

THROUGHOUT WARS and PEACE to 1945...

COLT SHINGLES remain the trouble free roof of the future.

Throughout the war, Colt's have maintained a continuous and uninterrupted supply and fixing service of Colt Shingles on War Department, Air Ministry and other Government and essential buildings. Our Technical Department is at the service of all Architects.

Colt Shingles proved themselves during the war to be superior to other roof covering in their remarkable resistance to blast, more than justifying our claims for the permanent security of a Colt Shingled roof.



1895



PROGRESS



TO



1939.



1939-45.



Fire retardant.
Gale proof.
Permanent
Rot proof.
Vermin proof
Beauty in colour
and appearance.
Perfect insulation.

Twenty times lighter than tiles.
Saves 40% roof timber.
One inch Cedar equals 11 in. concrete
in resistance to heat or cold.
Economical in cost and fixing.
Long trouble-free life.

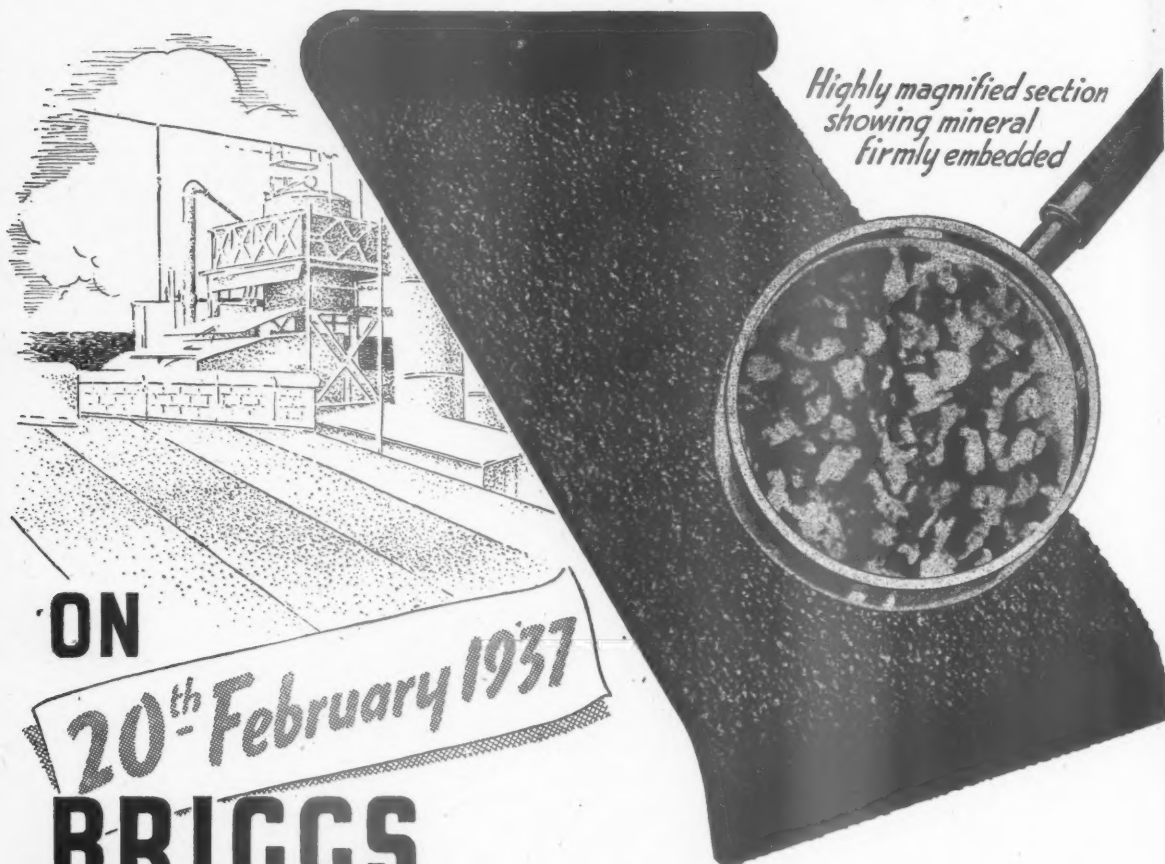
Used for roofing houses, schools, garages, airport buildings, factories, agricultural buildings, and other permanent structures. We quote for supply and fixing if required.

In Peace, Colt Shingles' will be specified more widely than ever for their beauty, long life, high insulation value and weatherproof qualities.

Copies of our Shingle Handbook containing 110 photographs and full technical information on request. Write to W. H. Colt (London) Ltd., Surbiton, Surrey. Telephone: Elmbridge 6511 (4 lines).

COLT *Canadian Cedar Wood* **SHINGLES**
(CEDAR WOOD TILES)

Specially chosen from No. 1 Grade XXXXX Shingles



ON

20th February 1937

BRIGGS

MINERAL SURFACED ROOFING ★

was laid on one of the testing roofs at our Roofing Research Station, Arbroath, Angus.

Recently it was examined and the mineral surface was found still firmly embedded and the Roofing unaffected after eight years exposure.

If you wish to examine an actual specimen of this roofing, our Area Manager at any of the undernoted centres will be glad to call and show it to you.

WILLIAM BRIGGS & SONS, LTD.

DUNDEE & LONDON: VAUXHALL GROVE, S.W. 8.

ABERDEEN
Bedford Rd.
Kittybrewster

EDINBURGH
Murrayfield,
L.M.S. Station

GLASGOW
200, Old
Dumbarton Rd.

LEICESTER
33, Bowling
Green Street

LIVERPOOL
1, Copy Lane

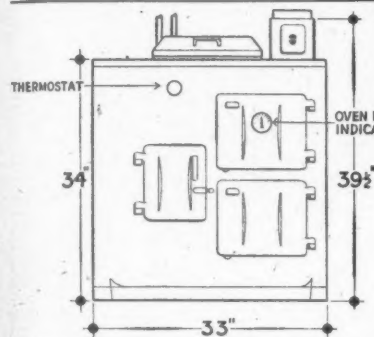
NORWICH
Trowse
Millgate

★
Used as a cap
sheet for BRIGGS
MULTI-LAYER
ROOFING or for
single layer work.

AT LAST—HEAT STORAGE COOKING for HOUSING SCHEMES

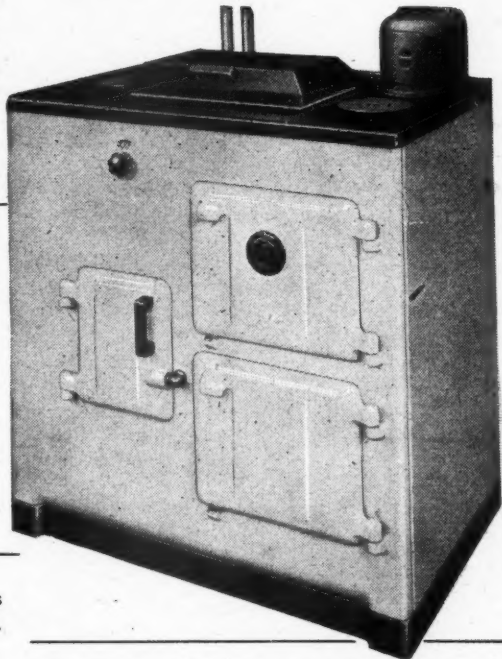
The "H.S." Cooker regulated by thermostat, answers the national need for a Heat Storage Cooker, with its efficiency and startling fuel economy, sufficiently low priced to be used in municipal housing schemes. In addition to cooking, from the one fire is provided a constant supply of hot water, thus abolishing the uneconomic system (especially in summer) of heating water from the sitting-room fire. Easy to work, providing a gentle warmth day and night, having two spacious ovens, top for roasting and lower for slow cooking, and extensive fast boiling hot-plate, the "H.S." brings the advantages of Heat Storage Cooking, FOR THE FIRST TIME, to the lower-grade-income home.

THE "H.S." HEAT STORAGE COOKER



BRIEF TECHNICAL DETAILS

Each oven: 12" x 10" x 17" deep.
 Inside diam. of flue outlet 4½" suit-
 able for 4" diam. asbestos pipe.
 Boiler: 70/80 gall. water at
 150/160°F. over 24 hours.
 Storage Cylinder: 30/35 gall. within
 15 feet of cooker and insulated.
 Fuel: Anthracite, Coke or
 Phurnacite.
 Consumption: 20 lbs. per 24 hours.
 Weight: 588 lbs.
 Finish: Mottled Porcelain enamel.



Full details of the "H.S." Heat Storage Cooker and "ESSE-Q" Continuous Burning Heating Stove (described below) will be gladly supplied on request.

ESSE-Q INSET CONTINUOUS BURNING HEATING STOVE

DESIGNED FOR HOUSING SCHEMES

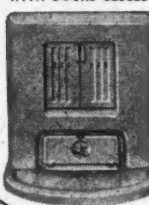
This latest ESSE Stove, open and closed fire, burning any type of solid fuel, designed to reduce smoke emission when bituminous coal is used, is specially suitable for municipal or other mass housing projects. Exterior finish is oatmeal (or other colours) mottled porcelain enamel. Fitted with tight-fitting sideways sliding fire-doors (obviating ugly appearance of inner side of fire-doors when open), the ESSE-Q is of clean, functional design, self-setting, with top flue outlet for placing in recess (see plan below). Fire-doors are closed for overnight burning and boosting.



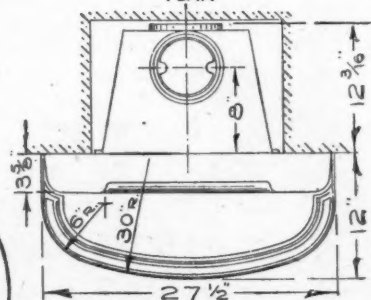
BRIEF TECHNICAL DETAILS

Overall Height ... 28½"
 Fireplace Opening:
 Height: Min. ... 27½"
 Max. ... 28"
 Width: Min. ... 18"
 Max. ... 24"
 Depth: 12½"

WITH DOORS CLOSED



PLAN



FULL DETAILS GLADLY SUPPLIED ON REQUEST FROM

SMITH & WELLSTOOD

ESTABLISHED 1854

HEAD OFFICE & WORKS:

BONNYBRIDGE, SCOTLAND



One girl can clear them all away in fifteen minutes—and the whole hundred, stacked, occupy but 20 square feet of floor space.

The possibilities of multi-purpose rooms open a new field in architectural design. Kingfisher partitions folding windows, and furniture enable the concert hall to become a ballroom, the class room a temporary cinema.

Under license this equipment can be supplied now.



Kingfisher Ltd.

furnish the new Education



KINGFISHER LTD., Charles Street & Phoenix Street, West Bromwich, STAFFS.
Telephone: Tipton 1631. Telegrams: Kingfisher, Phone, West Bromwich



Windows—then and now!

The earliest *windows* were just openings to admit the *wind* into dwellings. Then came the earliest glass windows, but they only admitted light. The dual purpose of the window—admission of air and light—was still unknown.

Evidence shows that glass windows were already used in Pompeii, but it was not until the 12th century that they became popular in England. In 1695 a window tax was imposed. As late as 1850 it yielded £1,832,684. It was abolished in 1851. At

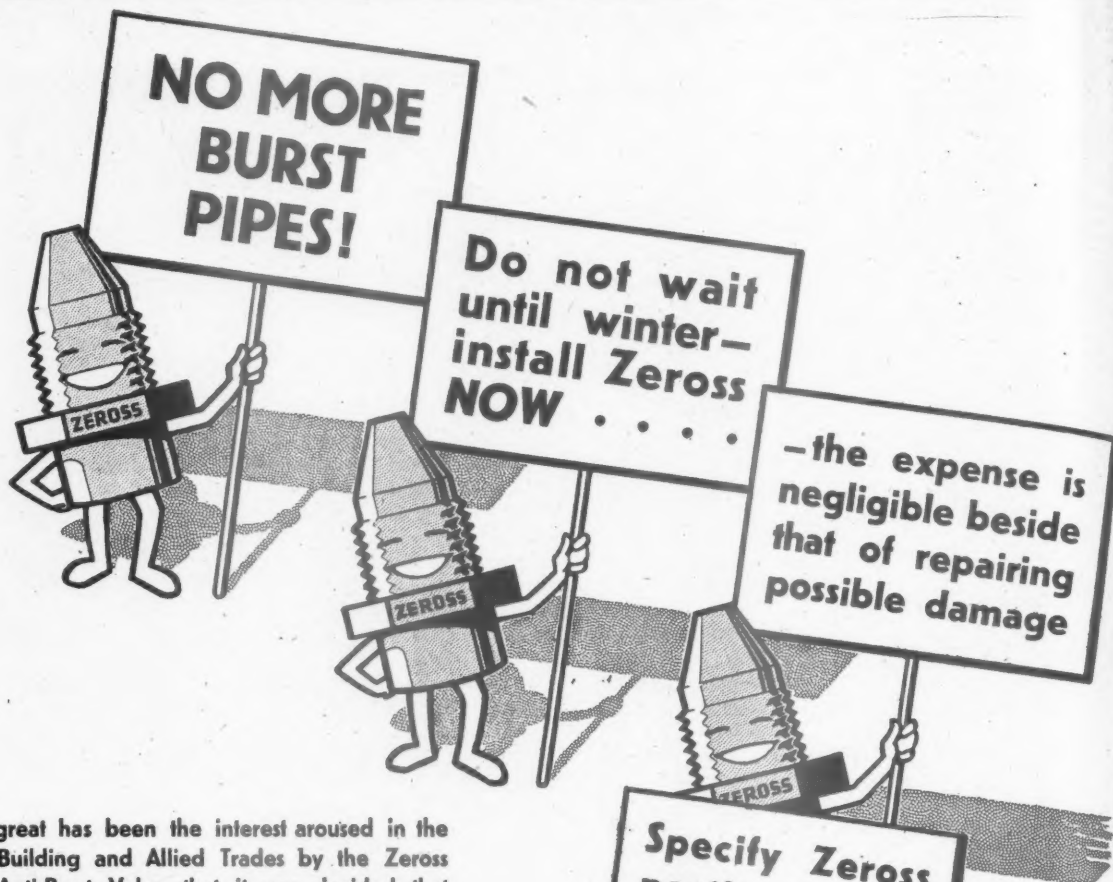
last it was realized that the tax limited the number of windows and the entry of air and sunshine.

All the time window frames underwent great changes. Heavy cast-iron frames gave way to lighter materials until eventually a frame was evolved—the John Dale window cast in aluminium alloy—which combines lightness with strength, weather resistance with ease of cleaning, advantages which post-war builders and dwellers will be quick to appreciate.

JOHN DALE LTD.,
LONDON COLNEY · HERTFORDSHIRE

Telephone : London Colney 3141

THE
MODERN
TECHNICIANS
in
LIGHT
ALLOYS



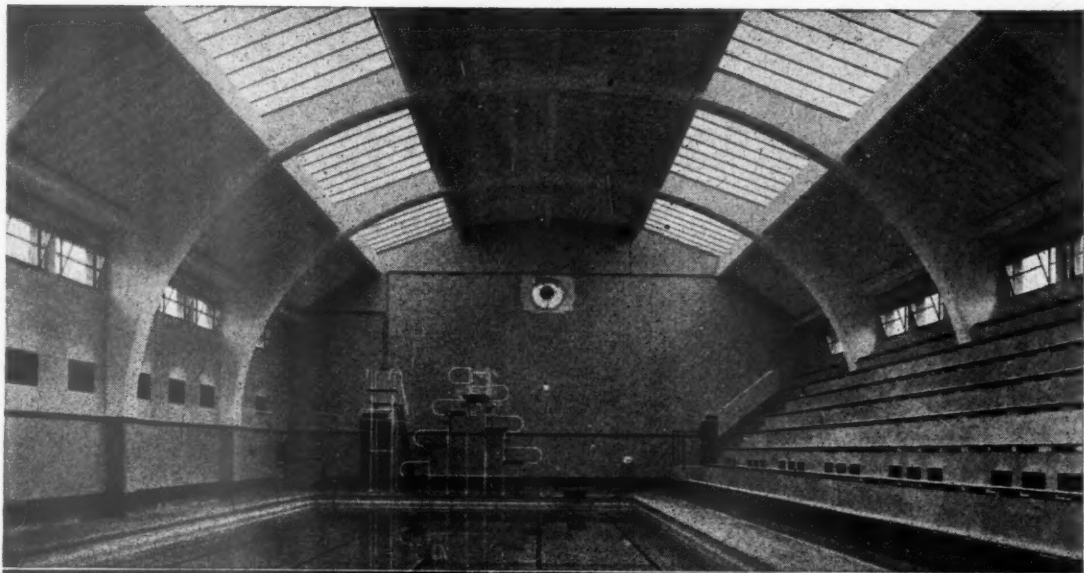
So great has been the interest aroused in the Building and Allied Trades by the ZeroSS Anti-Burst Valve that it was decided that further tests of the most rigorous description should be carried out in public. The results showed ZeroSS to be 100% efficient in operation. Representatives of the House of Commons, the Air Ministry, the Ministry of Works, Water Authorities, Industrial Undertakings and the Press were present. The assembly agreed that the tests witnessed were sufficient to prove conclusively the claims of the Company in connection with the ZeroSS Valve.

Now is the time to order ZeroSS Valves; do not wait until winter, when it may be too late. The cost of installation is negligible compared with that of making good the damage that may be caused by bursts due to freeze-ups. "ZeroSS" should be specified particularly in the case of new buildings as well as in existing water systems. "ZeroSS" technicians will gladly give advice and assistance.

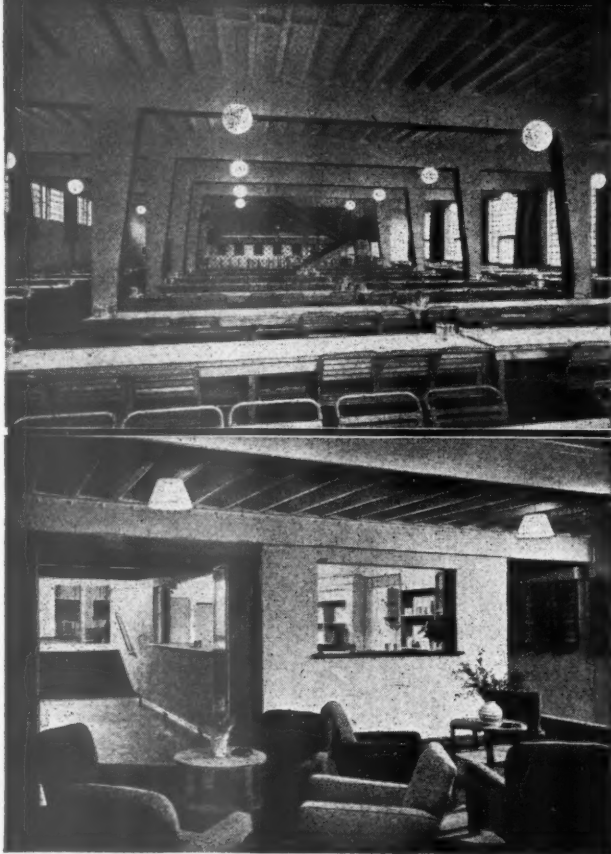
Remember that ZeroSS Valves are entirely self operating and require no maintenance. There is no constant wear on any part of the Valves and they cannot be affected by corrosion as the essential parts are not normally in contact with the water.



Write for descriptive folder and reports from
S. GRAHAME ROSS LTD. SLOUGH.
TEL: BURNHAM (BUCKS) 686.



THE ADVANTAGES OF TRUSCON PRECAST UNITS IN BUILDINGS FOR SOCIAL AND HEALTH PURPOSES



Truscon Precast Units ensure good alignment and assist the Architect in obtaining æsthetic treatment with the structural medium. They are clean in appearance and create an atmosphere of hygiene. The ribbed soffit is an attractive feature and lends itself to all grades of buildings used for social and health purposes, as will be seen by the three examples illustrated on this page.

TRUSCON
PRECAST
FLOORS

Truscon Precast Units do not require false ceilings for this type of building: contain no inaccessible voids to harbour dust and vermin: are completely hygienic.

TRUSCON FLOORS
6, COLLINGHAM GARDENS
LONDON, S.W.5 'Phone: FRObisher 8141



**PLAN FOR
CONTROLLED
COMFORT**

ST. SWITHUN'S SCHOOL,
WINCHESTER - Assembly Hall

Architects:
Mitchell & Bridgwater, A/A.R.I.B.A.

Just as Crittalls installed invisible embedded panel warming, inlet and extract mechanical ventilation, hot water and kitchen equipment in the impressive new building of St. Swithun's School, Winchester, so will they install 'controlled comfort' in many other important buildings in post-war Britain.

*Other Services undertaken include
Oil or Gas Fired Boilers, Electric
Thermal Storage, Air Conditioning,
Thermostatic Control, Steam
Supplies, Compressed Air Supplies,
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Warming, Cooking Equipment.*

RICHARD CRITTALL

AND COMPANY LIMITED, ALDWYCH HOUSE, LONDON, W.C.2. Phone: TEMple Bar 7777

"TURNALL" ASBESTOS SPRAY

puts the ADVANTAGES of wet construction into dry building



CONTINUOUS SURFACING FOR WALLS AND CEILINGS
SMOOTH, TEXTURED OR MOULDED DECORATION
PROTECTING COVER FOR STEEL WORK. PROOF AGAINST VERMIN

PLUS

THERMAL INSULATION
K = 0.4

SOUND ABSORPTION
 $\frac{1}{2}$ " = 0.4

FIRE PROTECTION
B.R.S. Test Grade B 4 hrs.

CONDENSATION
ABSORPTION
6 times its own weight

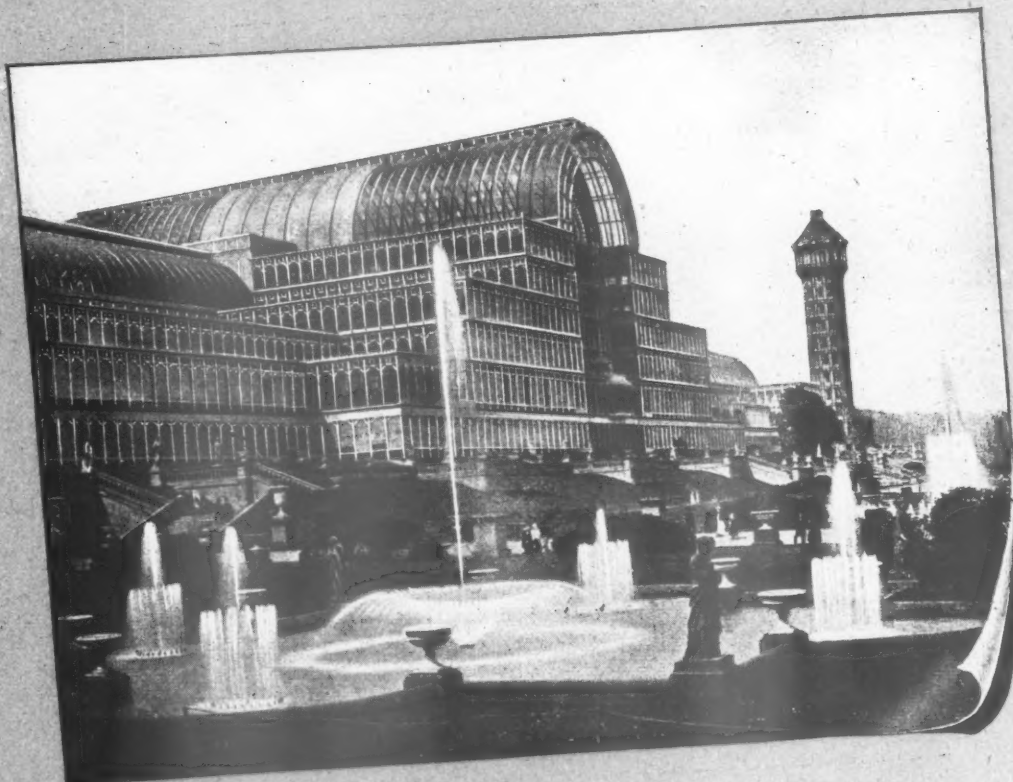
LIGHT WEIGHT:
12 lbs. per cu. ft.

QUICK DRYING:
normally 8 hours



TURNERS ASBESTOS CEMENT CO. L^{TD}

TRAFFORD PARK · MANCHESTER 17



When the *NEW* Crystal Palace
is designed —
*What immense possibilities for the modern
material of unlimited applications*

Aluminium



We invite architects and designers to write for technical data, including our publication "Aluminium in Architecture and Decoration," illustrating window-framing, doors, grilles, balustrading, lift enclosures and surrounds, screen-frames, panelling, canopies, showcases, escalator-casing, exhibition stands, table tops, spandrels, signs and other work in aluminium.

THE BRITISH ALUMINIUM CO. LTD. SALISBURY HOUSE LONDON WALL LONDON E.C.2
Telephone : CLerkenwell 3494

Telegrams : Cryolite, Ave, London



A TRADITION OF EXCELLENCE

Bratt Colbran fireplaces have always been distinguished by fine design and wise handling of good materials, closely associated with advanced technical efficiency. Present research promises great progress in technique after the war which will be developed with customary skill and taste.

