

THE ARCHITECTS'

PRICE ONE SHILLING



BY APPOINTMENT
TO HER MAJESTY
QUEEN ELIZABETH II
BRICK MAKERS



ARCHITECT: JOHN R. HARRIS, A.R.I.B.A.

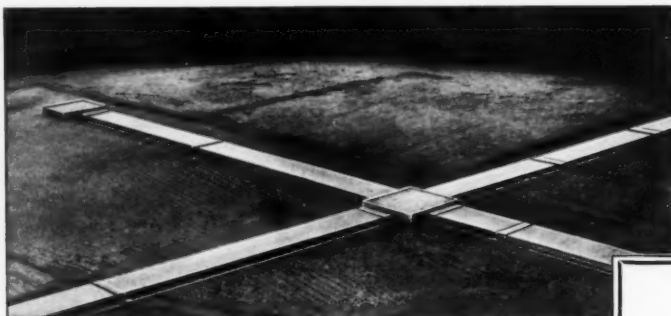
ASSISTANT: H. W. PUGH

CONTRACTOR: HOLLAND & HANNEN AND CUBITTS LTD



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UNDERFLOOR CONDUIT SYSTEM

For depths of screed $1\frac{1}{2}$ " and over
 Rustproofed all-metal construction
 Sizes from 4" x 1" to 12" x $1\frac{1}{2}$ "
 Single or multiple divisions
 One-way or multi-way junction boxes
 Flyover separators if required
 Floor outlets for future connections

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 for every job**

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Full details are given in the publication 'Greenwood-Airvac Conduit Systems' now available on request.



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Q5

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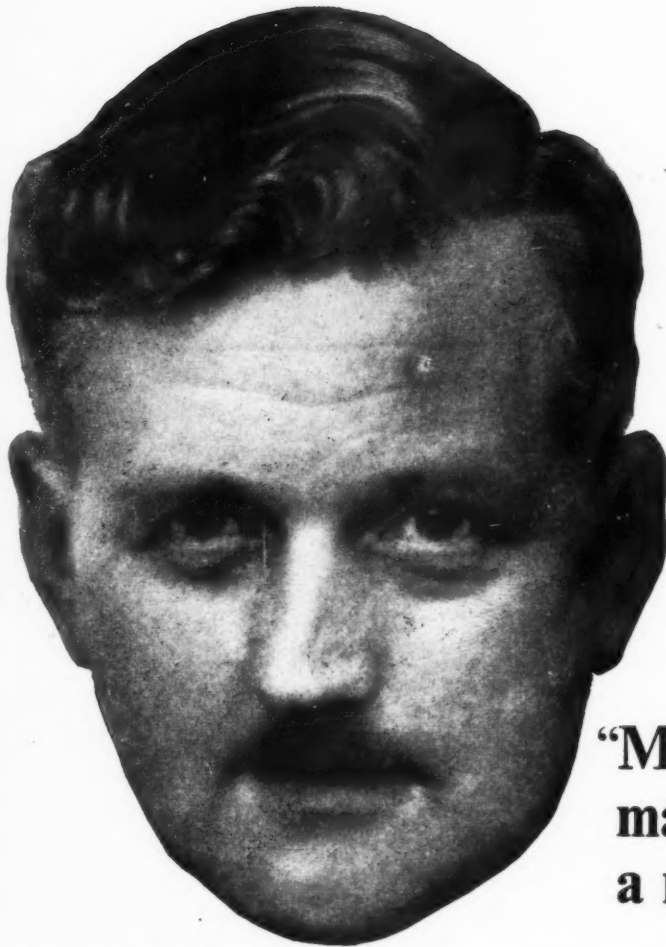
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2

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"My husband is married to a metal window"

Says Mrs. Scott ruefully. "Twenty-five years," adds Mr. Scott with a twinkle in his eye, "and it doesn't seem a day too much." He has worked his way up the industry from drawing office in his youth to chief draughtsman and hence to production and sales. Now his South London area keeps him and his service team of representatives, draughtsmen, estimators and window fixers more than busy. But somehow he still finds time to do a spot of gardening and take a keen interest in the Scout movement. Amazing.

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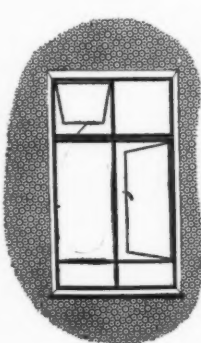
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METAL WINDOWS

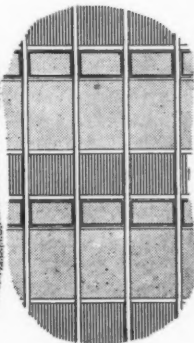
WILLIAMS & WILLIAMS



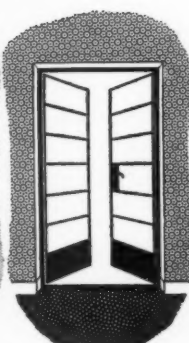
Member of the Metal Window Association



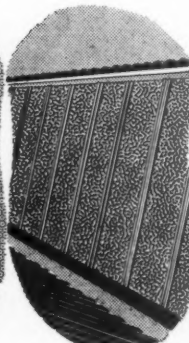
Metal Windows



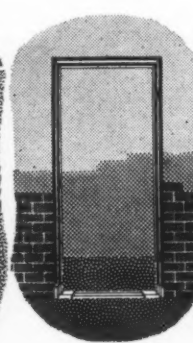
Wallspan Curtain Walling



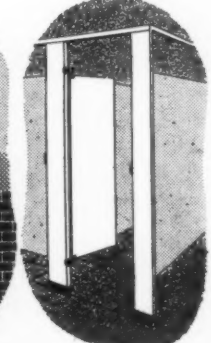
Metal Doors



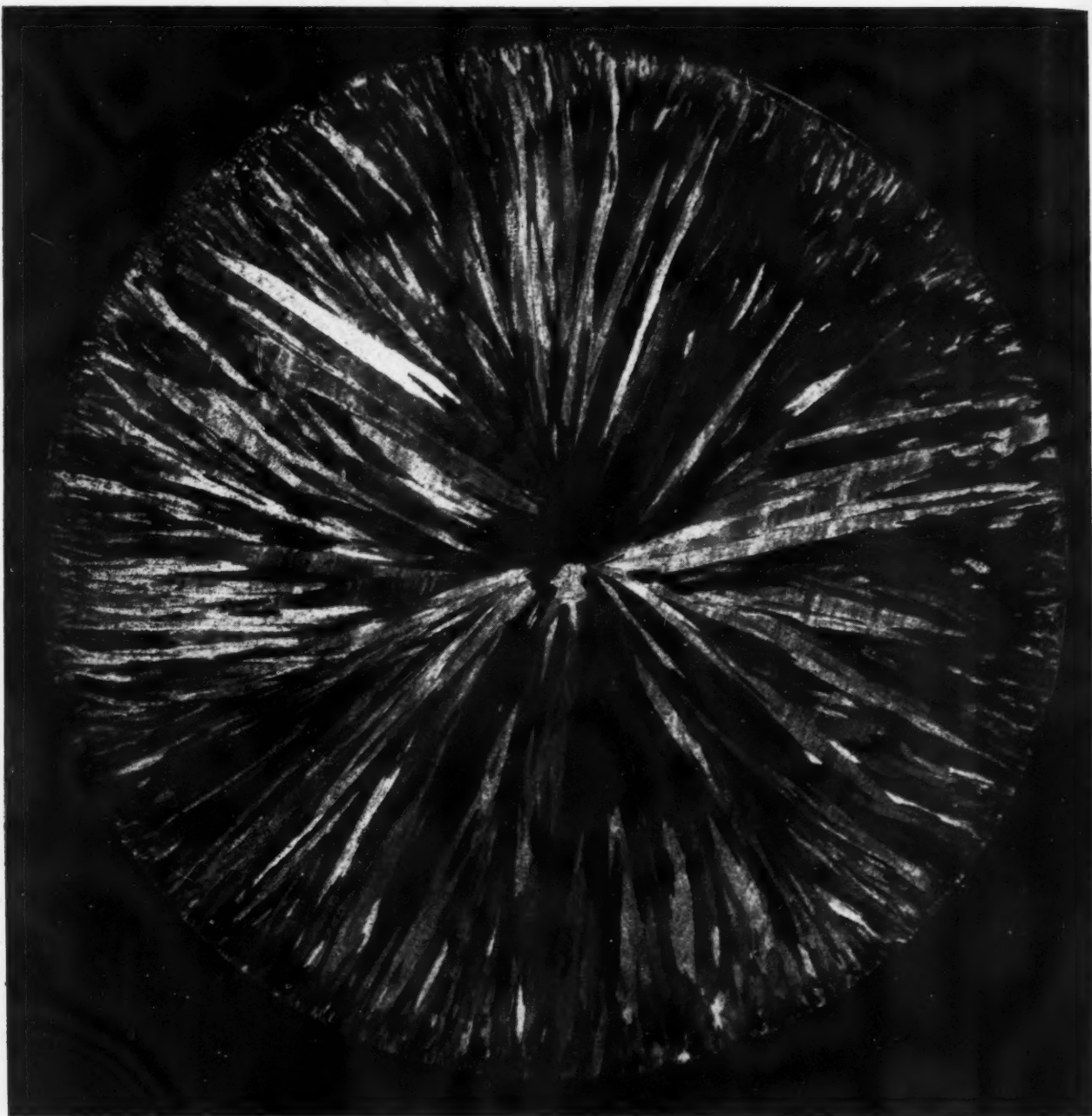
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Metal Door Frames



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TRETOL **ANTI-FREEZER**

FOR BRICKLAYING & CONCRETING IN FROSTY WEATHER

**SIMPLE IN USE—
NO ALTERATION TO
NORMAL WORKING**

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now being held in
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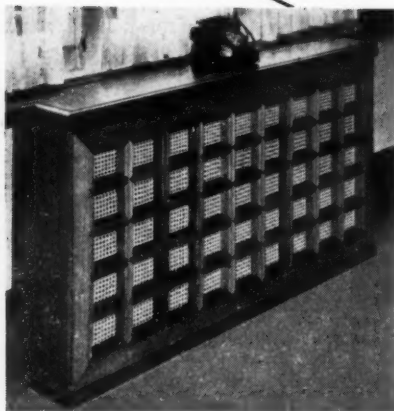


Photograph by courtesy of
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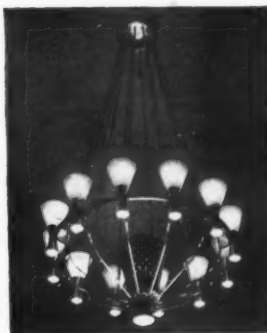
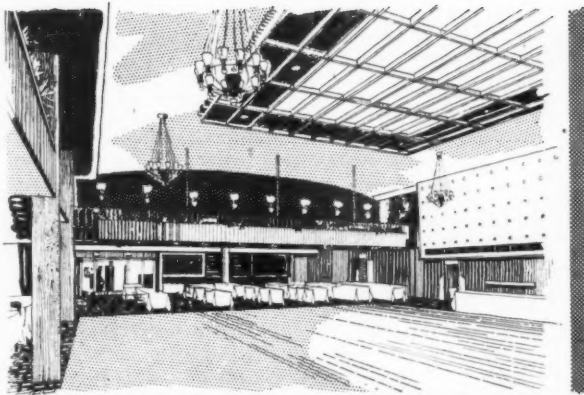


look to

Gliksten

THE FOREMOST NAME IN TIMBER

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Modern chandeliers with red hide shades and clear lamps add a final note of elegance and gaiety to the Ballroom.

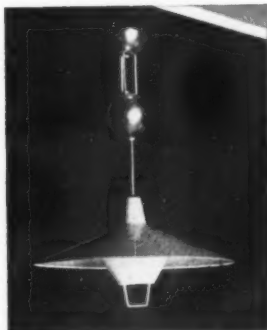
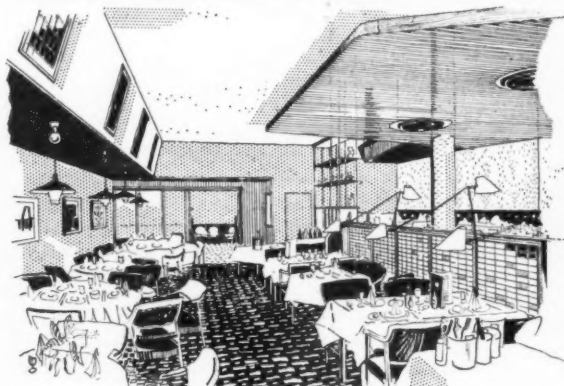
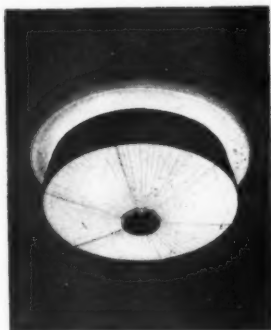
HOTEL LEOFRIC, COVENTRY

Architects: W. S. Hattrell & Partners in association with the Architects Department of Ind Coope & Allsopp Ltd.

Lighting Fittings by Troughton & Young

*The Lighting Centre,
143 Knightsbridge, London, S.W.1. KENSington 3444
Also at 46 Rodney Street, Liverpool 1.*

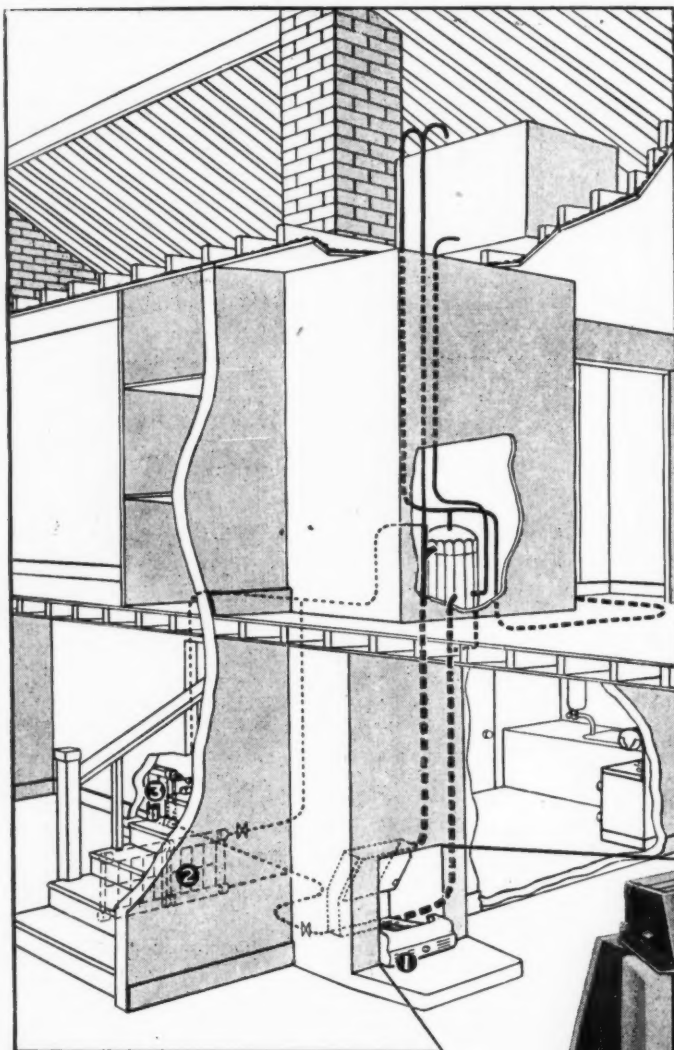
Restful lighting in the first floor Lounge is provided by ceiling fittings with pleated shades in white and red silk.



The lower balustrade lights in the Grillroom can be removed when necessary to obtain clear floor space for dancing—the suspended fittings being adjustable for the same purpose.

TROUGHTON & YOUNG (Lighting) LTD. Manufacturers of ULTRALUX, VERSALITE, MONDOLITE and TUBALUX FITTINGS

To ARCHITECTS designing Private Houses:

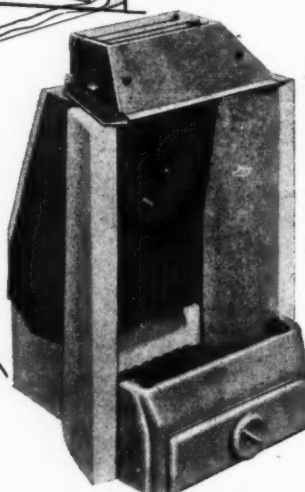


* For MORE warmth PLUS ample hot water

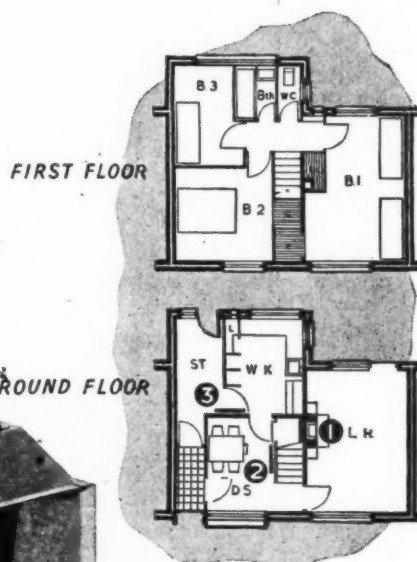
The smokeless open fire, with large back boiler, provides very greatly improved standards of comfort and is particularly suitable for "Large Living Room" and "Dining Hall" houses†. These fires will heat the whole living room, give supplementary heating up to 35 sq. ft. of radiator service including pipe run together with full domestic hot water service.

These grates are continuous-burning and when burning solid smokeless fuels are smokeless, sootless and labour-saving in addition to their outstanding efficiency and economy.

† As recommended in "Houses 1953," H.M.S.O



... install a
**SMOKELESS
OPEN FIRE**
with large
back boiler*



1. Smokeless Open Fire with large back boiler.
2. Radiator in Dining Room.
3. Radiator in Kitchen.

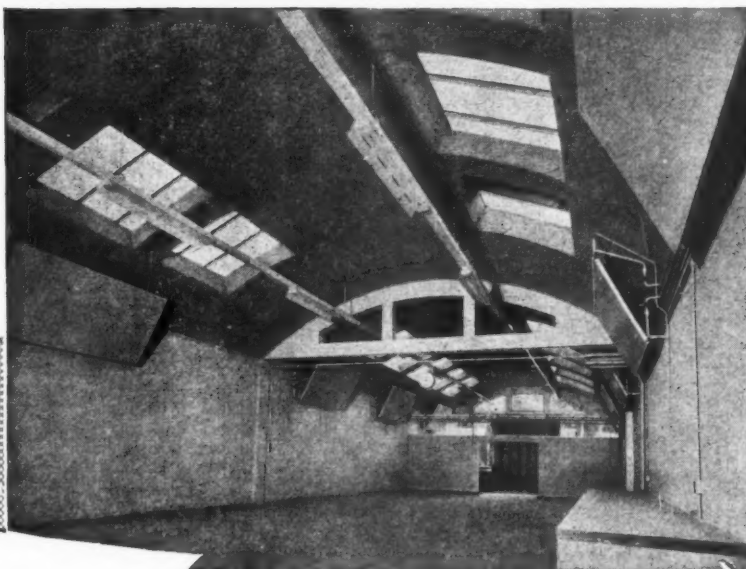
The Solid Smokeless Fuels Federation maintains a comprehensive Advisory Service which is freely available to all and welcomes every opportunity of assisting in matters relating to the use of solid smokeless fuels. For informative literature on domestic services with solid smokeless fuels, write to the address below.

s. 10 b

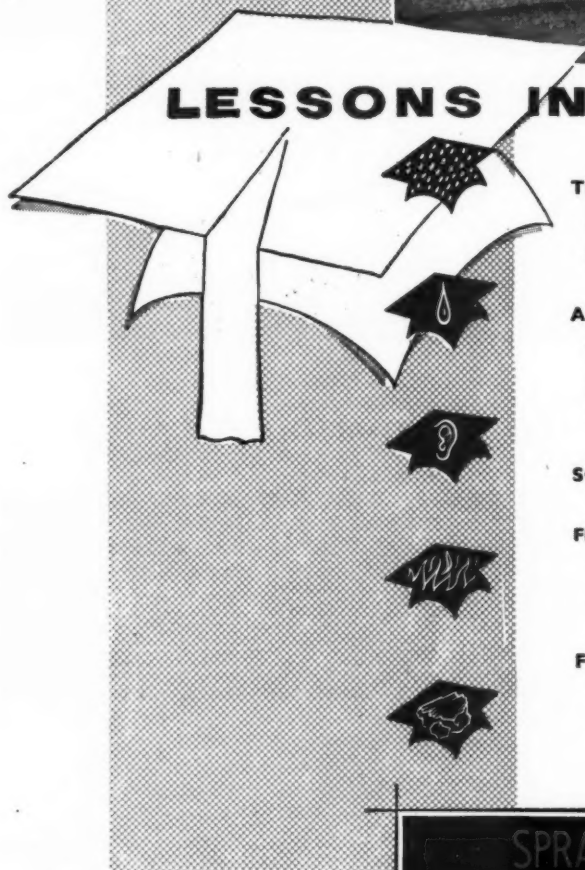
THE SOLID SMOKELESS FUELS FEDERATION, 74 GROSVENOR STREET, LONDON, W.1

The illustration shows a barrel vault roof at the College of Further Education, Oxford, where $\frac{1}{2}$ " thick Sprayed "Limpet" Asbestos has been applied to the underside of the roof and also to sides and soffits of beams.

Architect: E. G. Chandler, Esq., A.R.I.B.A., A.M.T.P.I., City Architect, Oxford.



LESSONS IN PROTECTION



THERMAL INSULATION—'k' values from 0.32 B.Th.U's sq. ft./hr./°F/in. Complies with the requirements of British Standard 1785/1951—"Thermal Insulating Materials for Buildings."

ANTI-CONDENSATION—Prevents condensation by maintaining the treated surfaces above the dew point temperature; also under peak conditions Sprayed "LIMPET" Asbestos, roughly pressed, will absorb several times its own weight of water.

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ONE APPLICATION...



MANY ADVANTAGES

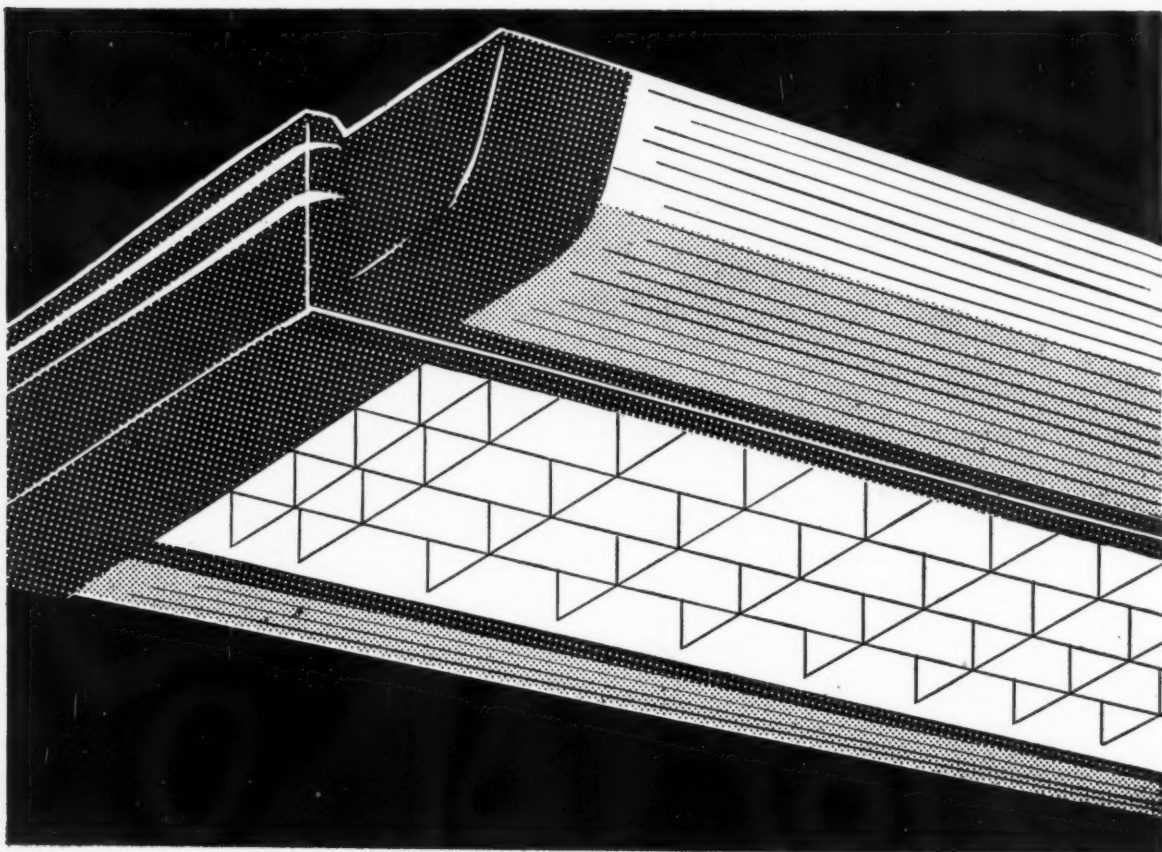
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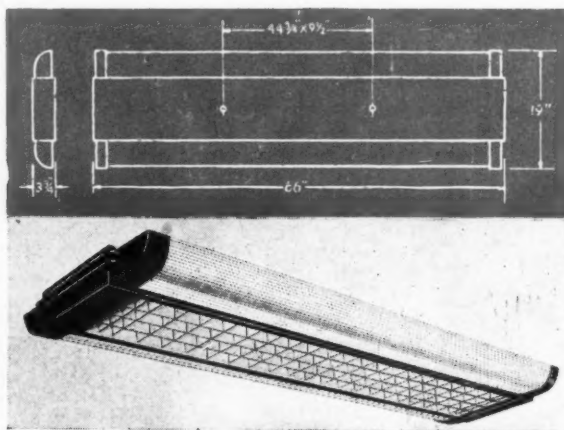
AS.6.



from the range of lighting fittings by FALKS

Arun

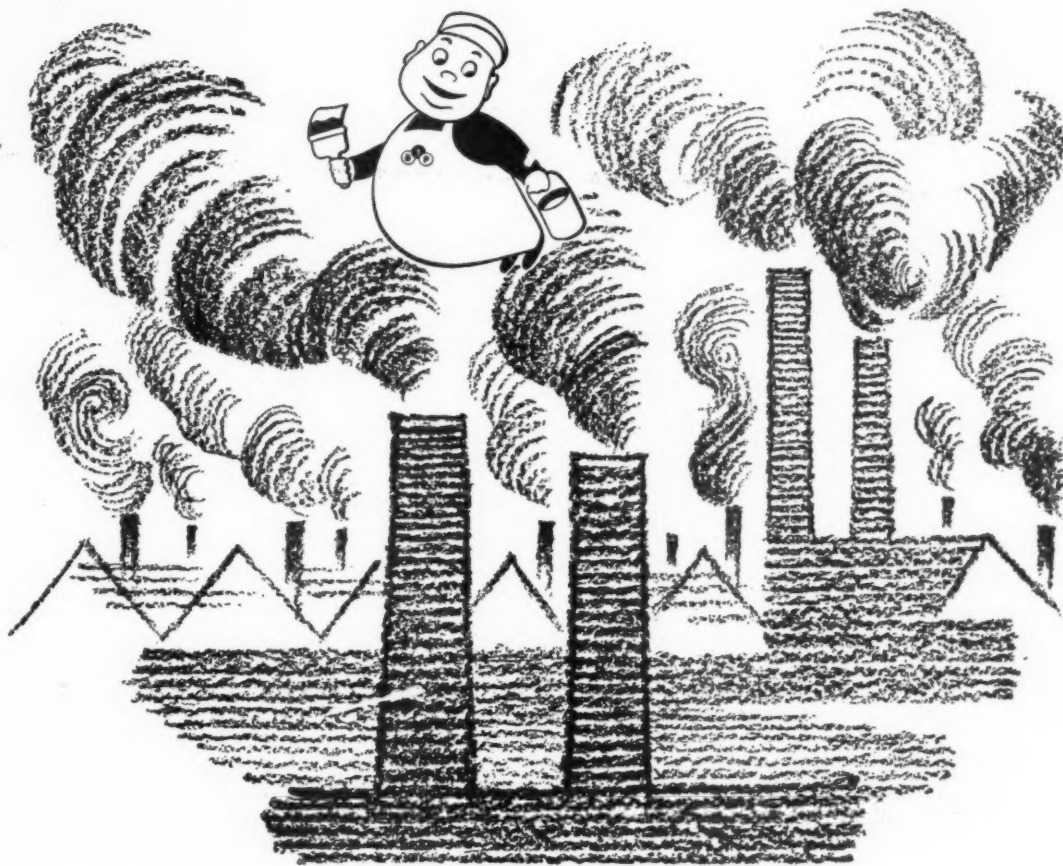
The model shown is for two-point suspension and is small in depth. When ceiling mounted this fitting has a semi recessed appearance and is a highly efficient general purpose fluorescent unit.



Lighting Engineers and Manufacturers of
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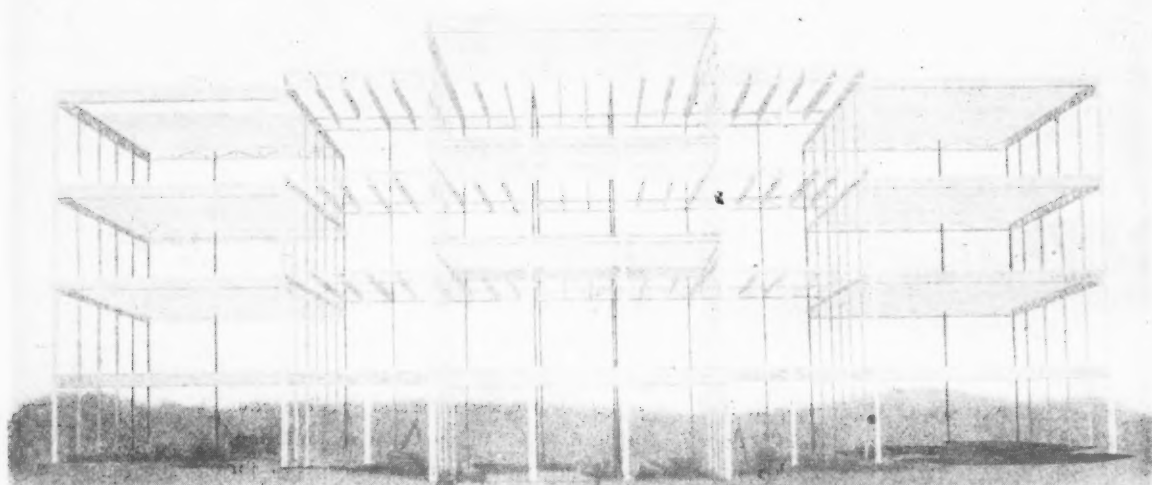
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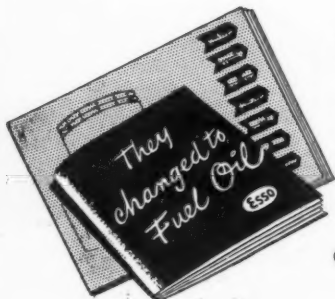
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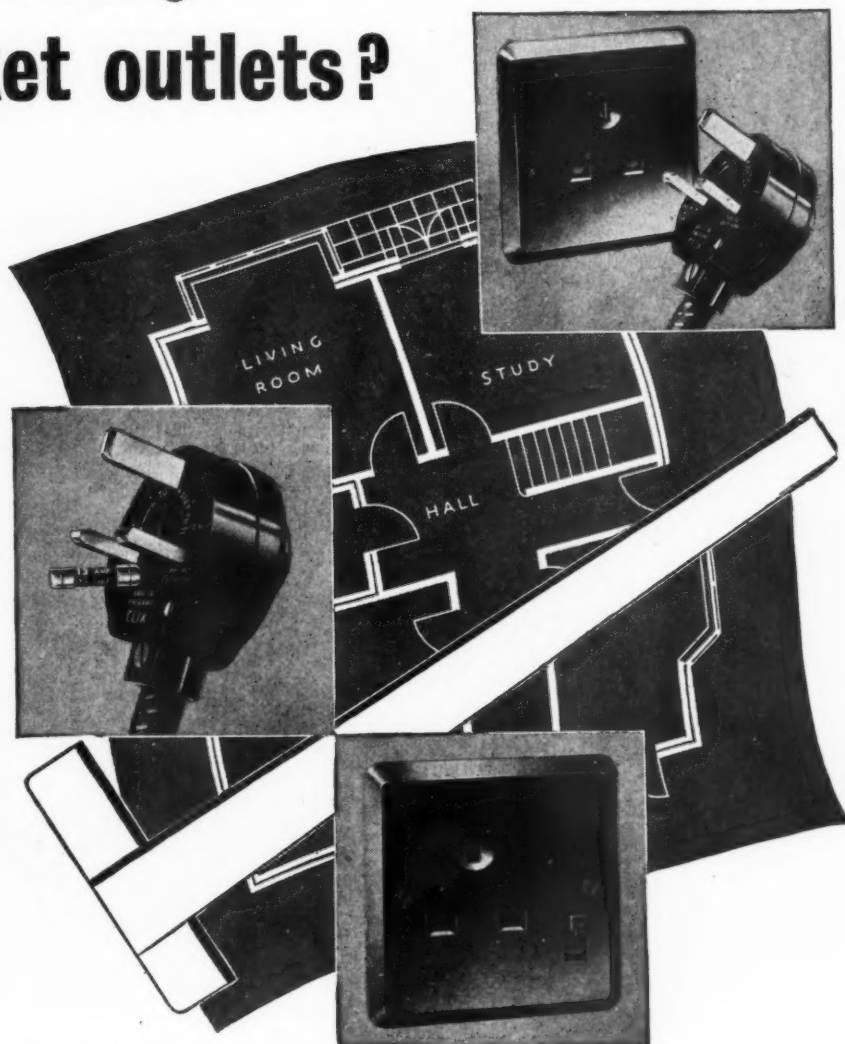


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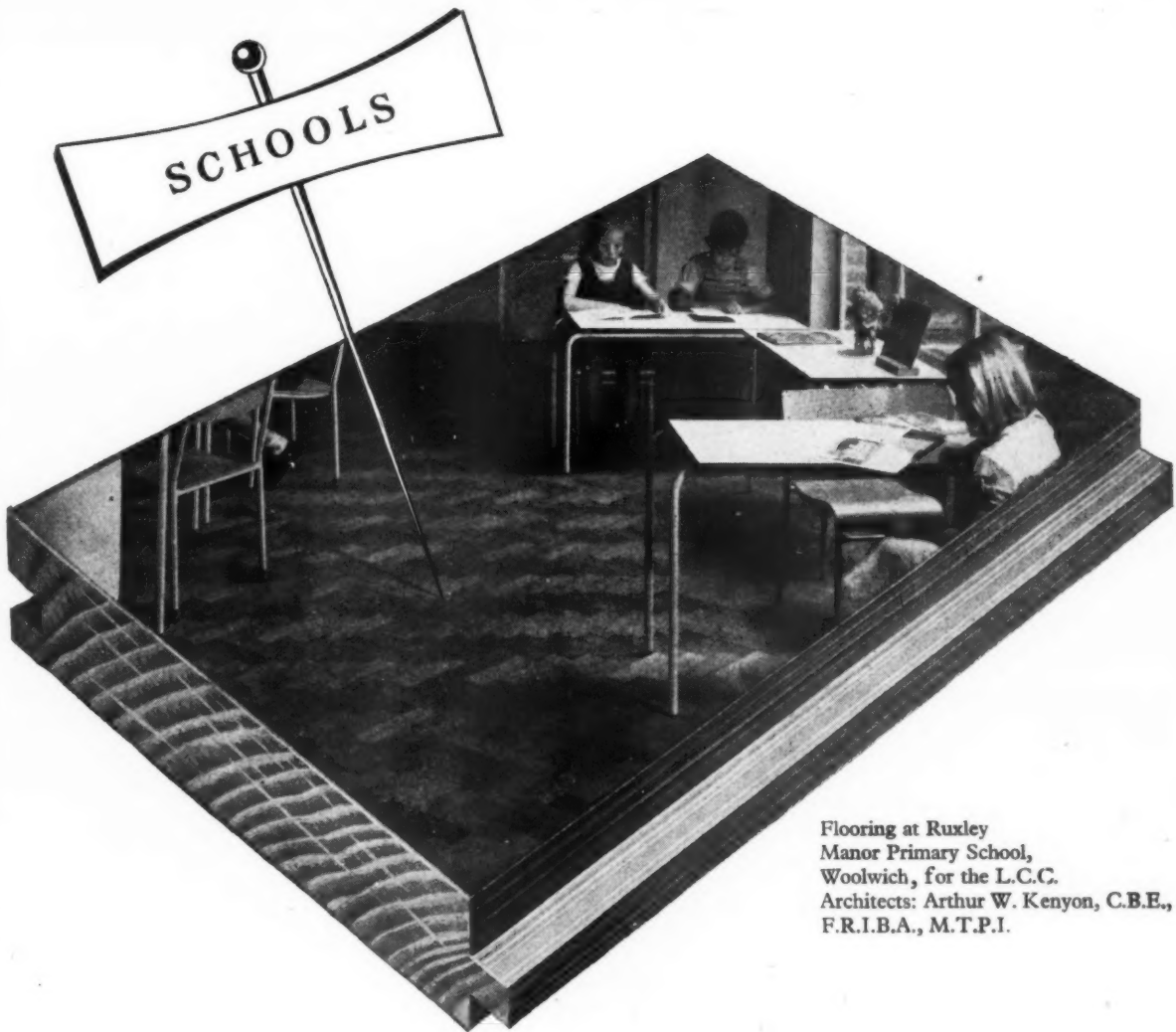
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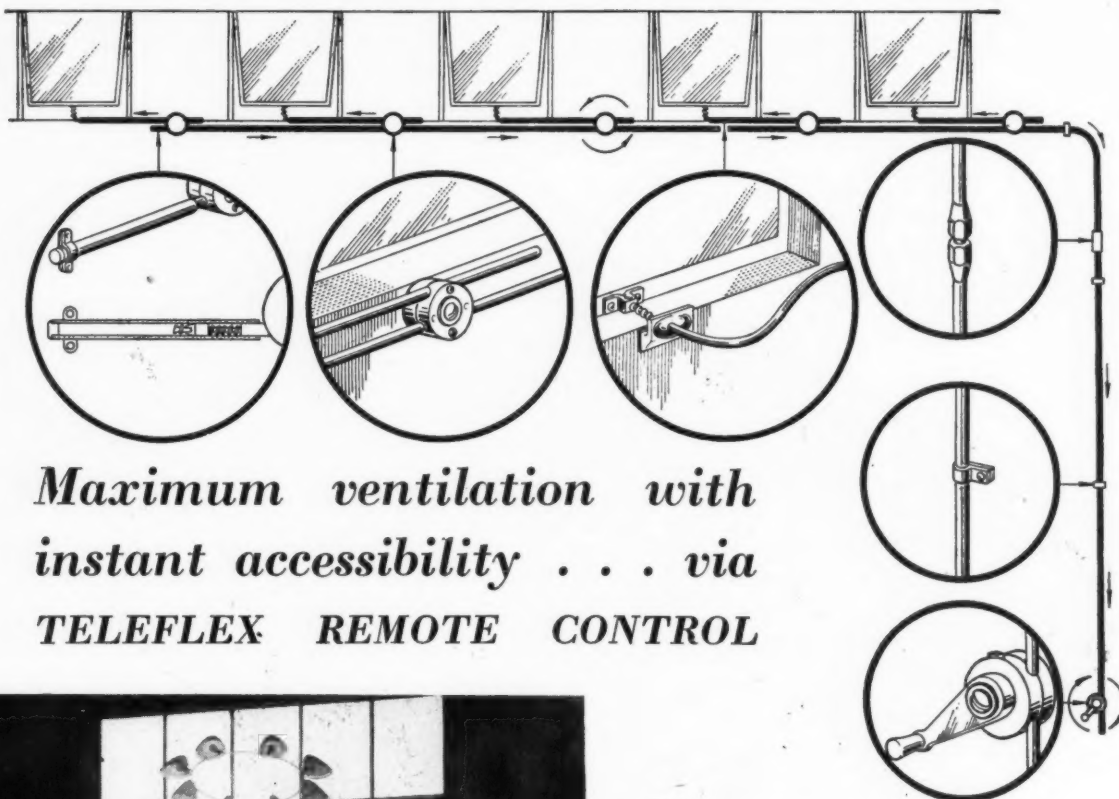
Flooring at Ruxley
Manor Primary School,
Woolwich, for the L.C.C.
Architects: Arthur W. Kenyon, C.B.E.,
F.R.I.B.A., M.T.P.I.

They chose WOOD floors

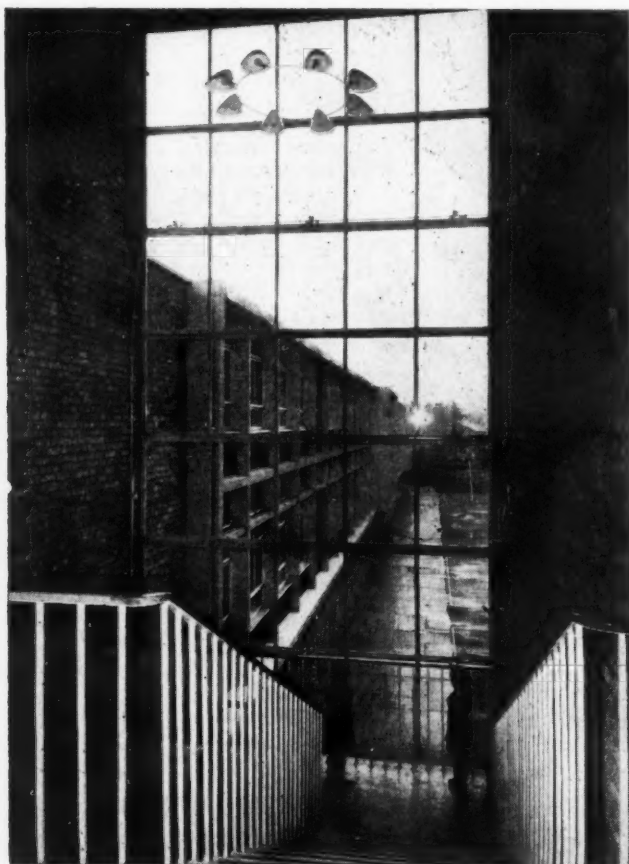
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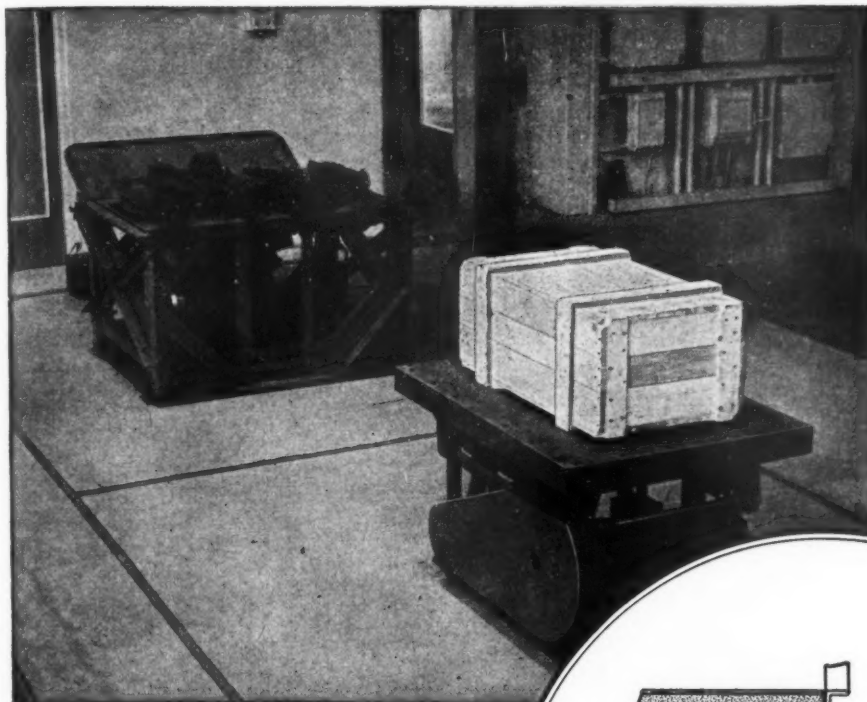
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*Teleflex Remote Control Installation by
Messrs. Williams & Williams Ltd. at
TULSE HILL PRIMARY SCHOOL
Architect: J. L. Martin, M.A.,
F.R.I.B.A., Architect to the L.C.C.
General Contractors: Messrs. J. Garrett
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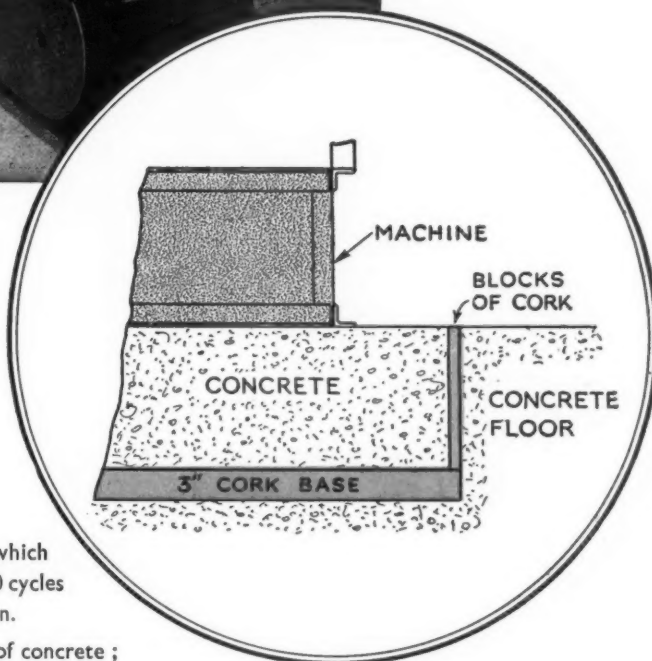
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insulation**
at Research and
Development Establishment
of E.P.S. Ltd.
at Sittingbourne

The illustration shows vibration-test equipment which can vibrate a 500 lb. case at frequencies up to 900 cycles a minute with an amplitude of plus and minus $\frac{1}{8}$ in.

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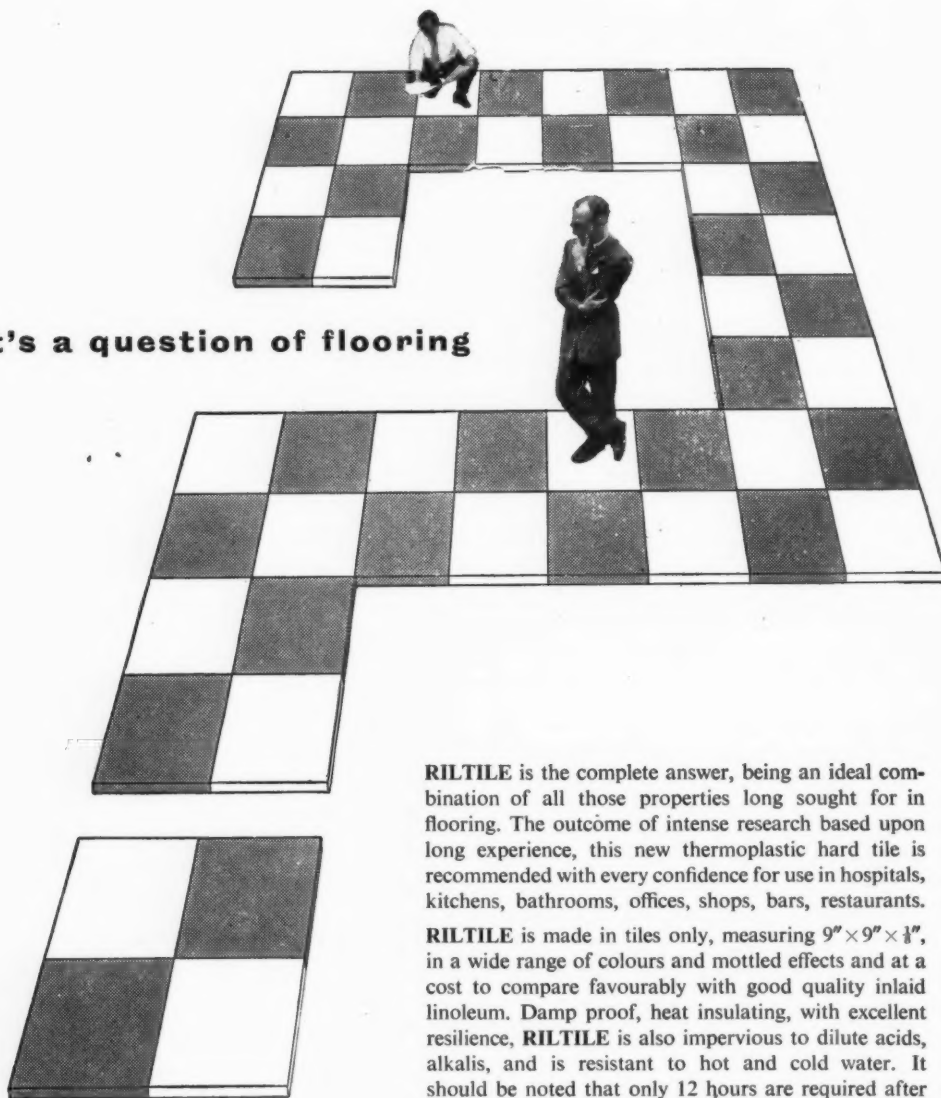
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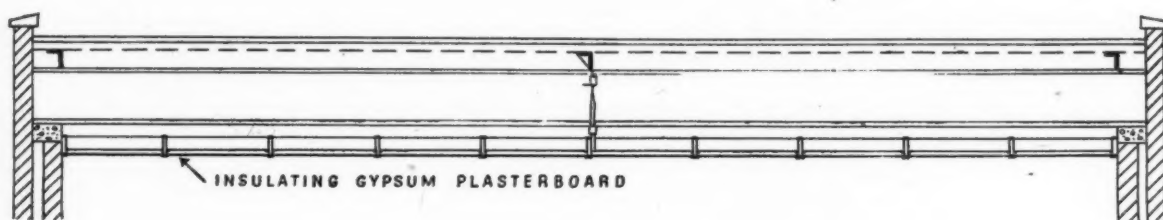
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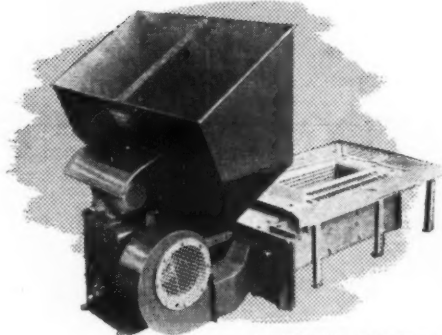
Bulletin No. 7: Fire and the Design of Schools

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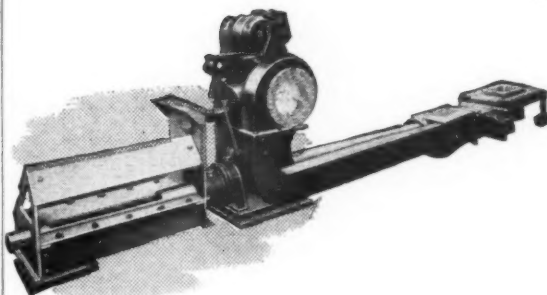
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THE BRITISH PLASTER BOARD (MANUFACTURING) LIMITED, BATH HOUSE, 82 PICCADILLY, W.1 Grosvenor 7050
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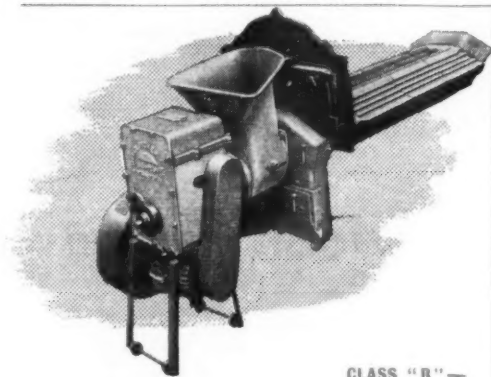
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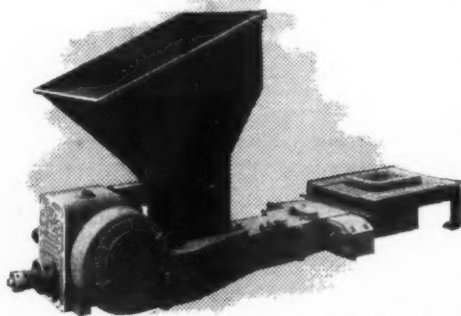
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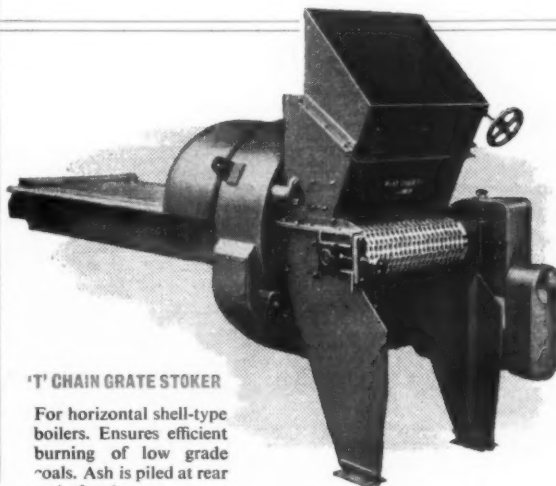
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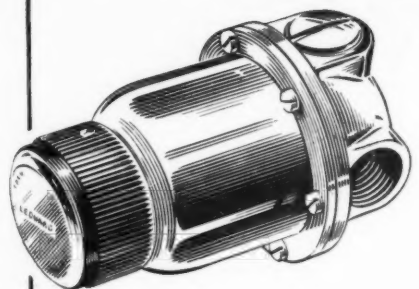
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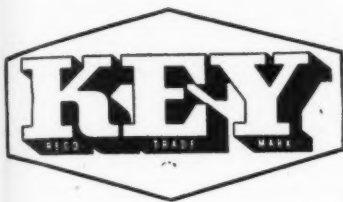
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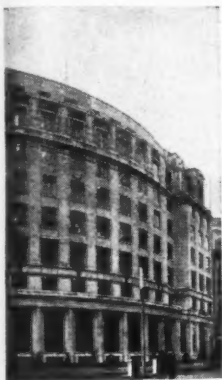
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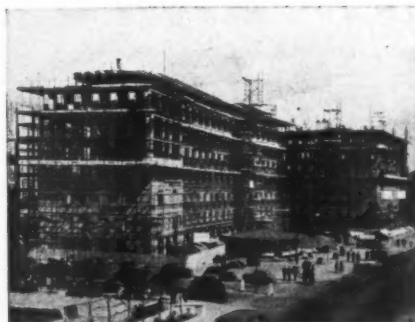
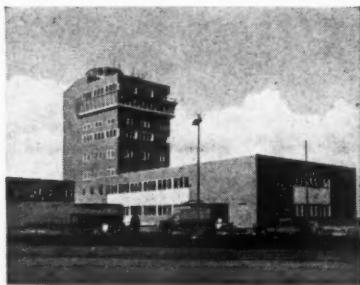
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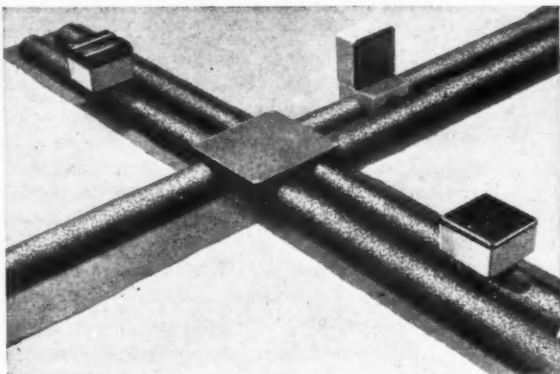


Gateway House, Cannon Street (in the course of construction). Architects: Trehearne & Norman, Preston and Partners. Contractors: Trollope & Colls Ltd.

