THE ARCHITECTS' JOURNAL

No. 2528] [VOL. 98

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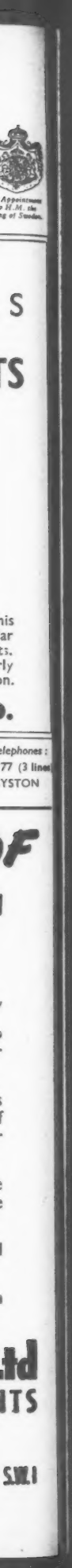
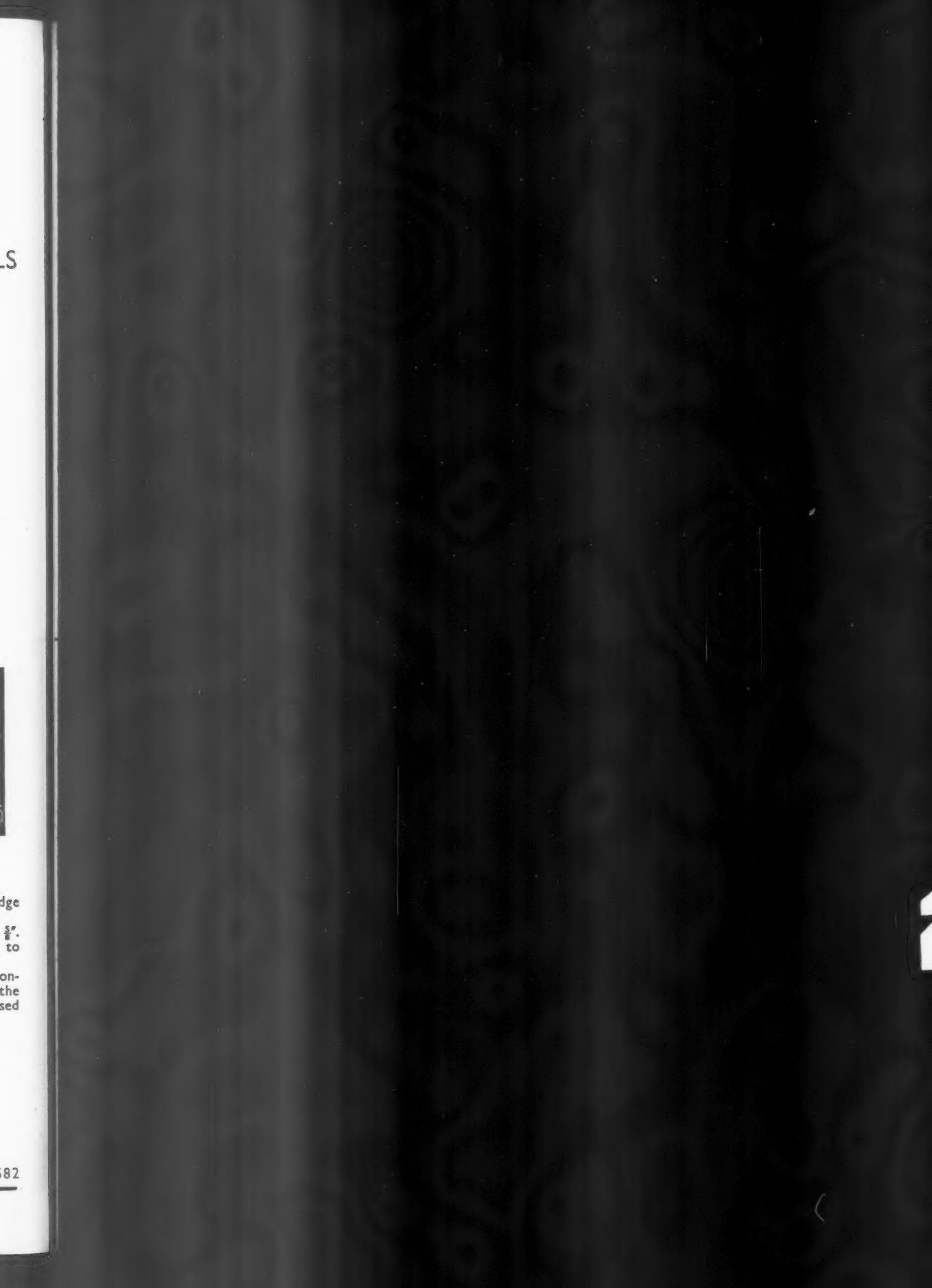
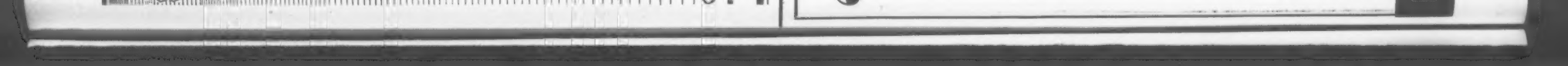
★ The war has both multiplied the number of Official Departments and encouraged Societies and Committees of all kinds to become more vocal. The result is a growing output of official and group propaganda. A glossary of abbreviations is now provided, giving together with the full address and telephone number of the organizations concerned. In all cases where the town is not mentioned the word LONDON is implicit in the address.