BRATT COLBRAN LIMITED

10, MORTIMER STREET, LONDON, W.1

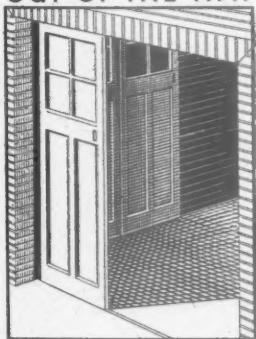
SPECIALISTS IN SOLID FUEL, GAS AND ELECTRICAL HEATING

TO SWING OR NOT TO SWING



THAT IS THE QUESTION and when it comes to planning doors it needs extra careful thought—because there are few things more precious than space when you are working in confined quarters. A door that's hinged is a door that needs a lot of room; but with a sliding door it's different. If it's fitted with King Door Gear a touch of the hand takes it out of the way, gliding easily and quickly to nestle snugly against the wall, completely and unobtrusively out of the way.

OUT OF THE WAY



It is true to say that in post-war building every inch of space will be of the utmost value; take advantage of every scrap of it—when you can, and how you can. This is where King Door Gear comes in—or to be more precise slides along. Doors that slide mean doorways that allow free passage all around them.

For ante rooms, cloak rooms, garages, lifts, etc., and places where space is limited or traffic congestion is likely to occur, sliding doors are the perfect application.

As specialists for over a quarter of a century we claim to satisfy the most exacting requirements for any type of sliding door gear. Write for fully illustrated booklet.

KING SLIDING DOOR GEAR

GEO. W. KING LTD HITCHIN · HERTS
TELEPHONE HITCHIN 960 (10 LINES)

TS
s)

The advertisement features a collection of eight rectangular signs, each with a double border, arranged in a cluster. The signs are set against a background of a metal lattice structure, possibly a scaffolding or a display rack, with diagonal and horizontal bars visible. The signs are tilted at various angles, creating a dynamic composition. The text on the signs is in a bold, sans-serif font, with some words in all caps and others in title case. The signs list various building materials and services offered by Sankey's, including fire-brick work, roofing, rainwater goods, sanitary ware, fireplaces, firebricks, firebacks, tiling, heating insulating materials, partition blocks, and building paper. The central sign is the largest and most prominent, with the text 'SANKEY'S SERVICE for BUILDERS' in a large, bold font. The other signs are smaller and arranged around it, each listing a specific product or service. The overall tone is professional and informative, aimed at architects and builders.

"PYRUMA"
FOR SETTING ALL
FIRE-BRICK WORK
by **SANKEY'S**

ROOFING
SLATES AND TILES
RAINWATER
GOODS
by **SANKEY'S**

SANKEY'S
SERVICE
for **BUILDERS**

DOWN-DRAUGHT
PREVENTING POTS
"MELAC" FIREPLACES FIREBRICKS
FIREBACKS AND CHEEKS
"MELAC" TILING
by **SANKEY'S**

SANITARY WARE
PIPES AND FITTINGS
by **SANKEY'S**

"SISALKRAFT"
SUPER
BUILDING PAPER
by **SANKEY'S**

"MOLER" HEATING INSULATING
MATERIALS **INSULATING BOARDS**
"CRANHAM" PARTITION BLOCKS
"MOLER" PARTITION AND FLOOR BLOCKS
by **SANKEY'S**

Fully Illustrated Leaflets on Application

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General Offices and Showrooms

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ESTABLISHED 1857

SECO

is a **system** of dry Unit Construction for HOUSES, SCHOOLS, HOSPITALS and FACTORIES, which gives utmost speed of erection on the site.



SECO is the **system** which has been most widely used during the past three years. It is based on a wall unit 7ft. 4½in. by 3ft. 2½in., of which 6,469,800 feet super of floor area have been made and erected into 283 different designs of buildings on 698 sites.

"Seco" and "Uni-Seco" are the Registered Trade Marks

UNI-SECO STRUCTURES LIMITED

25, Upper Brook Street, Park Lane, London, W.1.

• Mayfair 9080

Stonham & Kirk



The oak in the photograph is at least 800 years old! This sturdy disregard for time and the elements is a feature of good woodwork too; and modern science has done much to add to wood's natural resistance to wear and tear.

The
Midland Woodworking
Company Ltd

MELTON MOWBRAY

Craftsmen in Domestic Joinery



How many homes for how much?

The post-war demand will be for good houses in large numbers at reasonably low prices. How is the building industry to meet it? One thing is clear. As many components as possible will have to be factory-made on the most efficient and highly mechanised lines.

One kind of equipment for every building—electrical switch and fusegear—has been manufactured by M.E.M. in this way for many years. They have shown how cost can be progressively reduced and quality improved by steadily perfecting large-scale production on the basis of experience. The war has added to this experience and the benefits will be at the service of Installation Engineers when peace comes.



*"Meminx"
Switch
Splitter*

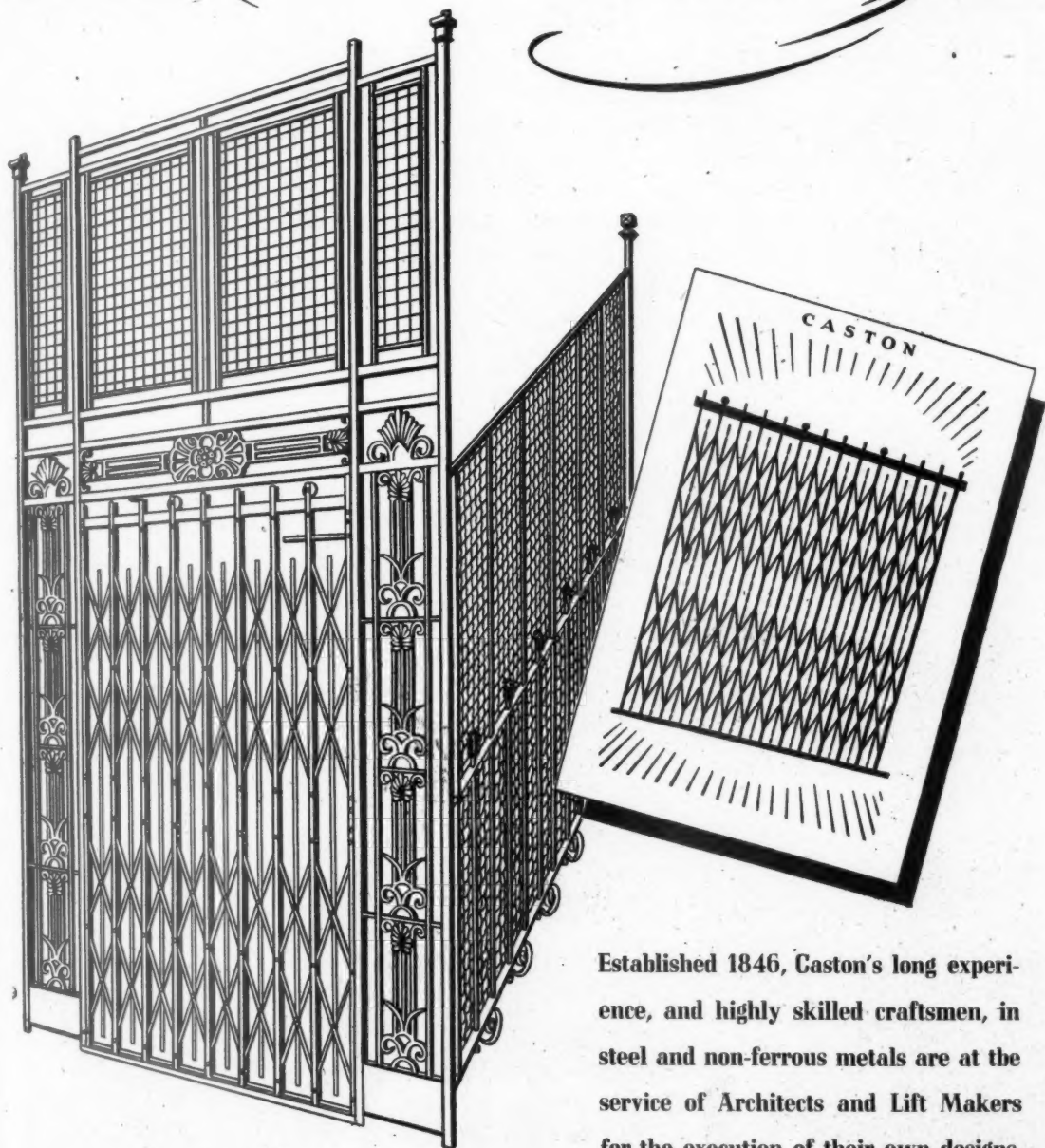


**SWITCHGEAR • ELECTRIC FIRES
MOTOR STARTERS • FUSEGEAR**

MIDLAND ELECTRIC MANUFACTURING CO. LTD., TYSELEY, BIRMINGHAM, 11
London Showrooms & Stores: 21-22 Rathbone Place, W.1 • Manchester Showrooms & Stores: 48-50 Chapel Street, Salford, 3

CASTON

COLLAPSIBLE STEEL GATES & Enclosures



Established 1846, Caston's long experience, and highly skilled craftsmen, in steel and non-ferrous metals are at the service of Architects and Lift Makers for the execution of their own designs.

Telephone : HOP 1991/2/3.

CASTON & CO. LIMITED, TABARD STREET, LONDON, S.E.1.

NOW FOR FACTORY OVERHAUL ROOFS

The approved method of roof waterproofing

WATERPROOFING PASTE—for sealing cracks, holes and joints in leaking or damaged roofs, gutters, etc.

FIBROUS COMPOUND — a waterproof insulating coating for all types of roofs

Completely waterproof and acid resistant.
Supplied ready for use and applied cold
by brush

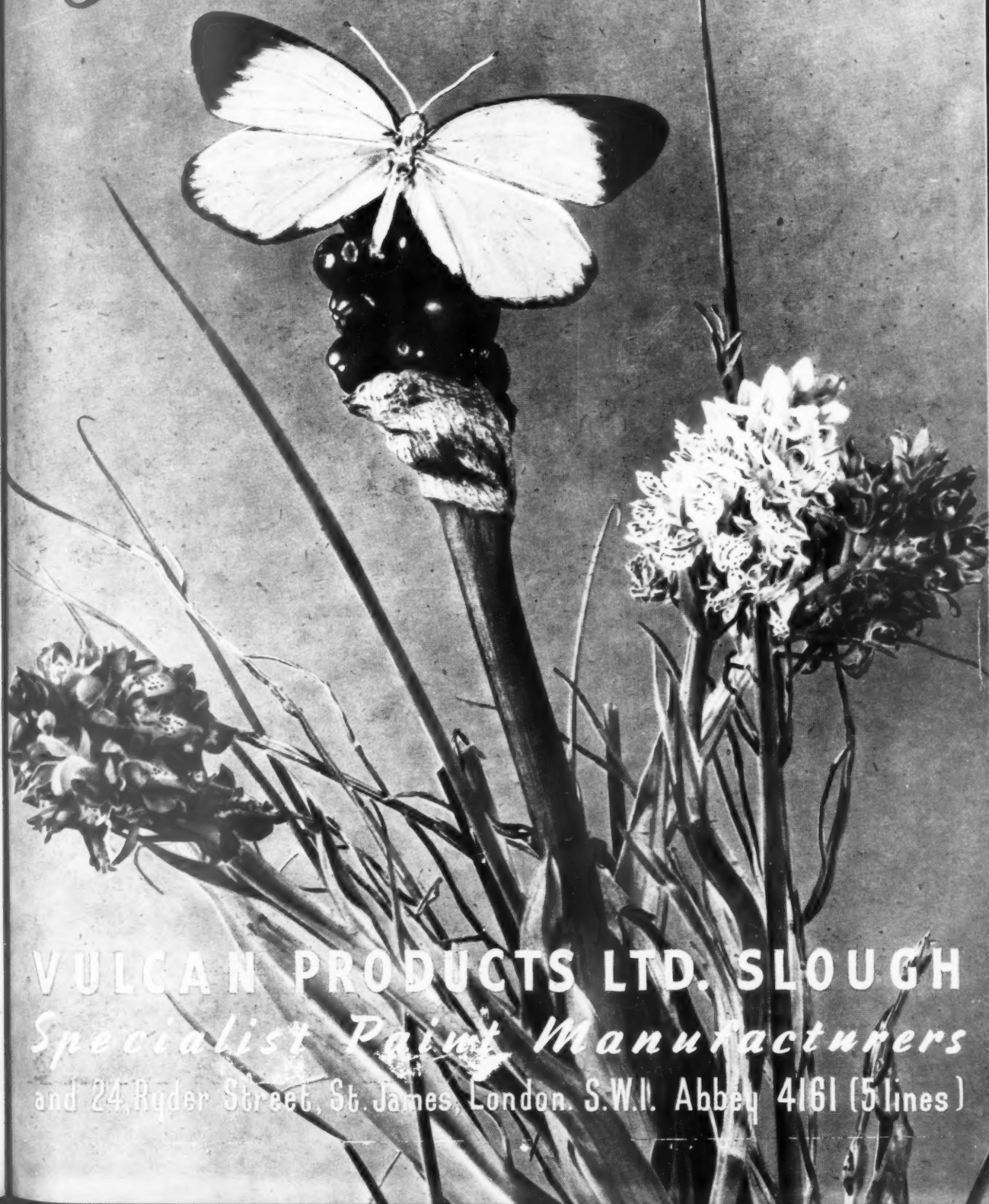
Consult our Technical Department for further details



TRETOL

TRETOL Ltd. 12 NORTH END ROAD, LONDON, N.W.11 Tel. Spe 2866

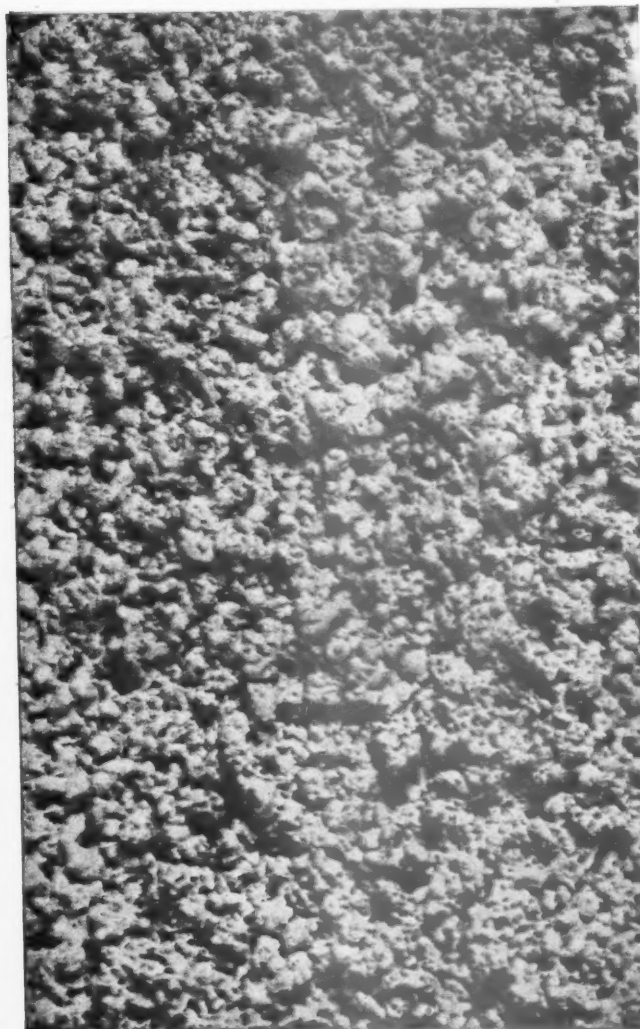
Distinctive as Glossex Finishes



VULCAN PRODUCTS LTD. SLOUGH

Specialist Paint Manufacturers

and 24, Ryder Street, St. James, London, S.W.1. Abbey 4161 (5 lines)

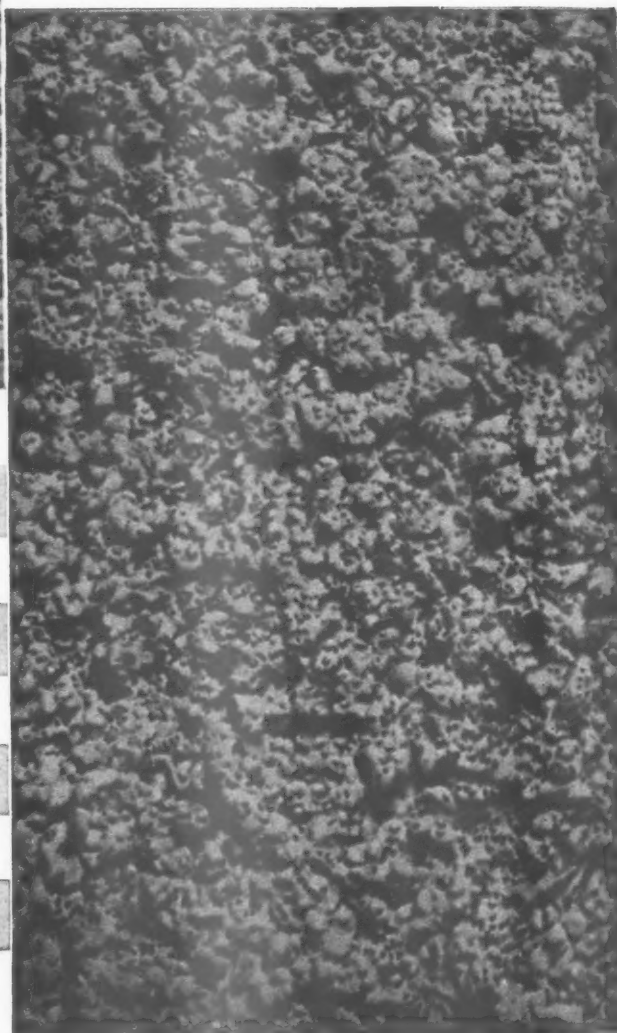


CULLAMIX

TYROLEAN

FINISH

Patent No. 533915



NON CRAZING

EVEN WEATHERING

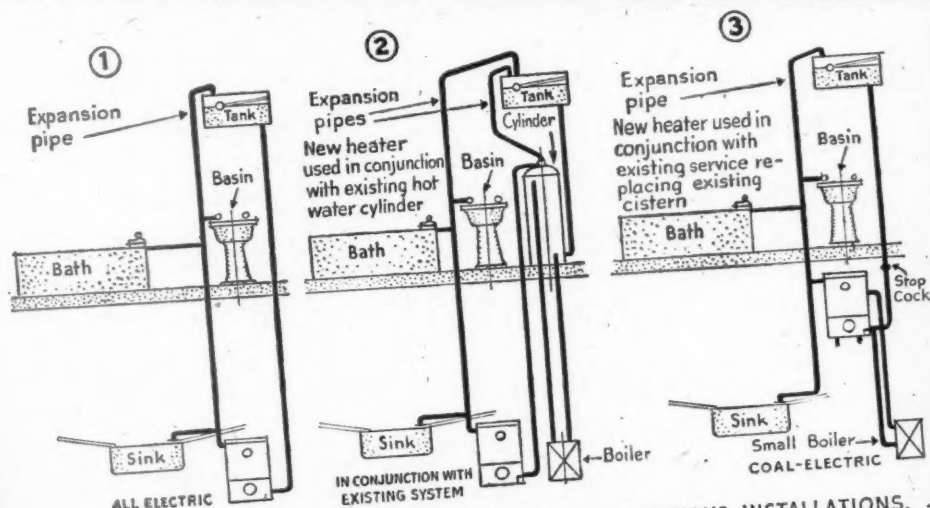
UNIFORM TEXTURE & COLOUR

APPLIED BY MACHINE

Further particulars from **THE CEMENT MARKETING CO. LTD.** • 192 ASHLEY GARDENS • LONDON, S.W.1

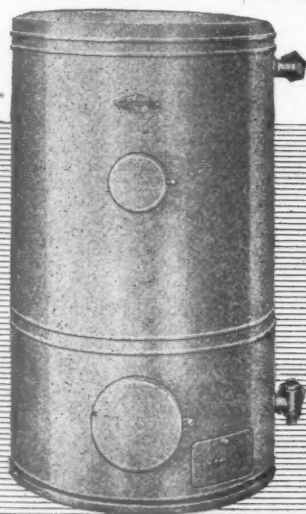
Agents for the North of England: **G. & T. EARLE LTD.** CEMENT MANUFACTURERS • HULL

CONSTANT HOT WATER



METHODS OF CONNECTING PIPEWORK AND HEATERS FOR VARIOUS INSTALLATIONS.

Cuts Complicated Planning



The great service of the Sadia Type U.D.B. Electric Water Heater will be to provide a completely automatic and labour-free hot water system for the post-war home. But at the same time it will be an enormous benefit and time-saver for busy architects, reducing the design problems of the hot water installation to a minimum.

For the Sadia U.D.B. is a small and compact unit and can be located in the kitchen under the draining board or in a cupboard. Moreover, being odourless and fumeless, it requires no flues or ventilation. A complete system in itself or it can be used as an emergency and hot weather alternative to a solid fuel boiler, and in this case no extra tank or long pipe connections are necessary.

Hundreds in normal use have proved the utter reliability and extreme economy of the Sadia U.D.B. the standard electric hot water system for the post-war homes of Britain.

Further particulars on request.

SADIA

TYPE U.D.B.
AUTOMATIC ELECTRIC
WATER HEATER

Aidas Electric Limited, Sadia Works, Rowdell Road, Northolt, Middlesex. 'Phone: WAXlow 1607.
Scottish Agents: W. Brown & Co. (Engineers) Ltd., 89 Douglas Street, Glasgow, C.2.



TRINIDAD LAKE ASPHALT

IS REGARDED AS THE STANDARD
ASPHALTIC CEMENT FOR ALL
FORMS OF ASPHALT IN ROAD AND
BUILDING CONSTRUCTION BECAUSE
OF ITS UNVARYING CONSISTENCY; it is
STANDARDISED BY NATURE

THE LIMMER & TRINIDAD LAKE ASPHALT CO. LTD.

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SLOANE 7123



RESTORATION and STEAMCLEANING

In the great work of restoring the buildings of this country to normal, the House of Dreyfus, with its considerable experience skill, and technical resources, is ideally equipped to play a very important part. Enquiries are cordially invited.

DREYFUS

Established . . . 1884

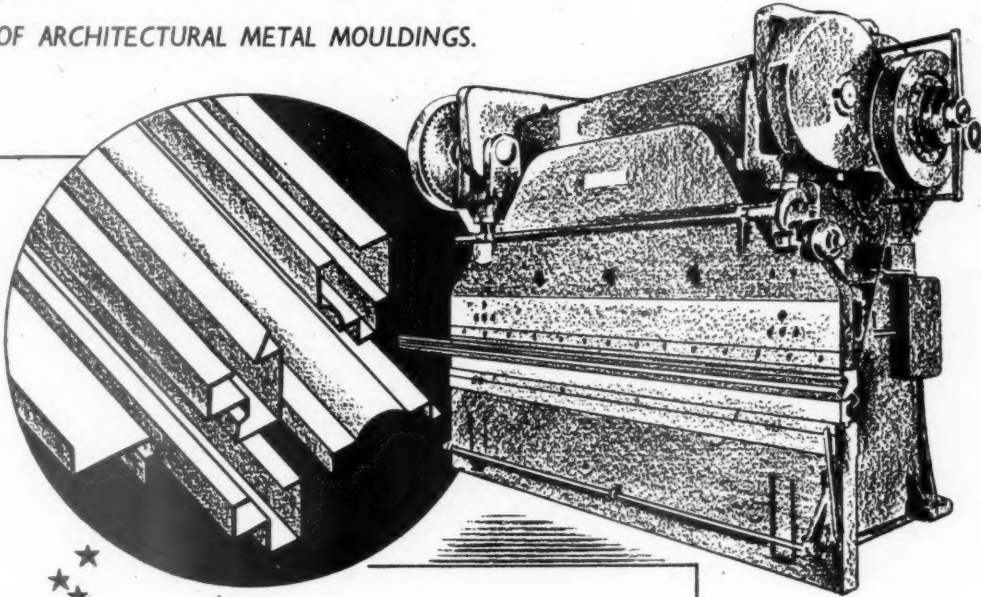
A. DREYFUS LTD. 28 TOULMIN STREET, S.E.1. Tel: HOP 2366



Scientific D.A.

It's BIG-It's Big Enough for Sebels!

★ No. 5. BRAKE PRESS PRODUCTION
OF ARCHITECTURAL METAL MOULDINGS.



ALTERNATIVES

- A** By Sheet Folding Machine. Limited scope, simple sections only:—
- B** THE BRAKE PRESS
- C** Continuous Cold Rolling Mill. This method is very economical providing the quantities required justify the tooling and setting up of the machine. Scope of Sections unlimited.

Sebel's "Quality-Quantity" principles for metal fabrication are naturally helped by the introduction of the Brake Press process of forming sections and mouldings. With this machine, and using stock tooling, mouldings of steel up to $\frac{3}{8}$ inch thickness and 10 feet in length can be turned out; much more intricate mouldings and sections, too, than ever were produced by the sheet folding machine. A typical example of the adaptability of this Brake Press machine is in the production of heavy

steel chequer-plate staircase treads with integral nosings, and also in fabrication of lightweight steel internal staircases such as are used in standardized houses.