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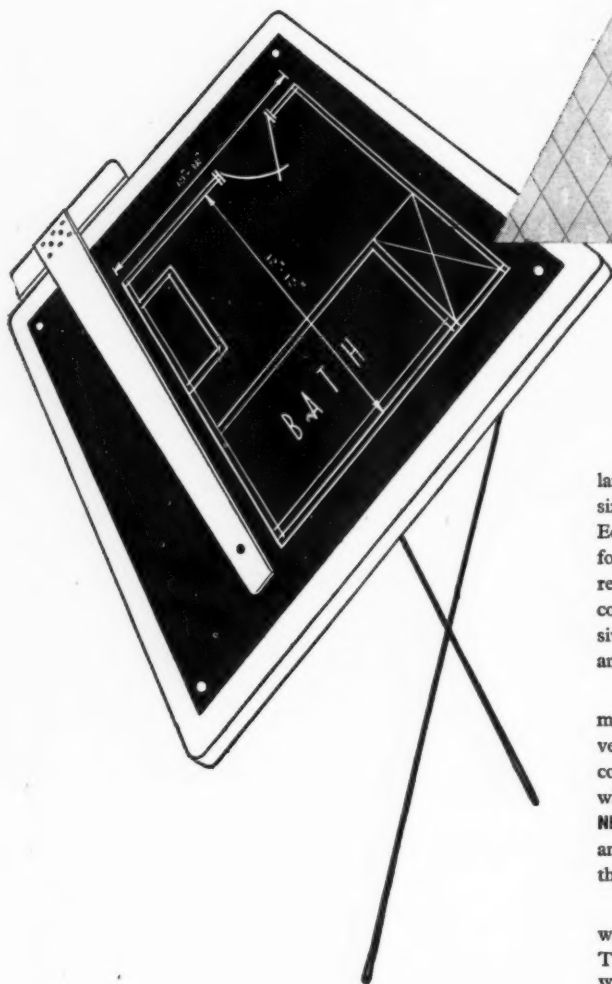
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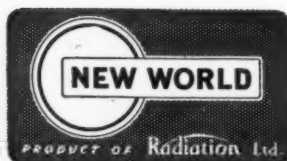
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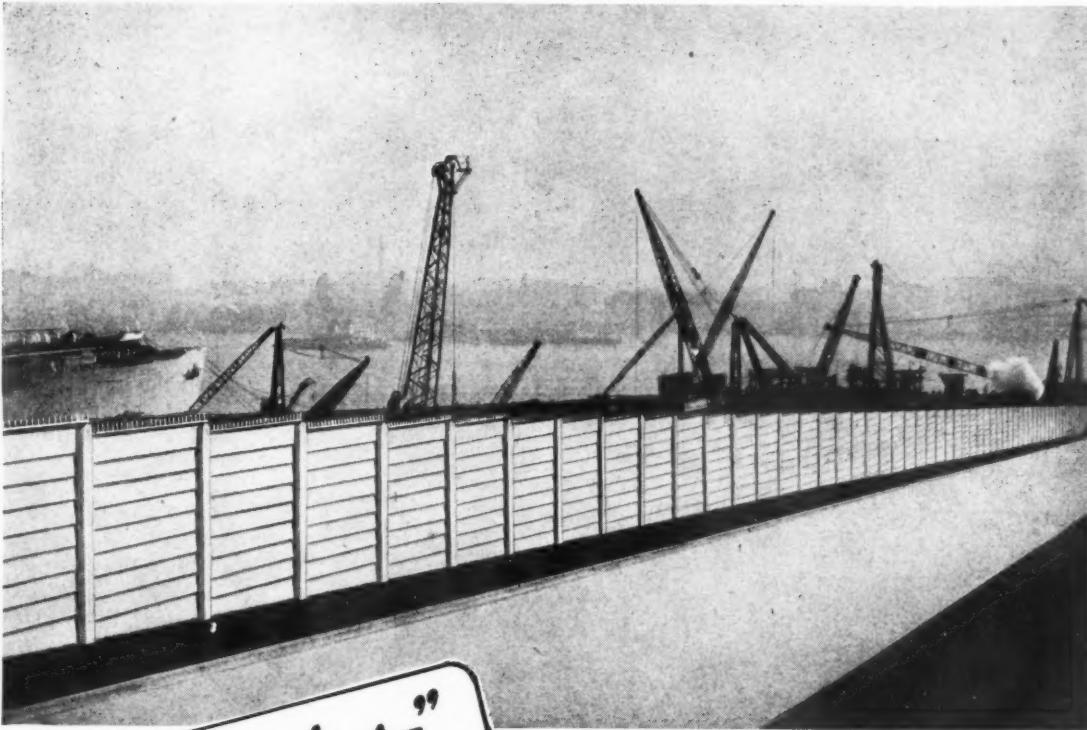
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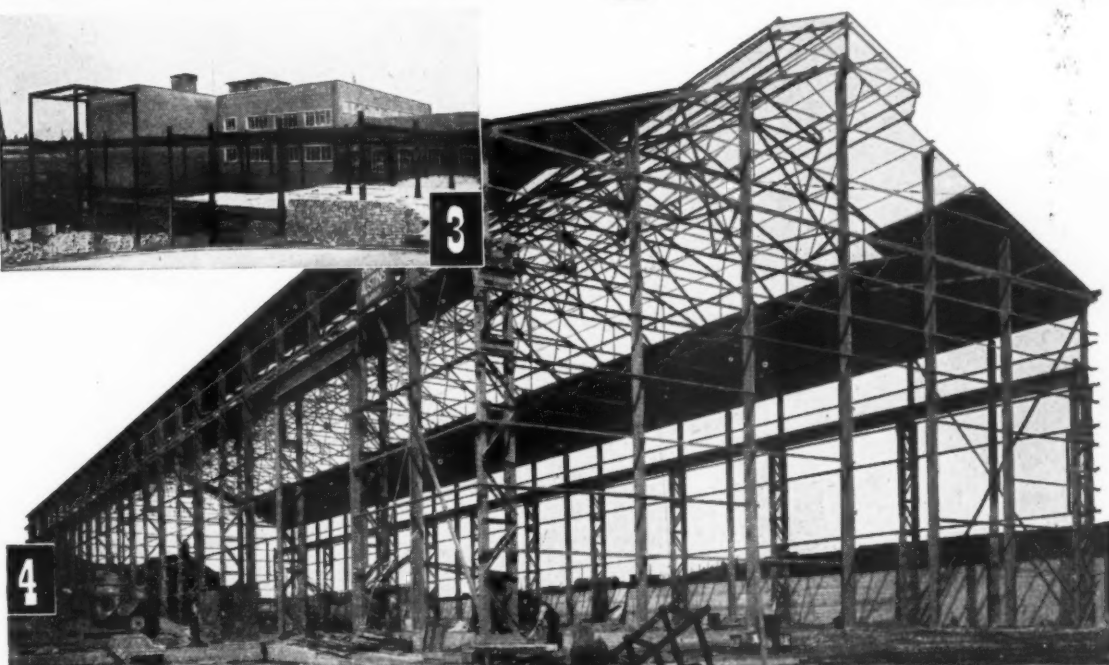
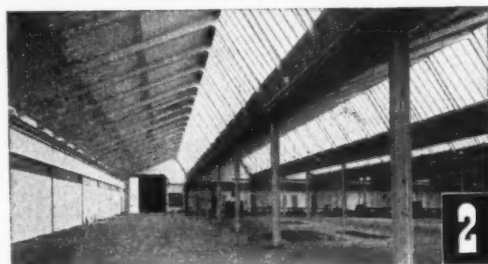
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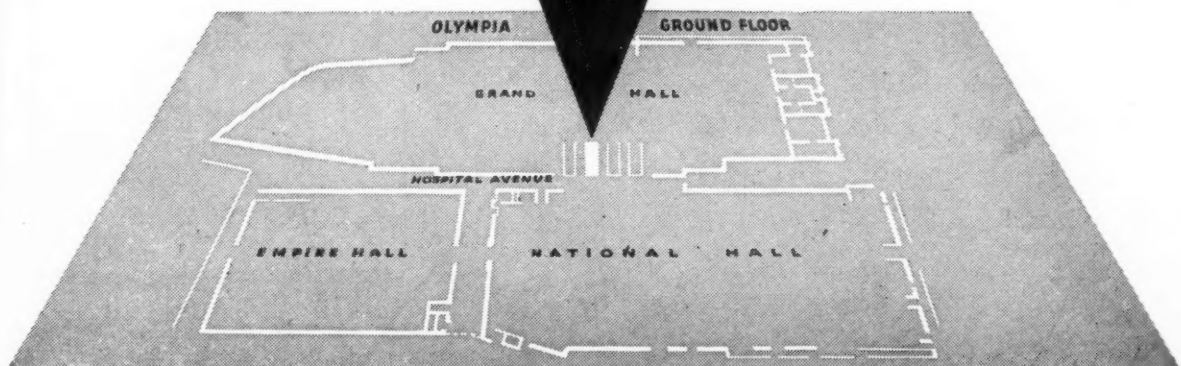
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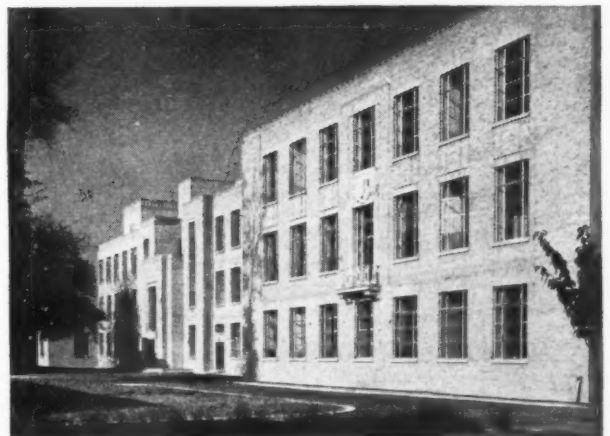
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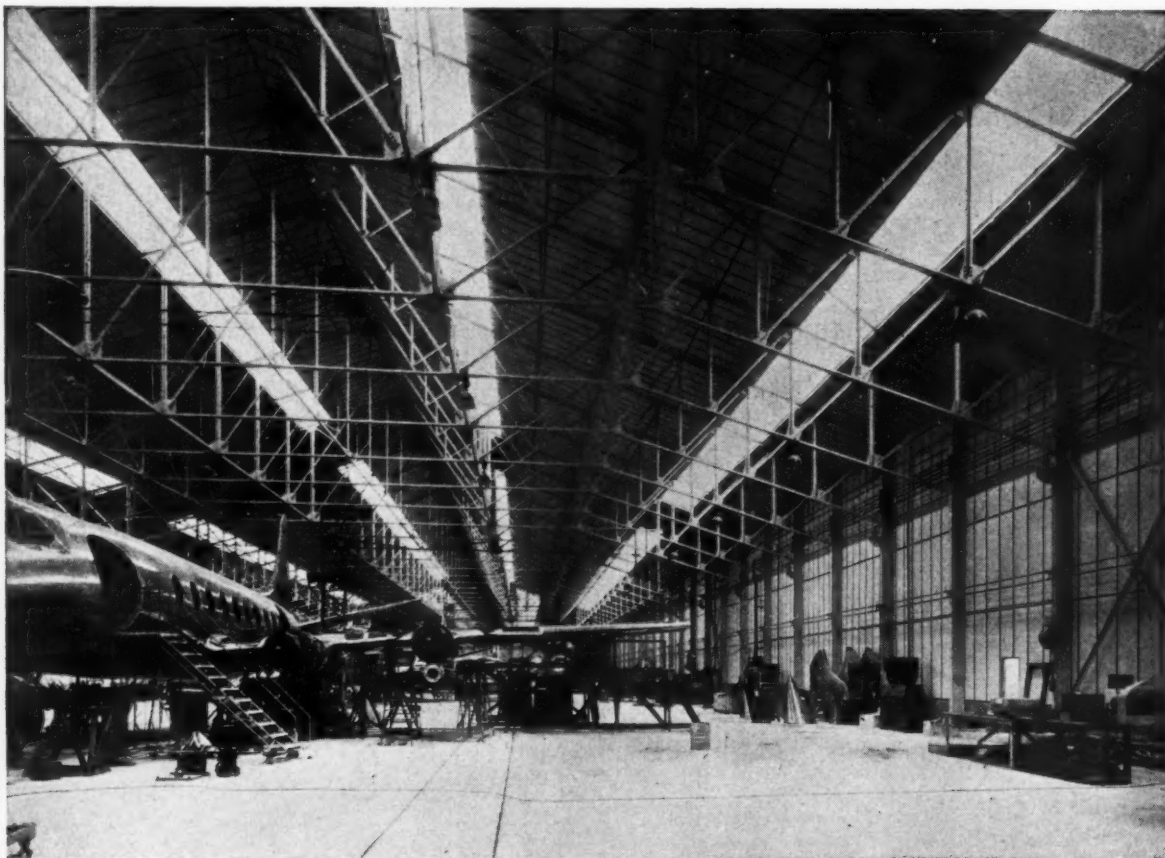
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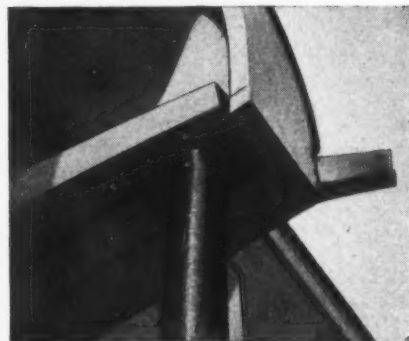
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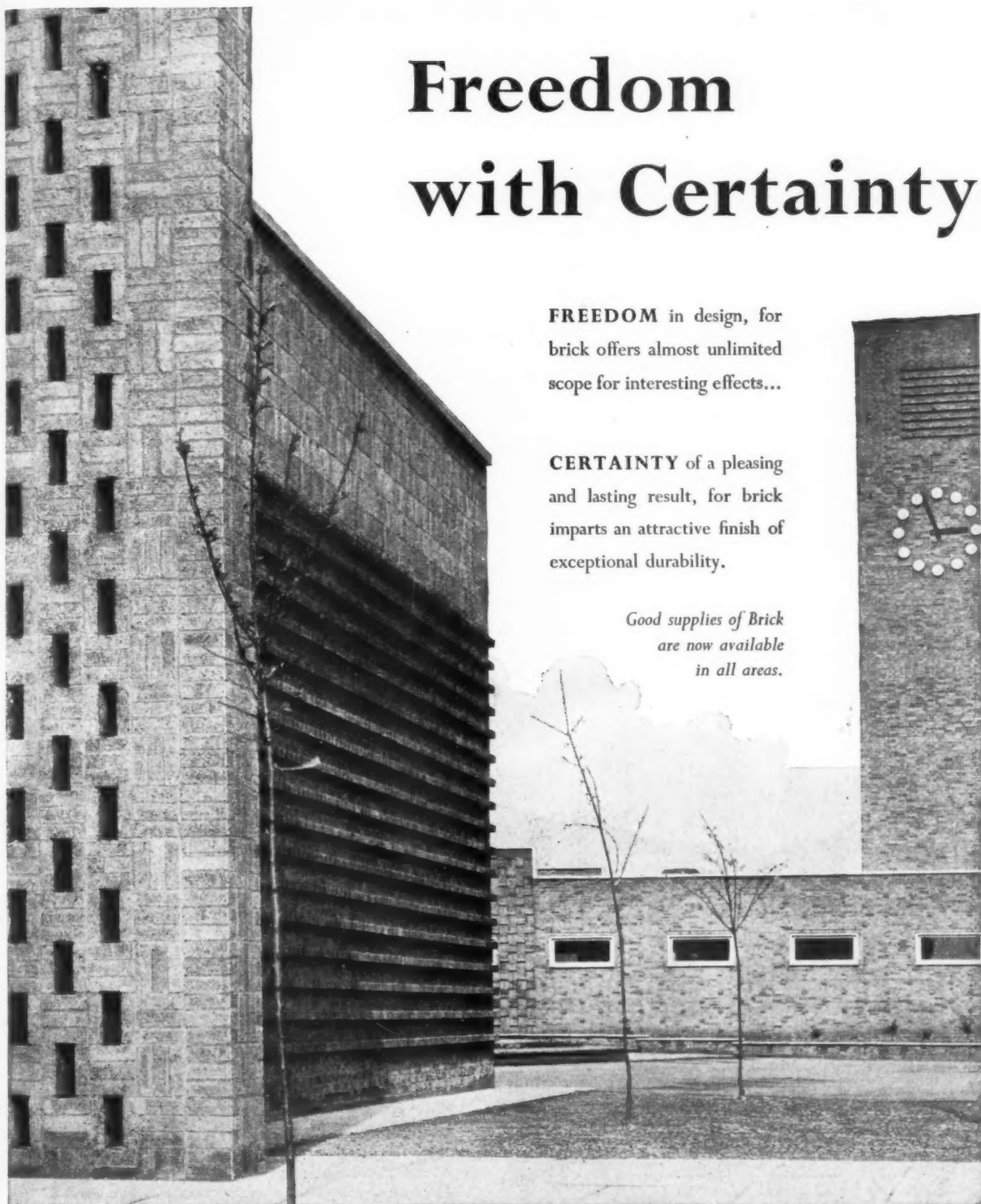
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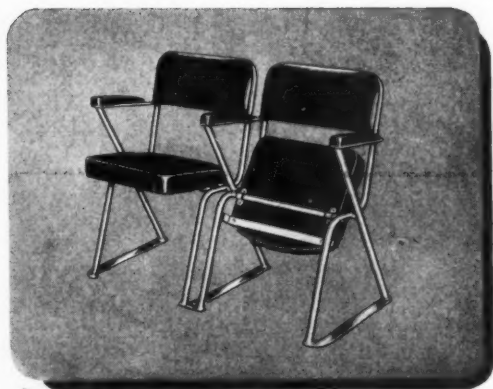
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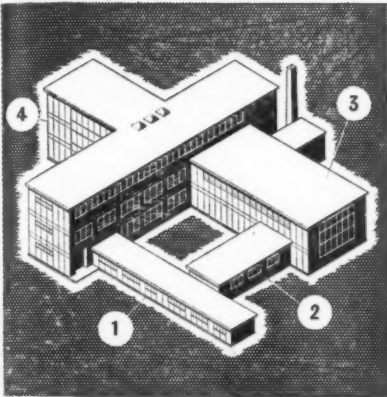
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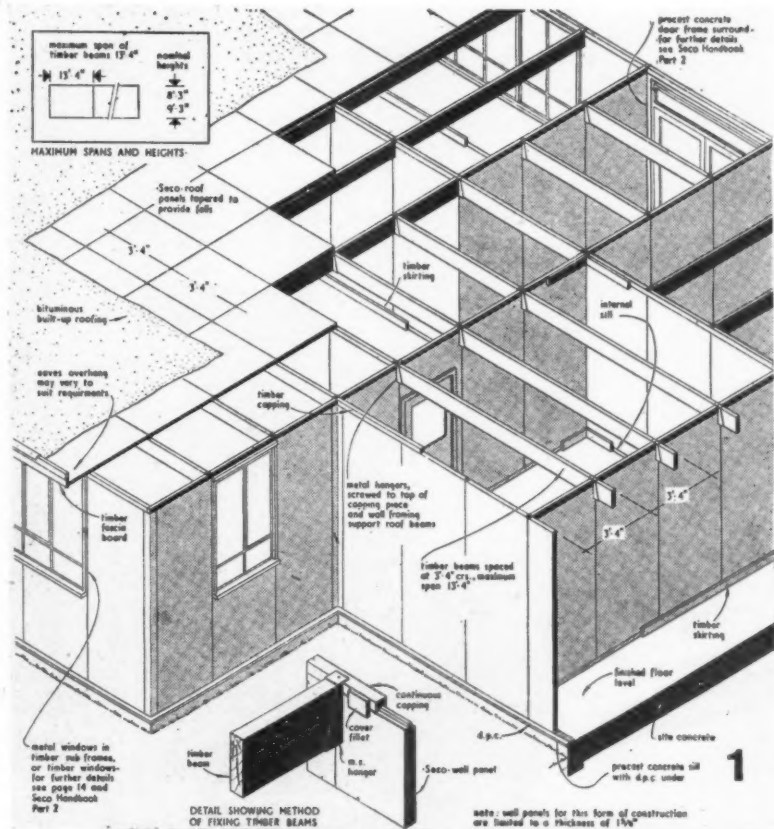
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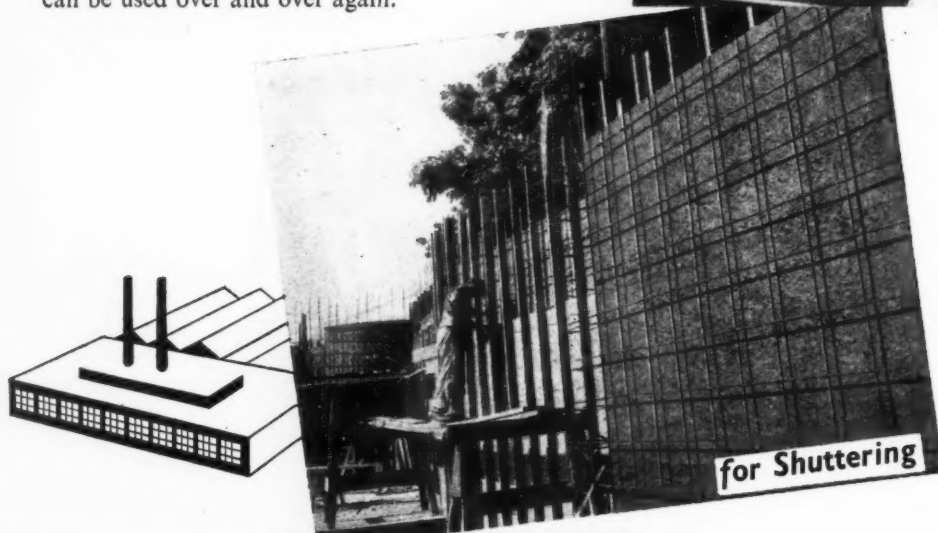
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Engineers, architects, contractors and master builders who have once used waterproof Douglas Fir Plywood continue to specify and buy this versatile material. Standard 8' x 4' panels are available in grades and thicknesses suitable for most applications—special sizes can be supplied to your order.

An excellent flooring and ideal base for linoleum or carpet. A single panel covers 32 square feet—requires less nailing—less handling.

Its high strength/weight ratio and diaphragm action will add strength and rigidity to the structure you are building.

Properly designed Douglas Fir Plywood concrete shuttering produces superior concrete finishes and can be used over and over again.



FOR FURTHER INFORMATION concerning Canadian woods contact The Commercial Secretary (Timber), Canada House, Trafalgar Sq., London, S.W.1

Canadian Douglas Fir Plywood is :

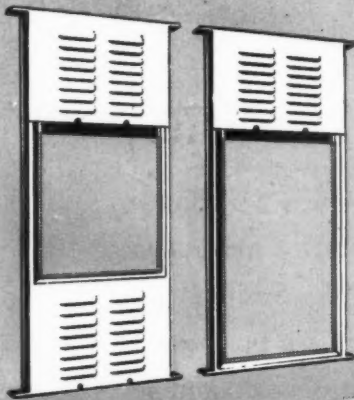
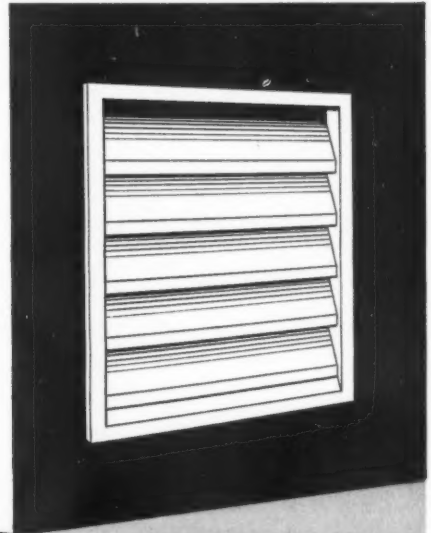
Easy to handle Speedy to use

Split-proof Dimensionally stable,

Bonded with Phenolic Formaldehyde Glue

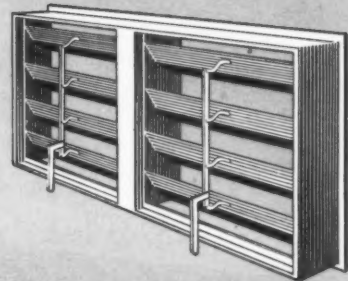
This advertisement is one of a series featuring Canadian Spruce, White Pine, Western Red Cedar, Red Pine and Pacific Coast Hemlock.

BUILDINGS MUST B-R-E-A-T-H-E



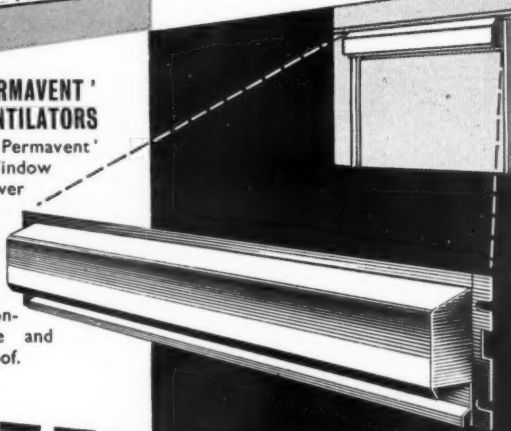
'PERMAVENT' LARGER LIGHT

A steel-framed window PLUS ventilation through weather-resisting multi-louved panels backed by insect-proof screens. The fresh-air solution for pantries, sculleries, stores, garages, farms, dairies, etc. They are made in heavy gauge hot-dipped galvanized steel and are supplied in six standard sizes and two types — with single or double louved panels.



'PERMAVENT' WINDOW VENTILATORS

Greenwood's range of 'Permavent' Patent Horizontal Window Ventilators is the answer to ventilation problems in houses, flats and schools, etc. Designed for all metal or timber windows (or doors) the units are of all steel construction, unobtrusive and thoroughly weatherproof.



LOUVRE VENTILATORS

The above are two examples of Greenwood's fixed and movable heavy duty multi-louved ventilators. Greenwood's extensive range, which include heavy and light duty ventilators in all sizes in steel or aluminium, are designed for all requirements of modern housing and industry. With mullions to form multi-bank panels the heavy duty ventilators can be specified for the largest contemporary industrial premises.



SEE OUR EXHIBIT

STAND 192H

Whatever may be your particular ventilating problem, consult Greenwood's — the specialists in all forms of ventilation for industry and housing. Fully descriptive leaflets and technical information are available on request.

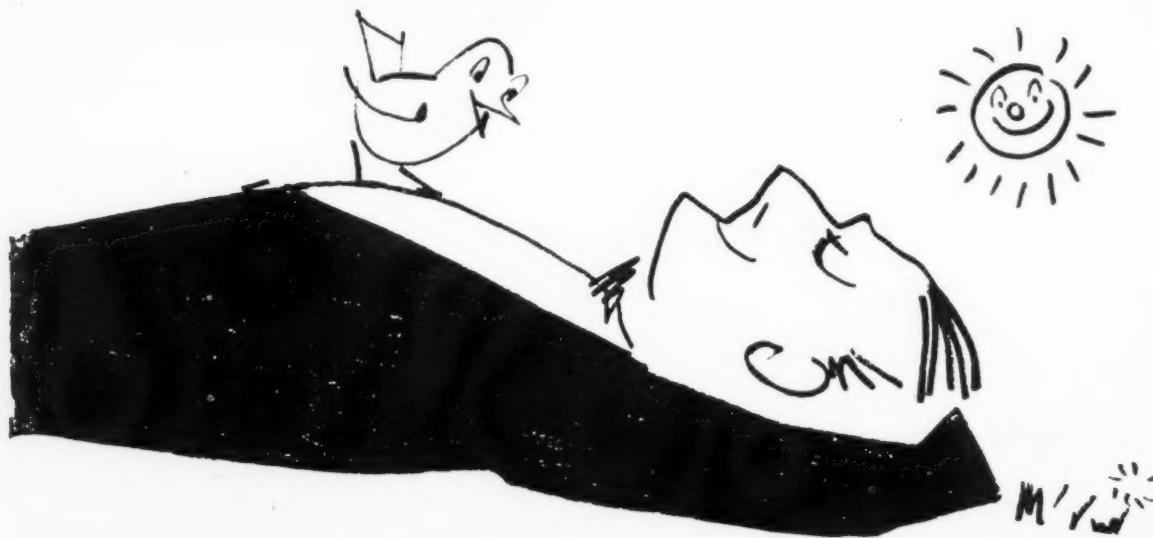


Greenwood-Airvac *ventilation*

GREENWOOD'S AND AIRVAC VENTILATING COMPANY LTD

Designers and Manufacturers of Ventilating Equipment for Buildings, Vehicles and Ships

BEACON HOUSE, KINGSWAY, LONDON, W.C.2. CHAncery 8135/6/7. "Airvac", London

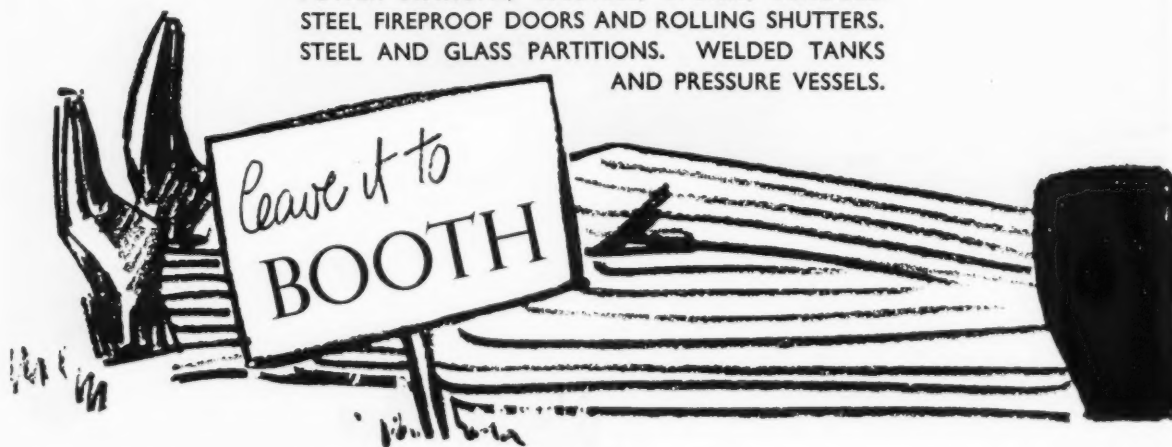


Picture of Mr. Smith extending his factory

Supine, serene, successful, and supremely happy is Mr. Smith. The problem of adding two more bays to his factory may cause anxiety to lesser mortals, but not to sagacious Mr. Smith! He succeeds in extending his legs *and* the capacity of his business at one and the same time. His decision to use steelwork and let BOOTHS get on with it* makes sure that he'll be well satisfied with the result and that his brow will remain unfurrowed.

**Mr. Brown and Mr. Robinson please copy with advantage!*

STRUCTURAL STEELWORK FOR FACTORIES, BRIDGES,
POWER STATIONS, GARAGES, STORES, SCHOOLS.
STEEL FIREPROOF DOORS AND ROLLING SHUTTERS.
STEEL AND GLASS PARTITIONS. WELDED TANKS
AND PRESSURE VESSELS.

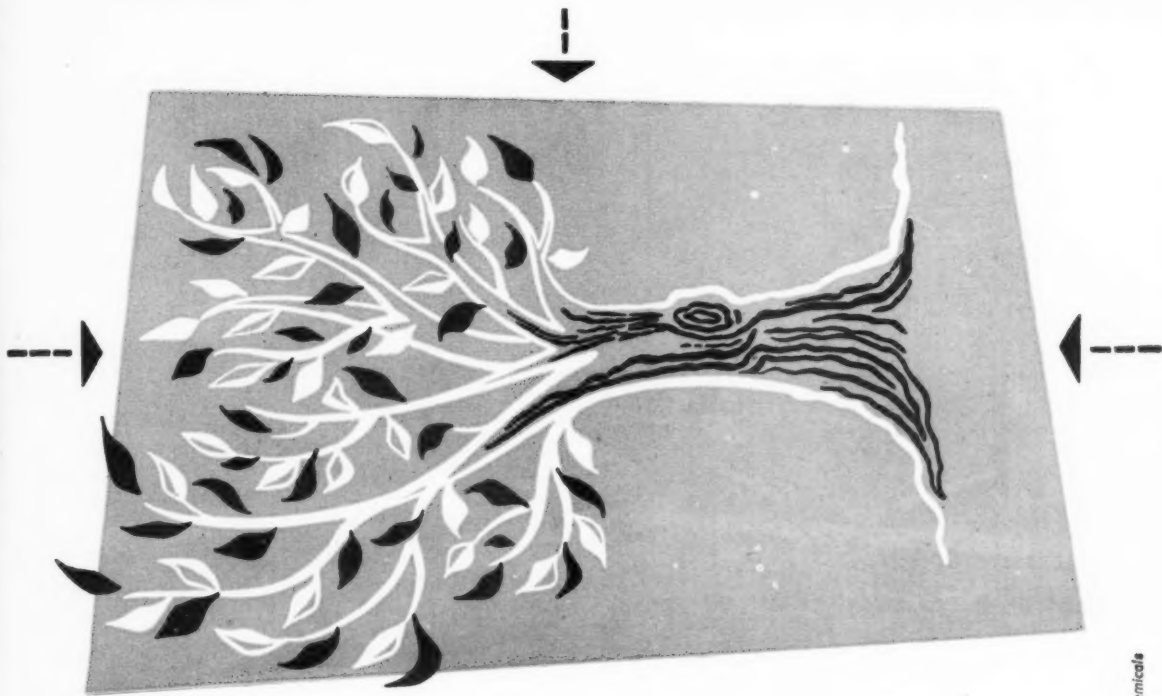


JOHN BOOTH & SONS (BOLTON) LTD., HULTON STEELWORKS, BOLTON

Telephone : BOLTON 1195

LONDON: 26 VICTORIA STREET, WESTMINSTER, S.W.1.

Telephone : ABBey 7162



now! PRESSURE treatment

Recently introduced to this country, new pressure impregnation facilities enable you to specify timber pressure-treated with Monsanto's famous Penta. Among the many advantages of Penta treatment, these are specially significant:

1. In Penta-treated timber, dimensional changes are negligible.
2. Less leaching — safer in ground contact.

for structural timber →
with Monsanto's Penta

3. Penta-treated timber is clean to handle, non-staining.
4. Penta-treated timber can be painted.
5. Penta is chemically stable, has negligible volatility, and is virtually insoluble in water.

(Pressure impregnation can now be carried out by Hurt, Boulton & Haywood, Ltd.)

Monsanto's range of pentachlorophenol preservatives also includes SANTOBRITE*, the sodium salt of pentachlorophenol; this water-soluble preservative is especially useful in the control of sapstain in newly-converted timber. Write for full information

*Registered Trade Mark



MONSANTO CHEMICALS LIMITED

328 Victoria Station House, Victoria Street, London, S.W.1 and at Royal Exchange, Manchester, 2.

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

Easy-to-Install



One hundred and twenty 48" Brooks fan-powered Roof Extract Units are being installed at this vast new plant, each exhausting approximately 24,000 cubic feet of air per minute.

The special feature of this project is the installation of the Roof Extract Units as the steel work erection progresses.

Each 48" Brooks Roof Extract Unit, bolted to angle trimmers, is hoisted into position on roof steelwork with weathering apron raised.

When roof decking and felting is completed, weathering apron is lowered to final position over felted upstand, thus forming a perfect weathering installation without damaging roof.

The following famous organisations are users of our equipment:

English Electric • de Havilland Aircraft
Marks & Spencer • A.P.V. • Associated
Ethyl • Fisons • ICI • Hotpoint • British
Petroleum • General Electric • London
Transport • Dowty Equipment • Vauxhall
Motors • W. & T. Avery • Bristol Aeroplane
Co. • British Railways • Commer Cars
United Dairies • Tootal Broadhurst Lee
Huntley & Palmers • Mullards • Paton &
Baldwins • London Airport • Allied Bakeries
Standard Telephone & Cables • etc., etc.

★ FOR URGENT SERVICE, STANDARD FAN-POWERED UNITS CAN BE DESPATCHED WITHIN 7 DAYS.

BROOKS

fan-powered

VENTILATION UNITS

BROOKS VENTILATION UNITS LIMITED
TRAFALGAR HOUSE • GREAT NEWPORT STREET • LONDON • WC.2 • Tel: COVent Garden 1355-1356



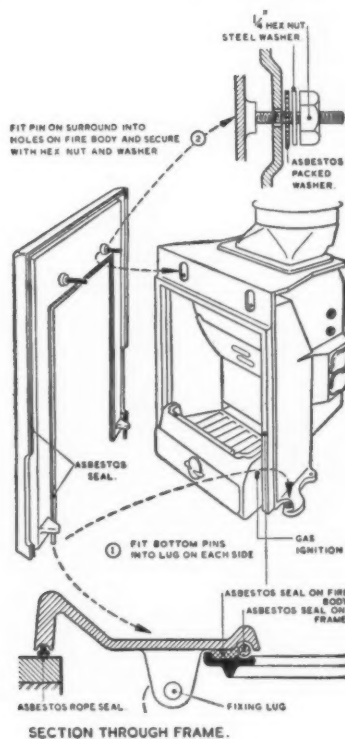


Elegant new convector surround for the high output MARVEC fire

The Marvec heats up to 2,500 cu. ft. by radiation and convection and—if it is needed—will heat the water too.



For further details of the Marvec Fire
write to the Housing Division of:—



The **NEW CONVECTOR SURROUND** is far and away more pleasing to look at than the usual hot air grilles. From the illustration (left) you will see that the new surround is an extremely neat frame which does away with the necessity for grilles: its removal allows access to the flue adaptor and convection chamber.

The surround, for use with boiler or non-boiler models of the Marvec, is fitted after the tile surround is in position, thus making installation exceptionally easy.

If the air for the convection chamber is required to be taken from outside the room in which the fire is fixed, the Convector surround can be supplied without the cut-outs in the return of the jambs.

SPACE HEATING CAPACITY

Using the convector surround to introduce convected air to the same room, 2,250 cu.ft. can be heated (or 2,500 cu.ft. with the non-boiler model). If convected air is used for warming other rooms, full heating up to 1,750 cu.ft. is provided, and background warmth for other rooms up to a total of 2,000 cu.ft.

Note: These figures apply to rooms of normal construction.

BOILER OUTPUT

Provided the system is compact the boiler can heat a towel rail in addition to supplying domestic hot water, or alternatively 45 sq. ft. of radiation surface (including unlagged piping) can be heated.

The fuel saving RESTRICTABLE THROAT

... a curved plate in the flue outlet, adjustable so that chimney throat can be wide or narrow, effectively controls room ventilation, saving heat and eliminating draughts.

ALLIED IRONFOUNDERS LTD

Makers of cookers, boilers, fires and baths

28 Brook Street, London, W.1.



GLASS in Hotel Bathrooms

In London's newest hotel—the American operated Westbury—

'VITROLITE' FACING

provides an

**IMMACULATE & PERMANENT
FINISH**

With walls as lustrous and impervious as bath and basin, a bathroom faced with 'Vitrolite' is not only a joy to the eye; it is an assurance of complete freedom from maintenance. 'Vitrolite' is unaffected by moisture, grease, grime and chemicals, **WILL NOT BLISTER OR PEEL**, and cannot be defaced with pen or pencil. It is available in White, Black, Green, Green Agate, Ivory, Primrose, Turquoise, Pearl Grey, Eggshell and Cream.



Architect: Michael Rosenauer,
F.R.I.B.A.
Contractors: G.I.E. Wallis & Sons Ltd.

Clark-Eaton offer full technical service in the preparation of schemes, and teams of skilled fixers are available to undertake complete installations.

Please send enquiries or ask for **ILLUSTRATED BOOKLET.**

JAMES CLARK & EATON, L^{TD}

SCORESBY HOUSE, GLASSHILL STREET, BLACKFRIARS, LONDON, S.E.1.

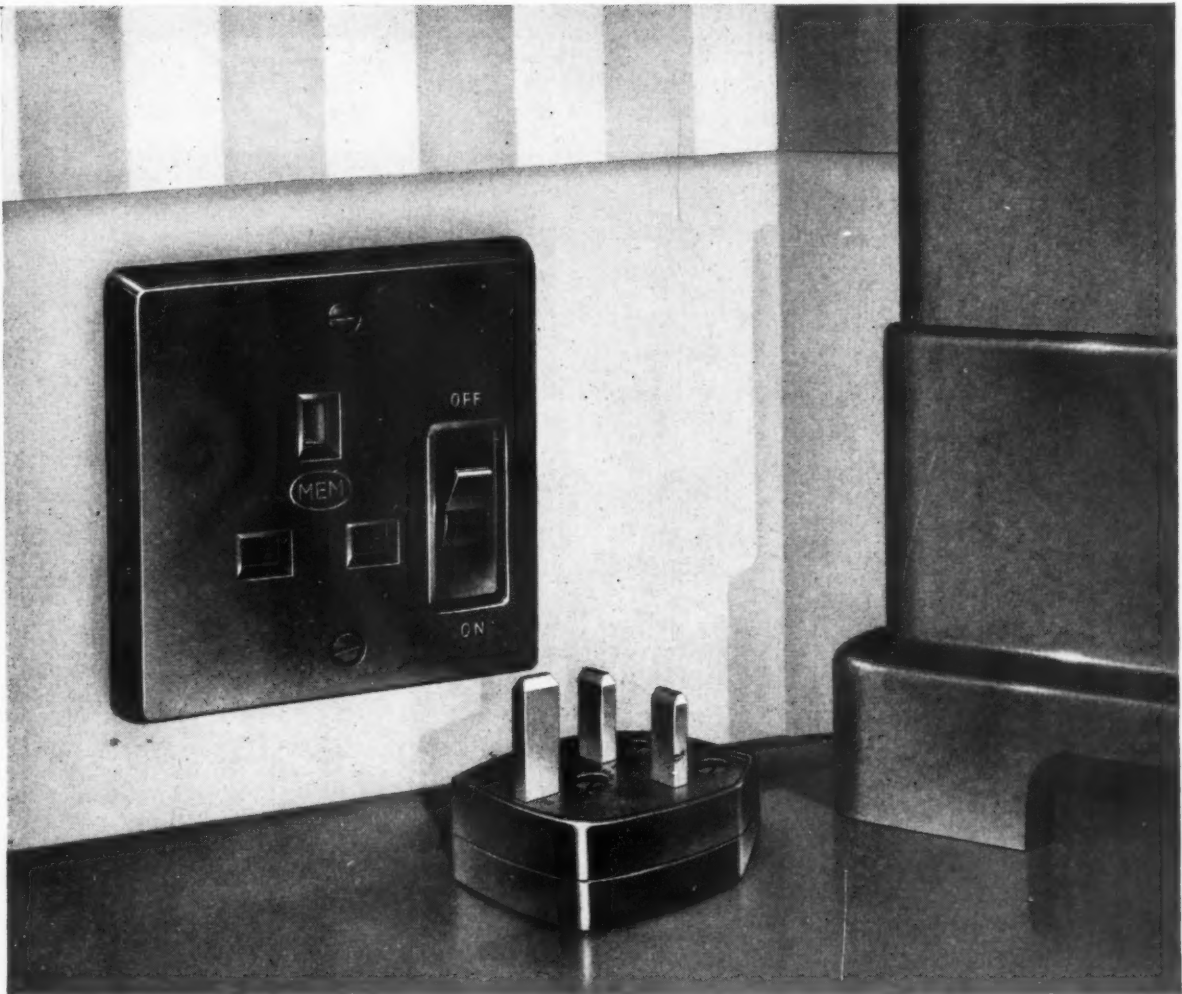
Telephone: WATerloo 8010 (20 lines)

CANTERBURY • BOURNEMOUTH • EASTBOURNE • READING • OXFORD



SEE OUR
EXHIBIT AT
THE BUILDING
CENTRE

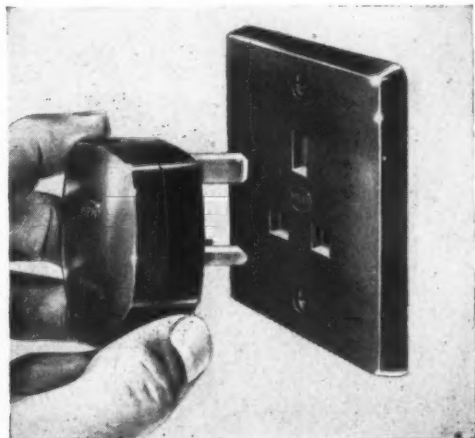
CENTENARY YEAR 1855-1955



Plug in to lasting quality and switch to lower prices

Look what you get in MEM fused plugs and sockets to B.S.1363. A shutter that will open only when all three pins are inserted together. Porcelain socket base that prevents tracking. And a plug design that allows all three leads to be cut to the same length. You'd choose them for quality alone. But like every other MEM product, they also offer more for your money.

The range includes switched and unswitched sockets and plugs in brown or ivory.

