in Salaried Employment and Review of Structure of the Profession" (See leading article on page 653).

Members will recall the two or three vital purposes of our work. One group of tasks is to study the income of the profession as a whole; to discover whether or not architects are employed as widely as they should be; and to determine whether our operating efficiency is as high as is practicable and our overheads as low as possible. Another is to find out what sort of income individuals should expect and be able to get in relation to their responsibilities. We must know these and other such things in order to be able to work effectively for a proper remuneration for all architects. We accordingly recommended in our first interim report the appointment of a senior officer to the staff of the Institute to carry out this work.

We mentioned also in that report that pending this new appointment we were ourselves making a start on the process of gathering information from various public and private offices; and the progress report below sets out briefly the results of our necessarily small-scale survey.

We carried out five investigations in all, the team consisting of three members and the secretary, representing whenever possible both types of practice—public and private.

It was considered that this arrangement ensured an objective enquiry into the methods and organisation of the units examined. I was present at all but one of these meetings, so as to ensure continuity in our method of approach, and in the evaluation of results.

In deciding which offices to visit in this preliminary phase, we were guided by two considerations:—

- (a) a good standard of work executed by the office—as an indication of the care and attention given to the production of working drawings.
- (b) a knowledge of the office by one or more members of the group, so that a full and complete investigation could be made.

Much of the value of such an enquiry rests in the knowledge that the answers will be treated as confidential and that while the information may be used and published in a synoptic version, it will not be related to any particular individual, group or authority. Moreover, such an enquiry, we consider, is only possible on a professional or institutional basis, since the information is given by the individual as a member of the Institute.

We now feel that the decision to make our interviews personal and confidential was the right one. The confidence with which conditions of employment were discussed in this way was most encouraging. In the case of the local authorities we also had the opportunity of discussing some of the problems raised at these meetings with the heads of other departments.

We started these investigations with open minds, hoping the information would be useful, but aware that the results might prove to be valueless, or inconclusive. In fact they proved most interesting and gave valuable experience in formulating a methodical approach for such enquiries in the future and on the kind of information to be sought.

One point that already interests us very much is that the working methods and organisation of public and private offices seem to be fundamentally the same in respect of carrying out their work—given that the work itself is the same—for we have noticed that the type of work (e.g. housing, industrial) seems to dictate rather substantially the way an office is organised and works. It may be however, that there are substantial differences as between public and private offices, both in legal liability and in the relationship between the building owner and the architect.

With one exception, the offices we examined all have a common method of executive action, work being devolved upon teams of architects varying in size and composition according to the work undertaken. Each team is under the control of one man who is primarily responsible for all work, design, working drawings, supervision, etc., and who is responsible for the direction of the individuals in the group. For the sake of convenience we referred to this man as the group architect. In most cases we found the group architect was responsible for initiating sub-contracts, variation orders and the financial conduct of the work under his control. There is no need to spend a lot of time describing this method of organisation, since it is well known both in this country and in the United States. The only point which requires emphasis is that the scope and responsibility of the post varied considerably in different offices.

The evidence we now have, which is quite substantial, points pretty clearly to the efficiency and economy of the group method of working, for it enables the capacities of all members to be used very fully. And it in turn underlines the apparent importance of the group architect in the scheme of things.

We think that the position of the group architect or his equivalent in different types of organisation, should be studied further.

Every effort should be made to define and set out his responsibilities; to secure the recognition of such posts in adequate numbers in all types of organisation; and to suggest salaries commensurate with the responsibility.

We have been surprised at how high the proportions were of fully-qualified architects in both types of offices visited. It seems much higher than before the war, for the range was between 50 and 80 per cent. Offices vary a good deal in this matter, however, and we have not yet seen enough different types to say what is typical of the country generally. A point that has caught our attention was that architects' departments seem to have far higher proportions of professionally qualified staff than other local or central government departments, and this may prove to be a significant factor in professional employment.

Our experience (and some notes on job evaluation prepared by one of our members) is being made available to the secretary for professional relations, Gordon Ricketts, who took up his appointment on January 1, 1957. There must be a large element of empiricism and flexibility in his programme of work, since his lines of enquiry should be open to deflection or adjustment according to what facts emerge. It is likely, however, that quite early in his programme he will:—

(a) Examine in detail the best means of achieving a full analysis of membership by occupation. Our committee finds that basic to much else they wish to examine is enquiry into the structure of the profession, the amount of work that it carries out and the volume of building work that is still untouched by architects.

The most important thing is to know accurately where every member works; though much instructive information should also be thrown up by statistical analyses as to age, education, class of membership, geographical distribution, and so on. We shall want to ask members for these biographical details before long, and we need not stress how important it is to us that every member shall readily co-operate.

(b) Study local authority offices with an eye particularly to the type and annual financial value of work done, structure of the department, establishment, and salaries with corresponding responsibilities.

(c) Conduct, simultaneously with (b) if possible, a small-scale inquiry into private practice—the offices to be selected (assuming their co-operation) for their diversity as to size, structure, location and type of work. The aim would be partly to maintain a proper balance while concentrating mainly on local government, and partly to get a thorough grasp of the right questions to ask and how to ask them. This would be a pilot survey that might well point to interesting lines of further enquiry, but would not be expected to yield more than tentative conclusions.

Membership of ad hoc committee: Richard Sheppard (F) (Chairman); F. G. Southgate (A) (vice-chairman); J. C. Barker (A) (hon. secretary); G. Grenfell Baines (A); Miss N. Beddington (A); Sir Thomas Bennett (F); Stuart Bentley (F); W. S. Frost (A); D. E. E. Gibson (A); F. E. Green (A); F. W. Gregory (A); Leonard C. Howitt (F); S. A. W. Johnson-Marshall (A); A. G. Jury (F); W. D. Lacey (A); and John Lincoln (A).

Symposium on Timber

The Technical Editor writes:

Thomas Mitchell, the chairman of the symposium on the constructional uses of timber, held at the RIBA on April 16, was careful to point out that its object was to present a review, not textbook information. Fortunately this did not mean (as it might

so well have meant) an evening looking at a long series of slides with few detailed facts to compel attention; and there is little doubt that the large audience went away feeling that the occasion had been abundantly worth while.

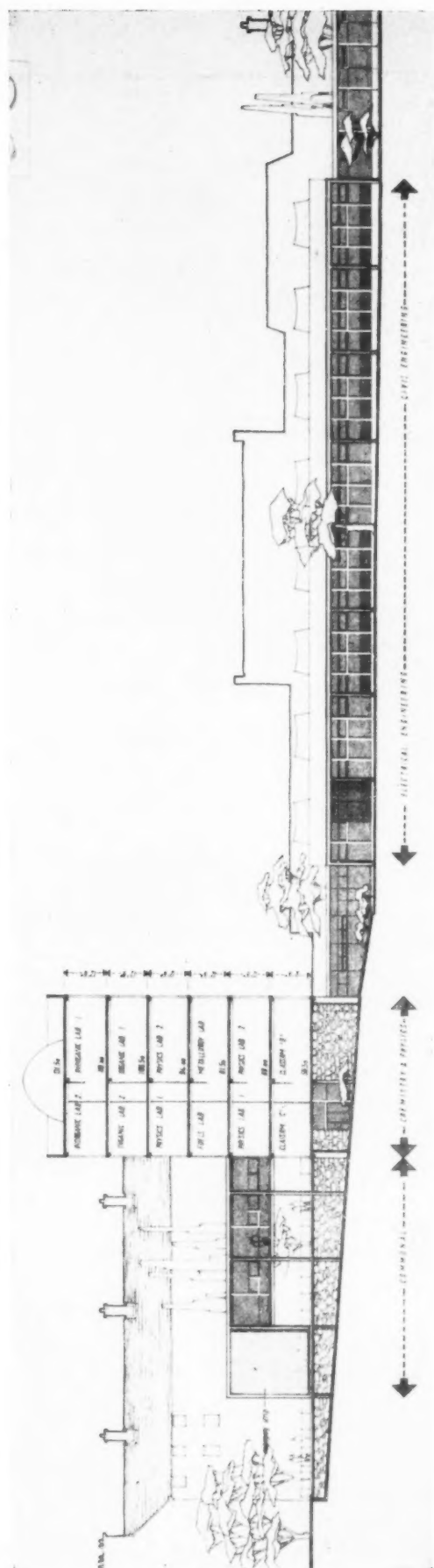
There were five main speakers: R. M. Hemmings of Samuel Elliott & Sons, of Reading, who was billed to speak on "Economics, with special reference to lamination and prefabrication," but who, regrettably, decided to cut his paper and only to show his slides; John Stillman, who spoke mainly on the use of timber in schools; Cleeve Barr (now Deputy Housing Architect, LCC), who spoke on its use for houses and flats; R. T. Walters (Deputy Architect, Eastern Region, BR), who discussed timber systems of building; and A. C. Oliver of TDA, who spoke on external finishes.

As would be expected, the talks and discussion turned on a small number of leading questions: Why is timber now more interesting to architects than it has been in the past? What precise uses is it serving economically? What considerations are limiting these uses? And which points of technique call for closer attention?

John Stillman, broaching the first of these questions, made a distinction between the emotional and the economic and practical causes which lead architects to like timber better. On the first of these he quoted Aalto's remark at the RIBA ("Wood is the symbol of freedom") and claimed that the desire for members which are thinner for a given strength than timber can supply, which led to the desertion to steel in the first years of the modern movement, is now on the decline. The main cause on the practical side seemed to be that timber could be obtained readily whereas steel could not. Three to six weeks was the period quoted for timber delivery, though, as Mr. Hemmings had previously pointed out, "if you want anything out of the way, for goodness sake contact your supplier at the beginning of a design." A second reason for the growing popularity of timber among architects was that new techniques of jointing were converting it into an engineering material and into a material which could be easily handled in factory production. Subsequent discussion made it clear that, so far as this country was concerned, it was the latter consideration which had proved the more significant: for whereas the slowness of the trade to adopt stress grading and to obtain competence in timber engineering had made large-scale lamination still something of a rarity, prefabricated timber panels were common. The growth of timber prefabrication had in fact become one of the marks of British building development.

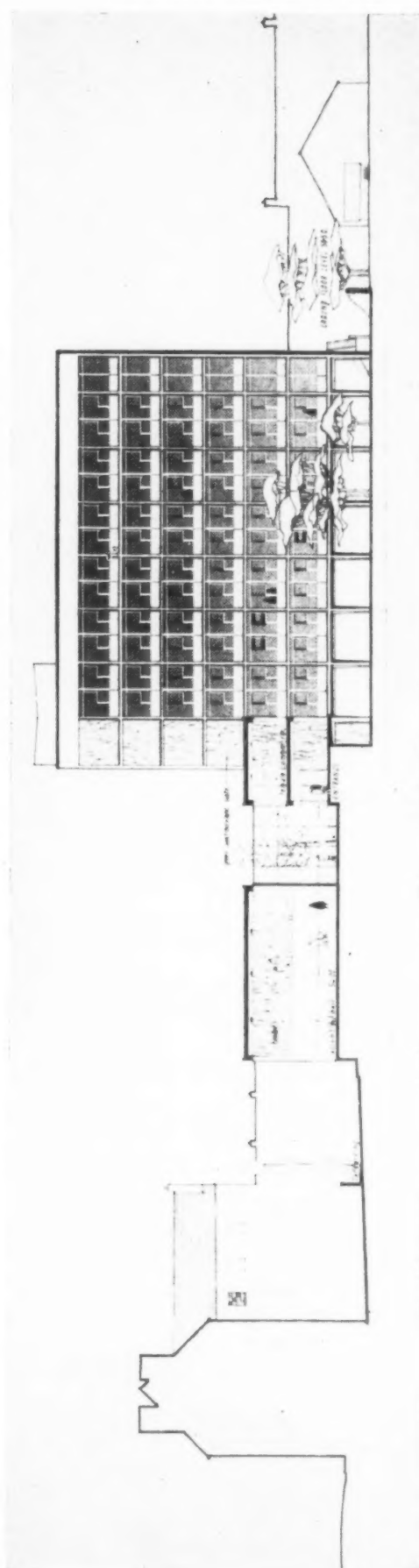
R. T. Walters, in his paper, was able to line up no less than 16 different timber building systems, 13 of which had been developed specifically for schools, and to establish that last year 6.4 per cent. of the total number of new school places provided in contracts above £10,000 were provided in timber buildings. This would have seemed very surprising a few years ago. It is only a pity, as the author of the paper remarked, that timber prefabrication has taken the form of the development of closed systems and not of interchangeable parts.

Evidence about the comparative cost of timber seemed inconclusive. John Stillman quoted comparative figures for a 50 ft. truss giving £50 for a TDA truss, £90 for steel and £90-£150 for a glued laminated beam, and the general inference seemed to be that it was the savings on the site—easy fixing, easy erection—rather than low first cost, which made timber economically attractive. There was much discussion on the relative cheapness and warmth of the suspended timber as against the solid concrete ground floor. Cleeve Barr spoke of the timber ground floor as a thing of the past, but Phillip Reece of the TDA claimed that the concrete solid floor was only cheaper on very large sites and that it was



West elevation

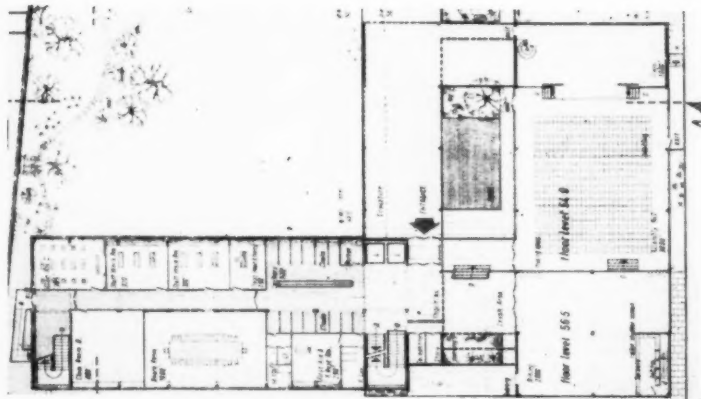
The assessor, Robert Gardner-Medwin, in his report on the winning design, says: "the plan and decided, yet by no means overwhelming in its impact, as so many recent technical colleges fulfils the requirements of the programme in a way which is both logical and imaginative and are. There is a warmth and humanity in the design which is partly accounted for by the which should result in a modern architectural concept of rare quality. Its architecture is powerful sympathetic modelling and landscaping of the sloping site. A series of terraced and partially



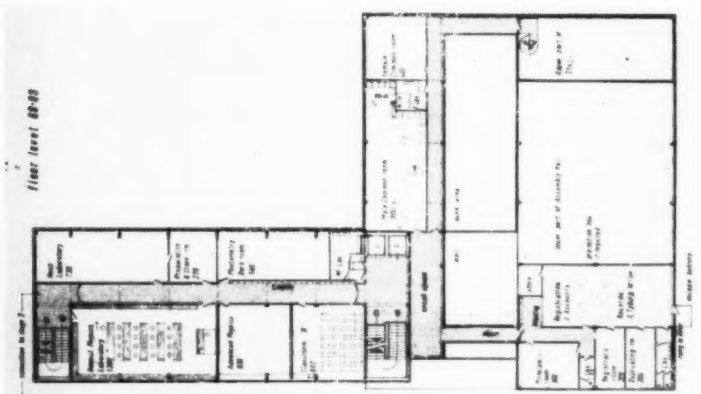
North elevation

PAISLEY TECHNICAL COLLEGE COMPETITION: FIRST PRIZE-WINNING DESIGN

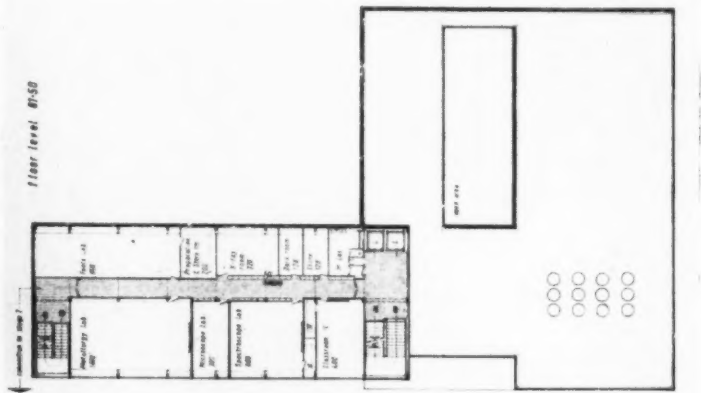
by ALISON and HUTCHISON and PARTNERS (continued)



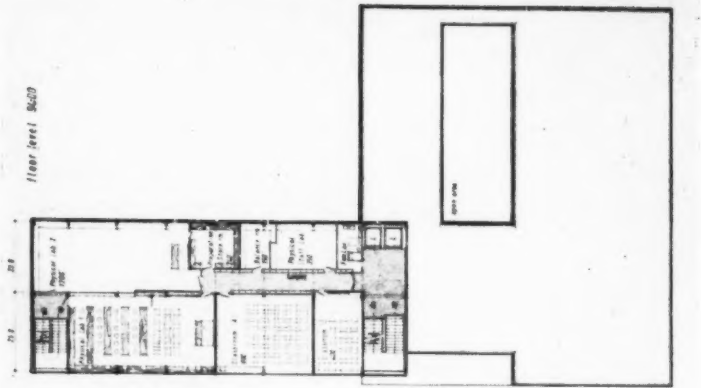
Ground floor plan



First floor plan

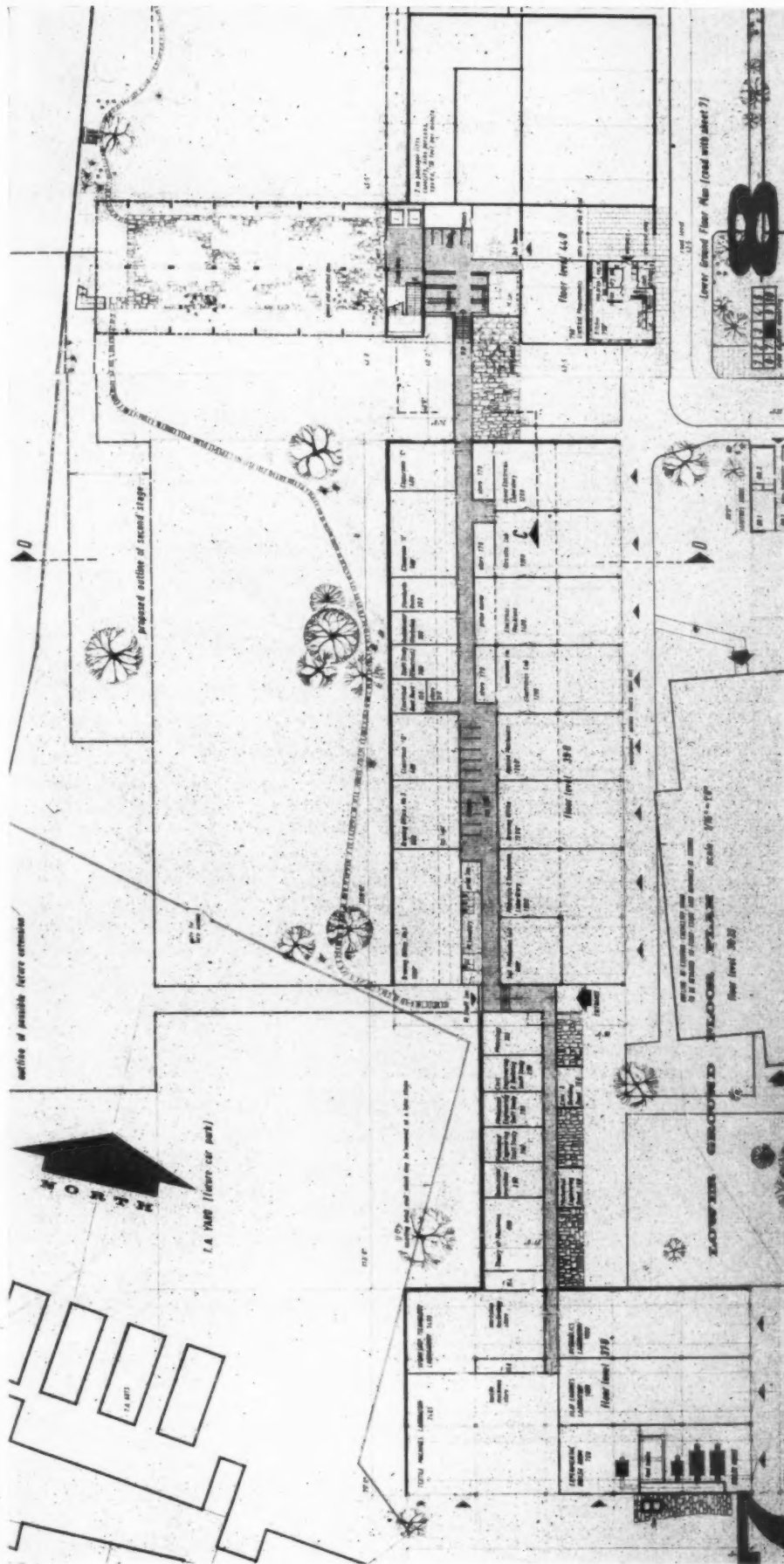


Second floor plan



Third floor plan

enclosed spaces, varied and pleasant, has been shaped out of the wilderness between High Street facing High Street." The buildings on the north side of High Street being on higher ground, and and George Street." The scheme comprises a 6-storey laboratory and classroom block facing of a dominating character, the architects proposed the erection of a multi-storey block facing High Street and separated from the Townhead Terrace flats by a two-storey Entrance Hall, the street, but set well back to give a sense of spaciousness and to avoid conflict with surrounding Administration and Communal unit; a group of Engineering Laboratories en suite with the tall buildings. Placing the six-storey block on columns permits pedestrians on the High Street Boiler House at the south end of the site, and a single-storey link-block of Electrical Engineering, to see through to the landscaped quadrangle, while the height of the building hides unpleasant Civil Engineering and Drawing Offices. The conditions called for "a building of distinction views beyond. The six-storey block has a precast concrete multi-storey frame without cross



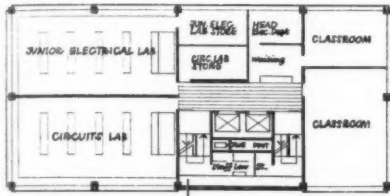
Lower ground floor plan

beams, in which the prestressed hollow floor units integrated with the longitudinal beams give complete continuity to the structure. The column and floor structure is exposed and expressed externally, the voids being treated as individual window walls, with surrounds of green Westmorland slate and aluminium sub-frame. Infill panels will be proprietary coloured glass with insulated filling. The exposed columns and beams will be cast in white cement. The solid infill beams, in which the prestressed hollow floor units integrated with the longitudinal beams give complete continuity to the structure. The column and floor structure is exposed and expressed externally, the voids being treated as individual window walls, with surrounds of green Westmorland slate and aluminium sub-frame. Infill panels will be proprietary coloured glass with insulated filling. The exposed columns and beams will be cast in white cement. The solid infill

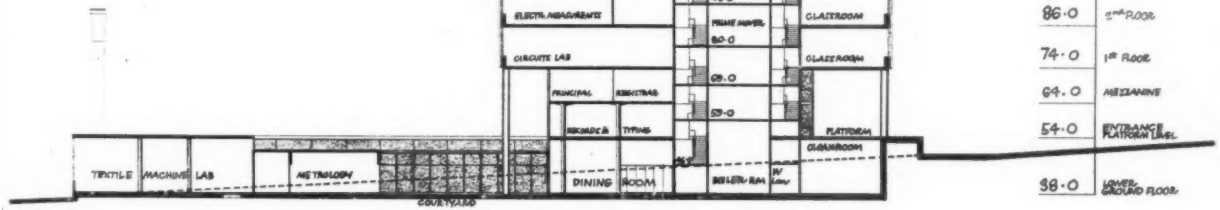
wall panels at each end of the block are given slate slab facings on brick backing. The Main Entrance, Communal and Administrative Block is similarly constructed, but the external columns and beams will be surfaced with Green Westmorland polished slate. The single storey laboratories are of precast post and beam construction. The estimated gross total cost, excluding preliminary site works, furniture, equipment, professional fees, etc., is £347,819.

EQUAL SECOND PRIZE-WINNING DESIGN

by JAMES CUBITT and PARTNERS

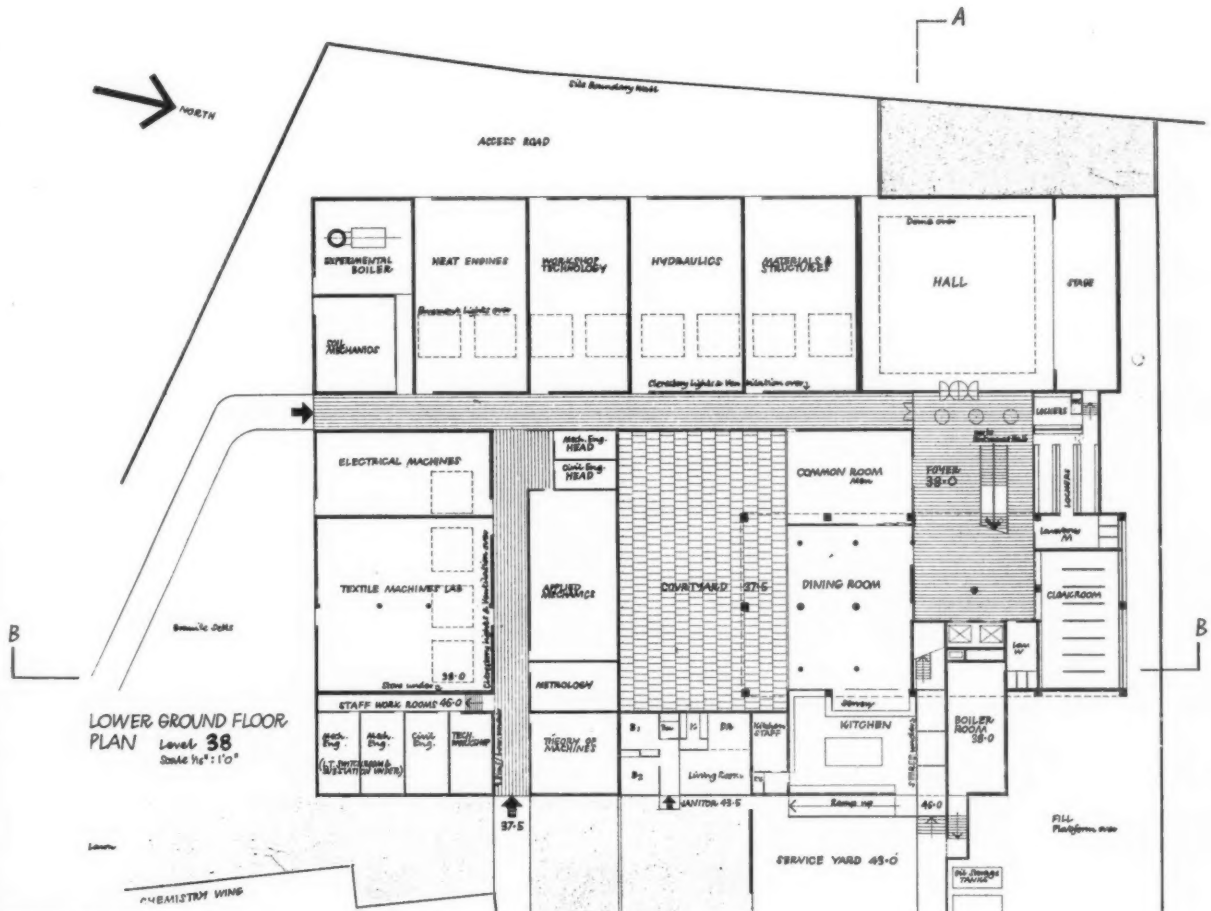


Typical upper floor plan



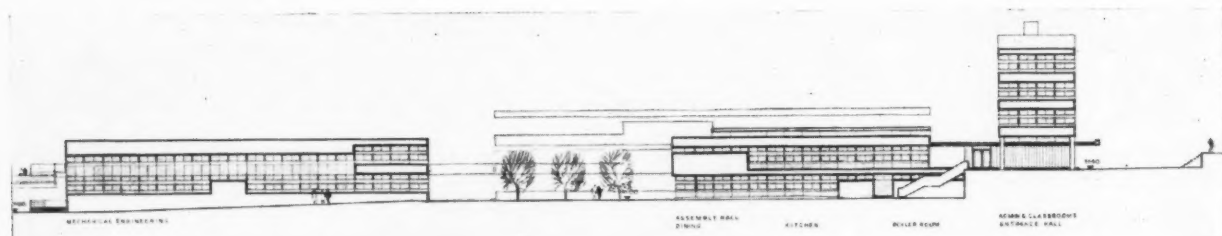
Section B-B

storey tower block is of reinforced concrete frame construction, with white opaque glass curtain walling, and bright aluminium lights set in a black aluminium framework. Exposed concrete surfaces are faced with matt mosaic of varying light greys, the motor and tank room with bright aluminium panels, and solid wall areas at lower levels with coloured tiles.