Where even bigger mass-production jobs of steel moulding are required, the quantity may justify the tooling and setting up of the continuous Cold Rolling Mill specially for the job; in which case even greater economies are effected. Whichever method is applicable, be sure that Sebels know and use the best way for a big job.

IF IT'S A BIG JOB ASK

SEBEL

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FABRICATED STEEL & TUBULAR ASSEMBLIES - FORMWORK /
& SMITHS WORK - SHEET METAL WORK
VEHICLE IRONWORK - GANGWAYS
PLATFORMS & FLOORING
CONSTRUCTIONAL &
GENERAL ASSEMBLIES

Issued by: D. SEBEL & COMPANY LIMITED, Lant Street, Borough, S.E.1. Telephone: HOP 3803

Scientific S.4

Look forward ...with Aluminium

Today in countless factories throughout Britain the great change-over from War to Peace has begun. New plant has been laid down, new production schedules planned and new products designed. Vital decisions as to the form these products shall take must include the manufacturing techniques to be used *and the materials to be employed*. To those responsible for making these decisions we say
“Look forward—with Aluminium.”

.

For today in this country Aluminium is a great Industry and its Alloys have proved themselves to be as strong as structural steel *yet only one third its weight*. In addition, they are proof against rust and highly resistant to corrosion. Even more important they can be easily fabricated by every known process.

.

Aluminium Alloys have rich opportunities in air, sea and land transport, civil engineering and building. The title of the new Association—which now includes all interested in the production of Aluminium from the virgin metal and its Alloys to semi-finished products—is indicative of the comprehensiveness of its purpose, to provide technical facts and helpful advice on all relevant problems.



Aluminium Development Association...



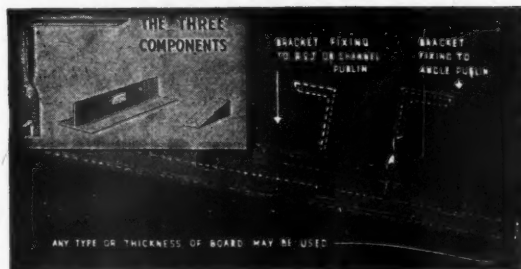
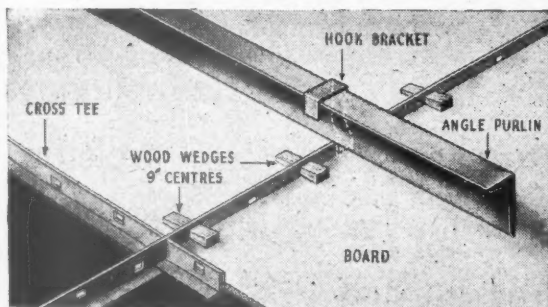
Patent No. 519406

FOR APPLYING ANY TYPE OF BOARD TO CEILING & WALLS

The Wallboard is secured to sherardised, pressed steel, slotted T-section by wedges. Below are shown the methods of attaching the support to various forms of purlin.



Escalator Tunnel of St. John's Wood Underground Station. Architect: S. A. Heaps.



8 POINTS TO BE NOTED

1. Fixed to **UNDERSIDE** of purlins—steel or wood—covering unsightly hook bolts, clips, etc.
2. Assures the insulating value of air-space between roof and underside of purlins. No dust or dirt.
3. Can be fixed to steel or wood purlins of roofs and joists of flat ceiling.
4. No unsightly nail heads showing.
5. Can be applied to new or old buildings of any construction independently of the roofing contractor,

6. who proceeds with his work ahead of the AnD Wedge Method.
6. Any thickness of board can be used, from $\frac{1}{8}$ " to $\frac{3}{4}$ ".
7. This method can be used for applying linings to exterior walls.
8. The simplicity of application is such that any contractor can apply the AnD Wedge Method, and the materials making up this method can be purchased by the contractor.

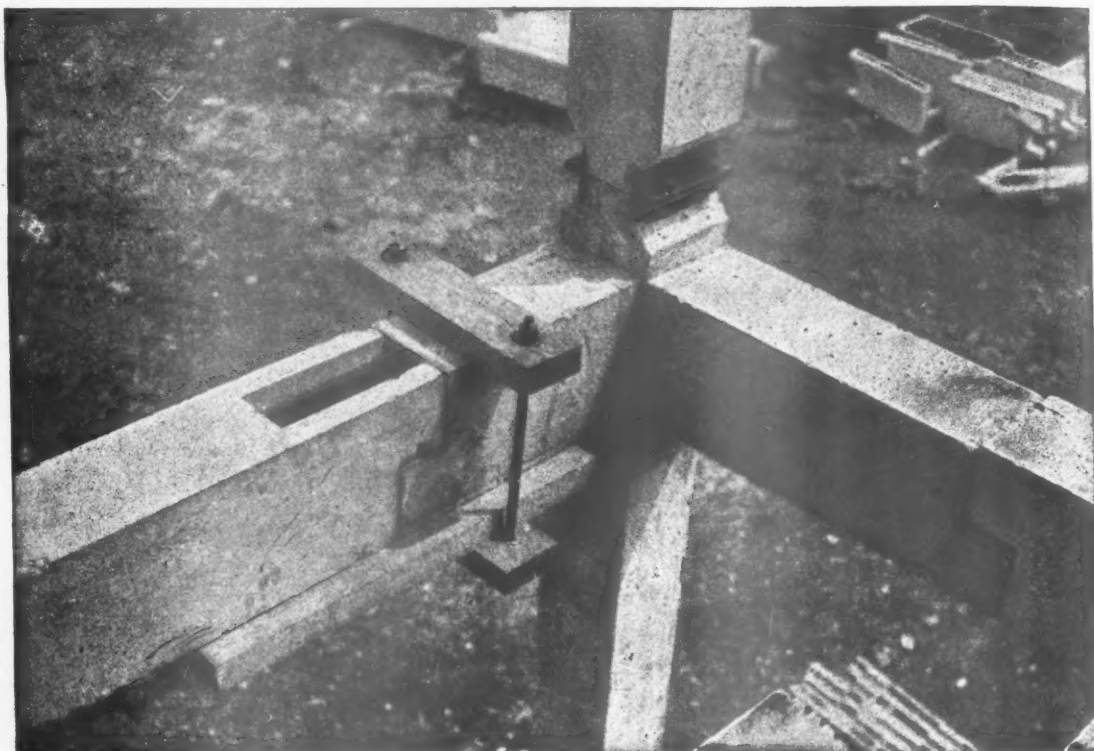
Full particulars, specification and a typical layout will be sent on request

C. F. ANDERSON & SON, LTD.

Wallboards for Government Work

HARRIS WHARF, GRAHAM STREET, LONDON, N.1.

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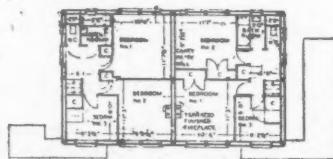
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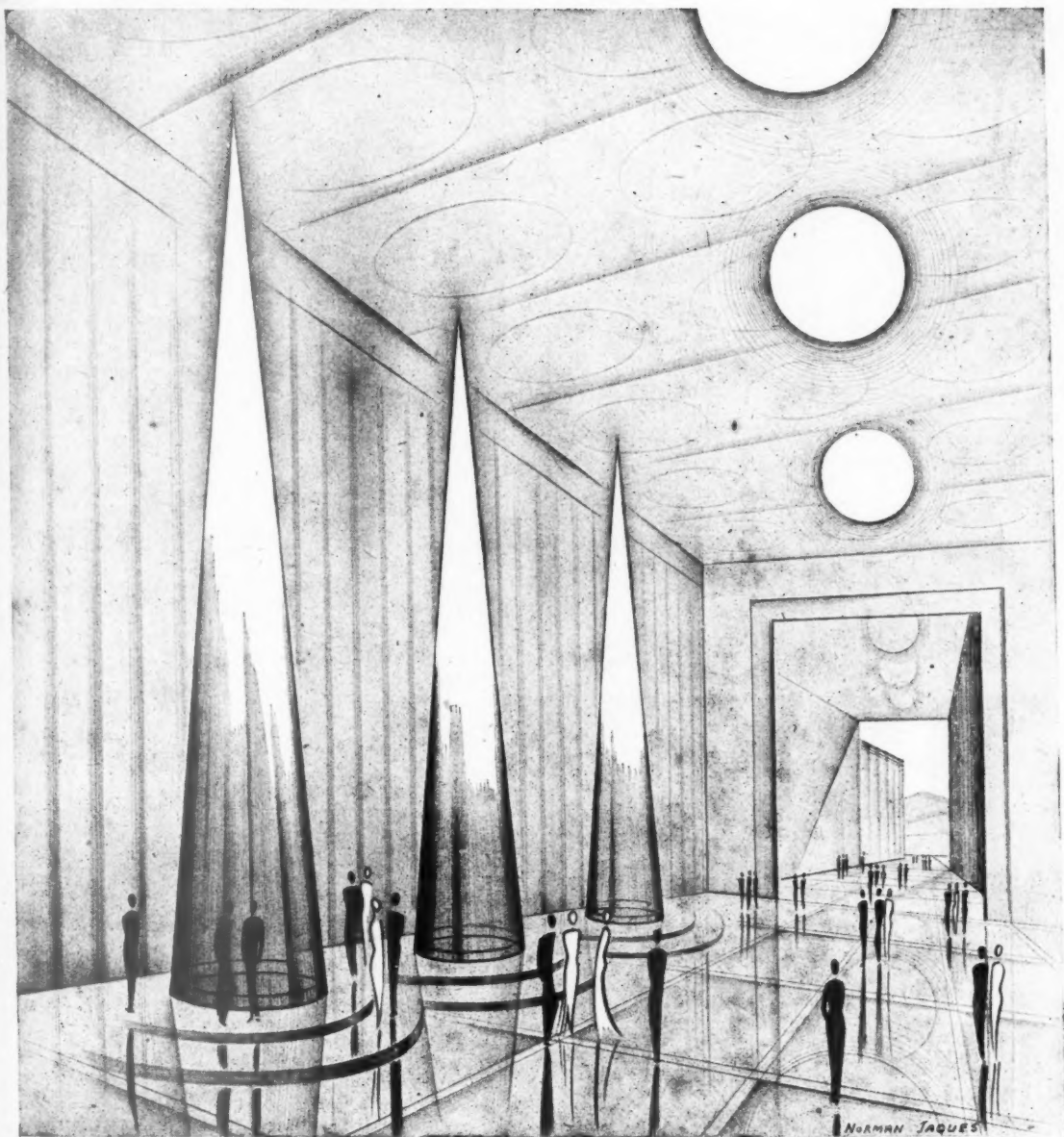
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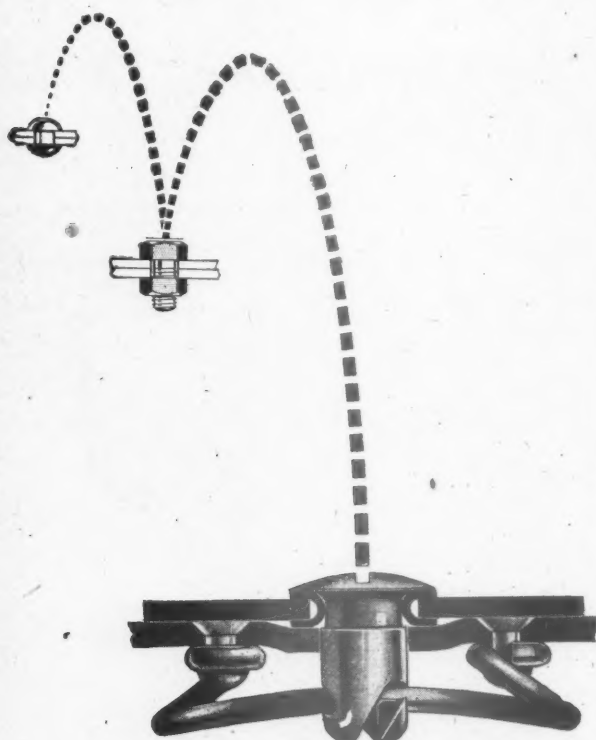
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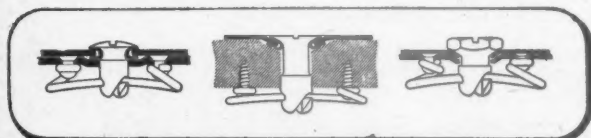


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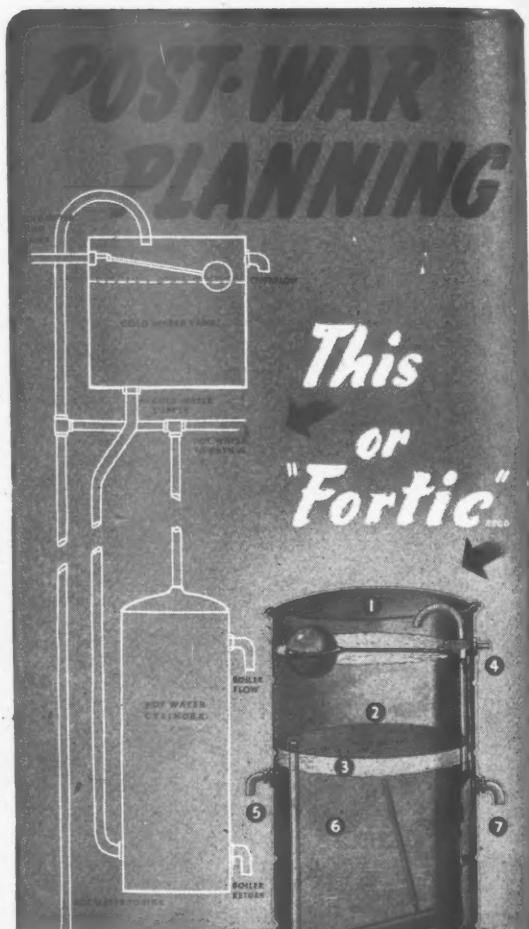


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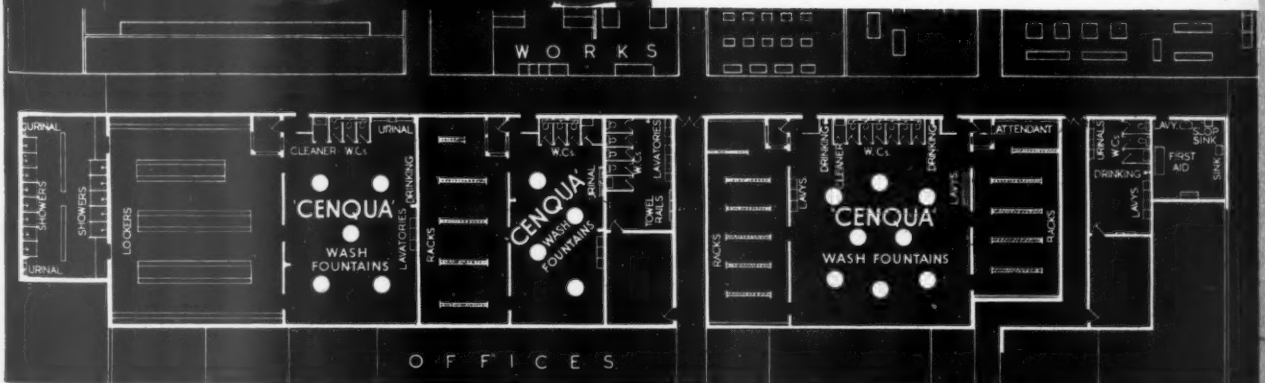
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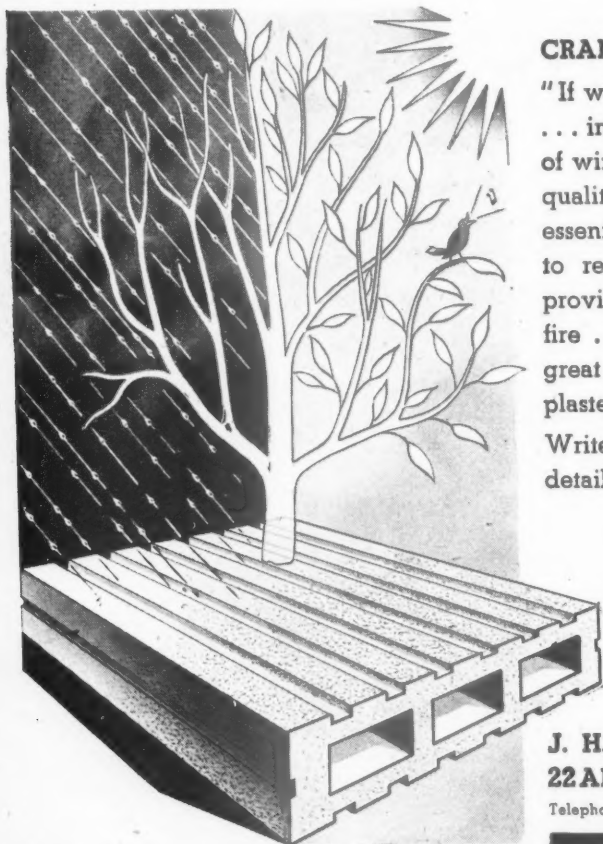
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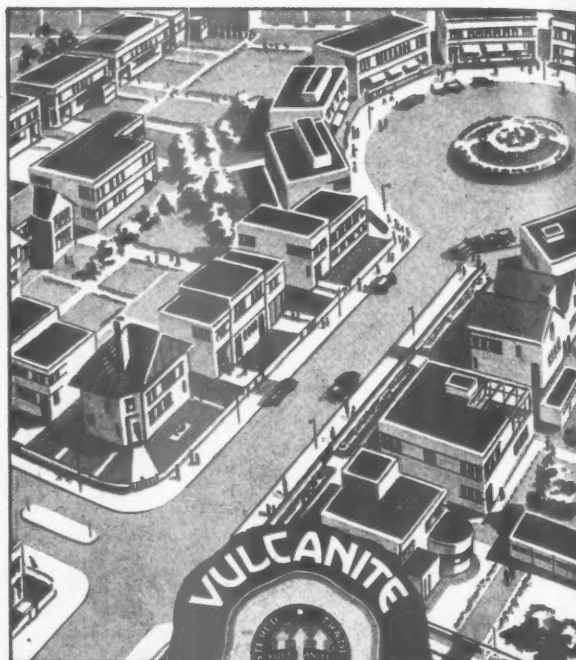
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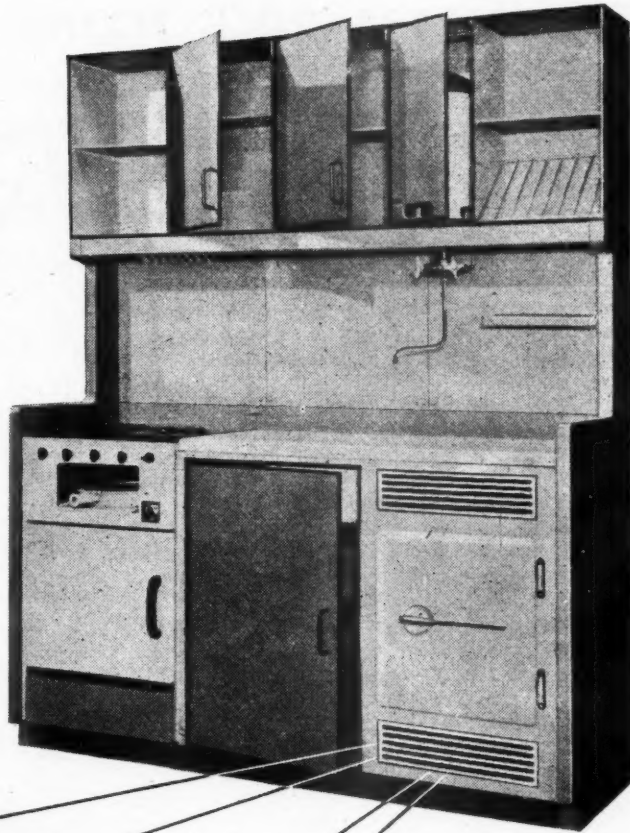


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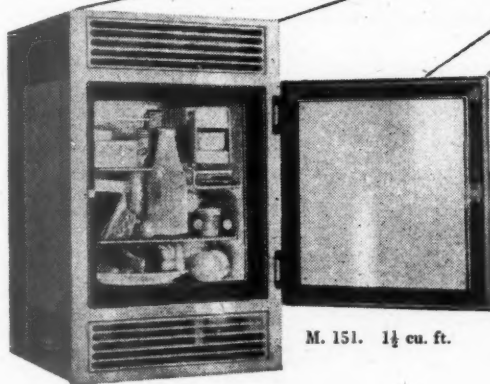
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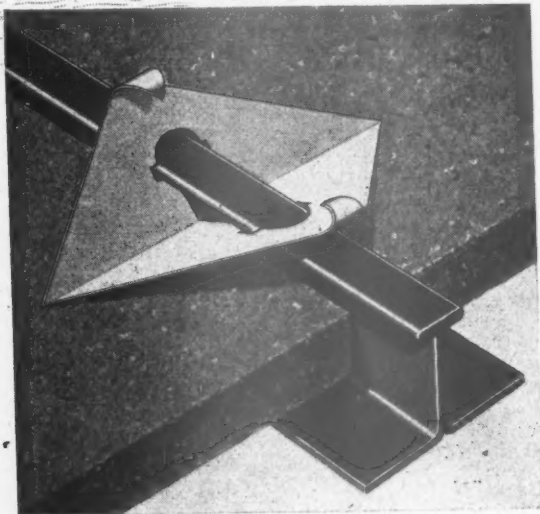


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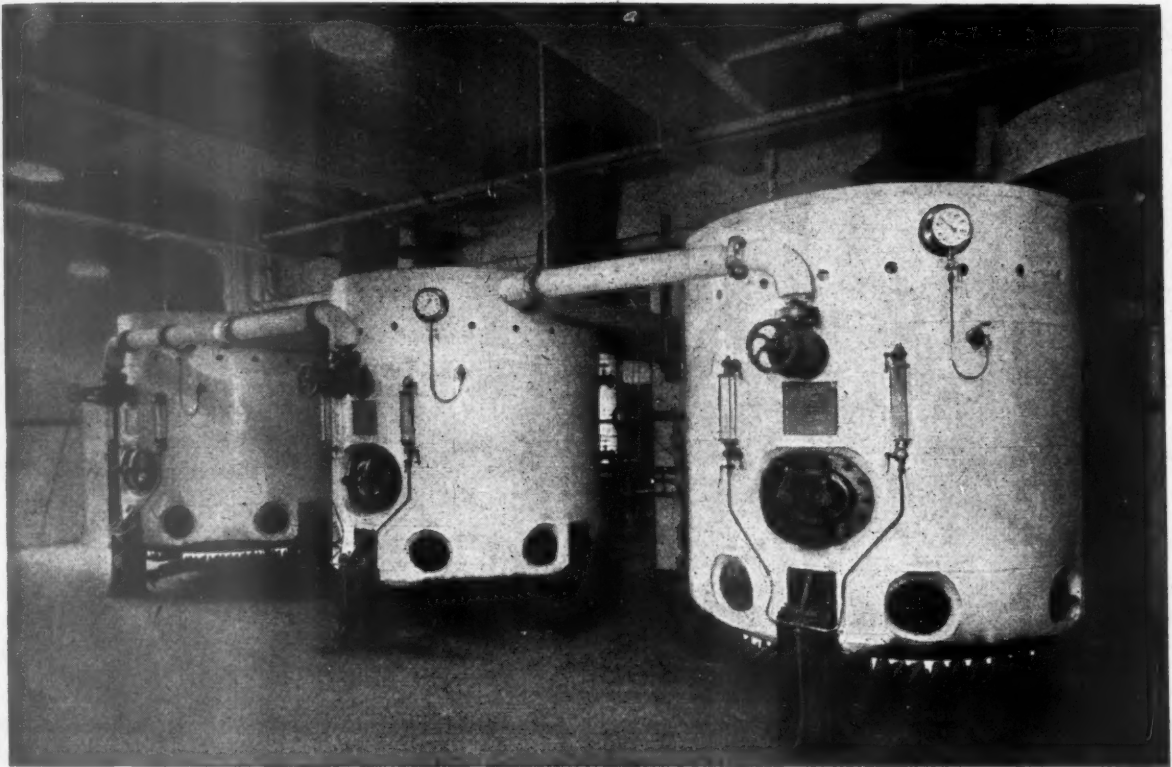
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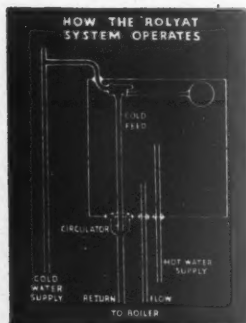
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NEWS

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No. 2639. VOL. 102

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Though no feature in the JOURNAL is without value for someone, there are often good reasons why certain news calls for special emphasis. The JOURNAL's starring system is designed to give this emphasis, but without prejudice to the unstarred items which are often no less important.