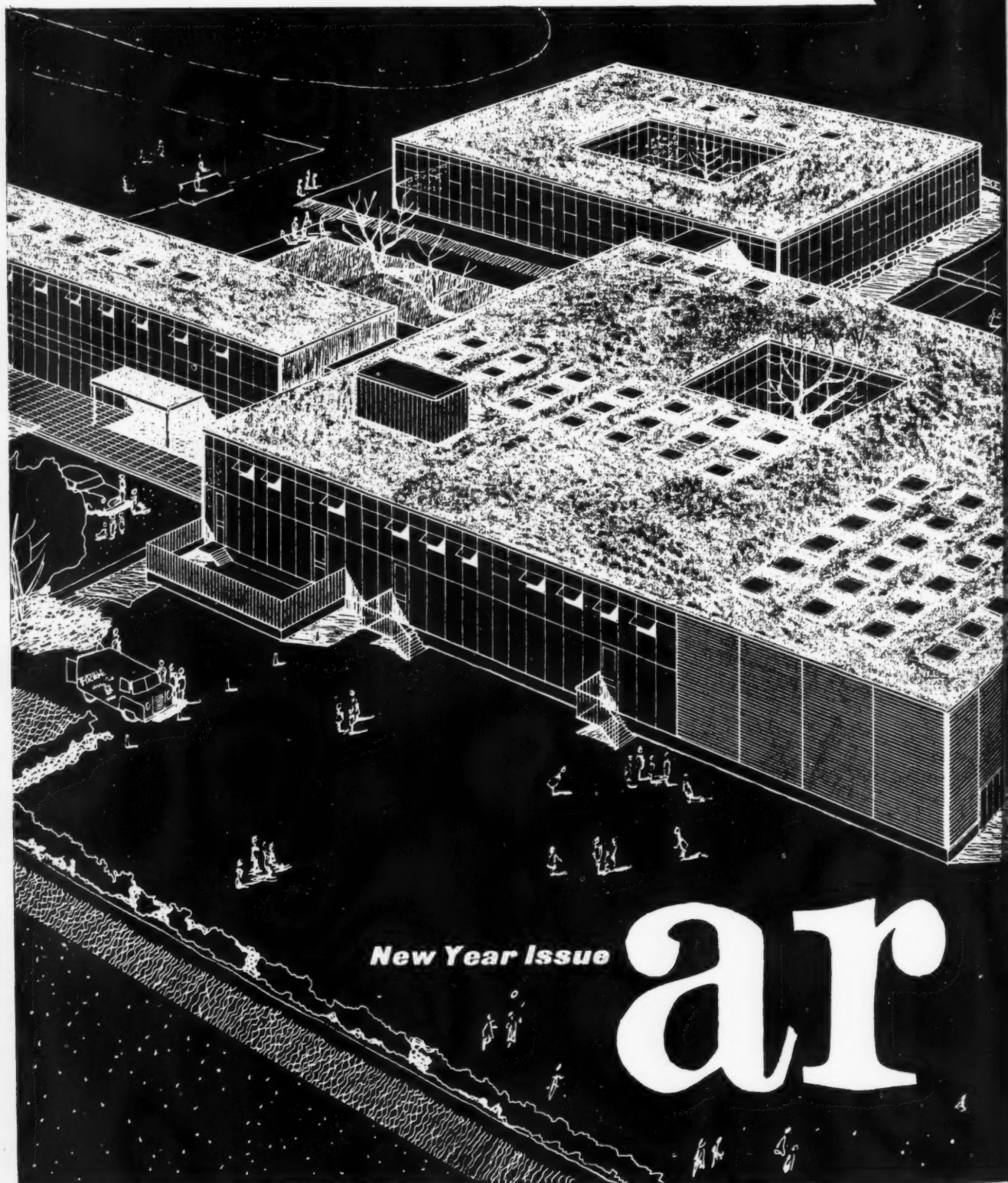


Switch, fuse and
motor control gear,
electric fires and localised
lighting equipment

Send for List No. 341(Z)

MIDLAND ELECTRIC MANUFACTURING CO. LTD · TYSELEY · BIRMINGHAM 11
Branches in London and Manchester

..building preview 1956



New Year Issue

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ORDER YOUR COPY NOW. If you are not already a regular subscriber to the ARCHITECTURAL REVIEW, order now a copy of special 'Preview' issue to be published in January, 1956. Over 50 buildings will be fully previewed with plans, perspectives, work details and photographs of models. Annual subscriptions £2. 18. 0. post free; single copies 5/- each.

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*the
unique
features of*
**ROBERTSON
Q-DECK**
TRADE MARK
include...

The neat and pleasing appearance of the flat ceiling obtained with Robertson Q-DECK, sections QDA2 and QDC, can be appreciated from the illustration. More flat soffit Q-DECK pictures are shown on pages five, ten and eleven of Robertson Q-Deck Publication QD3. *Have you had your copy?*

- ✓ flat, clean soffit
- ✓ permissible span up to 14 feet
- minimised fire risk
- resistance to corrosive conditions
- 'top-speed' fixing
- no blistering of felt weatherproofing

ROBERTSON THAIN LIMITED
Ellesmere Port • Wirral • Cheshire

Telephone : Ellesmere Port 2341
Telegrams : "Robertroof"

QD. 10 A



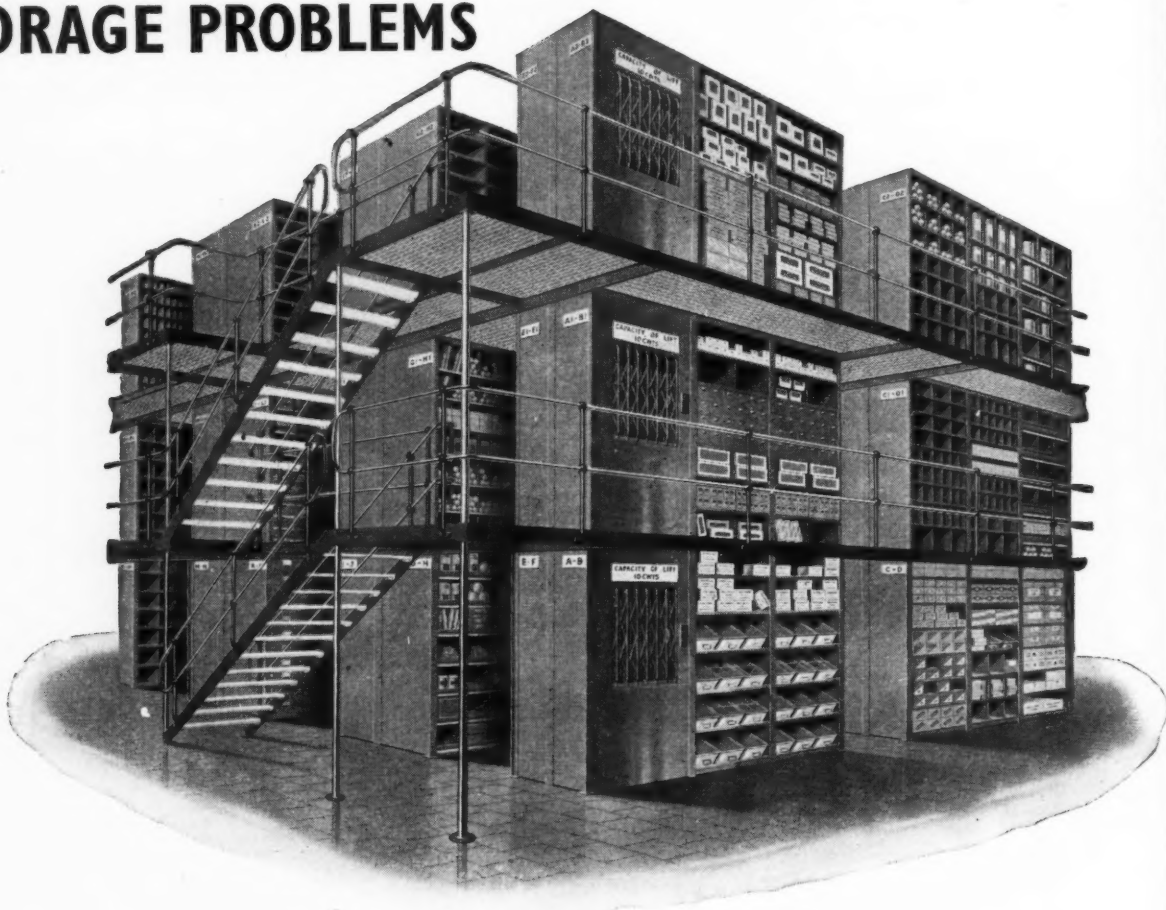
...
**A
FLAT
CLEAN
SOFFIT**

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For prompt delivery
**'ADJUSTEEL' SHELVING to solve your
STORAGE PROBLEMS**



*Build upwards
— gain space*

Storage problems may well be solved from stock by use of our standard components. You are not limited to one tier of shelving, only the roof determines the height to which it can be built up, rapidly, and with wide versatility in arrangement. For problems of greater magnitude, when you plan entire floors or buildings for storage, our long and varied experience is at your service. The goods lift incorporated in the above example is typical of the kind of development that arises from consultation. Please write for our 52-page illustrated Catalogue No. 840 A.J.

Buy from the manufacturers

CONSTRUCTORS

Regd. Trade Mark

Designers and makers of 'Adjusteel' shelving, partitions for office and factory, office furniture, cycle parks, and Seldex visible recording systems.

CONSTRUCTORS GROUP, Tyburn Road, Birmingham 24, Telephone *ERDington 1616

London Office, 98 Park Lane, W.1. Telephone MAYfair 3074. And at Manchester, Leeds, Bournemouth and Leicester

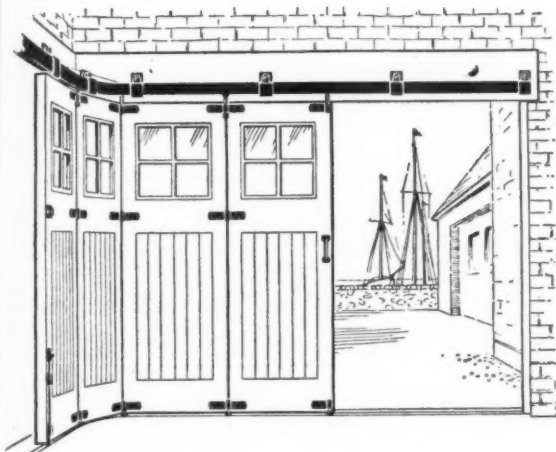
For all contracts

specify

Coburn

THE ORIGINAL AND BEST

SLIDING DOOR GEAR

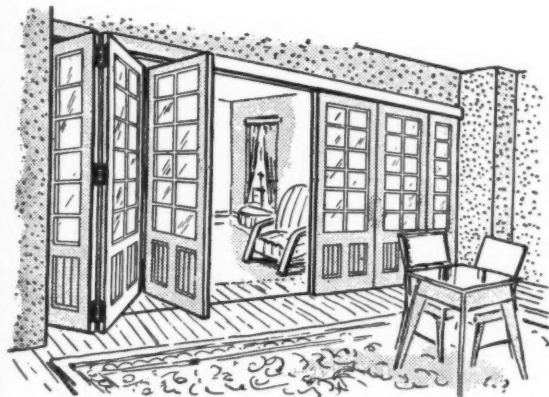
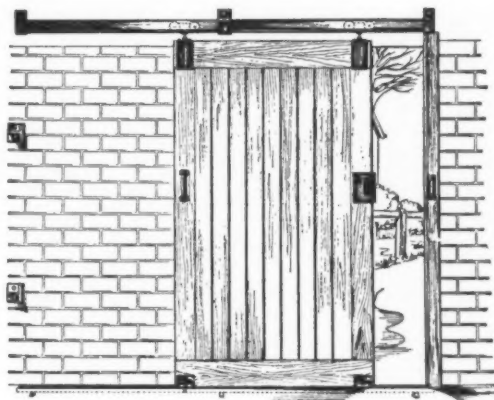


ROUND - THE - CORNER GEAR

for use in garages and similar buildings, ranges from the lightest door-size to a type suitable for bus garages.

STRAIGHT SLIDING GEAR

is the most simple and widely used of all sliding door gear. It can be used on single, double or triple tracks.



CENTRE-HUNG FOLDING GEAR

is ideal for dividing living or public rooms, the fittings not being visible on either face of the leaves.

Write for further information, catalogue, drawings, and questionnaire :—

The British Trolley Track Co. Ltd.

COBURN WORKS · COPPERFIELD STREET · LONDON, S.E.1. TELEPHONE: WATerloo 4311 (3 LINES)

PATENT GLAZING



Roof of new assembly shop at Daimler Radford Works. Architects: Wood & Kendrick & Williams, F.F.R.I.B.A. Chartered Architects.

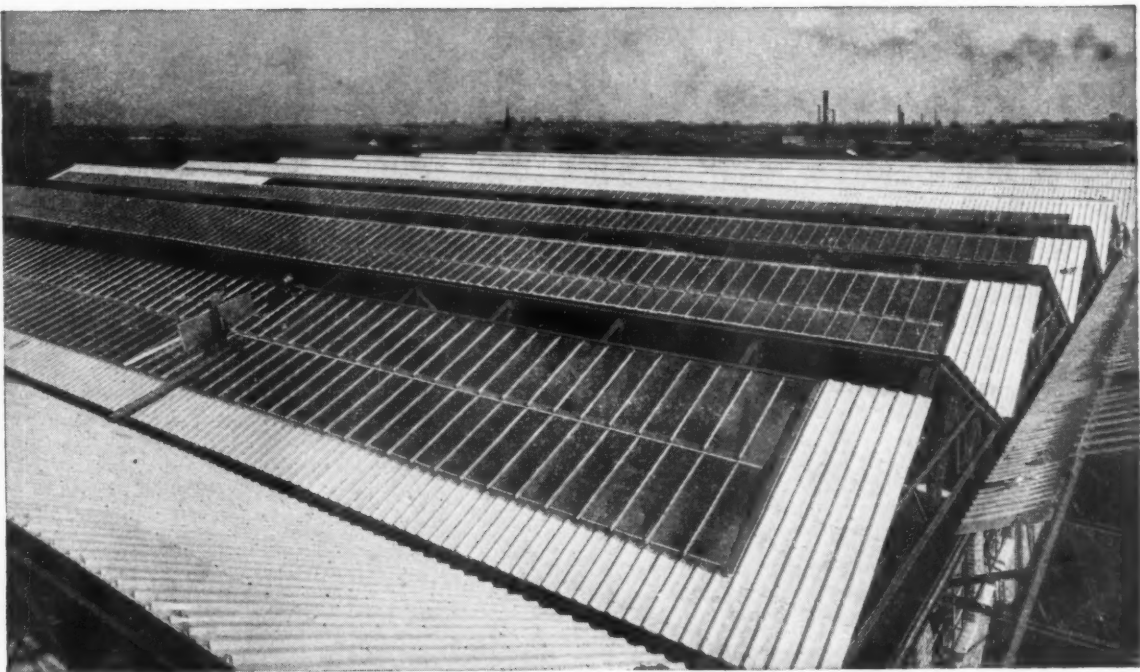
To provide the large amount of daylight essential to these two workshops was a major problem of design and construction. In both cases, however, difficulties were overcome by the effective use of patent glazing.

For the assembly shop at the Radford Works, 120,000 feet super of aluminium patent glazing was used to provide the roof

lighting, and ventilation was provided by 50 continuous opening lights operated by electrically controlled double tension gearing; while 50,000 feet super of aluminium patent glazing was used for the roof of the assembly shop at the Waverly Works. Both workshops are fine examples of the use of patent glazing in the construction of large industrial buildings.

G SPECIFICATIONS

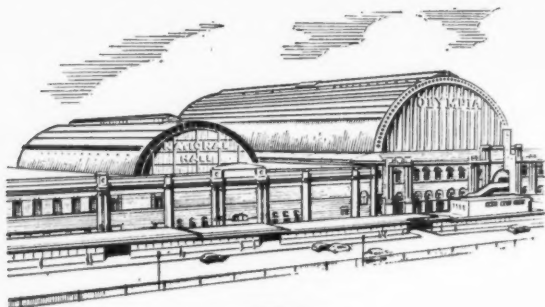
**LARGE RUNS OF PATENT GLAZING IN THE
ASSEMBLY SHOPS AT THE DAIMLER RADFORD
WORKS AND THE B.S.A. WAVERLY WORKS**



Roof of new assembly shop at B.S.A. Waverly Works. Architect: Holland W. H. bbiss, F.R.I.B.A.

ISSUED BY
THE PATENT GLAZING CONFERENCE
BURWOOD HOUSE, CAXTON STREET,
LONDON S.W.1





*"Come and
meet the family—
at OLYMPIA!"*

STAND No. 102
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*Building
Exhibition*

The Peglers' family of fittings will be at home to old friends and new acquaintances at Olympia during the Building Exhibition—from November 16 to November 30 this year. Come and see for yourself the high quality workmanship and perfect finish of Peglers' plumbers' and engineers' brasswork . . . and ask all the questions you like. Remember, we're there to help you in any way possible.

And don't forget you can see us at the Building Centre, London, all the year round. Look us up any time you're in town.



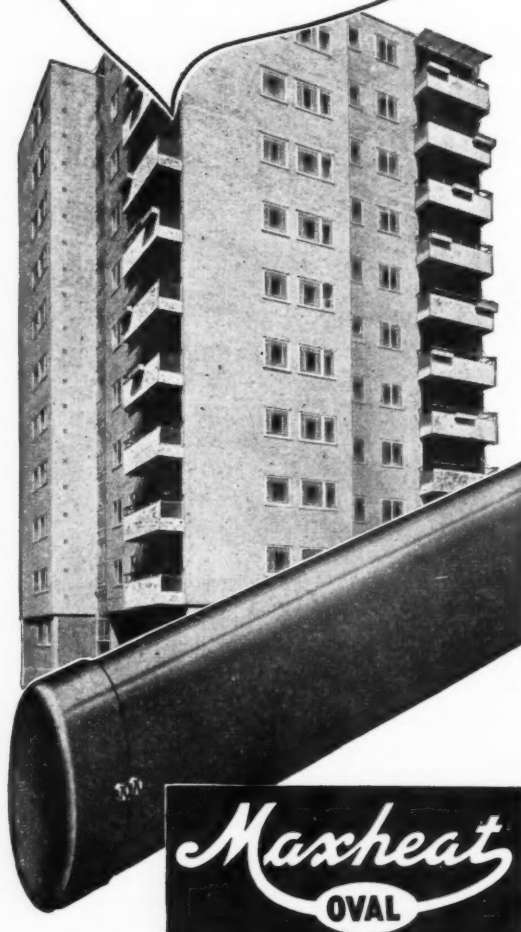
BELMONT WORKS · DONCASTER
London Office and Warehouse:
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TGA WP19

Maxheat
OVAL

**Tubular Electric Heaters
of course!**



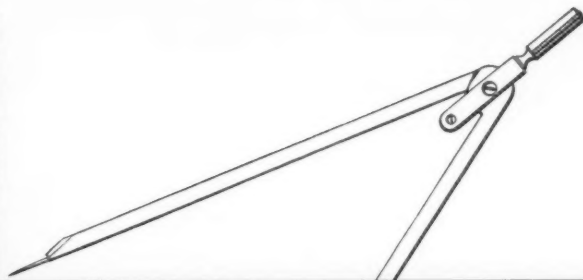
Photograph by courtesy of the L.C.C.

These heaters, each 1' 9" long, have been installed in the airing cupboards of the L.C.C. flats at the Alton Estate, Rochampton Lane, London. Maxheat can be supplied singly or in tiers up to 6, and in lengths up to 17 feet.

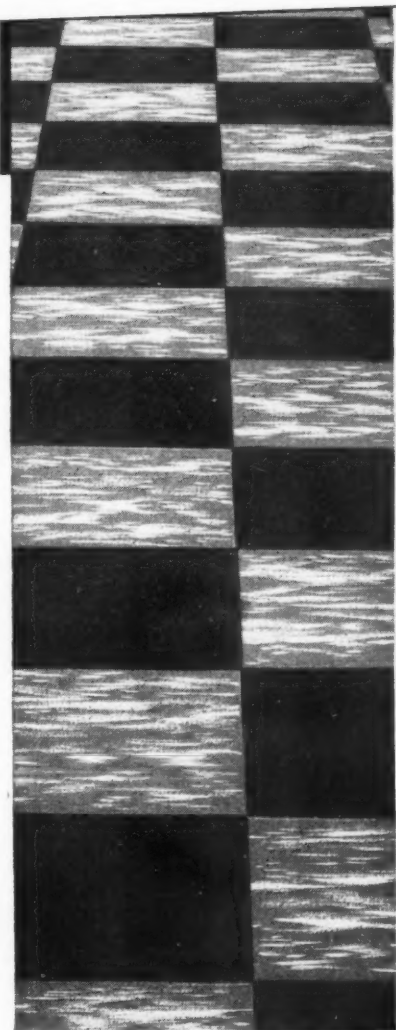
MAXHEAT — FOR BETTER SPACE HEATING

THE Wardle ENGINEERING CO. LTD.
Old Trafford, Manchester 16.

London Office: 34, VICTORIA ST., S.W.1. Tel: ABBey 4078 & 1356.



Fundamental Facts



If you are faced with the problem of deciding on a suitable floor covering for an important industrial client, your problem may be solved by De La Rue 'Plasvic' Floor Tiles. Their hard-wearing qualities and relatively low cost will appeal to the economist, their colours to the artist and their acid-resistance to the chemist. 'Plasvic' Floor Tiles have been found to meet most of the needs of industrial and commercial users. These (to mention only a few) include hospitals, laboratories, factories, stores, shops, cinemas, schools and power stations.

These are the advantages...

LONGER LIFE. 'Plasvic' Tiles retain their hard-wearing decorative quality indefinitely without danger of cracking.

GREATER RESILIENCE. 'Plasvic' Tiles are very flexible and will not chip or craze even if subjected to heavy blows. The surface recovers after varying weight loads.

MORE HYGIENIC. 'Plasvic' Tiles are manufactured with such precision that dirt traps caused by gaps between the tiles are eliminated. Tiles are proof against rot and termites.

FIRE RESISTANCE. 'Plasvic' Tiles do not support combustion and are self-extinguishing.

STAIN RESISTANCE. 'Plasvic' Tiles are unaffected by water, oils, fats, etc., and are proof against common acids and alkalis.

SERIES F11. (Motor Showroom) combines these features with additional resistance against staining from motor car tyres.

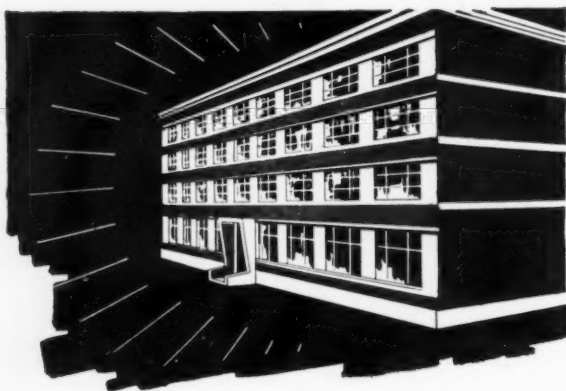
EASY, INEXPENSIVE MAINTENANCE. 'Plasvic' Tiles are comfortable and quiet underfoot, yet they are tough and long-wearing and require the minimum of maintenance. They can be cleaned with a wet or dry mop and will take a wax floor polish if desired.

EASIER INSTALLATION. 'Plasvic' Tiles can be laid on most types of sub-floors. In the case of sub-floors laid direct to earth, an adequate damp course must be provided. 'Plasvic' Tiles, being extremely flexible, can be easily radiused to form coves and can be cut into motifs and patterns.

FOR FULL INFORMATION AND LEAFLETS WRITE TO:
DE LA RUE FLOORS & FURNISHINGS LIMITED, DEPT. F.T.2.
IMPERIAL HOUSE, 84-86 REGENT ST., W.1. TEL: REGENT 2901



'PLASVIC' is a registered Trade Mark



Daytime Heating... is cheaper at night !

Panelec Embedded Electric Low Temperature Radiant Floor Warming provides efficient heating at a cost which is always comparable with, and often less than any available alternative form of heating...

- * Consumes current only at night, taking full advantage of OFF-PEAK tariff.
- * Saves space and simplifies building design.
- * Reduces dust-carrying convection currents and banishes "Cold spots."
- * Extends the life of furnishings and interior decorations.
- * It is clean, healthy, safe and automatic—providing constant temperature control irrespective of external conditions.

There are many applications of the Panelec Floor Warming System. If you have a heating problem, the chances are that Panelec can provide an effective and economical answer. Why not investigate the possibilities of using Panelec?—write for publication No. PAN.655C or discuss the matter with Panelec Technical Advisory Service. Our engineers will be pleased to help you.



REGISTERED TRADE MARK

PANELEC (GREAT BRITAIN) LTD
Telephone: REDHILL 3451 (5 lines) PBX.

N.B. "Panelec" is the original, registered trade name for this patented warming system, and can only be obtained from the address, shown here.

27 Hatchlands Road, Redhill, Surrey
Telegrams: MURELEC, REDHILL

NOW !

BY ANY PROCESS!

SHARPER
white or blueprints

Strong...

Venus Pencil leads are pressure-proofed* for maximum strength

SMOOTH...

made by a special colloidal process* which removes all impurities

ACCURATE...

exactly graded in 17 different degrees of hardness

*Exclusive Venus Potents

Durable non-crumbling points; strong and smooth in action give lines uniform in weight and tone. Opaque lines for sharp, clear reproduction. No smudges. No "ghosts" from erasure. There's the right degree for your favourite paper. The result: sharper prints — by any process !

V **ENUS**
DRAWING
PENCILS

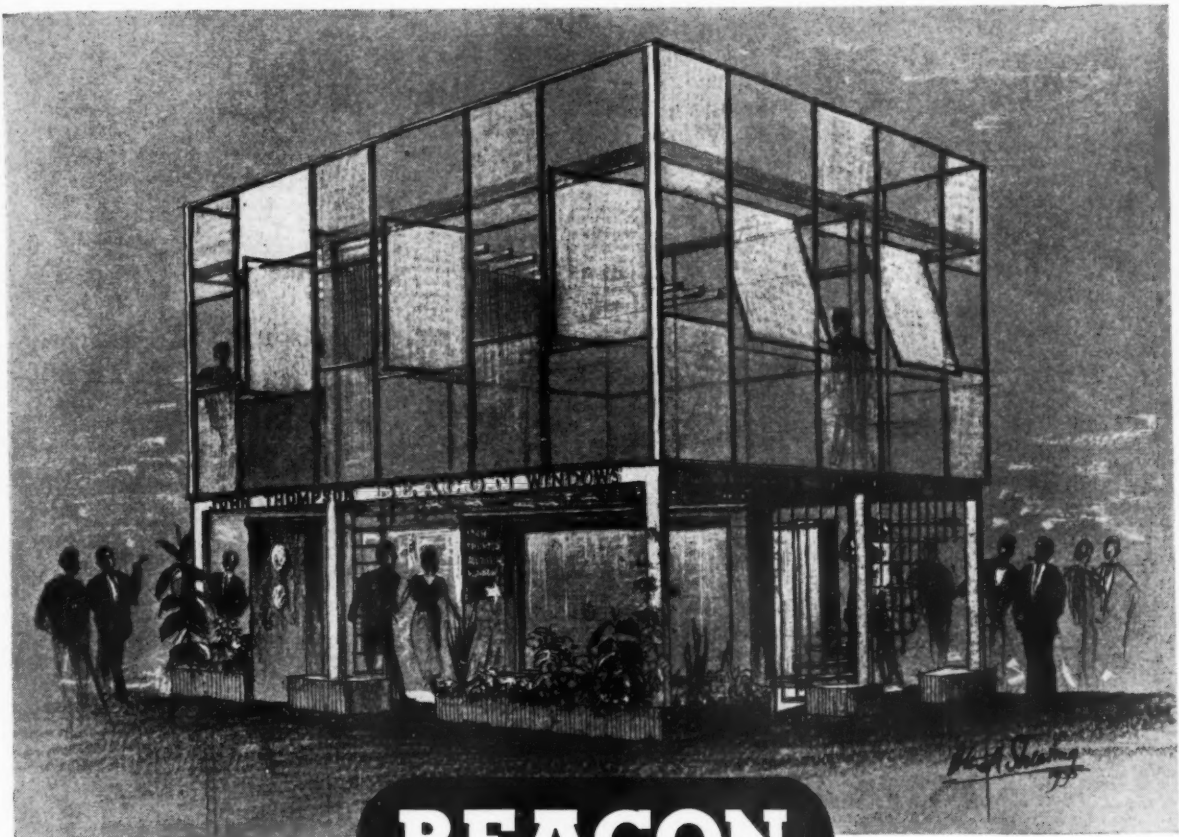


Use also Venus Soft Pencil Eraser

MADE IN ENGLAND - VENUS PENCIL CO. LTD. H

THE
PENCIL
WITH THE
CRACKLE
FINISH

VENUS PENCIL CO. LIMITED
LOWER CLAPTON ROAD, LONDON, E.5



BEACON

We invite you
to enjoy our hospitality
at Stand P298
at the Building Exhibition
where we are showing a full range of
Beacon Metal Windows, Door Frames, Steel Flooring
and ancillary products for the Building Industry.

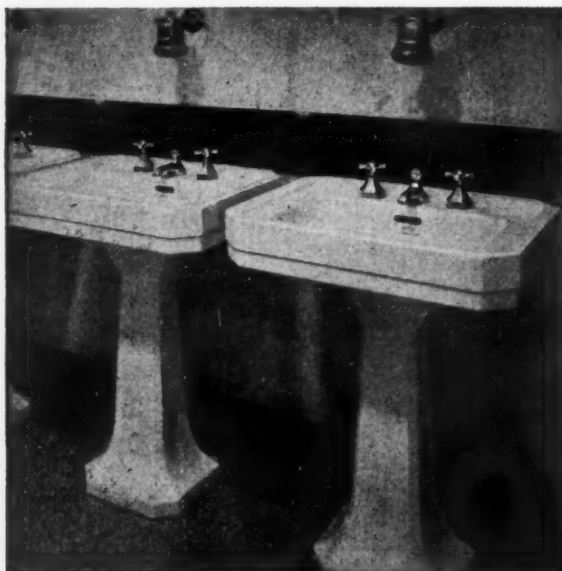
OLYMPIA



NOV. 16-30

JOHN THOMPSON BEACON WINDOWS LTD · WOLVERHAMPTON

Member of the  Metal Window Association



Royal Doulton VITREOUS CHINA

*—the latest development
in Sanitary Ware*

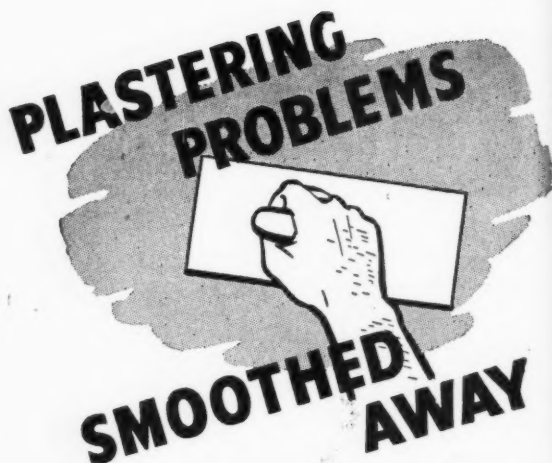
Sanitary fittings in Royal Doulton Vitreous China are raising the standards of hygiene in hospitals, schools, factories and homes. The superiority of this ware lies in the fact that it is vitrified throughout; it therefore remains non-porous under all conditions of use. It is non-crazing, extremely durable in service and does not become discoloured or stained.

Apart from its great advantages from a sanitary aspect, Royal Doulton Vitreous China offers a unique combination of attractive appearance, excellent mechanical strength, and reasonable price.

Obtainable from leading merchant distributors.

ROYAL
Doulton

Write for Folder VC1/52/1, giving details of our current range, to
DOULTON & CO. LIMITED,
Dept. BES, Doulton House, Albert Embankment,
London, S.E.1.



Introduced many years ago, 'Sirapite' Plaster rapidly established itself as a first-class product. Consistently developed and improved, it is now generally recognised as the ideal finishing plaster. The following supplementary 'Sirapite' products are manufactured to the same high standard:



'SIRAPITE' BROWNING

(Retarded Hemi-hydrate)
Class B, type 'a'.
The quick-setting undercoat plaster.
Specially produced to enable surfaces to be rendered and set in one day. High covering capacity.
Good insulating and fire-resisting properties.

'SIRAPITE' BOARD FINISH

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Class B, type 'b'.
For use as a single coat on plaster board, fibre and other wallboards.

Full technical service available, including consultation on site.
SPECIFICATION BOOKLET free on request.

'Sirapite'
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And at Kingston-on-Stear, Nottingham.

Plaster
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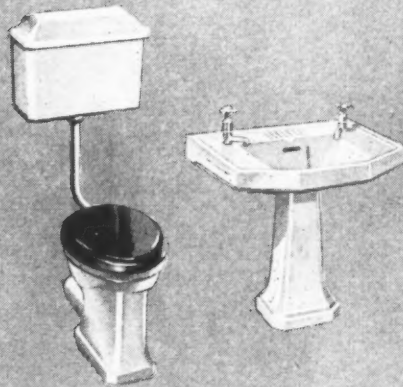
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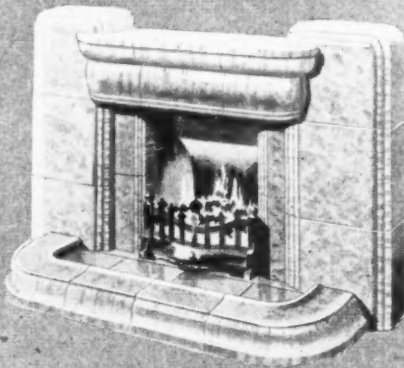
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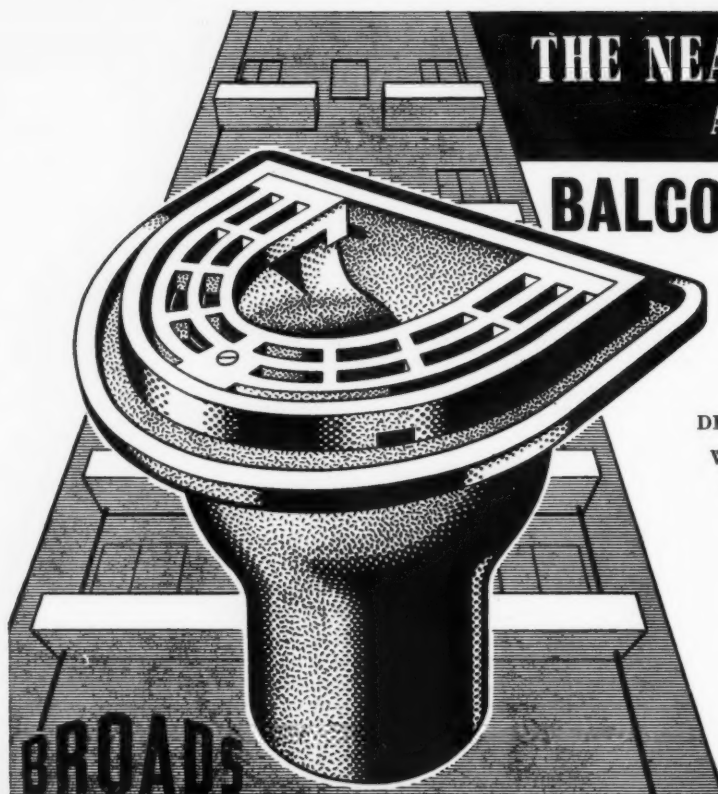
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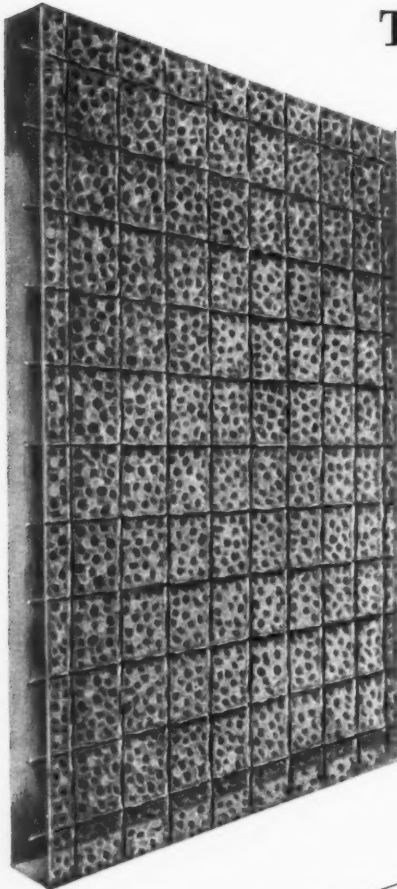
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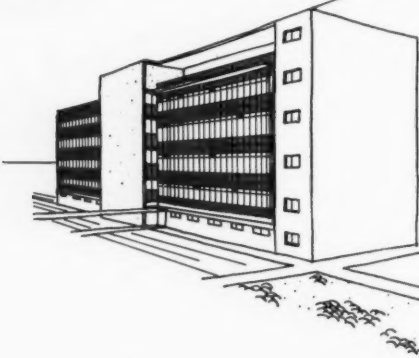
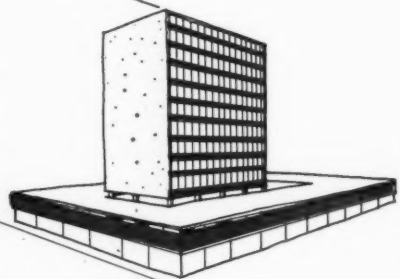
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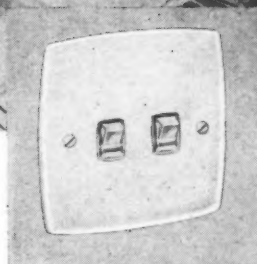
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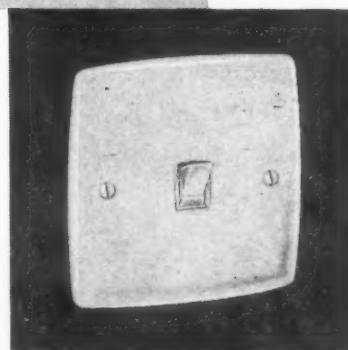


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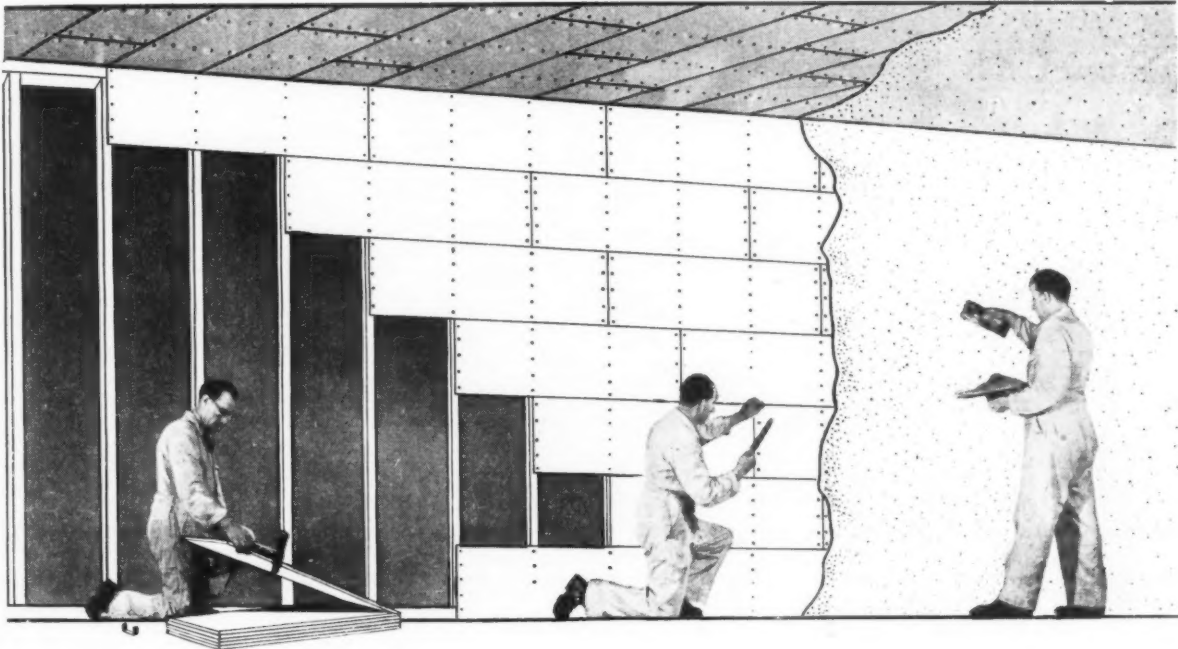


Fig. 1.

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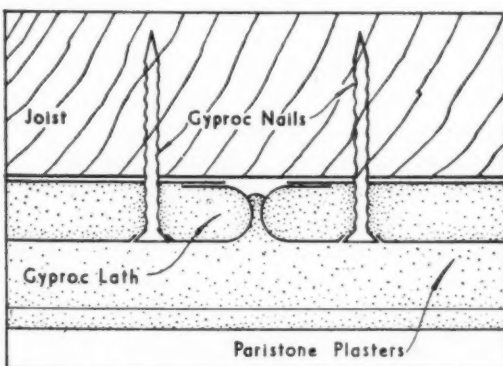


Fig. 2.

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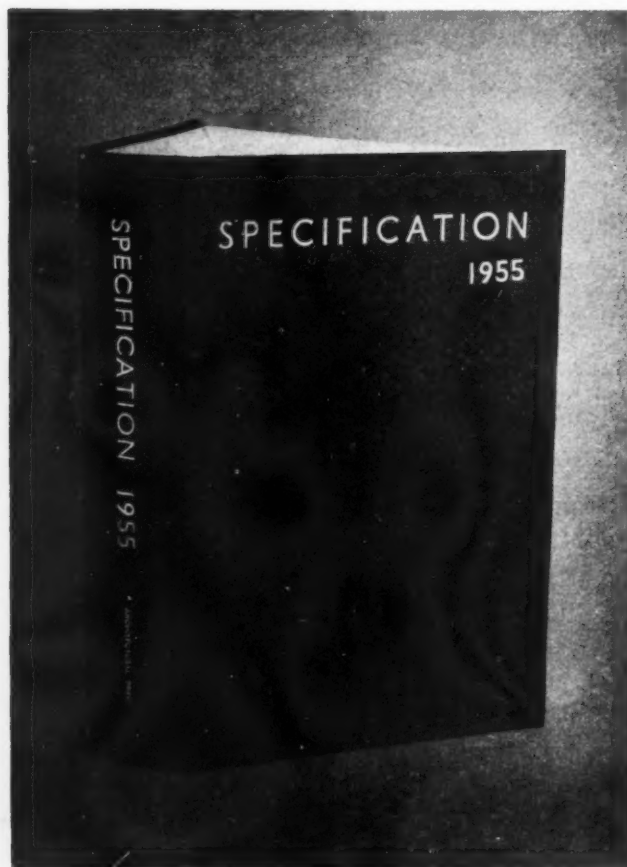
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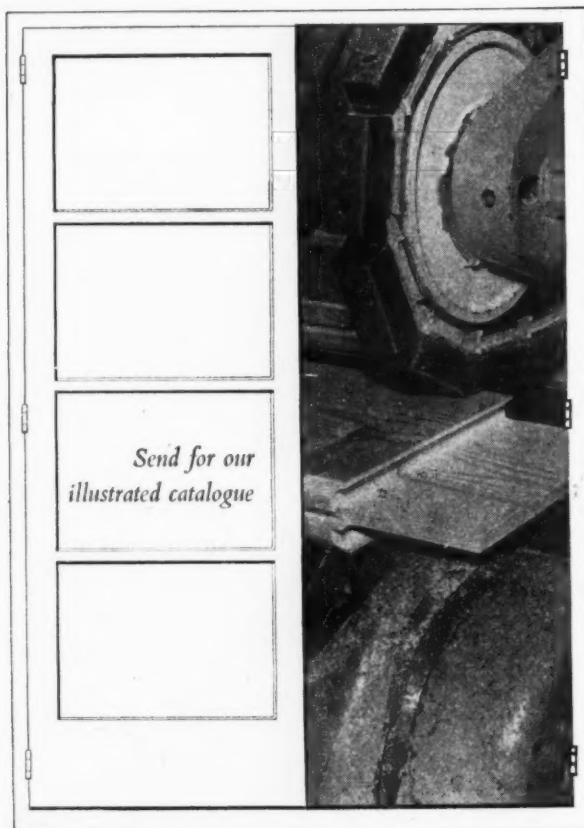
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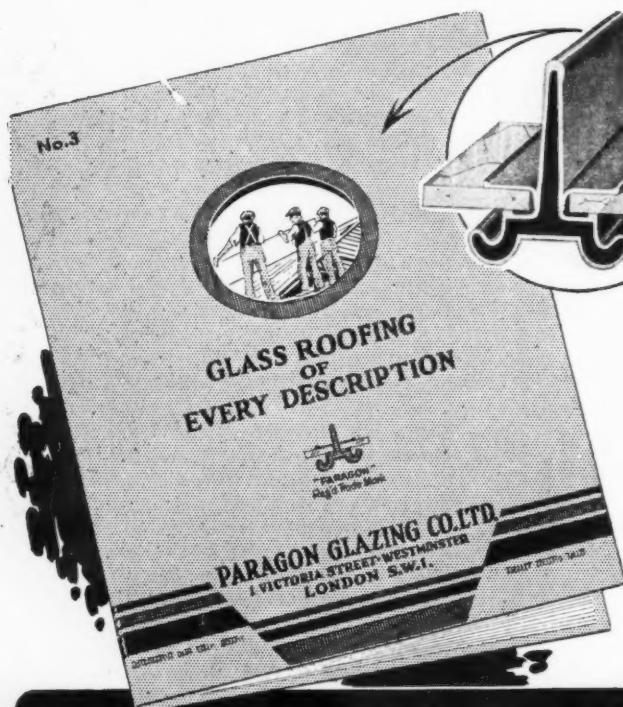
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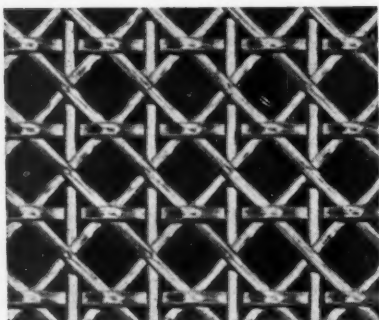


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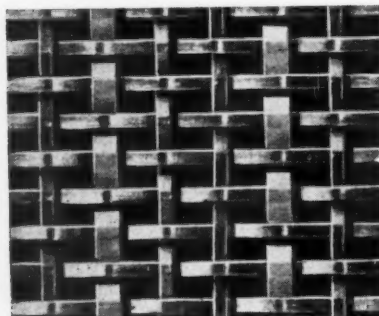
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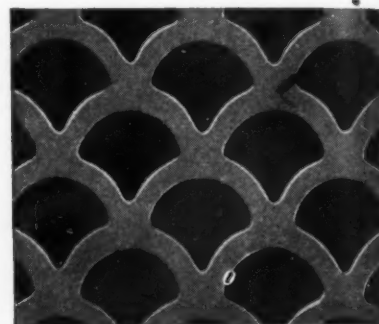
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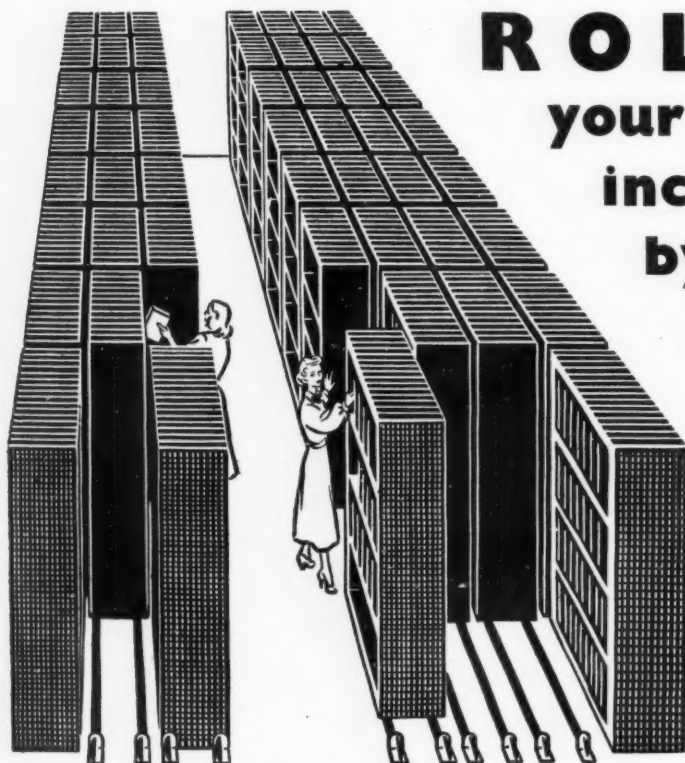


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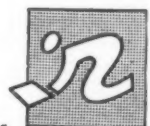
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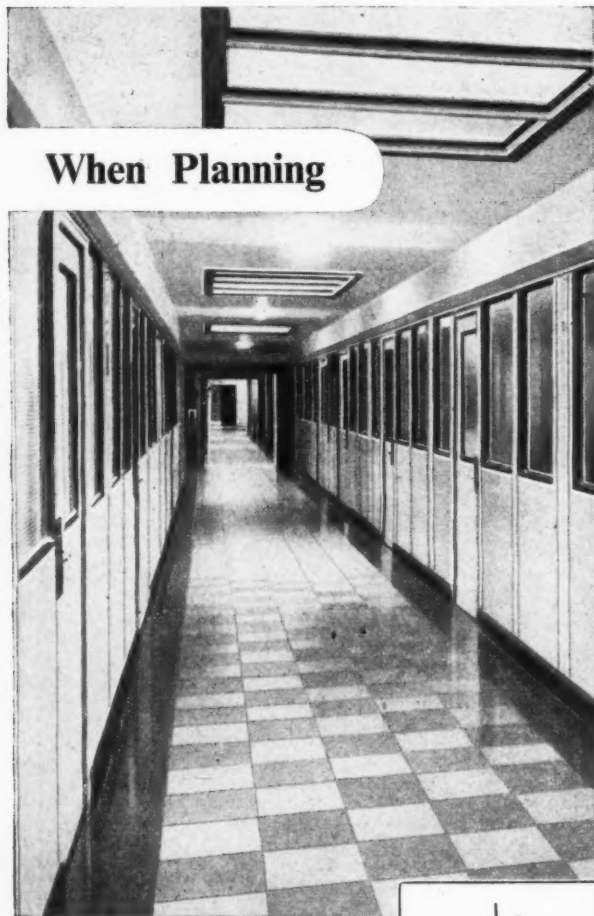
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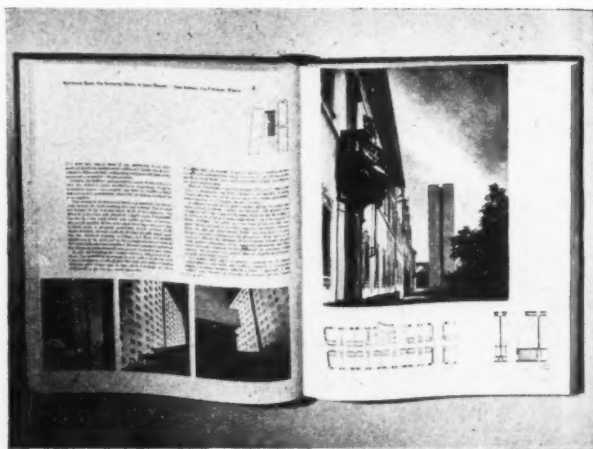
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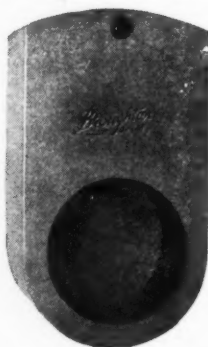
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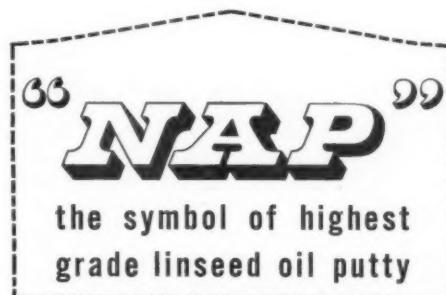


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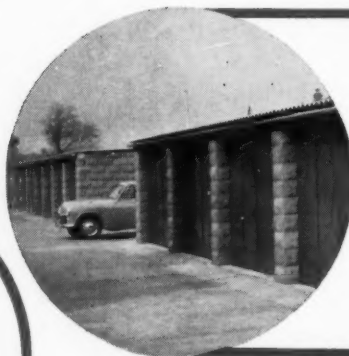


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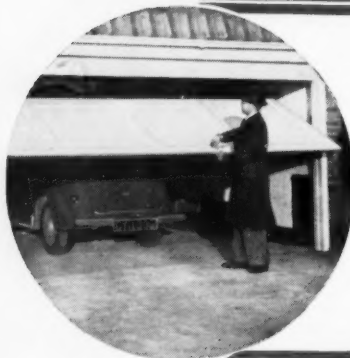
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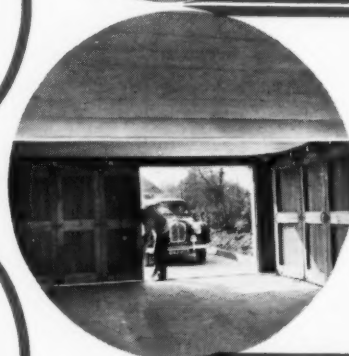
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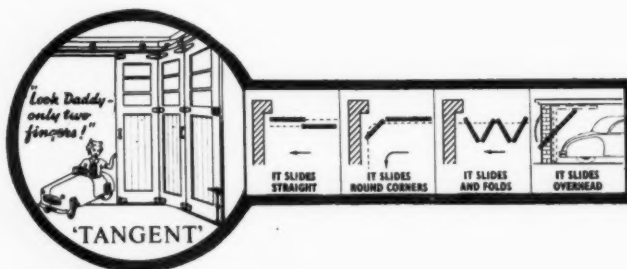


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CAMBRIDGE PROFESSOR

The name of the first holder of the chair of architecture at Cambridge has been eagerly awaited, and the news that it is to be Dr. J. L. Martin will delight everyone who realizes what an immense task is waiting to be done there. The establishment of a professorship—even if limited to begin with to only one tenure—is a welcome, if belated, recognition by one of our two senior universities of the importance of architectural education at university level. No doubt it will be one of Dr. Martin's first efforts to obtain recognition for a full five-year course. And no doubt, too, Dr. Martin will bring in those reforms and experiments in architectural education which are so urgently

required and which are already under way at Edinburgh and Liverpool. He has, of course, considerable teaching experience to draw on. For some time he was principal of the Hull school.