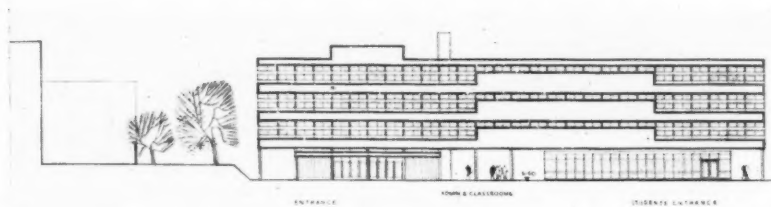


PAISLEY TECHNICAL COLLEGE COMPETITION

by CLAUS SELIGMAN, in association with J. WARREN CHALK and RONALD HERRON



East elevation



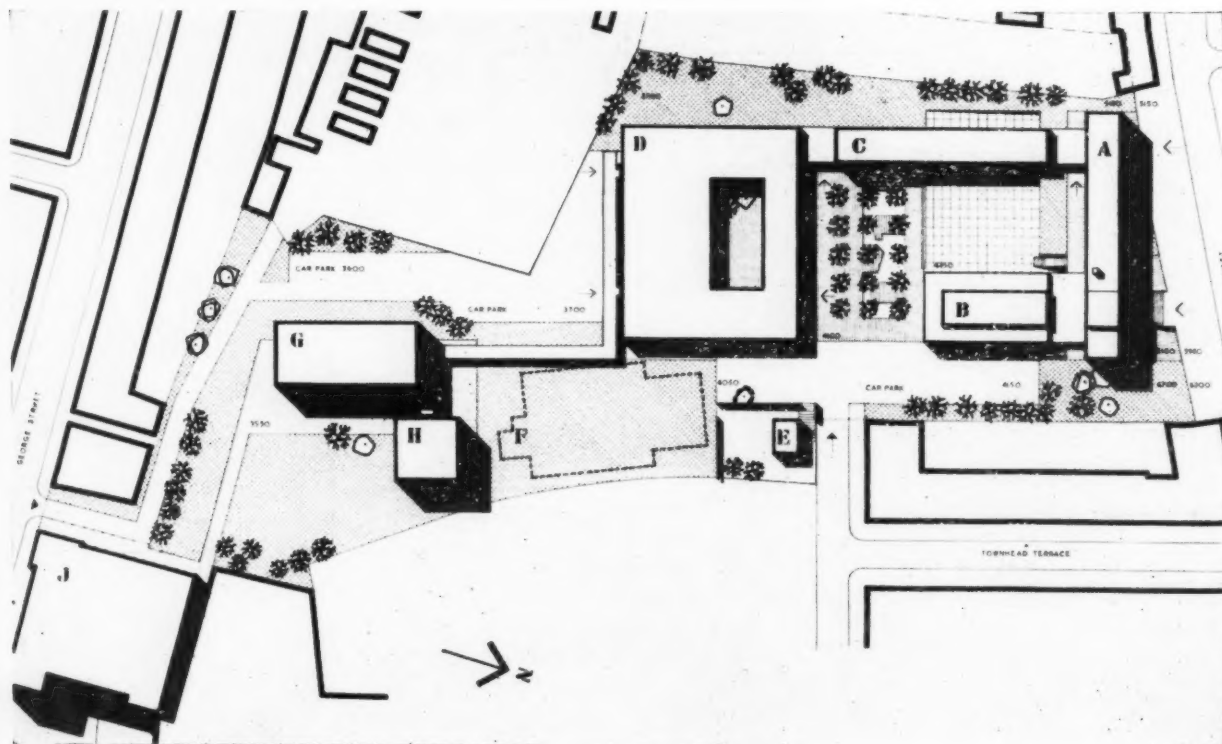
North elevation

The assessor's report says: "A long unit of four storeys (administration and classrooms) is only slightly recessed from High Street, but it has a partly open, partly glazed ground floor which extends the entrance terrace

through to an enclosed court at a lower level. The space formed by this court is very attractive and an interesting landscape effect could be achieved. The planning is competent and expansion of the chemistry unit at a second stage has been well considered. The architectural expression is bold and masculine. It has not been very

fully worked out, but the plan, in spite of weaknesses in circulation, has great potentialities." Structure is r.c. frame with in situ columns, precast prestressed beams carrying the in situ concrete floor and roof slabs. The concrete upstand wall forms a perimeter beam, faced externally with white mosaic.

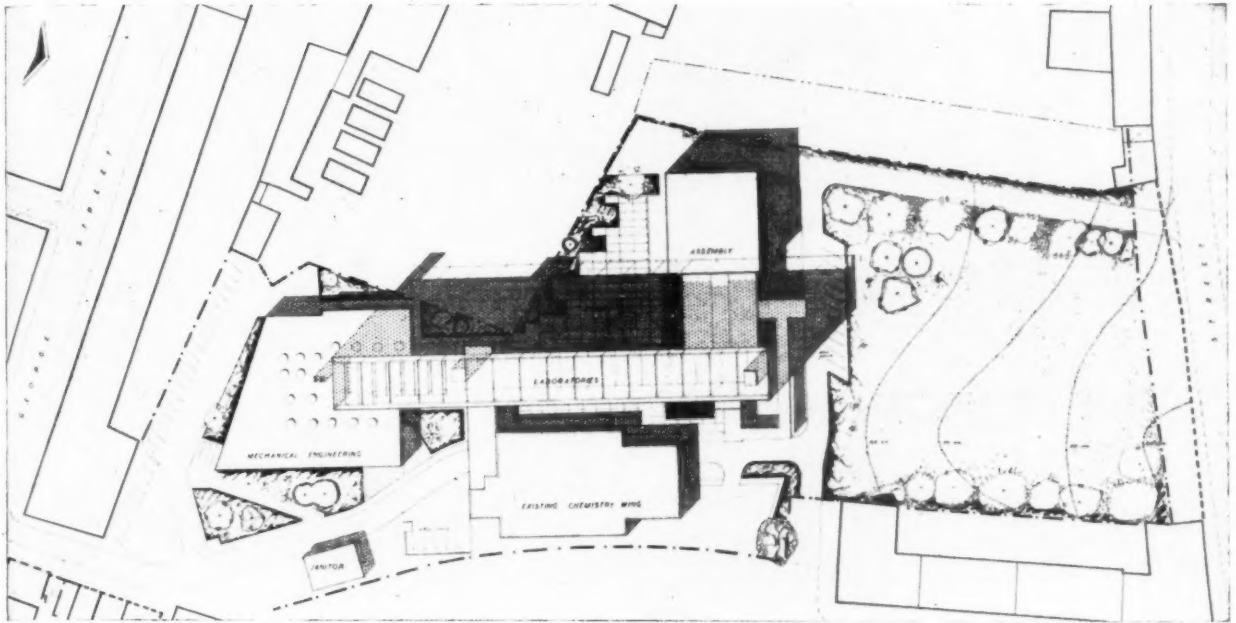
- | | | |
|--|--------------------------|----------------------------|
| KEY | C Electrical engineering | G Chemistry Stage 1 |
| A Administration and classrooms | D Mechanical engineering | H Chemistry Stage 2 |
| B Assembly, dining, kitchen and boiler | E Janitor's house | Existing Technical College |
| F Existing chemistry | | |



Site plan

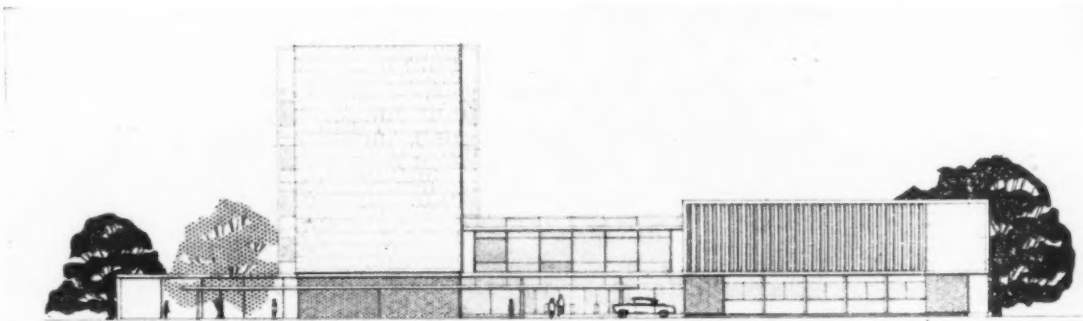
EQUAL SECOND PRIZE-WINNING DESIGNS continued

by HUTCHINSON, MURTA and HALL

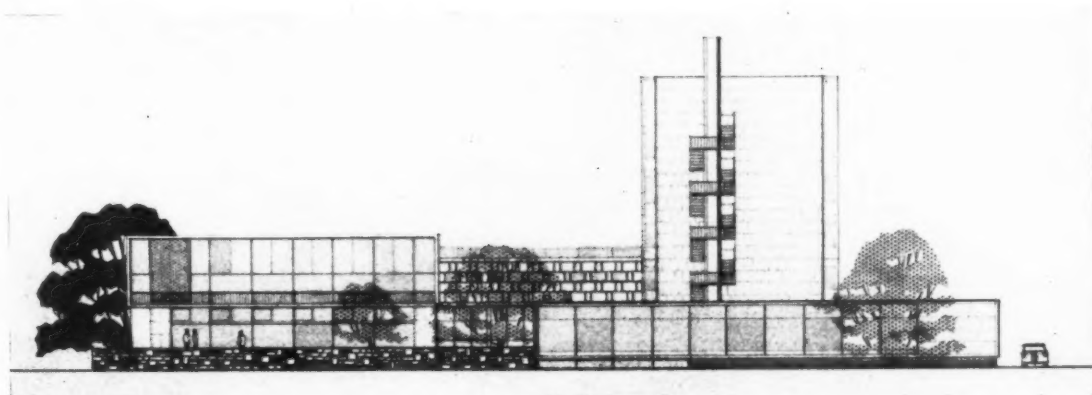


The assessor says: "This solution links the new buildings to the old by developing the flatter part of the site to the south, leaving a large sloping garden to the north. The new buildings, with a long north-south laboratory and classroom unit of five storeys, linking the communal and administrative units (north) to the engineering workshops (south) are very efficiently planned, and the character

of the design is attractive and sensitive. It has many faults, however; not least among them its failure to exploit the slope of the site effectively and to establish a satisfactory link with the monumental group of High Street." Reinforced concrete frame construction is used with curtain walling designed by the architects, and aluminium window units.



North elevation



South elevation

HOPE'S

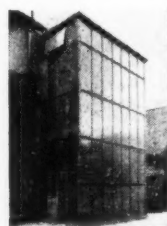
★ DOUBLY PROTECTED STEEL DOORFRAMES

1 ZINC-COATED steel sheet (ZINTEC) is the basic material from which the frames are made. It is produced by electrolytically deposited high-purity zinc on a steel sheet base, which is electrolytically degreased and pickled prior to coating. Zinc-coated steel sheet is today universally recognized as one of the most practical and efficient bases for under-paint protection.

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NEWS continued from page 658

only warmer if a house was provided with central heating. Cleeve Barr conceded that a timber floor would be cheaper on a sloping site but pointed out that the air necessary to save it from dry rot would carry the heat away with it. George Fairweather also contributed to this part of the discussion, pointing out that in substituting steel and concrete for timber in floors we had failed to take intermittent heating and resulting condensation into account.

Fire protection

The opinion was expressed, both by John Stillman and by Cleeve Barr, that the limitation placed on timber use by the fear of fire risk was probably exaggerated. John Stillman pointed out that structural timber of 2 in. thickness burns slowly and was more resistant to fire than exposed steelwork, and Cleeve Barr suggested that the present fire regulations governing the use of timber cladding were in many respects obsolete, and instanced the Model Byelaw requirement of a projecting party wall 9-in. above the roof of terraced houses which appears now to be ignored.

Building paper

One interesting technical point which cropped up concerned the use of building paper behind timber cladding. Hilton Wright first raised the matter in the discussion by pointing out that if you provided a vapour barrier on the inside of the studding (as you should), and if you then used a protective paper on the outside of the studding (i.e., between the studding and the cladding), then the chances are that you would deprive the studding of a sufficient flow of air to prevent dry rot. It was essential, therefore, that the protective paper should be able to "breathe"—a condition insisted upon by the Canadians and Americans who had had long experience of building in timber with vapour barriers. He had found the greatest difficulty in obtaining a paper which would breathe, but had finally tracked one down in Scotland.* This problem seemed to take those present by surprise, as it is certainly not yet common practice to fix a "breathing" paper behind cladding in this country.

External finishes

A. C. Oliver, whose paper was entitled "External Finishes," confined himself in effect to clear finishes. Discussing in turn oils, sealers and varnishes, he showed a series of coloured slides of recent exposure tests carried out by the TDA. These indicated quite clearly (almost too clearly) that if you want to preserve the original effect of a clear finish you must be prepared to renew it at shorter intervals than for paints, and in exposed situations every year. Of the finishes shown the synthetic varnishes (i.e., epoxy and alkyd resins) seemed the most effective, though the author also had an interesting suggestion for lengthening the life of oil finishes and for evening out patchiness by mixing small quantities of pigment. Discussing this paper, William Allen remarked on the value of rounded arrises in preserving the varnish or paint film.

Among the many other points which were briefly raised were those of a manufacturer who complained that the way bills of quantities were prepared did not assist good pricing of prefabricated timber systems, and of an engineer who said that he was much hampered by the trade practice of not stating what the finished dimensions would be. Those architects who thought that you could always calculate this will have been much disturbed by John Eastwick-Field's story of a 2-in. door which arrived on the site with a 2-in. finished thickness.

* IBICO, manufactured by Davidsons Impregnated Paper Co.

RICS DISCUSSION

ELEMENTAL BILLS

On Wednesday, April 17, the RICS held a meeting to discuss the report of their committee on elemental bills of quantities. It was crowded and controversial—indeed a layman would have been astonished that grey-suited, grave professional men could become so heated over a proposed technical advance in their methods. Except where stated, all the speakers reported overleaf are quantity surveyors.

The conclusions of the report, published in the *RICS Journal* for April, may be summarized as follows: If cost analyses are to be used by architects, they can be abstracted from trade bills without undue difficulty. There is no demand for the elemental bill from architects, and for a very large number of jobs they would be inappropriate. Quantity surveyors who are asked to prepare elemental bills should first consult the builder selected for tender. Elemental bills may take longer to prepare, although evidence on this is conflicting. The possibility of "elemental drawings was noted with considerable interest." Builders generally are unfavourable to the elemental bill because it makes tendering more complicated.

The evidence heard by the committee seems, from their report, to be rather too thin for such discouraging and dogmatic conclusions. They received, in response to an advertisement, only 33 letters, they found that many architects and builders had not even heard of the e.b.q. and they mention only one builder who has actually used such a document. Indeed, the report does not give enough of the evidence and one cannot escape the impression when reading it that the committee has not sufficiently investigated the disparity of opinion between those with fairly extensive experience and those with little or none. For example, they quote "estimates of the extra pages of bill required as varying from 6 to 50 per cent." whereas we know of one surveyor whose extensive experience shows as little as 2 per cent. It may have been an unusually complicated building type that took 50 per cent, but the committee do not tell us. Nor do they distinguish between particular forms of elemental bill developed for

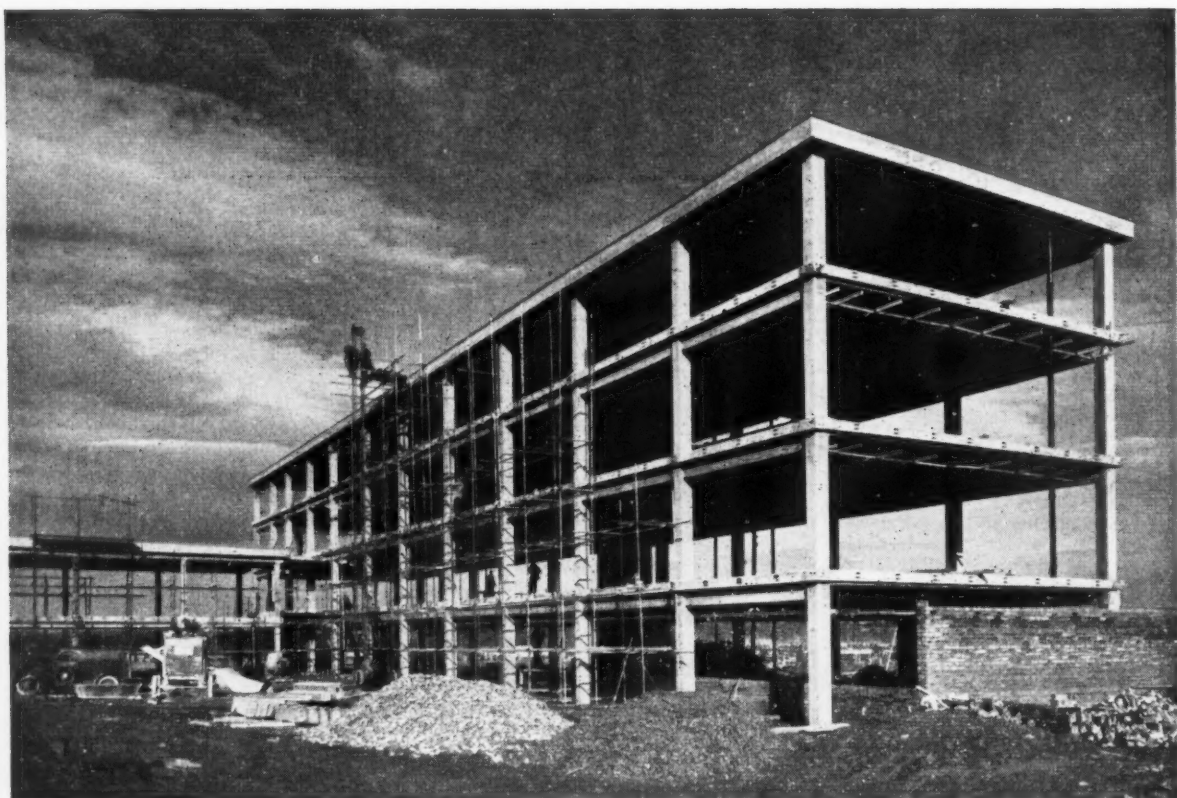
specific purposes, and the principle of organizing the bill on an elemental basis.

This response to a proposed advance is analogous to the situation in the architectural profession in the 1930's when a small group of modern architects were trying, in the face of ridicule and misunderstanding, to develop the functionalist approach to design. As with the majority of quantity surveyors now, there is the same feeling that a change is a threat to the familiar order, and thus to stability. The trade bill of quantities as we know it was evolved for building techniques and modes of administering building works of the 19th century, which survived with only superficial changes into the inter-war period.

Now that the scientific approach has begun to penetrate the building world—first through the architects, later through manufacturers and, since the war, through the builders themselves—the trade bill and the procedures that go with it begin to show signs of wear. One well-known symptom is the progressive decrease in the proportion of fully measured work.

Now the elemental bill is an attempt to re-design this essential instrument of administration and control for present (and future) conditions. One significant feature of these conditions is the pressure for architect, builder, surveyor and building owner to work more closely together than in former times. Thus the layout of the elemental bill reflects both the architect's mode of working in the design phase and the way he might wish to present to his client his proposals for spending the money. The discussion reported below reveals how few quantity surveyors appreciate this—providing another argument for joint archi-

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GOODLYBURN J. S. SCHOOL, PERTH. View showing 4 storey block with part of 2 storey block in the background.
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tect-quantity surveyor training. But the major lesson to be learned from the report and the discussion is the profession's reluctance to exchange the problems of the

trade bill—although they grow steadily more acute—for the problems of the elemental bill, because the former are familiar, and thus seem less menacing.

DISCUSSION

E. R. PARRINDER (a member of the committee) opened the meeting by affirming his belief that cost analysis and cost planning must be developed "if the architect and the quantity surveyor are to survive" but that analyses can be prepared from trade bills. He quoted the opinions of builders that better drawings and specifications would be more use than elemental bills, and that the elements required by the builder would be unlikely to correspond with those required by the architect. He emphasized that other uses of the bill must remain subservient to the primary purpose of tendering but suggested that the professions would be willing to make any change that the users of the bill were unanimous in wanting.

E. MORLEY SMITH then rose to speak on the technical problems of preparing and using elemental bills, but he confessed at the outset that he had never prepared one!

A. T. BRETT JONES took up a suggestion made by E. R. Parrinder that if a cost analysis were required an abstract could be included at the back of the trade bill for the later collection of items into element headings. He thought that the problem of allocating items to element headings in preparing an e.b.q. was "insuperable" and asked how one could compare, say, a column and beam structure with a cross-wall structure, when the latter also performs the function of partitions. Finally, he referred to cost analyses as "dangerous statistics"—especially in the hands of architects.

J. K. CARLESS was the first speaker to have prepared elemental bills "and I like them," he said. He then told of a job for which he had prepared several approximate estimates—all of which had been rejected. He had then decided to prepare a cost plan, which was accepted, and was writing his bill in elemental form so that the tender prices could be compared with the cost plan.

E. H. WILSON quoted the difficulty of knowing why some element prices for similar buildings differed from each other, implying that variations in builders' pricing methods made nonsense of cost analyses.

C. M. NOTT began by contesting the assumption by some speakers that the main reason for elemental bills was to provide cost analyses. It was, he said, to give the builder better information for pricing—even if the builders were not yet able to make the fullest use of it. He recalled the misconception that cost analyses could only be compared when they represented precisely similar buildings, and said it was only in these circumstances that the overall cube price made sense. If an element price

for partitions contained several different kinds of partition, an overall cube price contained even more variables. Cost analysis, he said, limited scope for error. On valuing for certificates he told of one surveyor who took longer to value using an elemental bill, because his measurement was more accurate than the guessing and approximation used on a trade bill job.

J. T. BROOKS repeated again the misconception shared by many speakers that cost analysis comparisons were possible only between buildings of the same type. He then suggested that we may get lots of different types of bill being used all over the country and asked: "Does it really help the cost-conscious architect to wade through a bill?—what use are many prices per sq. ft. from different types of building, done at different times in different parts of the country?" Finally, he said that surveyors would welcome any suggestions for improvement of the trade bill and were ready to give the architects the cost information they wanted.

P. H. P. LOVELL (a builder) then spoke of an elemental bill he had used where "the joinery was split among 13 elements, mild steel among 11, painting in 15, plumbing in 8, plastering in 11, glazing in 8. This broadside received thunderous applause.

JAMES TURNER then posed the problem of a project for which, at an early stage in the design, the client wanted to know the cost of the laboratory benches—in a part of the building yet to be designed. "How would an elemental bill help us to do that?" he asked, and went on—"What do you do, when one builder prices his scaffolding in the brickwork while another puts it in the prelims?"

L. J. STONE, who said he had seen an elemental bill, reiterated again the point made by previous speakers that elemental costs could only be understood by the quantity surveyors who had prepared them—certainly not by the architect.

GRENELL BAINES (architect), unable to let this pass, rose to his feet to remind the assembled quantity surveyors that architects were "not all numbskulls about costs. Don't make costs too much of a mystique," he said, "and don't obscure the issue by discussing only methods, and forgetting the main purpose—which is to help us with our cost planning, to tell us what the distribution of costs in our buildings is, where the 'economic stresses' lie. This is what we need to know." He then mentioned six of his jobs, totalling nearly £1 million which had all been cost planned, and each of which had come in at under the cost plan figure.

T. V. PROSSER (a builder) suggested that cost per sq. ft. was a fallacious measure: the third dimension, he said, was also important. He asserted that the trade bill was far more use to the builders than anything else that architects or surveyors could think of.

D. A. SMITH got up to ask, rhetorically, who wanted the elemental bill—suggesting that the architects did not need to understand a bill and that the client would be the last person to be interested in it.

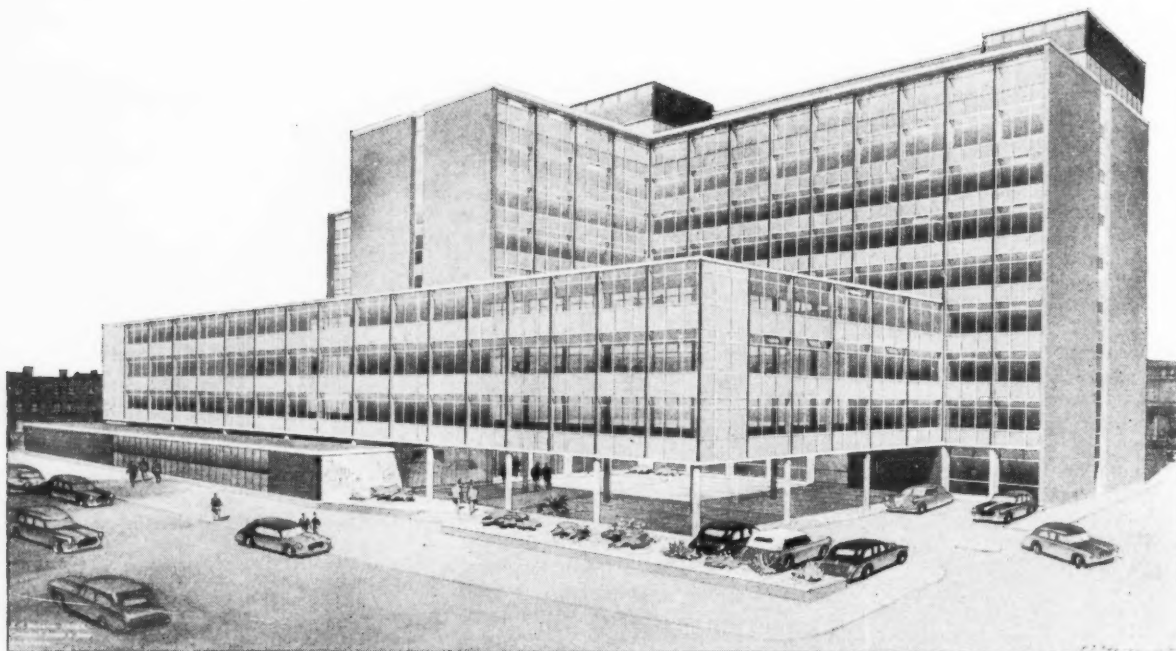
JAMES NISBET began by saying that it was most important that the committee remained in being, and then picked out two aspects of their report: first that the committee had seen very few people with experience of the e.b.q.—"they should go and find them and not draw conclusions from a sort of Gallup Poll," he said. Secondly, they should consider the e.b.q. and cost planning together—not separately. He said that the discussion (in which speakers had talked about both) showed the necessity for this, and explained that the elemental bill had been first developed by architects, builders and quantity surveyors jointly, and that architects and builders who had experience of it in use should have been asked to give evidence before the committee. Referring to speakers who, in order to ridicule cost analysis, had quoted differences in element prices for similar jobs, he suggested that such information about building costs was not apparent by any other means.

ANTHONY POTT (chairman, RIBA Cost Research Committee) asked that the RICS committee should continue to look at the subject. He thought that many of the quantity surveyors' fears would prove to be unfounded, and gently chided the committee for not publishing more of the evidence they had heard.

ROGER FOSTER (builder) said that the meeting must not be misled—some builders did like elemental bills. He reminded the meeting that any new development was always greeted by argument, emphasized that co-operation between all parties was the vitally necessary thing and suggested that although the e.b.q. might not be the right answer, it was a step in the right direction that should be further investigated.

R. L. EVEREST (chairman of the elemental bills committee) then concluded the meeting. He said that if the RIBA and the NFBTE would get together and decide what they wanted, the quantity surveyors would supply it. Answering criticisms from James Nisbet and Anthony Pott, he explained that the published report was made short—"otherwise people would not read it," that the compilers of the report went to much trouble to get evidence and that it was not in any sense a "Gallup Poll."