AA	Architectural Association. 34/6, Bedford Square, W.C.1.	Museum 0974.
ABT	Association of Building Technicians. 5, Ashley Place, S.W.1.	Victoria 0447-8.
APRR	Association for Planning and Regional Reconstruction. 32, Gordon Square, W.C.1.	Euston 2158-9.
ARCUK	Architects' Registration Council. 68, Portland Place, W.1.	Welbeck 9738.
ASB	Architectural Science Board of the Royal Institute of British Architects, 66, Portland Place, W.1.	Welbeck 6927.
BC	Building Centre. 23, Maddox Street, W.1.	Mayfair 2128.
BCGA	British Commercial Gas Assn. 1, Grosvenor Place, S.W.1.	Sloane 4554.
BEDA	British Electrical Development Association. 2, Savoy Hill, W.C.2.	Temple Bar 9434.
BIAE	British Institute of Adult Education. 29, Tavistock Square, W.C.1.	Euston 5385.
BINC	Building Industries National Council. 110, Bickenhall Mansions, W.1.	Welbeck 3335.
BOE	Board of Education. Belgrave Square, S.W.1.	Sloane 4522.
BOT	Board of Trade. Millbank, S.W.1.	Whitehall 5140.
BRS	Building Research Station. Bucknalls Lane, Watford.	Garston 2246.
BSA	British Steelwork Association. 11, Tothill Street, S.W.1.	Whitehall 5073.
BSI	British Standards Institution. 28, Victoria Street, S.W.1.	Abbey 3333.
CEMA	Council for the Encouragement of Music and the Arts. 9, Belgrave Square, S.W. 1.	Sloane 0421.
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.1.	Sloane 4280.
CSI	Chartered Surveyors' Institution. 12, Great George Street, S.W.1.	Whitehall 5322.
DIA	Design and Industries Association. Central Institute of Art and Design, National Gallery, W.C.2.	Whitehall 7618.
DOT	Department of Overseas Trade. Dolphin Square, S.W.1.	Victoria 4477
EJMA	English Joinery Manufacturers Association (Incorporated), Goring Hotel, Grosvenor Gardens, S.W.1.	Victoria 9787-88.
FMB	Federation of Master Builders. 23, Compton Terrace, Upper Street, N.1.	Canonbury 2041.
GG	Georgian Group. 55, Great Ormond Street, W.C.1.	Holborn 2664.
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1.	Whitehall 2881.
IAAS	Incorporated Association of Architects and Surveyors. 75, Eaton Place, S.W.1.	Sloane 3158.
ICE	Institution of Civil Engineers. Great George Street, S.W.1.	Whitehall 4577.
IEE	Institution of Electrical Engineers, Savoy Place, Victoria Embankment, W.C.2.	Temple Bar 7676.
IHVE	Institution of Heating and Ventilating Engineers. 21, Tothill Street, S.W. 1.	Whitehall 9609.
IRA	Institute of Registered Architects. 47, Victoria Street, S.W.1.	Abbey 6172.
ISE	Institution of Structural Engineers. 11, Upper Belgrave Street, S.W.1.	Sloane 7128-29.
ISPH	Committee for the Industrial and Scientific Provision of Housing. 3, Albemarle Street, W.1.	Regent 4782-3.
LIDC	Lead Industries Development Council. Rex House, King William Street, E.C.4.	Mansion House 2855.
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1.	Museum 3767.
MARS	Modern Architectural Research. 8, Clarges Street, W.1.	Grosvenor 2652.
MOH	Ministry of Health. Whitehall, S.W.1.	Whitehall 4300.
MOI	Ministry of Information. Malet Street, W.C.1.	Euston 4321.
MOLNS	Ministry of Labour and National Service. St. James' Square, S.W.1.	Whitehall 6200.
MOS	Ministry of Supply. Shell Mex House, Victoria Embankment, W.C.2.	Gerrard 6933.
MOT	Ministry of Transport. Berkeley Square House, Berkeley Square, W.1.	Abbey 7711.
MOTCP	Ministry of Town and Country Planning. 32-33, St. James's Square, S.W.1.	
MOW	Ministry of Works. Lambeth Bridge House, S.E.1.	Reliance 7611.
NBR	National Buildings Record. 66, Portland Place, W.1.	Welbeck 1881.
	All Souls' College, Oxford.	Oxford 48809.
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1.	Langham 4041.
NFBTO	National Federation of Building Trades Operatives. 9, Rugby Chambers, Rugby Street, W.C.1.	Holborn 2770.
NT	National Trust for Places of Historic Interest or Natural Beauty. 7, Buckingham Palace Gardens, S.W.1.	Sloane 5808.
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1.	Whitehall 7245.
PWB	Post War Building, Directorate of. Ministry of Works, Lambeth Bridge House S.E.1.	Reliance 7611.
RC	Reconstruction Committee RIBA. 66, Portland Place, W.1.	Welbeck 6927.
RCA	Reinforced Concrete Association. 91, Petty France, S.W.1.	Whitehall 9936.
RS	Royal Society. Burlington House, Piccadilly, W.1.	Regent 3335.
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2.	Temple Bar 8274.
SPAB	Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C.1.	Holborn 2646.
TCPA	Town and Country Planning Association. 13, Suffolk Street, S.W.1.	Whitehall 2881.
TDA	Timber Development Association. 75, Cannon Street, E.C.4.	City 6147.
TPI	Town Planning Institute. 11, Arundel Street, Strand, W.C.2.	Temple Bar 4985.