*

The loss of Dr. Martin, following so shortly—a mere two years—after Robert Matthew's move to Edinburgh, will be a severe one to the LCC. These two can share equal credit for having put the LCC's architect's department in the forefront, internationally.

*

There are very few architects—and certainly it is hard to think of any in the large county and city architect range—who could easily follow two such eminent predecessors. But Dr. Martin will not be leaving until next October, so there is enough time for the LCC to make a careful choice. One of the important things Matthew and Martin have done is to build up a splendid team of architects at County Hall. Theirs will now be the task of seeing that standards are kept up.

*

Leslie Martin, ASTRAGAL understands, is going to practise privately, as well as teach, so his unquestionable design ability will not be lost to the profession. Cambridge can count themselves as extremely fortunate.

MOD CONS—AND PROS

The Swedish architect, Lennart Bergvall, sparkled brilliantly the other night at the RIBA. He is designer of a system of timber components from which eight hundred houses are built

every year, and was reading a paper to the Modular Society on "Modular Co-ordination—An Industrial Tool," which will be reported in a later issue of the JOURNAL. He had little to add to theory (except for the refreshing dismissal of *Le Modulor* as superstition) but plenty of useful stuff on the practical aspects, backed up with details of a factory where the degree of automation makes the average British counterpart look like a handyman's backyard.

*

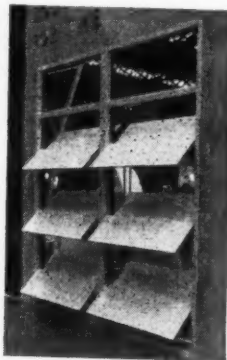
Mr. Bergvall looked forward to the day when modco'd components could be delivered from stock like the weekly grocery order; and when someone unfairly suggested that the man on the site would still be left to do the cooking, he retorted that much closer tolerances could be achieved if only architects insisted hard enough.

*

After the RIBA meeting a select and elegant company went on to Carlton Gardens, invited by Sir Alfred Bosson "to meet Mr. Bergvall." Gold plate, shining amid *objets d'art et de vertu*, as the catalogues say, reflected a gleam of pleasurable wonderment that the last political mansion in London should be in the private hands of an architect. The Member for Maidstone adorns a profession which has already benefited from the Research Fellowship bearing his name, and in sponsoring the Modular Society Sir Alfred has provided a useful forum not only for architects but also for engineers, manufacturers, and anyone else interested in the rationalization of building dimensions.

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90/91

BUILDING EXHIBITION OLYMPIA

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Personalities at the Building Exhibition. Top row: left, Nigel Birch, Minister of Works, standing next to C. H. Aslin, president of RIBA; centre, Eric Bird, editor of the RIBA Journal with Frank Yerbury, director of the Building Centre; right, F. Pooley, County Architect, Bucks., with Donald Gibson, County Architect, Nottingham. Bottom row: left, Peter Trench, Managing Director of Bovis Ltd., with Gontran Goulden, Deputy Director of the Building Centre; right, Kenneth Cross with Rowland Pierce.



BIGGEST AND BEST

This year the Building Exhibition is the largest ever—and, it might be true to say, the best ever. This doesn't mean there is not a great deal of room for improvement. The opening ceremony went off smoothly enough: President C. H. Aslin, in the Chair, called on Nigel Birch, the Minister of Works, to open the Exhibition. Mr. Birch, in his usual polished manner, pointed out that the building industry was responsible for 50% of the nation's fixed investments, and that building materials to the value of £70 million were exported last year. No wonder, therefore, that the Government "takes such an interest not only in research but in the spreading of new ideas." Harvey G. Frost, President of the NFBTE, proposed a vote of thanks, and was seconded in the Trade Union style by Sir Luke Fawcett, the President of NFBTO, who made the visitors to the opening ceremony earn their refreshments (as lavish as usual) with a lengthy discourse on the valuable work done by Ministers of Works in encouraging training schemes for apprentices.

*

My illustrations this week show some of the architects and others present, including one of the JOURNAL's editors, F. R. Yerbury, who, last week, celebrated his 70th birthday. Such an event

will be a surprise to many of his friends, to whom Frank Yerbury is a timeless character. He has acquired such a widespread reputation for so many accomplishments—Secretary of the AA, photographer, Director of the Building Centre and international carrier of architectural goodwill, and is so firmly established as an essential participant to every building occasion, that one forgets he enjoys such simple events as birthdays. No doubt after this temporary lapse into temporal things he will return to being a much revered, most human, but timeless institution.

*

But to return to the Building Exhibition. Two years ago ASTRAGAL suggested a few new features worth studying. This year, having failed to visit everything in three days' hard tramping, he has no hesitation in leaving the news-hunting to the JOURNAL staff. The Exhibition is the largest ever and, therefore, certainly too big for Olympia. More than ever one needs the grouping of exhibits by subjects: this occurs for the wood-working machinery, so why not for other exhibits? A possible alternative put forward in the JOURNAL in 1953 is the group stand—the stand where manufacturers combine to show their exhibits. The stands themselves are not very exciting. More and more

ASTRAGAL tires of the clever stuff and turns with relief to the simple and the straightforward. (See the Ascot stand overleaf.) Exhibition architecture has had a very good run for the last ten years. It is time that it took, or was given, a back seat.

THE NATIONAL GALLERY'S PROBLEMS

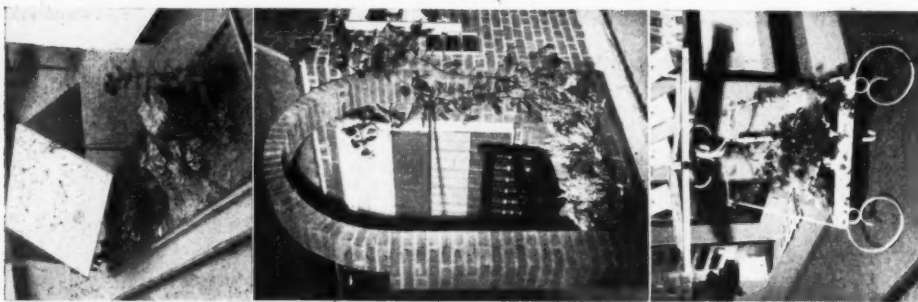
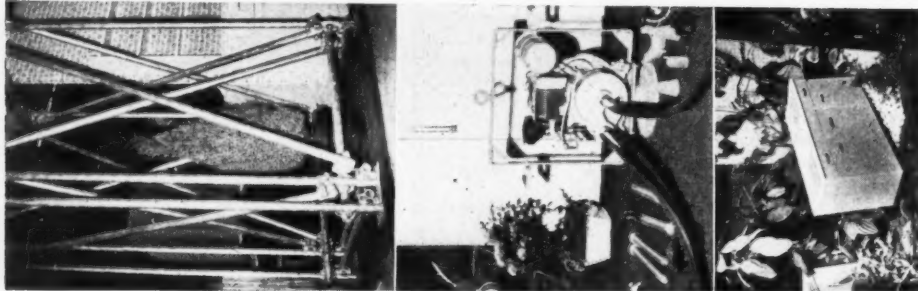
The National Gallery's illustrated account of its activities during and since the war, and of the problems it faces now (just published: 12s. 6d.), should make the Government think again—if anything can—about the provision made to maintain its collection—supposed to be the finest in the world, though it may not remain so for ever if the Government does not act.

*

The chief problems are accommodation (bomb damage not yet repaired and space needed for the conservation department that did not exist before the war) and funds for acquisitions (the official grant for this purpose is the same as it was in the 1880s). Occasionally, of course, as in the recent El Greco case, a special grant is made to buy a particular picture, but it is impossible for the gallery to plan purchases in advance if they don't know what funds will be available.

*

The one bright side of a gloomy picture is the progress made in air-



Decorations Must Be Worn

Did someone give the order that floral decorations must be worn at the Building Exhibition? It can hardly be a coincidence that nearly every exhibitor at Olympia is displaying flowers and plants, ranging from creeper-covered facades to feeble climbers struggling gamely up fire extinguishers. In the nine small pictures of good and bad examples we give some idea of the variety of the displays. (Note particularly the kitchen equipment firm's flower bed, where models of products are strewn in a con-temporary jungle.) All this vegetation serves one purpose; it distracts the visitor's

attention from the mediocre quality of stand design. There are certainly a fair number of architect-designed stands, but there is little as unconventional as we have seen at some recent Exhibitions. Little that is, other than the Ascot stand, which was built to the prizewinning competition designs of Dennis E. Pugh. This exhibit is refreshingly simple; its lack of colour and of Exhibition clichés makes it stand out in pleasant contrast to its neighbours. (Photographs of some of the few good stands will be published next week.)

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The Editors

ARTICLED PUPIL BUILDERS

THE LMBA has announced the formation of a Board of Administration (see page 714) to guide and encourage the entry of the "public and grammar school boy" into building—to be fitted eventually for managerial and supervisory positions. Boys will enter either as articulated pupils or indentured students; in the former case "sandwiching" full-time training at a technical school into their employment; in the latter, attending day or evening classes part time. There is no premium; the boys pay for their own technical training, and remuneration is a matter between boy and employer. Training of this kind already takes place; the main change is that the newly-formed Board will guide and encourage it, and make opportunities known to school leavers. The older method of finding the supervisory and managerial grades through promotion from the tradesmen level is now recognized as inadequate to modern technique and building organization, and the importance in the USA of University graduates in these positions was stressed by the Anglo-American team. Hence this new move to attract the grammar school boy should be welcomed and supported. But it does seem too timid and out-of-scale with the problem it seeks to assuage.

The type of school-leaver that the industry needs is unlikely to find the opportunities offered to him very competitive with those offered by the professions. His eventual position, remuneration and status are more obscure, despite the LMBA's assertion that membership of the Institute of Builders is equivalent to a University degree. It is disappointing then, that the builders, if they need the grammar school boy and can make profitable use of his services later on, are not prepared at least to subscribe to the cost of his training. Such a contribution would surely help to attract the right type of boy and eventually prove a good investment. It may be that the Board of Building Education recently set up by the Institute of Builders will have ideas about this problem when they have been able to formulate their terms of reference and aims.

conditioning. The first air-conditioned room was opened in 1950. There are now three, and three more will be opened early next year.

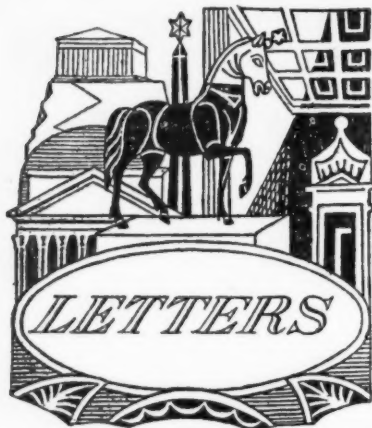
NO SONG IN HERTS?

ASTRAGAL has often observed, though not always out loud, that speeches which begin "Now that the battle for modern architecture has been won..." invariably turn into brawls between architectural factions, and J. H. V. Davies' talk on the Third (now reprinted in the *Listener*: November 17) proved no exception to this rule. Its ostensible subject was Hallfield School, Paddington, by Drake and Lasdun, and his actual ruminations upon the school were an excellent example of discursive, descriptive architectural criticism. But they were sandwiched between two waspish passages which might almost have been called spiteful if they hadn't been on the BBC.

The JOURNAL was dragged into this part of the talk as favouring "those modest fellows" who (according to Mr. Davies) will never make architecture because they are too concerned with circulation and structure and things like that, and opposed to those powerful personalities who take these things in their stride, and make buildings that "sing." This struck ASTRAGAL as a bit thick when one thinks of the space that the JOURNAL gives to the Smithsons, to Corb... even to Drake and Lasdun. But what really stuck in ASTRAGAL'S gullet was Mr. Davies' resurrection of old-time anti-Modern polemics and abuse for use against modern architects who didn't make their buildings "sing" (whatever that means) and, in particular, a passage in which the children in Hertfordshire schools (it was difficult to make this sentence mean any other schools) were referred to as being herded along like cattle in a hygienic slaughterhouse.

The appearance of such a performance is a sad contrast to the high quality and sense of responsibility exhibited by most recent Third Programme talks on architecture, but ASTRAGAL would have been prepared to let it get lost in the limbo of forgotten things had the BBC not decided to commit it to the permanence of print.

ASTRAGAL



"Inglis"

Alan Tate, A.R.I.B.A.

Raymond Walker, L.R.I.B.A.

F. C. Lee, L.R.I.B.A.

Public Spending: Too Many Safeguards

SIR,—The President of the Architectural Association, Bryan Westwood, has recently drawn attention to the intolerable position in which many architects find themselves concerning the issue of a final certificate and the settlement of the contractors' account.

In many cases local authority expenditure on building contracts is safeguarded by an architect, a quantity surveyor, an accountant and a district auditor. Surely so many safeguards against the misuse of public money is unnecessary and a slight on the professions concerned.

The appointment of a competent architect and quantity surveyor is the best safeguard a local authority can have and the contractor's account and final certificate, when issued and agreed by them, should be honoured without delay.

Naturally, the treasurer of the authority must exercise some control and he should aim at selecting professional advisors in whom the authority can have confidence and in providing checks against negligence and fraud. Such checks should not delay the honouring of the account and the professions, as is their custom, would take full responsibility for their actions.

The detailed checking of the quantity surveyor's accounts by accountants is intrusive, unnecessary and a waste of professional manpower. The professional institutes concerned would be performing a national service if they were to take steps to persuade local authorities that their members are worthy of the trust and responsibility reposed in them.

"INGLIS."

Underground Planning

SIR,—Whatever the merits of the proposed garage in Princes Street Gardens, referred to in your issue of October 28, one cannot help but comment on the odd manner of its conception.

The Abercrombie Advisory Plan for Edinburgh, 1947, proposed "the restoration of the valley (of the gardens) to a verdant one."

The Development Plan, 1953 (representing the corporation's view on how the city should develop during the next 20 years), showed the gardens as "public open space" and stated, in relation to car parking, "no

sites are available in the central area providing major car-parking facilities."

The Lord Provost and the chairmen of all committees of the corporation during the whole of the time these plans were being prepared were drawn from the Progressive Party in Edinburgh, and members of this Party in their civic capacities defended the development plan at the public enquiry in May, 1954.

In Spring, 1955 (just before the Municipal Elections), this same party announced its own plan for the solution of Edinburgh's parking problem, i.e., a garage in the gardens, and, subsequently, this plan has received official blessing. It is, in fact, reported that the corporation will shortly apply for a provisional order to carry out the scheme.

Apparently no corporation official—city architect, engineer, or town planning officer—had any chance to report on this scheme until after details were released to the Press.

Of course, every planning authority must be free to amend its plans if circumstances alter radically or if the assumptions on which it was based prove to be, for some reason, unsound. But surely a major proposal of this sort—more controversial, as it has turned out, than all the development plan proposals put together—should have been introduced in a proper manner. The city officials should have been allowed to prepare reports without the knowledge that the plan represented the policy of the majority party from the moment of its announcement, and the subsequent debates in council should have been conducted on a rational (non-party) basis.

If development plans are to be subject to the eccentricities of the party line and major proposals used as political pawns, we might as well scrap the 1947 Act.

Or could it be that Edinburgh Corporation does not regard the erection of a multi-storied concrete garage in the most famous gardens in Scotland as a change of use?

ALAN TATE.

Middlesex.

Licentiatees: No Small Beer

SIR,—To mirror life at its vilest; to sketch deformity; to pander to the lowest instincts of a disgruntled majority; these, say my friends, are the foundations of success in journalism!

Rich ASTRAGAL abuses the PRA; spoils with faint praise Mr. McMorran's mission; spreads rumour about "the type of Architects who are short of cheap assistants" (please see Appointments column in AJ); finally licentiatees are insulted! Beer indeed! Bollinger '29 if you please!

It is a pity that ASTRAGAL should be so sour; it is inexcusable for him to be so dull!

Perhaps, for a change, we could be treated to a selection of illustrations of his more recent architectural masterpieces that have been built?

Or does he only compete—in his spare time, of course—with demolition contractors in private practice?

Why not give him your "AJ Fellowship" and pack him off to Switzerland over Christmas: we all need a spell of goodwill in this crazy profession of ours.

RAYMOND WALKER.

London.

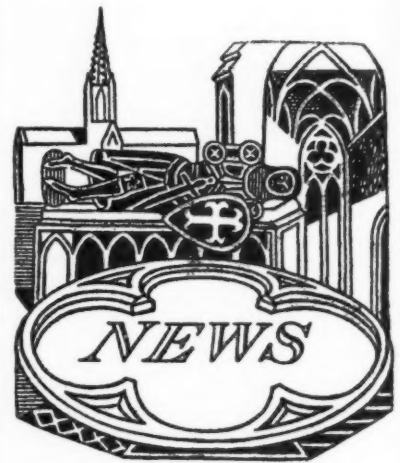
SIR,—ASTRAGAL is usually just and generous in his comments, but I am very surprised by his remark in the last paragraph in the November 10 issue, where he refers to licentiatees in an extremely derogatory manner.

Licentiatees form quite a large part of the Institute's membership, and I feel that ASTRAGAL has—I hope unintentionally—insulted every such member.

F. C. LEE.

Stoke on Trent.

[ASTRAGAL apologises to Mr. Walker for being dull, and to Mr. Walker and Mr. Lee for referring to licentiatees in a derogatory manner. His derogatory comments could (and should) be applied also to Fellows and Associates.]



COMPETITION

Tretol Forgot a Winner

Last week we announced that the first prize of £250 in Tretol's competition for a "House for a Professional Man" had been won by R. Towning Hill and Partners. Tretol now tell us that they omitted to mention that another architect collaborated with the winning firm: his name is Frederick Mark, and he works in the City Architect's Department at Bristol.

The second and third prizewinning designs will be illustrated in next week's JOURNAL, instead of in this week's as promised.

LEEDS

Chair For Basil Spence

Basil Spence has accepted the invitation of the University of Leeds to take the Hoffman Wood Chair of Architecture. Mr. Spence has recently undertaken to design extensions to several university buildings throughout the country, including a large scheme for Edinburgh University, for which he is planning consultant. The schemes will be published in the JOURNAL.

ICA

Discussion on Roads

A correspondent writes the following about the recent discussion at the ICA on roads and landscape:

"The ICA discussion on roads and landscape the other evening has considerable topical interest in view of the starting of the long-overdue major motor road programme with the advertising of the first Hertfordshire section, and the fact that Mr. Butler has clearly stated that he doesn't propose to cut the programme. The speakers were Peter Shephard, W. H. Spencer, H. F. Clarke and Sylvia Crowe. Fello Atkinson was in the Chair. Traditionally, architects and road engineers are daggers drawn. It was, therefore, pleasant to find very close agreement on the subject. The speakers all felt that there should be no attempt to disguise or hide these new road ribbons but that they should become new elements in the landscape as the railways were before

(Continued on page 714)



In this their sixteenth article, the Guest Editors (costs) consider a number of contract procedures which differ from the orthodox competitive tender on a bill of quantities. This selective survey follows their previous article (AJ November 10) in which the problems of using orthodox procedure to exploit present-day technical possibilities were discussed.

THE COST OF BUILDING

THE BUILDING CONTRACT 2

UNORTHODOX CONTRACT PROCEDURES

We began this group of articles with an examination of the present contractual procedure—competitive tendering on bills of quantities for work to be carried out under a form of contract such as that of the RIBA. A high proportion of the country's work—where an architect is employed—is done in this way, which we have called "orthodox" procedure.

It was shown that the method has many shortcomings—client, architect and builder find it an unsatisfactory procedure for welding together their joint efforts in producing efficient building. The ultimate goal of these efforts was summarized in the form of six objectives which a contract procedure should satisfy. But any procedure designed for the attainment of these objectives should also take account of the main trends of change in the building world, hence we concluded our first section with a summary of what appear to us as the significant changes now taking place. To complete the picture we now describe, and comment on, a number of contract procedures which depart from the orthodox. These are considered in three groups:

1. Negotiated contracts. 2. Contracts based on a combined design and construction service. 3. Prime cost contracts with a financial incentive.

1. NEGOTIATED CONTRACT

This procedure differs from the orthodox in that the builder is nominated at the beginning, and the price of the job is determined by negotiation, not competitive tendering.

(a) With Bill of Quantities

The contractor is nominated early in the design stage, and can therefore co-operate with the architect and consultants. Working drawings and a bill of quantities are prepared, and the bill when complete is priced

by the contractor, and checked by the client's quantity surveyor. If found acceptable the contractor then submits a formal tender which is binding. If a satisfactory price cannot be agreed the nomination ceases and the client is free to approach another contractor. The nomination is made on this basis. Variations are valued on the basis of prices in the bills. The procedure allows the contractor to co-operate in constructional design, gives some assurance that the job will be considered in its entirety, and that the drawings will be complete and ready before work starts.

COMMENT: *There is a tendency for industrial and commercial building owners to employ this method—many of whom have long associations with firms of builders. It is likely that the method is employed to a much greater extent than is normally supposed.*

The advantages of the method are: (a) The architect can have the benefit of the builder's advice at the design stage. (b) The builder's suggestions for economical construction must be backed by a firm price in the bill. (c) The builder has adequate time to plan his site operations with a full knowledge of all the works and sub-contractors, and (d) he has the opportunity to order scarce materials well in advance. (e) He is less likely to suffer delay in the issue of drawings. (f) There is an inducement to maintain his standards in all matters since he obtains work on this method by reputation. (g) The client knows the full extent of his financial commitments—except for wage or materials price fluctuations. (h) The procedure is suitable for the development of new constructional systems or ideas, provided that such ideas are not so un-

usual that it is impossible for the builder to estimate the cost of the operations.

The negotiated contract does, however, throw the extra responsibility upon the quantity surveyor of assuring the client that he is paying a reasonable price. This he will do by reference to current rates in ordinary competitive work, but since there is always a range of prices that would be considered reasonable, the client may not get the lowest possible price for the particular design—a price that might be obtained fortuitously under competitive conditions. On the other hand, this procedure avoids the "freak" high price submitted by builders who do not really want the contract. This situation might obtain when there is a heavy demand on the industry.

When the tender has been negotiated and agreed, the client is relieved of most of the financial risks, for if the work should cost more than the agreed price the builder stands the loss. But if the work costs less, the builder benefits. This potential benefit, together with his interest in maintaining a high reputation are important incentives to the builder which in the long run could do much to increase the efficiency of building. This form of contract is sometimes used with an agreement that the builder and the client share equally in any profit exceeding an agreed percentage; the builder allowing the quantity surveyor access to his cost records.

If at the completion of the working drawings stage a price cannot be agreed time will have been lost. This will be more serious if the architect wishes to investigate an alternative design or different methods of construction suggested by the next builder to be approached.

(b) With Schedule of Rates

As in the procedure described above, the builder is nominated early in the design stage, and co-operates with the architect. But the contractual agreement is based on a schedule of rates. Thus the contract sum is not known, except in general terms, until the final valuation at the end of the job. This method is often used where the building is needed in a great hurry, consequently much of the design will be worked out while the contract is in progress.

COMMENT: *When there is a shortage of time it is unlikely that the client's needs can be fully studied or that the most economical form of construction can be worked out. Nor does the client know the extent of his commitments before the contract begins. On the other hand it is possible for the architect or quantity surveyor to use a modified form of cost planning* to set target costs for the major elements of the structure—based on element costs in comparable work. Thus there can be some control of cost—aided by the close liaison which must exist between architect and builder in deciding methods and materials to be used. There is also an incentive for the builder to give value for money, for his reputa-*

*See AJ July 28.



Above, Old People's dwellings, Tile Hill Estate, Coventry. Architect: D. E. E. Gibson. Built under a negotiated contract with bill of quantities. Below, Remax House, W.C.1. Architects: Huckle and Durkin. Built under a negotiated contract with schedule of rates.



tion is perhaps more at stake with this method than any other. The procedure is probably most appropriate for buildings which are needed quickly—to put an expensive site into "production" or meet a critical date in the trading year. It is less appropriate where architect or engineer wish to explore a number of alternatives to arrive at the most economical construction, and therefore is unlikely to contribute in the long run, to improved value for money in building work.

(c) The Bellahøj Housing scheme, Denmark

This well-known scheme in a suburb of Copenhagen was built under forms of contract negotiated between the clients, four Co-operative Building Societies, and certain of the largest and best known Danish building contractors, on the basis of schedules of rates. In this case the reason for adopting this form of contract was to permit the architects, consulting engineers and contractors to collaborate at design stage in the development of various comparative building techniques.

The layout of the site, which was owned by the City of Copenhagen, was the subject of an open architectural competition in 1944. Commencement of work was delayed for a number of reasons until 1950, but the winners of the competition, in consultation with the City Architect, were responsible for carrying out their basic scheme. The de-

velopment of the site was financed by the four building societies, who thus became the clients, who appointed their own architects, consulting engineers and contractors, for the design of individual buildings for each sector. The scheme comprises some 28 point blocks, from 7 to 10 storeys high.

COMMENT: From the constructional angle the contractors, together with the designers, have co-operated in trying out experimental ideas, and in developing new and progressive techniques involving considerable mechanical plant. From the contractual side, however, the schemes had all the weaknesses of negotiated contracts on schedules of rates referred to above. As a result the work was not, from a financial point of view, as economical as similar work executed on other sites under conditions of competitive tender—which is the orthodox system in Denmark as in this country. A point of particular contractual interest is that a number of difficulties were encountered in attempting to use the negotiated schedules of rates for the valuation of work involving new techniques, not envisaged when the original schedules were agreed.

2. COMBINED DESIGN AND CONSTRUCTION CONTRACTS

Under this heading we have grouped together a number of procedures in which the designer and contractor are associated together, either temporarily or permanently, for the purpose of carrying out the design and construction work and obtaining the benefits of closer collaboration.

(a) The All-in Service

The organization may be a building contractor or estate developer whose staff includes architects, engineers and quantity surveyors. A design is prepared, based on the client's brief, and a price which includes construction cost and design fees is agreed. Work on the site can then proceed without delay. A similar service is offered by organizations which are primarily finance companies with a subsidiary building firm and standing arrangements with a group of architects, quantity surveyors, engineers and suppliers. One such organization will buy the site, finance the project and lease it to the client.

COMMENT: The appeal of this method to the client is that he has only one organisation to deal with, his total outgoings are fixed on one sum, he can have a clearer picture of what he is going to get before he commits himself, and the building may be finished more quickly than with the orthodox method. Although under orthodox procedure, the client is supposed to know what his total outgoings will be, snags frequently arise which involve unexpected extra disbursements due to variations, and additional professional fees. It is claimed that the All-in Service can provide the client with a clearer picture of his total outgoings before he commits himself and that the building will be finished more quickly. In principle the All-in Service is the logical answer to the demand for archi-

tect-builder co-operation, and some believe that no major improvement in the building industry can take place without it. It could provide the greatest opportunity for the fullest integration of design and construction. This is evidenced by the practice of other industries, for example, shipbuilding, aircraft construction, furniture making, and mechanical engineering.

From the point of view of the architectural profession the greatest drawback to the system is the threat which it carries to the architect's independent professional status, in particular to his traditional rôle of regulating and interpreting the terms of the contract fairly between builder and building owner. The code of professional conduct does not permit registered architects to be directors of or to have financial interests in any firm having a commercial interest in the building industry. Within the existing Code therefore the only way in which the architect can co-operate with a contractor to provide the All-in Service is either by developing some form of association (but not a financial one) between his practice and a particular building firm as the result of which he acts as architect for clients approaching the builder direct. Or by joining the staff of a firm as a salaried architect.

In the conditions of modern building it can be argued strongly that the architect might perform a better service to the client if he gave up his professional status and became a responsible member of the contractor's organisation at high level.

Given a progressive building firm, keenly interested in modern technique and the application of scientific methods, equally interested in good design, and intent on making the architectural standards and character of their buildings a matter of policy, the young contemporary architect could hardly disagree with this argument. On the other hand it must not be forgotten that a major aim of the All-in Service is to provide more economical building and there is a great danger that the emphasis on this will overshadow the attempt to maintain architectural standards.

The profession is on the horns of a dilemma so far as contractual relations with industry is concerned. Retreat behind orthodox procedures will not help the situation. Bold measures and more experiments are needed. Two well known architects have recently dissolved their practice, the one to go into building as a business, the other to continue in practice as an architect, but continuing their former friendly association. Is this a symptom of the times? We would value readers' opinions on the All-in Service, using the term in its broadest sense.

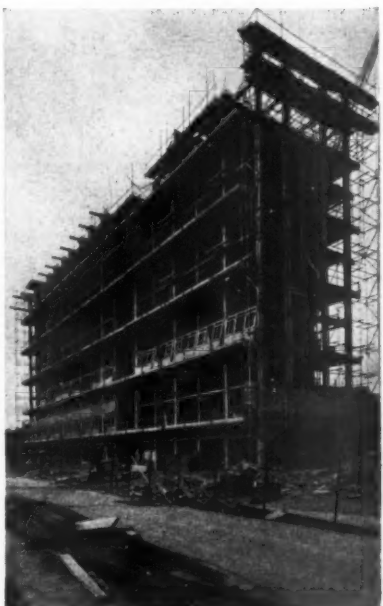
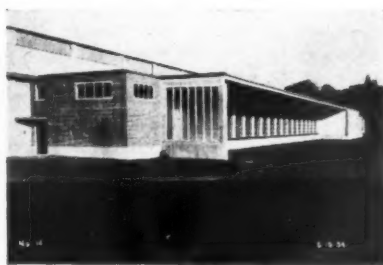
(b) "Chantier Experimental" Competition, Strasbourg

The French Government undertook to hand back to W. Germany in 1953 the town of Kehl, near Strasbourg. This entailed rehousing some of the inhabitants, mainly

river-port workers, in Strasbourg, in some 800 new dwellings and one school on a 25 acre site. The French Ministry of Reconstruction invited teams of architects, engineers, contractors and manufacturers to take part in a competition for both design and construction. The selected teams were then given the information and conditions on which to work, which had been framed so that "no solution which was technically sound, and well adapted to the specific social problems need be rejected." The conditions specified: The number of dwellings, the percentage and size of the different types (with tolerances) and floor areas. The heating, hot water, electrical and gas requirements; ventilation, thermal insulation and fire protection standards were indicated. Any departure from standards or regulations would have to be supported by evidence. The names of sub-contractors had to be submitted and the heating contractor was to provide for operation of the heating system after completion. There was no restriction on building methods, but new proposals had to carry approval of the French BRS. A global cost figure was given of approximately £1.4 million for 800 dwellings, to be adjusted according to movement in the Ministry's building cost index, and according to variation within the permitted tolerance of numbers of dwellings. Main site works were excluded from this total—but an approximate estimate of their cost, based on a Ministry schedule had to be submitted. The architects' fees were fixed at £41.5 thousand approximately—to be varied according to the Ministry's building cost index. The scheme had to be completed 18 months after notification to begin building, and there was a non-completion penalty of about 10s. per dwelling per day uncompleted. The competition was judged 11 months after the first announcement, or about 8½ months after competitors received the conditions. First prize was the contract, and other prizes, or expenses were awarded, or the rights to a scheme were purchased. The total thus paid out was not to exceed £41.5 thousand. The tender and scheme constituted the contract, and the Ministry reserved the right to study costs and site organization during the work.

COMMENT: This method is particularly interesting as a competition for financial economy as well as design. In requiring a builder to submit a tender for a specific design it offers a realistic alternative to the present type of competition under RIBA rules. It is comparable to the competitive tendering (design and cost) recently described by Professor P. L. Nervi as being common practice in Italy for major works such as exhibition halls, auditoria and stadia. (See *AJ*, October 27.)

Apart from these points there is the advantage that builder, architect, consultants and sub-contractors work together in a unified command and in the prospect of winning, all have an incentive to produce the best possible scheme for the money available. Thus there is an identity of aim which all must share. One aspect worth noting is that the architect's fee is a fixed sum, so that he is not penalized for his efforts to reduce construction



Top, the Bellahøj housing scheme, Denmark. Architects: Mogens Irming and Tage Nielsen. The scheme was the subject of an architectural competition, detailed design and construction being undertaken by four co-operative building societies who employed their own architects, engineers and contractors, using negotiated contracts with schedules of rates. Centre left, a new Distribution Centre for SPD Ltd. at Birmingham. Architect: A. B. Waters. Built by an "all-in" service (CAS Industrial Developments Ltd.) Centre right, the Chantier Experimental Housing scheme at Strasbourg. Architect: Eugene Beaudouin. The scheme was the subject of a competition for both design and construction—a form of the "all-in" service. Above left, Jeremiah Ambler factory at Peterlee. Architect: Sir William Holford. Built under a fixed fee contract. Above right, LCC Shops at Orpington. Former Director of Housing and Valuer: Cyril H. Walker. Built under the LCC Value Cost contract. Left, part of LCC Picton Street housing scheme. Architect to the Council: Dr. J. L. Martin. Built under a prime cost plus incentive form of contract.

cost—as he would be with a percentage fee.

On the other hand, the preparation of a design, working out of constructional methods and the preparation of an estimate by a large number of competitors represents a considerable amount of work which might well increase the overall cost of building. For this reason, this form of competition would perhaps be appropriate for large works of national significance, or for designs where the high cost of fees could be spread over a large number of repetitive projects. It is worth noting that the Sheffield Corporation have recently announced their intention to promote a competition on Chantier lines—in collaboration with MOHLG.

PRIME COST PLUS INCENTIVE CONTRACTS

The following notes describe three forms of contract which vary in detail from each other but which all provide that the client pays the actual cost of the work, with a financial incentive for the contractor to keep costs down.

(a) Fixed Fee Contract

The fixed fee contract may be either competitive or negotiated, but competition is unusual. The builder is nominated at an early stage. He may start on site immediately, as in the schedule of rates method, or at a later date when the bill of quantities has been prepared. In the latter case the quantity surveyor prices his bill, excluding allowance for builder's overheads and profit. These are covered by the builder's fee which may be calculated as a percentage of the quantity surveyor's valuation and in the former on a lump sum approximate estimate. During the work, the quantity surveyor will have access to the contractor's records, which show expenditure on labour, materials and plant. From these he can prepare monthly statements for the issue of architect's certificates, and can satisfy himself that costs are being properly charged. At completion in cases where a bill of quantities is prepared, he adjusts his original estimate according to variations in the work and fluctuations in wages and materials costs, to produce a final valuation, representing his opinion of what the work should have cost *net*, and the fee is based on this amount. In cases where the fee was calculated on a lump sum estimate there would be no adjustment. The client in both cases pays the *actual net cost* incurred by the builder.

The lower the contractor's costs, the greater will be the percentage of the total represented by his fee. The more he can reduce the normal plant and overheads components of his fee, the greater will be his profit. This is his main incentive to greater economy.

COMMENT: The advantages of the method are these: (a) It allows architect and builder to co-operate from an early stage; (b) it allows building work to start more quickly. However, an early start is only possible by dispensing with full working drawings and a bill of quantities before site operations begin. This, of course, acts against full contract planning and the advance ordering of materials. As with most prime cost systems of contract, the

client does not know what his total financial commitment will be until the job is completed. Since the client pays actual costs he takes the financial risks, the builder's liability being limited to his overheads. Examination of the builder's books and accounts by the quantity surveyor allows relatively little check on efficiency since only bulk quantities of materials can be checked, and no firm conclusions can be drawn from labour costs because they will be unrelated to actual units of work. Nor can sub-contractors' accounts be checked in any detail. The builder's incentive to avoid inefficiency is in the maintenance of his reputation—upon which future orders depend.

(b) LCC Value Cost Contract

This is the form of contract under which the LCC has built the housing estates of Boreham Wood, Oxhey, St. Paul's Cray, Hainault, and other areas in the Home Counties. Under this form of contract the building owner finances the work—he may if he wishes provide all necessary plant—and pays a fee to the contractor for organizing the work, the fee varying according to the relationship between the actual cost and the value of the works as calculated from the original tender. Tenders are invited on the basis of specifications and typical drawings for the various types of buildings to be built, with an indication of the approximate size of the contract, together with fixed schedules of rates for all work below ground floor level, including all site and drainage works, plus fixed sums for the value of the superstructures of the various house types. The tenders offer to carry out the works at certain percentages on or off the rates attached to these schedules.

The building owner finances the work through a banking account on which the contractor draws as necessary—the whole of the accounts being kept in a form subject to approval and checking by the building owner.

The fee which is the incentive to speed and economy by the contractor is set out in the invitations to tender as a fixed percentage of the actual cost of the work, assuming that this is equal to the value of the work as calculated from the rates in the tender. If the actual cost is lower than the value calculated from the tender the contractor receives the stated fee plus a substantial proportion of the savings. If the actual cost is higher than the value calculated from the tender the percentage fee rapidly diminishes to zero according to a sliding scale proportionate to the increased costs up to a certain point at which a penalty is incurred.

COMMENT: To operate this system a building owner needs to possess considerable capital resources, and an experienced and highly skilled staff. It is therefore only likely to be used by very large organizations with a continuous programme of repetitive building. The advantages of the system are claimed to be economy, flexibility, speed and avoidance of delay in getting contracts started. The method has not so far been used for multi-storeyed flats and it would perhaps

be difficult to reduce a very complex building to the simple schedules used in small house building. The provision of finance would seem to be an encouragement to small builders to tender, but on the other hand it would appear that the larger firms have in fact been more successful, no doubt because of their greater experience and skill in organizing large building works.

(c) LCC Picton Street Experiment

This is an experimental form of contract devised with the aim of investigating to what extent collaboration between the architect and a nominated contractor on a scheme of multi-storey housing can achieve (a) economies in overall cost; (b) speed in erection; (c) new techniques. The scheme was described in the JOURNAL of November 10.

Early in the design stage, a builder was nominated from a short list of those suitable and willing. The client's quantity surveyor prepared an estimate of cost of the scheme based on known methods of construction, and this figure, subject to later checking against priced bills of quantities for the final design, was accepted as a "target" sum and maximum limit of cost.

The architect, engineer and contractor then co-operated on the designs, doing a considerable amount of research into alternative structural methods and design details, always checking each proposal against the original estimate of cost based on "traditional" or known methods. Bills of quantities were prepared, and priced by the contractor, as a means of assuring both parties, before the contract was signed, that designs were reasonably related to the target.

Payment to the contractor is made on the basis of actual costs of material, labour, plant, etc., plus fixed percentages for overhead and profits. If the final cost is below the target sum, the savings made will be shared between the client and the contractor. If the final cost is over the target, the loss will be borne by the contractor, as it would be, of course, in a loss on a straight lump sum tender. The analysis of costs should provide valuable research data. The sharing of savings below the target sum represents an all-round incentive to keep costs low.

COMMENT: This contract is experimental and is not yet completed, so that until figures are available the achievements of such a procedure cannot be fully assessed. In addition to the specific aims of this experiment—the investigation of new techniques which will reduce costs—the contract method is expected to attain similar advantages to those listed above under "negotiated contract with bill of quantities."

CONCLUSION

This consideration of unorthodox procedures has not attempted to deal with all the systems that have been used. We have given attention only to those which are either used to a comparatively large extent or which are in the nature of experiments to solve specific problems.

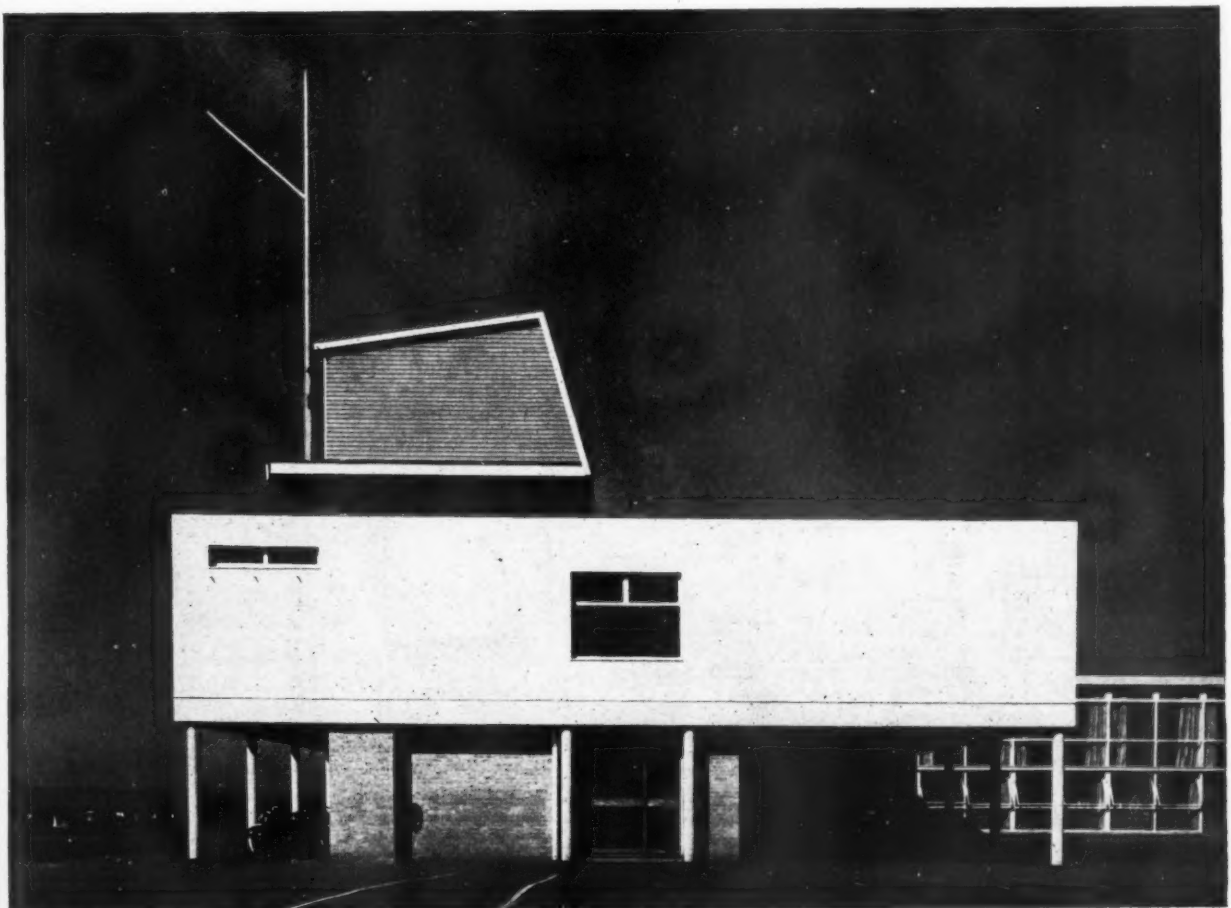
In our next article we shall consider the contribution that might be made by architect-builder co-operation.

SECONDARY SCHOOL

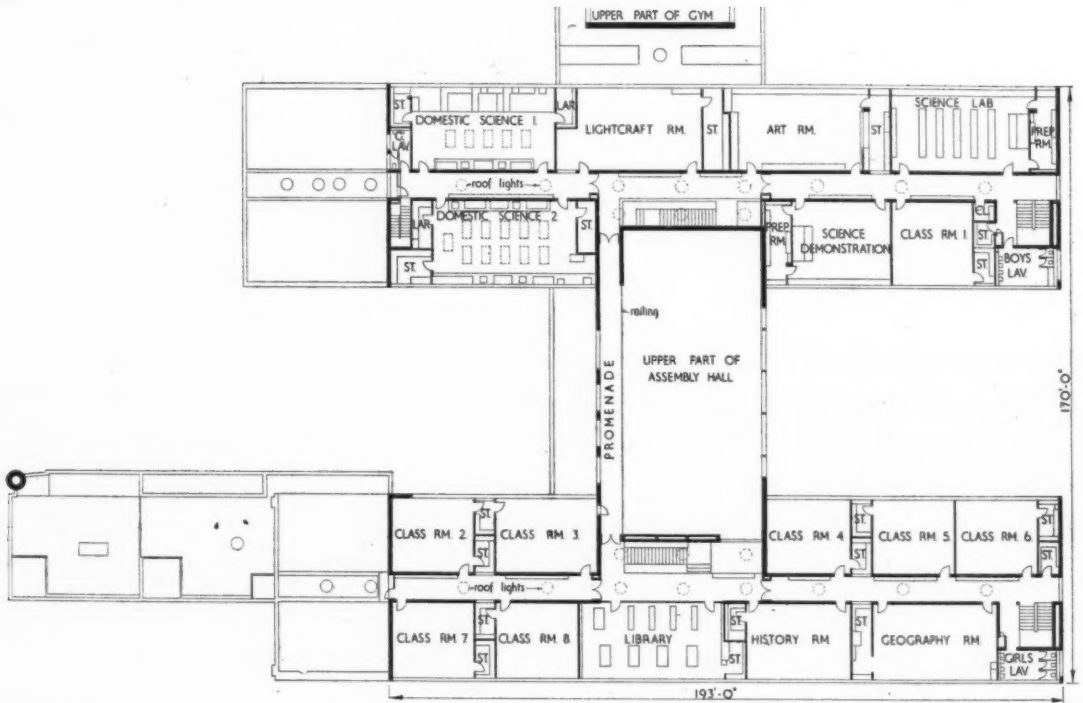
at BULLOCKSTONE ROAD, HERNE BAY, KENT, for the KENT COUNTY COUNCIL
designed by E. D. LYONS, L. ISRAEL and T. B. H. ELLIS
in collaboration with E. T. ASHLEY SMITH, County Architect
and S. H. LOWETH, formerly county architect
consultants (structural) MALCOLM GLOVER and PARTNERS
(heating and electrical) STINTON JONES and PARTNERS
quantity surveyors THURGOOD, SON and CHIDGEY

This three-form entry Mixed County Secondary School for the Kent Education Committee is designed for 540 pupils and complies with the requirements of the 1944 Education Act and also with a very thorough briefing by the clients. The County Architect has produced a directive "Planning in Schools," for circulation to private architects working for the county authority, and also a schedule of accommodation and type designs for room layouts. An acute shortage of steel caused a change in the structural system and the external walls of the first floor are built up from teak posts, tied longitudinally by teak beams. Particular attention has been paid to the built-in furniture, such as laboratory benches, lockers and cloakroom fittings. The general contractors were J. J. Clayson & Sons Ltd. For sub-contractors see page 712.

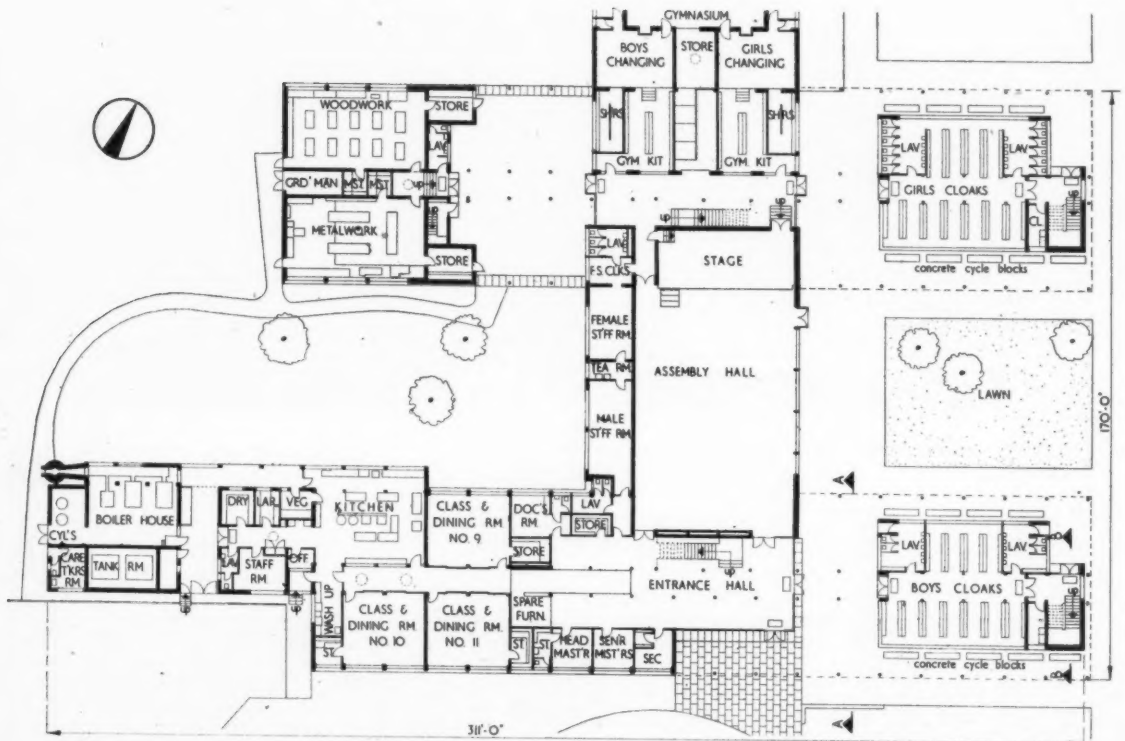
Viewpoint 1: the south wing from the east.