Building by the South Bank



Near to Waterloo and adjacent to Westminster Bridge Road, this imposing office block is rapidly being completed by Richard Costain Limited. It will make a major contribution to the attractive new development now taking place in the Borough of Lambeth.

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What do you do when your client wants to build hard against his neighbour's building when this is sited on the boundary? Our Specialist Editor (17) Legal, discusses the back history of boundaries, stressing among other points the importance of not relying on solicitors' plans; and concludes with an account of the recent case Truckell v. Stock. Though a previous case had established that you cannot project new footings into your neighbour's land without his consent, it was decided in Truckell v. Stock that if your neighbour's existing footings project into your land you cannot build on them without committing a trespass.

LAW REPORT

Trespass and the Adjoining Owner

A boundary has been described in law as an imaginary line which marks the confines of two contiguous estates. Boundaries should be fixed by the deed conveying one or other of the properties concerned. There is a duty on the conveyancer to see that this is done as accurately as possible and where the description in the contract is, without a plan, insufficient to identify the property sold, it seems to be established law that the buyer may require it to be supplemented by a plan. The importance of a clearly defined boundary line is obvious, for any interference with the property of the adjoining owner may constitute trespass and the person under whose supervision the works are carried out, such as an architect or engineer, may be held personally liable in damages for injuries or inconvenience caused.

Thus, in the Irish case of *Monks v. Dillon*, it was determined by the Court of Appeal in 1883 that the engineer, who himself and by his assistants directed and instructed the contractor of a Drainage Board, being frequently present on the ground watching the works in progress, was constructively liable for the acts he authorized, some of which involved trespass to the plaintiff's lands. "All persons who actually commit a trespass, or direct, or even authorize, its commission," it was stated, "are alike responsible in an action at the suit of the person injured."

Trespassing footings

It makes no difference in principle, although it may reduce the consequent damages, that the offending acts may involve such works as the establishment of footings which are underground and will not materially affect the adjoining owner. In *Mayfair Property Co. v. Johnston*, reported in 1894, the occupier of a house and garden, in rebuilding the wall between his property and that adjoining, placed in the soil of the latter foundations and footings extending further into it than did those of the old wall and it was held that these were a trespass of a

permanent nature. "No doubt," said Mr. Justice North, "the trespass is underground and it has not been visible to the naked eye, but it has actually been committed."

The same principle was applied to *Willcox v. Kettell* in 1936. The defendant had got the plaintiff's consent to underpin the latter's wall, which abutted on the defendant's building—which was to be rebuilt. The new building was to have girders upon a steel cage, and to support the steel framework it was necessary to place stanchions at intervals along the boundary. Where these stanchions were placed the defendant extended the concrete foundations some 20 inches beyond the plaintiff's wall and into the plaintiff's land. It was held that the permission given the defendant to underpin a wall did not authorize the extension of foundations and that the extension amounted to a trespass.

Responsibility for survey

The precision therefore with which the law will guard property rights imposes an anxious duty on the architect who has to reconcile the obligation of using the available space in the best interests of his client with an obligation to avoid infringement of the rights of adjoining owners. Although it does not appear to have been decided that he is bound to make a personal examination of the site, nevertheless if he fails to do so and adopts incorrect information furnished by others he does so at his peril. He should examine and test by his professional knowledge, statements made by others with reference to the work he has undertaken. In the case of *Columbus Co. v. Clowes*, heard in the King's Bench Division in 1903, the plaintiff company had engaged an architect to make plans for a proposed building. The architect was informed by a third party—who had no authority—that the site was of certain dimensions which were less than the real dimensions. He made no survey of the site himself but proceeded to draw up incorrect plans. Mr. Justice Wright, referring to it as a "singular case . . . not exactly covered by authority," held that the architect had acted negligently.

It is not, of course, always safe to assume that it is the plan which may be annexed to the title deeds of a property which should be an ultimate guide in a case of difficulty in establishing boundaries. The conditions of sale may, for instance, stipulate that a plan is for reference only and that its accuracy is not guaranteed. This is a sensible provision when it is realized that upon a 6-inch plan a hair stroke (1/1,000th part of an inch) represents a superficial breadth of over 10½ inches, and upon a 25-inch scale a fairly bold line (1/100th part of an inch)—and thicker lines are frequently seen upon plans drawn on deeds—represents a superficial breadth of over 2 feet.

Truckell v. Stock

But even where its accuracy is undisputed a plan may not decisively mark the bounds of legal ownership. A surprising and important illustration of the possibly equivocal character of "the thin red line" emerged from the judgments of the Court of Appeal in December last in the case of *Truckell v. Stock*. The parties to the action lived in adjacent houses and the plaintiff's property had been conveyed in the words "all that land, dwellinghouse . . . and premises . . . delineated and coloured pink and red on the plan attached hereto, the dwellinghouse . . . being known as No. 45 East Street. . . ." But the footings and caves of the house extended beyond the area depicted by the red and pink portion of the plan. The defendant had erected a wall which rested, in part, on the footings of the plaintiff's house and the plaintiff maintained that this wall constituted a trespass to his house. The learned County Court judge took great care over the matter: he inspected the

house; but he felt himself bound to declare that the footings of the plaintiff's house could not (since they lay outside the plan) belong to him at all. The Court of Appeal reversed this judgment and held that the plan only referred to the property at ground level and that the eaves and footing must also be the plaintiff's property—but not the column of air between them.

Lord Justice Denning stated: "In so far as it (the wall) actually touched the footings it was a trespass. It would seem to me also that if it exerted a thrust on the outer footings by means of the intervening earth, that, too, would be a trespass." There seems to be no direct authority in English law for the proposition that such "thrust" may constitute a trespass and its adoption, it is respectfully submitted, would seem bound to aggravate the existing difficulties of building in congested areas, especially when it is noted that as long ago as 1829 it was decided that actual damage is not necessary to found an action in trespass. Lord Justice Hodson agreed that, on the finding that the wall impinged on the footings, there was a trespass, but on the question of "thrust" adopted a more conservative view. "I prefer to express no opinion as to what would be the effect if there were an indirect thrust; the matter has not been fully argued before us. Counsel for the defendant cogently pointed out that there must always be indirect thrust between one building and another when they are built on adjoining ground; but that question need not be debated here. . . ." An injunction was granted, the defendant was ordered to pull down the wall, and £50 was awarded as damages.

No doubt many problems which might otherwise lead to litigation are resolved by goodwill between adjacent owners. It is a wise precaution to secure very explicit understandings on all matters which may endanger private rights and in cases of difficulty the architect is entitled to note that in English law he "cannot be expected to supply minute and accurate knowledge of the law" and that his proper course is to request the assistance of his client's legal advisers.

DIARY



Music and the Architect. A lecture and recital by Max Lock. At the AA, 34, Bedford Square, W.C.1. Tickets 1s. 8 p.m. MAY 2

Cost Control in Building. Course at the Regent Street Polytechnic School of Architecture, in collaboration with the A.J. 2. *Cost Analysis*, by James Nisbet, A.R.I.C.S. (May 7). 3. *The Elemental Bill of Quantities*, by Clifford Nott, A.R.I.C.S., and Ivan Tomlin, A.I.B.E. (May 14). *Cost Planning I*, by G. Grenfell Baines, A.R.I.B.A., A.M.T.P.I. (May 28). 5. *Cost Planning II*, by John Wilkinson, A.R.I.B.A., and Arnold Towler, A.R.I.C.S. (June 4). 6. *Symposium*, with all speakers (June 18). All lectures start at 6.30 p.m. and will be held at the Portland Hall, Polytechnic Extension, Little Tichfield Street, W.1. Applications (enclosing 11s. registration fee) to the Registrar, The Polytechnic, 309, Regent Street, W.1.

Annual General Meeting. At the RIBA, 66, Portland Place, W.1. MAY 2

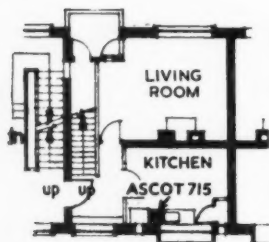


ASCOT IN NEW HOUSING (3)

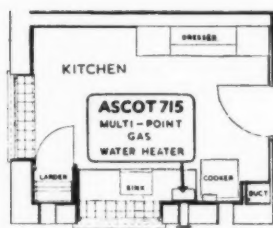
The new Ickburgh Estate of the Metropolitan Borough of Hackney is made up of 42 dwellings, grouped in four blocks varying in height from one to five storeys, arranged around a rectangular close.

Three multi-storey blocks comprise 38 dwellings including two and three-bedroom maisonettes, one and

two-bedroom flats, while the fourth block is devoted to four bungalows for old people. In the multi-storey blocks hot water for the flats or maisonettes is supplied by an Ascot 715 "Balanced Flue" Multipoint Instantaneous Gas Water Heater installed in the kitchen. This, in most cases, supplies bathroom and kitchen. In eight of the larger dwellings, however, an Ascot 503 sink water heater has been installed to save uneconomically long pipe runs from the 715's.



Lower story
of 2-bedroom maisonette.



Kitchen of
2-bedroom maisonette.

RESPONSIBLE AUTHORITIES

G. L. A. Downing O.B.E., M.Inst.C.E.
(Borough Engineer & Surveyor)

R. H. Harrison, A.R.I.B.A. (Chief Assistant Architect)

J. A. Clark, A.R.I.B.A. (Assistant Architect)

V. W. Allen (Chief Building Surveyor)



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THE INDUSTRY

This week we follow the precedent created last year by sending an architect to report on the Electrical Engineers' Exhibition. This year's Exhibition was held at Earls Court from April 9 to 13 and was larger than ever. Our architect (the same as last year, who still wishes to remain anonymous) reports, among other matters, the more frequent incorporation of pilot lights in switches, a marked development in the design of fluorescent fittings and diffusers, the multiplicity of under-floor heating systems now available, and the adaptation of infra-red heating to domestic use.

Historians rarely enjoy the luxury of a clearly marked epoch, but 1956 may well be one of those dates that every schoolboy must know. The era of steam power it seems has ended with the cessation of manufacture of steam locomotives; the atomic era commenced most certainly when Calder Hall fed into the grid electricity derived from atomic power. Atomic power stations are now planned up and down the country and one can even buy one's own,

pocket size, provided the funds are available. These developments mean unlimited power for as far into the future as can be seen.

The sixth Electrical Engineering Exhibition reflected this very exciting and rather frightening prospect by an almost unconscious emphasis on power and the application of it. Three models of atomic power stations; educational displays to attract young people into the industry; smaller and more powerful motors; automation controls; electronic computers; insulating materials to take care of higher voltages in more rigorous conditions, and so on. Nothing apparently that will directly affect the architect, but all of it in fact of considerable significance to him, because it indicates the increasing part that electricity will play in shaping society. However this may be, much of the exhibition was incomprehensible to the architect, and all he could do was try and find the things he understood, things like ducts, switch covers, light fittings, heaters and other appliances, and see what was new that might help to solve his clients' more superficial problems; and to deplore the clumsy handling of the whole exhibition; the confused layout, the lack of order, the lack of stand numbers and names, the poor design and display of many of the stands, and the lack of creature comforts that make such a large exhibition tolerable to the visitor without an astrakhan collar and a £1,000,000 order in his pocket.

In the matter of development the impression gained was of a manufacturing industry made up of several kinds of specialist; the

scientist, the engineer, the designer, and the stylist, sometimes working together with happy results, and sometimes ignoring each other completely. Perhaps one of the best examples of the utilization of all skills, and one that indicates a general trend in the engineering field, is the Newman drip-proof motor (Fig. 1). By using a new form of insulation, for a given power, the motor is reduced to two thirds its former size and weight and the opportunity has been taken to give it a good appearance.

ACCESSORIES

To turn to matters that more immediately affect architects, several firms are developing circuit breakers for use in lieu of fuses, and while they have advantages in industrial applications, where overloads may be an everyday occurrence, and perhaps for certain appliances, they are still an expensive gimmick for domestic installations. One of the newest is the Crabtree Earth Leakage Circuit Breaker (Fig. 2).

In distribution systems there appeared little development but Blackwell & Co. have introduced a back to back box for switches or sockets which will be particularly useful in hollow partitions where fixing may be a problem. It is made in five different depths from 2½ in. to 6 in. so that it can be used in a variety of different constructions, for economizing in conduit and labour and simplifying wiring.

Switches showed one or two innovations. Britmac have introduced a new styling available in brown, white, and grey (Fig.



Fig. 1: the redesigned Newman drip-proof motor, which, by using a new form of insulation, has been reduced to two-thirds of its former size.



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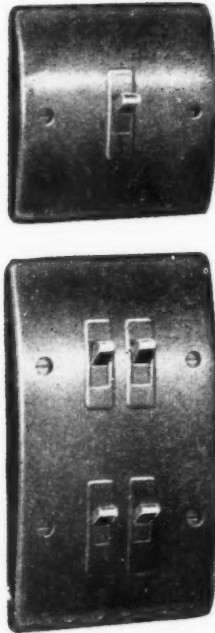


Fig. 2 (above left): the Crabtree Earth Leakage Circuit Breaker. Fig. 3: the Britmac one-gang (top right) and four-gang (below right) switches, available in brown, white and grey.

3). A somewhat similar styling has been adopted by Falks for their "Snapfast" range, an interesting switch and plate assembly (Fig. 4), which consists of grids which are screwed to a standard one- or two-way box, and can be adjusted horizontally. On to this one, two, three or four switches can be clipped, and appropriate cover plates can be snapped on. It is claimed to be absolutely shock proof, and to facilitate installation.

Wylex have introduced a two-way switching and pilot light arrangement for water heating (Fig. 5) which offers the conveni-

ence of being able to switch on or off either up or downstairs, and to have a pilot light that reports the situation in both positions. It includes an isolator which simplifies maintenance.

Pilot lights, especially the small ones no larger than a pea-nut, are increasing in popularity among several manufacturers. M.K. have now produced one that can be fitted into their well known Gridswitch range (Fig. 6) and Wandsworth Electric have

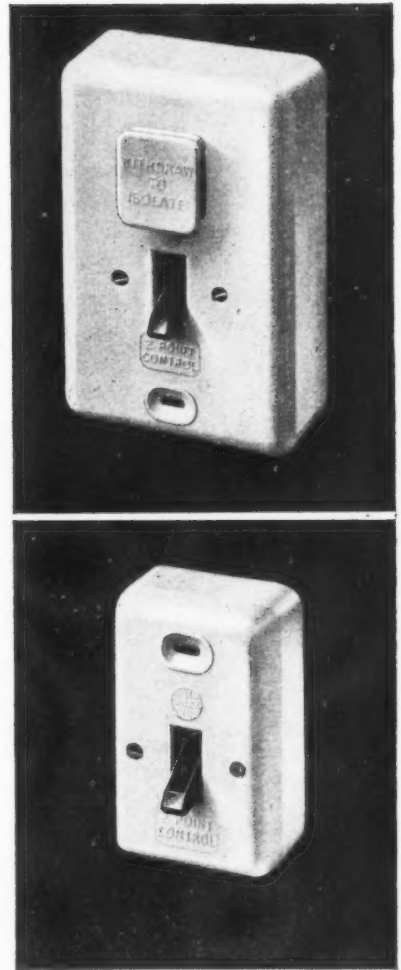
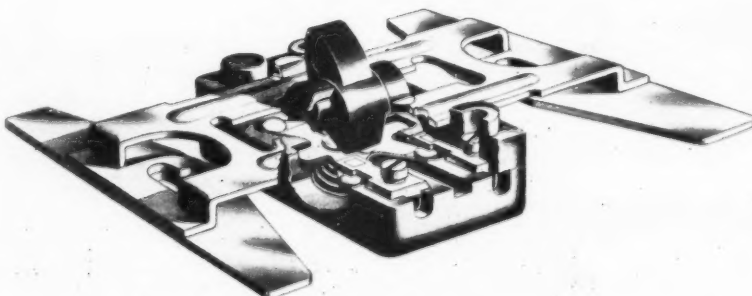
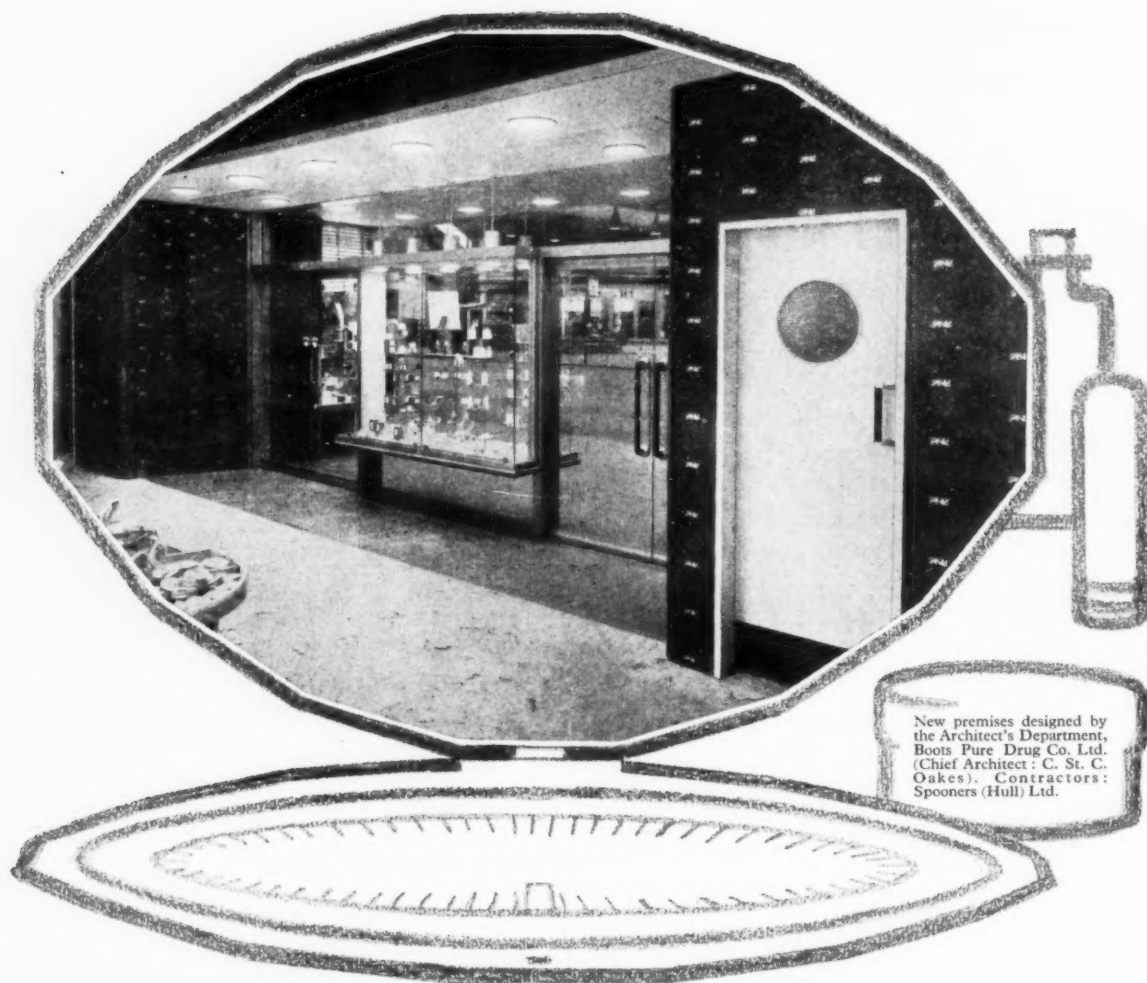


Fig. 4 (below left): Falks "Snapfast" switch, which consists of grids screwed to a standard one- or two-way box, and can be adjusted horizontally. Fig. 5 (above right): the Wylex two-way switch for water heating, which can be switched off downstairs (top) or upstairs (above), and has a pilot light on both switches. Fig. 6 (below): the M.K. pilot light for Gridswitch ranges.





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technical section

devised a switch with a green pilot light which glows when the switch is *not* on. It is intended for old people's homes and the like as an aid to finding the switch in the dark. Generally switch mechanisms seem to be smaller and simpler.

There was not much displayed in the way of new sockets. Ashley Accessories have put some very hard thinking into a plaster depth socket and 13 amp. plug, both of which appear to be very sound jobs for the contractor and the user.

Lampholders are usually taken very much for granted until they go wrong or break. British Central Electrical Co. have designed a pendant lampholder in nylon which can be bounced on a concrete floor without damage. Nettle have invented an ingenious self-locking batten holder, of which the base can be screwed up to the ceiling before any connections are made, and the body can be screwed and locked into position afterwards.

One wonders whether some of the efforts to save electricians' time are really well directed, or whether accessories which are highly competitive receive more attention than their importance warrants in the expenditure of electricians' time.

LIGHT FITTINGS

Lighting showed some advance. The most spectacular was a mercury vapour lamp made by Hackridge and Hewitt Electric Co. Ltd., which was 50 in. \times 8 in. in size, 70 lb. in weight and rated at 4,750 watts. At a height of 45 ft. above the floor it is said to light adequately some 4,200 sq. ft. of floor space. One was hung 100 ft. above the exhibition floor and the brilliance was such that it would obviously need very careful handling in practice. Less spectacular but of great significance was Thorne Electric's departure in fluorescent lighting where 4 ft. tubes are being rated up to 150 watts, with of course a considerable increase in source brightness. This should enable simpler lighting patterns to be designed but will create new problems in diffusion. The same firm have developed with the assistance of John Reid, the architect, the "Atlas Atlantic" system of fluorescent lighting (Fig. 7) using a standard "basic spine," which holds the gear and can serve as a cable trunk, and which can be fitted with double or single tube lampholders. Two or more of these units can be fixed together either end to end or side by side, and on this assembly a variety of diffusers can be fitted.

The cheapest fluorescent unit still seems to be by Merlin Mouldings, Ltd., at £2 13s. 8d. for a 40 watt batten complete with gear, tube and tax. Ecko now market the BRS designed louvred fitting, in colours, for a twin tube batten, and very satisfactory it is, both as to appearance and price (Fig. 8). The general trend in fluorescent light diffusers has improved over the last year, but cost is still high. A large number of polythene egg-crates were shown for flush ceiling mounting, but there seems a considerable danger, outside the exhibition setting, of too great a contrast between ceiling and light

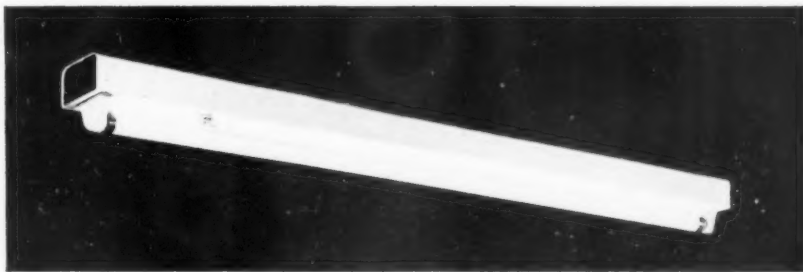


Fig. 7: the Thorne Electric "Atlas Atlantic" fluorescent fitting (designed by John Reid). Above, the basic spine, and, below, two-spine with fitting.



source in this form of lighting. Typical examples of the most successful new pendants are the Ecko F.52207 (Fig. 12) and Falk's "Darent." Several manufacturers

are following these lines and the results are a great improvement on previous fittings because the unilluminated part is limited to the ends or avoided altogether,

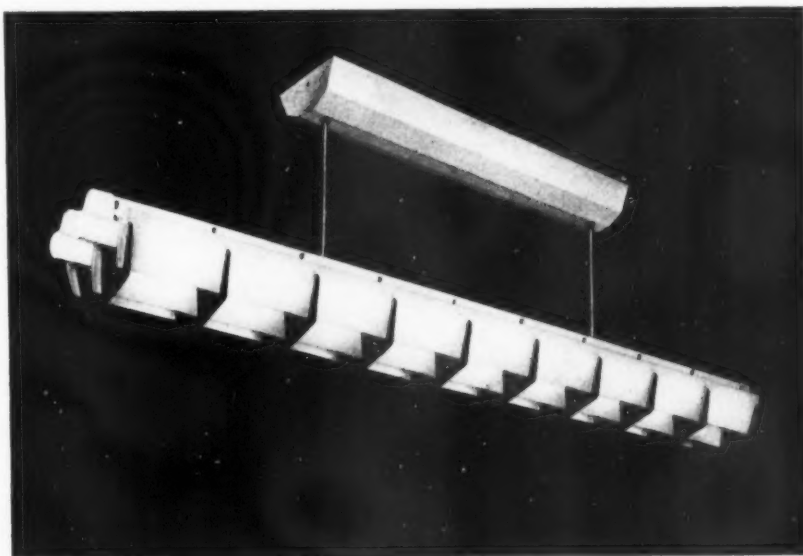
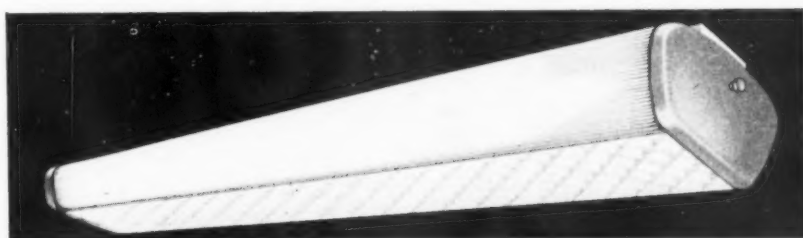


Fig. 8 (above): the Ecko twin-tube batten fluorescent light with BRS louvred fittings. Fig. 9 (below): the Ecko F.52207 fluorescent fitting.



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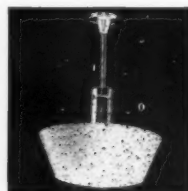
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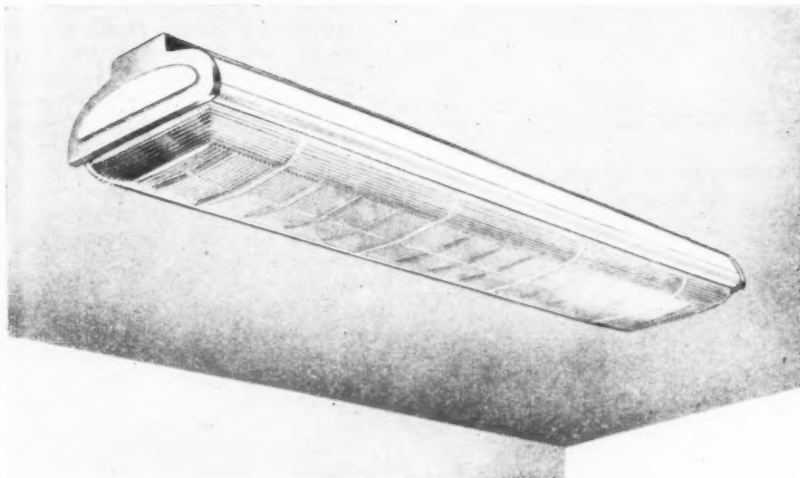


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technical section



and the gear is practically concealed. Many of these designs are so new that illustrations and literature are not yet available.

Hollophane have now applied their well known prismatic principles to fluorescent lighting. The new "Holloflux" range of fittings (Fig. 10) consists of perspex prismatic diffusers that diffuse and control the direction of light. The diffusers can be removed for cleaning. It is said that this method gives a very high level of efficiency since it relies on control and not obstruction of light.

A very neat light fitting for exhibition and show case work is Messrs. Courtney Pope's E.S.6 (Fig. 11) which is a reflector and lens in the form of a perfect sphere that sits loosely on a dwarf stand, and so can be

Fig. 10 (above left): the "Holloflux" fluorescent fitting, with perspex prismatic diffusers, made by Hollophane.
Fig. 11 (above right): Courtney Pope's E.S.6 spherical exhibition light.

set to shine in any direction. It is made in a variety of colours and finishes. For something of the same purpose Phillips can now market a range of high powered reflector bulbs, one of which, the "Cornalux," (Fig. 12) is particularly useful for display work or chalk board illumination since it has the reflector on one side and can be fixed very neatly in a corner or under the ceiling.

There is the usual array of extraordinary and exotic fittings, but the prize for graceful flamboyance must go to Homeshade Co., Ltd., of 99 Baker Street, who have

developed silica coated glareless bulbs that can stand on their own at the end of brass stalks. The illustration (Fig. 13) does less than justice to this type of fitting and the effect of the most elaborate, of which there is no photograph, must be seen to be believed.