Alphabetical Index to Advertisers

For Appointments (Wanted or Vacant), Competitions Open, Drawings, Tracings, etc., Educational Legal Notices, Miscellaneous, Property and Land Sales—*see* pages xxxiii and xxxiv.

The New Horizon . . 5

Original Painting by Anne Zinkeisen, R.O.I.

Through earth, sea, and heaven a doom shall be driven,
And, sown in the furrows it ploughetb,
As fire bursts from stubble,
Shall spring the new wonders none troweth.
FRANCIS THOMPSON—"SONG OF THE HOURS."

Never in the long history of the world have so many nations been engulfed in war. Never has its misery and devastation so deeply affected so many lives. Never have the warped and sickly minds of bestial men wrought such irreparable harm with their ruthless and wanton cruelties. A doom has been driven which has obliterated the old complacencies for ever.

But the righteous fight against all brutal tyrannies has given to all free peoples a flame-quickened consciousness of the rich opportunities which exist for universal progress and understanding. Spreading like fire over stubble is a growing sense of individual responsibility; a unity of purpose that peace and liberty must be ensured for this and future generations.

When the dark and menacing clouds of war have receded from the stark and riven earth, enlightenment will be sown to emerge with a more intense appreciation of the manifold benefits which science can bestow upon an unshackled humanity.

We look forward with hope and confidence to the dawn of this new era when we may dedicate the whole of our research and productive resources to honourable and lasting achievement.

THE UNITED STEEL COMPANIES LTD

THE UNITED STEEL COMPANIES LIMITED

STEEL, PEECH & TOZER, SHEFFIELD
SAMUEL FOX & CO. LTD., SHEFFIELD
UNITED STRIP & BAR MILLS, SHEFFIELD

APPLEBY-FRODINGHAM STEEL CO. LTD., SCUNTHORPE
WORKINGTON IRON & STEEL CO., WORKINGTON
THE SHEFFIELD COAL CO. LTD.

THE ROTHERVALE COLLIERIES, TREETON
UNITED COKE & CHEMICALS CO. LTD.
THOS. BUTLIN & CO., WELLINGBOROUGH

U.S.P. 19

PLYDEK

the

FLOORING COMPOUND

with ***ALL*** *the*

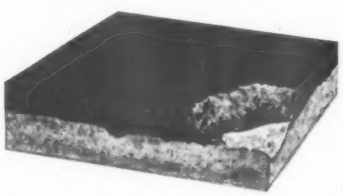
ESSENTIAL QUALITIES!

Photograph of Hostel Dining Hall floored with two shades of Plydek, treated with our waxed polished finish.

ALREADY flooring has become a problem, owing to shortage of timber and other building materials. The solution is Plydek . . . . enduring, yet without the chilly, dust-collecting character of concrete. It takes an exceptionally high gloss when treated with our waxed polished finish, which makes Plydek excellent for dwelling houses, besides offices and hostels. Has all the qualities of a perfect flooring. Plydek is laid cold . . . . a distinct advantage in building repair work.

PERFECT ADHESION

Specimens of Plydek are subjected to searching tests in our laboratory before bulk manufacture is undertaken. The photograph shows a specimen of Plydek C. laid on to concrete. To test its adhesive properties the Plydek was struck repeatedly with a chipping hammer. The marks of the blows can be seen. Although Plydek and concrete have been gouged away, the bond is still intact, due to *perfect adhesion.*

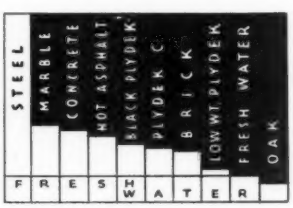


Plydek can withstand constant heavy traffic and is especially valuable in buildings where extra vibration is experienced. It does not crack or flake, but forms a smooth surface which takes a very high gloss when our waxed polished finish is applied.

PROPERTIES THAT MAKE PLYDEK PRE-EMINENT

Damp proof, Fire proof,
Proof against Frost and
Corrosion ● Low Density
Flexible ● Resilient ● Non-slip
Clean, Warm, Quiet to the tread
Does not Flake or Crack
Low Thermal Conductivity
Dustless ● Perfect Adhesion

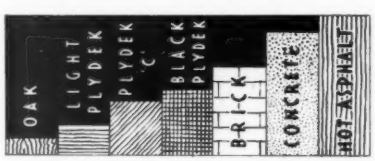
PLYDEK HAS A LOW DENSITY



This diagram shows at a glance the comparative densities of Plydek and other building materials. Here are some comparative weights in lbs. per cubic ft :— Plydek C. 114 ; Concrete 150 ; Hot Asphalt 140 ; Marble 165 ; Steel 480 ; while that of the low density insulating under-layer used with Plydek C. is only 80.

PLYDEK HAS LOW THERMAL CONDUCTIVITY

Diagram shows comparative Thermal conductivity in B.T.U.'s per sq. ft. per hr. For 1°F. difference in temp., ratios are :— Gravel Concrete 7 ; Hot Asphalt 8 ; Building Brick 5 ; Plydek C. 3 ; while the light insulating layer shows 1.7.



★ **AVAILABLE TO ALL ENGAGED ON VITAL BUILDING AND REPAIRING**

PLYDEK FLOORING

Sole Manufacturers:

ROBERT BOWRAN & CO. LTD.