★ means spare a second for this, it will probably be worth it.

★★ means important news, for reasons which may or may not be obvious.

Any feature marked with more than two stars is very big building news indeed.

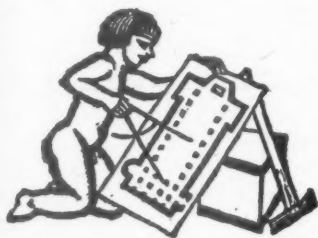
★★★

The City Council has decided to have COOLING TOWERS FOR LINCOLN Power Station.

Reporting the meeting at which the decision was made the special correspondent of *The Times* writes: Lincoln's cooling towers controversy, which has lasted for nine months, has ended with a decision of the City Council by 13 votes to 11 to reject an alternative scheme submitted by Mr. E. C. Farran, consulting engineer, Doncaster, and accept the scheme which provides for four, and ultimately eight, cooling towers 90 ft. high at their new electricity generating station. There has been much opposition to the cooling towers scheme, which, it was claimed, would seriously interfere with the amenities of the city, ruin views of its famous cathedral, and cause precipitation amounting to perpetual drizzle in some parts of the city. After a public inquiry several conferences were held between representatives of the council and the Central Electricity Board and, after persistent pressure, the Central Electricity Board agreed to the alternative scheme proposed by Mr. Farran which utilises river water for cooling. The City Council, meeting in committee, then adopted this scheme, but, at a public meeting of the council to-day (August 8) the Labour Party members, with one Independent supporting them, voted solidly against the Farran scheme on the ground that it was a gamble to which they could not commit the ratepayers. There was strong criticism from other members of the council on this late opposition, and allegations that it was being made the subject of a group decision and a block vote caused by fear of responsibility. It was denied that the Farran scheme was a gamble, and Mr. J. W. F. Hill, a bitter opponent of the cooling towers, said: The towers will disfigure the city for generations and I hope the public will brand the right people as perpetrators of these ghastly things.

In common with every other periodical this JOURNAL is rationed to a small part of its peacetime needs of paper. Thus a balance has to be struck between circulation and number of pages. We regret that unless a reader is a subscriber we cannot guarantee that he will get a copy of the JOURNAL. Newsagents now cannot supply the JOURNAL except to a "firm order."

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DIARY FOR AUGUST SEPTEMBER AND OCTOBER

Titles of exhibitions, lectures and papers are printed in italics. In the case of papers and lectures the authors' names come first. Sponsors are represented by their initials as given in the glossary of abbreviations on the front cover.

BIRMINGHAM. *Modern Building Tools Exhibition.* At Big Top Site, New Street. (Sponsor, MOW.) OCT. 9-13

BRISTOL. *Modern Building Tools Exhibition.* At Black Boy's Hill (Sponsor, MOW.) OCT. 23-27

CARDIFF. *Timber House Exhibition.* At David Morgan Ltd., The Hayes, Cardiff. (Sponsor, TDA Bristol Channel and South Wales area.) AUG. 23-25

HOMERTON. *NALGO Exhibition.* At Homerton College. (Sponsor, BIAE.) SEPT. 24-OCT. 8

ILKLEY. *NALGO Exhibition.* At the Grammar School. (Sponsor, BIAE.) OCT. 1-8

LIVERPOOL. *Modern Building Tools Exhibition.* (Sponsor, MOW.) SEPT. 11-15

LONDON. *Daily Herald Post-War Homes Exhibition.* At Dorland Hall. (Sponsor, HC.) 10.30 a.m.-6.30 p.m. AUG. 23-25

Summer School on Health Education. By the Central Council for Health Education at Chelsea Polytechnic, London. AUG. 23-29

NALGO Exhibition. At the YWCA. (Sponsor, BIAE.) OCT. 6-13

NALGO Exhibition. At the Geoffrey Museum, Kingsland Road, E. (Sponsor, BIAE.) DEC. 3-15

MANCHESTER. *Manchester and District Planning Exhibition.* At the City Art Gallery, Mosley Street. The exhibition is the result of research by engineers, architects, surveyors and other experts, working together under the direction of R. Nicholas, the City Surveyor and Engineer of Manchester, and Honorary Surveyor to the Manchester and District Regional Committee. Over two years ago a start was made with a very small planning staff, and although the City Council approved of a large extension of this staff, great difficulty was encountered in obtaining the services of efficient and capable assistants. The partial completion of the air raid shelters programme released a number of technical assistants for planning, but the majority of the large amount of work has been carried out during the past 18 months. At the peak of the output the staff consisted of 29 technicians and 20 draughtsmen working at high pressure on the City Plan, whilst 10 technicians and 8 draughtsmen were similarly engaged on the Regional Plan. Information has readily been given by other Departments of the Corporation and by the Surveyors to the other 13 constituent authorities of the Regional Committee. The City Surveyor was authorized to prepare

and publish these tentative plans, but the constructive criticism of individuals and all sections of the community is sought, in order that the respective authorities may be in a better position to gauge the requirements and wishes of the public when official schemes are adopted. (Sponsor, Manchester City Council.) AUG. 23-SEPT. 8

TPI Conference. In connection with the Planning Exhibition arranged by the Corporation of Manchester and the Manchester and District Regional Planning Committee at the City Art Gallery, Mosley Street, Manchester, the Town Planning Institute has arranged to hold a Conference on August 31 and September 1, under the chairmanship of the President-elect of the Institute, Thomas Sharp. (Sponsor, TPI.) AUG. 31-SEPT. 1

Modern Building Tools Exhibition. (Sponsor, MOW.) SEPT. 25-29

NEWCASTLE. *Modern Building Tools Exhibition.* At Lovaine Place, Barras Bridge. (Sponsor, MOW.) AUG. 28-SEPT. 1

NOTTINGHAM. *Country Life and Country Needs Exhibition.* By the Nottingham Rural Community Council. (Sponsor, BIAE.) AUG. 23-25

REYDON. *Country Life and Country Needs Exhibition.* (Sponsor, BIAE.) SEPT. 19-26

RUGBY. *NALGO Exhibition.* (Sponsor, BIAE.) OCT. 20-NOV. 3

VENTNOR. *The Future of British Resorts. Planning Our Holiday Areas.* Town and Country Planning Association Conference at The Winter Gardens Pavilion, Ventnor, Isle of Wight. The conference will be opened on October 6 by the Rt. Hon. Ernest Bevin and end on October 9. Among those taking part in the discussions will be Sir Patrick Abercrombie, representatives of all the main resort towns, of the travel and holiday organizations, of the hotel, catering and resort industries, and by interested members of the public. The conference will be preceded by a holiday week, from September 29 to October 6, at the Wellington Hotel, Ventnor. The Holiday Week has been designed primarily as a holiday meeting of town and country planners, members of the Association and their friends. Excursions and a limited number of lectures on subjects related to town and country planning are being arranged. SEPT. 29-OCT. 9

YORK. *NALGO Exhibition.* At Holgate Hill Settlement. (Sponsor, BIAE.) FEB. 10-23

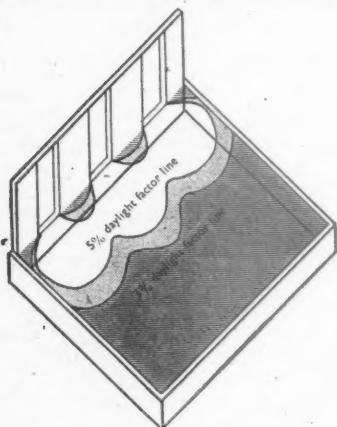
BUILDING FOR DAYLIGHT

No. 12 FACTS FOR ARCHITECTURAL STUDENTS

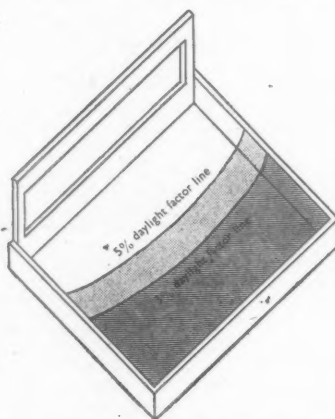
DAYLIGHTING IN SCHOOLS. The placing and the size of windows in school buildings as well as the transmission powers of the window glass, determine the quality of daylight received by classrooms. It is now recommended that the daylighting factor over

the entire working area, taken as three feet above floor level, is five per cent. (That is, five per cent. of the light obtained from unobscured sky.) Here are six diagrams which illustrate daylighting in schools.

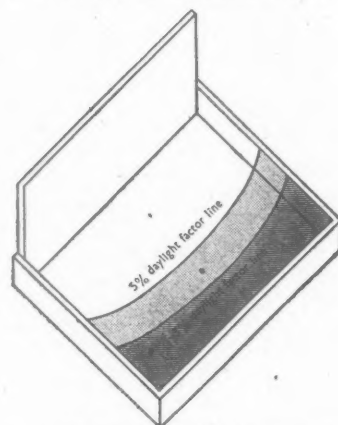
DIAGRAMS SHOWING LIGHT PENETRATION ON PLAN IN RELATION TO WINDOW OPENINGS IN A SINGLE WALL



A. Shows the unevenness of the lighting intensity due to the alternate solid and void nature of the wall: even near the window the intensity is varied. It also shows the poor penetration of daylight in depth.



B. Shows the wall continuously glazed in length but stopping off some way below the ceiling. An even intensity of lighting is obtained over the half of the room nearest to the window but the penetration is shallow.

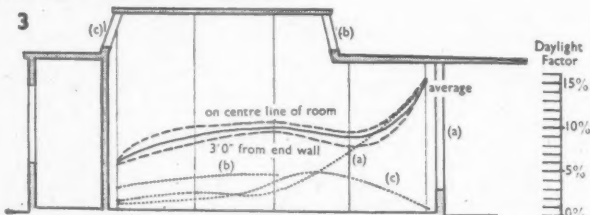
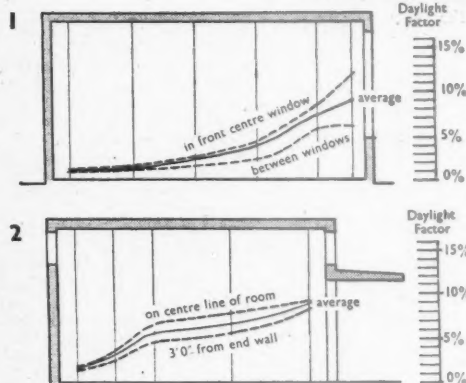


C. Shows the wall continuously glazed in length and height, giving more even intensity and deeper penetration.

Even with the maximum area of one wall glazed it is normally impossible to get a reasonable intensity of lighting at the back (i.e. the five per cent. required,

and it is usual to supplement the lighting by the use of clerestories as shown in diagrams 2 and 3.

DIAGRAMS SHOWING LIGHT PENETRATION IN SECTION



1. Victorian classrooms 20ft. 6ins. deep 25ft. long—3 tall windows in long wall. Adequate daylighting is only provided over about a third of the working area.
2. Typical pre-war school design with clerestory lighting. Size of classroom 18ft. deep by 26ft. long, with continuous horizontal glazing. Daylighting is adequate over more than two thirds of the working plane but falls off badly at the back of the room.
3. Specially designed classroom with clerestory lights sloped and positioned to give more even daylighting over the whole of the working plane. Size of classroom 20ft. deep by 23ft. 6ins. long. On this diagram only, the daylighting factors obtained from each of the three windows have been shown separately. The factors have been taken on the centre line of the room.

In order to illustrate the method of obtaining the resultant daylight factor curve for a room with a number of windows, the resultant curves from each

of the windows have been shown separately in diagram 3. The curves are labelled (a), (b), (c), to correspond with the windows.

This is published by Pilkington Brothers Limited, of St. Helens, Lancashire, whose Technical Department is always available for consultation regarding the properties and uses of glass in architecture.

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where architectural students may get advice and information on all questions relating to the properties of glass and its use in building.

From AN ARCHITECT'S Commonplace Book

THE MYSTERY OF VANBRUGH. [From British Architects and Craftsmen, by Sacheverell Sitwell (Batsford).] The other mystery of our architecture is the case of Vanbrugh. Here we are dealing, not with a scientist and mathematician unexpectedly, perhaps even to his own surprise, turned architect, but with a playwright and man of fashion, in whom architecture worked with all the fire and violence of a conversion to religion. Not, though, in his letters or, we are certain, in his conversation. In those he was unchanged; they were his nature. The matter is inexplicable, therefore, except as a case of genius. It must be understood that his talents in architecture were of no feminine order. We must not imagine, because he was a man of the theatre, that he was equivalent to the modern decorator, to the dressmaker, or fashionable photographer. Inigo Jones's Banqueting House at Whitehall, even many of Wren's buildings, look feminine beside his Roman or Ninevean grandeur. To deepen the mystery, Vanbrugh does not seem to have been in the least interesting or temperamental as a character. He remained the ordinary man of fashion. Even to a confirmed admirer of the Baroque style, Vanbrugh transcends that, and is not culpable of its weaknesses. Or is he not Baroque at all? It is a difficult question to answer. His layout and planning are Baroque, so is his peculiar ornament. We are brought to the conclusion that he built in the Baroque, just as he used in his letters and conversation the fashionable jargon of the day, but that his inner purposes were different, and even grander or more serious . . . We must conclude that, like many artists, Vanbrugh had two personalities; one for the occasion, and another, which was deeper, and lay below the surface.

★
Mr. D. Winston Aldred, F.R.I.B.A., A.M.T.P.I., has been appointed head of the Department of Architecture and Building, the SOUTH-WEST ESSEX TECHNICAL COLLEGE and School of Art, Walthamstow.

At present, studio master and lecturer in architecture and related subjects in the School of Architecture, Town Planning, Surveying, and Building, the Polytechnic, Regent Street, London, Mr. Aldred was trained in the School of Architecture and the Department of Civic Design, the University of Liverpool. After appointments in well-known architectural offices and private practice, he was for five and a half years on the permanent staff of the Government Building Research Station at Watford. He will take up his new duties on September 1.

Brighton. For years it has been a favourite picnic resort. From the time of Thomas de Mowbray, who was created Duke of Norfolk in 1388, it remained the property of the Duke of Norfolk until 1925. It was offered for sale in January.

★★

Ex-Service men and women who require employment should NOTIFY THE RIBA immediately they are demobilized.

In making this request in connection with

the RIBA Card Index: Post War Employment, the RIBA states: In order that the fullest possible assistance may be given to those requiring employment on demobilisation or release from national service, it is important that notice should be sent to the Secretary, RIBA, immediately a man or woman becomes available for employment. Those who have already completed and returned Questionnaires A and B should give notice of any change in their qualifications or plans for post-war employment. Those who have not submitted Questionnaires should do so at once. The necessary forms may be obtained on application to the RIBA.

The Kerner-Greenwood Studentship awarded annually for the best set of measured drawings submitted by a student of Dublin University School of Architecture has this year been WON BY P. J. TUIITE.

The set submitted by John O'Hare is highly commended. A condition of the Studentship which provided that the winner should complete a set of measured drawings of an English building of historic interest and architectural merit, has had to be suspended during the war, but it is hoped now to resume this practice.

A landmark in Sussex since the Norman Conquest, BRAMBER CASTLE HAS BEEN BOUGHT by the National Trust

Bramber Castle, an ivy-mantled ruin near Steyning, Sussex, is mentioned in the Domesday Book. The purchase was made possible by a fund put at the disposal of the Trust by the late Dr. F. B. Penfold. It was bought for £2,900, and consists of a hill of 12 acres crowned by the castle ruins of which the remains of the keep on the south side form the most extensive part. Bramber is only eight miles from



Some of the delegates at the American-Soviet Building Conference in New York. The conference, held during the visit of a Soviet Purchasing Commission consisting of architects, engineers and other representatives of the Soviet building industry, was organised by the Architects Committee of the National Council of American Friendship. From left to right are: seated, V. A. Myslin, Soviet Architect; Miss Orlova, interpreter; S. N. Dobiynin and P. N. Ershov, Soviet Engineers; Morris B. Sanders, Chairman of AIA Technical Committee; First row standing: C. Farrier, Technical Director, National Housing Agency; H. Vermilya, Housing Research Director, John B. Pierce Foundation; Gordon Lorimer, Chief of Design, New York City Dept. Public Works; Marcel Breuer, Professor of Architecture and Design, Harvard University; Tyler Rogers, Chairman of Technical Committee, Producers Council and Technical Director, Owens-Corning Fiberglass Corp.; Second row: Eugene Clute, editor, Prefabricated Homes; Henry Wright, Managing editor, Architectural Forum; Robert McLaughlin, President, American Houses, Inc.; Robert Davison, J. Robert L. Davison, Associates; José Sert, and Convin Wilson, architects.



Peasant Tradition at Home and Abroad

These two contemporary interiors for medium and lower income groups, one English and the other Swedish, are remarkably alike in character. In both modern international restraint combines naturally and unselfconsciously with traditional peasant design to form, at a low cost, interiors that are simple, coherent and unaffected without being dull or inhuman. Top, a room at the *Design at*

Home exhibition recently held at the National Gallery, which was sponsored by CEMA (now the Arts Council) under the general design control of Milner Gray. Below, a room in the *Own Home* exhibition held last year at Fagersta and designed by Cyrillus Johansson. The room is part of a row of houses for factory workers and foremen. Further illustrations appear on pages 137 to 141.

★ *This year the TOWN AND COUNTRY PLANNING SUMMER SCHOOL is to be held at Bristol University.*

The Summer School, under the auspices of the Town Planning Institute, will be held from September 18 to 25. Bristol University has put the whole of its residential facilities at the disposal of the School and the Corporation has granted lecture rooms and exhibition space in the Museum and Art Gallery. Although the school is designed primarily for officers or advisers to planning authorities the committee will endeavour to find accommodation for members of planning authorities who wish to attend. The inclusive charge for members staying in the halls of residence is £7 2s. 6d., and for those not staying there £2 2s. 0d. for the whole week or 5s. per session. The period between tea and dinner will be devoted to discussion groups, and the evenings will be free. Authoritative speakers have agreed to address the School on the following subjects: Recent legislation, with special reference to the Town and Country Planning Act, 1944. New Towns and Town Extensions. Research as a Basis for Planning. Population Densities. Rural Planning and Landscape. Planning for Recreation and Holidays. The Commercial Needs of a Town in relation to its Function and Size. Planned Distribution of Industry. Transport Trends in the South-West. Public Education in Planning. Mining and Minerals. In addition, the system of discussion groups introduced into the programme of the two previous years' Schools will be extended to include tutorial groups. The subjects chosen are: Research. The Greater London Plan. Reconstruction Problems. Planning Legislation. Planning Technique. Third Dimensional Planning. Interim Development Control. With the co-operation of the Bristol Museum and Art Gallery, it is hoped to organise a small exhibition of planning material, including plans, photographs and models showing the most recent advancement in planning technique. The organising arrangements for the Summer School this year have been expanded by the appointment of Mr. L. F. I. Wolters, A.M.T.P.I., as Honorary Hospitality Secretary. His address is 75, Westfield Road, Edgbaston, Birmingham 15.

In October it is proposed to open a full-time day course in TOWN AND COUNTRY PLANNING at the School of Planning, London.

Of twelve weeks' duration and to be held at the School of Planning, 34-35, Gordon Square, London, W.C.1 (Euston 2158), the course is designed primarily for men and women in the Forces who have satisfactorily completed the War Office Correspondence Course in Town and Country Planning (Class A), or who have passed the Intermediate Examination of the Town Planning Institute, or who hold a Certificate in Town Planning from a Recognised School, and who—on demobilisation—are eligible for Government Grants. The course is recognised by the Town Planning Institute, and successful completion, including an oral examination conducted by an external examiner appointed by the Town Planning Joint Examination Board, will lead to Associate Membership of the Institute, subject to a period of practical experience. As far as places are available the course will also be open as a refresher course for planners, architects, engineers and surveyors who are fully qualified in this country or in any allied country and to members of the American and Dominion Forces with suitable qualifications. In certain cases, the Town Planning Joint Examination Board may approve such students for examination.

REVOLUTION

THE first atom bomb exploded with a dramatic shock like the opening drum beat of an overture—the overture to a new phase of history. Without doubt a revolution has happened over-night. The “basic power of the universe,” whether for good or ill, is at man's command. Clearly no other discovery in scientific development is so stupendous in significance. There has occurred a gigantic jerk in that series of jerks which seems to compose the progress of evolution. The magic lamp of knowledge has yielded at last a genie of fantastic strength. Now all previous assumptions must be discarded, all human activities must be reassessed, for the scale of everything has been radically and basically altered.

Consider the implications of atomic fission—first from the aspect of its destructive power. Armies are redundant, all existing theories of strategy and tactics are at one sweep obsolete, natural barriers become useless in military defence, balance of power becomes meaningless, national alliances and treaties futile, and expansionist and aggressive nationalism not merely the expression of vainglory, greed or fear, but of stark lunacy. The powerful motive force of fear alone may no longer excite aggression, but may on the contrary, let us hope, exorcise it; fear of foreign economic and territorial domination and exploitation may be ousted by the greater terror of the utter destruction of the human race. A universal realization of the appalling power which the human mind has unleashed through the stimulus of war may paradoxically bring lasting unity and peace. Mankind is, in fact, compelled at last to grow up, to become emotionally adult, to co-operate or vanish from the earth in the midst of an abomination of desolation. Such co-operation means that planning on an international world-wide scale—economic, political and therefore physical—is no longer merely a pious, forlorn hope, but an imperative necessity—planning, that is, for sane and humane objectives that will permit the individual human being the world over to come at last into his own and to achieve personal emancipation and self-development through the constructive use of this new-found force.

Consider now the implications of this force from the constructive point of view. According to reliable information, we shall sooner or later be able to control and harness atomic energy for practical use. Again a new circle of ideas on almost every aspect of day-to-day living will be needed, on which we can, as yet, only begin to speculate. The most obvious changes will be in the directly economic and political spheres; all the old social-economic patterns, all the old clichés and slogans—Export Markets, Reparations, Economic Barriers, Full Employment, Balanced Budgets, Favourable Balance of Trade, Trade Agreements—will seem as primitive as the activities and language of head-hunting jungle tribes.

Eventually every aspect and every detail of life will be fundamentally affected—certainly so town and country planning

and building, not merely in a directly physical way but as the outward expression of that entirely new way of living that will become possible.

For the great hope that now soothes the terror of the new discovery is surely this—that at last what man has been striving to attain since he emerged from the primeval forests has come about beyond controversy—the means to satisfy his physical needs without fret or toil. War itself, indeed, whose cause is due so largely to economic factors and the subconscious fear of security becomes therefore an anomaly.

We are ready to ascend the next step in the evolutionary ladder. Whether we make the move towards life more abundant and the possibility of a culture of unsurpassed brilliance or vanish into dust is now ours to choose. As *The Times* so admirably expressed it: "Many, perhaps very many, years of further research may be required before the atomic force, so devastating in its untamed state, can be domesticated to the peaceful uses of man. But it holds without doubt the potentiality of reducing the physical labour needed to sustain life to a small fraction of what is now required, of bestowing undreamed-of riches upon all men, of abolishing servile or mechanical toil, and of creating universal leisure for the cultivation of the higher ends of the mind and spirit. All these things are attainable—but are not offered as a free gift. The condition of their enjoyment, that the new power be consecrated to peace and not to war, is a choice set before the conscience of humanity—and in a terrible and most literal sense it is a choice of life or death."



The Architects' Journal

War Address: 45, The Avenue, Chaux, Surrey

Telephone: Vigilant 0087-9

N O T E S &

T O P I C S

HOLLAND'S BUILDING PROBLEM

It is not generally realised how much Holland has suffered during the war in a purely material way. I have recently obtained the figures of the total damage to houses over the whole country. 70,000 is the figure, of which 37,000 were destroyed in Rotterdam (the

bombing of 1940), in The Hague 8,000 (RAF. bombing and misfires among the V1s and V2s), 12,000 in the rest of the northern part of the country and 13,000 in southern Holland.

The damage to the southern part of the country was done in the fighting and its worst feature is that among that total are 3,500 farm houses. That in the north was almost entirely due to German demolitions in the preparation of their colossal and useless Western Wall. The total of damaged houses is 250,000, of which 40,000 have been damaged by inundations, not explosives.

Holland had an annual building programme which varied, over the ten years before the war, from between 30,000 and 45,000 houses. That alone will give some idea of the task that faces Holland now, bearing in mind, too, that there has been virtually no new building since 1940.

Nor is it the case that building can start now. My information is that only

the cement factories are capable of immediate production (provided there is sufficient coal to enable them to start). The brick and tile works were mostly in the south of the country and their factory buildings have suffered with the rest of the areas. Stocks of wood and metal fittings are very low and all glass used in Holland must be imported. Next winter in Holland may not be as bad as last but it is likely to be grim enough.

WAR DAMAGE CLAIMS

It is rather surprising to find that the War Damage Commission is still receiving claims in respect of war damage alleged to have been caused two, or even three, years ago, and one is not surprised when it issues a statement requesting that all outstanding claims should be lodged without delay.