In contrast are the classic lines of Falk's well named "Athena" pendant or ceiling fitting in glass at a moderate price, which is said to meet the requirements for schools. Its appearance is unusually pleasing.

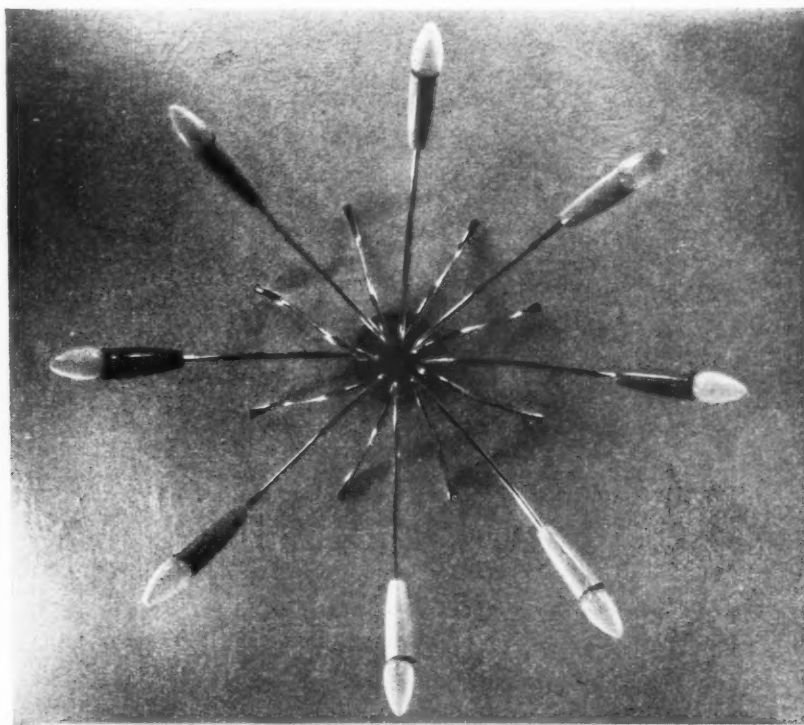


Fig. 12 (above): Phillips "Cornalux" high-powered reflector bulb, for display work. Fig. 13 (right): the Lucerne pendant cluster of silica-coated glareless bulbs, made by Homeshade Co. Ltd.

technical section

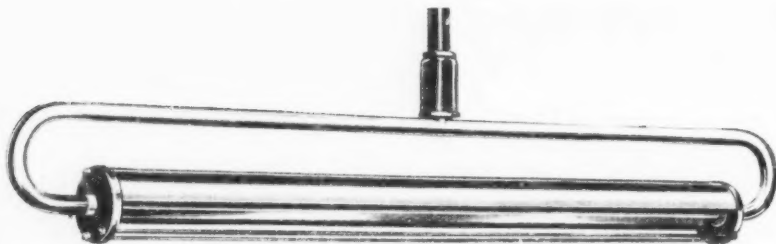
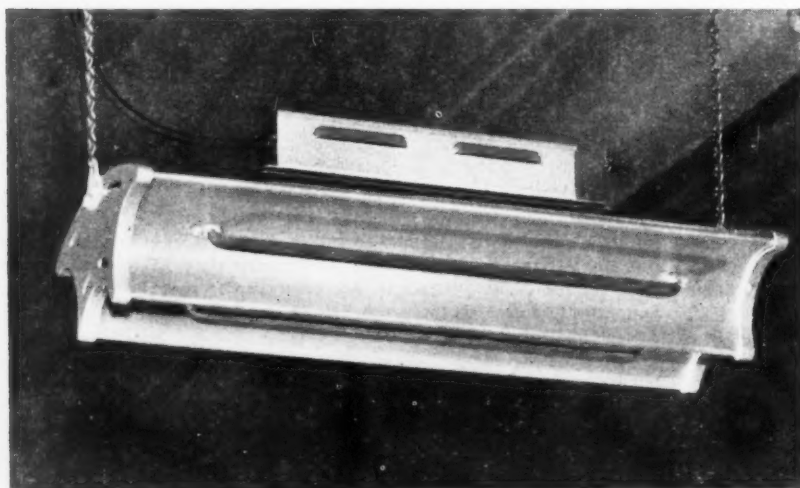


Fig. 14 (above): the Dimplex infra-red heater, for use in the kitchen and bathroom. Fig. 15 (below): the Heatrae infra-red heater, for industrial units.



HEATING

Heating has also developed since the last exhibition. Thermal storage and infra red are the "U" expressions, with fan driven air heaters as a less scientific but very practical form of portable heater.

Thermal storage is provided broadly in two ways; either a relatively low temperature heating element in a square casing loaded with refractory clay blocks, or with a very low temperature heating element in the fabric of the building. To be economic both rely on a favourable off peak tariff, and even then they can rarely compete with the most economic alternative system in all circumstances, but of course they have the obvious advantages of cleanliness and convenience. Moreover good floor heating can be the most comfortable since it gives a negative temperature gradient. At present the thermal storage units are for the most part not attractive in appearance and they are rather bulky; they are probably of most value in adaptation work.

There are now several systems of underfloor heating available, of which one or two such as Tyrad, and Thermadore, are capable of

having the cable renewed without disturbance to the floor structure. An accessory that will lead to economy in all forms of thermal storage is a thermo time regulator that governs the timing of input according to the external temperature. This is a very encouraging development and coupled to the fact that a low night load is likely always to be an embarrassment to a generating engineer, architects can begin to look forward to the time when flues and fuel stores are no more.

Infra red heating, which has been used for one or two years for industrial purposes and in open air situations is now being developed for more general uses, and Dimplex have produced one for kitchen or bathroom (Fig. 14). An infra red heater differs from an ordinary bar heater in that the element operates at about 1,000° C. instead of about 750° C., and at this temperature, because of the special material used, it does not glow red. The resulting heat radiates at a much higher frequency than red heat, it has the peculiarity of greater penetration and inability to warm the air, and with quite small reflectors it can be very

narrowly beamed. Considerable care is required in locating this sort of heater however because the heat can be unpleasantly intense, but its peculiarities make it ideal for external use in such places as bus and cinema queues, or for immediate but short periods as in domestic kitchens or bathrooms. It is worth noting too that the element that is seen can be non-metallic and therefore never a source of danger through being electrically alive. An example of an industrial unit is one by Heatrae (Fig. 15).

Of the fan driven air heaters the Gillott New Day space heater won the premier award of the exhibition for appliances. It is basically a 1,500 watt convection heater fitted with two fans and an additional 1,500 watt booster heater, so that on first switching on it will rapidly warm a room and it can then be switched over to convection only, on one element. The switch over can be done manually, or automatically by thermostat fixed to the wall of the room and wired to the heater. The heater contains a safety device to prevent overheating in the event of the air outlets becoming accidentally cloaked, and also a time switch which enables it to be switched on automatically for any period up to four hours at a pre-set time.

CONCLUSIONS

The sponsors of the exhibition are to be congratulated on the vastness and rapid growth of their offspring (30 per cent. increase in floor space and 25 per cent. increase in number of visitors over last year) but it can be hoped that they realize the difficulties that the visitor encounters just through the sheer size of their exhibition. An effort was made to assist by inserting a classified equipment index in the catalogue but when the visitor sees that switches, for example, are to be seen on about 60 different stands (and there are other examples) scattered from A9 to U9 it doesn't help much, particularly when many stands do not appear to be numbered. The writer spent several hours with the catalogue, and about 10 hours at the exhibition, and saw no more than any architect, consultant or contractor who could not spend so long, would like to see; no doubt many good things were still missed. It would seem absolutely essential in an exhibition of this size to group the different kinds of products, and have the stands laid out by someone who understands space planning and the right technique for enticing people to walk everywhere. It is no service to the visitor or the exhibitor to have a row of small stands in a backwater facing a blank wall. The difficulties of grouping, when many manufacturers make many products, can be appreciated, but if manufacturers were given the opportunity of choosing their group, at least there would be a good certainty of visitors seeing the things that the exhibitor regards as important. It appeared, too, that an exhibition designer could do much to unify and improve the general appearance of the show with no additional cost to the exhibitors.

building illustrated

PRIMARY SCHOOL

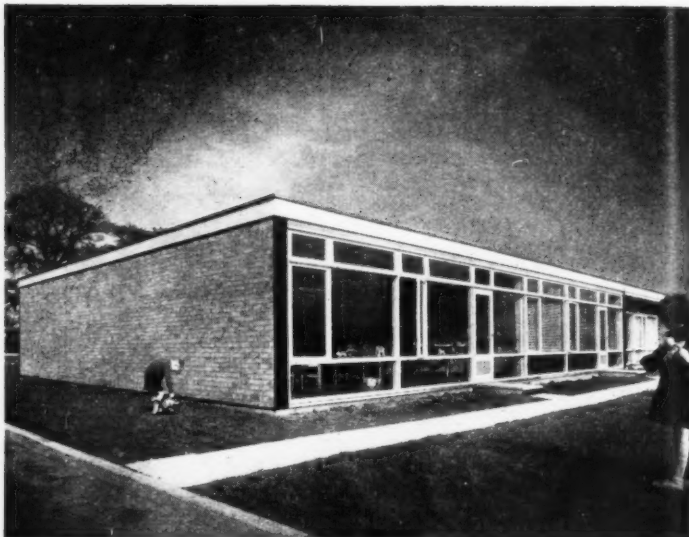
at CO-OPERATIVE STREET, ALDERMANS GREEN, COVENTRY, for the CITY OF COVENTRY
designed by ARCHITECTS' CO-PARTNERSHIP: quantity surveyors DAVIS, BELFIELD and EVEREST

This two-form entry infants' school, in which the detailing is unselfconscious and results from a clear statement of function, is the third primary school to be analysed in the JOURNAL. It was built to the same cost limits as the Sugar Hill primary school, at Newton Aycliffe (published on September 29, 1955) and a cost comparison is shown on page 685.

Viewpoint 1: general view from the east.

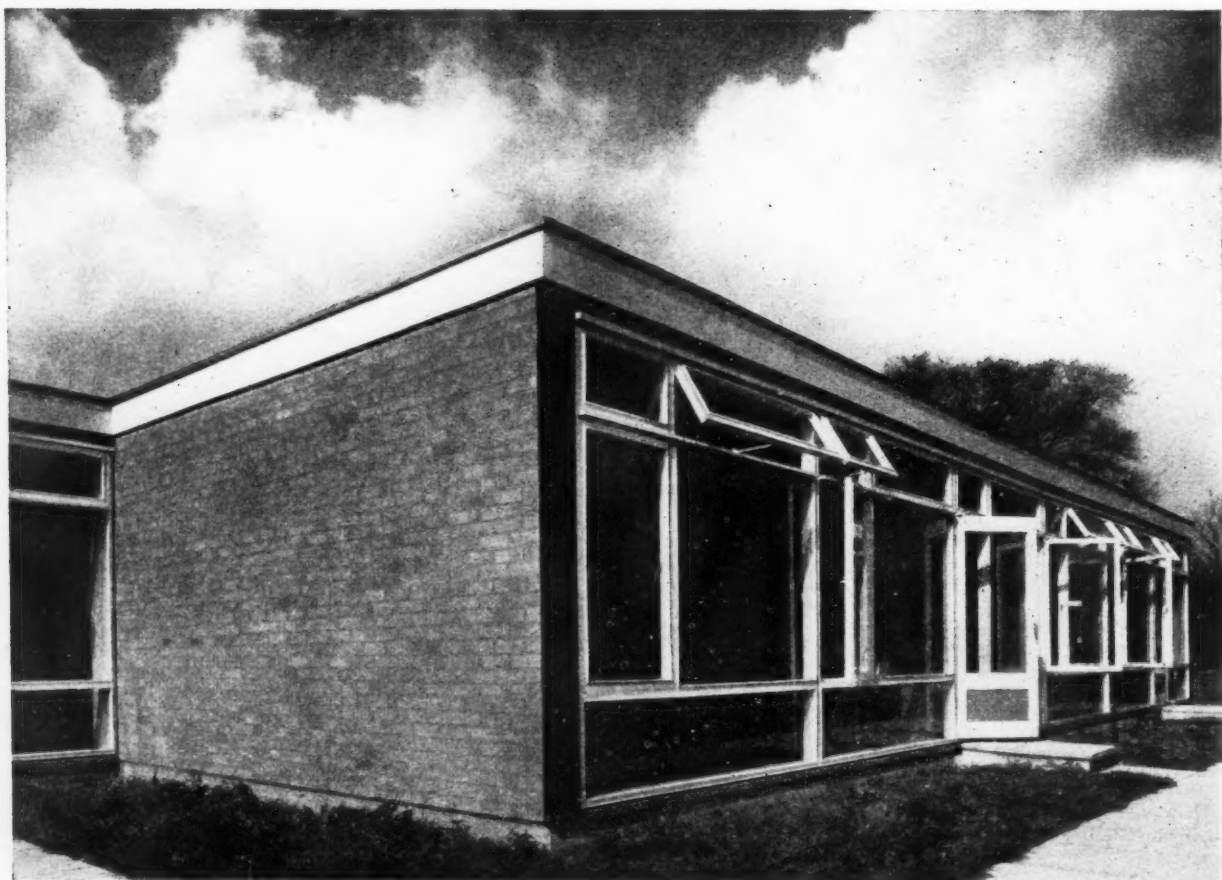


building illustrated



*Viewpoint 2 (above left): general view from the south-east.
Viewpoint 3 (above right): reception classrooms from the south-west. The classrooms are for the use of first-year pupils.
Viewpoint 4 (below): classrooms 5 and 6 from south-east.
The softwood fascia is white, with aluminium angle capping.*

A sub-fascia of grey glazed asbestos is introduced over the window head to avoid the "heaviness" of a single deep fascia. The closure to the cavity wall is of softwood, painted black. Woodwork is white, except the door panel which is warm grey (4.049). Buff-coloured facing bricks are flush-painted.



analysis

CLIENT'S BRIEF: his stated requirements

A two form entry infant school having two reception classrooms, four normal classrooms and an assembly hall. The school is adjacent to a recently completed junior school from which food is supplied by heated trolley to a servery.

SITE: topography, surroundings, access and planting

Area 3.25 acres. Ground falling to the east from a flat area at the west (entrance) end on which the school has been placed. The site is surrounded by terrace houses to the west, existing primary school and grassed area to the north, and playing fields to the south. Ground falls to valley and boating lake on the east. Good hedges with well developed trees. Planted access from Co-operative Street (unadopted cul-de-sac) on west. Pleasant outlook and good view through trees to lake and hill beyond on south.

PLAN: general appreciation and relation of units

Planned around a central paved courtyard to which all adjacent teaching rooms have access. Two sides of the courtyard are formed by classrooms, a third by the assembly hall, and the fourth by a fully glazed entrance passage. This permits views through the building to the lake and allows the building to be comprehended as a whole from hall and entrance. Each classroom has its own lavatories and cloak space, the latter providing circulation space through which the adjacent classroom is approached. Thus each classroom is self contained and its irregular shape allows great flexibility in use—teaching, group work, long term programmes and so on.

MAIN CONSTRUCTION: general appreciation

With the exception of the assembly hall, which is steel framed, 4½-in. brick cross walls or timber window units take all roof loads. Roofs generally are hollow plywood box beams with chipboard and three layers of felt and chippings, and fire resistant insulation board ceilings. The steel stanchions of the hall have mass concrete bases, but all other foundations are reinforced concrete ground beams or short bore piles. Where external walls are of brick, 11-in. cavity with facing bricks they have an internal skin of concrete block. In general, conventional building methods have been rationalized for speed and economy.

	cost per sq. ft.	s	d
preliminaries and insurances		2	10½
contingencies		2	4½

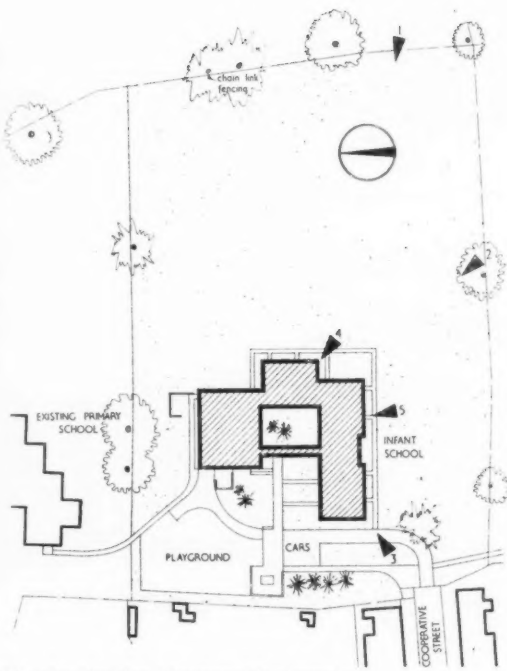
STRUCTURAL ELEMENTS

Work below ground floor level 5 4½

Foundations 12 in. diameter short bored 1-2-4 reinforced concrete piles, 8 ft. deep with heads connected with 8-in. × 10-in. ground beams throughout except hall; reason: clay soil and speed. After stripping site, all 86 piles were bored and cast in one day. Pads to assembly hall stanchions; 1-2-4 mass concrete 2 ft. 6 in. or 1 ft. 4 in. deep. Concrete site slab, 5 in. unreinforced, 1-2-4, on subsoil, concreting underlay paper and 6-ft. hardcore; reason: no damp-proof membrane required under woodblock floor.

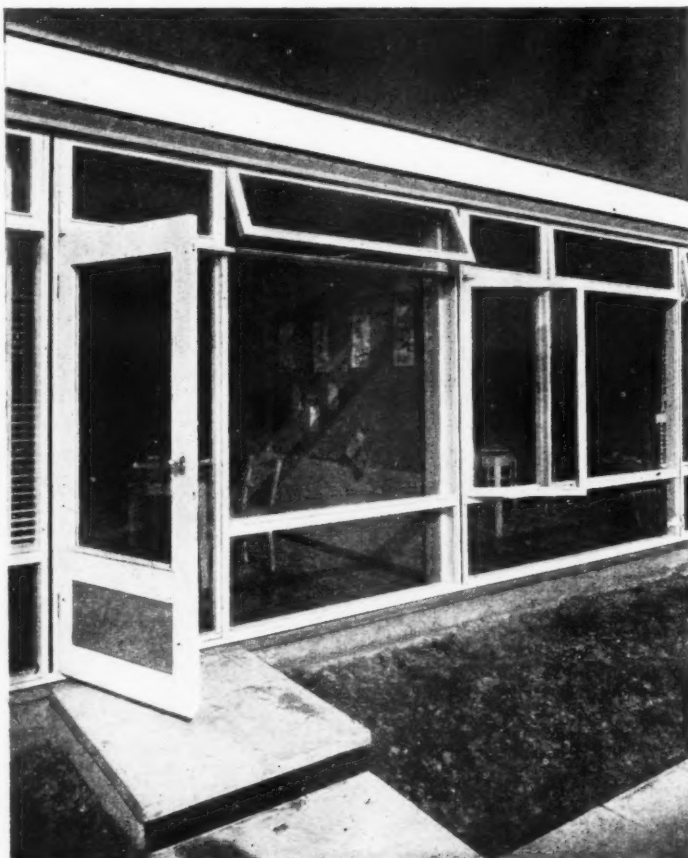
External walls and facings 1 2½

11-ft. cavity brickwork where required structurally, flush jointed in bedding mortar; internal skin precast concrete blocks with ½-in. plaster; outer skin of Loughborough facing bricks. Storey height window and glazing units, elsewhere, of softwood fully glazed, screwed down to hardwood sill and oil painted; glazing units were used as jigs during building—propped in position and walls built up to them. Fascia of softwood with asbestos closure used to avoid deep eaves.

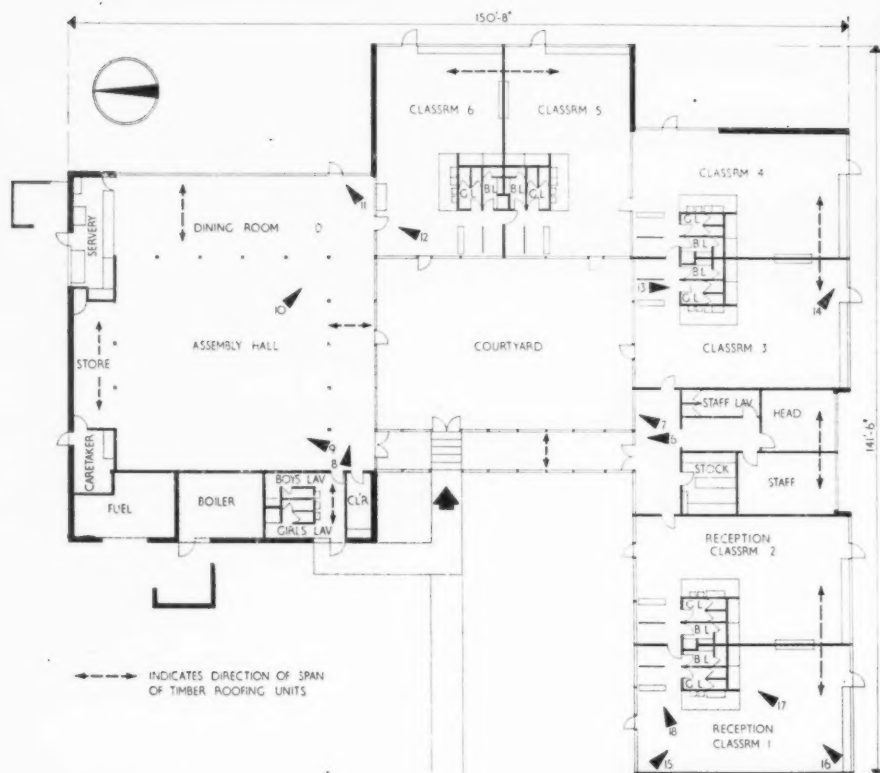
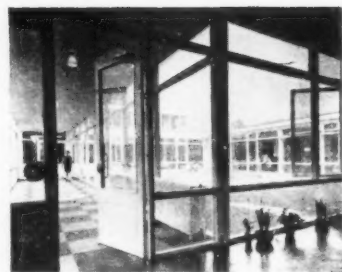


Site plan showing photographic viewpoints

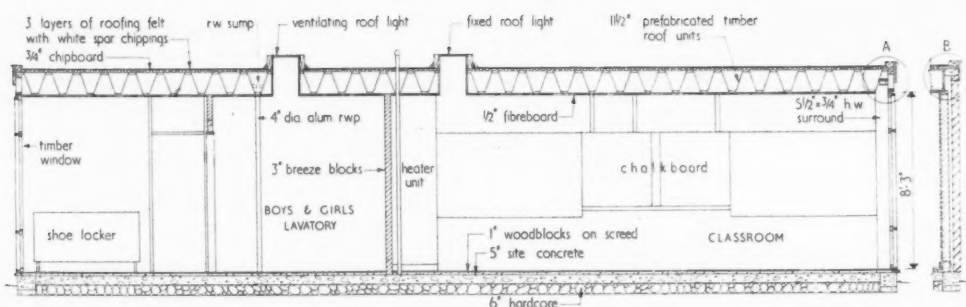
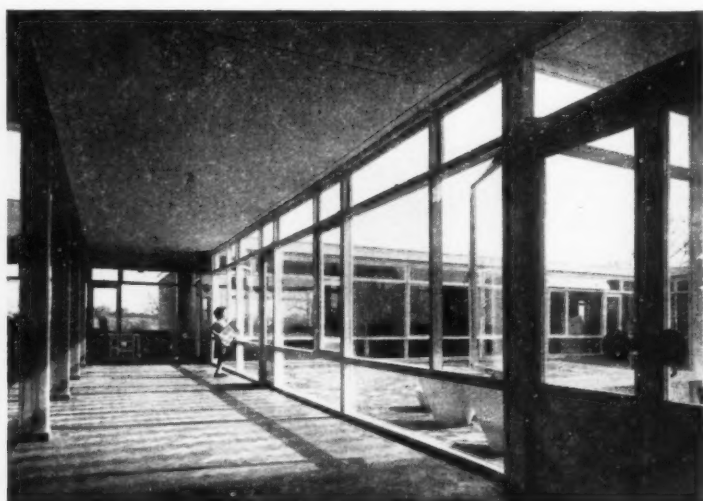
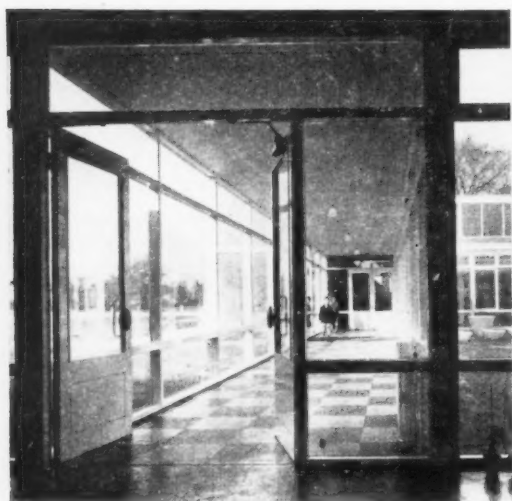
Viewpoint 5, a typical external door. The window wall is composed of individual softwood frames, screwed together, which support a hardwood sill rag-bolted to edge beam. White predominates but at the junctions of frames the rebate is painted black to aid articulation and crispness. The step upstand is painted with black bitumen paint for emphasis. Door handle is satin anodized aluminium, which controls an espagnolette.



building illustrated

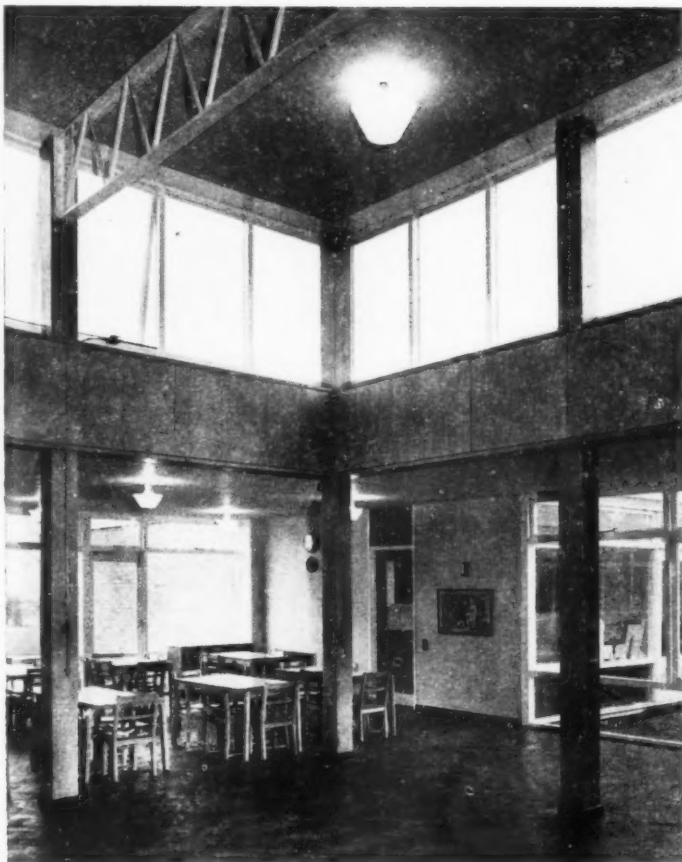
Ground floor plan showing internal photo viewpoints [Scale: $\frac{1}{32}'' = 1' 0''$]

Viewpoint 6 (below left): entrance hall from staff rooms. The glazed screens of the entrance link support the roof beams. Frames of 4 in. by 1½ in. at 5 ft. 6 in. centres with 4 in. by 2½ in. head, 4 in. by 2½ in. transome at 6 ft. 6 in. height, 4 in. by 3 in. sill at 2 ft. 0 in. and 4 ft. by 2 in. floor sill. Corner posts are 3½ in. by 3½ in. faced with ½-in. ply. Viewpoint 7 (above): central courtyard from staff room. In summer the courtyard will be used for circulation and a variety of curriculum activities. It is paved with London stock bricks. Entrance link floor finished with dark green and marbled grey thermoplastic tiles. The radiator is white. Viewpoint 8 (below): south side of assembly hall and central court. Doors on right lead to entrance link.