COMMERCIAL UNION BUILDINGS, NEWCASTLE UPON TYNE

Telephone: Newcastle 28792 *Telegrams: "Bowran, Newcastle-on-Tyne"*

Send for Copy of Report by the Building Research Station Dept. of Scientific and Industrial Research

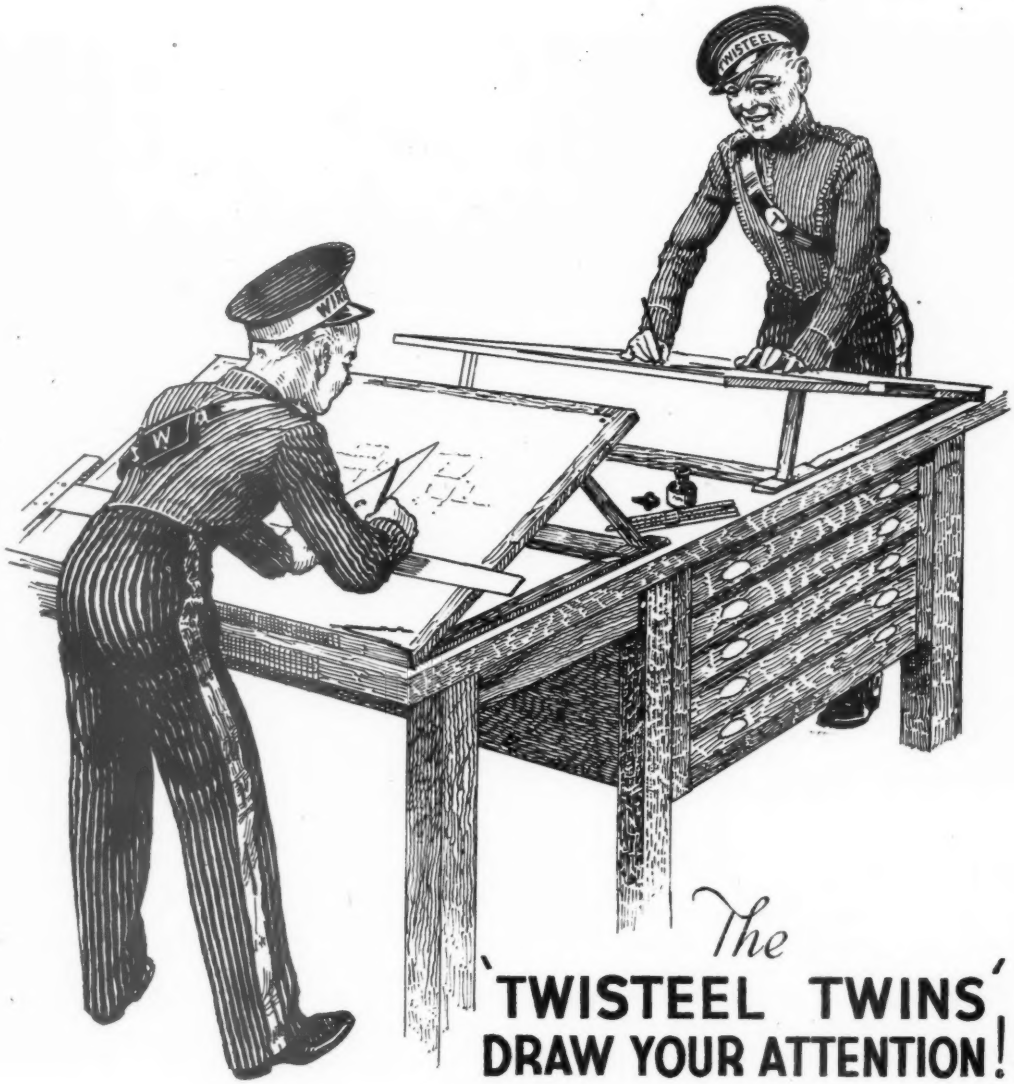
Flat roof by Briggs...

Hobart House, Grosvenor Place, London, S.W.1
Another fine block of office buildings in London . . . designed by Messrs. Howard and Souster, F.R.I.B.A., F.S.I., and constructed by Messrs. Neal Ltd. . . . crowned by a FLAT ROOF BY BRIGGS.

A flat roof has individuality when it's by Briggs — it has more than that — the durability that defeats the years. Much has happened since a "CHALLENGE" Flat Roof was chosen for Hobart House. But, when normal times return, Briggs will be able to offer you the services of our organisation strengthened by war-time experience and research.

William Briggs & Sons Ltd., DUNDEE

LONDON: VAUXHALL GROVE, SW8 · ALSO AT GLASGOW, EDINBURGH, LIVERPOOL, BRISTOL, ABERDEEN, NORWICH



The 'TWISTEEL TWINS' DRAW YOUR ATTENTION!

. . . your attention to the fact that the technical staff of the Twisteel organisation is ready and anxious to give you the full benefit of their experience in steel fabrics and designs for reinforced concrete structures of every description.