One can imagine one kind of deferred claim only too easily. The quiet domestic scene, broken only by the steady drip of the rain through the ceiling on to the dining room table. The wife looks up pettishly and says, "I do think it about time you had that roof seen to, Rupert," to which the husband replies that he can't think what can have caused it, and at once the wife responds, "I've always told you it must have been that bomb that fell the other end of the village early in '41. I can't think why you haven't put a claim in already." And, of course, the day does come when the husband, to avoid madness, does put in a claim.

But can you imagine how a really serious disaster can have been overlooked? Can you picture, say, the day on which the old Duke does go round every section of the castle and that the moment does come when he says to the agent, "Surely, Fortescue, there used to be another wing here?" and the agent replies, "Quite right, your Grace, but it was demolished by a flying bomb, as they were called, last summer," and the old Duke says, testily, "Well, do something about it, man?" If you can, your imagination is more vivid than mine.

The War Damage Commission is still very polite. It hastens to assure possible customers that the last

thing it wishes is that any genuine claim shall not be considered, even though it did start out with some sort of plan that claims should be notified within thirty days of the damage occurring. So far, the worst The Commission has done is to threaten those who are late with the requirement that belated claims may require a statutory declaration to support them, not a very difficult, or expensive, fence to overcome. Later, perhaps, there may be a really final day for the submission of claims, but that has not loomed over the horizon yet.

But if you or your clients have a claim the only decent thing to do is to respond to this atmosphere of goodwill and helpfulness that surrounds the Commission and put it in this very week.

THE SWEDISH HOUSE MYSTERY

Many who read the extracts from the report of the Liberator Council's conference published in the JOURNAL for July 12 will have raised supercilious eyebrows at Mr. Troward's remarks that "the Government is frightened to proceed with an adequate housing programme, and the real underlying reason is not the shortage of manpower, nor of building material for permanent houses, but the absence of sufficient money under peace-time conditions."

Yet it is strange that when the Swedish producers, with full official approval, offer us 10,000 sound permanent timber houses in this hour of need, our representatives are instructed

to refuse the offer and accept only 5,000. Indeed, we might have had considerably more of these houses if the matter had been taken up more vigorously two years ago.

The question of a few thousand houses more or less isn't perhaps very important when millions are needed, but in principle this blunt refusal of some sort of help is inexplicable—at least to the simple mind. No doubt the financial wizards, initiated into the Mysteries at the London School of Economics, could provide Reasons in their esoteric jargon. But the simple mind persists in asking why we cannot have goods that are offered to us—goods for which there is a yelling need to judge by the discharge of blasphemy that occurs whenever a demobilized and desperate home-seeking hero contacts a local housing bureaucrat. Abstractions about the difficulties of foreign financial exchange are not likely to impress him with his very real and urgent need.

I asked Mr. Tore Munthe why the Swedish offer had been refused, for he has been working steadily for several years for the post-war export of Swedish timber houses to this country, as the representative of the chief Swedish manufacturers. Without his efforts even the 5,000 we are to get for England, Scotland and Wales would probably not have been forthcoming. He could give me no answer to my enquiry. The situation to him, he said, was incomprehensible. But then he is not a mystic. He only wants to help people to get houses.

ASTRAGAL



Front elevation of one of the Swedish timber houses designed for the Department of Health for Scotland and MOW urban type semi-detached, 3-bedroom type. See Astragal's note on the Swedish House Mystery.



LETTERS

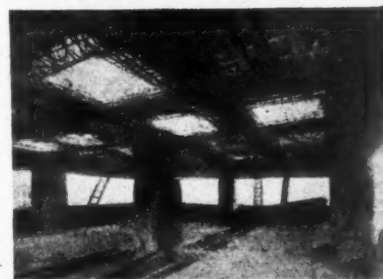
Hajnal-Könyi

J. S. Galbraith

(President, London Master Builders' Association.)

Concrete Floor Repair

SIR.—Mr. Fitch states in his very valuable article that the actual type of work described by him "had never been executed before." In fact, the Gunitex process has been used in Germany for the repair of reinforced concrete buildings, damaged by fire, for 25 years.



Top, Figure 1, chocolate factory, Sarotti in Berlin after a fire in 1921. Below, Figure 2, floor after a fire which destroyed the shuttering of coal bunkers which were being erected on it. (See letter from Hajnal-Könyi.)

CONTRASTS IN SWEDISH TERRACE HOUSING



Two examples of recently completed terrace housing in Sweden of distinctly contrasting character. Above, family houses of standard timber construction for the employees of the Sandvikens Iron Works. Left, family houses of brick construction forming part of Friluftstaden (Open Air City) at Malmö completed in the late summer of 1944. (Architect: E. S. Persson.)

To give two examples: Fig. 1 is an inside view of the chocolate factory Sarotti in Berlin after a fire in 1921. It is obvious from this picture that not only the slabs, but also the beams and the spirally reinforced columns, were badly damaged. This building has been completely restored by the Gunita process.

Fig. 2 shows a floor after a fire which destroyed the shuttering of coal bunkers which were being erected on it. This happened in 1928. The floor was repaired by the Gunita process.

Both examples refer to solid reinforced concrete structures and not to hollow tile

floors, but there is no fundamental difference in the method of repair.

London

HAJNAL-KÖNYI

London Master Builders

SIR,—Because we are called the London Master Builders' Association, an organization founded over 70 years ago, and not, say, the London Federation of Building Trades Employers, some builders in the London area do not apparently appreciate that we are in fact a part of the National Federation.

I should like to make it clear that the London Master Builders' Association is the London Region of the National Federation of Building Trades Employers in exactly the same way as is, say, the Eastern Federation or the Southern Federation or the Yorkshire Federation. By joining the LMBA builders automatically become members of the National Federation. In fact, if their businesses are in London, that is the only way of doing so.

J. S. GALBRAITH,
President

London Master Builders' Association

PHYSICAL PLANNING SUPPLEMENT

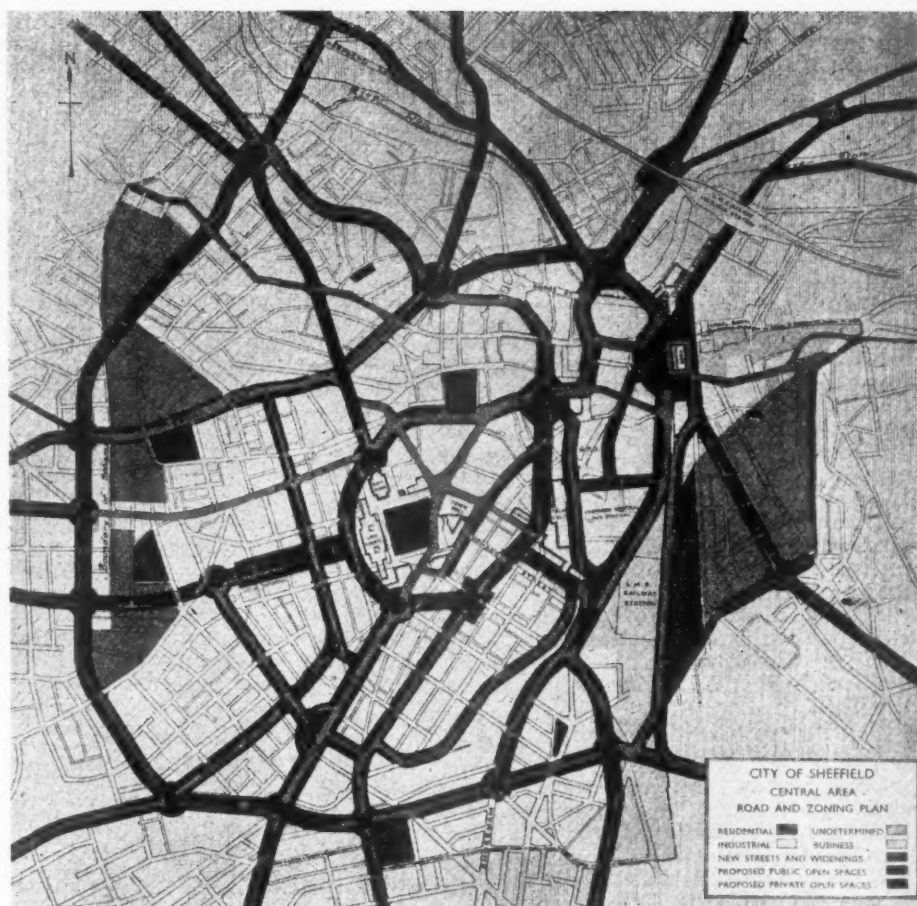
In this central mile was it really necessary to cramp the layout to the extent of some twenty major streets?

Is all the existing pattern of minor streets to be retained, producing so many congested and awkward sites at major traffic junctions?

Was it advisable to link Pinstone Street with the Moor, encouraging a short cut for major traffic across the centre of the civic precinct?

Why was the civic circle of major traffic so restricted that public buildings such as library, college, and cathedral, front directly on to its noise?

Why is there so little indication of central green spaces and of street pictures which are not merely mechanical and conventional in the geometrical tradition?



S H E F F I E L D

some questionable proposals

Sheffield, population half a million, major industrial centre, fifth largest city in England, at the base of the Pennines and on the edge of the Yorkshire plains, receives from the war its chance to silence echoes of the old gibe that it was one of the foulest towns in England in the most charming situation. But has this chance been fully taken, in the replanning proposals as they stand at present, by the City's Engineers, J. M. Collie and Henry Foster? The general zoning appears to be sound, but the detailed layout seems unlikely to promote either good street architecture or a satisfactory solution of the problems of vehicular and pedestrian traffic. Neither is there a sufficient green link between this busy centre of civilisation and the quiet grandeur of the nearby hills. But in Messrs. Collie and Foster's realistic and praiseworthy suggestions for co-operation with experts, clearly implicit in the report, lie the hope and possibility that this unsatisfactory plan may be amended by them with the help and guidance of a Town Planner of standing, experience and ability. For it must be said, with friendly bluntness, that the present proposals for this major city are not good enough, and that it is to be hoped that revisions will be called for. The case is urgent, for the plan has, apparently, already been passed by the City Council.

SHEFFIELD

reviewed by **CECIL STEWART, A.R.I.B.A., A.M.T.P.I.**

(Lecturer : School of Planning for Regional Development).

no regional link

Obviously a town like Sheffield cannot be satisfactorily planned independently of the highly industrial region which links the city with Leeds and Nottingham in an almost unbroken chain. But this book, written primarily for the people of Sheffield, gives no indication of what may happen beyond the administrative boundary. Just how it will fit in with the plans for Dromfield and Rotherham, which adjoin the city, we are given no clue.

no master plan

The authors devote a chapter to outlining the general problems which confront them and come to the conclusion that the preparation of anything like a "Master Plan" "would require not only a knowledge of existing conditions but a foresight into the future which no one can possibly possess." "There is the further major difficulty with a 'Master Plan'," we are told, "that it would not readily allow for changes in conception, contingent on development in Housing and Industry, say, in the next 40 or 50 years."

Instead of a "Master Plan," the citizens of Sheffield are presented with a general framework of Zoning and a new road pattern, along with a number of exotically coloured pictures of the future Sheffield, some picturesque pen sketches of the present Sheffield and about a score of photographs coming to a conclusion, rather unfortunately, with pictures of war damage in the High Street and in Kyle Crescent.

industry removed from centre

The aims of the plan are, in essence, the proper grouping of the various uses of the land, the removal of much heavy industry, the provision of a Worthy Civic Centre and the creation of a new road and street system. A study of the land use map of the central area reveals the excessive predominance of industry in the heart of the city, and the proposal to remove this entirely from the central area as opportunity offers, while prohibiting at the same time any new development of this nature, makes it possible for the authors to offer to the people of Sheffield a selection of the proposed civic buildings which should take its place. The list is impressive, covering as it does a large variety of community buildings from Social Welfare Offices to a Civic Theatre and a School of Music. No estimates are given for the financing of this plan. The proposal to create a theatre-land in Sheffield seems a doubtful benefit, in view of the intensification of traffic within a small area at special times of the evening that this would entail.



FULWOOD HALL 1620

A local Manor House of the 17th Century. Tradition with understanding.

inadequate traffic survey

The readjustment of the traffic system is probably the major proposal of the plan. This involves in some areas the narrowing down of certain carriageways in the main shopping streets—with the idea of dissuading traffic from these streets—and the widening of others in the hope that vehicular traffic will prefer the easier (though not the shorter) way. The authors state that there is virtually no through traffic in Sheffield, and that the present outer ring road is principally used for inter-suburban traffic. They propose to introduce an inner ring road to relieve the congestion around the proposed Civic Centre. These proposals seem to have been made without any adequate survey to indicate not only the volumes but the directions of flow and the sources and destinations of traffic. It is too well known that road users will avoid long routes if they can take short cuts. Indications are that they even prefer to use the local roads which the planner did not intend them to use. When one is informed that there is so little outside traffic, it seems reasonable to infer that the local inhabitants wishing to travel from one side of the centre to the other may prefer the short cut alongside the pleasant Civic Square—the route at present most used—in preference to the new civic circle.

no directional census

The authors state: "It is generally accepted that an ideal town layout is one which has for its main road system a series of concentric circles, with radials running from the innermost to the outermost circle. It is seldom possible to achieve this in an existing city, even if it were desirable and levels would allow, because regard must be had to the existing layouts of streets and buildings, but the idea of a civic circle to direct unnecessary traffic from the central core has long been in mind." This, then, is the basis of the plan, and it would seem unfortunate that the only justification for it is a volumetric census of traffic. The ring road idea, coupled with the neighbourhood precinct, has in fact become one of the most characteristic features of town planning to-day, and it is exceedingly doubtful if sufficient initial survey work has been done to justify its almost universal adoption.

general zoning sound

The plan for the outer areas generally follows the lines indicated by the existing Land Use. Industry (about 12 per cent. of the total area) is encouraged to continue along the Don Valley, and the main residential areas to develop to the south and west of the city. The proposals for housing, education and open spaces follow the lines indicated in recent Government reports. The plan concludes with two schedules which specify the main road widenings and suggested stages for their execution.

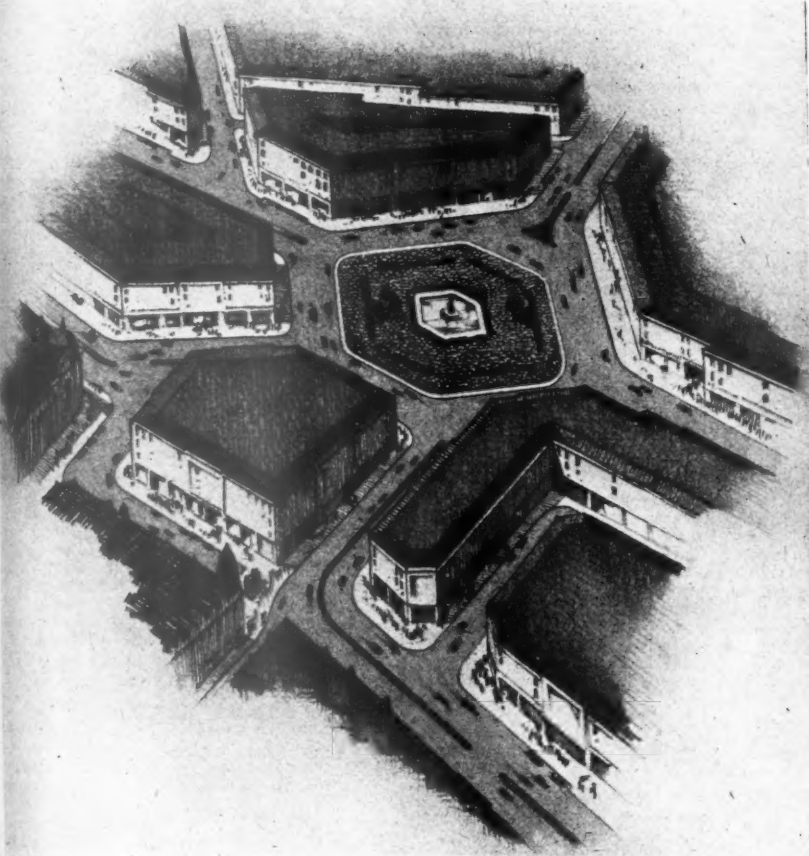


New housing of the 20th Century. Tradition without understanding

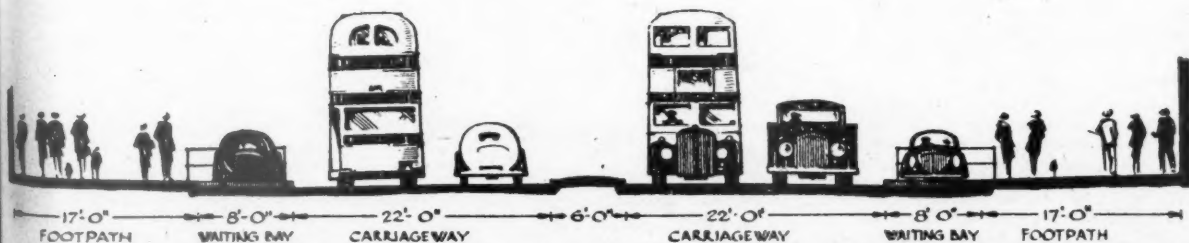


top left, the LMS Station Place, from the station roof. The station gives on to twin roads, one of which approaches obliquely, twisting just before it reaches the Place into an awkward symmetry. The view of these two roads from the station entrance would be disturbing. The placing of the foreground building on the island site is most questionable at such a traffic juncture, while the only access between station and adjacent bus depot appears to be over or under a main road.

top right, the Law Courts seen from the new civic square, with the proposed main traffic road of the civic circle, with New Chester Street puffed into a triumphal way, seen in the background. Rigid symmetries have been forced on to existing conditions, street lines and buildings, which require for their resetting a more flexible technique. Many of the resulting building sites are illshaped and ugly.



left, the junction of the four existing roads with the proposed civic circle, top left of picture. It is questionable whether the tight planning, awkward shapes, and confused approaches, combine in this new traffic roundabout to produce much that is more efficient or more visually pleasing than London's Piccadilly Circus. And this time, perhaps, the indicated central statue might not be of Eros.



Shopping precincts are the fashion, but is passing trade to be forgotten? A better suggestion for Sheffield is this proposal for business roads embayed for parking cars. A Traffic and Pedestrian Survey of Passing Trade would be a useful basis for further examination of this proposal.

a new NEW YORK

PROPOSAL BY
FRANK & PERCIVAL GOODMAN.

This Plan for New York aims, with transatlantic optimism, to redesign spindle shaped and overcrowded but unblitzed Manhattan Island in the form of a Central skyscraper spine of business and light industry, girdled on the North South and West by a riverside ribbon of broad parkland incorporating Residential Neighbourhoods of two and three storey housing. Percival Goodman is a member of the American Institute of Architects, well known for his industrial and commercial buildings; his brother, Frank Goodman, is a novelist and critic, who collaborated with him on a book, "The Way of Life and the Means of Livelihood." The plan was originally published in the *New Republic*.

Master Plan.

As the Authors of this Plan we declare that the Island of Manhattan can aim to be the cultural, business, style and entertainment capital of the world, and by taking advantage of its rivers, hitherto almost pre-empted by commerce and industry, it can become a city of neighbourhoods, wonderful to live in, as leisurely as it is busy. What is needed is a Master Plan. The majority of the buildings in Manhattan are now obsolescent. We have a three-point proposal:—

1. To extend business, light industry, and through traffic in Manhattan into one axis up the middle of the island.
2. To remove the through avenues on the sides and develop the land on either side of the axis in park-residential neighbourhoods down to the rivers.
3. To develop the shores as beaches for bathing, boating and promenading.

Acreeage and Density.

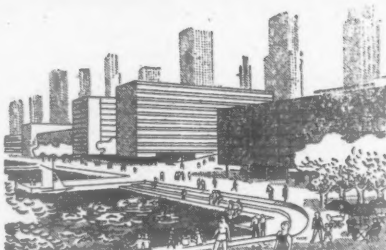
Manhattan Island is not crowded. At present it has a theoretical residential density of 200 to the acre, about 9,000 residential acres to 1,900,000 persons. If this density fails to allow for spacious, green, liveable neighbourhoods, the fault lies not in the numbers but in the lay-out. What does the density figure of 200 to the acre mean in terms of living? Certainly not private houses and little gardens. It means that if everybody lived in tall buildings, all rooms would face on to a Madison or Washington Square; and if there were a combination of tall and low buildings on every street, there would be room for parks and playing fields.

Trade and Business.

The Manhattan economy consists mainly of light industry, road served. Already in the Tugwell Plan, following actual trends, isolated new districts were recommended up town. We propose simply to unite these in a continuous belt, served by continuous highways, and to re-locate trade and light industries, such as clothing, uptown. The advantages of such a plan would be that many hundreds of thousands of workers, instead of travelling the whole length of the Island twice a day, could live in the park neighbourhoods next to their work.

Airport.

The normal expedient in large cities has been to locate the airport on the outskirts, requiring an hour's journey for a trip which may itself last only an hour. The airport must somehow be brought near the centre. As a tentative proposal we have chosen an area on the Hudson River from 42nd to 23rd Streets. The river provides an open



space for manoeuvring. Immediately accessible on one side is the midtown section of the Terminals and Hotels, and on the other side the shopping and warehousing section. The airport itself is conceived as the flat roof of an enormous warehouse.

Riverside Neighbourhoods.

The riverside neighbourhoods, extending right down to the Hudson East and Harlem Rivers, must be thought of not merely as places accessible to parks, but as parks in themselves. Their lay-out must be terraced towards the water. The rivers, the parks and housing must be a continuous visual and ambulatory experience. Urban parks must not be places of escape, but places to live in, in the widest sense. In this connection it might be a good idea to decentralise some of the masterpieces from the museums and place them in public buildings and other places in the neighbourhoods.

Feasibility.

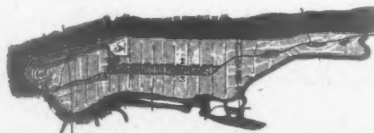
The rapid tempo of modern rebuilding makes major planning feasible. Several points arise:—

In the interest of the riverside neighbourhoods we plan to diminish the length of the waterfront available for shipping.

About three quarters of the buildings on Manhattan Island are over-age, and reconstruction of some kind will have to take place in any case. As business buildings become progressively obsolescent, new sites can be allotted to them in the main business spine or axis; thus the transition can be made with minimum inconvenience. Further, the money value of a square foot of land along the new central business Main Street which we propose would be five times that in the scattered sites to be condemned, and this would provide a great fund to carry out the plan.

At least 1,000,000 persons spend two hours a day going to and from work in New York. At half a crown an hour this becomes £125,000 a day, or nearly £80,000,000 a year. Such a saving would pay for much rebuilding.

The political and legal opposition to our plan is the same as that to any other Master Plan. Long range and large scale zoning menaces speculators in land values. Those who rely for their profits, not on rents, but on gambles, have contrived to veto even the modest proposals of the Tugwell Plan. But it seems to us that the proposal which we make is at once so arresting and so simple, so grounded in the topography, history and experience of the City, that it can arouse the public enthusiasm necessary to overcome this opposition, and so end the anomaly of this great City having no Master Plan at all.



PSYCHOLOGY and town planning.

Town & Country Planning Association.

Address by Dr. Glover.

Psychology as a basic factor in planning is becoming increasingly important. A sound knowledge of the inner needs of human beings as they affect outer requirements is one of the fundamental beginnings from which plans can be built up. The psychological approach to planning goes to the depths instead of to the surface of human needs. But psychology is a specialised science, and for this reason a working link between psychologists and planners should be encouraged. Few people are better qualified to speak on this subject than Dr. Glover, Principal of the London School of Psycho-Analysis. In his remarkable book, *War, Sadism and Pacifism* (George Allen and Unwin) Dr. Glover envisaged psychological planning for generations ahead, aimed at coping on the largest scale with the many social problems which lie at the root of world unrest, not the least vital of which is the particular psychological problem with which this meeting of the Town and Country Planning Association was concerned, that of the physical environment.

A YOUTH BELT.

Dr. Glover said that it was essential to plan first for the children, their homes and surroundings, and for adults afterwards. The planning should consciously cater for the various stages in the lives of human beings from infants crawlers, walkers, adolescents and adults, to senescents. In each stage of development the human being formed part of a pattern; first of all in the matrix of the womb, then of the nursery, of the family, of the town. Just as infants required a sense of regularity and security, so did developing and developed human beings require it in the neighbourhood and in the town as a whole. A town which by its planlessness contributed to a sense of insecurity among its citizens, and especially among its children, could do incalculable harm.

There should be priority for child producing families in the agricultural belt outside the centre. The Green Belt was familiar, but the Youth Belt had now to be considered, with the older and unattached persons at the urban centre.

CULTURAL NUCLEUS.

Dr. Glover suggested that the ideal neighbourhood population for children was probably 1,000 to 2,000; above this an unnatural sense of hostility could be induced. On the other hand, towns as a whole, as distinct from neighbourhoods, had to be large enough to absorb the natural hostilities of the different kinds of Groups, and it was essential that a town should have its cultural nucleus independent of the stream of business. In fact, the first job of the town planner was to promote those urban spiritual needs which were the driving force of all material achievement. Another fundamental rule was to encourage the maximum expression of individuality, compatible with the rights of others, and here Dr. Glover reiterated that the one industry town, so long condemned for reasons of employment, was even more dangerous from the psychological standpoint.