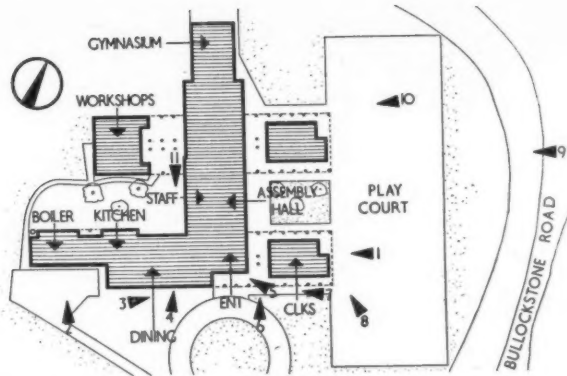
SECONDARY SCHOOL AT HERNE BAY



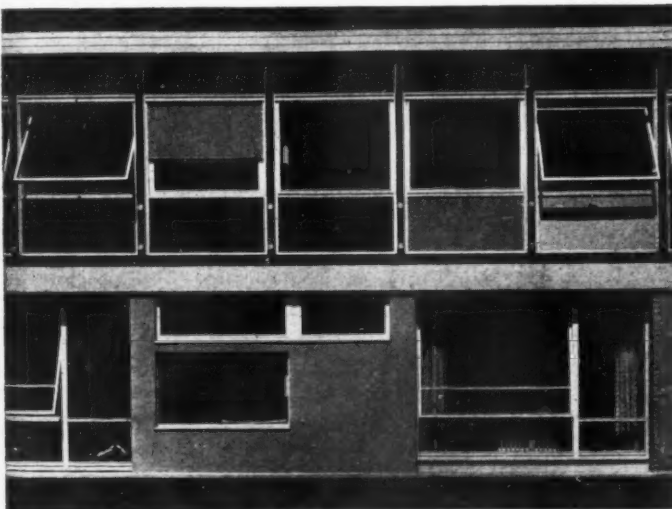
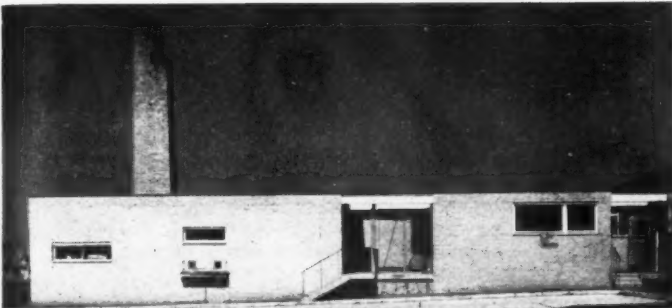
First floor plan



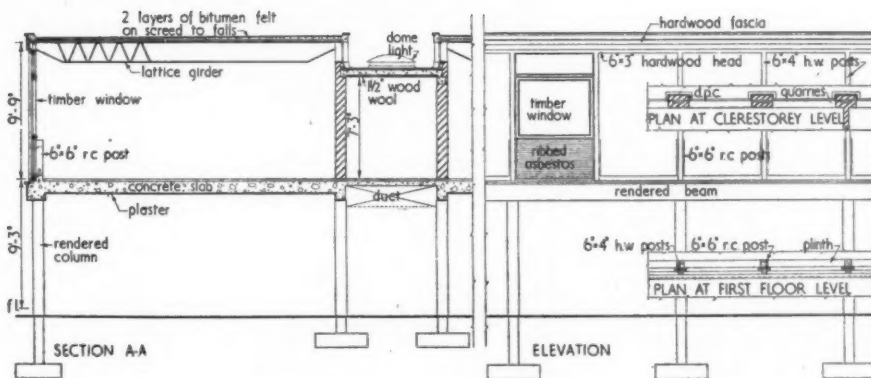
Ground floor plan [Scale: $\frac{1}{4}$ " = 1' 0"]



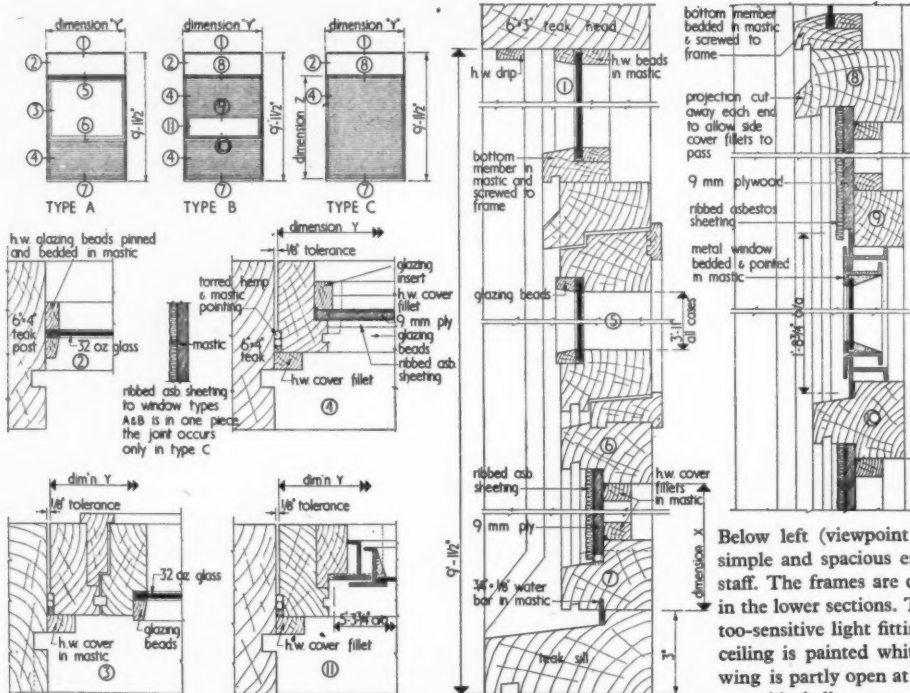
Key plan showing photographic viewpoints



Left (viewpoint 2): service court and boiler house. The two small square plates below the second window from the left cover the oil fuel intake pipes and have a drip tray below. Tank gauges can be viewed through the window. A raised entrance (centre) allows kitchen waste bins to be removed easily. The 40-ft. stack has an internal diameter of 2 ft. 6 in. with a lining of refractory concrete blocks bonded to 13½-in. brickwork for the first 20 ft. and 9-in. brickwork for the top 20 ft. The stack is finished with a cast-iron cap. The subsidiary shaft encloses vent pipes. Colours: white connecting beams, grey-green metal work at entrances and yellow London stock brick. The same modular scale applied in the main building is used for the boiler house, establishing a continuity that nevertheless allows each structural method its distinctive expression. Above (viewpoint 3): the transition between the load-bearing structure of the boiler house, through cross-wall and panel to true frame on the right. (This mixture of structural disciplines was caused by the steel shortage). Ground floor brick piers and cross-walls are at 12 ft. centres; upper floor standard panels are at 6 ft. centres. Left (viewpoint 4): detail of south elevation. Upper floor cladding (see detail on page 702) consists of standard wooden frames containing pivot-hung windows, ventilators, fixed glazing and coloured asbestos panels. These fit between 6-in. × 4-in. teak posts, bolted to RC stub columns which carry lattice bar roof beams. Both ground and upper floor windows have a horizontal slot just above sill level which gives permanent ventilation. The rendered brick panel is painted deep blue; panels in upper frames are painted black, grey-green and yellow and are divided vertically by dark brown teak posts, and there are white fascias.

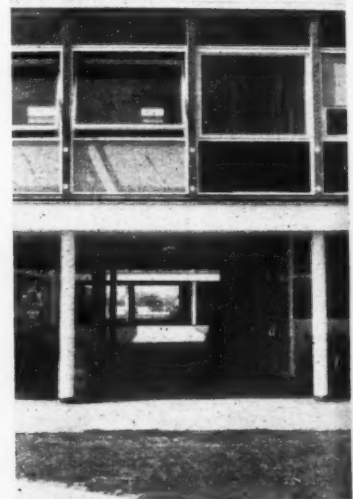
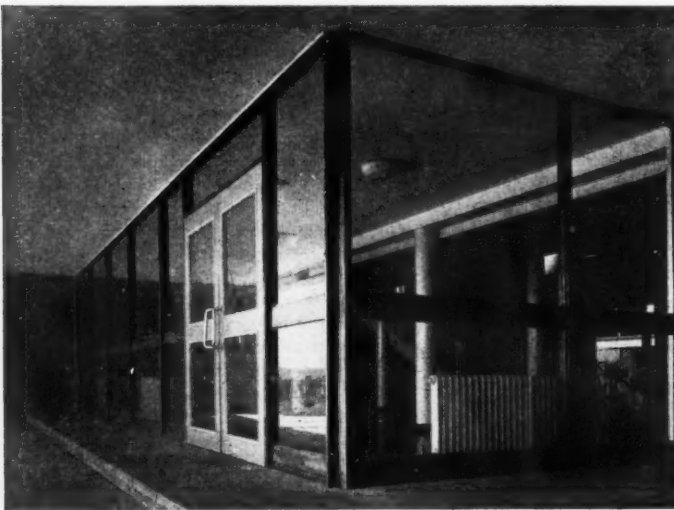


Section A-A and part elevation [Scale: 1/8" = 1' 0"]



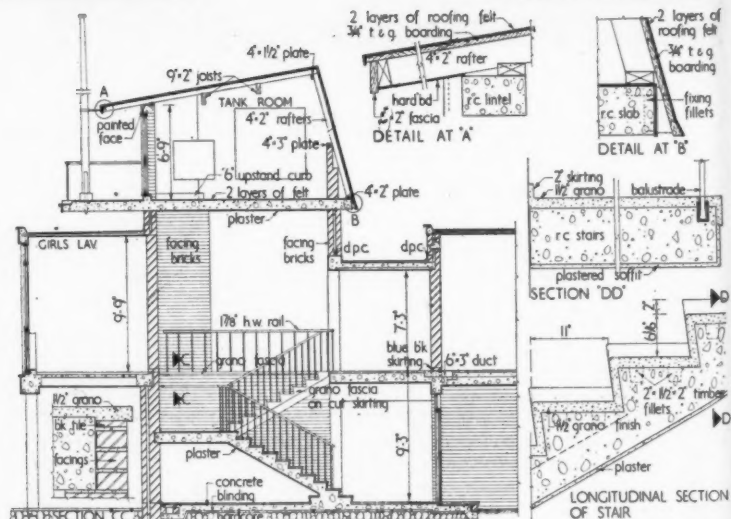
Left: key elevations and details, first floor glazed wall units [Scale: $\frac{1}{4}''$ & $2'' = 1' 0''$]

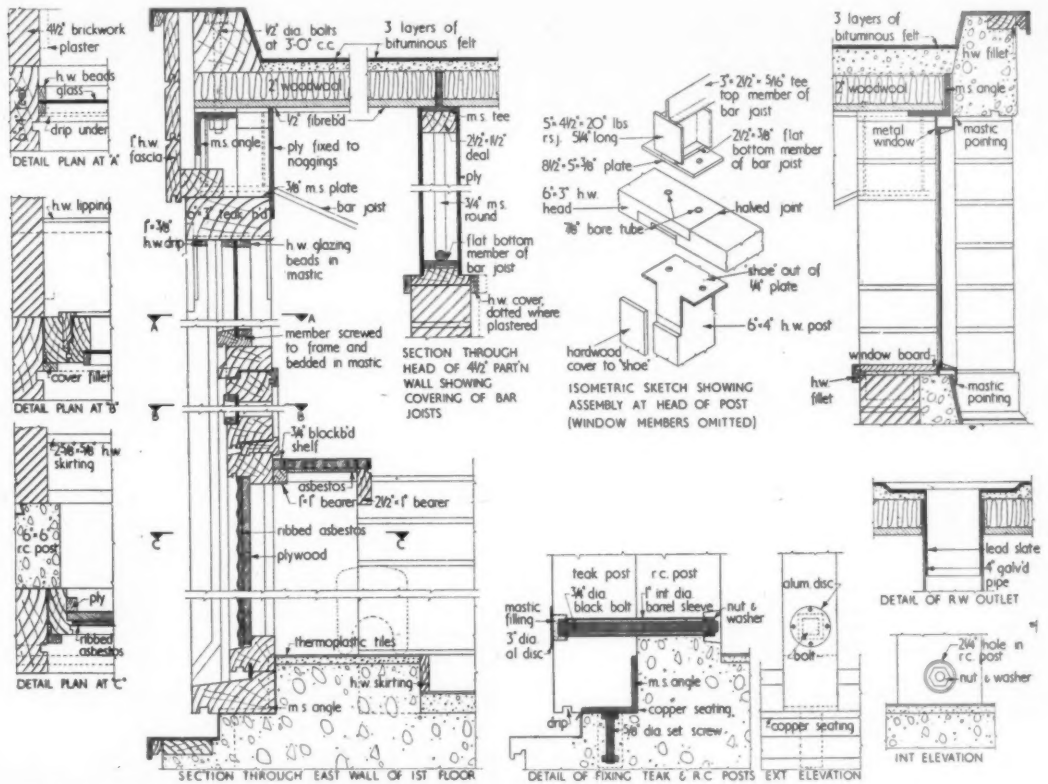
Below left (viewpoint 5): the main entrance. This clean, simple and spacious entrance is used both by children and staff. The frames are of African mahogany with wired glass in the lower sections. The only things to be regretted are the too-sensitive light fittings and the ubiquitous radiators. The ceiling is painted white. Below (viewpoint 6): The south wing is partly open at ground level. In this photograph the assembly hall courtyard is seen in the background.



Right: section B-B and details (see plan on page 700)

[Scale: $\frac{1}{4}''$ & $\frac{1}{2}'' = 1' 0''$]





Section through external walls at first floor level and details [Scale: $\frac{1}{8}'' = 1' 0''$]

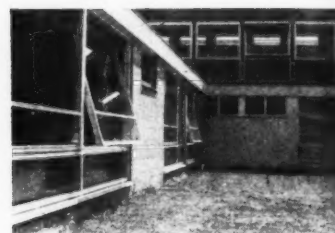
Below (viewpoint 7): the south elevation from the east. The transition to true frame is complete here. On upper floors screen grid and column grid coincide; on the ground floor they are separated. This rational exploitation of the

qualities of a frame avoids the more usual (and somewhat doctrinaire) approach of the prefabricated "modular" frame systems.

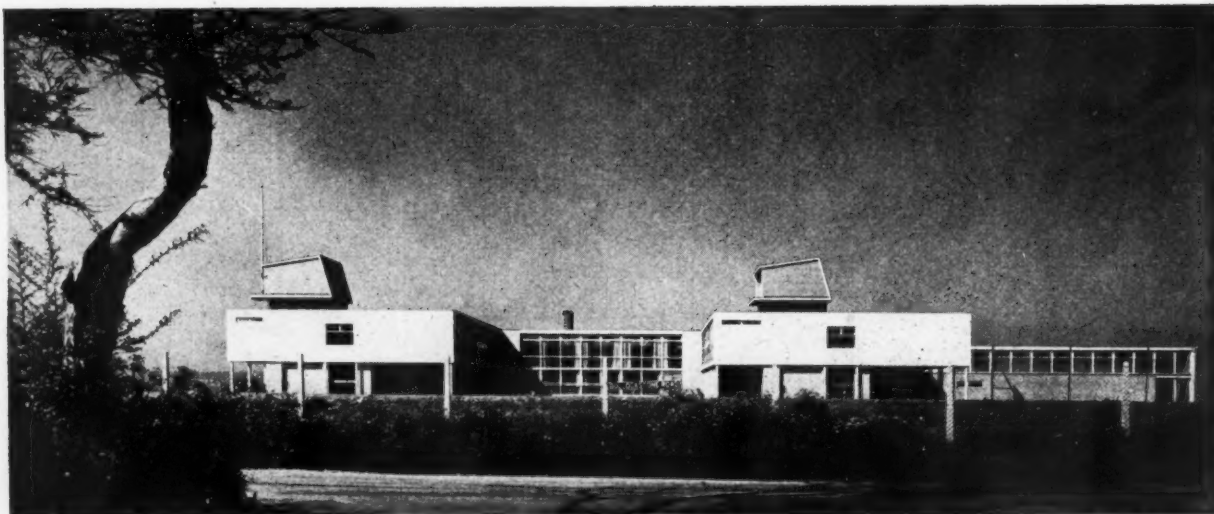


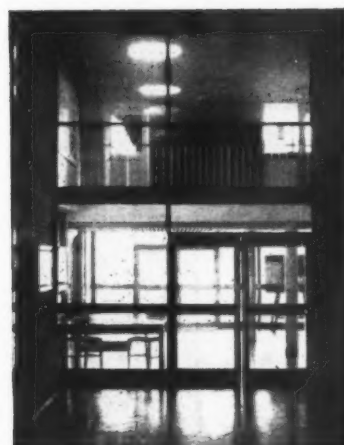


Above (viewpoint 8): the south-east corner of the school. The building is at the top of a slight rise and the tank rooms, with their cheerful—if rather self-conscious—air of nautical pastiche are seen as dominant features of the skyline for a good distance. Colour: tank room plinths are black, walls are white and grey-green with white trim. The classroom wing end walls are white. Below (viewpoint 9): the hall (seen from the east) between the two classroom wings, with the gymnasium on the right. Right top (viewpoint 10): the gymnasium from the east; On the Right, bottom (viewpoint 11): west court with staff rooms on left.



SECONDARY SCHOOL AT HERNE BAY

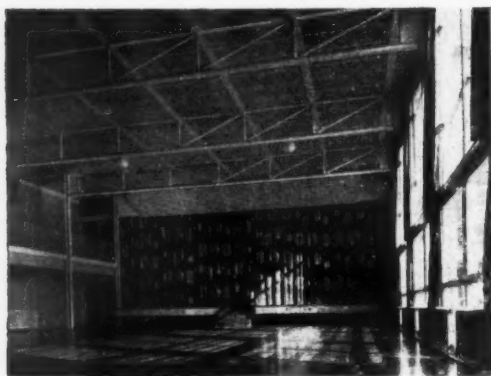




Above left: entrance hall, looking west. The headmaster's and secretary's rooms are on the left. On the right are the r.c. stairs with terrazzo finish. In the middle distance, a ramp follows the slope of the site down to the kitchen servery (on the right) and the dining-classrooms (on the left). The neat and simple ceiling duct runs the whole length of the wing. The floor finish is of black mottled thermoplastic tiles. The ceiling is white. Light fittings conform to brightness regulations but lack any sparkle. Above: entrance hall from the gymnasium. Left: a detail

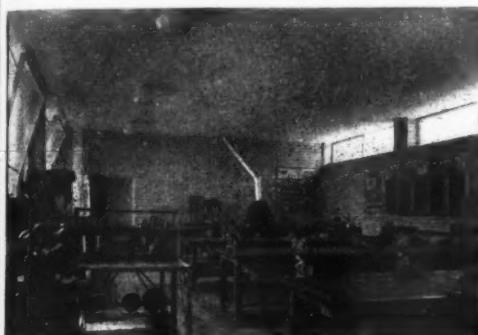


of the ceiling duct. Cross members are 2 in. \times 1 in. softwood slats formed into frames 3 ft. 6 in. \times 7 ft. for easy removal. Above: library from the landing above the entrance hall. The floor is of thermoplastic tiles; hand rail of Honduras mahogany with oiled finish. The panels of the library screen are $\frac{1}{4}$ -in. plywood.



Left: the assembly hall. The planning directive referred to on page 699 asked for a hall with a rectangular plan in the proportions of 5 : 2, a fixed stage which above all must be simple, and a full-width proscenium opening. Movable platform units were not required as they are supplied by the Local Authority. The ironical and unequal battle between radiators and low-level glass disturbs an otherwise peaceful scene. The heating installation (including the selection of radiators) was by the Local Authority. Floor finish is gurjun block, ceiling of wood-wool finished with two coats of distemper. Curtains printed in the school colour of mauve. Below: raised corridor connecting upper floors of the two classroom wings. Roof beams are 3 ft. deep and span 40 ft. Steelwork is painted white. The assembly hall displays a refreshing simplicity and clarity of detail.





SECONDARY SCHOOL AT HERNE BAY

Above left: the gymnasium. The structure is similar to that of the hall. The East African olive strip floor is finished with two coats of matt plastic seal. Wall bars on the extreme right are the type which can be swung out at 90° to the wall. Left: metalwork room. The environment is suitably robust; walls are finished in fair-faced brickwork. The pivot-hung windows do not allow the use of venetian blinds and, in general, classrooms facing south and west suffer from lack of glare-control. Benches are of African mahogany, with iroko tops. The floor is of gurjun block. Below: a dining class room from the kitchen servery. One of the constant difficulties in school design is the



provision of separate dining space within the very tight overall cost limits set by the MOE. The dining-classroom, one way of overcoming the difficulty, is here separated from the servery space by large sliding partitions. The Planning directive issued by the Kent County Architect goes into considerable detail when dealing with school meals service. Dining rooms, hatches, kitchen cupboards, equipment selection and layout, sink heights, meter and store positions are all discussed in detail. Particularly useful are the many key dimensions given. Left: typical top-lit corridor on an upper floor. Such corridors form extensions to the stair landings. As the stairs are centrally placed, the corridors are short and by no means oppressive. Their interest and usefulness is maintained by display cabinets which are formed in the end of classroom stores, and by pupils' locker-units. Panels below display cabinets are 9-mm. ply and are painted mustard yellow. The floor finish of thermoplastic tile is very serviceable but is inclined to be noisy. Left: drawer and cupboard units in the housecraft bay.

CLIENT'S BRIEF: his stated requirements

A three-form entry Mixed County Secondary School, plus one classroom. The school was to accommodate 540 pupils, to conform to the requirements of the 1944 Education Act and to be in accordance with the schedule of accommodation provided by the Education Committee. The schedule of accommodation contains

references to the directive, "Planning in Schools," issued by the County Architect and to his type designs for room layouts. Thus the architects were briefed clearly and in detail. The following additional provisions were asked for: (a) The assembly hall was to be used in addition to the gymnasium for informal physical

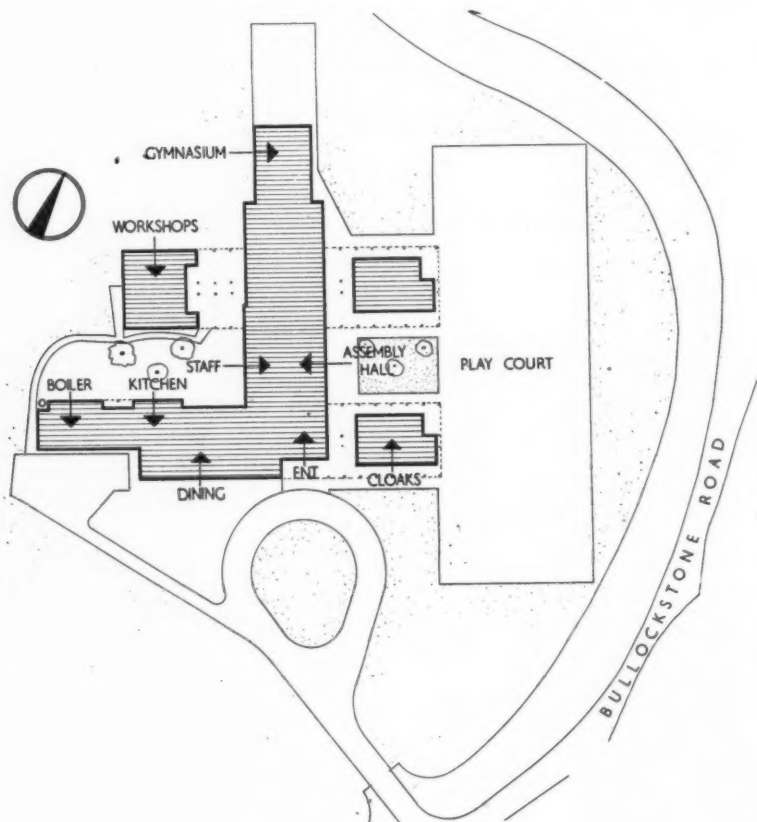
instruction. (b) The gymnasium apparatus store was to be readily accessible from the assembly hall. (c) The dining room was to be partitioned to provide three class spaces. (d) Open web bar joists were to be used in roof construction where applicable, with wood-wool roof covering. (e) The school to be a minimum of two storeys.

SITE: topography, surroundings, access, planting

The site is on land lying to the south of A.299, the main road between Whitstable and Margate. It is bounded on three sides by secondary roads and on the fourth by the gardens of terrace houses. The land falls gently from north to south, giving extensive pleasant views over

typical north-east Kent agricultural scenes in an arc from east through south to west. To the north the view is uninteresting. The main access to the site is in the south-east corner from Bullockstone Road; there is secondary access from this road on the north-west side. The site

before development was arable land. Tared playing areas are provided in accordance with the schedule of requirements. There were no existing trees before development, but extensive planting will be carried out by the County Council's Land Department.



Site plan

PLAN: general appreciation

The plan of the building and its placing on the site have been arranged to give the teaching rooms maximum protection against noise. The main spine of the building containing the entrance hall, assembly hall, gymnasium and main vertical circulation, runs NW-SE. The

two teaching-room arms run at right angles to this and are linked at first floor level by an open gallery running the length of the assembly hall. Most of the teaching accommodation is on the first floor, arranged in a double-banked corridor plan so that classrooms are given the

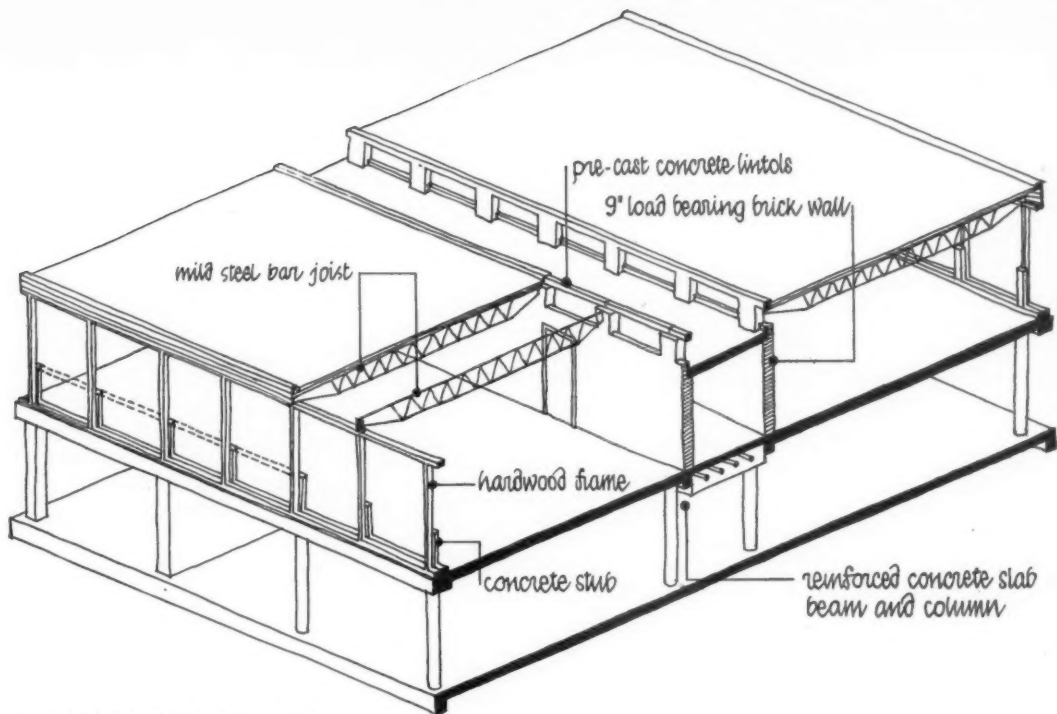
benefit of the views and quiet precincts. The building is placed at the top of the incline and use is made of the change in level to gain additional height in the kitchen and workshops. The building is sited to give a minimum cut and fill.

MAIN CONSTRUCTION: general appreciation

The first floor is constructed of hollow tiles, supported by reinforced concrete columns, brick piers and brick walls. This mixed form of support was brought about by the acute shortage of steel at that time. It was originally

intended to support the floor entirely by r.c. columns. The external facade of the upper storey is built up from this slab with 6 in. x 4 in. teak posts at 6-ft. centres secured to r.c. stub columns. The posts support the bar joists

and are tied longitudinally by 6 in. x 3 in. teak beams. The bar joists span to stub columns built up from the r.c. corridor roof slab. This slab is supported on the 9-in. brick corridor walls.



Isometric sketch of typical cross section

MAIN CONSTRUCTION

<i>Loadbearing element ground floor</i>	<i>Location</i>	<i>Beam spans</i>	<i>Column grid</i>	<i>Reasons</i>
9-in. dia. r.c. columns with hollow tile floor spanning column to column	Classroom block (south)	21 ft. 9 in. 7 ft. 3 in.	12 ft.	The 12-ft. grid was chosen for two main reasons: (a) the Local Authority asked the architects to use wood-wool slabs which, with a length of 6 ft., suggested a 12-ft. column-to-column span as reasonable. (b) 12 ft. is a brick dimension. The structure was originally worked out as a frame, but steel shortage forced the design to be carried out in a mixture of loadbearing brick, crosswall and pier and r.c. frame
12-ft. 9-in. r.c. columns and load bearing brick piers 13½ in. × 1 ft. 7½ in.	Class block (north and south), entrance hall and class/dining	21 ft.	12 ft.	
Hollow tile roof units spanning column to column and column to brick piers 13½ in. × 1 ft. 7½ in.	Kitchen and class/dining	21 ft. 9 in.	12 ft.	
11-in. cavity brickwork	Kitchen stores	12 ft. 4½ in. and 10 ft. 6 in.		
11-in. cavity and 9-in. brickwork	Boilerhouse	12 ft. and 24 ft.		
9-in. brickwork and 13½ in. × 1 ft. 7½ in. brick	Wood shop and metal shop	24 ft. 1½ in.	12 ft.	
6 in. × 5 in. RSJ's with open steel trusses over 11-in. cavity and 9-in. brickwork	Assembly hall Staff room	39 ft. 3 in. (truss) 12 ft. 13 ft.		
13½-in. and 11-in. brickwork	Gymnasium kit	24 ft. 1½ in.		
13½-in. brickwork	Gymnasium changing	17 ft. 6 in.		6-ft. centres (at high level above wall bars)
1 ft. 3½ in. brickwork to top of wall bars, clerestory above 6 in. × 5 in. stub r.s.j.'s	Gymnasium	40 ft.		
<i>Loadbearing element first floor</i>	<i>Location</i>	<i>Beam spans</i>	<i>Column grid</i>	
9-in. brickwork corridor walls; 6 in. × 4 in. teak posts to window walls bolted to 6 in. × 6 in. stub concrete posts up to sill level	North classroom wing South classroom wing	24 ft. 7½ in. 22 ft. 1½ in.	6 ft. 6 ft.	
9-in. brickwork	Corridors	7 ft. 3 in.		
9-in. dia. r.c. columns at 12-ft. centres in lieu of brick corridor wall	Library	22 ft. 1½ in.		6-ft. external wall; 12-ft. corridor wall
<i>Foundation type</i>	<i>Location</i>	<i>Sub-soil</i>	<i>Depth</i>	
3 ft. 9 in. × 3 ft. 3 in. × 1 ft. column bases	Generally to classroom blocks	Clay	4 ft. 6 in. below g.l. to underside	
4 ft. 6 in. × 4 ft. 6 in. × 1 ft. 6 in. deep column bases	Assembly hall		3 ft. below	
2 ft. 6 in. × 9 in. concrete strip foundations to loadbearing walls	Assembly hall		5 ft. below	
Ditto	Gymnasium kitchen, boiler-house and work-shop block		4 ft. 3 in. below and 4 ft. 6 in. average	

Floor structure type	Location	Material	Finish	Reasons
Concrete slab	Ground floor generally	4-in. concrete on 2-in. blinding concrete used under wood block finishes	Thermoplastic tile with 1½-in. overall thickness and wood block with 2-in. overall thickness. Blue brick skirtings	Thermoplastic tiles used for general suitability, good wearing qualities, low cost, and because no damp-proof membrane is required. Other floors were generally as asked for in the Authority's directive "Planning in Schools"
	Assembly hall		Gurjun block. East African olive strip on stage. All wood floors are treated with two coats matt plastic seal	
	Showers		Non-slip ceramic tiles on screed	
	Gym kit		Composition floor on screed	
	Workshops		Gurjun block and granolithic	
	Lavatories		Granolithic on screed with ebonite parting strips at 4 ft. centre to centre	
	Boiler house		Fair-faced concrete	
Pre-cast hollow tiles. <i>In situ</i> slab in corridors	Library, classrooms, corridors, etc.	Hollow tiles, r.c. slab in corridors	Thermoplastic tile on screed. Blue brick skirtings to fair-faced brickwork. Timber skirting to plastered walls	
	Science room		Gurjun block and granolithic	
	Upper floor lavatories		Granolithic	
Semi-sprung floor on concrete	Gymnasium	Battens and counter battens. 4½ in. overall	East African olive strip running across width. Hardwood skirtings	

Outer wall type	Location	Materials	Finish
Horizontal, pivot-hung, single-glazed window and fixed glazing	First floor throughout	African mahogany windows. Panel below sill ribbed asbestos and African mahogany slats with ½-in. fibreboard insulation and 9-mm. ply inner face. Frame fixed to concrete at sill, 6 in. × 3 in., teak beam at head and 6 in. × 4 in. teak posts	Generally clear glazing. Cathedral rimpled to w.c.s Back puttied and fixed with timber bead. Timber, oiled
Metal windows floor to ceiling spanning between brick reveals	Lavatory blocks (ground floor)	Metal window manufacturers' standard sections	Rimpled glazing except for high level opening lights which are clear
Glazed screens	Entrance hall	African mahogany framed screens, floor to ceiling	Georgian wired polished plate to lower panels; ½-in. polished plate above
Glazed screens	Secretary, Head, class/dining and kitchen	African mahogany screens, floor to ceiling with ribbed timber-insulated lower panel. Timber windows to kitchen; north elevation inset in brickwork	As throughout first floor
Brickwork	Boilerhouse block and kitchen store	11-in. cavity brickwork	Fairfaced flush-pointed
Timber screens and brickwork	Assembly hall	Timber screens fixed back to stanchions and brickwork	Fairfaced flush-pointed
Brickwork, timber windows above sill level	Workshop block	Brickwork	Fairfaced flush-pointed
Brickwork	Gymnasium	Brickwork to clerestory level and flank wall. Metal windows above. Rendered concrete beam at fascia level	Fairfaced flush-pointed
Brickwork	Chimney stack	Specially formed radial bricks. Cast iron chimney cap	Cap painted with bitumen

Roof type	Location	Materials	Finish	Reasons
Flat throughout	Classroom blocks	2½-in. wood-wool spanning 6 ft. centres to centre of open bar joists	½-in. screed, 3-ply bitumen felt with spar chippings	The Local Authority asked that woodwool be used wherever practicable. Some difficulty was experienced with thermal movement of woodwool slabs. This has been satisfactorily overcome by allowing room for each individual slab to expand. The wood-wool has been left unplastered (to improve sound absorption) and is decorated with two coats of sprayed white distemper
	Assembly hall and gymnasium	Wood-wool on open steel trusses		
	Kit stores, boilerhouse and workshops	Hollow tile, 1½-in. wood-wool insulation also used as permanent shuttering to underside of slabs		

Internal wall type	Location	Material	Finish
4½-in., 9-in. or 11-in. brickwork	Throughout	Sand lime bricks	Fair faced and flush pointed with the following exceptions :
	All teaching walls changing rooms		Plastered
	Lavatories		Plastered with tiling behind w.c.s and washbasins
	Showers		Plastered, with tiles up to 6 ft. 9 in.
	Back wall of stage		Ply panels on 2-ft. × 1-in. framed battens

<i>Ceiling types</i>	<i>Location</i>	<i>Material</i>	<i>Finish</i>	<i>Reasons</i>
Hollow tiles and in-situ concrete	Ground floor		Plastered	
Wood-wool	Assembly hall, workshop block, boilerhouse		Two coats distemper	

ARTIFICIAL LIGHTING

<i>Source and fitting type</i>	<i>Location</i>	<i>Illumination level</i>	<i>Comments</i>
Mains a/c			
Tungsten filament general diffusing and semi-direct fittings	General	10-ft. candles minimum	
Direct, louvred	Gymnasium		

<i>Wiring and switching types</i>	<i>Location</i>	<i>Comments</i>
V.R.I. cables in conduit	Concealed in ceilings and walls, surface in stores	Good protection. Ease of re-wiring

<i>Power supply type</i>	<i>How distributed</i>	<i>Comments</i>
13-amp.	Ring circuits. Fuse boards in cupboards by secondary stairs	Power points for epidiascopes and movable equipment

NATURAL LIGHTING

<i>Wall glazing</i>	<i>Location</i>	<i>Reasons and comments</i>
Hardwood, horizontal, centre-hung opening lights.	Teaching wings, assembly hall, staff rooms	All windows to first floor can be cleaned from inside the building
Hardwood fixed lights		
Metal windows with opening lights	Cloakrooms, lavatories, clerestory lights	Economy. Small panes where breakage is likely to occur

<i>Roof glazing type</i>	<i>Location</i>	<i>Reasons and comments</i>
2-ft. 6-in. glass dome lights	Corridors and gymnasium, changing rooms	General suitability and ease of providing permanent ventilation

THERMAL INSULATION

<i>Type</i>	<i>"U" value</i>	<i>Reasons and comments</i>
Panel below first floor windows—African mahogany face, fibreboard, plywood internal face	0.3	
Wood-wool		Good heat insulation and sound absorption (use requested by client)

HEATING AND VENTILATION; artificial and natural

<i>Heat exchanger type</i>	<i>Location</i>	<i>Criteria, temperature and air change rate</i>	<i>Reason</i>
5-in. hospital type radiators	General	As School Building Regulations	Services were designed by Local Authority engineers who selected radiator method as suitable

<i>Water heater type</i>	<i>Location</i>	<i>Fuel type</i>	<i>Stoking method</i>
One cast iron sectional boiler 248,000 BTUs/hr.	Boiler house	As above	As above

<i>Hot water storage type</i>	<i>Location</i>	<i>Material</i>	<i>Capacity</i>
Two vertical indirect cylinders	Boiler house	Galvanised steel	250 gallons each

<i>Pipes and jointing type</i>	<i>Location</i>	<i>Materials</i>	<i>Comments</i>
Heating pipes	Throughout	Black mild steel	Joints screwed up to 2-in. diameter welded above 2½-in. diameter
Cold water pipes	Throughout	Mild steel tube	Joints screwed up to 2-in. and flanged fittings

<i>Boiler type and capacity</i>	<i>Heat load</i>	<i>Fuel type</i>	<i>Stoking method</i>
Two cast-iron sectional boilers —828,000 BTUs./hr.	1,140,000 BTUs/hr. net, 1,310,000 gross	Petroleum fuel Redwood No. 1, 200 secs. Visc.	Two oil burners with manual start and shut down. Fully automatic when running. Controlled from manually set flow temperature thermostat

Cold water storage	Location	Materials	Capacity
Two sectional tanks, each 10-ft. × 5-ft. × 5-ft.	One in each tank room	Galvanised pressed m.s.	600 gallons (nom.) each

SOIL WASTE

Type of system	Location	Materials	Methods and comments
One pipe system	Upper floor	c.i.	LCC type fittings
Acid waste	Upper floors	Chemical lead	Dilution received at end of run. Coated c.i. stack pipe

Rainwater disposal type	Location	Materials	Comments
Projecting rainwater heads	Flat roofs	r.w.p.'s in 4-in. steam barrel r.w. heads in pre-cast concrete	

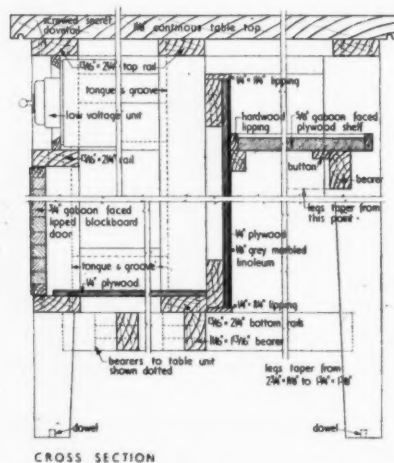
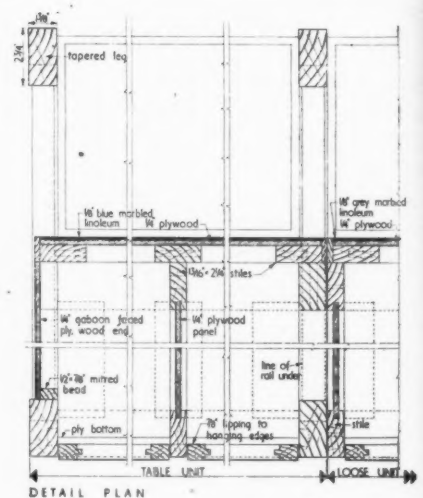
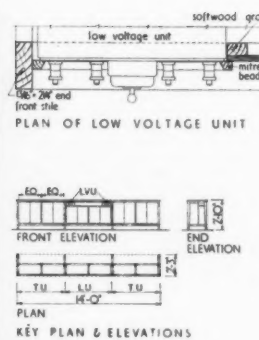
FIRE

Structural precautions	Grade of protection	Apparatus, sprinklers, etc.
Fulfills School Regulations and Kent CC Regulations	1 hour	Foam extinguishers No hose reels

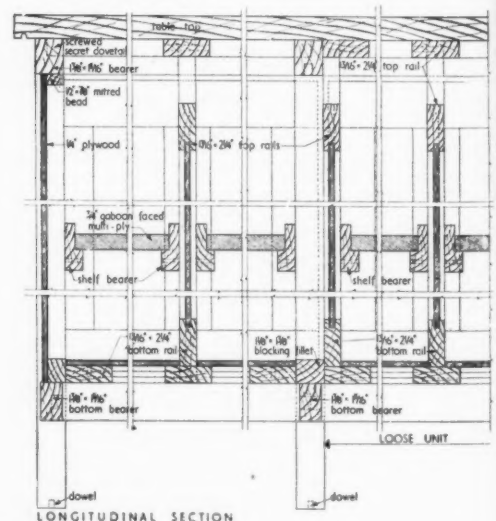
FURNITURE AND FITTINGS



Science benches which are fitted with gas and low-voltage electricity (from batteries on right). Upper floor plumbing is simplified by not fitting sinks into island benches.



CROSS SECTION



LONGITUDINAL SECTION

Key plan and elevations, detail plan and sections of science bench [Scale: $\frac{1}{4}"$ and $\frac{1}{2}"$ = 1' 0"]

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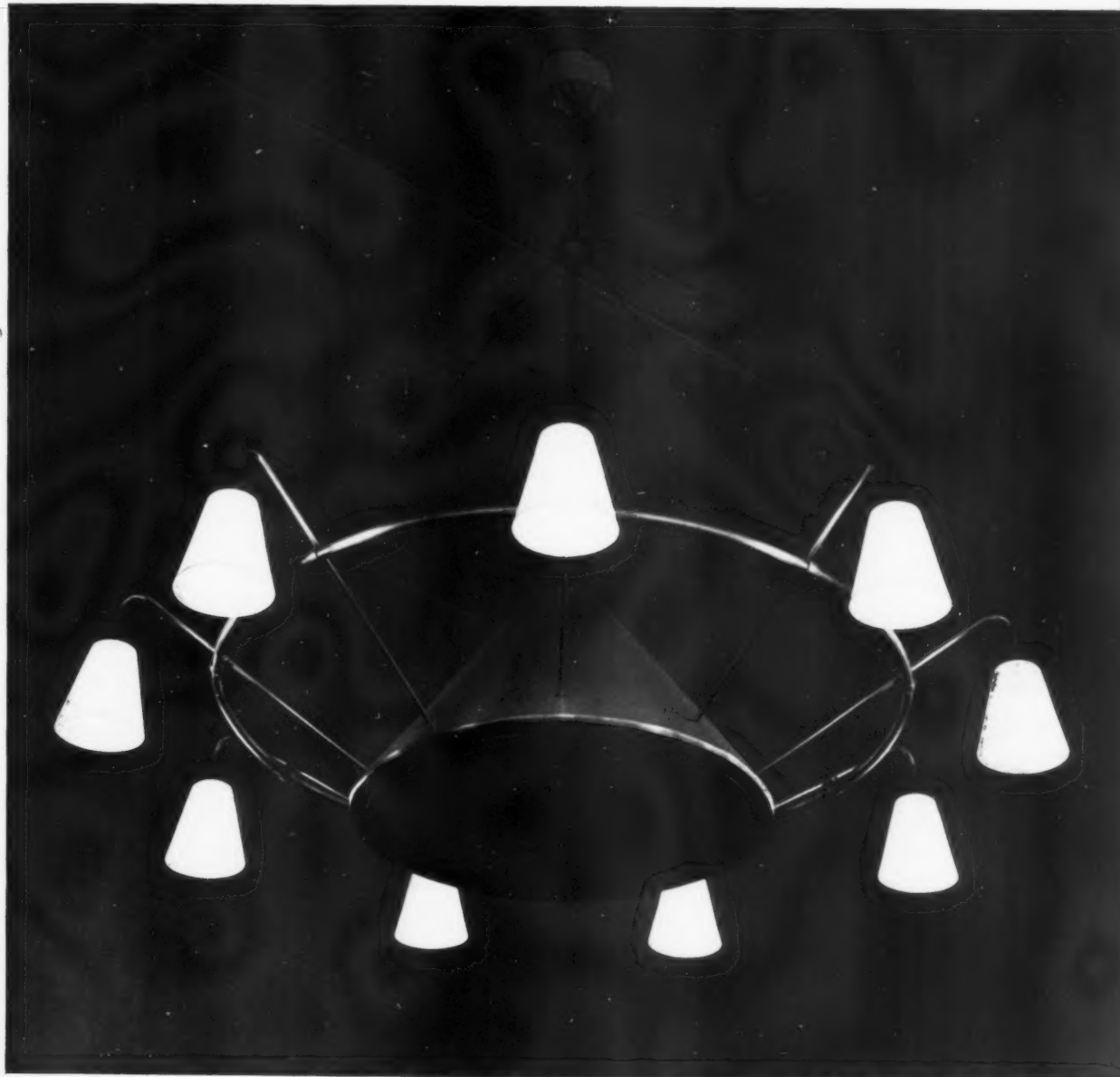
BT

WORKING DETAIL

LIGHTING: 9

LIGHT FITTINGS IN ASSEMBLY HALL: SCHOOL AT STOKE NEWINGTON

Robert H. Matthew, formerly Architect to the London County Council, John Broome, architect-in-charge; F. J. Samuely, consulting engineer



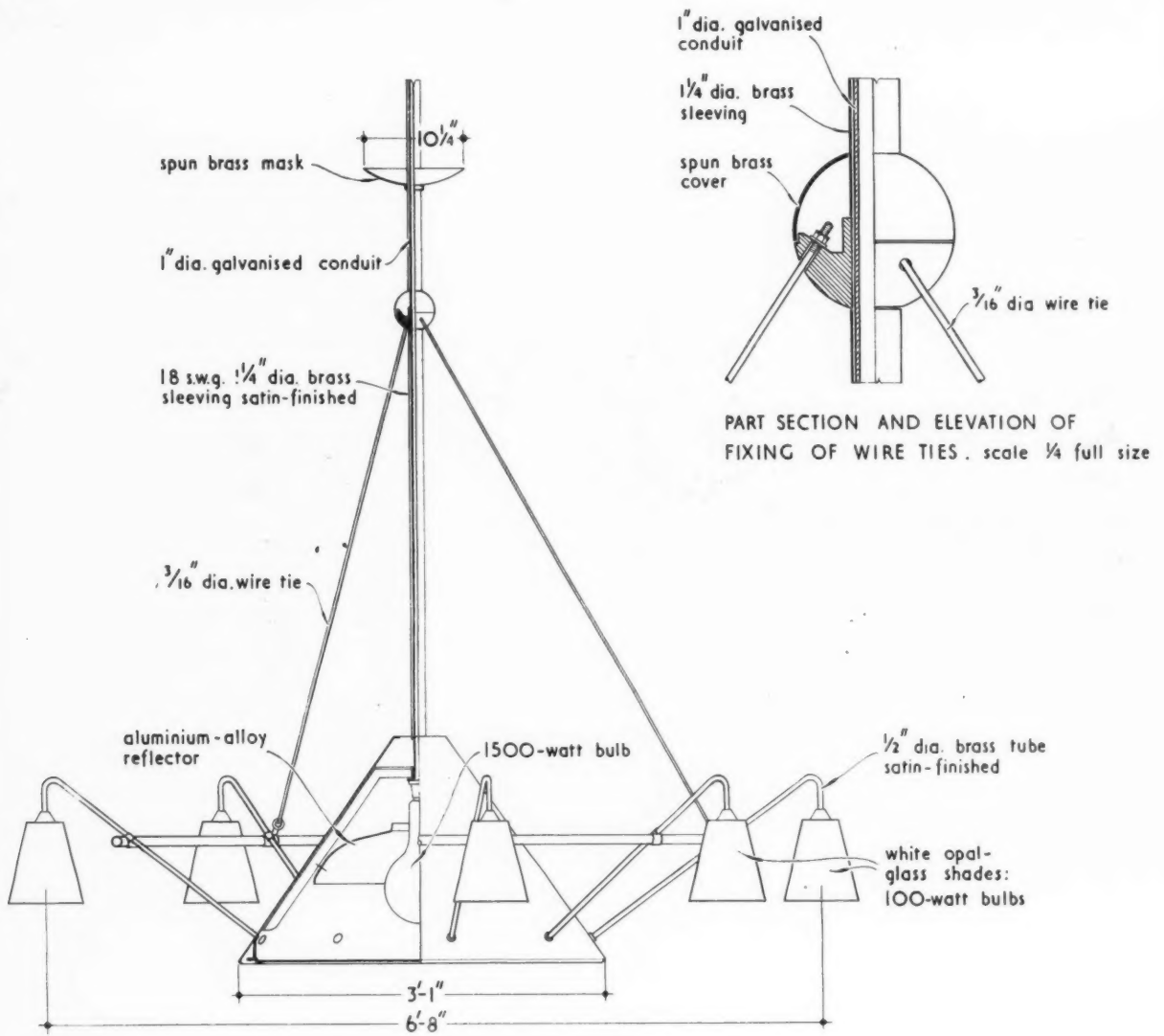
Main lighting (which is "off" in the photograph) is provided by a 1500-watt bulb contained within the central cone. This shines downwards through a panel of Georgian wired glass with the help of an electro-brightened anodised aluminium-alloy reflector. A pattern of "knock out" holes has been cut in the upper part of the cone to give sparkle. The nine surrounding lights are 100-watt lamps in opal-glass shades.