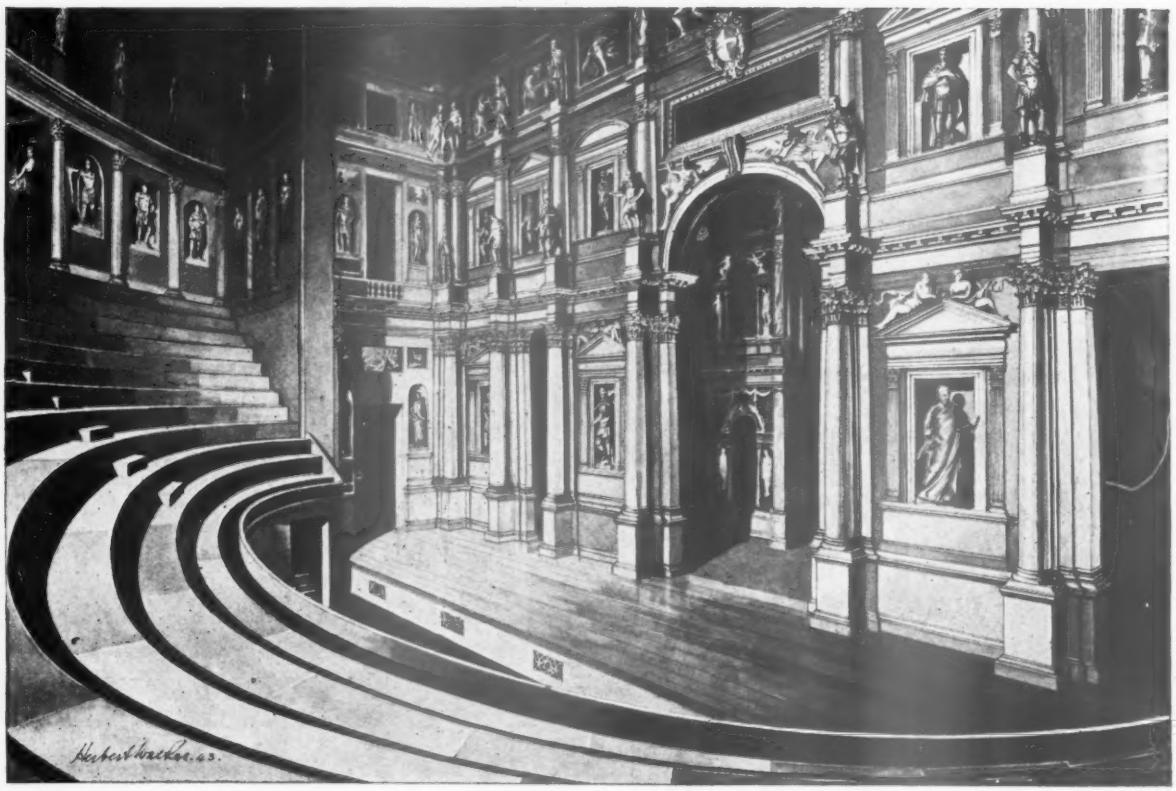
No matter how involved your particular problem may be, or how intricate your specification you will find that the service incorporating "Twisteel" or "Wireweld" is indeed second to none.

TWISTEEL REINFORCEMENT LTD., ALMA STREET, SMETHWICK, STAFFS.

and at London, Belfast, Warrington and Glasgow

Telephone Nos. :

SMETHWICK	1991 (5 LINES)
LONDON	SLOANE 9218 (3 LINES)
BELFAST	24641 (3 LINES)
WARRINGTON	273
GLASGOW	CITY 7661 (4 LINES)



THE THEATRE "OLIMPICO" AT VICENZA

It was late in the 16th century before theatres once again became objects of architectural interest and merit — and appropriately enough, it was in Italy that the revival occurred.

Temporary structures had given a great deal of dissatisfaction, and when the Academy at Vicenza decided to construct a theatre suitable for the plays of the classic authors, it was to Palladio they turned for advice. The building of the Theatre "Olimpico" was commenced in May, 1580, in Palladio's presence, but he did not live to see its completion — he died in August of the same year. Scamozzi was the architect who supervised the building of the theatre which was completed in 1584.

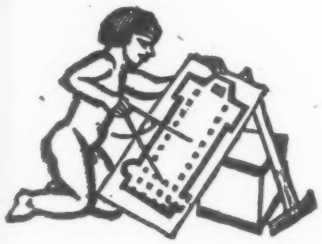
Palladio kept the form of the Roman theatre but made variations to suit the peculiarities of the site, which was 123 ft. long and 75 ft. wide. Thus the auditorium became semi-elliptical instead of the semi-circular plan of the Romans.

The height of the theatre from the level of the stage to the attic cornice is 40 ft., and the ceiling is flat. The face of the scene is composed of two orders of Corinthian columns — the lower columns being isolated and the upper columns semi-circular in plan and attached to the wall. Above these half columns is an attic storey and between statues are square panels with sculptures representing the labours of Hercules.

The interior scene is built in perspective, an idea introduced by the Renaissance architects.

¶ *This advertisement is one of a series which briefly traces, from earliest times, the structural development of the theatre and places of entertainment, according to the "fashion" and requirements of the entertainment demanded.*

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." Subscription rates: by post in the U.K. or abroad, £1 15s. 0d. per annum. Single copies, 9d.; post free, 11d. Special numbers are included in subscription; single copies, 1s. 6d.; post free, 1s. 9d. Back numbers more than 12 months old (when available), double price. Volumes can be bound complete with index, in cloth cases, for 15s. each; carriage 1s. extra. Goods advertised in the* JOURNAL, *and made of raw materials now in short supply, are not necessarily available for export.*



DIARY FOR JULY

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

LONDON. *Royal Academy's Summer Exhibition.* At Burlington House, Piccadilly. 9.30 a.m. until 7 p.m. Weekdays; 2 p.m. until 6 p.m. Sundays. Admission one shilling. JULY 8 to AUGUST 7