Typical section through classrooms and lavatories [Scale: $\frac{1}{4}'' = 1' 0''$]



Viewpoint 9 (above): assembly hall. The warm colour of the hardwood block dominates, but is complemented by a celestial blue ceiling (7-083) at high level only. Agility apparatus collapses against the wall and can be easily moved. Platform units are mounted on wheels for easy rearrangement to suit assembly, drama, and so on. The dining room forms an extension to the hall with views of grassed playing fields down to the boating lake. The boldly-patterned curtain (named "flags") in primary colours, is drawn across a storage bay. Walls and lattice beams are white. Viewpoint 10 (below): detail of corner of assembly hall. 5 1/2-in. x 5 1/2-in. hollow columns are formed of No. 4 2-in. x 2-in. x 1/4-in. m.s. welded angles and are cased in 3/4-in. beech lining screwed and pelleted to 1-in. rough blocks wedged in stanchion.



analysis

Frame or load bearing element

2-in. x 2-in. x 1/4-in. m.s. galvanized angles welded into 5 1/2-in. x 5 1/2-in. hollow columns in assembly hall. Column grid, 8 ft. 3 in.; reasons: standard components much used in school building, and available "off the peg."

Roof construction

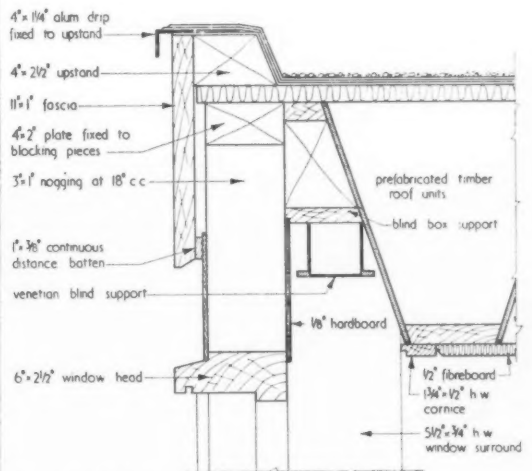
Plywood trough beams 11 1/2-in. deep spanning 24 ft. used generally with 3/4-in. chipboard decking, finished with 3 layers of bituminous felt stuck down, topped with white spar granite chippings; reasons: ease of erection, big spans. Direct fixing for decking and ceiling. Adequate space for minor services.

Moulded steel lattice beams 1 ft. 1 1/2 in. deep at 8-ft. 3-in. centres spanning 41 ft. 3 in. in assembly hall with deck of precast concrete units and screed; white spar chips prevent damage and solar heat build-up.

In situ 5-in. m.c. roof, with 3/4-in. screed and white spar chips in boiler house to achieve fire resistance.

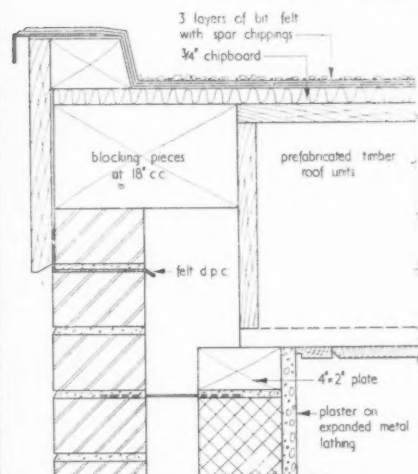
Roof lights

Fixed lights of Georgian wired and rough cast glass and aluminium frames used to "top up" to 2 per cent. daylight factor in centre of all



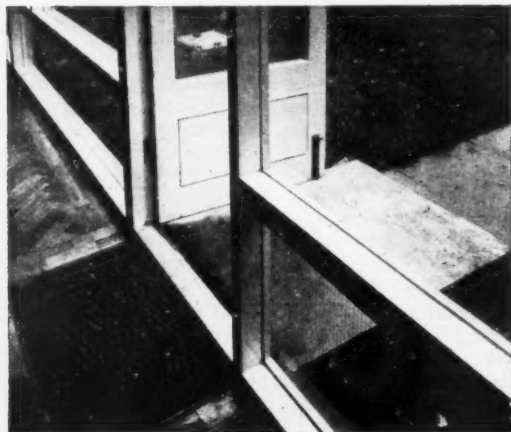
Eaves detail A (handed) of section on opposite page

[Scale: 1 1/2" = 1' 0"]

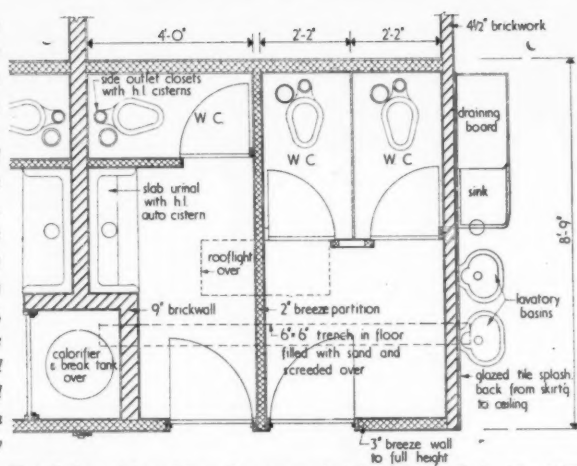


Eaves detail B (handed) [Scale: 1 1/2" = 1' 0"]

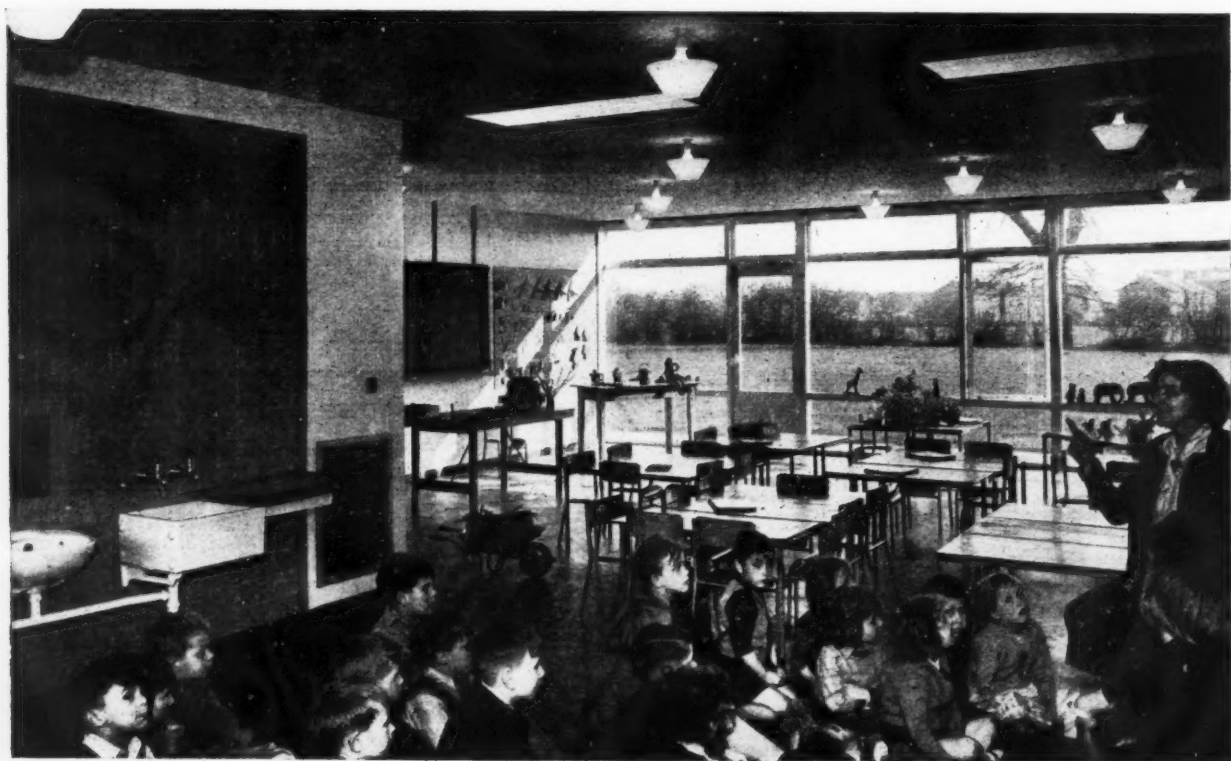
building illustrated



Viewpoint 11 (above left): threshold detail. The near edge of the paved step is stopped short of the sill so that the standard edge detail is uninterrupted. The floor finish of 1-in. West African agba is protected by a fibre link mat edged with m.s. angle set in the site slab. The threshold sill is softwood with an aluminium tread screwed down. 1/4-in. Georgian wired polished plate below 2-ft. sill, 1/4-in. polished plate above. Glass is fixed from the outside with 1-in. x 3/8-in. hardwood beads. Viewpoint 12 (above centre): storage unit in classroom 6. Lower section contains heater cabinet serving dining space (which can be seen through the door). The door is of semi-solid straw-board with hardwood lipping. Ironmongery is satin anodised aluminium with a door closer (standard on all classroom doors) and the handle is 2-ft. 8-in. above floor. The ceiling is of fire resisting insulation board. On right of door, thermostat and heating zone control. Colour: white wall, pewter grey "fanlight" panel (B5 ref. 9-100). Viewpoint 13 (above right): the lavatory unit is a standard arrangement for each classroom. The policy of dispersal of lavatories and coat hanging units means that each can be small in size and scale thus aiding the teaching of hygiene and good behaviour. Boys' lavatory on left has one w.c. and two slab-type urinals (prepared by L.E.A.), girls' lavatory has two w.c.s. Viewpoint 15 (below): one of the reception classrooms.



Detail plan, girls and boys lavatory unit (classroom) [Scale: 1/4" = 1' 0"]





Viewpoint 14, detail of junction between internal load bearing brick cross wall with window unit. Sill 4-ft. \times 3-in. at 2-ft. height, transome 6-in. \times 2½-in. at 6-ft. 6-in. height. Detailing of window members is both simple and robust. Increased attention being given to daylighting by research physicists and architects is fully recognised but has not stampeded the architects into fashionable or over sensitive detailing. All south and west facing windows are fitted with Venetian blinds which are housed in a box above ceiling level. Glass is fixed with hardwood beads screwed from outside. Pin-up is stuck on and fixed at edges with hardened steel pins. Wall colour neutral grey (9-094). Pin-up pewter grey (9-100), window members white.

analysis

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classrooms. Deep reveals give more than 45 per cent. cut-off in transverse direction, slightly less in longitudinal direction.

Opening lights with spring-loaded controls and metal cheek rain-checks in lavatories.

Windows (cost includes external doors)

5 5½

Softwood casements, oil painted; a 2-ft. sill and 6-ft. 6-in. transome are used throughout: standard width is 8 ft. 3 in. of which windows and doors are 1/3, glazing 2/3; reason: maximum window area uninterrupted by glazing bars.

Top-hung hopper in assembly hall of softwood, oil painted, with remote control gear mounted on columns.

External doors (cost included in windows)

Softwood, side-hung glazed and oil painted; 4-in. \times 2-in. stiles, 6-in. \times 2-in. rails; external doors have concealed espagnolettes.

Glazing

1 1½

32-oz. clear glass above sills, and ¼-in. Georgian wired polished plate below sills, fixed with external 1-in. \times ⅜-in. hardwood beads.

PARTITIONING

Internal partitions

11½

Non-load-bearing, 3-in. clinker concrete and ⅝-in. plaster, for economy and speed of erection; 4½-in. brick for walls supporting basins.

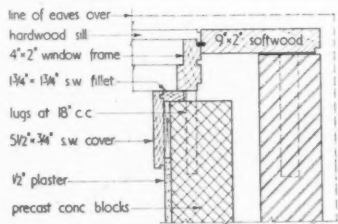
Load-bearing crosswalls, 4½-in. keyed fletton and ⅝-in. plaster.

W.C. doors and partitions

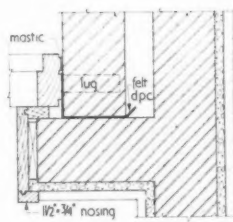
2½

Partitions in children's lavatories, ½-in. plywood on m.s. angles, oil painted.

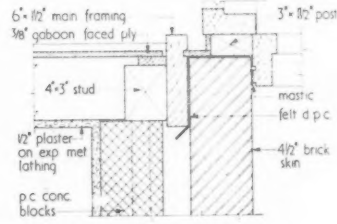
Doors in children's lavatories, ½-in. flush ply-faced, oil painted; hinged on the outside of the frame and open inwards, closing against the "back" of the frame, to avoid catching fingers.



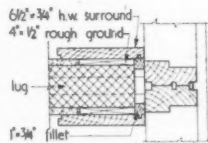
DETAIL AT "E"



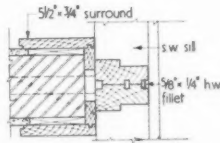
DETAIL AT "I"



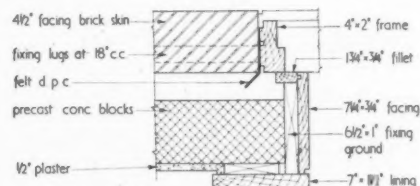
DETAIL AT "G"



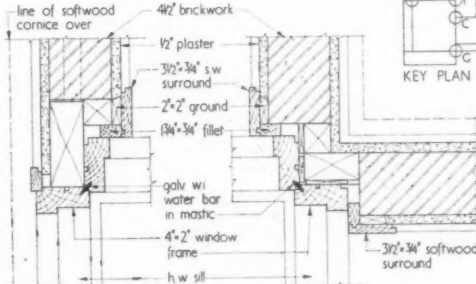
DETAIL AT "F"



DETAIL AT "H"



DETAIL AT "K"



DETAIL AT "C"

DETAIL AT "D"

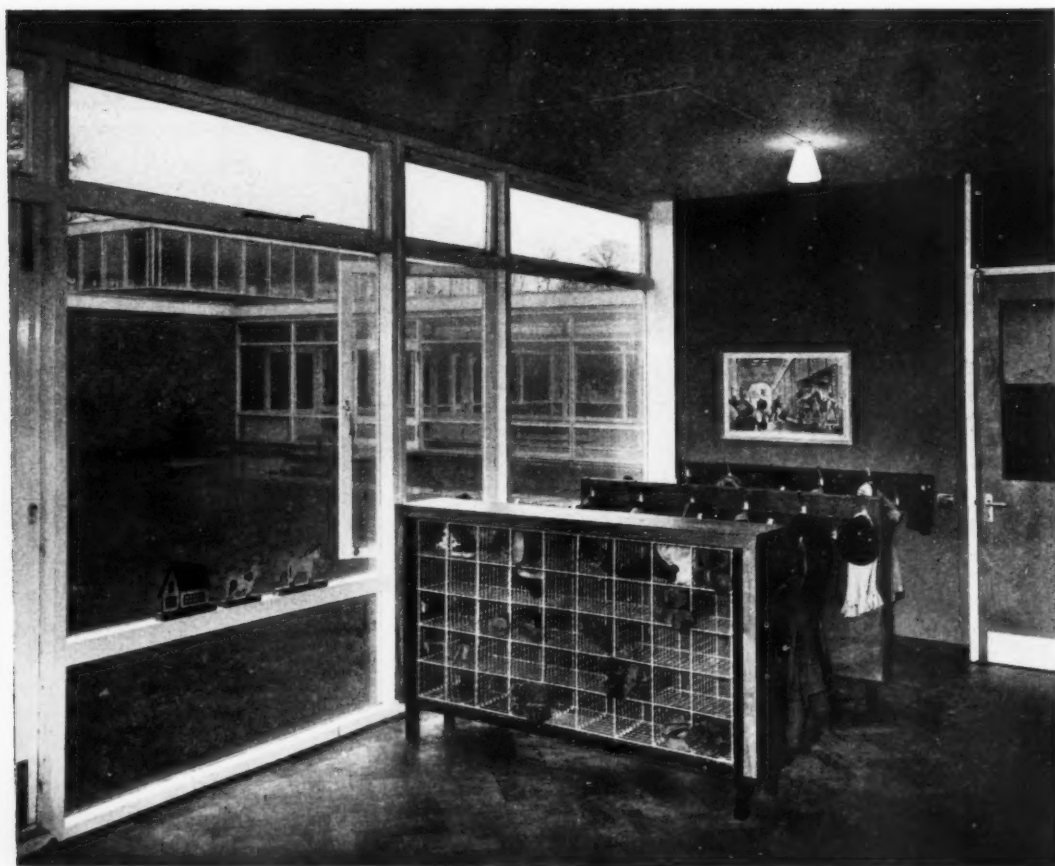
Key plan (right centre) and details, window and brickwork junctions [Scale: 1" = 1' 0"]

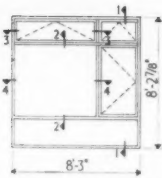
building illustrated



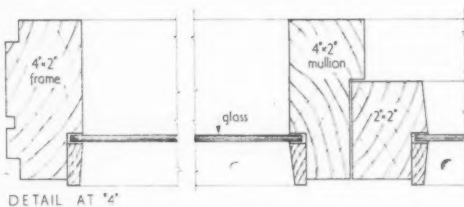
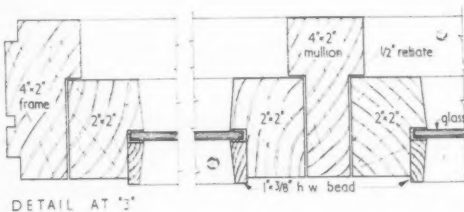
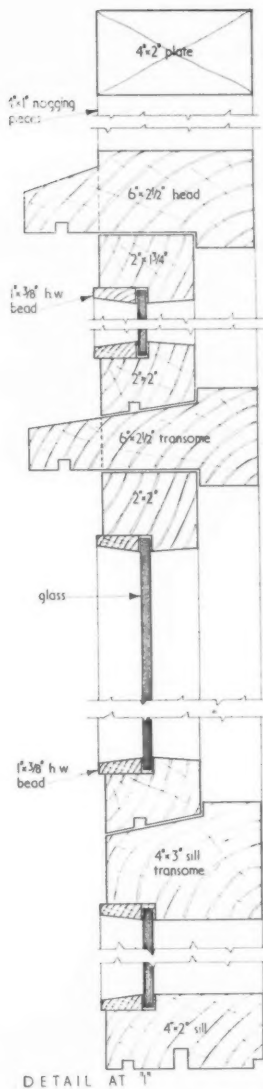
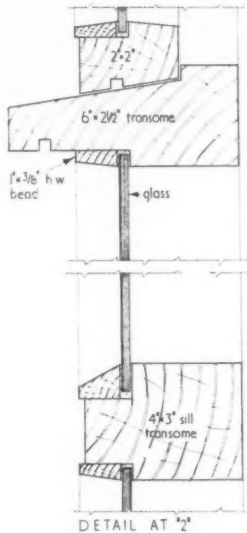
Viewpoint 16 (above left): another view of one of the reception classrooms. The variety of activities with which the infant classroom has to cater vary from the rest period to the boisterous free activity. They include listening in groups, working individually or in groups and in fact all activities which in some way or other promote thinking, feeling, ability to make and ability to respond. These classrooms are planned to foster these aims and are articulated by the lavatory-storage unit which is standard to all classrooms. In one area, individual or group work can be carried out at tables which are easily moved and re-grouped by the children. The other area (gained by throwing circulation space into the classroom) is available for long-term "projects," shopping games, acting, and for messy or dirty activities. The basins are appropriately placed for cleaning up

and for encouraging children to wash their hands on their return to the main space after going to the w.c. This ability to change from one form of activity to another smoothly and without fuss allows wide scope for both teacher and children. Viewpoint 17 (above right): the classroom teaching storage unit containing cupboards, shelves and recirculated warm air heater cabinet. This storage wall backs on to the lavatory. Viewpoint 18 (below): hat, coat and shoe storage units. These are standard for each classroom. Positioned at right angles to the window to avoid deep shadows, these units are appropriate in scale. Gaboon ply is framed and supported on steel legs. The plywood is treated with rubberized varnish, the steel finished with gloss oil paint. Wall red (0-005), "fanlight" blue black (9-098). In the background, main entrance with assembly hall.





Key elevation, typical window unit, and details 1-4 [Scale: 3" = 1' 0"]



analysis

Internal doors

Ply-faced flush doors semi-solid strawboard with hardwood lipping on edges, paint or clear rubberized varnish, matt finish; varnished gabbon is a good finish and very satisfactory in service.

Ironmongery to internal doors

Aluminium satin anodized lever handles; overhead door checks on all classroom doors.

Floor finishes

Wood block floors in classrooms, hall, dining, staff rooms of 1-in. West African agba, finished 2 coats plastic floor seal; reasons: warm and fairly resilient, low maintenance cost; use of sheet materials would have required continuous damp-proof membrane. 33s. 6d. per sq. yd. Thermoplastic 3/16-in. tiles laid in 18-in. square chequer board in glazed entrance link. 30s. 3d. per sq. yd. Quarry tiles, 4 in. x 4 in. x 3/8 in., heather brown, adjacent to sinks in classrooms, lavatories and scullery; floors protected by mats in wells at all entrances. 37s. 9d. per sq. yd.

Wall finishes

Plastered walls, generally; emulsion paint, eggshell finish.

Pin-ups in classrooms; emulsion paint, eggshell finish.

Door linings, windows, etc., oil paint, gloss finish. Beech stanchions casings in assembly hall, clear rubberized varnish, matt finish.

Ceiling finishes

Fire-resisting insulation boards, oil-bound washable distemper; acoustic tiles on dining room ceiling.

Decorations

Colour scheme: white ceilings throughout, except assembly hall which is blue. White walls generally with small areas of colour on cloakroom walls in classrooms and on tiling behind basins; pin-ups grey. Generally, warmth of colour obtained by wood block floors almost throughout and beech trim in assembly hall. White predominates externally but rebates between adjacent window units painted black to add definition and produce sense of lightness and crispness.

Colour references: black, white and BS2660 Nos. as follows:

0-001	5-065	9-098
0-005	7-083	9-100
4-047	9-094	

Cloakroom fittings

Coat racks and shoe racks in classrooms; framed gabbon ply on steel legs, clear rubberized varnish finish.

Venetian blinds in all classrooms facing east and south; aluminium, white finish; blinds withdraw into space above ceiling level, and are secured at the required height by cords and cleats (not ratchets).

SERVICES

Plumbing external

Glazed stoneware, connected to existing system

analysis

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Rainwater disposal

All rain water brought down internally, and connected to system of existing school and thence to lake; aluminium rain-water sumps and down pipes, glazed stoneware.

Cost included in plumbing internal.

Plumbing internal

2 5½

Waste disposal by preformed copper wastes above floor level, painted: reasons: speed of fixing, appearances and ease of cleaning.

Hot water storage

Local calorifiers in class lavatories, fed from heating system in winter with thermostatically controlled immersion heater for summer use; mixed (tepid) delivered to basins for economy in fuel and number of taps.

Cost included in plumbing internal.

Cold water storage

Break tanks to calorifiers only; cold taps supplied from mains.

Sanitary fittings

Wash basins, w.c.'s, urinals, sinks, drinking fountains in white glazed fireclay; the local authority required that slab urinals be used rather than the normal cantilever type. The local authority does not allow WWP overflows to be discharged into w.c. pans; these were therefore linked together, carried away in the screed and discharged through plinth. Cost included in plumbing internal.

Heating installation

6 10½

Re-circulated warm air through heat exchangers in classrooms, hall and dining hall; reasons: good comfort at low cost, economical operation ensured by system of thermostat and pre-set clock controls. Radiators in entrance passage, staff rooms.

Boiler type and capacity

One 811,000 B.Th.U. boiler burning, screw under-fed stoker automatically controlled by thermostat in flow pipe. Boiler house floor level approximately 4 ft. below general floor level since main distribution is in ducts in site slab. Metal flue approximately 25 ft. total height above boiler house floor level.

Drainage

1 8½

Connected to system of adjoining school.

Electrical installation: source and fitting type

2 9½

Suspended acrylic sheet fittings with tungsten filament lamps; designed for schools they give good upward and downward components, have a 45° cut off, and the required brightness, are inexpensive, easily installed and easily cleaned.

Wiring and switching types

PVC compound sheathed type cable in roof space for economy, ease of installation and protection by ceiling.

Flush type switches, metal coverplates, SAA finish.

Power supply type

400/230v. 50 cycles AC supply ducted under floors to fuse boards, thence distributed through ceiling space, in running cables across direction of beam span, advantage was taken of pre-drilled ½-in. weep holes in ply webs. These holes allow troughs to drain if rain falls before roof is decked and felted.

Paved areas

Yellow stock bricks in courtyard give small: pattern and good appearance; pattern is continued over manhole covers by using cut bricks. 2-in. pre-cast concrete slabs on paths.

total net cost per sq. ft. of floor 64 5½

TIME SCHEDULE

Sketch plans approved	Tender date	Contract signed
March, 1955	September 21, 1955	October, 1955

Work commenced	Work completed	Type of contract
October 17, 1955	September 4, 1956	RIBA with quantities

RATIOS

Area of enclosing walls	0.74	
Total floor area	1	
Area of windows (including external doors)	0.455	
Total floor area	1	
Area of solid walls	0.285	Total roof area 1
Total floor area	1	Total floor area 1

COST SUMMARY

No. of form entries	2
No. of places	250
Floor area (sq. ft.)	11,486
No. of sq. ft. per place	45.94
Net cost	£37,024
Net cost per place	£148 1s. 11d.
External works	£4,127 13s. 11d.
Gross cost	£41,151 13s. 11d.
Gross cost per place	£164 12s. 2d.

Plan accommodation	Area in sq. ft.	Per cent. of total	Area per place
Hall	1,800	15.7	7.20
Store	353	3.1	1.41
General classrooms	5,097	44.4	20.39
Dining	752	6.5	3.01
Pupils' storage	280	2.5	1.12
Sanitary accommodation	713	6.2	2.85
Staff rooms	410	3.6	1.64
Service	776	6.8	3.10
Circulation	1,305	11.2	5.22
	11,486	100.0	45.94

SITE ORGANIZATION

Site labour and equipment: General working foreman, foreman, tradesmen and gangers. Bulldozer, site scraping and final levelling—two weeks maximum. Digger, back acting equipment—basement excavation—one week. Dumpers, concrete, hardcore and materials—two in use whilst concreting carried out. Dinkum digger used on main drain runs for one week.

Job management: Progress chart, liaison between office and site consisted of weekly visits by quantity surveyor manager to coincide with architect's weekly visit with occasional additional visits as and when required, and personal attention of G. W. Deeley, managing director.

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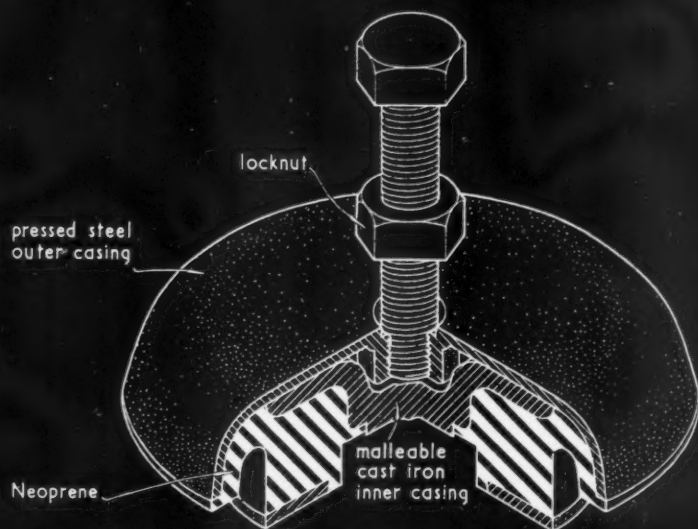
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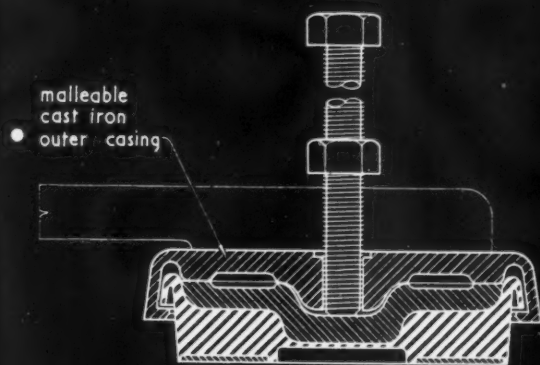
SOUND CONTROL | ANTI-VIBRATION MOUNTINGS | RUBBER

27.Z2

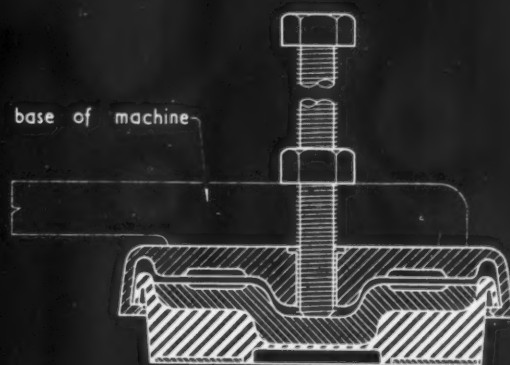
The Architects' Journal Library of Information Sheets 617. Editor: Cotterell Butler, A.R.I.B.A.