WORKING DETAIL

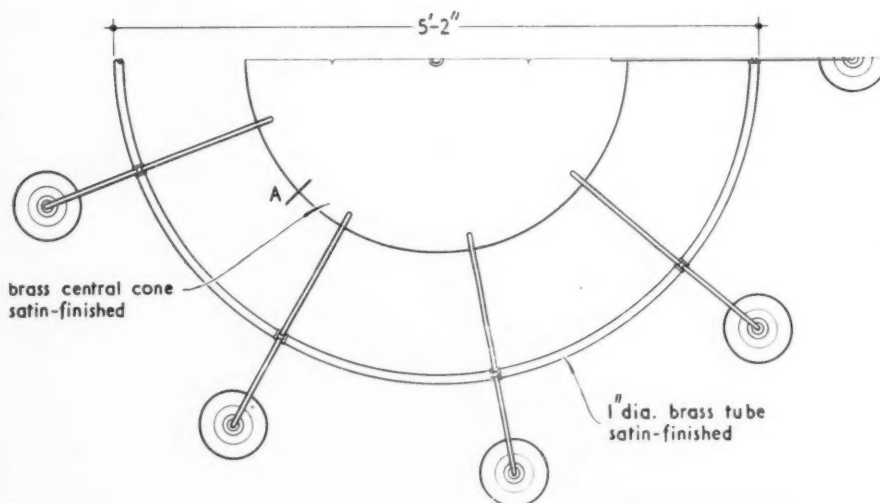
LIGHTING: 9

LIGHT FITTINGS IN ASSEMBLY HALL: SCHOOL AT STOKE NEWINGTON

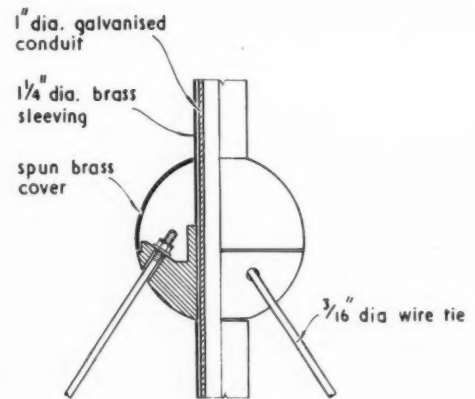
Robert H. Matthew, formerly Architect to the London County Council, John Broome, architect-in-charge; F. J. Samuely, consulting engineer



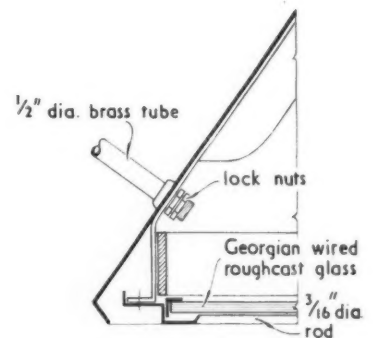
PART SECTION AND ELEVATION OF FITTING. scale 3/4" = 1'-0"



PART PLAN OF FITTING. scale 3/4" = 1'-0"



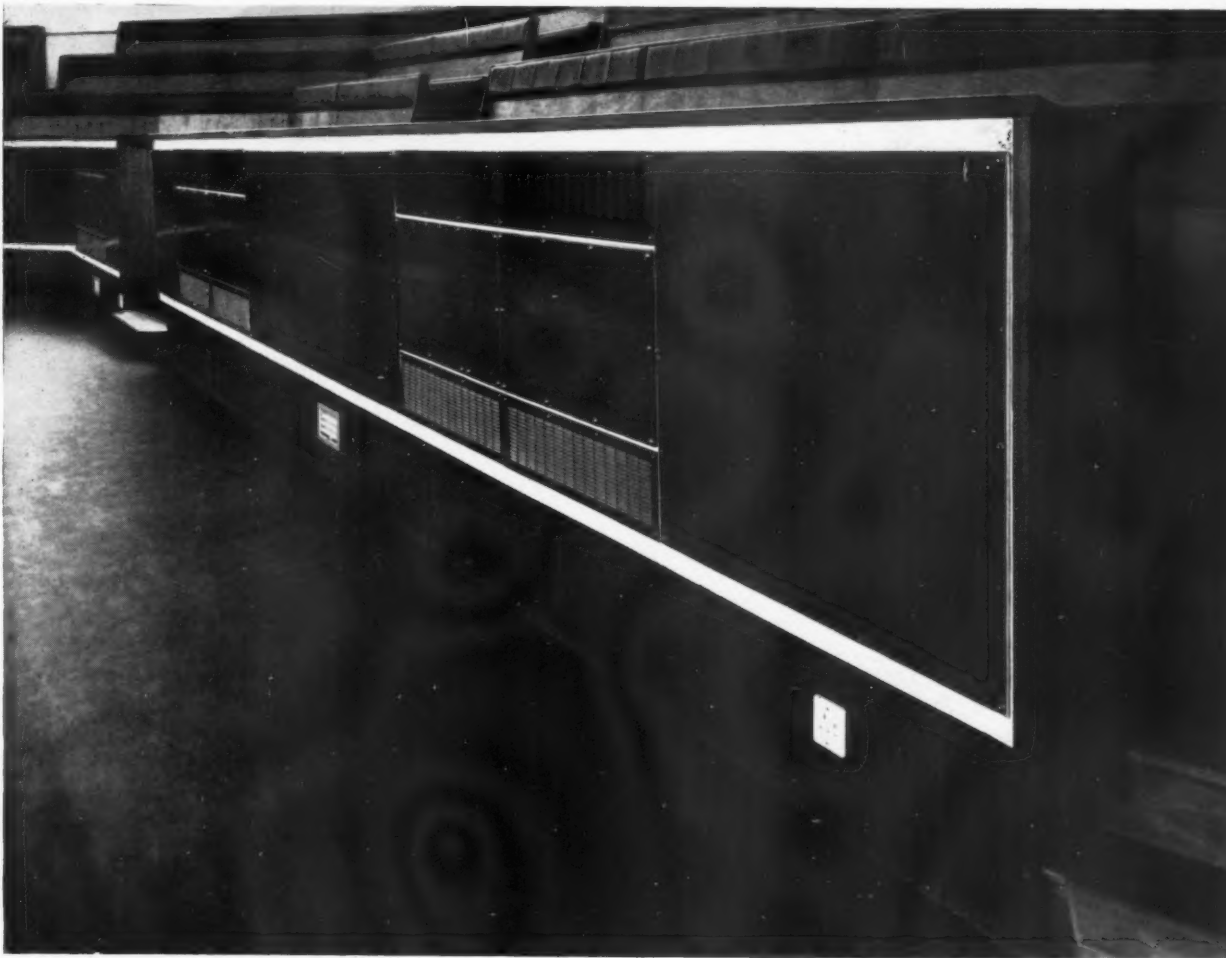
PART SECTION AND ELEVATION OF FIXING OF WIRE TIES. scale 1/4 full size



DETAIL AT 'A' scale 1/4 full size

WORKING DETAIL**HEATING: 15****HEATING PANELS · SCHOOL AT STOKE NEWINGTON**

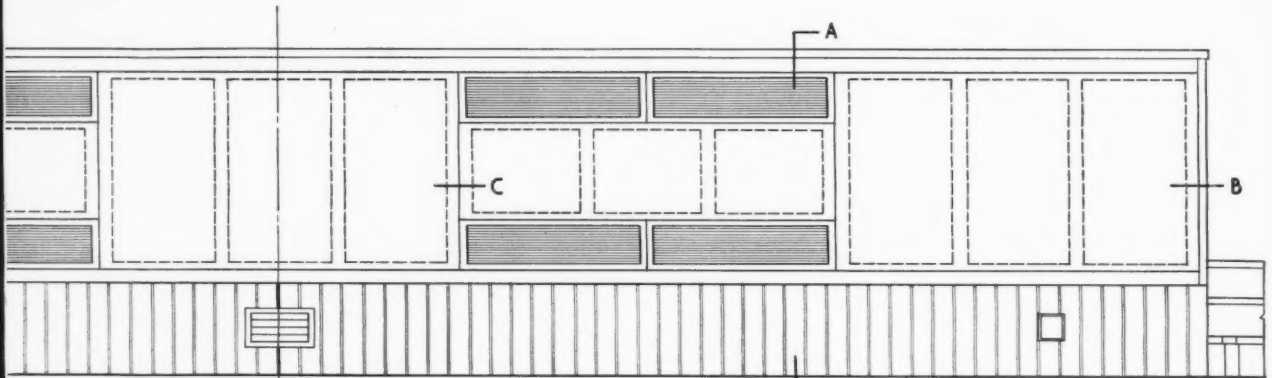
Robert H. Matthew, formerly Architect to the London County Council, John Broome, architect-in-charge; F. J. Samuely, consulting engineer



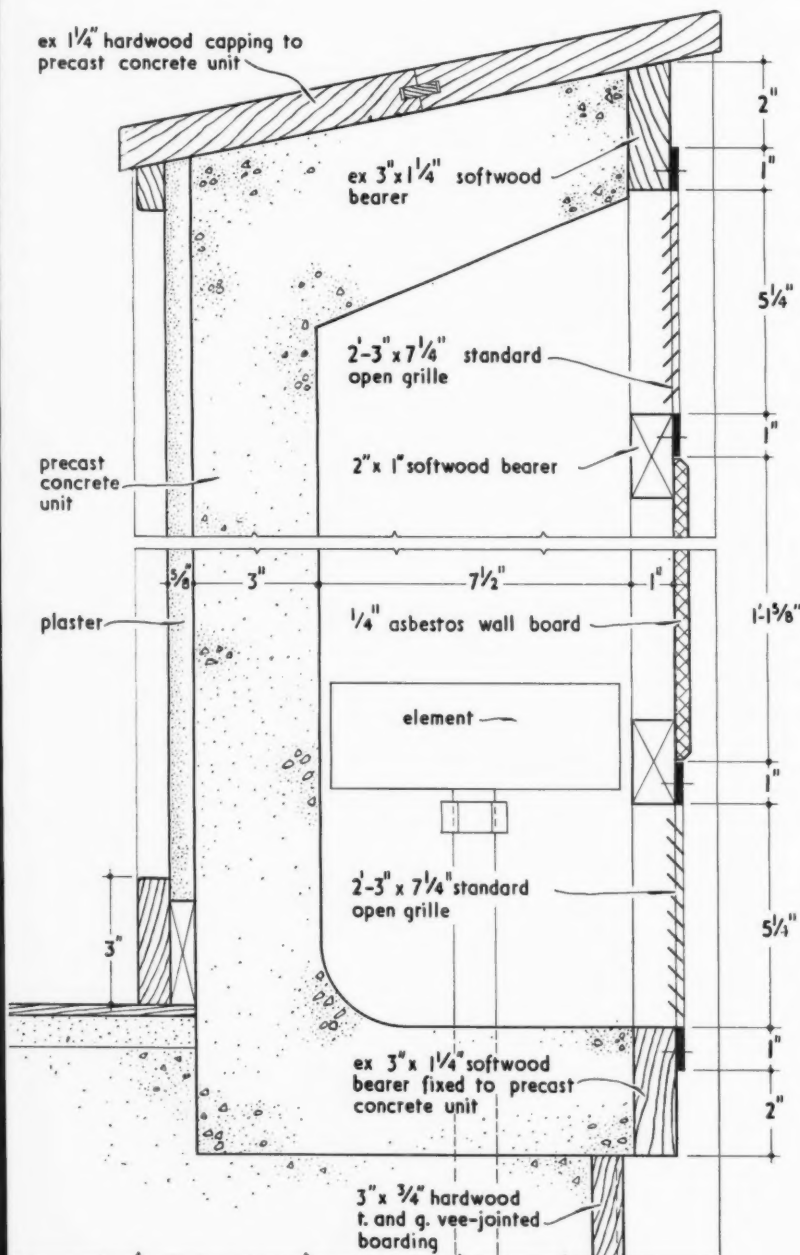
Support for the seating fronts in which the convectors are contained is provided by channel-shaped precast concrete units. These are each 2 ft. 2 $\frac{3}{8}$ in. wide and are bolted to the concrete floor. Heating is by hot water, passing through gilled tubes of square cross section. The open side of the channel section is cased in by metal grilles and asbestos hardboard on softwood framing, the other side being plastered. Hardwood capping and sides and softwood framing are fixed to wood plugs cast in the concrete units.

HEATING PANELS: SCHOOL AT STOKE NEWINGTON

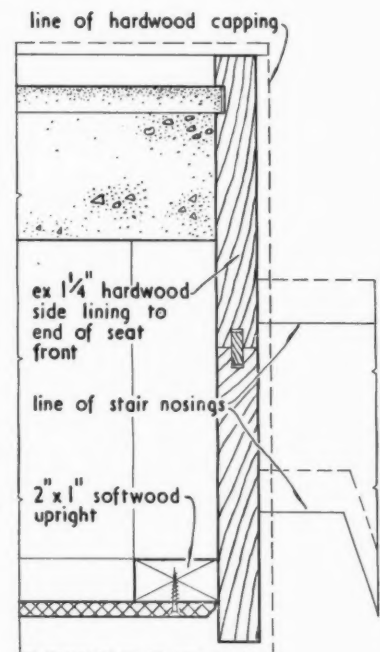
Robert H. Matthew, formerly Architect to the London County Council, John Broome, architect-in-charge; F. J. Samuely, consulting engineer



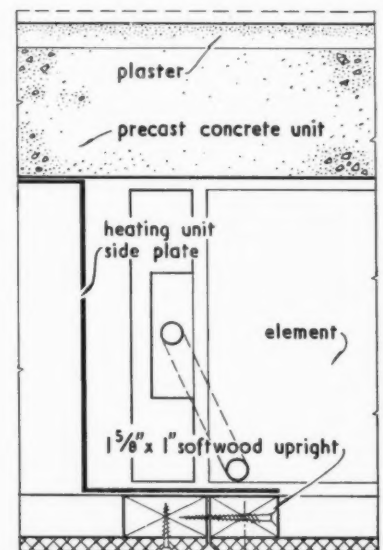
ELEVATION OF HEATERS scale: $\frac{1}{2}$ " = 1'-0"



SECTION A-A scale 1/4 full size



DETAIL AT B.



DETAIL AT C.



COLOUR

Paint types	Where used	Colour treatments
Two coats oilpaint (gloss)	External and internal woodwork	<p><i>External:</i> The local vernacular, with its nautical flavour, was accepted by the architects as a "colour climate" in which to work. Applied colours are mainly black (majority of 1st floor panels) and white (fascias, columns and windows) with occasional squares of grey-green and mustard yellow.</p> <p><i>Internal:</i> The architects were asked to use only colours of high reflectance factor. In particular they were asked <i>not</i> to use colours with saturated hues. Colour has therefore been used sparingly—most of the internal walls being fair-faced brickwork</p>
Two coats emulsion	Internal walls	
Distemper	Ceilings	

TIME SCHEDULE

Contract signed	Work commenced	Work completed	Type of contract	Comments
February, 1952	March, 1952	March, 1954	RIBA with Bills of Quantities forming part of the contract	

SITE AND PLAN ANALYSIS

Site accommodation	Area in acres	Comments
Building	0.65	Arrangements for the caretaker and for playing fields are dealt with by the County Authority. Playing fields are being developed to serve future schools on the same site
Playing fields	—	
Hard playing areas	1.05	
School garden	0.06	
Planting near building	0.16	
Roads	0.45	
Paths, paving	0.30	
Caretaker	—	
Headmaster	—	
Total site area	2.02	

Plan accommodation. Area taken within external walls	Area in sq. ft.	Per cent. of total	Area per place
Hall	2,888	6.65	5.25
Stage	612	1.41	1.11
Gymnasium	5,032	11.58	9.14
Library	961	2.21	1.75
Storage (teaching)	2,431	5.59	4.42
General and practical classrooms	12,931	29.75	23.51
Dining	1,512	3.48	2.75
Pupils storage	2,298	5.29	4.18
Sanitary accommodation	1,337	3.08	2.43
Staff rooms	1,818	4.18	3.31
Service (kitchen and heating)	3,959	9.10	7.20
Circulation	7,682	17.68	13.93
Total	43,461	100	79.02

COST ANALYSIS

Number of form entries	3
Number of places	550
Floor area (sq. ft.)	43,461
Number of sq. ft. per place	79
Net cost	£119,275
" " per place	£216.9
External works	£8,685
Gross cost	£127,960
" " per place	£232.7
Tender date	January, 1952

Element	Cost per sq. ft.	Element	s. d.
Preliminaries and insurance	0 5.45	Wall finishes	1 9.98
Contingencies	1 4.57	Built in fittings and other fittings	2 3.8
Work below ground floor level	3 9.10	Ironmongery	0 4.56
External walls and facings	2 9.09	Plumbing (external)	0 5.12
Internal load bearings walls and internal partitions	1 7.15	Plumbing (internal)	4 0.14
Frame	3 8.09	Sanitary fittings	0 9.38
Upper floor const. and staircase	5 0.64	Gas installation	0 2.57
Roof	4 5.06	Electric installation	2 9.72
Roof lights	0 4.15	Heating installation	4 3.57
Floor finishes	2 8.03	Ventilation	0 0.84
Ceiling finishes	0 8.11	Drainage	2 2.03
Windows and doors (external)	5 0.10	Glazing	0 10.31
Doors (internal)	0 6.31	Decorations	1 2.64
w.c. doors and partitions	0 1.96	Playgrounds and paved areas	4 6.73
Cloakroom fittings	0 5.40		
	32 11.21d.	Total	108 10.61d.

News—continued from page 694

them, without embellishment, creating their own sculptural forms.

"Mr. Clarke even suggested that it was 'non-planting' rather than planting which was required. The star of the evening was undoubtedly W. H. Spencer, a road engineer from the Ministry of Transport, an advocate of what we might term 3-dimensional curve alignment—the method used in the later autobahns to remove the kinks and jumps that are so apparent in our present roads and that were also peculiar in the early autobahns.

"Mr. Spencer's revealing slides showed this method most clearly and it was of great interest to learn that it has been adopted by the Ministry for the new motor roads."

HEATING

A Three-Day Course on Domestic Services

A three-day course on "Domestic Heating Services" is to be held in London in the New Year. The course, which will cost four guineas, is being sponsored by the National College for Heating, Ventilating, Refrigerating and Fan Engineering, and will be held at the Borough Polytechnic, Borough Road, London, from January 3 to 6. Accommodation at the College Hostel (8, Dulwich Wood Park, S.E.19) may be obtained for four guineas. This sum will cover meals and four nights' board. Among the lectures to be given will be one on "The Architect's Role."

Applications should be submitted to the Clerk to the Governors, Borough Polytechnic, Borough Road, S.E.1, before December 31.

AA

Symposium on Traffic

Last week the AA held a symposium on "The Problem of Vehicles in Housing Areas." A correspondent writes:

"With this symposium the AA made its first recent venture into the realms of Town Planning. Happily the subject chosen is one of the most urgent and intractable problems of our day; and although the symposium rightly produced no "off the cuff" answers for the planner's notebook, the whole question of the vehicle in residential (a minor error in the title, by the way) areas was discussed very thoroughly.

"In fact, although the discussions, as always, formed the most valuable part of the symposium, the choice of speakers was excellent. Richard Sheppard always makes a good chairman (he has been outstanding, incidentally, on the RIBA Special Committee), and the AA were wise to include two non-architects in Mr. Dodson, Coventry's Housing Superintendent, and Miss Willis, the Sociologist of the LCC's Reconstruction Group.

"Colin Buchanan, one of the very few who are both architects and civil engineers, began with a thoughtful and serious survey. Miss Willis followed with an analysis based on social studies, and then Lionel Brett, clear and urbane as usual, on New Towns, with his somewhat controversial suggestion of the three-storey terrace house—garage on the ground floor, and what could be more convenient, until all the disadvantages had been pointed out in discussion.

"After Lionel Brett came the cold realities of housing management, well and humorously put by Mr. Dodson, and finally Birmingham's City Architect, Sheppard Fidler, gave many useful facts relating to parking and garaging in high density areas.

"The conclusions were broadly as follows: American experience and the rapid increase of private cars in this country makes

it urgently necessary to examine the present and future facilities for vehicles of all kinds, up to a possible standard of one per family. Residential areas should be planned to control, and not exclude, vehicles (man to master machine). The relationship of cars and homes is very much a question of density. At low densities, for instance, it is comparatively simple to provide, or allow for, a garage as part of the home.

"In medium density areas, however, it is probably in the best interests of the inhabitants to have grouped garages, while in areas of high density, multi-storey or underground garages might well be the best solution.

"It was all very stimulating, and one hopes that the RIBA will take a leaf out of the AA's book in treating some of the many urgent problems of Town Planning as seriously as this for the benefit of the profession as a whole."

LMBA

Annual Conference

Sir David Eccles, the Minister of Education, opened this year's LMBA conference, held under the chairmanship of L. J. Holloway, at the Apothecaries Hall, on November 11.

He began by asking the building industry to participate in the programme of technical college expansion now beginning—to advise on where the colleges should be built and on what they should teach. He suggested that colleges should take a forward view of curricula, cutting out the dead wood so that courses of training kept pace with changes in building technique. He pointed out that, for the value of work carried out, supervision was "more thinly spread" in building than in any other industry, and that supervision meant not only direction on the site but "sitting down to plan" before work began. "Where are we to get these supervisors and what reward are they to be offered?" he asked. In conclusion Sir David referred to the high degree of economy that has been achieved in school design, which means that by comparison with commercial buildings, schools do not offer a very profitable field for builders. "Give the schools a fair deal; don't put your third-rate men on them," he asked, and finished his speech with an appeal for improved output.

The Minister was followed by H. J. Shelley, Chief Inspector, MOE, who spoke about the National Certificate and Diploma schemes. He compared the very small numbers of candidates for these qualifications in building with the much larger numbers in engineering industries and told the Conference that while the latter were increasing every year, the former were actually decreasing. This, he said, was a very serious question for the industry and went on to point out the financial contribution which engineering industries make to the training of their young people. He ended by welcoming the new Board of Building Education set up by the Institute of Builders and suggested that it could only succeed if "the whole industry were behind it." The next speaker was D. A. G. Reid (Brixton School of Building) who discussed the problems and possibilities of "sandwich courses." These are courses in which a period of full-time training in a building school is sandwiched into employment by a building contractor. They have been familiar in engineering training for many years but are comparatively new to building. Other topics which occupied the Conference included: General Foremanship Studies—for which a new examination is to be set by City and Guilds, beginning next year; opportunities for entry to the industry at various ages of leaving school; sources of recruitment and intake policy for management trainees; executive development courses; and the policy of selection for management in a large concern.

The emphasis of the Conference was upon the problem of finding and training supervisory people, which the industry so sorely

needs. Several speakers referred to the difficulty that building does not yet offer a recognized career with a clearly defined qualification or eventual position to parents seeking to give their sons a good start in life. The professions—architecture, civil engineering or surveying—offer the attainment of a more clearly defined status and reward at an earlier age. More than one speaker mentioned the establishment of a Building Staff College as an eventual aim for the distant future.

At the half-way point, announcement was made to the Conference of the LMBA new pupilship and studentship schemes. These provide for training to supervisory levels like this:

Articled Pupils are those who, having obtained GCE or its equivalent, are articulated to a builder for four or five years. Part of this time is spent with the employer and part in full-time technical college training, for which the pupil pays. In some cases he could receive a grant or bursary for this. There is no premium and the pupil's salary, if any, would be a matter for agreement between he and the employer. He is required to take the National Diploma examination and prepare for the LIOB examination—which he would normally take later on in his career.

Indentured Students, unlike pupils, would be those whose parents could not afford to maintain them during training. The GCE standard for entrants is not necessary, and his Technical College training would be in day or evening classes, not full time. He is to study for the National Certificate examination and prepare for the LIOB. Apart from these points the schemes are the same, and are intended to equip "young men from public and grammar schools" for managerial and supervisory posts in the industry. Training of this kind is already going on but, where previously individual school leavers arranged privately with individual builders, now their entry will be guided and administered by a newly-formed Board of Administration—composed solely of builders. The Board will maintain a register of builders willing to take pupils and students from whom it will receive reports of their progress. It will also make known to school careers masters and others, the opportunities available.

The chairman of the Conference, L. J. Holloway (president, LMBA), told the gathering that he "would be happy to receive criticism of the student-pupil schemes." The Journal's contribution will be found on page 693.

DIARY

Building Exhibition. At Olympia. Monday to Saturday. 10 a.m.-8 p.m. Admission 2s. 6d. UNTIL NOVEMBER 30

The Building Surveyor and the Law. Talk by R. F. S. Body, M.P. At the RICS, 12, Great George Street, S.W.1. 6 p.m. NOVEMBER 28

The Architecture of Islam with special reference to Egypt. Talk by Frank Scarlett. At an RIBA Library Group Meeting, 66, Portland Place, W.1. 6 p.m. NOVEMBER 28

Rebuilding Rotterdam. Talk by J. Johnson-Marshall. (Sponsor: Lambeth Civic Society.) Lambeth Town Hall. 8 p.m. NOVEMBER 28

Copper Sheet Roofing, Copper Flashings and Weatherings, and Joints for Copper Tubes. Films at the BC, 26, Store Street, W.C.1. 12.45 p.m. NOVEMBER 30

Architectural Memories 1905-1955. Talk by H. S. Goodhart-Rendel. At the AA, 36, Bedford Square, W.C.1. NOVEMBER 30

The Problems of Damp Walls. Talk by J. R. Wiles. Chairman: E. J. Poulton. At the RICS, 12, Great George Street, W.1. 6.15 p.m. DECEMBER 1

TECHNICAL SECTION

Though electricity in any form is an expensive kind of heat, the declaration of smokeless zones necessarily puts it at a premium. Unfortunately the electricity supply position makes it most undesirable that large numbers of consumers should go over to electrical heating if this means using daytime current. If, however, by using storage heaters, they can take their current at night, the Electricity Boards can gladly cope. The storage heater falls short of the ordinary switch-on, switch-off kind in one respect: it is not quite so susceptible to thermostatic control. Its effectiveness depends on the more-or-less established fact that if you have a cold day it will have been preceded by a proportionately cold night. Warned by room thermostats, your heater will store up enough heat during a cold night to keep you warm during the cold day which almost invariably follows. Experience shows that this system works very much better in practice in regular places of work than you might imagine. Nevertheless it is a snag to know that you cannot get either more or less heat in an emergency. At present, to quote for central London, for installations under 50 kW's, there is no difference in tariff between day and night, though users of night current are let off the fixed charge of £3 per annum per kW. of equipment installed: above 50 kW's they get this and a tariff reduction of 0.2d. per unit on the present rate of 1.1d. If policy demands that more should use night storage the cost incentive should be much greater than this.

CURRENT PRICES FOR MEASURED WORK

Prepared by Davis, Belfield & Everest, chartered quantity surveyors

Prices are for work executed complete and are for an average job in the London area. All prices include overhead charges and profit for the general contractor. Current prices of materials and rates of wages last appeared in the JOURNAL for October 27.

PRELIMINARIES

To all valuations for measured work add for Preliminaries, Water and Insurances, according to the nature of the job (say) 10%

EXCAVATOR

Excavation

N.B.—The following prices are applicable to hand excavation in heavy soil.

Surface digging, 6" deep	Yd. super	1/1
Ditto, 12" deep	"	2/2
Excavating not exceeding 10' 0" deep to reduce levels	Yd. cube	8/8
Excavating not exceeding 5' 0" deep to form basement	"	9/9½
Ditto exceeding 5' 0" and not exceeding 10' 0" deep ditto	"	14/2
Excavating not exceeding 5' 0" deep to form surface trenches	"	12/-
Ditto exceeding 5' 0" deep and not exceeding 10' 0" deep ditto	"	16/4
Excavating not exceeding 5' 0" deep to form basement trench commencing 10' 0" deep	"	20/8

Disposal

Returning, filling and ramming around foundations	Yd. cube	3/10
Wheeling excavated soil not exceeding 100 yards and depositing	"	4/4
Ditto and spreading and levelling	"	5/8
Ditto, ditto, and consolidating to make up levels under floors and pavings	"	7/2
Filling into lorries and carting away	"	14/-

EXCAVATOR—(continued)

Planking and Strutting

Planking and strutting to sides of surface or basement excavation not exceeding 5' 0" deep	Ft. super	-/7
Ditto not exceeding 10' 0" deep	"	-/9
Planking and strutting to sides of surface trenches not exceeding 5' 0" deep (both sides measured)	"	-/2
Ditto not exceeding 10' 0" deep (ditto)	"	-/3

Hardcore

Hardcore filled in, in layers, each layer well rammed with a mechanical rammer	Yd. cube	19/1
Bed of ditto, 4" thick	Yd. super	3/2

CONCRETOR

Concrete (Basic Prices)

Portland cement concrete 1 : 3 : 6 with 1½" coarse aggregate in foundations and masses exceeding 12" thick	Yd. cube	68/7
Ditto 1 : 2 : 4 with ¾" coarse aggregate ditto	"	74/10
<i>Add to basic prices for:—</i>		
Working around rod or mesh reinforcement	"	4/4
Being in beds less than 12" thick (6"-12")	"	2/2
Ditto less than 6" thick (4½"-6")	"	6/6
Being in small quantities not exceeding 3' cube	"	17/4
Being in suspended floors and roofs	"	13/-
Being in walls not exceeding 6" thick	"	21/0
Ditto exceeding 6" but not exceeding 12" thick	"	15/3
Ditto exceeding 12" thick	"	10/10

CONCRETOR—(continued)

Add to Basic Prices for:—

Being in lintels, beams, etc., not exceeding 72 sq. in. sectional area	Yd. cube	32/7
Ditto exceeding 72 and not exceeding 144 sq. in. sectional area	"	26/1
Ditto exceeding 144 sq. in. sectional area	"	21/9
Being in columns not exceeding 72 sq. in. sectional area	"	41/3
Ditto exceeding 72 and not exceeding 144 sq. in. sectional area	"	32/7
Ditto exceeding 144 sq. in. sectional area	"	26/1

Formwork

Flexible formwork to soffits of barrel vault roofs	Yd. super	20/-
Close boarded formwork and supports to soffits of floors not exceeding 12' high	"	16/5
Ditto to vertical faces of walls (both sides measured)	"	16/7
Ditto to sides and soffits of lintols and beams	Ft. super	2/5
Add to the above for wrot boarded formwork and rubbing down concrete	Yd. super	2/11

Reinforcement

½" to 1" diameter mild steel rod reinforcement, hooked, bent and tied at intersections as required and fixing in concrete	Cwt.	56/6
½" diameter ditto	"	61/4
¾" diameter ditto	"	76/6
Steel wire mesh fabric reinforcement to B.S. 1221, weighing 4.71 lb. per yard super, well lapped at joints and embedded in concrete	Yd. super	3/9
Ditto weighing 9.32 lb. per yard super ditto	"	7/3

BRICKLAYER

Common Brickwork

		Flettons	Rough stocks
Reduced brickwork one brick thick in cement-lime mortar (1 : 3 : 9)	Yd. super	31/1	37/8
Add to the above:—			
If in cement mortar (1 : 3)	"	-/3	-/3
If circular on plan to flat sweep	"	5/2	5/6
Ditto to quick sweep	"	10/2	10/11
Half brick wall in cement lime mortar (1 : 3 : 9)	"	16/11	20/3
Ditto built fair and pointed both sides with a neat flush joint	"	19/2	22/5
One brick wall built fair and pointed both sides with a neat flush joint	"	36/10	43/5
11" hollow wall with 2" cavity and galvanized iron twisted ties	"	36/8	43/3

Engineering Brickwork

		Lingfield Wirecuts	Blue Pressed bricks
Reduced brickwork one brick thick in cement mortar (1 : 3)	Yd. super	46/11	83/6
Half brick wall in cement mortar (1 : 3)	"	25/4	43/11
Ditto built fair and pointed both sides with a neat flush joint	"	27/5	46/10
One brick wall built fair and ditto	"	51/8	88/10

Sundries

Extra for internal fair face and flush pointing	Yd. super	1/3
Horizontal damp-proof course of two courses of slates and bedding and pointing	Ft. super	4/2
Ditto of hessian base bitumen well lapped at joints	"	-/10
Fixing only metal window, size 1' 8" × 4' 0", including cutting and pinning lugs to brickwork, bedding frames and pointing in mastic one side	Each	9/-
Ditto, 3' 3" × 4' 0" ditto	"	13/11
Ditto, 6' 6" × 4' 0" ditto	"	24/7

Partitions

		2"	2½"	3"	4"
Clinker concrete solid partition blocks to B.S. 2023 (Type B and C) and setting in cement mortar	Yd. super	8/7	10/-	11/10	14/5
Hollow clay partition blocks to B.S. 1190, keyed on both sides and ditto	"	9/3	10/3	11/11	14/9
Moler hollow partition blocks, keyed on both sides and ditto	"	19/11	21/5	23/3	28/-

BRICKLAYER—(continued)

Facings

		Ordinary facings, p.c. 256/6 M.	p.c. 271/4 M.	White glazed facings p.c. 1,504/- M for stretchers 1,480/6M for headers and pointing with white cement 92/7
Extra over common brickwork built with bricks p.c. 113/- M for facings as described and pointing with a neat weathered joint:—	Yd. super	15/7	16/8	74/2
To solid wall in Flemish bond	"	12/9	13/6	—
To cavity wall in stretcher bond	"	15/1	16/1	—
To ditto in Flemish bond with snapped headers	"	28/4	29/2	—
Half brick wall in facings in stretcher bond built fair and pointed one side with a neat weathered joint	"	29/6	30/3	—
Ditto pointed both sides	"	52/11	54/6	—
One brick wall in facings built fair and pointed one side	"	54/-	55/8	—
Ditto pointed both sides	"	—	—	—
Brick on end flat arch in facings 4½" on soffit and 9" high and pointing	Ft. run	3/3	3/4	—
Brick on edge coping to 9" wall with two courses plain tiles under, laid breaking joint, two cement angle fillets and pointing	"	5/5	5/6	—

ASPHALTER

Tanking

		To B.S. 1097	To B.S. 1418
Horizontal asphalt tanking in three thicknesses on brick or concrete	Yd. super	18/5	29/5
Vertical ditto	"	23/8	33/7

Roofing

		To B.S. 988	To B.S. 1162
½" asphalt flat in two thicknesses on and including felt underlay	Yd. super	13/2	22/1
Asphalt skirting 6" high with angle fillet at bottom and rounded top, turned into groove	Ft. run	2/4	2/7
Asphalt fascia 6" high with solid water check roll at top and undercut drip at bottom	"	4/6	5/3

DRAINLAYER

Trenches and Beds

N.B.—The following prices are applicable to hand excavation in heavy soil, only requiring planking and strutting for depths of 3' or more.

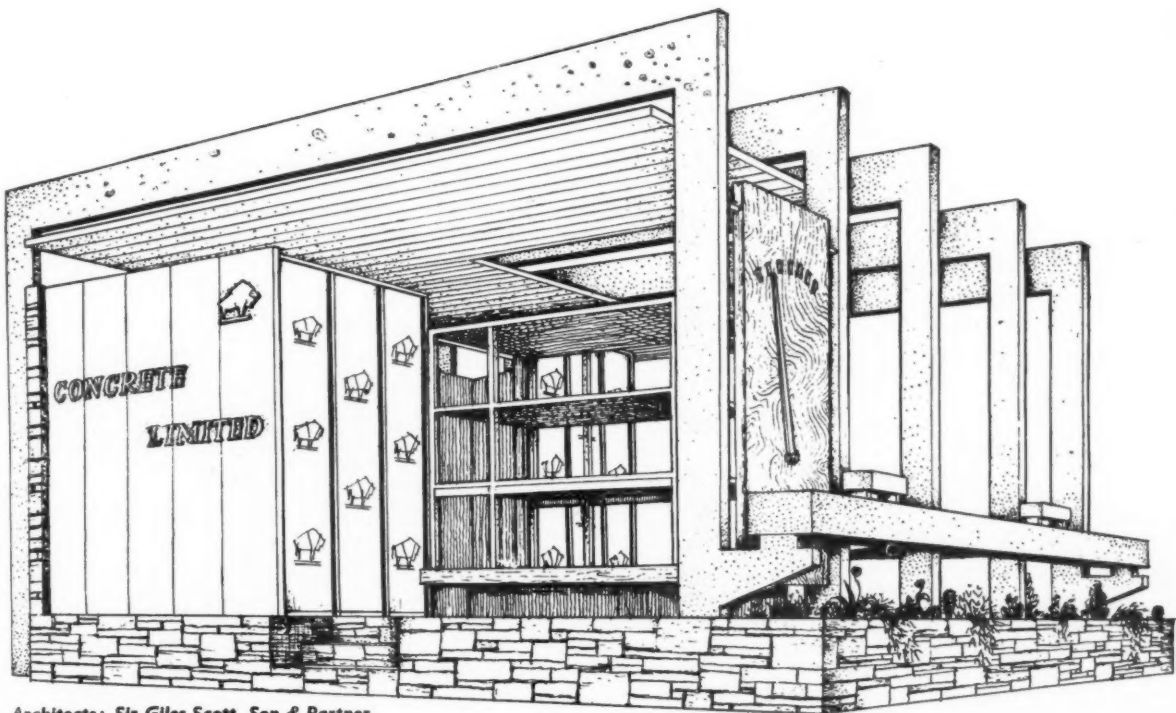
Excavate trenches for 4"-9" pipes, including planking and strutting, filling in and ramming, and wheeling and spreading surplus:—		
For each 12" in depth, for trenches not exceeding 3' 0" deep	Yd. run	3/5½
Ditto for trenches exceeding 3' 0" and not exceeding 5' 0" deep	"	4/11
Ditto for trenches exceeding 5' 0" and not exceeding 10' 0" deep	"	7/10
6" concrete (1 : 3 : 6) bed and benching for pipes	Yd. run	9/3
6" ditto, and surround	"	15/1

Drains

		3"	4"
Clayware butt-jointed land drains and laying in trench	Ft. run	-/5	-/6
"Seconds" quality glazed stoneware socketed drains and laying and jointing in trench	"	2/2	3/2
"British Standard" quality ditto	"	2/7	3/9
Extra on "Seconds" quality for bends	Each	3/5	5/-
Ditto "British Standard" quality ditto	"	4/3	6/3
Extra on "Seconds" quality for equal single junction	"	5/10	8/5
Ditto "British Standard" quality ditto	"	7/2	10/4



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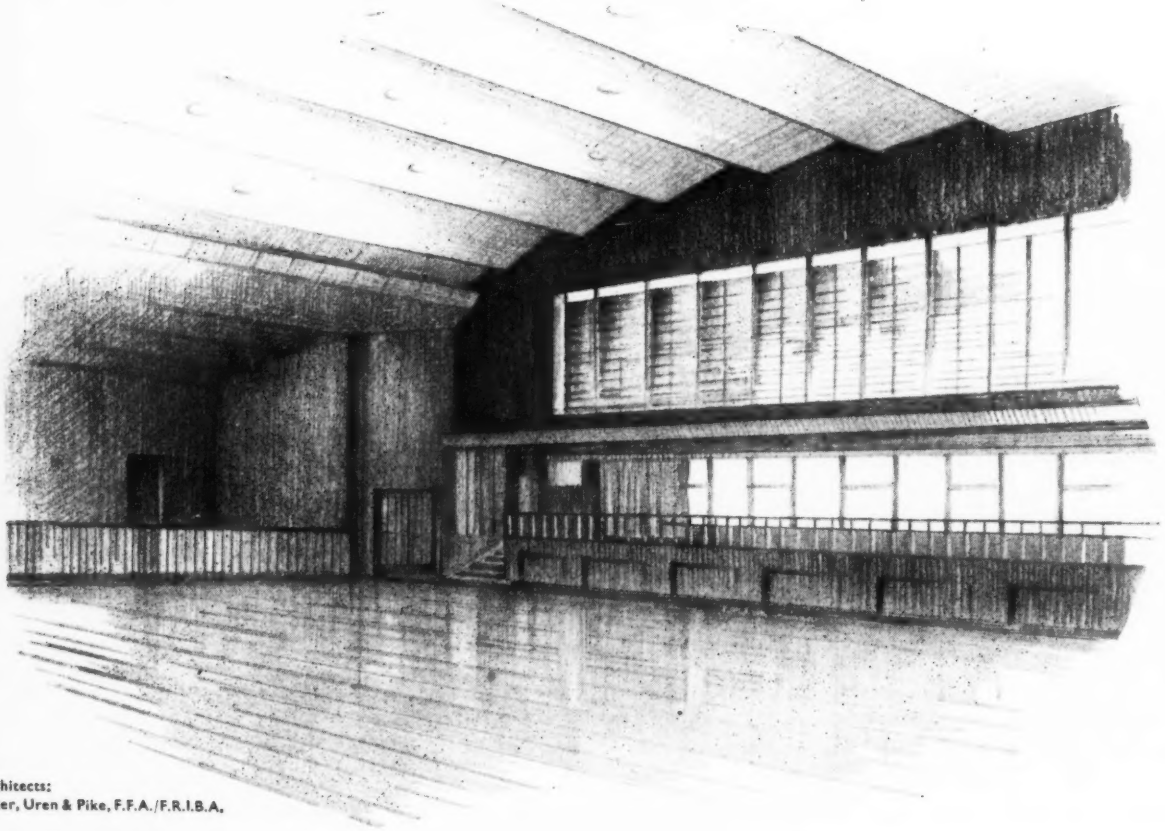
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. . . have . . .

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DRAINLAYER—(continued)

		4"	6"	9"
Cast iron socketed drains to B.S. 437 and laying and jointing in trench	Ft. run	12/8	19/1	37/11
Extra for short radius bend	Each	26/1	62/10	165/6
Extra for single junction	"	47/9	105/2	273/8

Fittings, etc.

		4"	6"
Glazed stoneware trapped gulley with galvanized grating and outlet and setting in concrete	Each	24/2	44/9
Ditto with vertical inlet ditto	"	30/-	50/8
Cast iron trapped gulley with high invert, grating, and 4" outlet and setting in concrete	"	73/8	—
Ditto with vertical inlet ditto	"	84/-	—
Glazed stoneware intercepting trap with inspection arm, stopper and chain and fixing in manhole and jointing to drain	"	76/4	88/10
Brown glazed stoneware half round straight channels and bedding and jointing in cement mortar	Ft. run	2/-	3/-
Ditto ordinary channel bend and ditto	Each	5/11	8/4
Cast iron coated single seal manhole cover and frame to B.S. 497 Grade C and setting frame in cement and cover in grease	"	46/8	69/1
Galvanized ditto	"	78/5	119/2

FAVOR

		1"	1"	1 1/2"
Cement and sand (1:3) floated screed to receive pavings	Yd. super	3/10	4/8	5/3
Ditto trowelled smooth to receive linoleum	"	4/3	5/1	5/8
Cement and sand (1:3) paving trowelled hard and smooth	"	4/3 1/4	5/1 1/4	5/8 1/4
Granolithic paving (1:2 1/2) laid on concrete	"	6/7	7/6	8/4
1/2" red composition paving to B.S. 776 laid on prepared screed	Yd. super	16/7		
1/2" terrazzo paving (Portland cement and spar aggregate) laid on prepared screed	"	34/2		
Extra for white or cream cement	"	5/3		
1/2" rubber flooring in all colours, laid on prepared screed	"	55/2		
1/2" x 12" x 12" rubber tile flooring ditto	"	45/8		
1/2" x 12" x 12" cork tile flooring (brown shades) laid in mastic on prepared screed, surfaced and polished	"	45/11		
6" x 6" red quarry tile paving to B.S. 1286 laid on prepared screed with straight joints	Yd. super	25/1	28/1	
6" x 6" buff quarry tiles as last	"	28/3	32/2	
2 1/2" (finished) gravel path laid on prepared bed, well watered and rolled to cambers and falls	"	2/10 1/2		

MASON

		Ft. cube	
Portland stone and all labours in pilasters, and quoins	"	49/7	
Ditto in jambs, lintols, etc.	"	51/10	
Ditto in arches	"	65/-	
Ashlar av. 6 1/2" on bed with plain dressed face	Ft. super	29/3	
	Port-land	Arti-ficial	
Portland stone or artificial stone to B.S. 1217:—			
4 1/2" x 4" sill, sunk, weathered, throated and grooved for water bar, set and jointed in cement mortar	Ft. run	10/3	4/5
9" x 3" ditto	"	13/6	6/9
2" x 12" Coping, weathered and twice throated, set and jointed as last	"	12/-	5/10
3" x 12" Ditto	"	16/2	8/11
5" x 12" Saddle back coping twice throated, set and jointed as last	"	25/4	13/7
6" x 12" Ditto	"	32/-	15/4

SLATER, TILER AND ROOFER

		20" x 10"	16" x 10"
Best Bangor slates to B.S. 680 laid with 3" lap, each slate nailed with two stout copper nails	Square	351/9	283/6
Ditto hung vertically to dormer cheeks and gables	"	357/-	291/4

SLATER, TILER AND ROOFER—(continued)

		Hand made	Machine made
Best sand faced plain (ribbed) tiles to B.S. 402, 10 1/2" x 6 1/2" laid to a 4" gauge with each tile in every fourth course nailed with galvanized nails	Square	205/9	185/3
Ditto hung vertically to dormer cheeks and gables to 4 1/2" gauge with each tile nailed with galvanized nails	"	225/9	203/9
Berkshire hand made sand faced red pantiles 14 1/2" x 10" laid to 2 1/2" head and 1 1/2" side laps, each tile in every third course nailed with galvanized nails	Square	205/3	221/-
Ditto to mansard slopes	"	139/8	
Bridgwater hand made Double Roman red sandfaced tiles 16 1/2" x 14" laid to 3" laps, each tile in every course nailed with galvanized nails	"	121/9	
Concrete plain (ribbed) tiles to B.S. 473, 10 1/2" x 6" laid as before described for plain tiles	"	150/2	
Ditto hung vertically to dormer cheeks, and gables, ditto	"	94/6	
Concrete interlocking tiles 15" x 9" laid to 3" lap, each tile in every third course nailed with galvanized nails	"	100/9	
Ditto to mansard slopes ditto	"		

Asbestos Cement

6" corrugated asbestos cement sheeting fixed to wood roofs with galvanized drive screws and washers with a side lap of 1 1/2" corrugations and an end lap of 6"	"	106/-
6" ditto but fixed vertically	"	116/6
Add to both last if fixed to steel purlins or sheeting rails with galvanized hook bolts	"	5/3

Felt

Reinforced bituminous roofing felt laid with 3" laps and nailed to rafters at 18" centres with galvanized clout nails	"	21/3
One-ply bitumen felt to B.S. 989 laid on concrete. Each layer bedded in hot bitumen	Yd. super	8/8
Extra on last for finishing with granite chippings	"	-9 1/4

CARPENTER

Carcassing

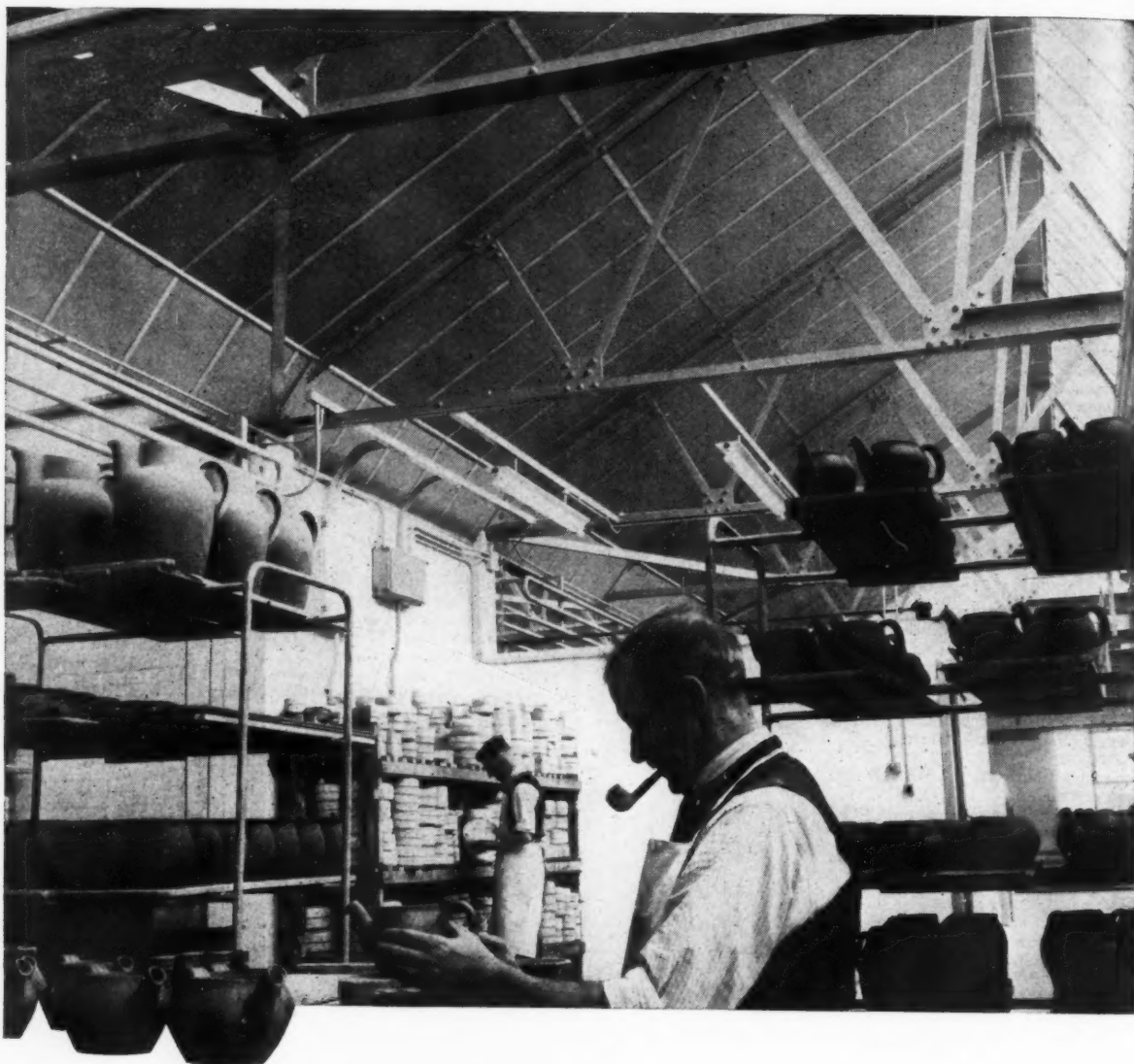
Softwood, sawn and fixed, in plates, sleeper joists and lintols	Ft. cube	16/£
Ditto in floor and ceiling joists	"	18/5
Ditto in stud partitions, purlins and struts	"	20/4
Ditto in rafters, framing and ridge	"	20/2
Ditto in hip and valley rafters including cutting rafters to sizes	"	22/8

Battening and Boarding

		Roof slopes	Vertical hanging
1/2" x 2" battens nailed to softwood for 20" x 10" slates to 8 1/2" gauge	Square	32/3	34/5
Ditto 16" x 10" slates to 6 1/2" gauge	"	42/-	45/2
1/2" x 1 1/2" ditto for 10 1/2" x 6" tiles to 4" gauge (4 1/2" for vertical hanging)	"	54/7	52/6
1/2" x 2" ditto for 14 1/2" x 10" pantiles to 12" gauge	"	23/1	25/3
1/2" x 1 1/2" ditto for 15" x 9" concrete interlocking tiles to 12" gauge	"	18/4	19/5
Roof boarding in batten widths close jointed and fixed to flat or sloping roofs	"	121/6	151/2
Ditto tongued and grooved and prepared for felt roofing including furring to falls	"	180/4	211/5
Sawn gang boarding fixed to joists in roof	Ft. super	1/4	1/8
Wrot and crostongued eaves soffit	"	2/2	2/6
6" wrot and grooved eaves fascia planted on	Ft. run	1/-	1/2

Wall and Ceiling Boards

		Vertically	Soffits
1/2" fibre board to B.S. 1142 fixed with galvanized flat headed nails to softwood	Yd. super	6/-	6/2
1/2" asbestos cement flat sheeting to B.S. 690 fixed as last	"	7/4	7/9
1/2" ditto	"	8/8	9/1



What does cold weather cost you — in good work?

When this photograph was taken at Denby Potteries, near Derby, it was freezing outside. Yet the men you see are working *in their shirt sleeves* unconcernedly and skilfully.

Look to the roof for the explanation. It is lined with $\frac{1}{2}$ in. Lloyd Insulation Board. Before insulation the highest work-temperature that could be attained when it was really cold was 46°F. Now it is a comfortable 62°F—a direct increase of 16°F, achieved without incurring the heavy expense of either new heating plant, or greater fuel

consumption by the existing plant.

There follow other advantages vital for such work. Lighting is better and more easily reflected; dust is excluded; in summer, solar radiation is reduced, and cool working conditions are ensured.

Insulation makes sense for most factories. Ask for a copy of "The Heat Barrier" booklet, which enables you to calculate, as nearly as possible, how soon the money saved on fuel bills will catch up the initial cost of insulating your own works.