Exhibition of the work of the London Regional Reconstruction Committee. At the National Gallery. The LRRC is a Committee appointed by the Council of the RIBA, with 12 members from the Institute and the AA respectively. It has been at work for nearly two years on the problems of reconstruction and post-war planning for the London Region. The latter for the purposes of the Committee's work has been defined as C.D. Region No. 5, the area of which is about 850 sq. miles, with a population of about 8,500,000. The exhibition consists of proposals for a Regional Plan illustrated by plans and a plan-model to a scale of 6 in. to 1 mile. Many other drawings and diagrams are exhibited to illustrate particular problems of the Region, such as transport, and to demonstrate the principles upon which the Committee has based its proposals. A Historical Section is included in the exhibition. (See A.J., June 10). The Second Interim Report of the Committee contains illustrations and forms a comprehensive survey of the work of the Committee and of the exhibition. JULY 8 to 10

Rebuilding Britain Exhibition. At Royal Exchange. Open at 1.45 p.m. Monday to Friday; 10 a.m. to 12 noon Saturdays.

ABT LECTURES

Lectures on New Building Technique. At the School of New Building Technique for Housing, including Prefabrication, Alliance Hall, Palmer Street. (Sponsor, ABT, Westminster Branch.)

The lectures will be illustrated by photographs and drawings. Questions and discussion at the end of each session. A bibliography and a summary of the lectures and discussions will be available. Fees for course, 5s.; for individual sessions, 2s. Applications for enrolment to David Morrison, 3A, Heathway Court, Finchley Road, N.W.3.

1st Session. 1st lecture—Steel and other Metals; 2nd lecture—The Industrial Approach to the Production of Housing. 6.30 p.m. JULY 8

2nd Session. 3rd lecture—Concrete; 4th lecture—Site Organization and the Erection of Concrete Structures. 7 p.m. JULY 15

3rd Session. 5th lecture—Timber; 6th lecture—Plastics and other Materials. 6.30 p.m. JULY 22

4th Session. 7th lecture—Site Experiences in USA Defence Housing Schemes; 8th lecture—The Application of Prefabrication to Housing. 6.30 p.m. JULY 29

E. C. Garrard. *Railways of London.* At the Greater London—Towards a Master Plan Exhibition, National Gallery. Chairman: S. Rowland Pierce. (Sponsor, LRRC). 5 p.m. JULY 9

HC Annual General Meeting. Address by W. S. Morrison, Minister of Town and Country Planning. *Civic Diagnosis,* An Exhibition of the work of The Hull Regional Survey. (Sponsor, HC.) 4.30 p.m. JULY 14

Building Industries Congress on *The Building Industries in the Reconstruction Period.* BINC announces a Congress of the Building Industries on July 21 and 22 at Caxton Hall, Westminster. Chairman, F. Leslie Wallis, President of the Council. Delegates' tickets will be available shortly from the representative organizations of the building industries or direct from the Honorary Secretary to the Congress, Douglas Wood, 1, Old Burlington Street, W. 1. The Congress will be divided into sessions the subjects for which will be as follows:—

July 21. Welcome to delegates by R. Coppock, Chairman of the LCC and immediate Past-President of BINC. *The Post-War Building Programme. Post-War Housing. The British Empire and Building.*

July 22. *Town Planning. The Availability of Labour for Building. The Future Organization of the Building Industries.* JULY 21—22

F. Ian G. Rawlins. *Some Physical Principles in the Storage of Works of Art.* Paul Fletcher. *Engineering Aspect of Storage of Works of Art.* At 21, Tothill Street, S.W.1. (Sponsor, IHVE); 6 p.m. JULY 21

MARKET DRAYTON. *Living In Cities Exhibition.* (Sponsor, BIAE.) JULY 8 to 10

NEWCASTLE. *When We Build Again Exhibition.* At Laing Art Gallery. (Sponsor, TCPA.) JULY 10 to 17

SMETHWICK. *Post-War Housing.* A discussion opened by Roland Fletcher, Borough Engineer, Hugh Paul, Medical Officer of Health, and J. H. Wright, Chief Sanitary Inspector, of Smethwick. At the Council House, Smethwick, 10.30 a.m. Luncheon by invitation at Mitchell and Butlers, at Blue Gates Hotel, High Street (tickets essential), 1 p.m. Visits to Mitchell and Butlers' Brewery, or Incandescent Heat, Ltd., 2.30 p.m. Tea 4.30 p.m. (Sponsor, Royal Sanitary Institute.) JULY 10

WALTHAMSTOW. *TCPA Conference.* At the Town Hall. (Sponsor, TCPA.) 2.30 p.m. JULY 10

WREXHAM. *TCPA Conference.* At the Guildhall. (Sponsor, TCPA.) 11 a.m. to 5 p.m. JULY 17

NEWS

THURSDAY, JULY 8, 1943
No. 2528. VOL. 98

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 proposal to span the River Tay at Dundee with a THREE MILLION POUNDS ROAD BRIDGE HAS JUST BEEN REJECTED by the Government.

The Lord Provost of Dundee intimated the decision to the Dundee Corporation after his recent meeting with Mr. Noel Baker, Parliamentary Secretary to MOT. Mr. Baker had indicated that important developments of the road system of the country are under consideration.