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Right, the Community Centre, viewed through the timber belfry. Below, a sketch of the central area of Fagersta where the main buildings are grouped informally.



HOUSING AND PUBLIC BUILDINGS AT FAGERSTA

DESIGNED BY C. JOHANSSON



Fagersta is a town in central Sweden which exists almost solely by reason of its famous old iron works. It has recently undergone a general planning transformation and now incorporates Vastanfors to form a town of some 10,000 inhabitants. Cyrillus Johansson, now a man of sixty years, and one of Sweden's eminent architects, has prepared a plan for the town and has allowed for an increase in the population to 20,000.

The plan has a civic centre containing public buildings such as community and youth centres, public baths, a laundry, fire station and chapel. Most of these buildings have already been completed over the past few years, and some of them are illustrated here.

The architect has been interested in town-planning for many years. He has a special admiration for

Sir Raymond Unwin and is an exponent of the small, idyllic, satellite town in large natural parks, whose charm and social structure will give the stability, calm atmosphere and concentration which modern industrialized humanity needs after the day's work in the city.

His architecture is fairly traditional in character and relies mainly on the old materials used in a simple and unpretentious way, for Mr. Johansson believes that the old functionalistic style and construction in Swedish architecture can be adequately adapted to modern needs.

In his plans and buildings at Fagersta this attitude is well expressed, and however unadventurous in the use of new materials he may be, through the use of brick, tiles and timber he achieves a homogeneity



of style that harmonizes well with the rural surroundings of rocks and pine clad plateaux. The lay-out of the town is quite informal and has a human atmosphere suitable for such a small industrial town of Sweden, where the surrounding unspoiled countryside is never far from sight.

New housing at Fagersta is to be carried out in groups, district by district, both in detached and terrace form. The terrain is of wooded plateaux interspersed with brooks and bogs, and the plateaux have been adapted as separate neighbourhoods each surrounded by wooded natural reserves.

Through main traffic is provided for by the country road which runs close to the railway without any crossings. That within the residential area of the town, on the side of the railway and main road away from the industrial area, is mainly pedestrian and cycle traffic.

Last year an *Own Home* exhibition, sponsored by the Iron Works, co-operating with Svenska Slöjdföreningen and the Fagersta Women's Institute, was held in the town, in which a row of four prototype houses designed by Mr. Johansson, were built and furnished. These are illustrated here. One of the objects of the exhibition was to popularize the terrace house with all its advantages, a form of dwelling which is relatively new to Sweden, especially in the north. The plans of the houses were slightly different in each case to suit different kinds of families. The plans illustrated here, for instance, were designed for a family of father, mother, a daughter of 19 and a son of 16.

The houses were intended to show that by saving cost of roads, services and land through the use of terrace housing, individual homes with small gardens could be provided rather than flats or tenements—the idea being to give the owner a feeling of homeliness and comfort and also the possibility of developing his own individual *milieu* and hobbies as a desirable contrast to the collective form of daily life in industry.

The house plans are interesting in providing large workshops which could doubtless be used also as garages. These are placed between

HOUSING AND PUBLIC BUILDINGS AT FAGERSTA, SWEDEN



Top left, another view of the Community Centre with the timber belfry on the left; the lay-out of the grounds is not yet complete. Above, the watch tower for air defence in yellow brick.

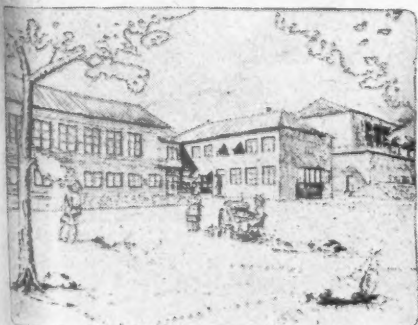
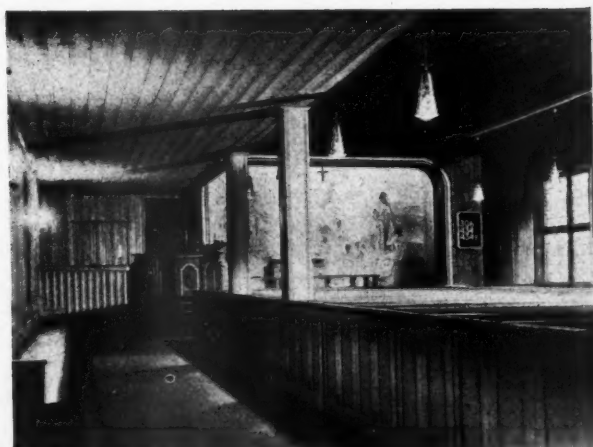
each house and so articulate each individual dwelling and also provide a link between street and garden. Through passages from street to garden solve the tradesmen's en-

trance problem and obviate the need for rear approaches and communal tunnel passages. The construction of the houses is of standard laminated timber.

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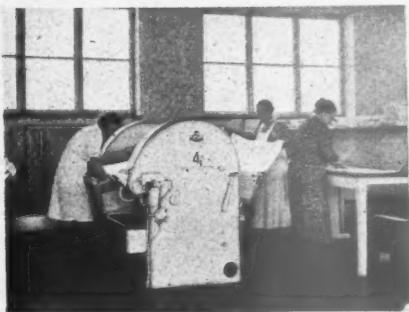


Top, the offices of the Fagersta Iron Works from the south; wings will be added later. Right, top, the chapel consecrated in 1941 and reconstructed from a former cottage hospital. The mural painting is by a local artist and depicts Christ appearing to the workers. The baptismal font is also by a local artist and is carved in a local limestone. Right, below, the women's sewing room in the Community Centre. Below, a sketch of the Youth Centre with the Sports Centre and swimming bath in the right background.



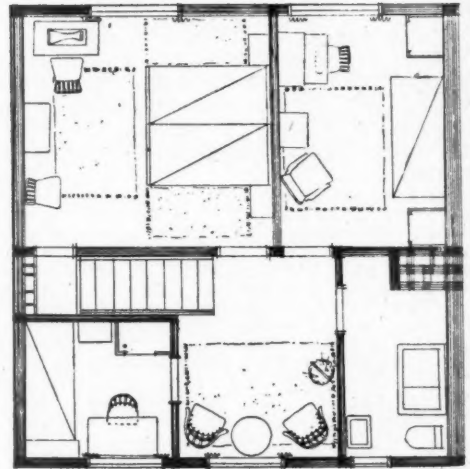
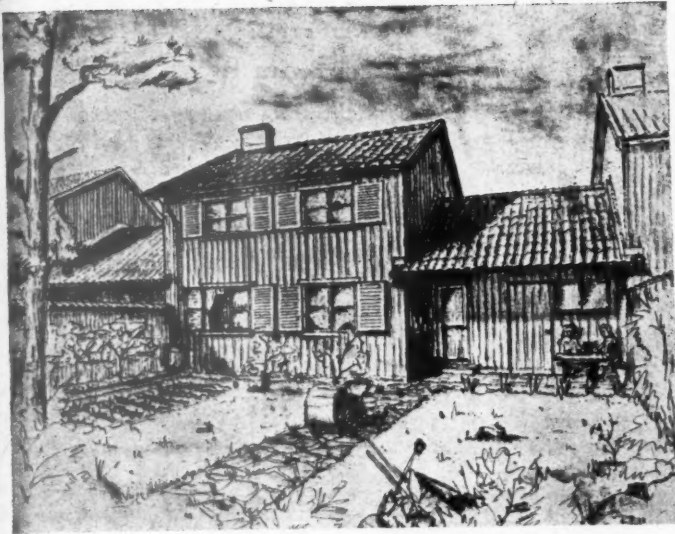


Left, the exterior and two interior views of the laundry for communal use. Below, a photograph of the group of four workmen's terrace timber houses built for the housing exhibition held last year.

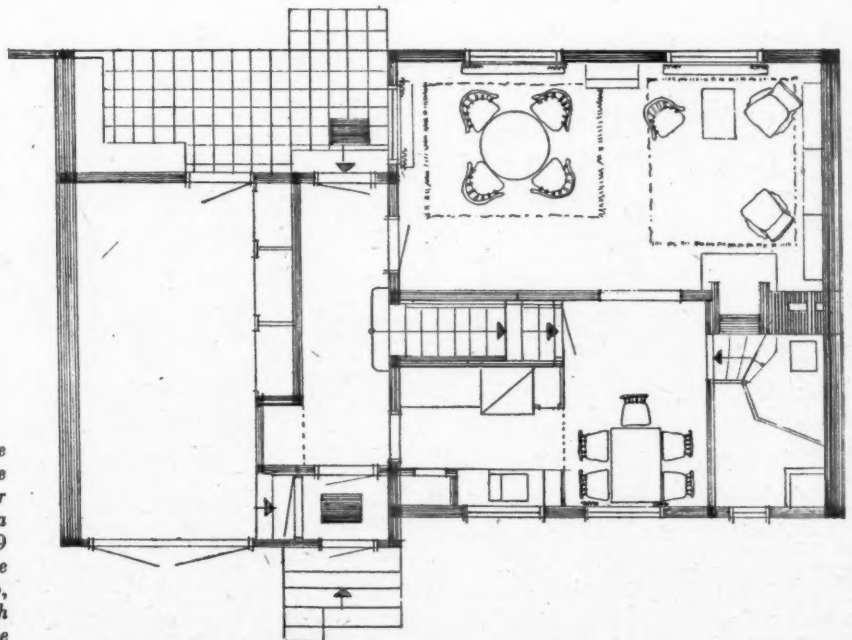


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HOUSING AND PUBLIC BUILDINGS AT FAGERSTA



FIRST FLOOR PLAN



GROUND FLOOR PLAN

Top, two sketches of the exhibition terrace houses from the garden and from the street. Right, ground and first floor plans of one of the houses suitable for a family of man and wife, a daughter of 19 and a son of 16. The large room on the left is intended mainly as a workshop, hobbies room and store. The through corridor is an interesting solution of the rear access problem of terrace houses.

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

INFORMATION CENTRE

The function of this feature is to supply an index and a digest of all current developments in planning and building technique throughout the world as recorded in technical publications, and statements of every kind whether official, private or commercial. Items are written by specialists of the highest authority who are not on the permanent staff of the Journal and views expressed are disinterested and objective. The Editors welcome information on all developments from any source, including manufacturers and contractors.

PHYSICAL PLANNING

2065

Kitchen Planning

THE PLANNING OF KITCHENS. (The Kitchen Planning Centre, Lever Bros. Brochure.) Background of KPC research. Application of research. Analysis of functions. Diagrams and plans of various kitchen types. Note on kitchen lighting. Emphasis throughout on need for planning to avoid unnecessary movement, particularly movement when carrying heavy weights.

This is a useful and thought-provoking brochure resulting from ten years' study of kitchen requirements and kitchen planning. Great emphasis is placed upon reduction of labour by good planning. Three types of kitchen are dealt with in some detail:—

1. The self-contained kitchen.
2. The "eating" kitchen.
3. The kitchen plus scullery.

Many matters which are not dealt with fully in the publication have been fully examined and dealt with in other more specialized pamphlets.

STRUCTURE

2066

Two Rhodesian Bridges

THE DESIGN AND ERECTION OF THE BIRCHENOUGH AND OTTO BEIT BRIDGES, RHODESIA. H. S. Smith and R. Freeman, jun. (Journal of the Institution of Civil Engineers, No. 7, 1944-45, May, 1945, pp. 171-208.) Details of design and erection of two large span steel bridges.

The bridges are built to carry the somewhat light road traffic of a sparsely populated country. The Birchenough bridge over the river Sabi is a two-hinged steel arch with a span of 1,080 ft. divided into 27 panels, the lower chord being parabolic with a rise of 216 ft. The depth at the crown is 37 ft. 6 in., and at the end posts 46 ft. The arch trusses are 45 ft. apart. The Otto Beit bridge over the Zambesi river is of the suspension type, with a principal span of 1,050 ft. and unloaded back stays. The curvature of the cables is parabolic, with a sag at the centre of 125 ft. The suspension cables are 45 ft. 8 in. apart.

The high cost of transport of material from Great Britain to the sites had an important bearing on the design. This was the chief reason for the choice of the suspension type for the Otto Beit bridge.

The foundations of both bridges are on sound rock. The Birchenough bridge was designed for the erection as two cantilevers on the same principle as the Sydney Harbour bridge. For the erection of the

cables of the Otto Beit bridge a process was adopted which allowed the use of mainly unskilled labour.

The best part of the steel used in both bridges is of high tensile quality, with a yield point of 23 tons per sq. in. The cables are made of galvanized wires of very high strength.

2067

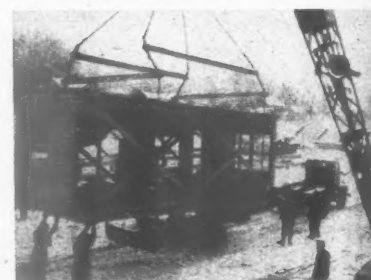
Demounting Timber Houses

HOUSE MOVING DAY FOR THE FPHA. (Engineering News-Record, May 3, 1945, pp. 107-111.) 109 FPFA two-storey timber buildings, built originally as permanent, transported by truck and trailer to new site 260 miles away.

An outstanding example of mass house moving is the undertaking by the Federal Public Housing Authority to dismantle, transport and re-erect 109 timber-framed houses containing 590 family units from Windham, Ohio to a new site outside Detroit, a distance of 260 miles. No claims are made as to the economics of providing low-cost housing by this method; rather it is a question of conserving building materials by transporting war workers' homes from an area where they are no longer required to one where their need is urgent. In general, the houses are two-storey, in four basic types; two, four, six and eight units (family dwellings) per building. All are 25 ft. 7 in. wide, the total length varies from 32 ft. for a two unit house to 141 ft. 6 in.

Foundations are made up of three lines of timber beams, supported by wood posts set in concrete footings below ground. Dismantling the houses consists, basically, of cutting the roofs into sections 8 ft. wide, panelizing the second storey walls and partitions and cutting the lower storey into box-sections not over 12 ft. wide. The windows are left in place in the wall panels; window breakage averages not more than two per house. Electric conduit and wiring, as well as water piping, are cut at the joints in the timber framing and left in place. This minimizes the amount of re-wiring or water pipe installation in the reassembled houses. It is necessary, of course, to splice the wiring, weld the conduit and joint the piping where they have been cut.

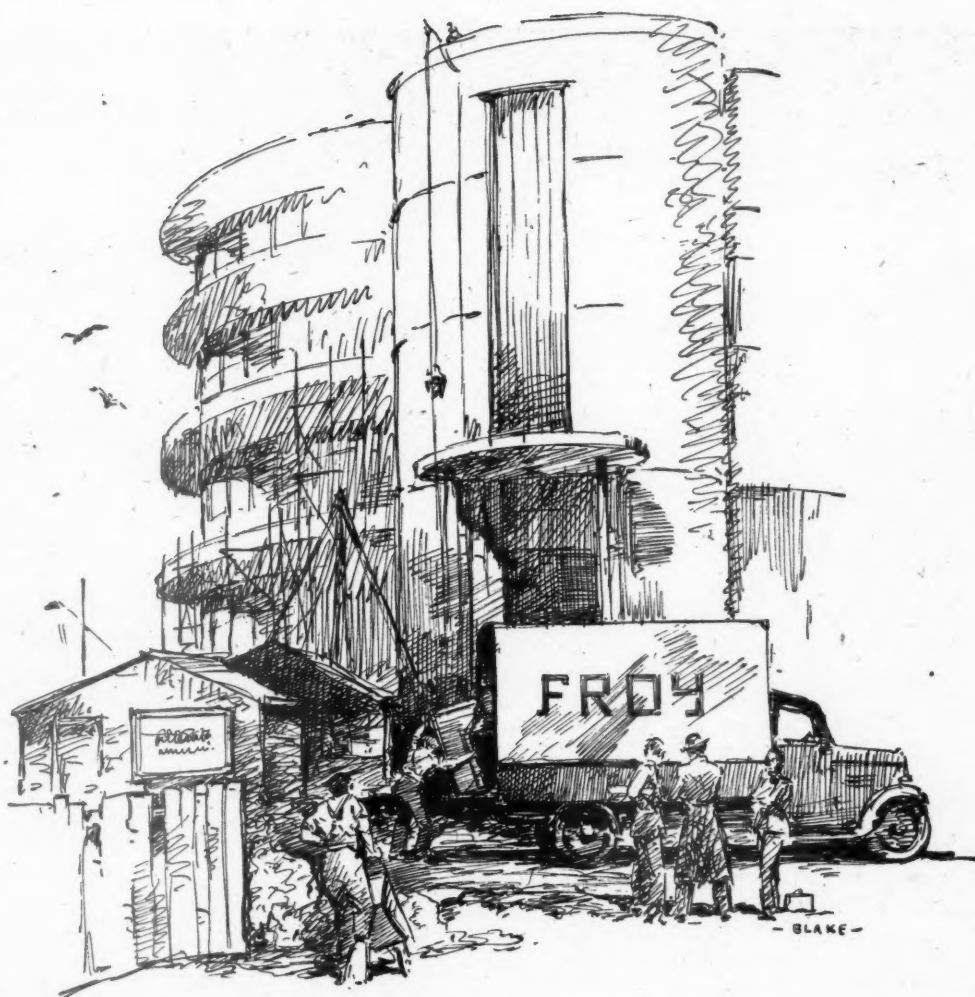
Dismantling started on November 15 and so did the snow, which closed the roads to a stage where the trucks could operate safely. The transport was held up 57 days until the roads were cleared. Despite this delay the project was scheduled for completion by June 1. Hauling is performed by a fleet of 80 units. Extra precautions are necessary to avoid damage by rain and snow to exposed interior material from the time the house is dismantled until it is re-erected. Despite the extensive cutting and panelization necessary to dismantle the houses their re-erection is usually carried out without incident, and the final product shows very little evidence of having been disturbed. Relatively little new material is required other than timber posts and supporting girders in the foundations, cinder block chimneys and new porches.



Three basic steps constituted the dismantling of FPFA two-storey timber buildings before transport. Top, removing the roof section. Centre, panelizing the second storey. Below, sectioning the lower storey, See No 2067



Top, the Birchenough, and below, the Otto Beit—two new Rhodesian bridges in steel. See No. 2066.



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HEATING and Ventilation

2068 Domestic Consumption

CONSUMPTION OF DOMESTIC APPLIANCES. (*Electrical Times*, April 12, 1945, p. 466.) Analysis of electricity consumption in houses of different rateable value.

The figures are based on the experience of a Corporation electricity undertaking, and the complete analysis in the paper includes a division between the different seasons. The data are summarized below:—

Rateable Value.	Electricity Consumption per annum, kWh.		
	Cookers.	4-kW. bath heaters.	1-kW. small water heaters.
Under £10	1460	200	1110
£10-£20	1350	270	790
£20-£40	2150	500	1220
Over £40	2400	1720	830

2069 Electrical Heating Methods

HEATING BUILDINGS. *H. C. Harris*. (*Electrical Review*, March 2, 1945, p. 321.) Survey of electrical methods of heating. Relative values of radiation and convection. Tubular and unit heaters. Radiators and converters. Panel heaters. Thermostatic control. Calculation of size of plant. Thermal insulation.

Heating may be effected either by radiation or by convection, though most appliances combine these in proportions varying according to the design of the appliance. The proportion of radiation to convection in the case of electric fires varies from 1s. 1d. to 3s. 1d., depending on the type. Electric fires are not in general, suitable for thermostatic control. Tubular heaters supply more heat in the form of convection, the radiation/convection ratio varying from 9s. 11d. to 3s. 7d. according to the installation of the tubes. Owing to the low temperature at which they operate, they have a long life. The surface temperature is about 180 deg. F., and the air currents which are set up have a low velocity. Tubular heaters are suitable for thermostatic control. The surface temperature of electrically-heated radiators is from 150 deg. to 250 deg. F. They usually set up floor draughts and a high temperature gradient, and owing to the large thermal capacity (unless oil-filled) they are not very suitable for thermostatic control. Converters give rise to an even greater air velocity, but they are suitable for the rapid warming of the air in large buildings. One form of convector which incorporates a fan exaggerates the disadvantage of all convectors, namely, that the air temperature is higher than the mean wall temperature.

Panel heaters fixed in a horizontal position emit all the heat by radiation. By the use of small panels, a reasonably uniform distribution of radiation can be obtained. Comfortable temperatures are reached in 20 min. The surface temperature may vary from 90 deg. to 400 deg. F. Unit heaters are suitable for air heating in factories, etc. Their heating effect is purely by convection, and they set up a considerable temperature gradient, which may exceed 2° F. per foot.

Heating appliances fixed against walls or ceilings should always be backed with a layer of thermal insulation. Thermostatic control of the appliance can save upwards of 25 per cent. of the energy.

Comfort depends on radiant heat, relative humidity and air movement as well as air temperature. Thus economy can be effected by employing a low air temperature, the greater proportion of heat being provided in the form of radiation from the walls, ceiling and floor, while using only a small proportion for heating the air by convection to a considerably lower temperature (say, 50 deg. F.). Rooms thus heated may require 25-40 per cent. less power than if heated by convection. Radiating surfaces should be large in area and well distributed. The temperature should not exceed 90-100 deg. F., and in the case of floor radiators, 75 deg. F. Downward radiation causes discomfort if the ceilings are low and the radiating surface temperature is high.

An example of the calculation to determine the size of a heating plant and the cost of running it is given. The value of thermal insulation of the building is also touched upon, the reduction in both running and initial costs of the heating plant being mentioned.

2070 Plastics for Air Conditioning

PLASTICS FOR AIR CONDITIONING. *P. I. Smith* (*Air Treatment Engineer*, February, 1945, p. 31). Thermal insulation with expanded plastics. Air ducts and piping. Fan blades coating against corrosion.

The chief uses of plastics in air conditioning are:—

(i) Thermal insulation, for which there are two main types, exemplified by Isoflex and the expanded plastics. Isoflex is very light, easily cut and fixed, inert, non-corrodible and non-inflammable. It is usually employed for filling cavities in wall constructions. The thermal resistance of the expanded plastics is due to the cellular formation. These materials are also light, and can be veneered with plywood or metal to provide a suitable surface.

(ii) Fabrication of air ducts and piping.

(iii) Fan blades.

(iv) As a surface coating to form protection against corrosion.

ACOUSTICS and Sound Insulation

2071 Loudspeakers

RECENT RESEARCH AND ITS EFFECT ON LOUDSPEAKER DESIGN. (*Electronics and Television*, April, 1944, p. 174.) Causes of poor electro-acoustic reproduction. An improved cabinet design.

This note is some years old, but architects may wish to know of it as a source of useful information about domestic loudspeaker installation.

Attention is drawn to the common difficulties in using the moving-coil loudspeaker. When the cone moves back and forward it produces waves on both sides, but in opposite phase, one being a compression and the other a rarefaction of the air. They try to regain equilibrium, and at low frequencies the air-pressure waves move round the edge of the diaphragm to cancel the rarefactions, and no sound is radiated. The output of the loudspeaker is then only in the high-frequency range, and has no realism.

When a loudspeaker is put into a cabinet, the walls of the box act as a baffle to prevent the cancellation of low-frequency

waves, but in addition strong box-resonances usually occur which distort the low frequency output. A flat baffle avoids this difficulty, and is reasonably successful, but it would have to be very large to produce an undistorted response down to the very lowest sounds. Apart from mounting the speaker in a wall, which provides an infinite baffle, there are two general methods of improving the output. One is to completely absorb the radiation from the back of the diaphragm, and the other is described as a reversal of the phase of the sounds from the back of the loudspeaker before they come into the open air; in fact, it means the sounds travel a certain distance before emerging, and come out after a certain appropriate interval has occurred. The first method is used in some commercial outfits, but in absorbing the energy behind the loudspeaker, some of its output strength is lost. The second method avoids this, and a cabinet is described by which the phase reversal effect can be produced.

QUESTIONS and Answers

THE Information Centre answers any question about architecture, building, or the professions and trades within the building industry. It does so free of charge, and its help is available to any member of the industry. Answers are sent direct to enquirers as soon as they have been prepared. The service is confidential, and in no case is the identity of an enquirer disclosed to a third party. Questions should be sent to: THE ARCHITECTS' JOURNAL, 45, The Avenue, Cheam, Surrey.

2072 Cleaning Copper Pipes

Q Can you suggest a quick method of cleaning copper pipes to a central heating system in a private house? The pipes are now black through lack of cleaning. Knowing how hard it is to bring back the glossy shine to copper pipes, I am now wondering if there is a much quicker method than metal polish and hours of elbow grease.

A If the installation is on a fairly large scale, it might be worth while to use a rotary wire brush working from the electric light supply. Acids could be used, the main objection being the damage caused to decorations if the acid came in contact with them. Any acid would, of course, have to be washed off to prevent damage to the pipes after it had been used, and then a lacquer could be used to preserve the shine.