ISOMETRIC VIEW OF MOUNTING.



before levelling



after levelling

SECTION THRO' MOUNTING (showing large-size mounting).

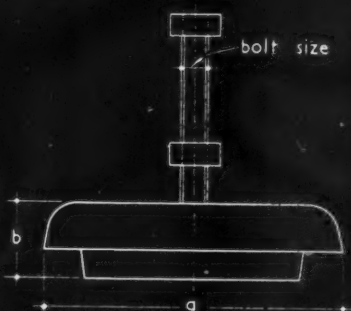


TABLE OF DIMENSIONS.

type no.	dimensions.		
	a	b	bolt size
LM3	4 ³ / ₄ "	1 ¹ / ₂ "	³ / ₈ ", ¹ / ₂ "
LM5	6 ⁵ / ₁₆ "	1 ⁵ / ₈ "	³ / ₈ ", ¹ / ₂ ", ³ / ₄ "
LM7	9 ¹ / ₂ "	2 ⁵ / ₈ "	¹ / ₂ ", ⁵ / ₈ ", ³ / ₄ ", 1"

BARRYMOUNT MACHINE MOUNTINGS.

Manufacturer: Cementation (Muffelite) Ltd. under licence from Barry Controls Inc. of U.S.A.

27.22 · BARRYMOUNT · MACHINE MOUNTINGS

This Sheet deals with Barrymount mountings for levelling machinery and isolating it to eliminate or reduce the effects of vibration. Floor fixing and shimming are unnecessary as each mounting has a built-in levelling device.

General

The use of these mountings for isolating machinery eliminates many of the problems usually associated with its installation and facilitates planning.

Presses and impact machines normally require very substantial foundations, but the mountings absorb the shock and vibration which make this necessary and therefore thick concrete bases are not required. In addition, no provisions for fixing need be made in the floor and floors are not subject to cracking. Economy in floor construction is thus effected in several ways. The machinery becomes mobile when fitted with these mountings, greatly simplifying planning layout. Greater flexibility is possible in the arrangement of services and the presence of existing services will not affect the installation of machines. Offices can be sited more conveniently close to workshops.

Construction

The isometric drawing on the face of the Sheet shows the construction of the mountings. The baseplate and outer casing are in pressed steel and the inner member in malleable cast iron. The resilient material is moulded Neoprene, which is oil-resisting. The Neoprene is bonded to the baseplate and to the sides of the outer casing. The inner member is press-fitted into the Neoprene. In the larger-size mountings the outer casing is cast, as shown in the sections on the face of the Sheet.

Machine tools

Classification of Equipment	Load in lb. per mounting for type no. :											
	LM3-4	LM3-6	LM3-8	LM3-11	LM5-11	LM5-20	LM5-27	LM5-42	LM7-35	LM7-50	LM7-65	LM7-100
Grinders: Rotary or plain surface	70 100	90 150	150 300	300 550	140 250	250 550	550 1,500	1,500 3,400	1,200 2,500	2,400 4,800	4,400 9,500	9,000 14,000
Grinders: Tool and cutter	90 140	130 200	200 400	400 800	185 350	350 900	900 2,200	2,100 5,000	1,600 4,000	3,000 7,000	5,400 10,000	10,000 14,000
Grinders: Manually traversed, thread, centreless, universal, chucking	70 100	90 150	150 300	300 550	140 250	250 550	550 1,500	1,500 3,400	1,200 2,500	2,400 4,800	4,400 9,500	9,000 14,000
Grinders: Automatic-traversed	70 100	90 150	150 300	300 500	140 250	250 500	500 1,200	1,200 2,400	850 1,900	1,600 3,200	2,800 5,800	5,000 10,000
Lathes	65 90	90 130	130 240	240 420	130 200	200 400	400 1,000	1,000 2,100	800 1,600	1,600 3,000	2,800 5,400	5,000 10,000
Milling machines	65 90	90 130	130 240	240 420	130 200	200 400	400 1,000	1,000 2,100	800 1,600	1,600 3,000	2,800 5,400	5,000 10,000

Punch presses

Maximum strokes per min.	Load in lb. per mounting for type no. :											
	LM3-4	LM3-6	LM3-8	LM3-11	LM5-11	LM5-20	LM5-27	LM5-42	LM7-35	LM7-50	LM7-65	LM7-100
200	80 110	110 150	150 240	240 400	150 220	220 400	400 700	700 1,200	400 700	700 1,150	1,150 1,700	1,700 2,500
175	80 110	110 150	150 240	240 400	150 220	220 400	400 700	700 1,200	600 900	900 1,500	1,500 2,100	2,100 3,200
160	90 130	130 180	180 300	300 470	180 260	260 450	450 850	850 1,500	700 1,200	1,200 1,900	1,900 2,800	2,800 4,100
140	100 150	150 210	210 330	330 550	250 350	350 640	640 1,200	1,200 2,000	1,000 1,700	1,700 2,500	2,500 3,600	3,600 5,500
125	100 150	150 210	210 330	330 550	280 430	430 800	800 1,500	1,500 2,300	1,500 2,300	2,300 3,500	3,500 5,000	5,000 7,500
100 or less	100 150	150 210	210 330	330 550	280 430	430 800	800 1,500	1,500 2,300	1,500 2,300	2,300 3,500	3,500 5,000	5,000 7,500

Installation

Machines are mounted quickly and easily. The mounting is placed under the foot of the machine and the bolt with locknut threaded on is slipped through the fixing hole on the machine and into the mounting. When each foot of the machine has been supported in this way each bolt is turned down just sufficiently to level the machine and the locknuts tightened.

Applications

The use of these mountings greatly reduces the shock and vibration from punch-presses and heavy high-speed equipment. Precision machines, e.g. grinders, may be isolated from exterior vibration which can cause irregularities when surface-finishing. Sensitive machinery and electronic equipment can be located wherever convenient without being affected by other machines. The load, distribution of weight around the centre of gravity and operating characteristics of a machine largely determine the type of mounting to be used. The following tables are intended as a general guide to selection, but the manufacturer should always be consulted before a final decision is made. In many cases, reference to the make and type of machine is all that is necessary for the recommendation of suitable mountings, as the manufacturer has accumulated data on a wide variety of machines.

The figure after each type number in the tables, refers to one of four hardnesses in three available ranges for each mounting. The two figures given under each type number represent the minimum and maximum loadings for that particular mounting when used for the type of machine indicated.

Compiled from information supplied by:

Cementation (Muffelite) Ltd.,

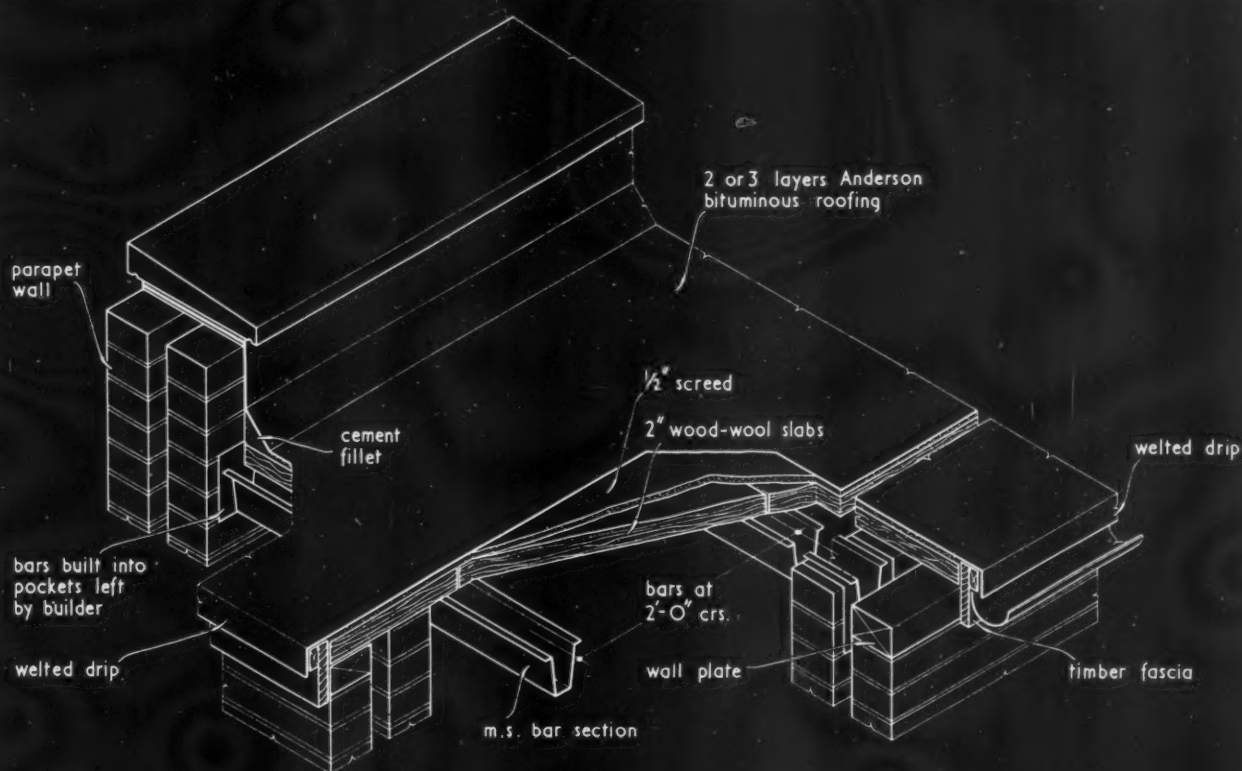
under licence from Barry Controls Inc. of U.S.A.

Address : 20, Albert Embankment, London, S.E.11.
Telephone : Reliance 6556.

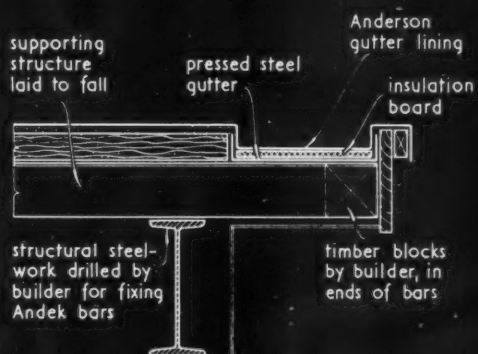
ROOFS COMPOSITE

20.29

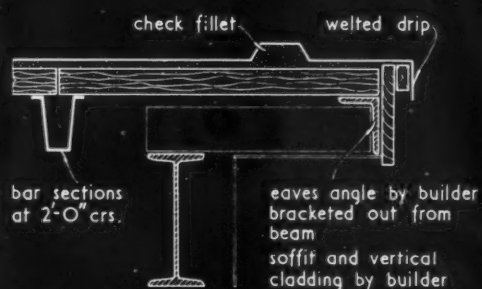
The Architects' Journal Library of Information Sheets 618. Editor: Cotterell Butler, A.R.I.B.A.



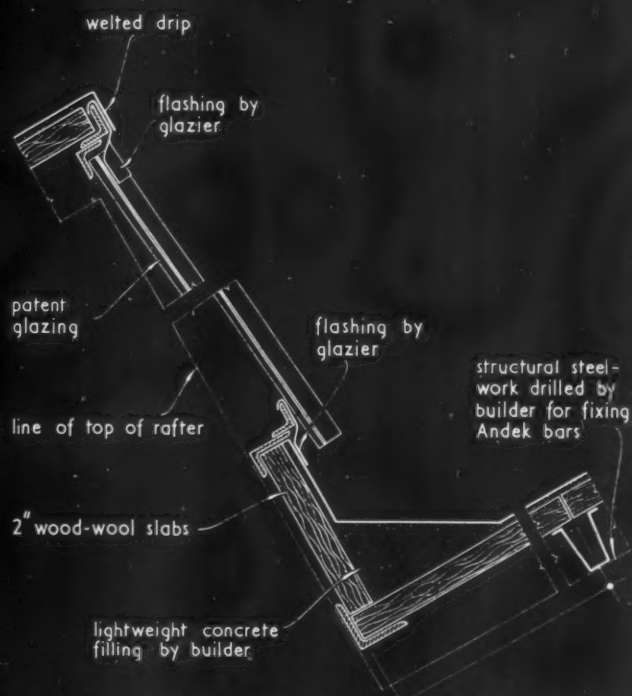
- GENERAL ASSEMBLY OF ROOF SHOWING TYPICAL TREATMENTS AT PARAPET WALL, VERGE AND EAVES.



ALTERNATIVE EAVES DETAIL.



ALTERNATIVE VERGE DETAIL.



NORTHLIGHT (FINISH ABOVE AND BELOW GLAZING).

20.Z9 ANDEK INSULATED ROOF SYSTEM

This Sheet describes a composite roof built up from galvanised steel sections over which are laid insulating building slabs such as wood-wool, screed, and bituminous roofing. It can be used for flat or sloping roofs and is fixed direct to steel, wood or concrete, either across the purlins or spanning direct from truss to truss.

Construction

The galvanised bar sections are made from close-annealed cold reduced steel sheet complying generally with BS.1449 En.2A. They are supplied with joggled ends to form a connection. The wood-wool slabs are held by special clips at 3 ft. 0 in. centres. Other types of rigid insulation can be incorporated if desired. Wood-wool slabs are finished with screed (or a cement slurry on slopes over 20°) and built-up bituminous roofing.

Sizes

The bar sections are obtainable in depths of 3 in. and 4 in. in 16 gauge, and 5 in. in 14 gauge. Standard lengths are suitable for spans of 8 ft. 0 in., 10 ft. 0 in. and 12 ft. 0 in.

The wood-wool insulation is 2-in. nominal thickness.

Weight

The weight of the system, using 4-in. bar sections, 2-in. wood-wool slabs, ½-in. screed and two layers of roofing felt is 14 lb. per sq. ft. With cement slurry used in place of screeding the weight is 8 lb. per sq. ft.

Safe Load-Span Table

The safe working loads in the following table are based on:

Maximum bending stress 20,000 lb./sq. in. Modulus of elasticity 30,000,000 lb./sq. in. Deflection limited to 1/250 span, with bars at 2 ft. 0 in. centres. Loads to the left of the heavy line are recommended for flat roofs.

Depth of bar section (in.)	Gauge	Safe distributed loads in lb./sq. ft. for spans in ft.						
		6	7	8	9	10	11	12
3	16	94	68	48	33	25	—	—
4	16	140	103	79	62	49	37	29
5	14	242	179	137	109	88	73	61

Fixing

The supporting structure should, where practicable, be designed to take bar sections of standard spans. Where the bar sections are used to span between trusses, purlins are not required; only such ties and wind bracing need be provided as will render the structure stable independent of the Andek bar sections.

Bar sections are secured to the structural members by hookbolts or joggle clips or, where a more positive fixing is required, they may be bolted to purlins. The wood-wool slabs are held by clips at 3 ft. 0 in. centres. The drawings on the face of the Sheet show typical finishes at abutments, verges and eaves, and treatment for a northlight.

Wood-wool slabs are finished with a ½-in. sand/cement rendering or, on sloping roofs over 20° pitch, the rendering may be replaced by a cement slurry. Two or three layers of bituminous roofing complete the system; three layers are recommended for flat roofs. Mineral-surfaced roofing in a range of several colours is available for sloping roofs (see *Finish*).

For flat roofs, gravel bedded in hot bitumen is a usual finish. The gravel may be obtained in various colours and textures; a light colour reflects the sun's rays and helps to keep the building cool.

The underside of the roofing can be decorated or finished with a skim coat of plaster and the bar sections painted as required. Where a suspended ceiling is desired it can be fixed to battens secured to the bar sections or by metal hangers held to the sides of the bar sections by self-tapping screws.

Thermal Resistance

The thermal transmittance (U) value for a typical Andek roof using bar sections, 2-in. wood-wool slabs, ½-in. screed and Anderson two-layer bituminous roofing finished with gravel is 0.21 B.t.u./ft²/h./deg. F difference in temperature.

Finish

Bar sections are galvanised (natural finish). Mineral-surfaced bituminous roofing is available in green, grey, blue, red and white.

Compiled from information supplied by:

D. Anderson & Son Ltd.

Head Office: Stretford, Manchester.

Telephone: Longford 1113.

Telegrams: Roofing, Stretford.

London Office: Old Ford, E.3.

Telephone: Amherst 2388.

Belfast Office: Short Strand.

Telephone: Belfast 57413.

Birmingham Office: Suffolk House, Suffolk Street, 1.

Telephone: Midland 4988.

Bristol Office: 81, St. George's Road.

Telephone: Bristol 27888.

Glasgow Office: Queen Elizabeth Avenue, Hillington, S.W.2.

Telephone: Halfway 2514.

Leeds Office: 2, Central Road, 1.

Telephone: Leeds 21403.

Nottingham Office: 17, Huntingdon Street.

Telephone: Nottingham 53266.

BALUSTRADE: OFFICES IN MILAN

Gian Antonio Bernasconi, Annibale Focchi and Marcello Nizzoli, architects (material supplied by R. K. Dewhirst)



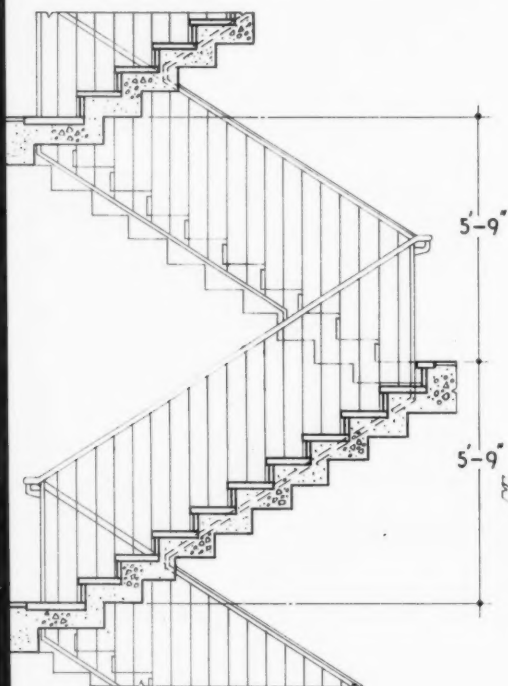
This is a good example of a type of stair in which the balustrade (but not the handrail) is in a single vertical plane. It is also a good example of the skill with which Italian craftsmen produce the appearance of a machine finish using (chiefly) traditional materials and methods. The stair itself is in-situ concrete cantilevered from the side walls, the treads are serpentine, the risers botticino marble, the soffit plaster, and the side walls are covered in glass mosaic. The aluminium is anodised throughout.

working detail

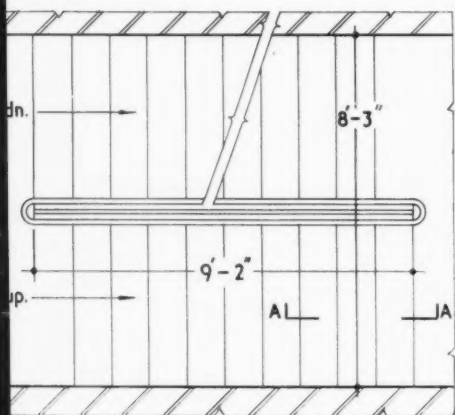
STAIRCASES: 31

BALUSTRADE: OFFICES IN MILAN

Gian Antonio Bernasconi, Annibale Fiochi and Marcello Nizzoli, architects (material supplied by R. K. Dewhirst)



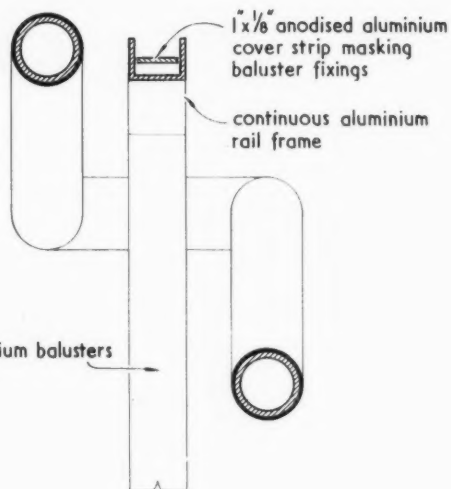
ELEVATION. scale $\frac{1}{4}" = 1'-0"$



PLAN. scale $\frac{1}{4}" = 1'-0"$

$\frac{1}{2}"$ dia. m.s. handrail with plastic sheathing

SECTION A-A. scale $1" = 1'-0"$



SECTION B-B. scale $\frac{1}{4}$ full size

$1\frac{3}{8} \times \frac{3}{8}$ anodised aluminium balusters

continuous $1\frac{3}{8} \times 1"$ anodised aluminium channel rail

continuous groove formed in plaster finish

$\frac{1}{2}"$ polished serpentine treads

1" polished white marble risers

r.c. staircase with plastered soffit

note: figured dimensions in feet and inches are approximate

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COST COMMENTS

Aldermans Green Infants' School, Co-operative Street, Coventry (pages 675-684). Built to the same cost limits, the analysis for this school may be compared with the analysis for Sugar Hill Primary School, Newton Aycliffe (AJ, September 29, 1955).

Except for the frame over the assembly hall at Coventry, both schools are built with load-bearing walls. Coventry is single storey; the school at Newton Aycliffe is part single and part double storey.

The ratio of enclosing walls to floor area at Coventry is relatively high at 0.74, and reflects a plan arrangement which allows the building to be comprehended as a whole from hall and entrance. The enclosed courtyard acts as circulation space in fine weather and this has enabled the internal circulation space to be kept down to a minimum, with the result that the area per place is lower than at Newton Aycliffe (45.94 : 47.73).

The distribution of costs over the main group of elements can be summarized thus:

	Coventry		Newton Aycliffe	
	s.	d.	s.	d.
Structure	28	8½	34	0
Finishes	10	7	7	3
Fittings	4	1	1	4
Services	14	0	15	10

What has been spent at one school on the structural elements has been spent in the other school on a higher standard of finishings and fittings. This appears to have been done with a regard for the capitalization of maintenance costs, e.g., the cost of wood block floors in the classrooms at Coventry will be less in the long run than the cost of relaying tiles several times during a school's lifetime.


When comparing the services at the two schools note that the Coventry school has no kitchen of its own (see client's brief), and has therefore, no gas installation nor are there the usual number of sinks, drainers, etc., supplied. In addition, the rainwater drains are connected up to the existing school drains and therefore show a saving over what might normally be expected.

The element frame at Coventry is rather interesting. It covers 25 bays only on an 8 ft. 3 in. grid, and at 3s. 4d. per sq. ft. of total floor area, the cost per sq. ft. of actual area covered amounts to 22s. 6d.; but the relative expense of this item in small quantities must be offset against availability and speed of erection.

CONTRACTORS

Aldermans Green Infants' School, Co-operative Street, Aldermans Green, Coven-

try, for City of Coventry (pages 675-684). *Architects:* Architects Co-partnership. *Quantity surveyor:* Davis, Belfield & Everest. *General contractors:* G. W. Deeley Ltd. *Sub-contractors—Foundations:* Earth & General Contracts Ltd. *Asphalt:* Val de Travers Asphalte Paving Co. Ltd. *Special roof lights:* Quicktho (1928) Ltd. *Roofing felt:* William Briggs & Sons Ltd. *Structural steel:* Hills (West Bromwich) Ltd. *Softwood window units, softwood casements:* Morgan & Partners Ltd. *Patent flooring, wood block flooring:* Hollis Bros. Ltd. *Central heating:* Weatherfoil Heating Systems Ltd. *Electric wiring, bells:* Francis L. Flinn. *Electric light fixtures:* Hartley Electromotives Ltd. *Electric heating:* Aidas Electric Ltd. *Plumbing:* Econa Ltd. *Door furniture:* Mountford Bros., A. G. Roberts Ltd. *Sanitary fittings:* Adamsez Ltd. *Tiling:* Coventry Tile Co. *Textiles:* Gerald Holtom. *Wallpaper:* A. Sandersons & Sons Ltd. *Portable platform units:* Geo. M. Hammer & Co. Ltd., Jayanbee Joinery Ltd. *Assembly hall, window opening gear:* Teleflex Products Ltd. *Sun blinds:* London Blinds. *Cloakroom fittings:* A. J. Binns Ltd., & T. Wilkes & Sons Ltd. *Flush doors:* Linden Doors Ltd. *Rubberized varnish:* Vitretex Ltd. *Paint:* Docker Bros. & Thomas Smith & Sons Ltd. *Concrete flower pots:* Walter Lawrence. *Plastic lettering:* Drakard & Humble Ltd. *Signwriting:* S. Moore & Co. *Window furniture:* Mountford Bros.



Warmth and beauty to match

The Devonair fire delights the heart of an architect. It's an overnight burning fire, but that's not all. Installed with underfloor air ducts and a positive draught control on the hearth, it is situated at hearth level and throws all its heat into the room.

The Devonair is supplied complete with hearth and handmade firebricks. And the Devon fireplace surround is constructed from beautifully made tiles. There's a wide choice of design and colour: in fact Devon fireplaces have a happy knack of fitting into any well-designed scheme.

Write for fully illustrated catalogue, to Candy & Co. Ltd. (Dept. A23), Newton Abbot, Devon.

DEVONAIR

overnight burning fire

No. S.800 designed by Neville Conder, F.R.I.B.A., A.A. Dipl. (Hons), M.S.I.A.

SPORT

BAGS v PIGS*

*And Every Man for Himself**v. The Architect*

Wandering round the course at St. George's Hill, Weybridge, watching BAGS and PIGS trying very hard to beat each other, the non-golfer could sense that they were sometimes trying even harder to beat the course itself and, therefore, its architect himself, H. Colt.

The golf-architect's aim must be to make life easy for the recreative faculties and difficult for wood and iron and putter. But not too difficult. He may entice, challenge, puzzle, tantalize, thwart and so on, but he must not tax skill excessively. Any old golfer knows this and could probably lay out a course that is technically fair. But could he scape it properly? Yes, he would say. But could he? The job is very nearly, if not quite, architectural.

An awful botch-up could have been made of St. George's Hill golf course when work first commenced on it just before World War I. One of the necessities was mutilation of forestry, always an operation to excite qualms, but most golfers who have

*BAGS Stands for Building Alliance Golfing Society.
PIGS for Plastic Industries Golfing Society.

played there would agree that the result is a masterpiece. It is a bosky, hilly course roughly in the shape of an attenuated figure 8, with the Clubhouse sited cleverly at the point of intersection, so that you can pause for a quick one if you want it at the tenth hole, or start your round at the tenth if the first tee or fairway is occupied.

Naturally it was a fine place for a golf course, but it wasn't a golf course ready-made. It obviously had to be thought out in the greatest detail, the forest (deciduous and coniferous mixed) reconnoitred extensively and the right trees clearly blazed before the feller-juggernaut was launched on its bold, demolishing, clear-cut passage through.

Complaisant rolling fairways, fitted trim like a carpet to the dark forest walls, beguile you along over sculpturesque hillocks, round tiny spurs, down sudden dips, past spared oaks or soporific Surrey firs, round clumps of gorse (pin-pricked with bright yellow now), past swan-plashed waters, between bunkers, along beside stretches of cultivated rough.

It is good landscape translated into good golfscape. The kind of thing hankered after in land/townscape articles in *The Architectural Review* is here. Dead ground, contrast, changes of level, sudden jinks, passing glimpses, partly broken vistas and other intricacies. In short, surprise. Sometimes a very long hole. But never a complete opening-up. Never a visible succes-

sion of holes to be played out along monotonously predictable winds and double-backs and zigzags.

And that is what is wanted. Many golfers would never dream of walking for walking's sake as many miles as they will golf so tirelessly before lunch and after. Even as it is, if they are to enjoy it completely, they have to be lured along, as through life itself, easy step by easy step.

The BAGS and the PIGS certainly enjoyed that cold gusty day completely. Perfect golfing weather, they said. The BAGS won by 10½ matches to 7½, singles in the morning and foresomes or greensomes in the afternoon. The full results are given below.