Mr. James Hunter Lamont, whose gift of £5,000 to defray the cost of a Spitfire led to the FORMATION OF THE EDINBURGH SPITFIRE FUND, which raised between £60,000 and £70,000 for the provision of a squadron of Spitfires, has died at Edinburgh.

Mr. Lamont was 66 years of age and a native of Shotts, Lanarkshire. An engineer by profession, he founded the firm of James H. Lamont and Co., Ltd., Corstorphine, engineers and copper founders. He was an generous supporter of useful public services, and provided pipes and drums for the Edinburgh Air Training Corps' Band. He was an Associate Member of the British Institute of Engineering and a member of the Edinburgh Chamber of Commerce and the Merchant Company.

from AN ARCHITECT'S *Commonplace Book*

DESIRABLE RESIDENCES: MR. LEOPOLD BLOOM'S *(continued)*. [*From* Ulysses, *by James Joyce*]. What additional attractions might the grounds contain? As addenda, a tennis and fives court, a shrubbery, a glass summer-house with tropical palms, equipped in the best botanical manner, a rockery with waterspray, a beehive arranged on humane principles, oval flowerbeds in rectangular grass-plots set with eccentric ellipses of scarlet and chrome tulips, blue scillas, crocuses, polyanthus, sweet William, sweet pea, lily of the valley (bulbs obtainable from Sir James W. Mackey (Limited) [wholesale and retail], seed and bulb merchant and nurseryman, agent for chemical manures, 23, Sackville Street Upper), an orchard, kitchen garden and vinery, protected against illegal trespassers by glass-topped mural enclosures, a lumber shed with padlock for various inventoried implements. . . . What improvements might be subsequently introduced? A rabbitry, a fowl-run, a dovecote, a botanical conservatory, two hammocks (lady's and gentleman's), a sundial, shaded and sheltered by laburnum and lilac trees, an exotically, harmonically accorded Japanese tinkle gate-bell affixed to left lateral gatepost, a capacious water-butt, a lawn-mower with side delivery and grass-box, a lawn-sprinkler with hydraulic hose. . . . What might be the name of this erigible or erected residence? Bloom Cottage, Saint Leopold's, Flowerville.

★

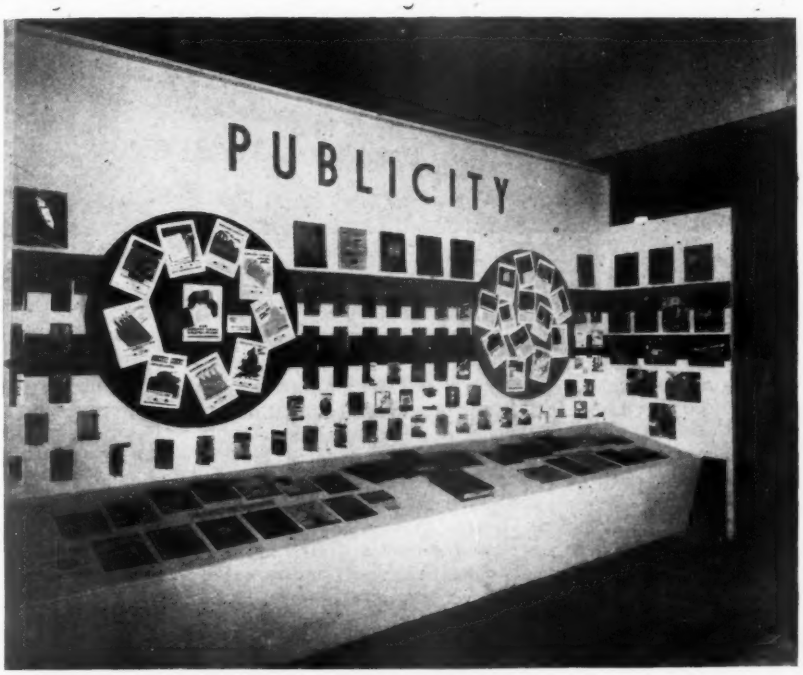
During the debate on building æsthetics on June 29, when the Town and Country Planning Bill was received on report in the House of Lords, Lord Portal, Minister of Works, said the FINE ART COMMISSION WILL BE THE ULTIMATE AUTHORITY in matters of taste and æsthetics.
Past experience of the Commission, he said, indicated that there could not be a better body of persons and its strength lay in its independence. (See page 31).

After being shown in Manchester and Liverpool the Design for Economy, PAPER IN BATTLEDRESS Exhibition is continuing its tour of Lancashire.
At Liverpool the exhibition was opened by the Lord Mayor, Alderman R. Duncan French, J.P. Mr. J. Mitchell Jones, Vice-Chairman of the Liverpool Chamber of Commerce, occupied the chair. Mr. Sidney T. Garland, General Manager of the Waste Paper Recovery Association, spoke of the amazing uses to which paper is now put. He said one thousand and one war-time products are made from paper. In many forms it takes the place of light metals. He appealed to everyone and particularly business firms and shops to turn out every possible scrap of paper.