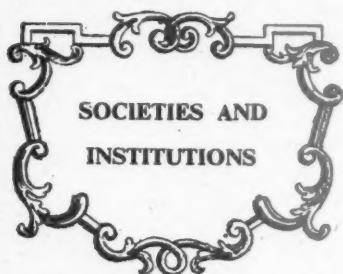
The best methods would probably be to paint the pipes. This would also increase the heat transmission of the piping. A firm of painters should be consulted as to the best paint available for the purpose.

If you require any further information we suggest your contacting the Copper Development Association, Grand Buildings, Trafalgar Square, London, W.C.2.

2073 Fibreglass Laminate

Q To where in the USA can I write for more particulars of the Fibreglass Laminate referred to at the end of the article on Post-War Building Techniques from Architectural Forum?

A Fibreglass, Clutha House, 10, Princes Street, London, S.W.1, are the British representatives (acting under licence for the USA firm) of Fibreglass Laminate. You should be able to obtain the particulars from them.



Speeches and lectures delivered before societies, as well as reports of their activities, are dealt with under this title, which includes trade associations, Government departments, Parliament and professional societies. To economize space the bodies concerned are represented by their initials, but a glossary of abbreviations will be found on the front cover. Except where inverted commas are used, the reports are summaries, and not verbatim.

RIBA

Schools

The RIBA has submitted to six Government Departments a REPORT ON POST-WAR SCHOOL BUILDINGS by a special committee recently set up by the Royal Institute. The Departments concerned are the Ministries of Education, Works, Health, Labour, Transport and Agriculture.

The nation is faced with the biggest school-building problem in its history. Damage by bombing, a five-year stoppage of building and, above all, the consequences of the Butler Education Act have many times multiplied the usual yearly peace-time school-building programme. This unprecedented demand for schools occurs at a time when vast housing needs have a first priority and there is a shortage of skilled labour and of many materials.

The Committee's report begins by considering the main points of the problem. It assumes that buildings must be strictly utilitarian, but claims that they need not be dull or ugly. Speed of erection is vital, for which reason pre-war standards of construction and finish will almost certainly have to be reduced at first. It notes that while some materials, such as timber, will be in general short supply for some time, other materials suffer local shortage only. Again, certain other materials, such as steel, are likely to be more readily available everywhere.

The Committee, therefore, suggests that all methods and materials should be used so far as they are locally available. Education authorities should be encouraged to experiment, under the guidance of architects, with methods of construction best suited to local climatic conditions and using materials most readily available to them. Repair and alteration of traditional buildings must in any case be done with

traditional methods, but for new buildings a wide range of new methods and materials is open.

The Committee deprecates the use of purely temporary buildings as a general policy because temporary buildings have high maintenance costs. A suggested solution is the building of classrooms, cloakrooms and changing rooms with a permanent frame of steel or reinforced concrete. This frame could at first have utility surfacing materials, to be replaced later with more durable materials when supplies become plentiful again. The assembly hall and administrative rooms would best be built at the outset in permanent form. The re-use of army huts for schools is rejected as definitely sub-standard, unduly costly and ugly in appearance.

The report emphasizes the importance of simple yet seemingly designs with a full and correct use of colour, together with pleasant site treatment by imaginative planting of trees and flower beds. The school is the physical background to the early and impressionable years of a child's life, so that the greatest care and skill should be expended on its design by qualified architects.

The report criticises the present routine procedure for getting school building schemes started as being much too slow and complicated. It suggests that the Ministry of Education should explore the possibility of reducing the delays which occur in the acquisition of sites owing to clumsy administrative procedure. It further suggests that the existing system by which an architect has to present his plans for the approval of several specialist examiners be abolished in favour of a single authoritative examiner. It stigmatizes the present official practice of open advertising of building contracts as being wasteful in time and money, and proposes as an alternative the preparation of local lists of contractors of repute who should be asked to tender. It advises on the rapid training of new entrants to the building industry in the technique of all new methods of construction and in the use of up-to-date machine tools.

The Committee was appointed by the Council at its meeting on February 13, 1945, "to consider and report as quickly as possible on the subject of School Design and Construction," and the following members were appointed to serve:—C. G. Stillman, F.R.I.B.A. (Chairman), County Architect, West Sussex; W. T. Benslyn, A.R.C.A., F.R.I.B.A.; P. W. Birkett, A.R.I.B.A., County Architect, County of Lincoln, Parts of Lindsey; D. E. E. Gibson, M.A., A.R.I.B.A., A.M.T.P.I., City Architect, Coventry; J. Harrison, A.R.I.B.A., County Architect, Derbyshire; Julian Leathart, F.R.I.B.A.; Oswald P. Milne, F.R.I.B.A.; S. E. Urwin, F.R.I.B.A., County Architect, Gloucestershire; E. Berry Webber, A.R.I.B.A. Owing to illness, Mr. Gibson was unfortunately unable to attend any of the four meetings which the Committee has held. The Committee wishes to record its thanks to Mr. Leathart for his work in drafting this report.

The Committee has considered the subject under the following headings:—

- A. The General Problem.
- B. The Architect's Contribution.
- C. Delays in Administrative Procedure.
- D. Methods of Construction, available Materials and supply of Labour. (With a note on wartime hutting.)
- E. Improvement of Existing Buildings.

The General Problem:

1. Losses due to enemy action, the virtual suspension of normal school building during the war, the reorganization of education throughout the country to conform with the provisions of the Education Act, 1944, the provision of school accommodation on new housing estates and the deficiencies in the pre-war building programme,

have created an unprecedented demand for post-war school building.

2. Speed in the building of new schools is a vital necessity, and it is doubtful if pre-war methods of construction and finishings can be followed in the production of a sufficiently expeditious output of building to fulfil all needs.

3. Available immediate post-war resources of materials and labour are relatively slender and are likely to be concentrated at first on rehousing.

These facts lead to the consideration of the type of building, which will accomplish all that is required in the quickest possible time.

The following observations arise therefrom:—

(a) Until building trade conditions are fully restored to pre-war standards a limitation on the range of materials and availability of labour will inevitably place restrictions upon design. The enforced adoption of substitute materials and their effect upon construction and design may well result in buildings of unconventional appearance and to some extent of untested character as regards durability and resistance to hard wear. On the other hand, greater speed and facilities for future alterations can be expected.

(b) Rigid uniformity in constructional methods and the use of substitute materials irrespective of the diverse climatic conditions which prevail in the north and south of England, is undesirable.

(c) Equally undesirable is an absolute standardization in planning and design which fails to observe site conditions, local building traditions and the customary practice of skilled building craftsmen.

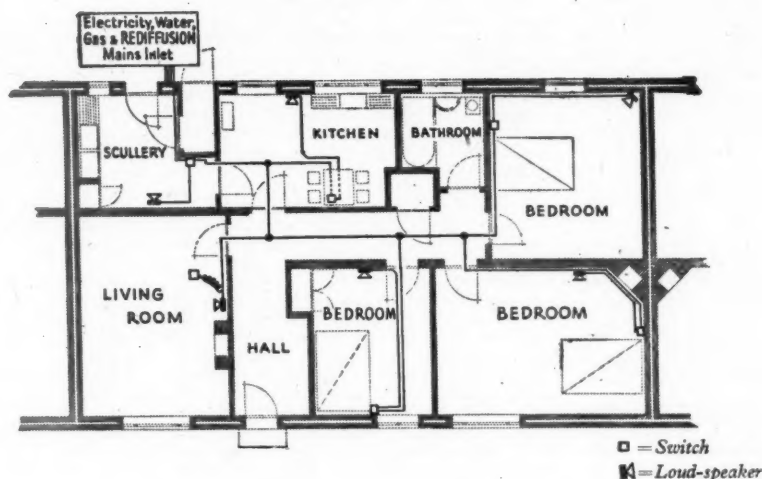
(d) In districts where there may be a sufficiency of materials such as brick and stone and an adequate supply of labour, there should be no reason for the adoption of temporary expedients in construction. Where no such initial advantages occur, substitute materials at first used for wall-cladding may have to be replaced later by those of better and more durable quality as and when they become available from production sources. This point is amplified under "Methods of Construction and Availability of Materials and Labour," where a suggestion is made on the feasibility of combining both categories of materials in one building.

The Architect's Contribution:

It is probable that we are entering a decade of strictly utilitarian building. The success of utility building, from the architect's viewpoint, lies in the assemblage of the component elements of the plan into a well-organized composition, in the full and correct use of colour and texture and in a pleasant treatment of the site lay-out. Much can be done to enhance the appearance of a simple building by imaginative planting of trees, shrubs and flower beds and the arrangement of approach ways to the school.

Whatever may be the form of the chosen system of construction, it is of the utmost importance that it is expressed in a rational, yet seemingly, architectural manner. The School is the physical background to the early and impressionable years of a child's life and the environment of the building and its site-setting created by good design will exert a beneficial influence in character forming at the most receptive age. The child's mind is receptive to the appeal of simplicity in line and form and reacts with enthusiasm to the influence of colour and texture.

As simple form will be the chief characteristic of post-war school design, it is reasonable to expect that the children will be attracted to their new environment. Upon the architect's degree of insight into the mind of the child, will depend the success of his work. A school should not become so detached, architecturally speak-



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ing, from its primary purpose as to bear oppressively on the minds of the young.

It is, therefore, of importance that local authorities should be urged to avail themselves of the guidance of qualified architects in the planning and design of their school-building projects. Each individual site presents a new problem in planning and the exercise of architectural skill.

Methods of Construction, Available Materials and Supply of Labour:

1. Methods of construction will depend upon the sort of materials likely to be in the most plentiful supply for the next few years. Housing work will absorb a considerable proportion of the output of the brickfields. The use of stone, natural or reconstructed, is likely to depend upon the number of skilled masons available for working and fixing.

Timber supplies imported from abroad will not be plentiful until more shipping is released and economic recovery is within sight.

Ferrous and non-ferrous metals should be in good supply within a comparatively short time and when the industry is reorganized again on a peace-time basis.

2. It follows, therefore, that the use of the load-bearing brick or masonry wall must be curtailed and the adoption of the point-load structural framework considerably extended. A supporting framework of steel sections, or of pre-cast reinforced concrete will decrease structural weight and increase the speed of site operations. Pre-assembled framed units made under workshop conditions will produce dimensional precision and facilitate the fixing of standard-size, wall-cladding materials.

3. As the largest section of a school building is composed of teaching rooms, cloak and changing rooms and lavatories, it may be expedient to adopt the steel or concrete frame for their construction in combination with load-carrying brick or masonry walls with plastered internal finishings for the construction of assembly

halls, staff and administrative rooms and main entrance halls. By this means architectural significance will be imparted to the focal grouping of the composition and allow the architect a greater freedom of expression.

4. Wherever the steel or concrete frame is used, whether throughout the whole building or confined to the sections named in paragraph 3, it should be designed as the permanent framework of the building. Although it may be necessary to use utility cladding materials of a short-term life at first, these should be regarded as temporary expedients only, and should be replaced by permanent materials of a better quality in appearance and durability when conditions permit.

5. Heavy external maintenance costs are inevitable with temporary facing materials and this recurring item of expenditure will be saved when substitution is effected.

6. Some alternative cladding materials to brick, stone and glazed terra-cotta are glass, resin-bonded plywood, asbestos, non-ferrous metal sheets, and thin pre-cast concrete slabs, all of which need no protective surface treatment. Paper or wood-pulp boards, hard wallboards, wood-wool and plasterboard are unsuitable for external use unless suitably treated. It is anticipated that asbestos, aluminium, copper, stove-enamelled sheet steel, glass, paper or wood pulp boards, hard wall-boards, wood-wool and plasterboard will be in fair supply again in the near future. Scantling timber is likely to be scarce for some time to come.

7. The Government's "fair-for-all" demobilization programme, unless it is drastically modified in favour of the basic reconstruction trades, will frustrate the return of all young building tradesmen now serving in the armed forces whose demobilization numbers are high by reason of insufficient length of service. Persistence in applying the principle of demobilization by strict rotation, therefore, will prevent, for

some years to come, the full mustering of building labour resources for reconstruction work.

The quality of building craftsmanship has deteriorated during the war years (due to a large extent to younger men being drafted into the Forces) and this, together with other factors affecting labour conditions, will be reflected for some time to come in a diminished man-hour output.

The less the amount of skilled labour required in site operational work the greater will be the aggregate output of building. This is the substance of the advocacy for a type of building which may well be done by semi-skilled and unskilled labour.

There is reason to expect that Government controlled direction of building labour will continue for some time, with the attendant expedients of designated labour, uniformity agreements and bonus payments.

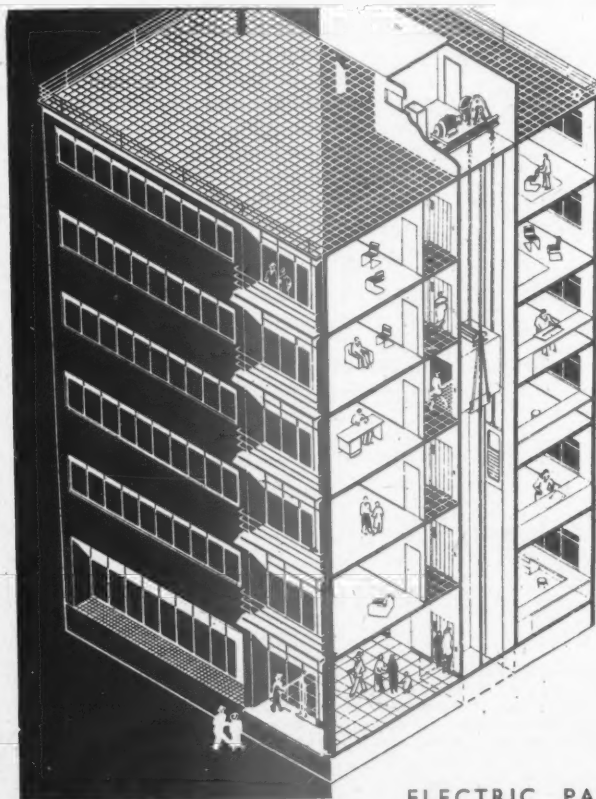
The rapid training of new entrants to the building industry is essential. Their training should include instruction in the technique of dealing with the erection and assembly of all new methods of construction and the use of up-to-date machine tools.

[The Committee's observations on war-time hutting and the improvement of existing buildings will be published in our next issue.]

Announcements

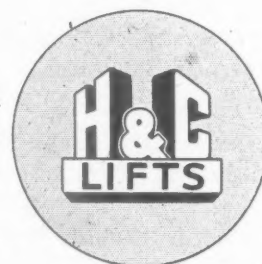
Mr. Clifford Worthington, A.R.I.B.A., F.R.S.A., has commenced practice at the China Dog Studio, East Row, Rochester, and will be pleased to receive trade catalogues.

Mr. John Steel, A.R.I.B.A., A.R.I.A.S., A.M.T.P.I., Chartered Architect, has taken up duties as Chief Architect to the Scottish Orbit Company, Limited, 71, George Street, Edinburgh 2, and will be pleased to receive trade catalogues, particularly those which have a bearing on housing.



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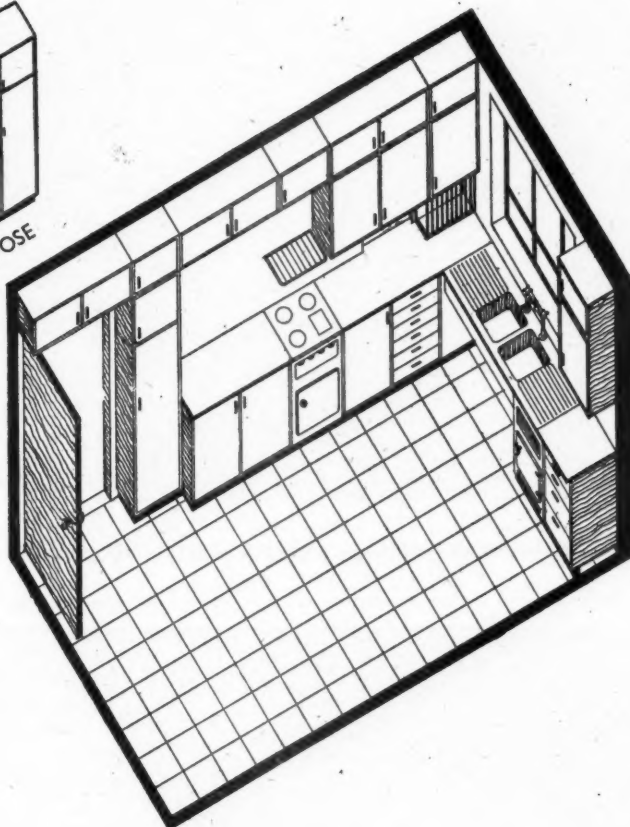
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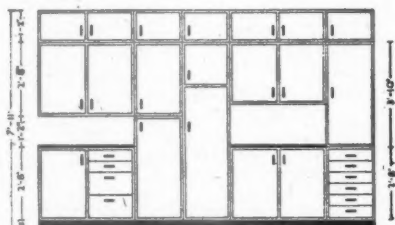
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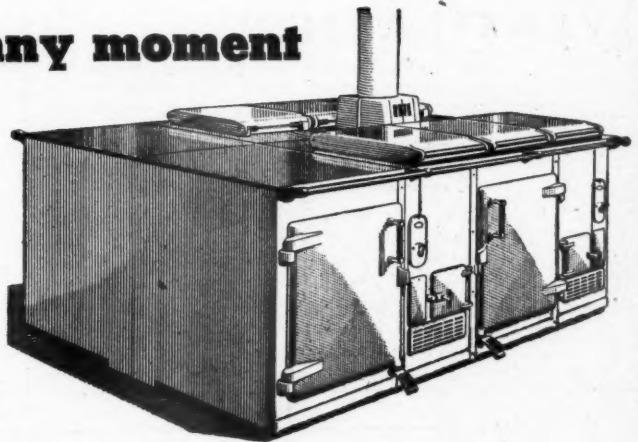
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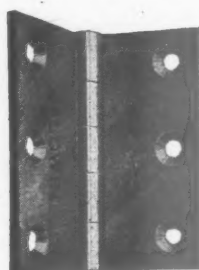
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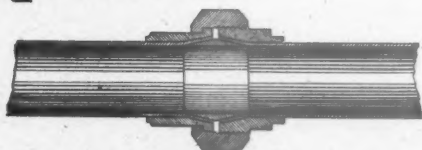
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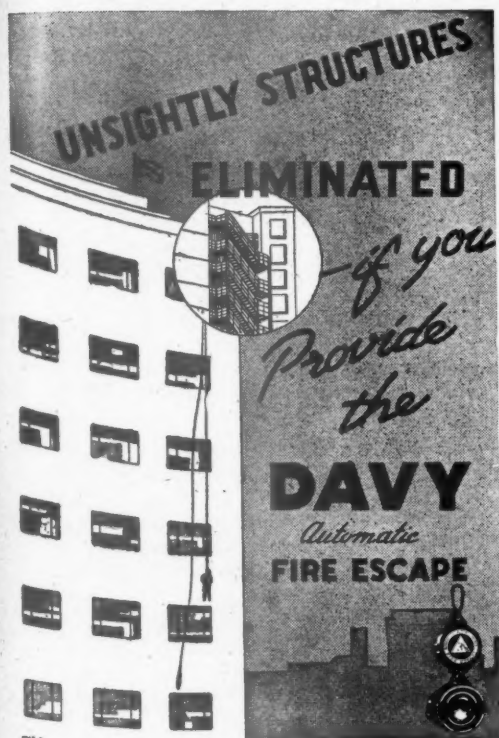
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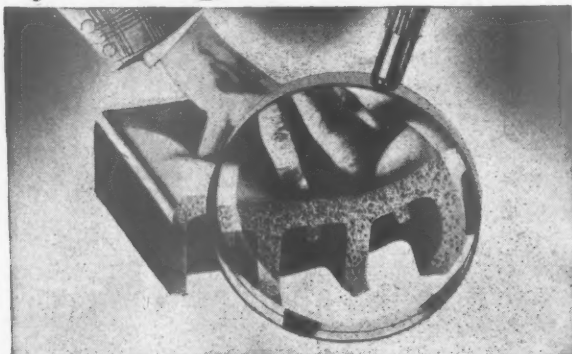
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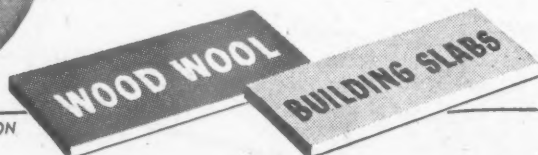
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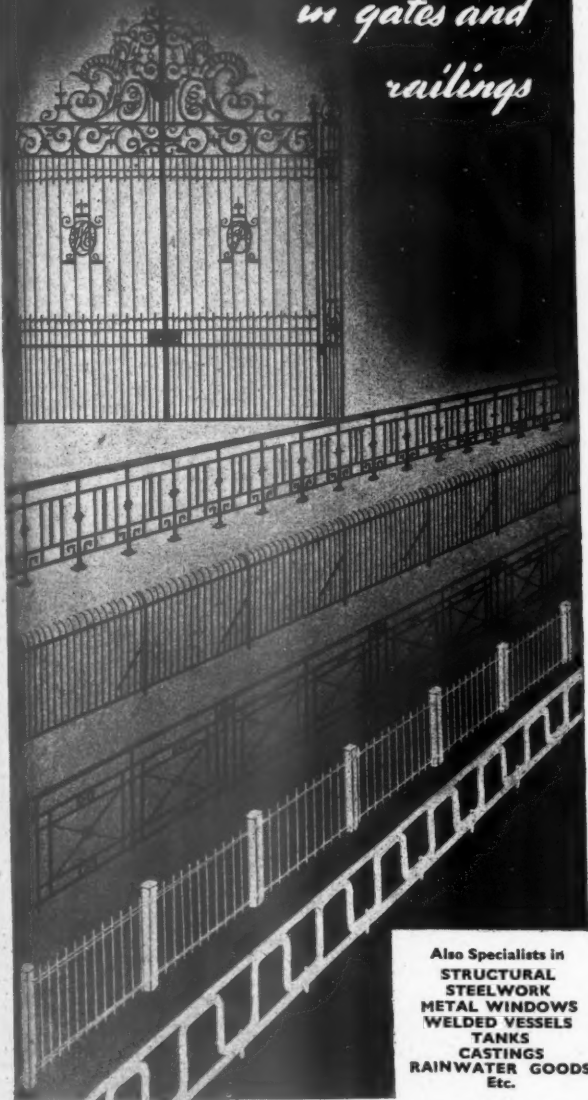
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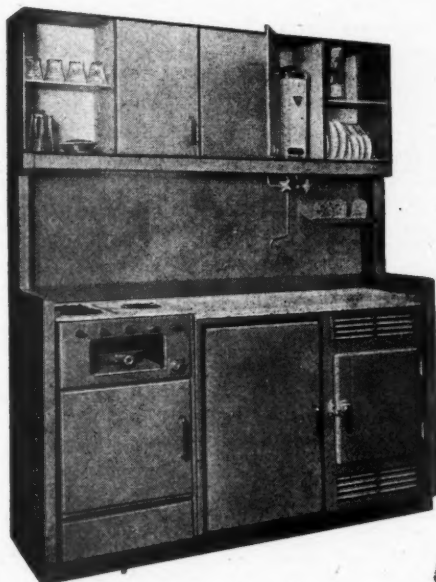
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NOTE: The "package kitchen" was seen by visitors to the recent Kitchen Planning Exhibition, Lower Regent Street, S.W.1, sponsored by the Gas Industry as a contribution to post-war housing. Models will not of course be available to the public until after the war.

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Replies to Box Numbers should be addressed care of "The Architects' Journal," War Address: 45 The Avenue, Cheam, Surrey.

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Candidates for each post must be members of the R.I.B.A., and in the case of appointments (a) (b) and (c) the successful candidate must provide and maintain a motor-car, in respect of which a car allowance will be paid on a scale approved by the County Council from time to time.

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

Applications, stating age, training, experience and qualifications, together with three references, should reach the undersigned not later than 21st September.

Applications from ex-Service men and those now in the Forces will be welcomed, and in the latter cases the position with regard to demobilisation should be stated.

Canvassing will be a disqualification.

ELTON LONGMORE,

Clerk of the County Council. 552

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The Council of the Architectural Association announces vacancies for four full-time STUDIO MASTERS for teaching duties under the Principal, Mr. R. Gordon Brown, A.R.I.B.A.

Studio Masters are required to be Associates of the R.I.B.A., and should have at least seven years' experience in architectural practice. Previous teaching experience is not essential.

At least one of the vacancies calls for specialised knowledge and experience of building materials and construction.

Applications should be in writing, and addressed to the undersigned, by the 31st August, 1945.

H. J. W. ALEXANDER,

Secretary.

36, Bedford Square, London, W.C.1. 551

DERBYSHIRE COUNTY COUNCIL.

APPOINTMENT OF COUNTY ARCHITECT.

The Derbyshire County Council invite applications for the appointment of County Architect from Architects registered in accordance with the Architects' (Registration) Act, 1931.

Salary, £1,400 per annum, rising by £100 per annum to £1,600 per annum, plus cost-of-living bonus and a travelling allowance according to the County Scale.