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JOINER

Floors and Skirtings

(All thicknesses stated are nominal)

		7"	1"	11"
Plain edge softwood flooring in batten widths nailed to floor joists	Square	151/6	168/6	203/-
Tongued and grooved ditto	"	161/6	180/-	215/6
1" double grooved and tongued and grooved wood block floor laid herringbone with two-block border, set in hot mastic composition on prepared screed and wax polished:-				
Swedish softwood	Yd. super		20/-	
European beech	"		34/2	
English oak	"		46/3	
European oak	"		41/-	
Burma teak	"		46/3	
Australian jarrah	"		37/10	
Softwood skirtings with splayed or molded top edge, planted on (per inch sectional area)	Sectional area			
	3" to 6" Over 6"			
Extra for grounds plugged to brickwork	Ft. run	-2 1/2	-2 1/2	-8

Windows in Softwood

Rebated and molded softwood fanlights and casement sashes divided into squares for glass	Ft. super	1 1/2"	2"
Extra for hanging	Each	5/6	5/6
Cased frames with 6" x 3" oak sill and 2" molded double hung sashes including pulleys, line and weights	Ft. super	—	11/-

N.B.—The above prices are for purpose made joinery. Standard pattern casement windows and double hung sashes and frames to B.S. 644 are cheaper.

Doors in Softwood

Framed ledged and braced doors filled in with 1" T. & G. and V-jointed boarding and hanging	Ft. super	1 1/2"	1 1/2"	2"
Four-panel door, square both sides and hanging	"	4/5	5/7	5/7
Ditto molded one side	"	4/8	5/10	5/10
Ditto molded both sides	"	4/11	6/2	6/2

N.B.—The above prices are for purpose made doors. Standard panelled doors to B.S. 459 are cheaper.

1 1/2" standard flush doors 2' 6" x 6' 6" internal pattern	Each	49/6
2" ditto 2' 9" x 6' 6" external pattern	"	76/6

Linings, Frames, etc., in Softwood

Window and door linings etc. (per inch in sectional area)	Ft. run	Sectional area
		Up to 6" 6" to 12"
Frames wrot all round and framed (ditto)	"	-4 -3 1/2
Mullions, transoms and cills (ditto)	"	-3 -3
	"	-3 1/2 -3 1/2
Moldings, architraves, etc. (ditto)	"	-4 1/2 -4
6" Window boards with rounded nosings, tongued at back and including bearers	"	Thickness
	"	1" 1 1/2"
	"	2/9 3/1
Extra for each additional 3" width	"	-6 1/2 -8

Shelving and Fittings in Softwood

Shelving of 2" slats spaced 1" apart on bearers (measured separately)	Ft. super	1"	1"
Shelving on ditto	"	2/2	2/9
Cross tongued shelving on ditto	"	2/5	3/-
Shelving 9" wide on ditto	Ft. run	1/10	2/2
2" shelf bearers plugged to walls	"	-7	-10
The following in framed up cupboard fittings:			
T. & G. & V-jointed back	Ft. super	3/4	4/2
Cross tongued top, bottom shelf or division	"	3/5	4/3
1 1/2" flush cupboard doors	"	5/3	
Labour rebate or groove	Ft. run	-2	
Labour cross-grain	"	-2 1/2	
1" x 2" bearers screwed on	"	-8	

N.B.—The above prices are for purpose-made cupboard fittings. Standard pattern kitchen fittings to B.S. 1195 are cheaper.

IRONMONGERY

		Soft-wood	Hard-wood
3" steel butts (medium quality)	Pair	5/5	6/8
4" ditto (ditto)	"	7/3	8/10
Double action floor springs and top centres including filling boxes with oil P.C. 149/3	Each	183/10	190/5
Overhead check action door springs, P.C. 66/8	"	85/8	89/9

IRONMONGERY (continued)

		Soft-wood	Hard-wood
6" barrel bolts. P.C. 5/6	Each	7/10	8/5
Cupboard locks. P.C. 8/2	"	12/8	13/11
Norfolk latches. P.C. 5/6	"	11/-	12/7
Cylinder night latch. P.C. 15/11	"	23/8	25/9
Mortice latch. P.C. 9/4	"	15/2	16/10
Rim lock. P.C. 10/-	"	14/9	15/11
Mortice lock. P.C. 15/2	"	22/10	24/11
Door furniture. P.C. 24/-	Set	27/8	28/-
Sash fasteners. P.C. 9/-	Each	11/11	12/6
Casement fasteners. P.C. 7/11	"	10/2	10/8
Casements stays. P.C. 11/6	"	14/2	14/8

STEEL AND IRONWORKER

Structural Steelwork

The following prices are for Basic sections only. Prices for other sections vary roughly in proportion to the price of the steel ex mills—see "Current Market Prices of Materials."

R.S.J.—in steel framed structures hoisted and fixed complete	Ton	£ s. d.
		66 0 0
Riveted compound girders including plates and rivets	"	77 0 0
R.S. stanchions including caps, bases, cleats, etc.	"	76 0 0
Riveted compound stanchions ditto	"	80 10 0
Riveted roof trusses with flat and angle members, plates, cleats, etc., 30' span	"	108 0 0
Ditto 40' span	"	102 0 0

Sundries

Simple wrot iron balustrades fixed complete (excluding mortices etc.)	Cwt.	12 2 0
Bolts with heads, nuts and washers and fixing	"	12 0 6

PLASTERER AND TILE FIXER

24 gauge expanded metal lathing and fixing to softwood soffits	Yd. super	5/11
--	-----------	------

Lime and Gypsum Plaster

Three coat lime and two coat "Sirapite" or similar gypsum plaster:-		Lime "Sirapite"
On brick walls and partitions	Yd. super	6/9 5/3
On concrete soffits including backing	"	8/2 7/6
On soffit of E.M.L. (measured separately)	"	7/- 8/2
3" Gypsum plasterlath fixed to softwood soffits, in accordance with manufacturer's instructions, finished with setting coat of suitable plaster	Yd. super	8/1
Plaster moulded cornice or cove (per inch in girth)	Ft. run	-5

Cement Rendering

Rendering in Portland cement lime sand (1:1:6) and setting in Keenes cement on brick walls and partitions	Yd. super	6/5
Portland cement and sand (1:3) plain face trowelled smooth on ditto	"	5/11
Portland cement and sand (1:3) screed for tiling on ditto	"	3/2

Wall Tiler

6" x 6" x 3/4" standard quality white glazed wall tiles set and jointed on prepared screed	Yd. super	42/9
Ditto eggshell matt or glossy glazed enamelled	"	53/6

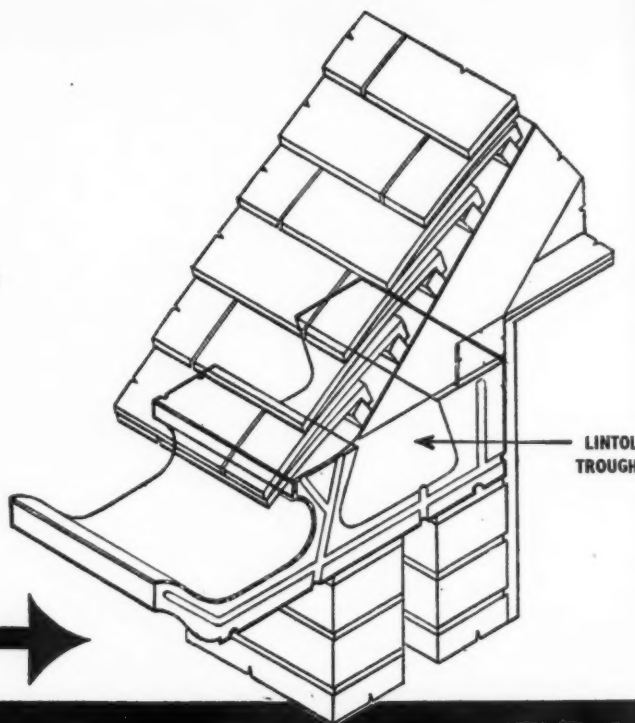
EXTERNAL PLUMBER AND COPPERSMITH AND ZINC WORKER

		Flats	Gutters, flashings, etc.	Stepped flashings
Milled sheet lead and labour	Cwt.	222/6	238/-	252/-
24 S.W.G. sheet copper and labour	Ft. super	6/9	7/1	7/4
23 S.W.G. sheet copper and labour	"	7/-	7/4	7/7
14 gauge zinc and labour	"	2/7	2/10	3/-
20 S.W.G. super purity aluminium and labour	"	4/10	4/11	4/11
20 S.W.G. commercial quality aluminium and labour	"	3/9	3/10	3/10

Rainwater Pipes and Gutters

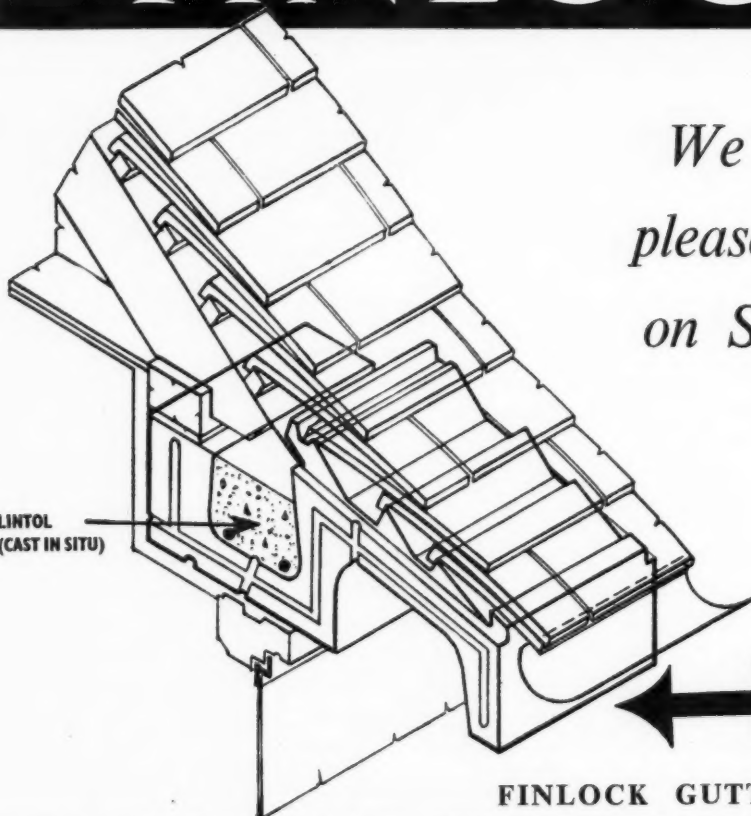
Cast iron medium section (1 1/2" metal) R.W. pipes and jointing and fixing to walls with pipe nails and distance pieces or holderbats (cutting and pinning holderbats measured separately)	Ft. run	3"	4"
		With holderbats	With holderbats
		5/9	4/7
		6/10	5/9

- * Cut Gutter Costs
- * Cut Lintol Costs
- * Cut Downpipe & Drainage Costs
- * Cut Maintenance Costs
- * Improve appearance
- * Improve insulation by sealing the eaves



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EXTERNAL PLUMBER AND COPPERSMITH AND ZINC WORKER—(continued)

		3"	4"	
		With holder bats	With holder bats	With holder bats
Pressed steel R.W. pipes and ditto	Ft. run	24 G. 4/1	20 G. 3/5	5/10 5/-
Asbestos cement R.W. pipes and ditto	"	2/9½	—	4/10 —
Cast iron half round eaves gutter and jointed and fixed with brackets to fascia	"	1½" 3/5	1½" 3/10	1½" 4/11 5/10
Ditto O.G. ditto	"	3/8½	4/8	5/4 7/2
18 Gauge pressed steel half round ditto	"	3/-	—	4/-
Ditto O.G. ditto	"	3/7	—	4/11
Asbestos cement half round ditto	"	2/7	—	3/11

Soil and Ventilating Pipes

		3"	4"	
		Heavy	Med-ium	Heavy
Lead soil, waste and ventilating pipes (17 lb. per yard for 3" and 22.8 lb. per yard for 4" diameter) fixed to walls with lead tacks and brass screws	Ft. run	13/8	—	19/-
Medium or heavy section cast iron soil, waste and ventilating pipes with caulked joints, fixed to walls, with pipe nails and distance pieces	"	6/1-	5/7	7/11 7/7

INTERNAL PLUMBER**Lead Pipes**

Prices are based upon the following weights per yard.

		1½"	1"	¾"	½"
		lb.	lb.	lb.	lb.
Supply	....	7	11	16	21
Distributing	....	6	9	12.5	16
Flushing and overflow	....	3	5	7	9
Waste and ventilating	....	—	—	—	7
Supply pipe in trench (measured separately)	Ft. run	4/4	6/5	8/11	11/11
Ditto fixed to walls and ceilings	"	4/11	7/2	9/11	13/3
Distributing pipe fixed to walls and ceilings	"	4/3	6/3	9/3	10/8
Flushing and overflow pipe ditto	"	2/10	4/2½	5/7	7/3½
Waste and ventilating pipe ditto	"	—	—	—	6/5
Joints to fittings	Each	5/8	6/6	7/-	7/7½
Bends	"	—	—	—	2/3½
Branch joints	"	7/1	8/1½	8/8	10/3

Steel Tubes and Fittings

Galvanized steel tubes to B.S. 1387 Class C with screwed joints in red lead as supply pipe laid in trench (measured separately)	Ft. run	2/3½	2/7	2/9	3/4½
Ditto Class B ditto fixed to walls and ceilings as supply, distributing, waste pipe, etc.	"	2/2	2/6	2/7½	3/3
Joints to fittings	Each	4/3½	5/-	5/10½	7/-
Bends	"	—	—	4/3½	6/1½
Tee, equal or reducing	"	2/6½	3/-	3/6	4/10

Copper Tubes and Fittings

Prices are based upon the following gauges:—

		1½"	1"	¾"	½"
		18	17	16	16
Supply	....	19	19	18	18
Distributing, waste, etc.	....	—	—	—	—
Copper tubes to B.S. 1386, as supply pipe laid in trench (couplings and trench measured separately)	Ft. run	2/5½	3/7½	5/-	6/3½
Ditto to B.S. 659 as distributing, waste pipes, etc., fixed to walls and ceilings. Couplings measured separately	"	2/5½	3/1½	4/3½	5/2½
Brass compression type couplings—copper to copper	Each	5/4	6/3	8/7	10/10
Ditto bends	"	6/11	8/2	11/8	14/6
Ditto tees	"	9/-	10/2	15/6	22/4

Sanitary Fittings

Fireclay sinks 24" × 18" × 10" including cutting and pinning brackets to tiled wall. P.C. 75/-	Each	5	16	0
Combined metal sink and drainer 42" × 18" × 8½" to bearers (measured separately). P.C. 330/-	"	19	0	0

INTERNAL PLUMBER—(continued)

Fireclay lavatory basin 25" × 18" with taps and towel rail bracket including screwing brackets to tiled wall. P.C. 138/6	Each	8	15	0
Rectangular cast iron porcelain enamelled bath 5' 6" long, with taps, and panels to side and one end fixed to framing (measured separately) P.C. 390/6	"	23	0	0
Fireclay w.c. pan with trap, plastic seat, high level cistern and flush pipe, including screwing pan to floor and cistern brackets to backboard. P.C. 200/-	"	12	10	0
Ditto with low level cistern P.C. 240/-	"	14	10	0

GLAZIER

		To wood	To metal
18 oz. Ordinary quality sheet glass and glazing with putty in squares not exceeding 4 ft. sup.	Ft. super	1/2	1/4½
24 oz. Ditto and ditto	"	1/4½	1/7
32 oz. Ditto and ditto	"	1/10½	2/1
1½" figured, rolled, and cathedral—untinted and ditto	"	1/6	1/8
1½" rough cast and ditto	"	1/10½	2/1
1½" wired cast and ditto	"	2/1	2/3½
1½" Georgian wired cast and ditto	"	2/1	2/3½
1½" Georgian wired polished plate and ditto	"	6/8	6/10
1½" polished plate (glazing quality) and ditto	"	6/3	6/4½

PAINTER**Whitening, Distemper and Paint on Walls**

Prepare and twice whiten plastered ceilings	Yd. super	1/3
Prepare and twice distemper with washable distemper on plastered walls and ceilings	"	1/10
Ditto on brick or concrete	"	2/5
Prepare and paint two coats emulsion paint on plastered walls	"	2/8
Prepare, prime, and paint two coats oil colour on plastered walls and ceilings	"	4/11

Paint on Metal

		Basic price	Add for each additional coat
Prepare, prime, and paint one coat oil colour on general surfaces	Yd. super	3/1½	1/5½
Ditto metal casements	"	4/11	2/2
Ditto members of roof trusses	"	4/-	1/10
Ditto balustrades one side	"	4/11	2/2
Ditto bars, etc., not exceeding 6" girth	Yd. run	-10	-4½
Ditto small pipe	"	-10	-4½
Ditto large pipe	"	1/8	-8½

Paint on Wood

		Basic price	Add for each additional coat
Knot, prime, stop and paint one coat oil colour on general surfaces of woodwork	Yd. super	3/6	1/5½
Ditto on skirtings, rails, frames, etc., not exceeding 3" girth	Yd. run	-5½	-2
Ditto ditto for each additional 3" in girth	"	-5	-2
Ditto on sash squares one side	Dozen	4/7	1/9½
Ditto on large sash squares one side	"	8/3½	3/3

Stain and Varnish on Wood

Prepare, size, stain and twice varnish on general surfaces of woodwork	Yd. super	3/11
Ditto on skirtings, rails, frames, etc., not exceeding 3" girth	Yd. run	-6
Ditto ditto for each additional 3" in girth	"	-5½

Paul Davis

F.R.I.C.S., F.I.Arb.

THE HOTEL LEOFRIC



An extensive contract was carried out by our organisation at this important new hotel in Coventry to the designs and under the direction of the Architects, W. S. Hattrell & Partners.

Included were the Main Foyer, Cocktail Bar, Rear Foyer and Staircase, Snack Bar, Precinct Snack Bar Entrance, Grille Room, Grosvenor Restaurant, Main Staircase, First Floor Lounge and Reception Area, French Restaurant, Conference Room, White Lion and Internal Staircase and Showcases.

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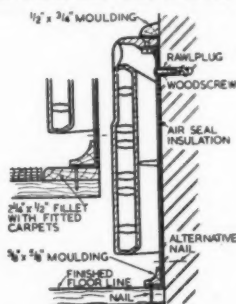
This week Brian Grant reports on a new fluorescent fitting, skirting heating units, an emergency lighting unit, a solid fuel boiler and a sealing strip.

DUSTPROOF FLUORESCENT FITTINGS

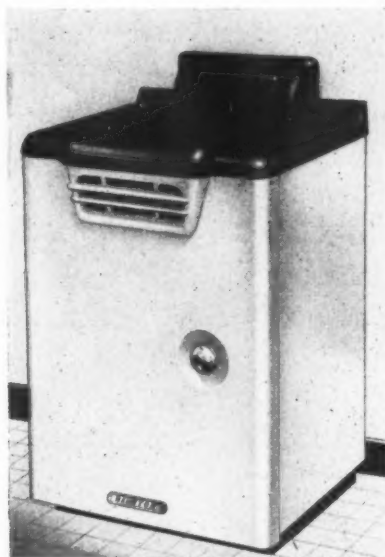
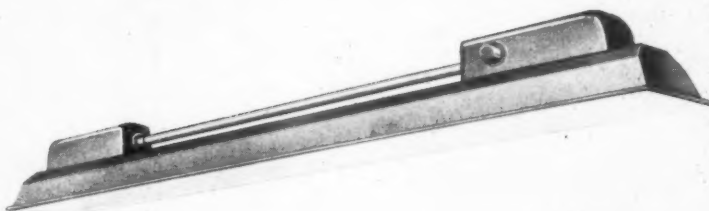
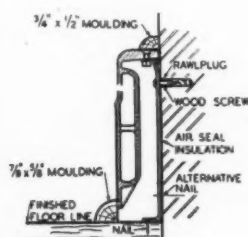
Benjamin Electric have just introduced a fluorescent dustproof fitting in which all the internal wiring, starter gear and contacts are effectively sealed. The fitting consists of a pair of housings containing the auxiliary gear and connected by a tube; since both the auxiliary gear and lampholders are totally enclosed, wiring must be run in conduit and there are two $\frac{1}{4}$ -in. holes for this purpose at 42-in. centres. Suspension is by the conduit with standard back nuts, but if a flexible suspension is required, special fittings are available. Standard 80-watt \times 5-ft. lamps are used and the fitting will take any of the company's standard reflectors, which can easily be removed for cleaning, although access to the starter gear and lamp fittings has purposely been made difficult. Prices vary from £12 8s. 4d. upwards, according to the type of reflector and auxiliary gear required. (Benjamin Electric Ltd., Brantwood Road, Tottenham, London, N.17.)

HEAT FROM THE SKIRTING

The Crane Company has recently introduced a system of heating which makes use of cast iron units which replace the normal wooden skirting. Two types are produced, a radiant only unit (type R) 6 in. high, and having an unbroken front surface, and a radiant convector (type RC) 9 in. high with slotted openings at the top to circulate the convected warm air. The sections are both



The two Crane skirting heating types; above, RC and below, R.



Top, the dustproof fluorescent fitting by Benjamin Electric Ltd.; above left, the Nife emergency lighting unit; above right, the Bilston solid fuel boiler.

supplied in 2 ft. lengths with right and left hand ends, and the two sections shown on the left show the method of installation. Readers of the JOURNAL may remember that an installation using this equipment was discussed in the technical section on March 6, 1954. (Crane Ltd., 45-51, Leman Street, London, E.1.)

EMERGENCY LIGHTING

The photograph above left shows the new Nife emergency lighting unit which is intended for pilot systems where the lamps are illuminated only on mains failure, or for change-over systems where the lamps are normally fed from the a.c. supply and automatically transferred to the battery if the mains supply should fail. The cabinet contains a transformer for keeping the battery charged and also the necessary automatic gear, which has been designed to provide a smooth change-over without flicker when the mains voltage is falling before a complete failure. Nickel-cadmium alkaline batteries are used, this type requiring very little maintenance and holding its charge for long periods of time. These installations are also produced specially proofed for use in the tropics. (Nife Batteries Ltd., Redditch, Worcestershire.)

NEW SOLID FUEL BOILER

One of the minor disadvantages of the fully-insulated solid fuel boiler is that it does not always provide enough background heat for the kitchen. The new Bilston dual purpose boiler overcomes this difficulty by providing convected warm air through an outlet at the top. This is enough to heat most kitchens, but the supply can be shut off in the summer when it is not needed. All external surfaces are vitreous enamelled (there are five different colours) and the door which gives access to the thermostat and other controls is also heavily insulated. Most types of fuel can be used and, with coke, refuelling should not be necessary more than twice a day. The price is £28. (Bilston Foundries Ltd., Highfields, Bilston, Staffs.)

SEALING STRIP

Prestik sealing strip gives a water-resistant seal which is durable under normal temperature conditions and can, if required, be painted over after application. The strip is produced in three sizes, $\frac{1}{8}$ in. and $\frac{1}{4}$ in. diameter, and in a flat strip $1\frac{1}{2}$ in. by $\frac{1}{8}$ in.; it is supplied in reels and can be quickly applied without previous moulding or undue handling. (B.B. Chemical Co. Ltd., Ulverscroft Road, Leicester.)

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

ENQUIRY FORM

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

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Please ask manufacturers to send further particulars to:—

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PROFESSION or TRADE.....

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24.11.55

Buildings Illustrated

Secondary Modern School, Bullockstone Road, Herne Bay, Kent, for the Kent County Council. (Pages 699-713.) Architects: E. D. Lyons, L. Israel and T. B. H. Ellis, A./A./A.R.I.B.A., A.R.C.A., in collaboration with E. T. Ashley Smith, F.R.I.B.A., County Architect, and S. H. Loweth, F.R.I.B.A., F.S.A., formerly County Architect; consultants: structural, Malcolm Glover & Partners; heating and electrical, Stinton Jones & Partners; quantity surveyor, Thurgood, Son & Chidgey; general contractors: J. J. Clayson & Son Ltd.; sub-contractors: structural steelwork, Matthew T. Shaw & Co. Ltd.; roofing felt, General Asphalte Co. Ltd.; roof lights, Henry Hope & Son Ltd.; metal windows, J. Thompson Beacon Windows Ltd.; "accotile" flooring, Neuchatel Asphalte Co. Ltd.; wood floors, Horsley Smith & Co. Ltd.; roller shutters, Shutter Contractors Ltd.; gym kit racks and balustrading, etc., The Wessex Guild; terrazzo pavings, Fendalls Stone & Paving Co.; curtain tracks, John Lewis & Co. Ltd.; flooring, Marbolith Flooring Co. Ltd.; sliding door gear, J. W. Hall & Co.; terrazzo partitions, Enfield Stone Co. Ltd.; towel guards, Venesta Ltd.; ironmongery, James Gibbons Ltd.; metal valances and glass dome lights, Haywards Ltd.; "carda" windows, Holcon Ltd.; cast iron chimney cap, Chimney's Ltd.; lettering and numeral plates, Dales (Lettering) Ltd.; sanitary fittings, John Bolding & Son Ltd.

Announcements

TRADE

Spencer Lock and Co. Ltd. have moved to City Wall House, Chiswell Street, London, E.C.1. (Tel.: MONarch 3080).

Midland Electric Manufacturing Co. Ltd. has purchased the whole of the share capital of J. H. Tucker & Co. Ltd., of Tyseley, Birmingham. J. B. Tucker, chairman and managing director, will remain on the Board of J. H. Tucker & Co. Ltd., until the end of the year, and J. C. H. Tucker has been appointed general manager, with a seat on the new Board.

Vulcan Products Ltd., manufacturers of Transport, Industrial and Decorative Finishes, have moved to York House, 37, Queen Square, London, W.C.1. (Tel.: CHAncery 6877.)

The title of the Gas Division of Thomas De La Rue & Co. Ltd., Imperial House, 84/86, Regent Street, London, W.1, has been changed to the Potterton Division.

Williams & Williams Ltd., manufacturers of metal windows, wallspan curtain walling, Aluminex patent glazing, doors, partitions, etc., for the building industry, have opened a new office at 45, Queen Street, Edinburgh. (Tel.: Edinburgh 33951.)

Corrections

We regret that on page 677 of the JOURNAL for November 17 we omitted the name of the designer of the Federation of Master Builders' stand. It was, in fact, Alan Roscoe-Hudson, A.R.I.B.A.

On page 668 of the same issue the name of Raglan Squire (F) and Partners was omitted as architects for the assembly hall at Rangoon University. A model of this project is exhibited on the TDA stand at the Building Exhibition.

Charter ALUMINIUM WOOD PRIMER

The original Self-Knotting Primer that has many advantages over the usual primers. Suitable for application on all new and old wood, etc., under any paint except cellulose, it can be used successfully as a sealer on asbestos sheeting, etc. Applied over old creosoted

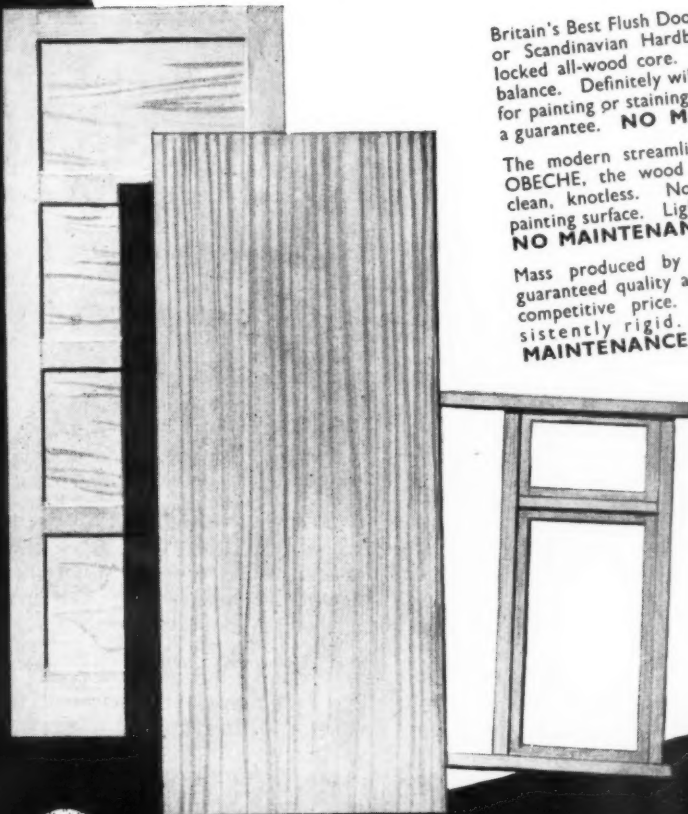
work it will effectively prevent bleeding. It is formulated from finest pigments and is the only aluminium primer containing shellac in a special oil medium. It stops porosity, resists damp, dries with a hard metallic surface and is an almost certain cure for blistering.

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THE ARCHITECTURAL PRESS, 9-13, QUEEN ANNE'S GATE, LONDON, SW 1

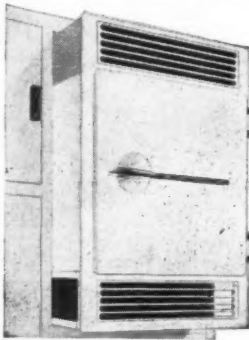
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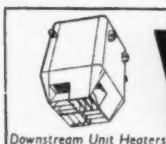
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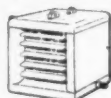
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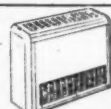
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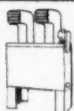
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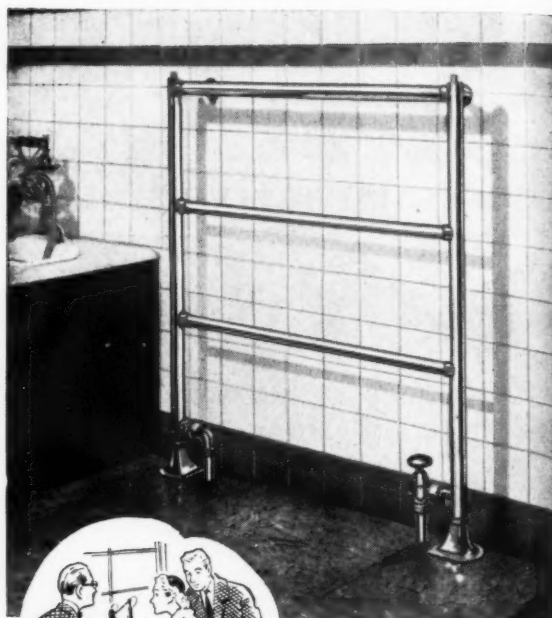
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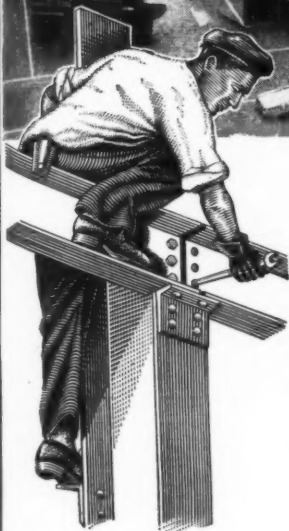
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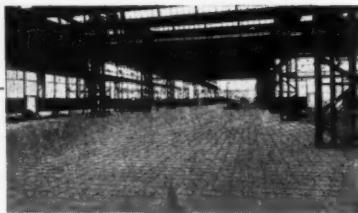
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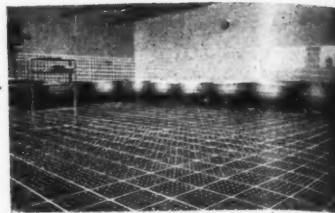
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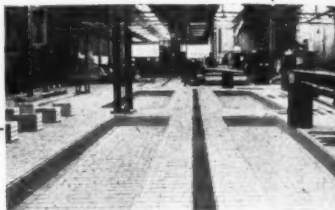
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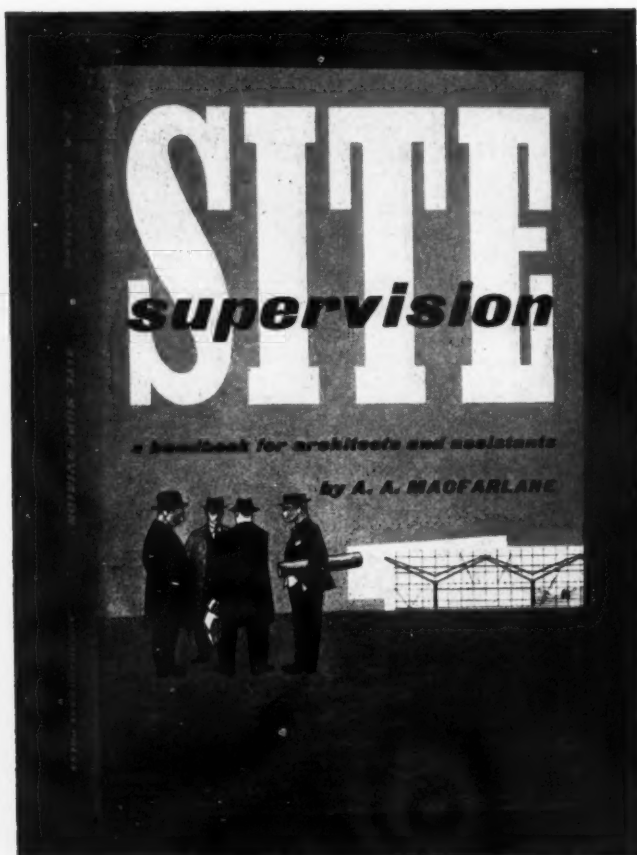
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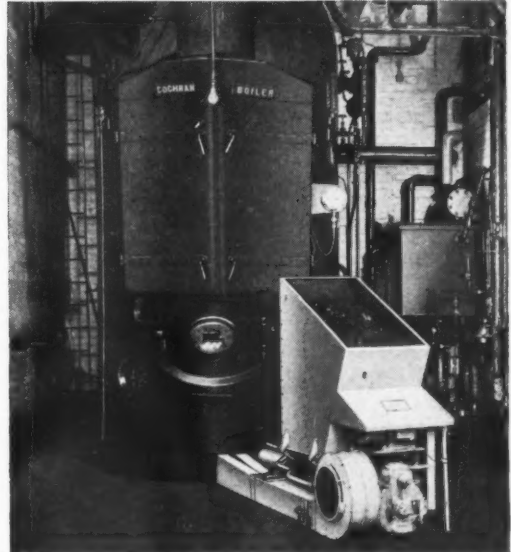
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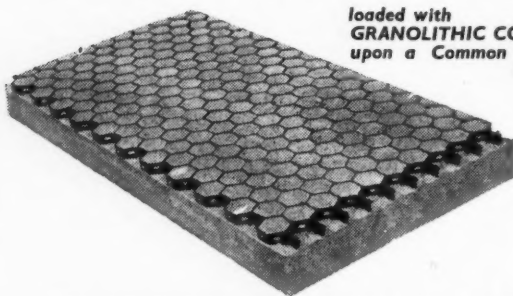
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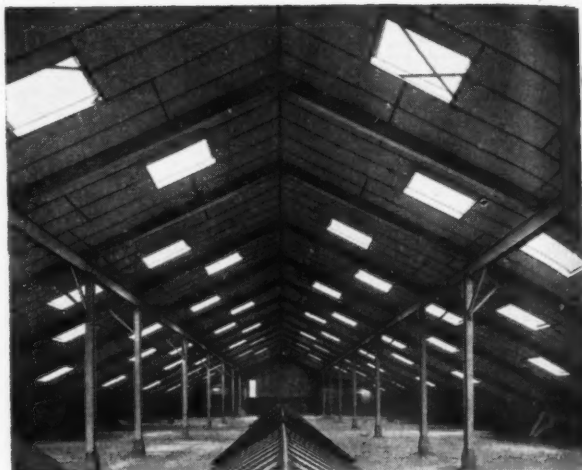
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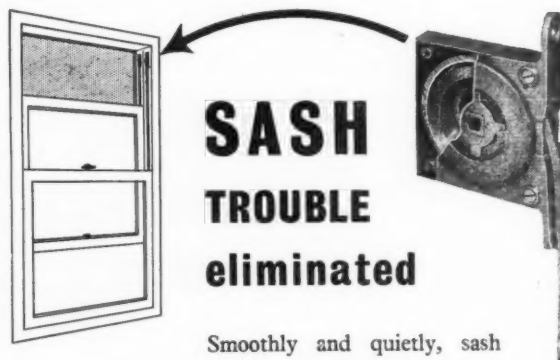
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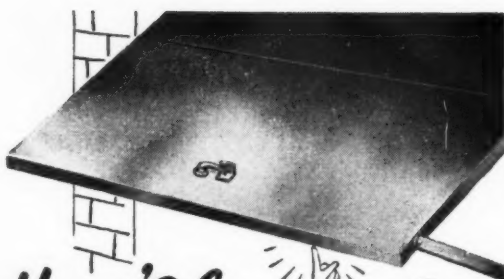
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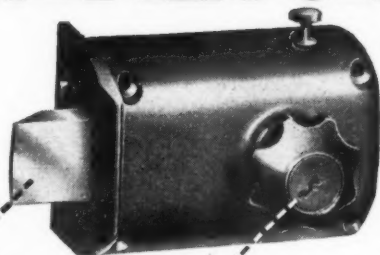
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Standard model (without inside key mechanism) **25'-**

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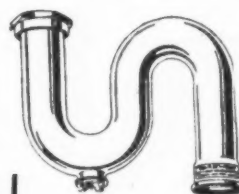
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Replies to Box Numbers should be addressed care of "The Architects' Journal," at the address given above.

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

LONDON COUNTY COUNCIL. ARCHITECT'S DEPARTMENT.

Vacancies for ARCHITECTS, Grade III (up to £945), and ARCHITECTURAL ASSISTANTS (up to £783), for widespread construction programme, which includes houses, blocks of flats, schools of all types, and various public and industrial buildings. Application forms and particulars from Architect (AR/EK/A/2), The County Hall, S.E.1. (1189) 2766

BOROUGH OF HESTON AND ISLEWORTH.
Applications are invited for the under-mentioned appointments in the Borough Engineer and Surveyor's Department:—

(a) **SENIOR ARCHITECTURAL ASSISTANT.**
Salary in accordance with A.P.T. Grade IV (£675-£825) plus London "Weighting." Other things being equal, preference will be given to applicants who have passed the examination for Associate R.I.B.A. or hold a University degree or diploma in architecture accepted by that Institute.

The person appointed must have had good experience in architectural design and building work under construction. Duties will include the preparation of sketch designs and working drawings, and the handling of building contracts under construction. Experience in alterations and additions to school buildings, etc., will be considered an advantage.

(b) **SENIOR TOWN PLANNING ASSISTANT.**
Salary in accordance with A.P.T. Grade IV (£675-£825) plus London "Weighting." Applicants must have obtained the qualifying examination of the Town Planning Institute, or an equivalent diploma in town planning recognized by that body. It will be an advantage if applicants hold additional examination qualifications of another professional institute of standing. Applicants must have had considerable experience in the Town and Country Planning Department of a local authority, and experience in the control of staff will be deemed an advantage.

The Council will be prepared to give assistance to the successful candidate in obtaining housing accommodation if such assistance is needed.

Applications are to be submitted by 5th December, 1955, on forms to be obtained from and returned to the Borough Engineer and Surveyor, 88, Lampton Road, Hounslow.

D. MATHIESON,
Town Clerk.

Town Hall, Hounslow. 3559

HAYES AND HARLINGTON URBAN DISTRICT COUNCIL.

Applications are invited for:—
(a) **ARCHITECTURAL ASSISTANT (PERMANENT)**, Grade A.P.T. II, i.e., £560-£640 p.a.;
(b) **SENIOR ARCHITECTURAL ASSISTANT (TEMPORARY)**, Grade A.P.T. IV, i.e., £675-£825 p.a., plus London weighting in both cases, 21-25 years £20 p.a., 26 years and over £30 p.a. Candidates for (a) must have passed the R.I.B.A. Inter. Exam., good experience of housing work with a local authority; (b) must be a Registered Architect, have good general experience in design and construction in relation to municipal housing and other works, and capable of supervising large building contracts. The Council is unable to provide housing accommodation for either of these appointments. Further particulars and form of application available from the undersigned, which when completed must be returned as soon as possible.

GEORGE HOOPER,
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Town Hall, Hayes, Middx. 3712

NATIONAL COAL BOARD—WEST MIDLANDS DIVISION.

Applications are invited for the following posts at Himley Hall, Dudley, Worcs.

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Applications to the Divisional Establishment Officer, National Coal Board, Himley Hall, Dudley, Worcs. 3861

**BOROUGH OF ILFORD.
ARCHITECTURAL STAFF.
BOROUGH ENGINEER'S DEPARTMENT.**
SENIOR ASSISTANT ARCHITECT, Grade A.P.T. IV/VI, £675-£1,000 p.a., plus London weighting. Commencing salary will be within the range (but not exceeding £840 p.a., excluding London weighting), commensurate with qualifications and experience. Candidates must be Associate Members of the R.I.B.A. and have had a minimum of six years' experience in the design and development of large buildings of all types. Post permanent, superannuable, and subject to medical examination.

The Council are proposing to erect a covered swimming pool estimated to cost approximately £450,000, and preference will be given to candidates who have had experience in the design and control of this type of contract.

THE COUNCIL IS PREPARED TO CONSIDER, IF NECESSARY, THE PROVISION OF HOUSING ACCOMMODATION IN CONNECTION WITH THIS APPOINTMENT.

Application forms obtainable from the Town Clerk, Town Hall, Ilford, Essex; must be returned by Monday, 5th December, 1955.

17th November, 1955. 3716

BUCKS COUNTY COUNCIL.

Applications are invited for the appointment of **ASSISTANT ARCHITECTS** on Architects' Special Scale, £650-£775, and A.P.T. IV, £675-£825, in the County Architect's Department; commencing salary according to experience and qualifications. The appointments are superannuable and subject to medical examination.

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

Applications, on forms to be obtained from F. B. Pooley, County Architect, County Offices, Aylesbury, must be returned by 30th November, 1955. 3726

CITY OF CHESTER—DEPARTMENT OF CITY ENGINEER.

Applications are invited for **SENIOR ARCHITECTURAL ASSISTANT**, salary A.P.T. Grade IV, namely £675-£825 per annum. Candidates should have had good training and experience, and should be Associates of the R.I.B.A. or hold a University degree in Architecture. Consideration will be given to the provision of housing accommodation to the successful applicant if married.

Applications, with two testimonials, should reach City Engineer, 43, Northgate Street, Chester, by Monday, 12th December, 1955. Canvassing, directly or indirectly, will disqualify, and relationship to any member or officer of the Council must be disclosed. 3747

CRANBROOK RURAL DISTRICT COUNCIL.

ARCHITECTURAL ASSISTANT required in Architect's Department, salary Grade II, commencing £560-£640. Expected the appointment will be for a minimum period of twelve months. The appointment will be otherwise subject to the National Scheme of Conditions of Service, terminable at one month's notice on either side.

Applications stating age, qualifications, experience, and names of two referees, to be sent to The Architect, Council Offices, Cranbrook, Kent, by 26th November, 1955. 3554

CUMBERLAND COUNTY COUNCIL.

Applications are invited for the appointment of an **ENGINEERING ASSISTANT** (Heating and Ventilation), A.P.T., Grade V (£750-£900). Applicants should be Associate Members of the Institution of Heating and Ventilating Engineers, or have passed qualifying examination, N.J.C. Service Conditions. Pensionable, subject to medical examination.

Applications, on forms obtainable from John H. Haughan, F.R.I.B.A., County Architect, 15, Portland Square, Carlisle, to be received by him not later than Wednesday, 30th November, 1955.

G. N. C. SWIFT,
Clerk of the County Council.

3770

BOROUGH OF HARROW. BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

Applications are invited from persons possessing the appropriate qualifications for the under-mentioned appointments in the Department of the Borough Engineer and Surveyor:—

(a) **SENIOR ARCHITECTURAL ASSISTANT**

A.P.T. Grade V: £750-£900

(b) **ARCHITECTURAL ASSISTANT**

A.P.T. Grades II/III: £560-£725.

(c) **ARCHITECTURAL ASSISTANT**

A.P.T. Grades I/II: £500-£640.

(d) **QUANTITY SURVEYING ASSISTANT**

A.P.T. Grade II: £560-£640.

Plus London Weighting in each case.

Each appointment will be subject to the provisions of the Local Government Superannuation Acts, the passing of a medical examination and the National Joint Council's Scheme of Conditions of Service.

The Corporation are unable to assist in obtaining housing accommodation for the successful applicants.

Forms of application may be obtained from me, to whom they should be returned, not later than Monday, 19th December, 1955.

D. H. FRITCHARD,
Town Clerk.

Town Clerk's Department,
Harrow Weald Lodge,
Harrow,
Middlesex. 3689

ROYAL TECHNICAL COLLEGE OF EAST AFRICA.

Incorporating the Gandhi Memorial Academy.
(Principal: Major-General C. Bullard, C.B., C.B.E., H.Eng., M.I.Mech.E., M.I.E.E.)

Applications are invited for the following appointments:—

SENIOR LECTURER, LECTURER and ASSISTANT LECTURER in ARCHITECTURE, to assist the Head of Department in initiating and running a five-year course up to R.I.B.A. final level. Candidates should be F. or A.R.I.B.A. Good teaching experience essential for Senior Lecturer, desirable for others.

SENIOR LECTURER and LECTURER in SURVEYING, former would be in charge of course up to R.I.C.S. Inter. level initially, and should have broad knowledge of land, building and quantity surveying as well as specialist lecturing ability in one. Candidates should be F. or A.R.I.C.S.

LECTURER in TOWN PLANNING, to teach architectural and survey students and later post-graduates.

SENIOR LECTURER or LECTURER in ART, to teach design, etc., to architectural and other students and to develop small school of applied art.

This autonomous College is being built in Nairobi as the main instrument in British E. Africa of higher technical and commercial education for students of all races and will admit first students in March, 1956. The College will encourage research.

Salary scales (incl. temporary c.o.l.a.): Senior Lecturers £1,531-£1,934 p.a.; Lecturers £1,162-£1,637 p.a.; Assistant Lecturers £937-£1,241 p.a., or slightly lower for transferred staff wishing to retain Col. Govt. pension rights. (Others could contribute to College pension scheme or maintain existing rights under e.g. F.S.S.U. or Ministry of Education, College paying employer's contributions.) Status and commencing salary dependent on experience and qualifications. Partly furnished houses or flats provided, rent according to salary. Free first class passages to and from Kenya on first appointment, leave and normal retirement for persons appointed and wives; up to equivalent of one adult passage for dependent children under 21. Leave on full salary at rate of four days for each month's resident service. Tours of service 24-36 months.

Further information may be obtained from the Secretary, Advisory Committee on Colonial Colleges, 1, Gordon Square, London, W.C.1, to whom applications (five copies), giving details of education, qualifications and experience and naming three referees should be sent by 19th December, 1955. 3887

COUNTY BOROUGH OF DONCASTER.

BOROUGH ARCHITECT'S DEPARTMENT.
Applications are invited for the post of **QUANTITY SURVEYING ASSISTANT** at a salary in accordance with A.P.T. II of the National Scale of Salaries (£560-£640).

Applicants must have passed the intermediate examination of the R.I.C.S. and have had experience in the preparation of Bills of Quantities and the settlement of accounts.

London is subject to one month's notice on either side, to the N.J.C.'s Scheme of Conditions of Service, and to the provisions of the Local Government Superannuation Acts, 1937 and 1953. The successful applicant will be required to pass a medical examination.

Application forms may be obtained from L. J. Tucker, F.S.A., A.R.I.B.A., F.I.H.S.G., Borough Architect, 15, South Parade, Doncaster, to whom they should be returned not later than Wednesday, the 7th December, 1955.

H. R. WORMALD,
Town Clerk.

1, Priory Place,
Doncaster. 3798

14th November, 1955.

MINISTRY OF WORKS require **ARCHITECTURAL ASSISTANTS** for drawing offices in London, Edinburgh and various provincial offices, with at least three years' training, experience in an architect's office and of Inter. R.I.B.A. standard London salary £463 to £725 p.a., elsewhere slightly less. Starting pay according to age and experience, prospects of promotion and permanency. State age, details of training and experience, to Chief Architect, Ministry of Works, A27 (F), Abell House, John Islip Street, London, S.W.1. 3168

CITY OF PORTSMOUTH.

CITY ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—

(a) **ARCHITECTURAL ASSISTANT**, Grade II (£560-£640).

(b) **TEMPORARY CLERK OF WORKS** (£572 per annum).

Applicants for (a) should be of Inter. R.I.B.A. standard with adequate office experience, and for (b) have a practical knowledge of all branches of the building trade, and be competent to supervise the erection of housing contracts and public buildings.

Applications, setting out in tabular form, name, age, qualifications, present post and salary, previous posts with dates, details of experience, with names of two referees, must be delivered to the undersigned not later than 12 noon, Monday, 5th December, 1955.

Canvassing will disqualify.

V. BLANCHARD,
Town Clerk.

City Council Chambers,
1, Clarence Parade,
Portsmouth. 3801

BOROUGH OF WILLESDEN.
BOROUGH ENGINEER & SURVEYOR'S DEPT.
 Applications are invited for the following permanent appointments:—
 (a) ASSISTANT ARCHITECT, Grade A.P.T. VI. £325 × 35—£1,000.
 (b) ASSISTANT ARCHITECT (3 posts), Grade A.P.T. V. £750 × 30—£900.
 (c) ARCHITECTURAL ASSISTANT, Grade A.P.T. III/IV. £600 × 25 & 30—£825.
 (d) ARCHITECTURAL ASSISTANTS (two posts), Grade A.P.T. III. £600 × 25—£725.
 (e) ARCHITECTURAL ASSISTANT, Grade A.P.T. I. £500 × 20—£580.

The salaries quoted are exclusive of the appropriate London Weighting and the commencing salary in each case will be fixed in accordance with qualifications and experience of the successful candidate.

Applicants for the appointments (a) and (b) must be Associates of the R.I.B.A. Applicants for appointments (c) and (d) must be Students of the R.I.B.A.

The successful applicant for post (a) will be required to take charge of the comprehensive redevelopment of an old portion of the Borough. This work is only in the initial stages and preference will be given to candidates having both planning and architectural experience.

The successful applicants for the posts (b) will work immediately under the Group Leaders on the Council's normal programme which will in the main consist of a wide variety of housing projects.

The successful applicant for post (c) will work on the immediate building programme for an existing redevelopment area.

Forms of application and conditions of appointment may be obtained from the Borough Engineer & Surveyor, Town Hall, Dyne Road, Kilburn, N.W.6. Applications are to be returned to the undersigned not later than 9 a.m. on Monday, 5th December, 1955. When writing for application forms candidates must state for which appointment they wish to apply.

The Council is unable to assist with housing accommodation.

R. S. FORSTER,
 Town Clerk. 3800

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

Applications invited for appointments on staff of City Architect's department in the undermentioned grades:—

ASSISTANT ARCHITECTS
 (a) A.P.T. VII (£900—£1,100 p.a.).
 (b) A.P.T. V (£750—£900 p.a.).
 (c) A.P.T. III (£600—£725 p.a.) or Special Scale (£650—£775 p.a.).
 (d) A.P.T. II (£560—£640 p.a.).

QUANTITY SURVEYORS
 (e) A.P.T. II (£600—£725 p.a.) or Special Scale (£650—£775 p.a.).

Starting grade will be appropriate to professional experience and qualifications, but for grades A.P.T. VII and V experience in multi-storey construction will be an advantage.

HOUSING ACCOMMODATION AVAILABLE, IF NECESSARY, AT AN ECONOMIC RENT.