ROBIN MUDIE.

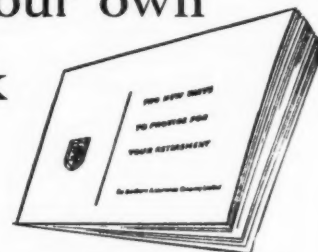
BAGS BEAT PIGS 10½-7½

Individual results (Bags names first).

SINGLES: K. H. BOLE lost to P. SMITH (3/2); A. T. FAIRHEAD lost to L. C. PENDRY (2/1); I. D. FORBES beat R. McEWAN (1 up); C. G. FOSSICK lost to G. W. BROWN (1 down); F. M. GOODHEAD beat J. HUDSON (1 up); W. R. HERBERT beat E. L. PIXTON (1 up); D. T. HILL lost to E. J. LASSEN (5/4); P. C. HOWE beat F. E. OLDHAM (6/5); T. McEWAN lost to K. G. BUTCHER; L. NEWTON beat G. H. CLEMENT (5/3); G. W. SMITH beat T. S. CRABTREE (1 up); A. W. TRIGG beat F. T. FLETCHER (2 up). Result: BAGS 7, PIGS 5.

FOURSOMES & GREENSOMES: BOLE & SMITH (G. W.) lost to SMITH (P.) & CRABTREE (5/4); FAIRHEAD & McEWAN (T.) halved with PENDRY & BUTCHER; FORBES & HILL beat McEWAN (R.) & LASSEN (5/4); FOSSICK & GOODHEAD beat BROWN & HUDSON (2/1); HERBERT & NEWTON lost to CLEMENT & PIXTON (2 up); HOWE & TRIGG beat FLETCHER & OLDHAM (2/1). Result: BAGS 3½, PIGS 2½.

If you have to provide for your own retirement—here's a book that will help you.



The 1956 Budget brought good news of tax concessions for those who have to make their own retirement arrangements. 'The Northern' have devised two new plans to make the most of these important new tax reliefs.

Before you make your own plans, you should in your own interest consult 'The Northern'. Their informative and very helpful booklet "Two New Ways to Provide for Your Retirement" will answer *all* your questions. Get

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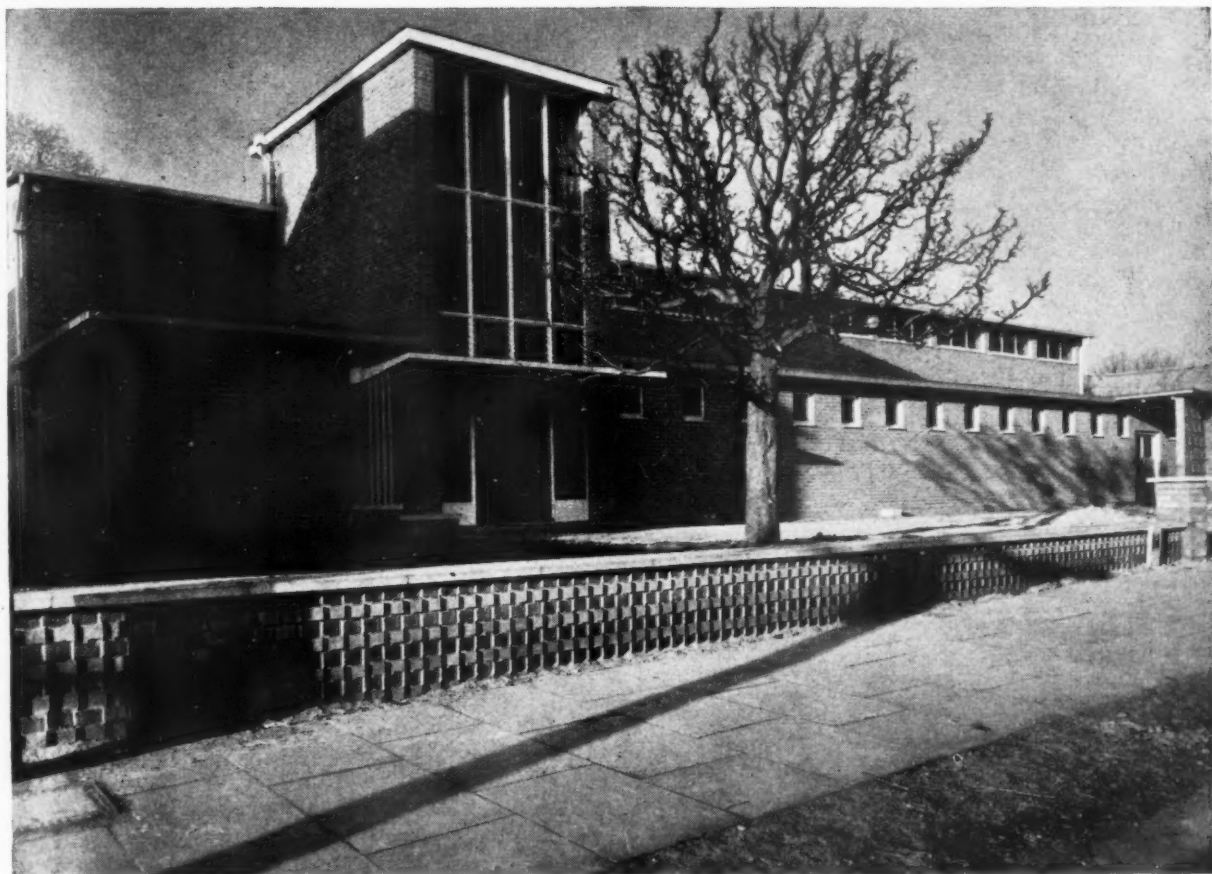
To The Northern Assurance Co. Ltd.,
1 Moorgate, London, E.C.2.

Please send me, without obligation, a copy of your booklet "Two New Ways to Provide for Your Retirement."

Name.....

Address

AJ9



In Contrasting Colours....

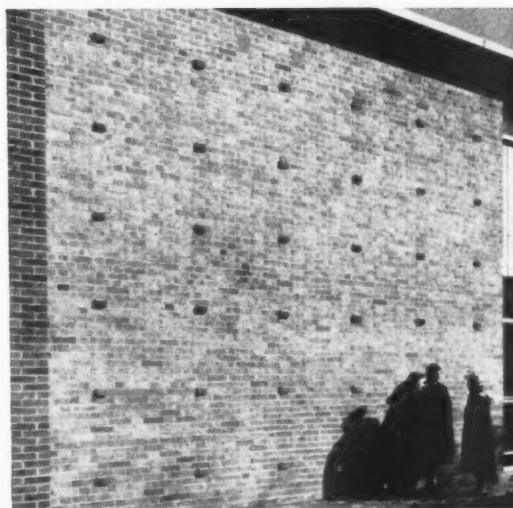
of Ibstock Dusted Purple and Buff-Multi Rustic Facing Bricks

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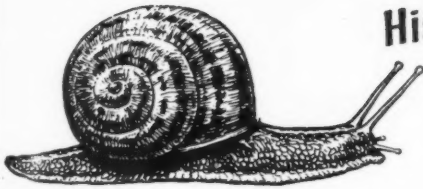
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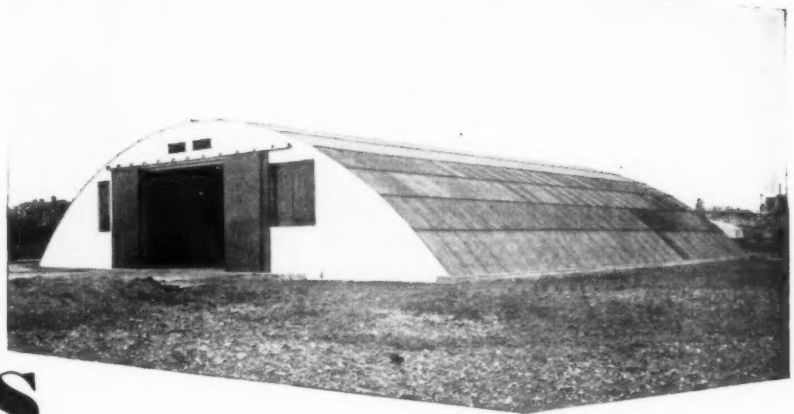


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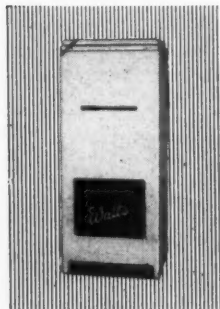
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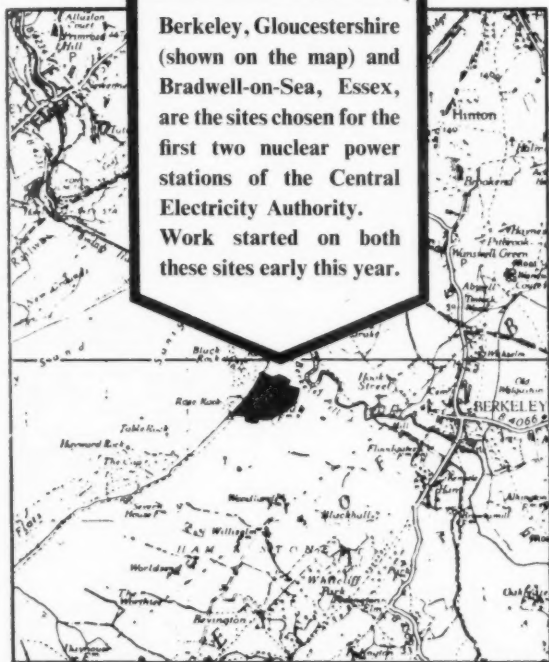
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Electricity from Nuclear Energy



Berkeley, Gloucestershire (shown on the map) and Bradwell-on-Sea, Essex, are the sites chosen for the first two nuclear power stations of the Central Electricity Authority. Work started on both these sites early this year.

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The growing need for power

As Britain's industrial efficiency increases, so does the need for power. The demand for power doubles every ten years; supplies of home-produced coal do not keep pace with these developments. Nuclear energy will do much to make up the discrepancy between the demands for electric power and the available coal supplies.

Central Electricity Authority has placed contracts for two nuclear power stations, sited at Berkeley in Gloucestershire, and Bradwell in Essex. Negotiations are proceeding for a third station which, subject to consent, will be erected at Hankley Point near Bridgwater in Somerset. These three stations will have an aggregate capacity of some 850,000 kilowatts.

The Government's revised nuclear power station programme provides for 19 nuclear power stations to be completed by 1965. They will develop from 5,000 to 6,000 megawatts of capacity and add to the national power resources the equivalent of some 18 million tons of coal a year.

As the demand for power grows, nuclear energy will become more and more important as a source of electric power, upon which the economic future of the country so largely depends.



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building elements

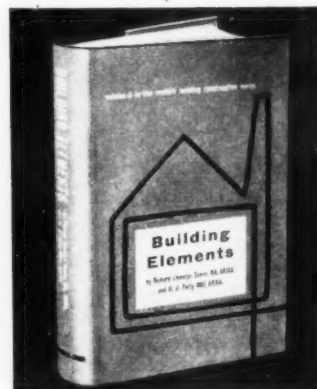
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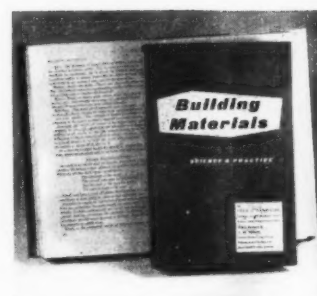


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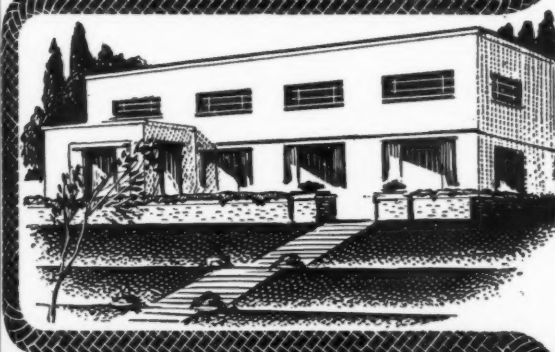
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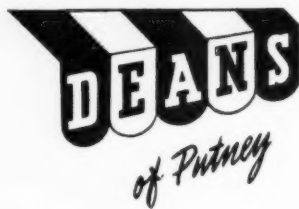
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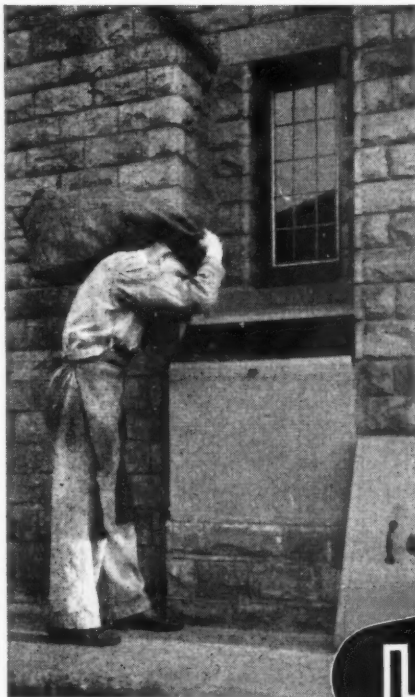
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AMERICA

A *personnage* assembled from scraps of American advertisements and spitting ticker-tape on the cover of the May ARCHITECTURAL REVIEW will announce the theme of a special issue on **Machine Made America**, compiled, explained and assessed by the REVIEW's executive editor, Ian



The Seagram Building, New York.

McCallum, whose previous foray into the American scene caused raised eyebrows and raised voices when its results appeared in print as a special issue of the REVIEW under the title *Man Made America*, this new survey, based on a study of architecture rather than the wider scene of land- and townscape, will scrutinise the aesthetics and the technics of the curtain wall as an example of what happens to one of the cherished dreams of the Modern Movement when it finally becomes commercially practicable, and becomes part of the available *syntax* of architecture. After this it will survey the diverse, original stimulating and experimental work of individuals and individualists from Coast to Coast, a body of work that is the *genetrix* of architectural ideas without which the industrial contribution may prove sterile and short-lived.

Machine Made America will conclude by attempting to fit both



Subtropical Mess at Colnbrook.

considered iconographically by Dr. S. Lang, and the impressive and intelligent record of patronage in architecture, the arts, and design, of **Adriano Olivetti**, considered biographically by Georgina Masson. New buildings in this issue will be as different in type and place as the **Golden Lane** development by Chamberlin, Powell and Bon, and the **Museum at Accra** by Drake and Lasdun; the old buildings of the month will be **Balmes House**, Hackney, a forgotten, but representative piece of artisan mannerism which will be described and discussed by Priscilla Metcalf, and those in **Halifax Street**, Sydenham, another threatened area that comes within *Counter-Attack's* purview. *Skill* features of the month include a broad survey of food-preparation equipment, and in *Miscellany* Robert Melville contributes, as



Concrete shell church by J. Johansen.

industrialist and individualist into the *matrix* of the wider scene of world architectural development in this century and of American culture in the age of mass-production.

COUNTER ATTACK GROTESQUE OLIVETTI

Ian Nairn, of *Outrage* fame, will contribute a first essay on the aims and objectives of the newly-formed **Counter-Attack Bureau**, to the June issue of the ARCHITECTURAL REVIEW, and make proposals for positive anti-Outrage policies for the threatened suburban village-centres of Ewell, Colnbrook and Huyton. Two widely diverse Italian subjects to be discussed in the same issue will be the grotesque statuary and architecture of the Orsini garden at Bomarzo, con-



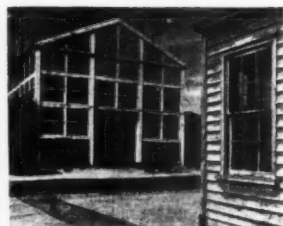
Golden Lane, by Chamberlin, Powell and Bon.

usual, his column of off-beat opinions on the world of art-galleries and exhibitions.

EARLY INDUSTRIAL

Mills, docks and harbours, warehouses, fences and gates, railways and canals—all bear witness to the theme of July's special issue of the REVIEW, *The Functional Tradition*, compiled and edited by J. M. Richards. In our present need to consolidate the results of the technical revolution that has

overwhelmed architecture in this century, we need the discipline of an unconscious vernacular, a simple way of doing things simply, and we have no better guide for this than the monuments of the functional tradition that dot the country from end to end, even in the most remote and rural areas. The tradition is not limited to any material—with its wooden water-mills, its brick warehouses, its iron framed naval



Sheerness Naval Dockyard: cast iron frame extension, 1858

boatsheds, its stonework by canal and railway—it had the adaptability we admire in the great masters of today, fitting together material, function and form, but into an unselfconscious unity. Most architects know of the great tradition's existence, have seen one or two textbook examples illustrated, have discovered one or two favourites of their own, but in *The Functional Tradition* they will find for the first time a systematic analysis of the nature and value of the tradition, supported by the results of an extended photographic campaign by Eric de Maré, which has rescued many unknown and forgotten buildings from undeserved obscurity, and also set on record for the first time the little known architecture of the warehouses, rope walks and other buildings in the dockyards of the Navy.



Bentley's piano factory, Nailsworth, near Stroud.

21

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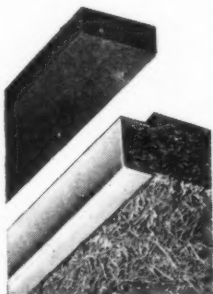
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Condensation and the 'COLD BRIDGE' in ROOFS

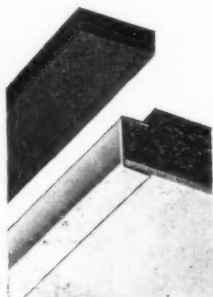
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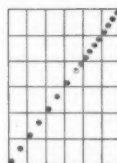
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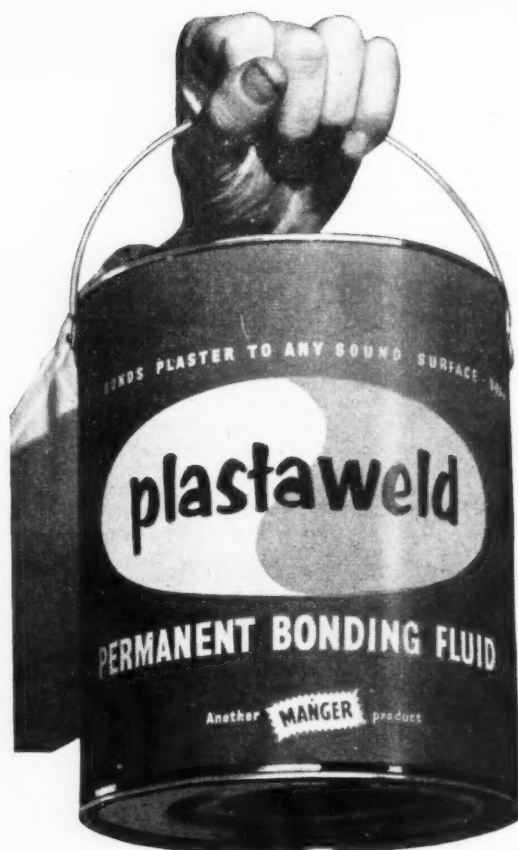
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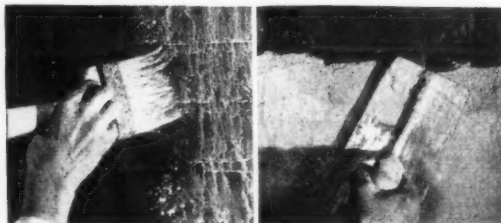
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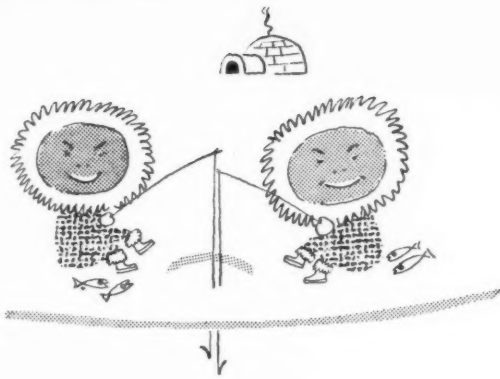
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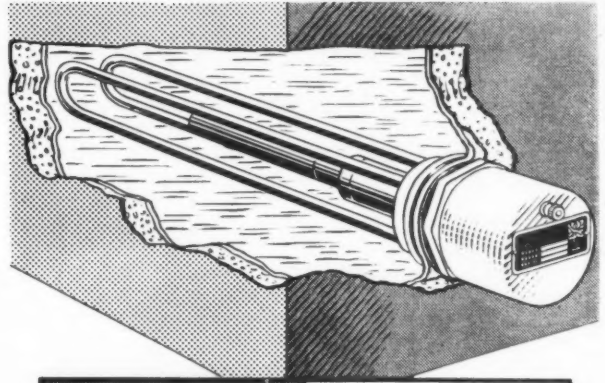
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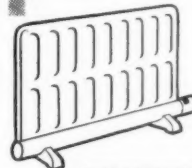
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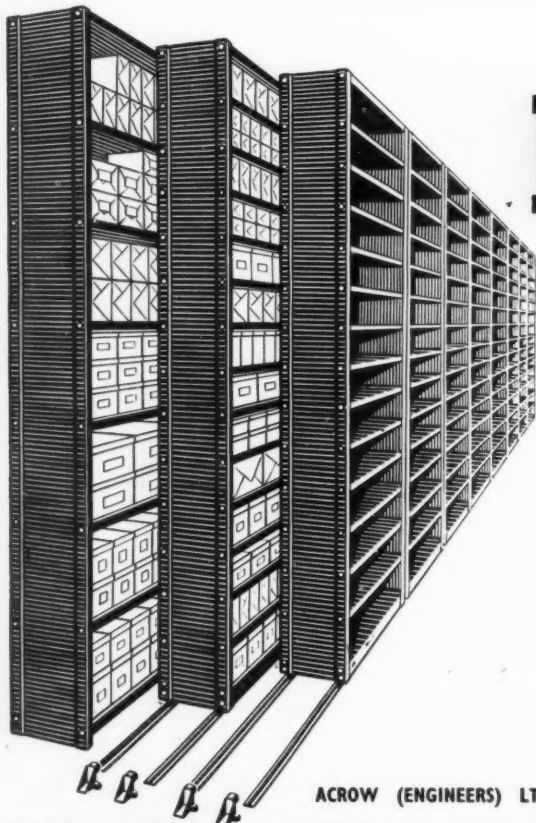
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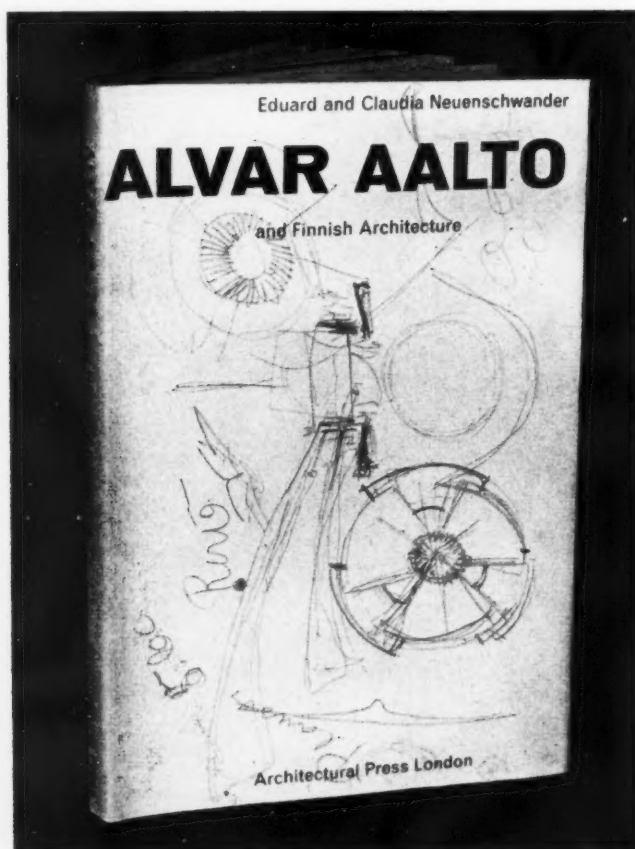
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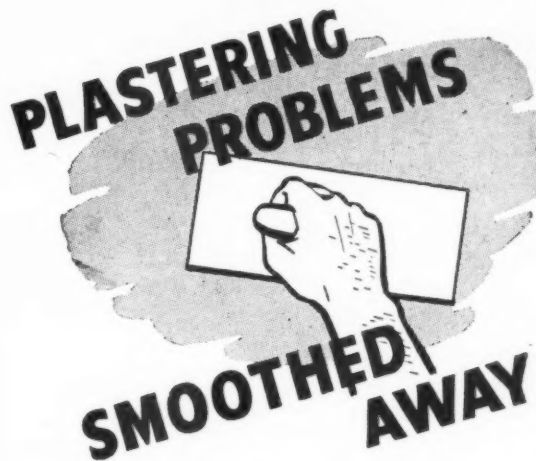
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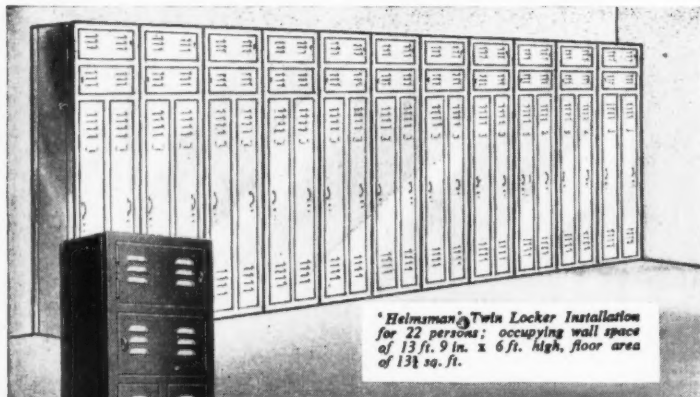
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24th April, 1957

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15th April, 1957. 6013

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PLANNING ASSISTANTS (3rd Class) Grade I (£589 7s. 6d. to £922 10s. in 10 increments); superannuation; medical examination.

(i) Two Architect-Planners primarily for assistance in design, detailing and modelling of redevelopment proposals for Barbican and other areas in the City of London. Ability to prepare perspectives in colour required for one post. Preference given to candidates with good architectural background and a sensitive and contemporary approach to design.

(ii) Assistant primarily for preparing small scale maps and plans in connection with redevelopment, and for the checking of surveys. An accurate draughtsman is required.

Local Authority experience is not essential. Point of entry on salary scale dependent on age, and experience. Applications with details of training, age, experience, present salary and the names and addresses of two referees, to the City Planning Officer, 55/51, Moorgate, London, E.C.2, within 14 days of the date of this advertisement. 6099

LANCASHIRE COUNTY COUNCIL

SECTIONAL PLANNING OFFICER, A.P.T. Grade V (£814 17s. 6d.—£994 5s.) required at Divisional Planning Office, BURY. Candidates should be qualified architects, surveyors or engineers, a planning qualification in addition would be an advantage.

Experience in Town Map preparation and a sound knowledge of Town and Country Planning legislation are essential.

Applications, giving age, qualifications, present appointment, experience, etc., and two referees to County Planning Officer East Cliff County Offices, Preston, by 11th May, 1957. 6105

CARMARTHEN COUNTY COUNCIL

ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of an ASSISTANT ARCHITECT at a salary in accordance with A.P.T. III, £656-£784 2s. 6d. Applicants must have passed the Intermediate Examination of the R.I.B.A.

Applications stating age, training and experience accompanied by two recent testimonials, should reach W. T. Lloyd, A.R.I.B.A., County Architect, County Hall, Carmarthen, by 11th May, 1957.

W. S. THOMAS,

Clerk of the County Council.

County Hall, Carmarthen 6061

CORPORATION OF GREENOCK

Applications are invited for the position of SENIOR ARCHITECTURAL ASSISTANT in the BURGH SURVEYOR and MASTER OF WORKS DEPARTMENT of the Corporation. The post which is superannuable is on the salary Grade A, and P. VII (£875 to £950) with placing according to qualifications and experience. Applicants should be qualified Architects and preference will be given to Associates of the Royal Institute of British Architects. The immediate task of the person appointed will be the design of new structures including shops, offices and dwelling-houses in an area of Comprehensive Development.

Applications stating age, qualifications and experience accompanied by the names of two referees, should be lodged with the undersigned not later than Monday, 13th May, 1957.