The appointment will be subject to the provisions of the Local Government Superannuation Act, 1937.

Conditions of appointment and forms of application may be obtained from the undersigned, to whom applications should be sent not later than 3rd September, 1945.

H. WILFRID SKINNER,

Clerk of the County Council.

County Offices, Derby. 9th August, 1945. 560

BOROUGH OF SCUNTHORPE.

ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of Architectural Assistant in the Borough Engineer and Surveyor's Department, at a salary of £400 per annum, plus cost-of-living bonus, at present £59 16s. per annum. The appointment will be ungraded at present, but will become graded if and when the Corporation adopt the East Midlands Provincial Council Scale.

Applicants should hold a recognised Architectural qualification and have had experience in Housing.

The appointment will be subject to the Local Government Superannuation Act, 1937, terminable by one month's notice on either side, and the successful candidate will be required to pass a medical examination.

The appointment will be temporary, but the successful candidate, if satisfactory, will receive consideration, along with other applicants, for the permanent appointment at a later date.

Applications, stating age, qualifications and experience, endorsed "Architectural Assistant," accompanied by copies of two recent testimonials, must reach the undersigned not later than 30th August, 1945.

W. P. BERRINGTON,

Town Clerk.

Municipal Offices, 34, High Street, Scunthorpe. 10th August, 1945. 559

LYDNEY RURAL DISTRICT COUNCIL.

ARCHITECTURAL ASSISTANT.

Applications are invited for the temporary appointment of Architectural Assistant, in the Engineer and Surveyor's Department, at a salary of £350 per annum, plus cost-of-living bonus, at present £59 16s.

Applicants must be registered architects, and A.R.I.B.A., or equivalent, and have had experience in the design of houses and the preparation of plans, layouts, specifications, etc.

Applications, stating age, qualifications and experience, together with copies of three recent testimonials, must be delivered to the undersigned not later than Monday, the 3rd September, 1945.

G. D. SPEARING,

Clerk of the Council.

R.D.C. Offices, Chepstow. 9th August, 1945. 558

THE UNIVERSITY OF MANCHESTER.

Applications are invited from men, 30-45 years of age, for appointment as MAINTENANCE OFFICER, of the University's Buildings. Candidates should be Chartered Surveyors, preferably qualified in the Building Section, or hold similar qualifications, and should have had practical experience.

Commencing salary, £500-£550 per annum (with children's allowance scheme). The successful applicant will be required to join the Federated Superannuation System for Universities. Applications, accompanied by copies of three testimonials, and giving the names of three referees, should be sent to the Bursar of the University, from whom further information may be obtained. 7th August, 1945. 556

COUNTY BOROUGH OF WEST HAM.

BOROUGH ARCHITECT AND PLANNING OFFICER'S DEPARTMENT.

Applications are invited for the following posts:

(a) TOWN PLANNING ASSISTANT.

(b) ARCHITECTURAL ASSISTANT.

Applicants for post (a) will be required to prepare under supervision plans, etc., for war damaged and obsolete areas. Salary £400 p.a., plus war bonus of £59 19s. 3d.

Applicants for post (b) will be required to carry out Architectural duties on housing and educational buildings. Salary £350 p.a., plus war bonus of £59 19s. 3d.

Applications, stating age, previous experience, etc., and accompanied by recent testimonials, should reach the undersigned not later than Friday, 31st August, 1945.

THOMAS E. NORTH, F.R.I.B.A.,

Borough Architect and Planning Officer.

100, West Ham Lane, Stratford, E.15. 568

Amended Advertisement.

BOROUGH OF WISBECH.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of an ARCHITECTURAL ASSISTANT in the Borough Engineer and Surveyor's Department, at commencing salary of £375, plus war bonus, at present £59 16s. per annum.

Candidates must be qualified for Architectural work, and will be required to carry out such work for housing and public buildings, etc., under the direction of the Borough Engineer.

The appointment will be for an indefinite period, subject to the provisions of the Local Government and Other Officers' Superannuation Act, 1937, and also subject to one month's notice on either side. The successful candidate will be required to pass a medical examination.

Candidates must disclose in their application whether to their knowledge they are related to any member or senior officer of the Council.

Applications, stating age, qualifications and experience, accompanied by not more than three testimonials, and endorsed "Architectural Assistant," must reach the undersigned not later than Friday, 31st August, 1945.

Canvassing, either directly or indirectly, will disqualify.

J. E. SIDDALL,

Town Clerk.

Town Hall, Wisbech. 10th August, 1945. 566

ACKWORTH SCHOOL, NEAR PONTEFRAC, YORKS.

Applications are invited for the post of CLERK OF WORKS, for the maintenance of the buildings and plant of this large Boarding School. There is as well an estate of 330 acres and considerable property. A good salary will be offered and a house is available. Full particulars may be obtained from the Bursar, to whom applications should be returned not later than September 30. 563

FLAXTON RURAL DISTRICT COUNCIL.

APPOINTMENT OF ASSISTANT SURVEYOR.

Applications are invited for the post of Assistant Surveyor. Salary according to qualifications and experience.

Preference will be given to candidates who are experienced in the drawing of plans, quantity surveying, etc. The duties will be in connection with the checking and issue of building work licences, supervision of buildings in course of erection, the erection of temporary houses, etc. The person appointed will act under the direction of the Council's Surveyor.

The appointment will be subject to the provision of the Local Government's Superannuation Act, 1937, and to one month's notice on either side to terminate it.

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

The appointment is open to members of H.M. Forces.

Applications, stating age, qualifications, details of experience, together with copies of three recent testimonials, should be forwarded to the undersigned on or before 31st August, 1945.

JOHN C. PETERS,

Clerk to the Council.

62a, Bootham, York. August 10, 1945. 559

COUNTY OF WARWICK.

ARCHITECT'S DEPARTMENT.

BUILDER'S ESTIMATOR (JUNIOR) required immediately. In accordance with the policy of the County Council, the appointment will, during the war, be on a temporary basis. Salary, at the rate of £300 per annum, plus 64 per cent. for temporary increase in office hours, and plus war bonus (at present 23s. per week).

Applications, in applicant's own hand writing, giving full particulars as to age, experience, and present employment, and accompanied by copies of not more than three testimonials, to be sent to C. H. Elkins, L.R.I.B.A., County Architect, Shire Hall, Warwick, on or before the 31st August, 1945.

L. EDGAR STEPHENS,

Clerk of the Council.

Shire Hall, Warwick. 8th August, 1945. 565

OXFORDSHIRE COUNTY COUNCIL.

COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the post of ARCHITECTURAL ASSISTANT (Temporary) in this department, at a commencing salary of £330, rising to £375, plus war bonus, at present £60 p.a.

Applicants should have a good general experience of works in connection with schools, preparation of surveys, levels, etc. Possession of a car would be an advantage.

Applications, with copies of recent testimonials, should be sent to the undersigned, not later than the 29th August, 1945.

G. R. HUTTON, F.R.I.B.A., F.S.I.

3, Becket Street, Oxford. 13th August, 1945. 594

Amended Advertisement.
GILLYGAER URBAN DISTRICT COUNCIL.

Applications are invited for the following permanent appointment in the Engineer and Surveyor's department:—
ASSISTANT ARCHITECT. Applicants should be A.R.I.B.A. or equivalent.

The person appointed will be required to carry out Architectural duties in connection with the Council's housing schemes, and other similar duties that may be assigned to him from time to time.

Salary, at the rate of £450 per annum, increasing by two annual increments of £25, to a maximum of £500 per annum, plus bonus on the Whitley scale (at present £59 16s. p.a.).

Candidates for the appointment will be required to live in the Council's district (the Council are prepared to assist the successful candidate to find suitable living accommodation), to contribute to the superannuation scheme, and to undergo a medical examination.

Further particulars and application form may be obtained from the Engineer and Surveyor, Council Offices, Hengoed, Glam.

Application forms should be returned to the undersigned not later than 10 a.m. on the 29th August, 1945.

TUDOR LAWRENCE,
Clerk of the Council.

Council Offices, Hengoed, Glam. 526
11th August, 1945.

FIFE COUNTY COUNCIL.**CHIEF PLANNING ASSISTANT.**

Applications are invited for the appointment of Chief Assistant to the Regional Planning Committee.

Preference will be given to candidates who held the Associate Membership of the Town Planning Institute, and in addition have had practical experience in the preparation of planning schemes and also experience in engineering and surveying. The commencing salary will be £550 per annum, plus war bonus, which at the present time is £50 per annum.

Applications, stating age, qualifications and experience, etc., and accompanied by copies of not more than three recent testimonials, must reach the undersigned not later than 11th September, 1945.

J. M. MITCHELL,
County Clerk.

County Buildings, Cupar. 583
11th August, 1945.

CUMBERLAND COUNTY COUNCIL.**ASSISTANT BUILDINGS' INSPECTORS.**

Applications are invited from duly qualified persons for two appointments of Assistant Buildings' Inspectors in the County Architect's Department.

The salary in each case will be in accordance with Grade D of the Whitley Council Scale, £360 per annum, rising subject to satisfactory service to £405 by annual increments of £15, plus Whitley Council cost-of-living bonus, at present £59 16s. per annum. The appointments will be subject to the Local Government Superannuation Act, 1937, and to the successful candidates passing the Council's medical examination, and will be terminable by one month's notice on either side.

Applicants must have had practical experience of building, supervision of building work, and maintenance of property, and should be able to prepare reports. Previous experience with a public authority is desirable. The person appointed will be required to provide a motor-car not exceeding 8 h.p., and an allowance will be paid in accordance with the Council's scale D for the time being in force.

Forms of application may be obtained from the County Architect, 4, Alfred Street North, Carlisle, and should be completed and returned to him, accompanied by copies of three recent testimonials, not later than Monday, 10th September, 1945.

G. ANDREW WHEATLEY,
Clerk of the County Council.

The Courts, Carlisle. 532
1st August, 1945.

WEST SUSSEX COUNTY COUNCIL.**APPOINTMENT OF COUNTY ARCHITECT.**

Applications are invited from Fellows or Associate Members of the Royal Institute of British Architects for the whole time appointment of County Architect, at a salary of £1,200 per annum, rising by annual increments of £100 to £1,700 per annum, plus bonus, travelling and subsistence allowance, in accordance with the Council's scales for the time being in force.

The appointment will be terminable by three months' notice on either side, and will be subject to the provisions of the Local Government Superannuation Act, 1937, and to a medical examination. Canvassing will disqualify.

Forms of application, together with particulars of duties and terms and conditions of appointment, may be obtained from the undersigned, to whom applications should be sent not later than the 29th September, 1945.

T. C. HEWARD,
Clerk of the County Council.

County Hall, Chichester. 576
August, 1945.

DERBYSHIRE COUNTY COUNCIL.**ARCHITECT'S DEPARTMENT.**

Applications are invited for the appointment of an **ARCHITECTURAL ASSISTANT.** Candidates must be over 30 unless medically unfit for military service.

Salary £325, by annual increments of £12 10s. to £350, plus cost-of-living bonus, at present £59 16s. per annum, and an allowance for extended office hours.

Applications should be sent to the undersigned by 1st September, 1945.

The appointment is subject to the approval of the Ministry of Labour.

J. HARRISON,
County Architect.

23rd August, 1945. 578

HALTEMPRICE URBAN DISTRICT COUNCIL.**ENGINEER'S DEPARTMENT.**

Applications are invited for the appointment of **ARCHITECTURAL ASSISTANT**, at a salary of £450 per annum, rising by two annual increments of £25, to £500. Candidates should be A.R.I.B.A. or equivalent, with experience on housing and general architectural work.

The appointment is for a minimum period of three years, and a war bonus of £59 16s. per annum is payable in addition to the basic salary. The appointment will be in accordance with the Council's Regulations for temporary staff, and the successful candidate will be required to pass a medical examination.

Forms of application may be obtained from the Engineer, Anlaby House, Anlaby, E. Yorks, and should be returned to the undersigned not later than noon on Monday, the 27th August, 1945.

Canvassing directly or indirectly will disqualify applications.

The Ministry of Labour and National Service have given permission under Control of Engagement Order, 1945, for the advertisement of the above vacancies (A/9/E).

A. B. GLASSPOOL,
Clerk of the Council.

Anlaby House, Anlaby, E. Yorks. 579
10th August, 1945.

CORNWALL COUNTY COUNCIL.

Applications are invited for the following appointments in the Architectural Department:—

(a) Permanent post of **ASSISTANT BUILDING INSPECTOR**. Salary £315, rising by annual increments of £15, subject to satisfactory service to £360 a year, plus cost-of-living bonus, at present £59 16s.

Applicants must have held a similar appointment, and possess practical experience of the Building Trade, be thoroughly competent in the preparation of specifications, detailed estimates and reports, and in the supervision of maintenance works and improvements to buildings.

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

(b) Temporary post of **ARCHITECTURAL ASSISTANT**, at an annual salary from £300 to £360, according to qualifications and experience. Forms of application may be obtained from the County Architect, County Hall, Truro, to whom applications must be sent not later than Friday, the 31st August, 1945, accompanied by copies of three recent testimonials.

L. P. NEW,
Clerk of the County Council.

County Hall, Truro. 564
10th August, 1945.

Architectural Appointments Vacant

Four lines or under, 4s.; each additional line, 1s.

Wherever possible prospective employers are urged to give in their advertisement full information about the duty and responsibilities involved, the location of the office, and the salary offered. The inclusion of the Advertiser's name in lieu of a box number is welcomed.

TWO ARCHITECTURAL ASSISTANTS wanted in London Office of Staff Architect to large industrial company; well trained; good draughtsmen; able to handle large and small jobs from sketch plans to finish; salary £400-£500, according to qualifications. Apply Box 986.

ASSISTANT required by Chartered Surveyors in London in connection with works of alteration, reconstruction, conversion, etc.; permanent and progressive post. Write fully, stating age, experience, and salary required, Box 521.

ARCHITECT requires capable Assistant; London West Central district; state experience and salary required. Box 543.

WANTED—Senior and Junior Architectural Assistants; housing, industry, and general practice; salaries by arrangement, according to qualifications; progressive posts offered. Applications, stating age, experience, etc., or appointment for interview, Venables, 11, West Street, Congleton, Cheshire. 564

LONDON Architect requires Senior Assistant; experienced in London Housing (Flats); salary, £500-£800. Apply Box 557.

ARCHITECTURAL ASSISTANT (SENIOR) required; mainly industrial work. Write, stating age, experience, salary, etc., Watson and Johnson, 5, Victoria Square, Birmingham, 2. 580

ARCHITECT'S ASSISTANT required, having 5 to 10 years' experience; able to prepare working drawings from sketches; preferably with experience of surveying and levelling. Write, stating age, experience, and salary required, Welch & Lander, F.F.R.I.B.A., 38, Gloucester Place, Portman Square, W.1. 520

REQUIRED, by well-known Multiple Company in the Midlands, Architectural Assistant, with experience in surveys, alterations, conversions, etc.; permanent progressive post offered to suitable applicant. Apply, stating qualifications, age, and salary required, to Box 572.

Architectural Appointments Wanted

Advertisements from Architectural Assistants and Students seeking positions in Architects' offices will be printed in "The Architects' Journal" free of charge until further notice.

ARCHITECT'S ASSISTANT, good draughtsman; prepare working drawings and details; preferably domestic; 5 years' experience as perspective artist and 4 years in general practice; returned prisoner of war, demobilised. Box 75.

SURVEYOR (45), totally exempt, desires responsible post; surveying, building costs, dilapidations, specifications, reports, valuations and repairs; moderate salary; London preferred; disengaged. Write A. G. Halls, 5, Fernside Road, Balham, London, S.W.12. 80

R.A.F. Officer (air crew), with pre-war experience as Architectural Representative, wishes to contact progressive firm with view to engagement on release from H.M. Forces. Box 31.

ARCHITECTS and Surveyor Draughtsman; articulated assistant; 40 years' experience; any class of work; rough ideas and plans of site; moderate cost; superior; R.E.'s grade; war privations, 1914/19, B.E.F. Box 82.

DRAUGHTSMAN (31) desires change in London district; 10 years' experience in all classes of architectural and engineering work; neat, quick and accurate; salary £350 p.a. Box 83.

ARCHITECT'S ASSISTANT, A.R.I.B.A., A.A. diploma, 7 years' office experience on design and drawings for varied types of work, including layouts for temporary and permanent housing, wishes to join gentleman Architect in private practice; South or West of England. Box 85.

QUALIFIED ARCHITECT (35) offers spare-time assistance in London; quick and accurate draughtsman; general experience. Replies to Box 84.

ASSOCIATE, Public School and University education, able designer and draughtsman, with 20 years' varied practical experience London and country, desires position as Architect. Reply Box 91.

CONTINENTAL ARCHITECT, qualified, many years' experience (steel reinforced concrete), seeks employment as Assistant in London. Box 90.

ARCHITECT (39), A.A. Dipl., A.R.I.B.A., 22 years' extensive, varied experience municipal, county, and private practice, contemporary work, for 5 years (pre-war) control of modern London office, desires senior appointment with firm or group of architects, view partnership, or architect to modern commercial firm; at present serving R.E., India, due release and demob. September. Write BM/DNKR, London, W.C.1. for collection by advertiser end of September. Letters cannot be forwarded India. 87

YOUNG ENGINEERING DRAUGHTSMAN seeks position as a Student Assistant, with view to career in Architect's office. Box 88.

STUDENT, R.I.B.A. (aged 31) requires position Architect's Assistant; South Coast preferred. Box 89.

Other Appointments Wanted

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

ARCHITECT, in North-West district, offers part-time services, as free lance, in the preparation of schemes, surveys and levelling (own level); car available. Box 573.

Planning

As originators of the Auto-Recorder System of Machine Milking, we have had extensive experience of planning layouts to accommodate the new technique. The Ministry of Agriculture's Clean Milk Bill, when passed, will mean a large increase in the number of new or modified farm buildings required. The position will be affected also by the findings of the English and Scottish Commissions on this important subject. The service of our Technical Department is available to any Architect who may be consulted in these matters. Write in confidence to: Gascoignes (Reading), Ltd., Berkeley Avenue, Reading.

Property for Sale

Four lines or under, 4s.; each additional line, 1s.
LAMBETH LOWER MARSH, S.E.1.—Freehold site in established trading position, frontage 33 ft., depth 100 ft., for erection of Modern Shop or Showroom Premises; price £4,500. Box 567.

For Sale

Four lines or under, 4s.; each additional line, 1s.
ELECTRICITY FOR COUNTRY HOUSE.—Complete equipment for Sale, including 20 h.p. Oil Engine, Electric Generator and Booster Set, Switchboard, Battery, and Motors, 200 volts supply; in good running order; inspection.—Apply Baily, Grundy & Barrett, Ltd., Electrical Engineers, Cambridge. 546

"DETAILS of Ancient Timber Houses," of the 15th and 16th century, in Rouen, Caen, Beauvais, etc., by A. Welby Pugin; published Ackerman & Co., 1836; what offers? Box 582.

4-SCREW Dump Level, by Abraham, Liverpool, complete with carrying case and tripod; also 18-ft. Staff; both in good condition. Offers to Greenland, Shaftesbury Street, Fordingbridge: Phone 2287. 575

Sale by Auction

Six lines or under, 8s.; each additional line, 1s.
"BROAD OAKS," STORRINGTON.—Picturesque modern Freehold Residence, standing high, with lovely views; 4 bedrooms, bathroom, 3 reception rooms, kitchen, etc.; main water and electricity; septic-tank drainage; radiators; telephone; built-in garage; garden of 3 acres; for sale by auction, with vacant possession, on 3rd September next (unless previously sold by private treaty). Auctioneers, Douglas Ross & Son, Mulberry House, Storrington, Sussex (telephone 40). 571

Miscellaneous

Four lines or under, 4s.; each additional line, 1s.
A. J. BINNS, LTD., specialists in the supply and fixing of all types of fencing, tubular guard rail, factory partitions and gates. 63, Gt. Marlborough St., W.1. Gerrard 4223-4226.

F. J. BAYNES, LTD., established over 100 years. Heating, Ventilating and Sanitary Engineers. 99/101, St. Paul's Road, N.1. Canonbury 2552. 584

FENCING AND GATES of every type, supplied and erected. Specialists in chain link. Boniton & Paul, Limited, Norwich. 662

PLASTICS Technologist and Consultant wishes to contact live organisation needing technical assistance on application of synthetic materials. Box 967.

WANTED.—One set of "Arts Et Manners" Graphiques. Please reply to Box 5.

WELL-KNOWN SPECIALIST on building materials re-opening consulting practice, closed during war, is now able to undertake a few non-competitive additional research and technical market investigations; well equipped chemical and physical laboratories. Inquiries to Box 410.

STUDENT, preparing thesis on Broadcasting Studios and Stations, wants to buy any books or periodicals on this subject, particularly photographs or information about the B.B.C., London. Box 570.

FENCING FOR ALL PURPOSES.—Supplied and erected; established 100 years. Parker, Winder & Achurch, Ltd., 80, Broad Street, Birmingham. 1. 979

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115, Gower St., London, W.C.1.
Telephone: Euston 3305 and 3906.
R.I.B.A. and T.P. INST. EXAMS. Private Courses of Tuition by correspondence arranged by Mr. L. Stuart Stanley, M.A., F.R.I.B.A., M.T.P.I. Tutor, 161, West Heath Road, N.W. 3. Tel.: SPE 5319. 415

CITY OF CARDIFF EDUCATION COMMITTEE.

THE TECHNICAL COLLEGE.
Acting Principal: A. BUXTON, M.A., F.R.A.S.
THE WELSH SCHOOL OF ARCHITECTURE.
Head of Department: LEWIS JOHN, M.A., B.Arch., A.R.I.B.A.

SESSION 1945-46
(Commencing on Tuesday, 2nd October, 1945).
Courses in Architecture.
(1) Three Years' Full-time Day Course leading to the Certificate.
(2) Full-time Day Course, consisting of two Sessions following the above and leading to the Diploma.
(3) Full-time Course of six years' duration leading to the Degree of Bachelor of Architecture.
The Department is fully recognised by the Royal Institute of British Architects.
For further particulars of full-time and part-time courses, entrance examination, scholarships, fees, etc., apply to the Principal. Application forms for entrance scholarship examination, duly filled up, must be received before 13th September.
W. J. WILLIAMS,
Director of Education. 577

THE POLYTECHNIC, REGENT STREET, LONDON, W.1.

SCHOOL OF ARCHITECTURE.
President of the School: SIR BANISTER FLETCHER, D.Lit.(Lond.), P.P.R.I.B.A., M.Arch., F.S.A., F.R.S.L., F.S.I.
Head of the School: JOHN S. WALKDEN, A.R.I.B.A., M.T.P.I., F.R.I.A.S.

DAY SCHOOL.
The Day School of Architecture is fully recognised by the Royal Institute of British Architects and by the Town Planning Institute. The Final Diploma Examination of the School is a qualification for registration under the Architects (Registration) Act.
The course includes all aspects of Architectural Education, including Town Planning, Interior Design, Structural Design and Equipment, and the Science of Building Materials.
There are also full-time courses in Building, Quantity and Valuation Surveying, Building Technology, Interior Design, and Landscape Architecture.
Session commences 18th September, 1945.

EVENING SCHOOL.
A wide range of professional courses are open to pupils and assistants in the Architectural, Town Planning, and Surveying professions and in the Building Industry.
Prospectuses, giving full particulars of courses, fees, etc., may be obtained on application to the undersigned.

J. C. JONES,
Director of Education.
The Polytechnic, 309, Regent Street, London, W.1. 562

LANDSCAPE DESIGN.

It is intended to open a two-year evening course of study at 34-35, Gordon Square, under the aegis of the Institute of Landscape Architects. The course is primarily designed for qualified architects, and horticulturists and members of allied professions, and the Institute of Landscape Architects will examine and certify successful students.

Individual courses of lectures will also be open to members of the general public, as far as space is available. These will include:—
History of Town and Countryside, Introductions to Landscape Design.
Parks and Parkways.
Ecology.
For all particulars write to Director of Studies, Course in Landscape Design, 34, Gordon Square, London, W.C.1. 584

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Head of Department of Architecture:
T. E. SCOTT, F.R.I.B.A.

DAY SCHOOL OF ARCHITECTURE

The Five Years' Course qualifies for exemption from the Final Examination for Associateship of the R.I.B.A. and for registration under the Architects (Registration) Acts, 1931-1938. Students who complete satisfactorily the first Three Years of the course are granted exemption from the Intermediate Examination of the R.I.B.A.

School year begins 24th September, 1945.

Fees—£20 per annum, or £7 per term.

EVENING SCHOOL OF ARCHITECTURE

(Five years' Course recognised by the R.I.B.A. for exemption from the Intermediate Examination.)

New Session begins 24th September, 1945.

Fees from 10s. to 50s. per course according to age of student.

Special Design classes, and lectures on the Theory of Structures, Hygiene, Materials, Specifications, and Professional Practice in preparation for the Final Examination of the R.I.B.A.

ENTRY TO THE SCHOOLS. Intending Day Students are interviewed at any time; by appointment. Intending Evening Students will be interviewed from 5.30—7.30 p.m. on 17th and 18th September, 1945, or on any subsequent evening.

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