Further particulars and application forms obtainable from me. Applicants must state post for which they are applying. Completed application forms to be received by 3rd December.

J. NELSON MEREDITH, F.R.I.B.A.,
 City Architect.

The Council House,
 College Green,
 Bristol, 1. 3805

STEVENAGE DEVELOPMENT CORPORATION.
 Applications are invited for post as PLANNER in the Department of Architecture and Planning on N.J.C. salary scale A.P.T. VI. £825 × £35, £1,000 per annum. Commencing salary will be fixed according to qualifications and experience.

The post is in the Planning and Landscaping group; the successful applicant will deputize for the Group leader as necessary.

Applicants should be members of the Town Planning Institute and should, in addition, hold a qualification in architecture. Experience of administration and committee work would be an advantage. Housing accommodation will be available in due course in an appropriate case.

Applications giving full details of qualifications and experience, together with the names of two referees to: Chief Administrative Officer, Aston House, 17, Stevenage, Herts. not later than first post November 30, 1955. 3806

EPPING AND ONGAR RURAL DISTRICT COUNCIL.

This new Council (area 76,000 acres, pop. 30,000 plus) invite applications for:—

1. GENERAL TECHNICAL ASSISTANT whose duties will include surveying and levelling, tracing and assisting generally with engineering and architectural schemes.

2. GENERAL ENGINEERING ASSISTANT whose duties will be in connection with sewerage connection schemes following the provision of new sewers.

Salary in each case A.P.T. I/II according to qualifications and experience.

Intermediate Examination of a recognised qualification will be considered an advantage.

Applications, stating age, whether married or single, present and past appointments with salaries and dates and the names and addresses of two referees to be submitted to Mr. Raymond L. Luck, A.R.I.C.S., A.M.T.P.I., M.I.Mun.E., M.R.Sa.I., 209, High Street, Epping, by 5th December, 1955. 3839

NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD.

The Board are engaged on an expanding programme of major hospital projects within the Counties of Middlesex, Hertford, Bedford, Buckinghamshire and Berkshire. The following staff, who must possess appropriate general experience in contemporary architectural design and construction are required to fill a number of newly created posts on the establishment of the Regional Architect:—

(a) ASSISTANT ARCHITECTS.—Salary scale £640 × £25 (4) × £30 (4) × £35 (2)—£930 plus £20—£40 London weighting.
 (b) ARCHITECTURAL ASSISTANTS.—Salary scale £450 (age 21 and over) × £20 (7) × £25 (2)—£670 plus £20—£30 London weighting.

Candidates for posts (a) above should hold full professional qualifications; those for post (b) should have reached intermediate professional qualifications. Starting salaries may be above minimum, having regard to the extent of experience since qualifying or reaching intermediate standard respectively. Posts are subject to Whitley Council conditions and are superannuable.

Apply stating which post and giving age, qualifications (with dates) and experience to Secretary, North West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by 30th November 1955. Names of two referees should be given. 3807

COUNTY BOROUGH OF SOUTH SHIELDS.
APPOINTMENT OF PROFESSIONAL STAFF.

Applications are invited for the following appointments:—

SENIOR ARCHITECTURAL ASSISTANTS—£735—£900 per annum.

SENIOR QUANTITY SURVEYING ASSISTANTS—£735—£900 per annum.

The appointments are permanent and are required in connection with the Council's Development Programme which envisages a variety of major works.

The Conditions of Service are those as adopted by the National Joint Council for Local Authority staffs and successful candidates will be required to pass a medical examination for superannuation purposes.

Housing accommodation will be made available if required.

Application forms are obtainable from the Borough Engineer, Town Hall, South Shields and should be returned not later than 10 a.m. Tuesday, 6th December, 1955.

R. S. YOUNG,
 Town Clerk. 3819

COUNTY COUNCIL OF NORTHUMBERLAND.
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited from qualified Architects having some previous office experience, for the post of ASSISTANT ARCHITECT on the temporary staff of this Department. Salary within A.P.T. Grade IV £675, rising to a maximum of £825 per annum.

The appointment will be subject to the provisions of the Local Government Superannuation Acts and the successful candidate will be required to pass a medical examination.

Applications in writing stating age, qualifications and previous experience together with the names and addresses of two referees to whom reference can be made, to be forwarded to the County Architect, County Hall, Newcastle-upon-Tyne, 1, not later than Thursday, 1st December, 1955. 3827

BOROUGH OF WATFORD.
APPOINTMENT OF ASSISTANT ARCHITECTS.

(a) Grade A.P.T. IV.
 (b) Grade A.P.T. III.
 (c) Grade A.P.T. II.

Applications are invited for ASSISTANT ARCHITECTS within the above Grades, according to qualifications and experience. Applicants for (a) should be Registered Architects.

Forms on application, returnable by 7th December.

Consideration will be given to the provision of housing accommodation if required.

F. C. SAGE, A.M.I.C.E., M.I.Mun.E.,
 Borough Engineer, Surveyor & Architect,
 Town Hall, Watford. 3838

BOROUGH OF REIGATE.

Two ARCHITECTURAL ASSISTANTS required on Grade A.P.T. II (£560—£640 p.a.). Commencing salary according to qualifications and experience. Intermediate examination R.I.B.A. desirable.

Housing accommodation provided if necessary for married man. Application forms obtainable from Borough Surveyor, Town Hall, Reigate, to be returned by 2nd December, 1955.

HEBER DAVIES, Town Clerk. 3882

STAFFORDSHIRE COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for ARCHITECTURAL STAFF at commencing salaries within the ranges:—

(a) £675—£825 (Grades IV, V or VI) and

(b) £500—£600 (Grades I, II or III).

Applicants under (a) should be Associate Members of the R.I.B.A.

Applications, together with copies of three recent testimonials should be forwarded to C. M. Coons, F.R.I.B.A., County Architect, County Buildings, Stafford, not later than 1st December, 1955, giving full details of experience and qualifications and stating age, present salary and salary required.

T. H. EVANS,
 Clerk of the County Council.

County Buildings,
 Stafford,
 11th November, 1955. 3881

CAMBRIDGESHIRE COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—

(a) One QUANTITY SURVEYOR, Grade VI. £825 × £35—£1,000.

(b) Two QUANTITY SURVEYORS, Grade V. £750 × £30—£900.

(c) Two ASSISTANT QUANTITY SURVEYORS, Grade II. £560 × £20—£640.

For appointments (a) and (b) applicants should be thoroughly experienced in the preparation of estimates, Bills of Quantities, Specifications and settlement of final accounts, and should be Associate Members of the R.I.C.S., and for—

(c) Applicants should have had experience in Abstracting, Billing, and site measurement. Preference will be given to applicants who have passed the intermediate stage of the R.I.C.S.

Two ARCHITECTURAL ASSISTANTS, Grade III. £600 × £25—£725.

Applicants should be Registered Architects, and preference will be given to members of the R.I.B.A. They should have experience in the design of public buildings, housing and modern schools, building construction, the preparation of specifications and site supervision.

The appointments are subject to the Local Government Superannuation Acts 1937 to 1953, the National Scheme of Conditions of Service, a satisfactory medical examination, and termination by one month's notice on either side.

Applications, stating age, present salary, present and previous appointments, details of training and experience, together with one recent testimonial and the names and addresses of two referees, should be submitted to the undersigned not later than Thursday, 8th December, 1955.

CHARLES PHYTHIAN,
 Clerk of the County Council.

Shire Hall,
 Cambridge.
 15th November, 1955. 3837

BOROUGH OF WEDNESBURY.
APPOINTMENT OF ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of an Architectural Assistant in the Borough Engineer and Surveyor's Department at the salary and conditions of service in accordance with A.P.T. Grade V (£750 to £900).

Applicants must be experienced in the design, erection and maintenance of houses, flats, and public buildings. Preference will be given to applicants who are Associates of the Royal Institute of British Architects.

The appointment is subject to the provisions of the Local Government Superannuation Acts and the successful candidate will be required to pass a medical examination. The appointment will be terminable by one month's notice on either side.

Provision of housing accommodation to the successful candidate will be given sympathetic consideration.

Applications, stating age, qualifications, experience, present and previous appointments, and giving the names and addresses of two referees, are to be received by the Borough Engineer and Surveyor, not later than Wednesday, 6th December, 1955.

G. F. THOMPSON,
 Town Clerk.

Town Hall,
 Wednesbury,
 Staffs.
 18th November, 1955. 3878

LEYTON COMMITTEE FOR EDUCATION
(IN THE COUNTY OF ESSEX).

APPOINTMENT OF ARCHITECTURAL ASSISTANT.

Applications are invited for the permanent appointment of an Architectural Assistant, A.P.T. Grade III. £630—£755 per annum, including London Weighting (£30) which is reduced according to age where the age is less than 25. The successful applicant will be employed by the Essex County Council and will work in the School Architect's Section of the Borough Engineer and Surveyor's Department, Town Hall, Leyton, E.10.

Alternate Saturday mornings free of duty and canteen facilities available.

Details and form of application from the Borough Education Officer, Kirkdale Road, Leytonstone, E.11, to whom they should be returned by Thursday, 15th December, 1955.

D. J. OSBORNE,
 Town Clerk.

Town Hall,
 Leyton, E.10. 3867

BUCKS COUNTY COUNCIL.

Applications are invited for the appointment of ASSISTANT ARCHITECTS on Architects' Special Scale, £650—£775 in the County Architect's Department; commencing salary according to experience and qualifications.

Vacancies at present exist in some higher grades. To encourage continuity of service it is the policy in Bucks in suitable cases to promote existing members of the department to fill vacancies in higher grades.

The appointments are superannuable and subject to medical examination.

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

Applications, on forms to be obtained from F. B. Pooley, County Architect, County Offices, Aylesbury, must be returned by 12th December, 1955.

3846

**LONDON COUNTY COUNCIL—ARCHITECT'S DEPARTMENT.
APPOINTMENT OF GROUP PLANNING OFFICER.**

PLANNING DIVISION (Salary £1,400 × £50 — £1,600 × £75—£1,750).

The Planning Division consists of a professional and technical staff of about 200, an administrative staff under the direction of a Principal Clerk. The Council's town planning activities include the periodical review of the Development Plan, civic design problems in redevelopment areas, and the examination of the Council's own development proposals and of all applications by private applicants and other public authorities.

The present vacancy is for a Group Planning Officer in charge of one of the three area groups into which the county is divided and other public buildings. Particulars and application form, returnable by 13th December, from Architect (AR/EK/AM/D), County Hall, S.E.1. (1923) 3886

Application form, returnable by 8th December, from Clerk of the Council (CL/F2), Room 211, The County Hall, S.E.1. (1888) 3876

LONDON COUNTY COUNCIL—ARCHITECT'S DEPARTMENT.

ARCHITECTURAL ASSISTANTS required (salary up to £785 according to qualifications and experience) and **ARCHITECTS GRADE III** (up to £945) for modernisation, adaptations and minor improvements of schools, houses and other public buildings. Particulars and application form, returnable by 13th December, from Architect (AR/EK/AM/D), County Hall, S.E.1. (1923) 3886

LANCASHIRE COUNTY COUNCIL—PLANNING DEPARTMENT.

PLANNING ASSISTANT required at BURY, within £650—£825 dependent upon qualifications and experience. Applicants should be qualified architects, planning experience desirable but not essential.

Applications giving age, qualifications, present appointment, experience, etc., and two referees to the County Planning Officer, East Cliff County Offices, Preston, by 5th December, 1955. 3887

COUNTY OF LEICESTER.

(a) **SENIOR ASSISTANT ARCHITECTS** (£825—£1,000).

(b) **ASSISTANT ARCHITECTS** (£650—£775).

(c) **ARCHITECTURAL ASSISTANTS** (£560—£725).

(d) **ASSISTANT QUANTITY SURVEYOR** (£750—£900).

Candidates for (a) must be Registered Architects, experienced in design of modern buildings and capable of carrying through large projects from inception to completion; for (b) must be Registered Architects or have passed R.I.B.A. Final; for (c) must be of intermediate standard, with some experience; for (d) be qualified, preferably R.I.C.S., experienced in preparation of bills of quantities, specifications and settling final accounts. Lodging allowance and removal expenses may be paid to a married man in each case. Apply by 16th December on form available from County Architect, 123, London Road, Leicester. 3868

URBAN DISTRICT OF EBBW VALE. ARCHITECT'S DEPARTMENT.

ARCHITECTURAL ASSISTANT—GRADE III (£690—£725).

Applications invited for the above appointment, which is superannuable, subject to medical examination.

Applicants to be Inter. R.I.B.A. Housing accommodation will be made available. Further details and forms of application, which are to be submitted by 6th December, 1955, at the latest from:—

H. J. WILLIAMS, Clerk of the Council.

Council Offices, The Walk, Ebbw Vale, Mon. 3841

16th November, 1955.

COUNTY COUNCIL OF DURHAM. COUNTY ARCHITECT'S DEPARTMENT.

The County Council have vacancies for **ARCHITECTURAL AND QUANTITY SURVEYING ASSISTANTS** on the following National Joint Council scales of salary:—

A.P.T. V, £750—£900; A.P.T. IV, £675—£825;

A.P.T. III, £600—£725; A.P.T. II, £560—£640;

A.P.T. I, £500—£580.

Further particulars may be obtained from the County Architect, South Street, Durham, to whom completed application forms must be returned by 2nd December, 1955. Canvassing will disqualify.

J. K. HOPE, Clerk of the County Council. 3847

WAR OFFICE, Catterick Camp, Yorks. require ARCHITECTURAL ASSISTANTS.

Must have recognised training and not less than three years' experience in Architect's Office. Salary according to age, qualifications and experience, from £425 10s. — £695. Apply any Employment Exchange, quoting Order No. Richmond, Yorks. 164. 3858

WILTSHIRE COUNTY COUNCIL. COUNTY ARCHITECT'S DEPARTMENT.

Applications invited from Chartered Architects for superannuable appointments of **SENIOR ASSISTANT ARCHITECT**. Salary £825—£1,000. Canvassing disqualifies.

Application forms from County Architect, County Hall, Trowbridge, returnable within 14 days of the appearance of this advertisement.

P. A. SELBORNE STRINGER, Clerk of the County Council. 3865

CHELSEA BOROUGH COUNCIL require JUNIOR ARCHITECTURAL DRAUGHTSMAN in the Borough Engineer and Surveyor's Department. Salary £500 × £20—£580, plus L.W.A. (A.P.T. I). N.J.C. conditions. Candidates must have sound knowledge of architectural drawing, building construction, and the measurement of buildings. Apply stating age, education, experience, qualifications, (if any) and three referees to the Town Clerk, Town Hall, Chelsea, S.W.3 by 5th December. Endorse "Junior Architectural Draughtsman." Canvassing disqualifies. 3829

BOROUGH OF WIMBLEDON. BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

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

(a) **ARCHITECTURAL ASSISTANT, Grade—Special.**

(b) **ARCHITECTURAL ASSISTANT, Grade—A.P.T. I.**

Salary for post (a) £650 to £775 per annum, and for post (b) £500 to £580 per annum, London weighting additional. Applicants for post (a) must be registered Architects and should be members of the R.I.B.A. and for post (b) should have attended a full time course of Architecture, and have passed the R.I.B.A. Intermediate Examination or its equivalent. Experience in municipal architectural work would be an advantage.

The appointments are subject to the National Scheme of Conditions of Service, the provisions of the Local Government Superannuation Acts and to satisfactory medical reports.

Applications endorsed "Architectural Assistant—Special Grade," or "Architectural Assistant—A.P.T. I," stating age, qualifications, all former local Government Service, present and previous appointments and experience, length of notice required to terminate present appointment, and the names of three referees, must be forwarded to the Borough Engineer & Surveyor by the 9th December, 1955.

Candidates must disclose to the undersigned if, to their knowledge, they are related to any member or senior officer of the Council. Canvassing disqualifies.

FRANCIS J. O'DOWD, Town Clerk. 3850

Town Hall, Wimbledon, S.W.19.

METROPOLITAN BOROUGH OF WANDSWORTH. SENIOR ASSISTANT ARCHITECTS.

Applications invited for two established appointments in grade A.P.T. V (£780—£930 p.a.). Applicants must be Associates of R.I.B.A. and/or the R.I.C.S. (Building) with architectural experience. Practical knowledge required in preparation of working drawings and in details for multi-storey blocks of flats and/or other framed buildings, and in supervision of their erection. Application forms, obtainable from the Borough Engineer, must reach me by 7th December, 1955.

R. H. LERMAN, Town Clerk. 3883

Municipal Buildings, Wandsworth, S.W.18.

BOROUGH OF REDCAR. Amended Advertisement.

Applications are invited for the following established post in the department of the Borough and Water Engineer.

ARCHITECTURAL ASSISTANT (Grade A.P.T. I, II or III, with promotion to special grade on obtaining a Final Professional Qualification).

Salary will be fixed according to qualifications and experience.

Applicants should preferably have had good municipal experience.

Housing Accommodation will be provided, if required, and the Council will consider contributing towards removal expenses.

Application Forms obtainable from undersigned, returnable not later than 5th December, 1955.

HUGH CALDWELL, Town Clerk. 3879

Municipal Buildings, Redcar.

MIDDLESEX COUNTY COUNCIL—COUNTY PLANNING DEPT.

PLANNING ASSISTANT Grade III (£630—£755 p.a. including London weighting). Preference for qualifications in Town Planning, Architecture or Surveying. Prescribed conditions. Application forms from County Planning Officer, 10, Gt. George Street, S.W.1, returnable by 5th December (Quote R. 730 AJ). Canvassing disqualifies. 3808

COUNTY BOROUGH OF NORTHAMPTON.

Borough Architect's Education and General Section: (a) **SENIOR ASSISTANT ARCHITECT**, A.P.T. V (£750—£900); (b) **DRAUGHTSMAN**, A.P.T. I (£500—£580).

Particulars and application form returnable by 5th December from Brian Bunch, A.R.I.B.A., A.M.T.P.I., Borough Architect and Town Planning Officer, Guildhall, Northampton.

C. E. VIVIAN ROWE, Town Clerk. 3814

DERBYSHIRE COUNTY COUNCIL. COUNTY ARCHITECT'S DEPARTMENT.

Applications invited for appointment of **SENIOR ARCHITECT**, salary £900 × £40 to £1,100 per annum. National Joint Council Conditions of Service. Pensionable post. Canvassing disqualifies. Further details and application forms from The County Architect, County Offices, St. Mary's Gate, Derby—returnable by 19th December, 1955. 3799

ARCHITECTURAL ASSISTANTS (unestablished, required by Stepney M.B.C. Salary up to £865 p.a. according to qualifications and experience. Apply Borough Engineer, 227, Commercial Road, E.1. 3884

CENTRAL ELECTRICITY AUTHORITY. EAST MIDLANDS DIVISION.

Applications are invited for the following position within the Division:—

Vacancy No. 204/55/A1

SENIOR DRAUGHTSMAN (MECHANICAL GENERATION (CONSTRUCTION) DEPARTMENT.

Candidates should have experience on one or more of the following:—

(i) Design and layout of Power Station equipment, including turbo-alternators, boiler plant, coal and ash plant and general station auxiliaries.

(ii) H.P. and L.P. Steam and feed pipework. Condensing plant and feed heating systems.

(iii) Conveyor plant, coal handling systems and material handling of station auxiliary equipment.

Salary will be in accordance with Grade 5 (£460 × £20—£740 per annum) or Grade 4 (£750 × £20—£850 per annum) of Schedule D of the National Joint Board Agreement.

Closing date for receipt of applications, 2nd December, 1955.

The appointment will be pensionable within the terms and provisions of the Central Electricity Authority and Area Boards Superannuation Scheme.

Applications should be submitted on the official form A/E5/ACT, which may be obtained from the Divisional Establishments Officer, Central Electricity Authority, P.O. Box 25, Barker Gate, Nottingham, and should be returned to the undersigned by the date stated. Please quote vacancy Number.

L. F. JEFFREY, Divisional Controller. 3907

18th November, 1955.

SURREY COUNTY COUNCIL. ASSISTANT ARCHITECT GRADE III.

Applications invited for appointment of **ASSISTANT ARCHITECT GRADE III**, £600 × £25—£725 p.a., plus London allowance. Preference given applicants who have passed Inter. R.I.B.A.

Full details and present salary with three copy testimonials to County Architect, County Hall, Kingston, as soon as possible. 3889

CITY OF LEICESTER. CITY ARCHITECT'S DEPARTMENT.

Applications are invited for the appointment of **ASSISTANT ARCHITECT, A.P.T. IV**, £675—£825 per annum.

Applicants must be Registered Architects, and preference will be given to those holding a recognised Architectural qualification. Experience is desirable in the design and erection of Educational Buildings.

The appointment will be subject to the National Scheme of Conditions of Service, to the passing of a medical examination and to one month's notice on either side.

Applications, stating age, experience, qualifications, past and present appointments, together with copies of two recent testimonials, should be sent to the undersigned not later than Tuesday, 6th December, 1955.

J. H. LLOYD OWEN, City Architect. 3904

10, Loseby Lane, Leicester.

EAST RIDING OF YORKSHIRE COUNTY COUNCIL.

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

(a) **ASSISTANT QUANTITY SURVEYOR**, Grade I (£750—£900).

(b) **STRUCTURAL ENGINEER**, Grade IV (£675—£825).

(c) **ASSISTANT HEATING AND ELECTRICAL ENGINEER**, Grade IV (£675—£825).

(d) **ASSISTANT HEATING ENGINEER**, Grade II (£560—£640).

(e) **ARCHITECTURAL ASSISTANT**, Grade II (£560—£640).

(f) **CLERK OF WORKS (HEATING INSTALLATIONS)** Grade I (£500—£590).

Applications giving particulars of age, past and present appointments and salaries, together with the names of three referees, should be sent to the County Architect, County Hall, Beverley, not later than Friday, 9th December, 1955.

THOMAS STEPHENSON, Clerk of the Council. 3903

County Hall, Beverley, November, 1955.

CITY AND COUNTY OF BRISTOL. APPOINTMENT OF PLANNING ASSISTANT.

Applications invited for appointment of **PLANNING ASSISTANT** in City Engineer and Planning Officer's Department. Salary in accordance with Special Grade (£650—£775) if successful applicant has passed Final Examination of Town Planning or other appropriate Institute and has necessary experience or Grade A.P.T. II (£560—£640) if he has passed Intermediate Examination of such Institute.

Applicants should have had good general planning experience, including preparation and administration of a Development Plan and control of development.

Applications giving age, qualifications, present and previous appointments and full details of experience, together with names of two referees, should be sent to City Engineer and Planning Officer, 470, Bath Road, Brislington, Bristol, by 12th December, 1955. 3902

BRECONSHIRE COUNTY COUNCIL.
PLANNING DEPARTMENT.

Applications are invited for the established appointment of CHIEF ASSISTANT in the County Planning Department at a salary in accordance with A.P.T. Grade V (£750-£900 per annum). Candidates must have passed or obtained exemption from the final examination of the Town Planning Institute and should have had considerable experience in a planning office. Further particulars and conditions of appointment will be sent on request. Applications must be received by the undersigned not later than 31st December, 1955.

C. M. S. WELLS,
Clerk of the County Council.

County Hall,
Brecon. 3898

CITY AND ROYAL BURGH OF PERTH.
ARCHITECTURAL COMPETITION.

The Town Council of Perth invite ARCHITECTS practising in Scotland to submit designs in competition for the lay-out of buildings, roads, parking spaces, etc. and for shops, offices and houses in a central area of the Town.

The Assessor is Mr. Robert J. Naismith, A.R.I.B.A., M.T.P.I., F.R.I.A.S., partner in the firm of Sir Frank Mears and Partners, Architects and Planning Consultants, Edinburgh.

The premiums are £450, £375, and £250. Conditions may be obtained from the Town Clerk, City Chambers, Perth, on payment of a deposit of £2 which will be returned either on the submission of a *bona fide* design or on the return of the Conditions within four weeks of the last day for submitting designs, namely 30th April, 1956.

Applicants for conditions must state their registration number under the Architects Registration Acts, or if as yet unregistered, the date of application for registration and the number of the receipt issued by the Architects Registration Council in respect of the admission fee.

City Chambers,
Perth.
18th November, 1955. 3897

BLETHLEY URBAN DISTRICT COUNCIL.
APPOINTMENT OF JUNIOR
ARCHITECTURAL ASSISTANT.

Applications are invited for the following appointment in connection with the rapid expansion of the town under the Town Development Act, 1952.

JUNIOR ARCHITECTURAL ASSISTANT. Salary A.P.T. Grade I (£500-£580). Candidates should have had some training in an Architect's Office.

HOUSING ACCOMMODATION WILL BE MADE AVAILABLE.

Applications, stating age, qualifications and experience, with details of present and past appointments, together with the names and addresses of two persons to whom reference may be made, should be delivered to the undersigned by noon on Monday, 5th December, 1955.

J. F. SMITHIE, M.I.Mun.E.,
Engineer & Surveyor.

Council Offices,
Bletchley.
18th November, 1955. 3894

CITY AND ROYAL BURGH OF
DUNFERMLINE.

ASSISTANT ARCHITECT.

Applications are invited from suitably qualified persons. Salary on the scale A.P.T. IV-V (£615-£715) with placing according to age, qualifications and experience.

The post is superannuable and subject to medical examination.

Applications stating age, experience, qualifications and present appointment, together with copies of two recent testimonials, should be addressed to the Burgh Architect, 5, Abbot Street, Dunfermline.

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

J. DOUGLAS,
Town Clerk.

City Chambers,
Dunfermline.
19th November, 1955. 3892

BOROUGH OF TAUNTON.
ARCHITECTS' DEPARTMENT.

Applications are invited for the post of ARCHITECTURAL ASSISTANT (salary A.P.T. Grade II-III), £560-£725 per annum, in the Borough Housing Architect's Department.

The appointment will be made on Grade A.P.T. II (preference being given to applicants who have passed the Intermediate examination of the Royal Institute of British Architects and will be subject to the National Scheme of Conditions of Service and to the provisions of the Local Government Superannuation Acts. When the successful candidate passes the final examination of the R.I.B.A., he will (subject to satisfactory service) proceed to Grade A.P.T. III.

Consideration may be given to the provision of housing accommodation if required.

Candidates together with the names and addresses of two referees should be submitted to C. Bacon, F.R.I.B.A., Borough Housing Architect, Flook House, Station Road, Taunton, not later than 5th December, 1955.

L. ATWELL,
Town Clerk.

Municipal Buildings,
Taunton. 3891

Architectural Appointments Vacant

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

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

ASSISTANT of Intermediate Standard required by Norfolk Architect. Reply with details of experience and salary required to Box 3478.

ARCHITECTS' CO-PARTNERSHIP require unmarried, qualified, experienced ASSISTANT in their Lagos office. Maximum four 14 months' flat provided. Write 44, Charlotte Street, London, W.1, or telephone Langham 5791.

ARCHITECTS' CO-PARTNERSHIP require a qualified ASSISTANT with experience. Write 44, Charlotte Street, London, W.1, or Telephone Langham 5791.

DEACON & LAING, 9, St. Paul's Square, Bedford, have a further vacancy for a keen ASSISTANT, under 30, for a variety of interesting work.

ARCHITECTURAL ASSISTANTS, of R.I.B.A. Final or Intermediate standard (or equivalent), required immediately for interesting and varied work in private practice, 50 miles London. Salary in accordance with age and experience. Please send full details to Box 3345.

ARCHITECTURAL ASSISTANT required in busy London Office with varied practice. Good salary and prospects for suitable applicant. 5-day week. Write giving particulars of age, qualifications, experience, etc., to Box 736, c/o 7, Copple St., W.C.1.

ARCHITECT required for busy Dumfries office with considerable variety of work. Starting salary £675, with bonus for overtime, depending upon age and experience. Reply to M. Purdon Smith & Partners, 31 and 33, Castle Street, Dumfries. 3831

TWO JUNIOR ASSISTANTS required, with about 2 years' drawing office experience, to work on modernisation programme. Travelling is entailed. Canteen facilities. Salary according to ability. Apply by letter, giving full details, to Mac Fisheries, Ltd., Architects' Department, Little Trinity Lane, E.C.4; reference MG/BT/D.

N.C.B.—Applications are invited for the following permanent and superannuated appointments at Headquarters in Edinburgh.—**ARCHITECTS**, Grade II, salary £700-£830-£1,000, qualifications required—A.R.I.B.A. **ARCHITECTURAL ASSISTANTS**, Grade I, salary £625-£750 (exceptionally to £900), qualifications required—Inter. R.I.B.A. with not less than 3 years' subsequent practical experience. **ARCHITECTURAL ASSISTANTS**, Grade II, salary £520-£620-£615. The point of entry to the salary scales will depend on the ability and experience of the successful applicant. In exceptional circumstances those applicants who have not passed the Intermediate Examination of the R.I.B.A., but have considerable practical experience, will be considered for the posts of Architectural Assistant, Grade I or II. The National Coal Board, Scottish Division, is engaged on a development programme which includes complete new collieries and Area Headquarters, embracing 2- and 3-storey Office Blocks, Multi-storey composite buildings of framed construction, Laboratories, large Workshops, Stores, Pithead Baths, Canteens, Medical Centres, Wind-towers and other new and unorthodox architectural compositions. The work offers scope to Architects alive to contemporary design problems. Applications, giving full details of age, education, qualifications, experience (in chronological order), present post and salary should be forwarded to Establishments Officer, National Coal Board, 1, Eglinton Crescent, Edinburgh, 12, within 7 days.

VACANCIES occur in busy and varied medium-sized London architect's practice for **JUNIOR ASSISTANTS**, salaries varying from £400 to £700 according to experience. Good prospects for the right person. Reply with full particulars to H. & H. M. Lidbetter, F/R.I.B.A., 2, Verulam Buildings, Gray's Inn, W.C.1. 3735

ARCHITECTURAL DRAUGHTSMAN.—Due to a rapid expansion programme a leading Merseyside Commercial Organisation has vacancies in their Architect's Dept. for young men under 35 years of age who have attained Inter. R.I.B.A. standard. Applicants must be able to prepare sketch plans and working drawings and have had experience of commercial buildings. The positions offered are permanent and pensionable, with an attractive commencing salary and opportunities for promotion. Five-day week. Applications, stating age and details of experience and qualifications, to Box 3844.

ARCHITECTURAL ASSISTANT, age under 30, Intermediate standard, required for Architect's Department of prominent Liverpool company. Superannuation scheme. Apply, stating age, experience, and salary required, to F. R. Fisher, L.R.I.B.A., 1, North John Street, Liverpool, 2. 3845

COVELL & MATTHEWS urgently require **ARCHITECTURAL ASSISTANTS**. Salary range £750-£900. Work is varied and interesting, including Hospitals, Churches, Housing. Five-day week. Apply in writing to 34, Sackville Street, Piccadilly, W.1. 3849

WANTED urgently: Capable **DRAUGHTSMEN** for preparing working drawings of industrial buildings from sketch designs. Salary according to experience. Write or telephone to Percy Bilton Ltd., 113, Park Street, W.1. Telephone number MAYfair 8240. 3437

ASSISTANT required for small general practice in Dartford. Salary according to experience. Please reply with full details to Box 3843.

ARCHITECTURAL ASSISTANT required, up to Intermediate standard, Westminster Office. Pension and bonus schemes, five-day week. Write stating experience, age and salary required. Box 3737.

BUSY London Office requires two **ARCHITECTURAL ASSISTANTS**, approximately Intermediate standard or upwards. Also requires one ASSISTANT with considerable perspective experience, particularly able to do quick interior colour sketches. Five-day week, good salaries. Lewis Solomon, Son & Joseph, 21, Bloomsbury Way, W.C.1, HOL 5108 or 7082. 3483

ASSISTANT required in busy practice in West End, in early twenties, about Intermediate R.I.B.A. Standard. Excellent opportunities for gaining all round experience. Box 1942.

SENIOR SHOPFITTING DRAUGHTSMAN required by leading London Shopfitters. Salary £800 to £1,000, plus bonus and pension scheme. Box 3018.

W. H. SAUNDERS & SON, L./A./F.R.I.B.A.,

invite applications for the following vacancies:—

Portsmouth/Gosport.—Medium grade or Intermediate ASSISTANTS in Portsmouth and Gosport offices, for work on churches, licensed premises, shop development and commercial buildings. Applications to R. W. Leggett, A.R.I.B.A., A.M.T.P.I., 49, Commercial Road, Portsmouth.

Coventry.—Medium grade ASSISTANT or ASSISTANT ARCHITECT for work on schools, industrial and commercial buildings. Applications to 23, Eaton Road, Coventry.

Southampton.—ASSISTANT ARCHITECT or SENIOR ASSISTANT for work on schools, shop development, commercial buildings. Successful applicant will be required to take charge of small Group. Applications to 1, Carlton Crescent, Southampton.

All posts offered are progressive and permanent. Staff Pensions Scheme in operation throughout the firm. Applications to be submitted in writing to the respective addresses, as above, giving age, experience, qualifications, etc. Salaries by arrangement, in accordance with ability and experience.

3758

GOLLINS, MELVIN, WARD & PARTNERS, 15, Manchester Square, W.1, require **SENIOR** and **JUNIOR STAFF**. Competent Working Drawings essential. Opportunity to work on contemporary buildings. Write or telephone WELbeck 9991. 3579

ARCHITECTURAL ASSISTANT, Intermediate standard, required by large Midlands Brewery Company. Please reply, giving full details of qualifications, age, experience, and salary required, to Box 3571.

CLIFFORD CULPIN & PARTNER require **keen ASSISTANTS**, with progressive ideas, to work on large and interesting projects, including schools, offices and municipal buildings. Firm shortly moving to new excellently equipped offices. Please apply in writing with full details to 3, Southampton Place, W.C.1. 3593

ARCHITECTURAL ASSISTANTS, Senior and Junior required, preferably with London practice experience, office and factory buildings. Write, giving particulars of experience, etc., to Messrs. Bates & Sinning, 89, Chancery Lane, W.C.2. 2568

THE London Hospital, Whitechapel, E.1, requires **JUNIOR ARCHITECTURAL ASSISTANT**. Salary £440 to £650 p.a. according to experience, plus London weighting. Post superannuable. Applications stating age, present salary and brief particulars of experience to be sent to the Honse Governor. Accommodation is available in Kensington if successful candidate is a woman. 2677

A. R.I.B.A. required by leading Sydney, Australia, firm of Architects. Age 22-40. Commencing salary £21,300 p.a., passage paid. For interview in London reply to Box 3599.

WESTWOOD, SONS & HARRISON, F./R.I.B.A., require a **SENIOR ARCHITECTURAL ASSISTANT**, A.R.I.B.A. standard, with office experience, also **JUNIOR ASSISTANT**. Apply in writing, giving brief outline of experience and qualifications, to 46, Baker Street, W.1. 3709

ARCHITECTURAL ASSISTANTS urgently required for detailed planning work. Intermediate and Junior. Salary according to experience. Please apply to L. O. L. Hannen & John H. Markham, 7 Victoria Street, Westminster, S.W.1. Tel. Abbey 5861. 3115

ARCHITECTURAL ASSISTANT required, Intermediate standard. Write, giving particulars and salary required, to H. A. Hickson & Son, F.A.R.I.B.A., 61, Hall Gate, Doncaster. 3853

ERIC LYONS requires **JUNIOR ASSISTANT**. Write, giving brief details, to Mill House, Bridge Road, Hampton Court, Surrey. 3856

ARCHITECTURAL ASSISTANTS required at offices in London and Southend-on-Sea. Interesting and varied practice: schools, churches, commercial building and housing. Salary according to age and experience within the range £500 to £700. Apply, giving details, to Burles & Newton, 25, Bedford Row, Chancery 9538, or 36/38, County Chambers, Weston Road, Southend-on-Sea, Southend 41540. 3864

ARCHITECTURAL ASSISTANT, Intermediate standard, required. Applicant should be capable of taking control of work from sketch designs to completion. Apply in writing, giving details of salary, qualifications and experience, to W. D. Sterland, Esq., 86, Friar Lane, Nottingham. 3862

ARCHITECTURAL ASSISTANT required in West End Office; able to take charge under supervision of medium-sized jobs, including Churches, Hostels, Factories, etc. Telephone for an appointment, Welbeck 8865, or write Box 3860.

ARCHITECT in City office of large organisation requires **ARCHITECTURAL DRAUGHTSMEN**, with several years' drawing office experience. Must be quick, neat and accurate. Salary £500-£700, according to experience. Applications, stating age, qualifications, detailed experience and present salary, to be addressed to Box 3859.

EXPERIENCED ASSISTANT required, qualified or Final standard, for busy Mayfair office. Apply by letter to A. G. Paton, 25, Berkeley Square, W.1. 3856

RONALD WARD & PARTNERS require several capable **ARCHITECTURAL ASSISTANTS**, with contemporary outlook and willing to use own initiative. Salary range £400 to £800. Interesting and varied work, home and abroad. Congenial working conditions. Apply 29, Chesham Place, Belgrave Square, S.W.1. Telephone Belgrave 3361. 3855

DRAUGHTSMAN required by Designers and Builders of Non-traditional Housing, Flats, etc. Starting salary £320 per year, with rapid promotion for right man. Unitroy, Ltd., 51-53, High Holborn, W.C.1. 3854

IMPERIAL CHEMICAL INDUSTRIES, LTD., WILTON WORKS.
ASSISTANT TECHNICAL OFFICERS (STRUCTURAL)

VACANCIES exist in the design organisation employed in the development of a rapidly expanding factory at Wilton Works, situated in the North Riding of Yorkshire, 4 miles from the coastal town of Redcar.

Appointments are to permanent staff, with Pension Fund, Profit Sharing Scheme, 5-day working week, and excellent Company recreational facilities.

Candidates should have the appropriate National Certificate and previous design office experience.

Reasonable out of pocket expenses will be refunded to applicants invited for interview, and after joining the staff married men will receive a reasonable refund of removal (including travel) expenses; to assist in house purchase, facilities are available in approved cases for loans; in addition, legal charges may be advanced.

Write for application form to: Staff Manager, Imperial Chemical Industries, Ltd., Wilton Works, Middlesbrough, quoting advertisement reference ICI/X/270/f. 3863

ARCHITECTURAL ASSISTANT required in N.W. London area with minimum qualification of Intermediate R.I.B.A. Preference will be given to applicants having some experience in the design of industrial buildings and housing. Salary between £500 and £800 p.a., according to qualifications and experience. Write Box AC14069, Samson Clarke, 57-61, Mortimer Street, W.1. 3885

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. 3871

ARCHITECTURAL DRAUGHTSMAN/SURVEYOR required in Estates Department, South Wales Brewery Company. Professional qualifications not essential, but applicants must have architectural background. Duties—surveys, sketch designs, working drawings and specifications for alterations to licensed premises. Salary up to £700, with substantial car allowance. Pension scheme in operation. Box 3874.

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

ASSISTANT ARCHITECTS, WORKER-UP, AND SHOP FITTING DRAUGHTSMEN.
Applications are invited from suitably qualified persons. Salary on a scale £485-£945 inclusive of L.W., with placing according to age, qualifications and experience. The posts are superannuation, subject to medical examination. Five-day week in operation. Applications stating age, experience, qualifications and salary required to—W. J. Reed, F.R.I.B.A., Chief Architect, Co-operative Wholesale Society Ltd., 99, Loman Street, London, E.1. 3824

CO-OPERATIVE WHOLESALE SOCIETY, LTD. ARCHITECT'S DEPARTMENT, BIRMINGHAM.
APPLICATIONS are invited for the following appointments in a newly formed Branch Office. Interesting and varied commercial and industrial projects.

(a) **SENIOR ASSISTANT ARCHITECT**, with experience in Store and Shop Design.

(Salary range £820 to £975 per annum.)

(b) **ASSISTANT ARCHITECTS**, capable of preparing working drawings and details from preliminary sketches.

(Salary range £550 to £820 per annum.)

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. 3872

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

APPLICATIONS are invited for the appointment of an **ASSISTANT LAND AND BUILDING SURVEYOR**, with sound practical experience in land surveying by chain and theodolite and levelling. Additionally a knowledge of building construction is necessary for the survey of existing buildings.

The salary range is £550 and £820 per annum, and a five-day week is in operation.

Applications, stating age, experience, qualifications, and salary required, should be addressed to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester. 4. 3873

SENIOR ASSISTANT ARCHITECT required immediately in busy and varied practice in the West Riding of Yorkshire. Applicants should be Associate Members of R.I.B.A. and have had considerable experience, preferably in Schools, Commercial or Industrial work. Contemporary outlook. Salary £1,500 per annum, according to experience.

JUNIOR ARCHITECTURAL ASSISTANTS, at Intermediate R.I.B.A. standard, with a minimum of two years' office experience. Salary according to qualifications and experience. There is a pension scheme in operation, and there are good prospects for promotion and upgrading. Apply with full particulars to J. G. L. Poulson, Esq., L.R.I.B.A., 29, Ropergate, Pontefract. 3877

THE BAHRAIN PETROLEUM CO., LTD., BAHRAIN, PERSIAN GULF.

APPLICATIONS are invited from **JUNIOR QUANTITY SURVEYORS** for position in the Engineering Department. Position open in Building and General Construction work, involving industrial buildings of steel frame and concrete block or asbestos sheeting construction; dwellings; steel, wood-frame and concrete structures; and other projects in the civil engineering field.

Overall scope of work involves preparing estimates of and requisitioning, material requirements for new projects; checking drawing lists of material for field issue; advising on construction materials and materials availability, etc.

Opportunities for advancement are good and the position offered is a career position in an expanding international organisation.

Salary and position offered on basis of qualifications and experience, with starting salary ranging from £55 to £75 per month, with free air conditioned accommodation, plus adequate living allowance, medical attention being provided in addition. Pension Plan and kit allowance also provided. Periods in Bahrain are of two years' duration, with paid local and home leaves. Apply in writing, with full particulars, to Caltex Services, Ltd., Thames House (entrance No. 3), Millbank, London, S.W.1. 3880

ARCHITECT, fully qualified, for Property Development Company. Exceptional opportunity for ambitious man. Must be capable of taking full responsibility of Building schemes from inception. Negotiating experience essential. Only fully experienced man will be considered, but to such an applicant the question of salary will be secondary to ability and initiative. Superannuation scheme. Headquarters West End, London. Write, giving age and experience, to Associated Suburban Properties, Ltd., 38, Upper Grosvenor Street, London, W.1. 3835

ASSISTANTS required by Architects with extensive London and Provincial practice, including large reinforced concrete and steel-framed structures. Box 3804.

ARCHITECTURAL ASSISTANTS required immediately. Five-day week. Interesting work, pleasant surroundings, in Gray's Inn. Salaries up to £750, according to experience. Phone CHAncery 7751. 3810

ARCHITECTURAL DRAUGHTSMEN (TWO) required for busy Property Development Company in West End. Salary £800 p.a. and Superannuation scheme. Permanent position, with excellent prospects for keen accurate workers. Write, giving age and experience, to Associated Suburban Properties, Ltd., 38, Upper Grosvenor Street, London, W.1. 3833

ARCHITECTURAL ASSISTANT for North-East. Competent to prepare measured Surveys, Working Drawings. Apply, with details, Box 3796.

ARCHITECTURAL DRAUGHTSMAN, Surveys, Commercial and varied provincial practice, Box 3797.

TWO ASSISTANTS, about R.I.B.A. Intermediate standard, required immediately. Country practice, South Midlands. Office experience and able drive car essential. Salary by arrangement. Apply, with all particulars, Box 3811.

ARCHITECTURAL ASSISTANT required immediately. Intermediate standard. Salary £400-£500, depending upon qualifications. Excellent prospects. A Stanley Barnes, 7, Hamilton Square, Birkenhead. Phone Birkenhead 4025. 3813

DEVELOPMENT COMPANY requires **CHARTERED ARCHITECT**, capable of dealing with complete site plans, average 50 properties including roads. Pensionable appointment. N.W. Kent suburbs. Starting salary £750 p.a. Box 3815.

ARCHITECTURAL ASSISTANTS (Junior and Qualified) required in Newport (Mon.) office, with salaries up to £750 p.a. Box 3816.

HENING & CHITTY, F.R.I.B.A., have vacancies to run important job. **JOB LEADER** (£1,000 to £1,200); **ARCHITECTS** (£750 to £900); also **JUNIORS**. Write with full particulars to 20, Gower Street, W.C.1. 3817

VACANCY for **ASSISTANT** in general practice in North-West Kent. Advanced Intermediate standard required, knowledge of building construction, and experience in building work essential. Salary up to £600 p.a. Apply in writing, with full particulars, to A. Hargreaves & Partners, 17, Crook Log, Bexleyheath, Kent. 3818

ROBERT SHARP & SON, A.L.R.I.B.A., require a **SENIOR ARCHITECTURAL ASSISTANT**, A.R.I.B.A., with office experience, and a **JUNIOR ASSISTANT** of at least Intermediate standard. Apply in writing, stating qualifications and experience, to 13, Lower Belgrave Street, S.W.1. 3821

ARCHITECTURAL ASSISTANCE required for interesting and varied work with small but expanding firm in rural area of North Essex. Box 3795.

SMALL Westminster office requires responsible pre-Final **ASSISTANT**. Opportunity to gain all-round experience, taking charge of jobs in office and on site. Salary £600 p.a. Geoffrey Shires. Telephone ABBey 4909. 3836

SENIOR ARCHITECTURAL ASSISTANT required in Carlisle office. Must be really experienced, of Final or Intermediate standard, and able to take full responsibility. Graham & Roy, Chartered Architects, 6, Paternoster Row, Carlisle. 3832

ARCHITECT, fully qualified, for Property Development Company. Exceptional opportunity ambitious man desirous of financial advancement. Must be capable of taking full responsibility of Building schemes from inception. Negotiating experience essential. Only fully experienced man will be considered, but to such an applicant the question of salary will be secondary to ability and initiative. Headquarters West End, London. Apply, giving age and experience, to Box E8198, Whites, 72/78, Fleet Street, London, E.C.4. 3835

SENIOR and Intermediate standard ARCHITECTURAL ASSISTANTS / DRAUGHTSMEN required by North & Partners, Maidenhead. Generally large-scale work. Initial ability essential, with salary to suit. Telephone Maidenhead 3131. 3834

ARCHITECTURAL DRAUGHTSMEN (TWO) required for busy Property Development Company in West End. Top salary and permanent position, with excellent prospects for keen accurate workers. Apply Box E8200, Whites, 72/78, Fleet Street, London, E.C.4. 3833

ARCHITECT ASSISTANT required by well-known Brewery for work in connection with Bottling Store alterations, maintenance, etc. State age, experience, salary required. Brewery experience not essential. Reply Box 3824.

ARCHITECTURAL ASSISTANTS required in Essex office (within 10 miles London). Salary £650-£850 per annum. Apply Box 3825.

ARCHITECTURAL ASSISTANT, of R.I.B.A. Intermediate standard, required in Architect's Department of Estate Developers, in the outer London South-Eastern area, engaged on private residential development, shops, etc. Salary in accordance with experience. Write, stating age, experience, and salary required, to Box 3826.

ARCHITECTURAL DRAUGHTSMEN required by Ilford Limited for Staff Architect's Office. Applicants should have completed at least one year's office experience. Apply in writing, stating age, training and experience, to Ilford Limited, Romford, Essex. 3742

EDINBURGH—Senior and Intermediate ASSISTANTS required. Write, giving particulars of experience and salary required, to Messrs. David Carr & Stuart Matthew, 14, Lynedoch Place Edinburgh, 3. 3123

A FIRM of Private Architects, with several projects covering a wide range of architecture (no housing), offers scope for SENIOR and JUNIOR ASSISTANT ARCHITECTS in their offices in Westminster and Birmingham or in site offices. In return for initiative, keenness and team spirit successful applicants will be rewarded by increasing responsibility and remuneration. Five-day week. Pension scheme. Apply Clifford Tee & Gale, F./R.I.B.A., 5, Buckingham Palace Gardens, S.W.1 (opposite Victoria Station), Sloane 2296, or 43, Frederick Road, Birmingham, 15 (Edgbaston 3676). 3557

SITE ADMINISTRATION ASSISTANTS (Inter-Final Standard) required in Site Office for contemporary Museum and Art Gallery in Coventry. Details of experience and salary required to Herbert, Son & Sawday, 18, Friar Lane, Leicester. 3744

COMPETENT ASSISTANTS, Intermediate to Final Standard, required by busy Architects in Leicester. Salaries on A.P.T. grades basis. Applications with particulars to Herbert, Son & Sawday, 18, Friar Lane, Leicester. 3746

JUNIOR ASSISTANT, competent to make measured surveys and prepare working drawings, required by Wallis & Smith, Chartered Architects, Basingstoke. Apply by letter, stating salary required. 2535

ARCHITECTURAL ASSISTANT urgently required in busy Macclesfield office. Intermediate up to Final standard. Apply stating age, experience and salary required to: R. A. Riseley, Architect, 6, Chestergate, Macclesfield. 3753

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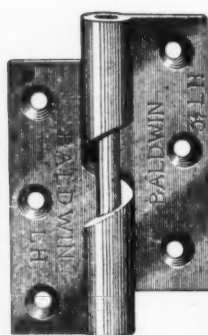
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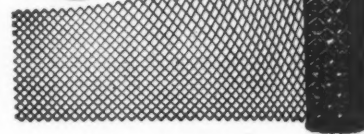
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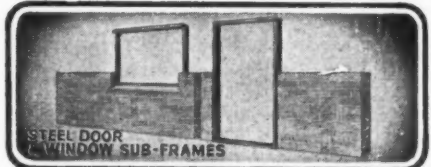
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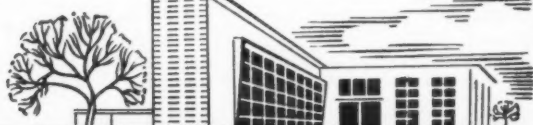


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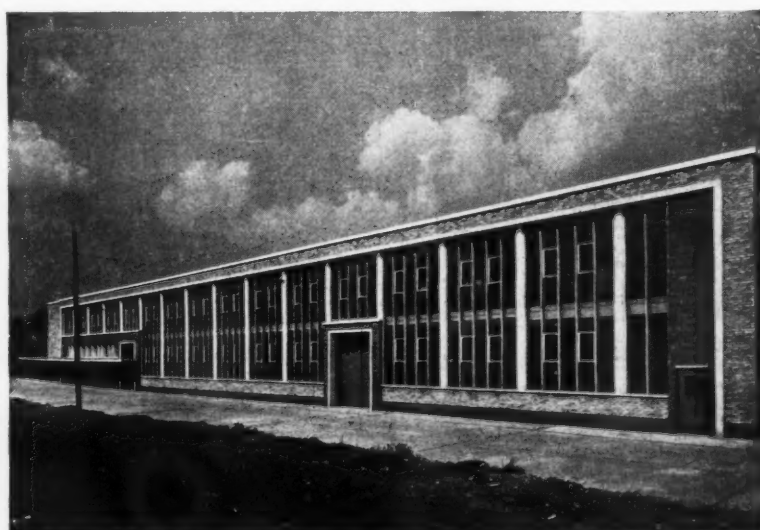
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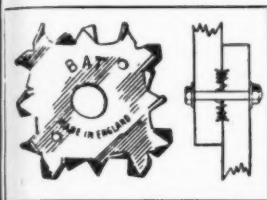
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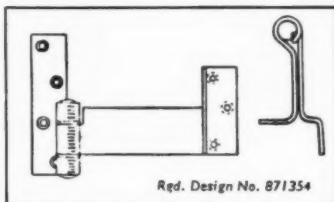
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