JOHN LIDDELL,

Town Clerk.

Municipal Buildings, Greenock. 6060

19th April, 1957.

RENEWED ADVERTISEMENT

URBAN DISTRICT OF FELTHAM

APPOINTMENTS OF TWO ARCHITECTURAL ASSISTANTS

Applications are invited for the following appointments on the Council's unestablished staff at salaries within the Grades stated according to qualifications and experience:—

(1) Architectural Assistant, Grade A.P.T. IV (maximum salary £907 2s. 6d. per annum plus London weighting).

(2) Architectural Assistant, Grade A.P.T. II (maximum salary £691 17s. 6d. per annum plus London weighting).

Forms of application, obtainable from the undersigned, must be returned accompanied by copies of two testimonials, not later than 10th May, 1957. Canvassing directly or indirectly will disqualify and applicants must disclose in writing, whether to their knowledge they are related to any member of or the holder of any senior office under the Council.

M. W. COUPE,

Clerk of the Council.

Council Offices, Feltham, Middlesex. 6058

FIFE COUNTY COUNCIL

SENIOR PLANNING ASSISTANT—Salary Scale £730-£825. Must have passed Intermediate Exam. of the T.P.I. and practical experience in a Planning Office. House may be available.

EXPERIENCED NON-QUALIFIED ASSISTANT for County Architect's Dept., Kirkcaldy. Grade V-VI—£730-£890. House may be available.

JUNIOR DRAUGHTSMAN for Architect's Dept., Cupar. Salary £565-£640. House may be available.

Superannuation Scheme. Applications giving full particulars to be lodged by 6th May with the County Clerk, Cupar. 6115

DERBYSHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT
 Vacancies for **QUANTITY SURVEYORS** (fully qualified), A.P.T. grade VI (£992-£1,107 per annum) and A.P.T. grade VII (£999 7s. 6d.-£1,230 per annum). National Joint Council conditions of service. Pensionable posts. Canvassing disqualifies. Application forms from F. Hamer Crossley, Dipl. Arch. F.R.I.B.A., County Architect, County Offices, St. Mary's Gate, Derby. 6104

BOROUGH OF SCUNTHORPE
BOROUGH SURVEYOR'S DEPARTMENT
 Applications are invited for the following appointments:
QUANTITY SURVEYOR, Grade A.P.T. V (£814-£994).
ASSISTANT ARCHITECT, Grade A.P.T. IV (£727-£907).
ASSISTANT ARCHITECT, Special Grade (£707-£861).
ASSISTANT ARCHITECT, Grade A.P.T. II (£609-£691).
 Housing accommodation is available if required.
 Applications, giving particulars of age, experience, qualifications and appointments, together with the names of two referees should be submitted to the undersigned, not later than Friday, 17th May, 1957.

Municipal Offices,
 34, High Street,
 Scunthorpe,
 16th April, 1957. 6111

CITY OF BIRMINGHAM
CITY ARCHITECT'S DEPARTMENT
 Applications are invited from fully qualified Architects for the following permanent and superannuable posts at commencing salaries according to capabilities and experience.
SENIOR ASSISTANT ARCHITECT, A.P.T. VI (£902-£1,107). (Group Leader in Housing Design Section).
ASSISTANT ARCHITECT, A.P.T. V (£814 17s. 6d.-£994 5s.).
ASSISTANT ARCHITECTS, A.P.T. IV (£727 15s.-£907 2s. 6d.).
 Medical examination. Five-day week.
 Applications, endorsed with the heading of the post and stating age, qualifications, experience and two referees, to the undersigned by 17th May, 1957.
 Canvassing disqualifies.

A. G. SHEPPARD FIDLER,
 City Architect.
 Civic Centre,
 Birmingham, 1. 6110

COUNTY BOROUGH OF BARROW-IN-FURNESS
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT
APPOINTMENT OF CHIEF ARCHITECT
 Applications are invited from qualified architects with wide municipal experience for the post of Chief Architect on Grade A.P.T. VII (£999-£1,230 per annum). The commencing salary will be fixed within the grade.
 A car allowance in accordance with the N.J.C. scales will be paid.
 It is possible that the Council will allocate a Corporation house, subject to the merits of the case being satisfactory to the interviewing Committee.
 Full details of the post, conditions of appointment and application forms may be obtained from the Borough Engineer and Surveyor, to whom completed forms must be returned not later than Monday, 20th May, 1957.

LAWRENCE ALLEN,
 Town Clerk.
 Town Hall,
 Barrow-in-Furness. 6101

URBAN DISTRICT COUNCIL OF CORBY
JUNIOR ARCHITECTURAL ASSISTANT
 (Grade A.P.T. I or II)
 Applications are invited for the above appointment in the Architectural Section of the Engineer and Surveyor's Department.
 Applicants must have passed the R.I.B.A. Intermediate examination or its equivalent at one of the recognised schools of architecture and the salary applicable to candidates of not less than one year's subsequent experience in an architectural office will be in accordance with A.P.T. Grade II (£609 17s. 6d.-£691 17s. 6d. p.a.), otherwise in accordance with A.P.T. I (£545 5s.-£625 5s. p.a.).
 The provisions of the Local Government Superannuation Acts 1937/53, will apply to this appointment.
 Housing accommodation will be made available to the successful candidate if married.
 Forms of application may be obtained from the undersigned, to whom they should be returned not later than the first post on Friday, 10th May, 1957.
 Testimonials will be required only from applicants selected for interview.

G. B. BLACKALL,
 Clerk of the Council.
 Council Offices,
 Corby, Northants. 6100

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT
 Vacancy for **SURVEYOR**, Grade III (salary up to £1,036) to be in charge of preparation of specifications and estimates, supervision of works and settlement of accounts in connection with maintenance, alterations and minor improvements of Voluntary Schools.
 Application forms, returnable by 31st May, from the Architect (AR/EK/VS/3), The County Hall, Westminster, S.E.1. (767).

GOVERNMENT OF BRITISH GUIANA
CHIEF BUILDING OFFICER (ARCHITECT)
EDUCATION DEPARTMENT
 To be responsible to the Director of Education for, and to take charge of, the building development programme of the Education Department.
 Contract appointment. Gratuity of 22½% salary for each completed three months' resident service. Salary £1,500 p.a.
 Free passages for officer, wife and children under 18, not exceeding five persons in all. Five days' leave for each completed month of resident service.
 Candidates must be A.R.I.B.A., with considerable practical experience. Write Director of Recruitment, Colonial Office, London, S.W.1, giving briefly age, qualifications and experience quoting BCD 114/30/07. 6040

SHARDLOW RURAL DISTRICT COUNCIL
SURVEYOR'S DEPARTMENT
JUNIOR ARCHITECTURAL ASSISTANT
 The above Council invite applications for a Junior Architectural Assistant in the Surveyor's Department. Salary range Grade A.P.T.I., £543 5s. to £625 5s. per annum according to qualifications and experience. Applicants should have previous architectural experience and have completed National Service. The post will be superannuable and subject to medical examination.
 Applications stating age, present salary, details of training and experience together with names of two referees, should be submitted to the Surveyor, Shardlow R.D.C., 4, Full Street, Derby, not later than 22nd May, 1957.

F. CLAYTON,
 Clerk to the Council.
 4, Full Street,
 Derby.
 24th April, 1957. 6121

NATIONAL COAL BOARD
EAST MIDLANDS DIVISION
 National Coal Board, East Midlands Division, invite applications for the following appointments in their Architect's Department, Nottingham:-
S.V. 741-QUANTITY SURVEYOR, Grade I
 Salary: £1,000 x £35-£1,300.
 Candidates should be corporate members of the R.I.C.S. with considerable experience in all aspects of the work of a Quantity Surveyor's Office.
S.V. 742-ARCHITECT, Grade II
 Salary: £700 x £30-£1,000.
 Candidates should be corporate members of the R.I.B.A. with varied practical experience.
 Both posts are superannuable and superannuation rights under Local Authority and certain other schemes are transferable.
 The starting salaries of the successful candidates will depend on the qualifications and experience of the candidates.
 The architectural work of the department covers the design of colliery surface building of all types including workshops, stores, power plants, offices, pithead baths, canteens, medical centres and recreation buildings.
 Applications stating age, education, qualifications and present appointment and salary should be submitted within 14 days to Staff Director, National Coal Board, East Midlands Division, Sherwood Lodge, St. Arnold, Nottingham. Envelopes and applications should bear the appropriate S.V. number. 6034

GOVERNMENT OF BRITISH GUIANA
CHIEF ARCHITECT, PUBLIC WORKS DEPARTMENT
 To take charge of all building work undertaken by the Public Works Department, supervise District Engineers on all building works, and to carry out such other duties as may be assigned by the Director of Public Works.
 Appointment either permanent and pensionable or on contract for three years in first instance. If appointed on contract a gratuity at rate of 22½% of salary payable in respect of each three months' resident service. Salary £1,600 p.a.
 Free passages for officer, wife and children under 18, not exceeding five persons in all. Five days' leave for each completed month of resident service.
 Candidates must be A.R.I.B.A., with considerable general experience since qualifying.
 Write Director of Recruitment, Colonial Office, London, S.W.1, giving briefly age, qualifications and experience quoting BCD 112/30/019. 6052

GOVERNMENT OF BRITISH GUIANA
ARCHITECT, PLANNING AND HOUSING DEPARTMENT
 To design and supervise, under the direction of the Commissioner of Housing, low cost housing schemes including houses built by self-help groups under the aegis of the Government. The officer will be required to travel extensively in rural areas.
 Contract appointment in salary range £1,100-£1,400 p.a. Gratuity of 22½% salary payable in respect of each three months of resident service.
 Free passages for officer, wife, and children under 18, not exceeding five persons in all. Five days' leave for each completed month of resident service.
 Candidates not less than 35 years of age, must be A.R.I.B.A. Write Director of Recruitment, Colonial Office, London, S.W.1, giving briefly age, qualifications and experience, quoting BCD 160/30/01. 6039

THE UNIVERSITY OF SOUTHAMPTON
CLERK OF WORKS required for supervision of new building projects. Salary in range £700 to £800 per annum. Temporary post, likely to extend for at least five years and possibly longer. Applications in writing giving age, details of experience and names of two referees to The Secretary and Registrar, The University, Highfield, Southampton. 6074

CITY OF LIVERPOOL EDUCATION COMMITTEE
 College of Building, Clarence Street, Liverpool, 5
Principal: T. E. Hall, Dip. Arch., A.R.I.B.A.
 Applications are invited for the following new appointments (full-time) to commence 1st September, 1957.
DEPARTMENT OF BUILDING AND PROFESSIONAL STUDIES
 (a) **TWO LECTURERS** to teach subjects of the Final Examination (Part II, Group A) of the Institution of Civil Engineers. Applicants should have at least one of the following qualifications: University Degree in Civil Engineering, A.M.I.C.E., A.M. Mun.E.
 (b) **LECTURER** to teach, amongst others, subjects of the examinations of the Institution of Structural Engineers in proposed sandwich course. Applicants should have A.M.I.Struct.E. or equivalent qualifications.
 (c) **LECTURER** to teach Engineering Science in proposed sandwich course in Structural Engineering. Applicants should have a University Degree in Science or Engineering.
 (d) **LECTURER** to teach Surveying subjects to the standard of the Final Examinations of the R.I.C.S. and I.Q.S. Applicants must hold one of the qualifications: A.R.I.C.S. (Q.S. Section), or A.I.Q.S. by examination.
 (e) **ASSISTANT (Grade B)** to teach subjects in Architecture to the standard of the R.I.B.A. Examinations. Applicants should have either a University Degree in Architecture or the A.R.I.B.A. qualification.
 (f) **ASSISTANT (Grade B)** to teach general building subjects in full-time and part-time Civil Engineering courses. An Institute of Builders' or R.I.C.S. qualification is desirable for this appointment.
 For all appointments appropriate professional or industrial experience is essential and teaching experience is desirable.
 Salaries in accordance with the 1956 Burnham Technical Report, as follows:-
LECTURER: £1,200 x £30-£1,350 per annum.
ASSISTANT (Grade B): £650 x £25-£1,025 per annum. To this scale, additional graduate and training allowances, where applicable, will be paid and the commencing salary will be assessed according to previous industrial, professional and teaching experience.
 Further particulars and application forms (returnable by 14th May, 1957) from The Director of Education, 14, Sir Thomas Street, Liverpool, 1.
THOMAS ALKER,
 Town Clerk and Clerk to the Local Education Authority. 6075

UNIVERSITY OF CAMBRIDGE
DEPARTMENT OF ESTATE MANAGEMENT
 A vacancy will occur on October 1, 1957, for a **UNIVERSITY DEMONSTRATOR**. The duties of the office comprise lectures and demonstrations on the subjects of Construction of Buildings and Surveying which are included in the syllabus for the B.A. Degree (Estate Management). Preference will be given to candidates with teaching experience who hold a University degree and have passed or obtained exemption from the examinations of the R.I.B.A. or the R.I.C.S. (Building Surveying Section), and have in addition had several years' practical experience.
 The pensionable stipends of University teaching officers are under review. The present pensionable stipend of a University Demonstrator is £700 a year, rising by annual increments of £25 to £800. A non-pensionable allowance of £50 a year is paid for each dependent child who is under the age of sixteen or is in receipt of full-time education. The stipend of a University Demonstrator in this Department may be supplemented by a pensionable payment not exceeding £120 a year depending upon the fulfilment of certain specified conditions.
 A limited contribution may be made towards the removal expenses of the person appointed, and towards travelling expenses if these are necessarily high. Further information may be obtained from the Secretary of the Appointments Committee, 74, Trumpington Street, Cambridge. Closing date for applications, May 25, 1957. 6055

GOVERNMENT OF UGANDA
ARCHITECT, PUBLIC WORKS DEPARTMENT
 For general architectural duties under the supervision of the Chief Architect. The selected candidate will be expected to act for the Chief Architect during the latter's absence on leave.
 Permanent and pensionable appointment. Salary according to qualifications and experience in range £981-£1,863 p.a. Free passages. Free medical attendance. Generous leave.
 Candidates aged 35-44 years, must be A.R.I.B.A. Experience in tropical problems an advantage.
 Write Director of Recruitment, Colonial Office, London, S.W.1, giving briefly age, qualifications and experience, quoting BCD 112/9/012. 6116

KINCARDINE COUNTY COUNCIL
 Applications are invited for appointment as a Planning Assistant in the office of the County Architect and Planning Officer, Stonehaven, Salary scale A and P. VII and VIII, £875 to £1,005. Applicants must have the A.M.T.P.I. qualification or equivalent. Medical examination under Superannuation Scheme. Applications, including the names of three referees, should be lodged with the undersigned not later than 18th May.
JOHN SLEVIN,
 County Clerk.
 33, Evan Street,
 Stonehaven.
 27th April, 1957. 6117

CAERNARVONSHIRE COUNTY COUNCIL

Applications invited for posts of—

(a) SENIOR PLANNING ASSISTANT (£127—

£994);

(b) DRAUGHTSMAN (£543—£625),

in County Planning Department.
Candidates for (a) must be corporate members of the Town Planning Institute and should hold, in addition, a recognised qualification in architecture, engineering or surveying, and must have had extensive practical experience in preparation of development plans particularly town maps preferably including comprehensive re-development areas.

Candidates for (b) should be neat and expeditious Draughtsmen with experience in preparation of maps and plans, preferably in a Local Government office.

Further particulars and application forms from Clerk of County Council, Caernarvon. Closing date May 20. 6063

LONDON COUNTY COUNCIL

(1) LANDSCAPE ARCHITECT and (2) LANDSCAPE ARCHITECTURAL ASSISTANTS required. Good drawing office experience in preparing working drawings and specifications and supervision of work on site essential. Programme includes new parks, gardens and playing fields, ground reinstatement, land drainage, etc.
(3) ARCHITECTURAL ASSISTANT for Crystal Palace development offering special opportunities for work on the contemporary design of park buildings.

Salaries up to £1,036 a year according to qualifications and experience.

Apply giving brief particulars to Chief Officer of the Parks Department, Old County Hall, Spring Gardens, S.W.1. (WHITEHALL 3121 Ext. 35). 6072

BRITISH TRANSPORT COMMISSION**OFFICE OF THE ARCHITECT****LONDON HEADQUARTERS**

THREE SENIOR ASSISTANT ARCHITECTS. Salary range £1,115/£1,325. Applicants must maintain in their own work and in that of their juniors consistently high standard of design and attend with efficiency the practical side of large projects.

LEADING ASSISTANT ARCHITECT. Salary range £1,015/£1,115. Applicants must have had several years' practical experience; accustomed to carrying responsibility.

TWO ASSISTANT ARCHITECTS. Salary range £916/£956.

All applicants to be A.R.I.B.A. Design ability, sound knowledge of construction, good draughtsmanship and genuine interest in contemporary design essential.

Superannuation scheme; residential, holiday, etc. rail travel facilities; medical examination. Write giving age, qualifications, experience to Manpower Adviser, British Transport Commission, 222, Marylebone Road, London, N.W.1, within 14 days. 6047

Architectural Appointments Vacant

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

ASSISTANT ARCHITECTS AND SHOP-FITTING DRAUGHTSMEN. Co-operative Wholesale Society, Ltd. invite applications for the following appointments:—(1) Assistant Architects capable of preparing working drawings from preliminary details. (2) Shopfitting Draughtsmen with experience in Shop Equipment and modernisation of Interiors.

The posts are pensionable, subject to medical examination. Five-day week in operation. Applications, giving age, details of experience and salary required to W. J. Reed, P.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 99, Leman Street, London, E.1. 4977

ASSISTANT wanted for small private practice. Write brief details to T. A. Bird, 13, Welbeck Street, W.1. 5715

HASKER & HALL, L.F.R.I.B.A., require ARCHITECTURAL ASSISTANT with 4 to 5 years' office experience. Write or telephone, giving full particulars, including age and salary, to 13, Welbeck Street, W.1 (Welbeck 0061). 5824

WELL KNOWN Home Counties Chartered Architects, with large and varied practice, require a capable experienced ASSISTANT for Drawing Office, salary by arrangement. Box 5859.

RONALD WARD & PARTNERS require an ARCHITECTURAL ASSISTANT with contemporary outlook and willing to use own initiative. Salary range £600 to £850. Congenial working conditions. Apply 29, Chesham Place, Belgrave Square, S.W.1. Telephone Belgrave 3361. 5844

COURTNEY, POPE LTD., require SHOP-FITTING DRAUGHTSMEN. Write, giving details of experience and salary required to: Amburst Park Works, London, N.15. 5704

RAMSEY, MURRAY, WHITE & WARD require recently qualified ASSISTANTS, with two to five years' practical experience, to work on interesting industrial and office buildings. Salary by arrangement. Apply 32, Wignam Street, W.1. 5929

ARCHITECTURAL DRAUGHTSMAN required for leading firm of Consulting Civil Engineers. Westminster. Five-day week, bonus and pension schemes. Phone Mr. Simmons, ABBey 1122 for appointment. 6017

HARRY S. FAIRHURST & SON require a SENIOR ASSISTANT ARCHITECT, with qualifications and a number of years' office experience, to work in Manchester. The scope of work is varied, and salary would be proportionate to experience and ability. Apply in writing, including age and other particulars, to 55, Brown Street, Manchester, 2. 5945

KERN JUNIOR ASSISTANT required in London office. Should be good draughtsman with sound knowledge of building construction. Box 5951.

ARCHITECT with varied practice requires capable ASSISTANT. Good draughtsman with knowledge of construction. Reply, with details of age, experience and salary expected, to A. W. J. Mullins, L.R.I.B.A., 78, Thoro'fare, Woodbridge, Suffolk. 5939

ARCHITECTURAL ASSISTANT, Intermediate R.I.B.A. standard, required in Engineer's Office of large Brewery Company in the Midlands. Sound knowledge of building constructions, surveys, preparation of working drawings and details. Salary in accordance with age and experience. Apply Box 5937.

LARGE London commercial office requires ASSISTANTS, with experience of commercial work. Box 5924.

BUILDING OR ARCHITECTURAL DRAUGHTSMAN

required for Works Engineering Department of

Light Engineering Factory in Ilford area, to prepare working drawings for industrial buildings, etc. One able to adapt himself to Factory Layouts, services, etc. Work of very varied and interesting nature.

5-day week. Payment during illness and superannuation schemes. Pleasant modern working conditions. Salary according to age and experience.

Apply, giving details of age, previous experience and salary required, to Box 5934.

TREHEARNE & NORMAN, PRESTON & PARTNERS have vacancies for SENIOR and JUNIOR ASSISTANTS. Salaries according to experience and qualifications. Apply 83, Kingsway, W.C.2 (HOL. 4071). 5908

ESTABLISHED practice in Charing Cross area requires SENIOR and INTERMEDIATE ARCHITECTURAL ASSISTANTS. Interesting and varied work. Good salaries offered commensurate with experience. Apply giving particulars Box 6005.

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

APPLICATIONS are invited for the following appointments:—(a) SENIOR ASSISTANT ARCHITECTS with experience of work on commercial and industrial projects (salary range £820 to £975 per annum). (b) ASSISTANT ARCHITECTS capable of preparing working drawings from preliminary details (Salary range £550 to £820 per annum). There is a five-day week in operation and both appointments offer prospects of upgrading. Applications stating age, experience, qualifications and salary required to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society Ltd., 1, Balloon Street, Manchester 4. 6025

SENIOR ASSISTANT required, capable of taking full responsibility of contracts, dealing with Client and Contractor. Must belong to Modern School of Design.

SENIOR ARCHITECT with Town Planning qualifications or experience required to take charge of interesting project.

State experience, age and salary required to John H. D. Madin, Dip.Arch.Birm. A.R.I.B.A., 83/85 Hagley Road, Edgbaston, Birmingham. 5977

SENIOR ARCHITECTURAL ASSISTANT required at once. Salary £800—£1,000 with a view to partnership for qualified man. Write giving age and experience. Box 5979.

ARCHITECT, fully competent and experienced in structural design, required by large firm of builders, who have their own system of curtain walling. The work involved will be mainly the design of multi-storey structures to incorporate this system, and the person appointed will be required to work on his own initiative under the Directors. Write, giving full details, to H. C. Jones Ltd., 183, High Town Road, Luton, Beds. 5984

WHY not have an interesting position in Croydon? Plenty of variety for an experienced ARCHITECTURAL ASSISTANT in a private practice. No Saturdays. State full particulars and salary required. Box 5987.

CROYDON Architects require experienced ASSISTANT, also JUNIOR. Five-day week, holiday this year. Write giving full particulars of experience and salary required. Box 5986.

ARCHITECTURAL ASSISTANT required for North Devon Office. Intermediate standard. Salary £600 per annum. Box 5988.

ONE Final Standard and one Intermediate Standard ASSISTANTS required for work of a general domestic character. Apply, giving details of experience, education and salary required to Edwards & Webster, Chartered Architects, 22, St. John Street, Devizes, Wilts. 5990

ASSISTANT required, able to write specifications, prepare working drawings efficiently and quickly, with sensitivity to a variety of work. Contemporary office, excellent working conditions. Small Central London office. Would suit provincial assistant requiring further experience. Time off for studies, if required. State experience, age and salary required also length of service in present post, testimonials. Travelling expenses paid to selected applicant. Box 5970

QUALIFIED ASSISTANT required by established practice in the West Riding of Yorkshire. Capable of handling property development schemes for multiple stores in the North of England. Experience of commercial work and a contemporary outlook essential. Permanency and excellent opportunity for the right man. Apply Taylor, Bown & Miller, 8, Victoria Avenue, Harrogate, giving age, experience, and salary required. 6076

**New German Architecture**

by Gerd Hatje, Hubert Hoffmann and Karl Kaspar. With an Introduction by Hubert Hoffmann

The first illustrated survey of post-1945 German Architecture. The modern movement in Germany, under the leadership of Gropius, van der Rohe and Breuer, was forcibly halted in 1933; not until rebuilding began about six years ago were architects in Western Germany again free to develop a contemporary German architecture. Many of Germany's new buildings are outstanding. This book illustrates and describes 134 carefully chosen examples, Hubert Hoffmann, a former Bauhaus student, shows in his Introduction that although these present-day buildings are inevitably influenced by ideas developed elsewhere during Germany's intellectual isolation, the best of them have evolved directly from the German architecture of the modern movement in the 1920s. The building types illustrated include: houses, flats, hospitals, hotels, hostels, schools, churches, theatres and concert halls, sports buildings, department stores, offices, factories and transport buildings. Size 10½ x 7½ ins., 256 pages with over 540 illustrations in half-tone and line. Price 56s. net, postage 1s. 6d.

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

JUNIOR ARCHITECTURAL ASSISTANT required, Birmingham city centre office. State age, training, and salary required.—Fillmore, 20, Waterloo Street, Birmingham, 2. 6077

ASSISTANT required for small office; modern work.—Write or 'phone N. H. Godsmark, 37A, Tubwell Row, Darlington. Tel. D.4932. 6079

MESSERS. JOSEPH, FF./R.I.B.A., 10, Lowndes Square, S.W.1, Sloane, 2178, require a practical and experienced Assistant. Salary up to £1,000 per annum, according to experience. 6088

TWO ARCHITECTURAL ASSISTANTS required, one Senior as group leader, and Junior of Intermediate A.R.I.B.A. or A.R.I.C.S. standard, to be engaged on varied and interesting projects throughout Southern England. Superannuation scheme in operation. Salaries by arrangement, according to age and experience.—Apply Cotton, Ballard & Blow, 5, Baker Street, W.1. WELbeck 3364/7. 6080

ARCHITECT'S ASSISTANT required, with good general experience.—Hammond Harvey, RIV. 8848. 6081

H. J. BROWN and L. C. MOULIN require **TWO ARCHITECTURAL ASSISTANTS**, for work on interesting Office/Bank project. Salary up to £800, according to ability and experience. 5-day week. Luncheon vouchers. Good prospects.—Write to 42, Russell Square, W.C.1, or telephone LANGham 7065. 6084

SENIOR ARCHITECTURAL ASSISTANTS wanted in office, with variety of work on hand, including Office Blocks, Schools, Domestic, Civic and Ecclesiastical Buildings. Holiday given this year.—Apply to Box 6043. 6085

FREY, DREW, DRAKE & LASDUN require a qualified and experienced **RESIDENT ARCHITECT** to represent them in West Africa. Duties consist of running small office and supervising erection of buildings mainly designed in U.K. 18 months' tour; 3 months' leave full pay; free house; return passage self and wife.—Write, giving details of training, qualifications, experience, etc., to Secretary, 63, Gloucester Place, W.1. 6086

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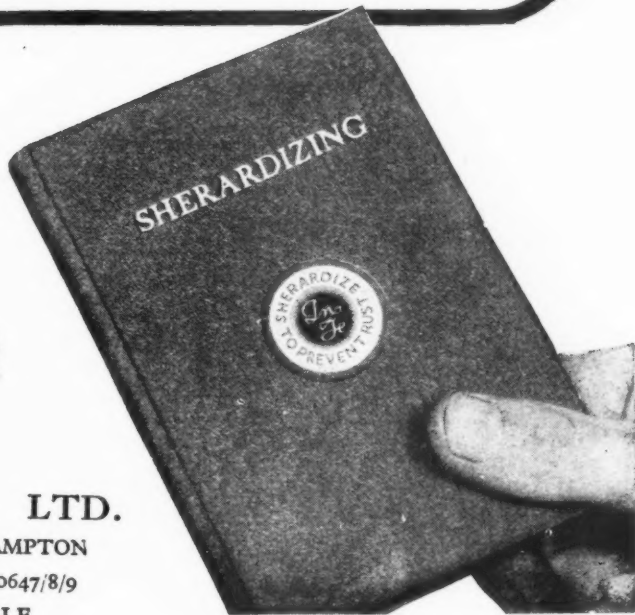
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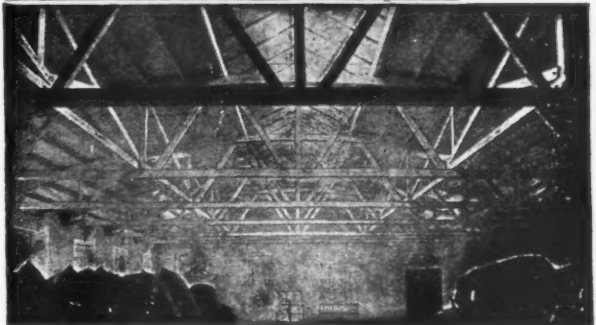
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