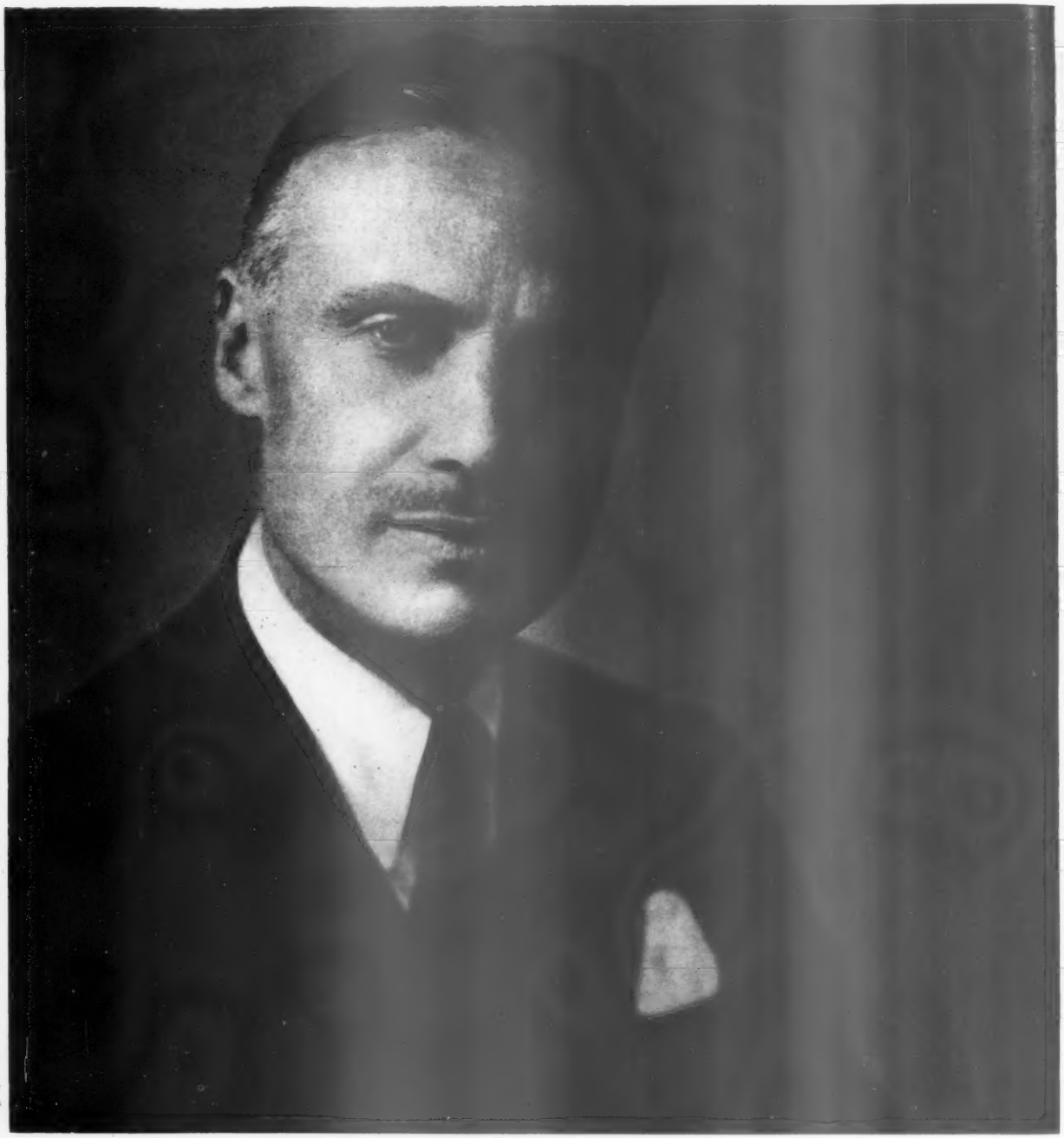
So great has been the interest created by a workers' exhibition at an asbestos cement factory that visiting TIMES HAVE TO BE ARRANGED to prevent overcrowding.
The exhibition, at Messrs. Turner's Asbestos Cement Co., was planned and carried out by the publicity department of the company with the co-operation of Mr. Bert Wilson, the artist. Assistance in building the exhibition was given by the workers. Photographs show the workers' families and relatives serving in the Forces, and the workers at work in the factory. Photographs also show how the products of the firm are being used in the war, and scattered about the exhibition are many of the products that have been produced to solve war-time problems. The publicity, of course, is mainly pre-war standard literature built on a planned sequence, but war-time trade contact is maintained in many ways within the limitations that are allowed by the paper control. As seen in the photograph on this page, the left circle contains the current Problem advertisements now appearing in the ARCHITECTS' JOURNAL—the right circle the pre-war.

In the House of Commons, Mr. Thorne asked the Minister of Health whether any COTTAGES FOR OLD AGE PENSION WIDOWS and widowers who have no children are being built in rural areas.
Miss Horsbrugh: About 4,000 small cottages specially intended for old people were built by rural district councils before the war and many more will, she hoped, be built when house-building again becomes possible.

It is impossible to have a successful building industry to-day unless the WORKERS ARE PROUD to enter it, said Lord Portal, Minister of Works, at the annual meeting of the Institution of Sanitary Engineers.
Education and apprenticeship, he went on, are absolutely essential. It must not only be attractive but secure. One cannot expect to get a good worker unless one gives him security. Therefore the first thing that must be done is to try to abolish casual labour. He said: probably 50 to 60 per cent. of the building work to be done after the war will be housing, and that will be sufficient to employ 1,250,000 men. The task after the war is going to be just as great as the war itself. As to our future housing programme, high prices will kill it if we are not careful. We must find how to build houses at an economic price and at the same time give people the amenities they require. Wages have gone up. We ought not to try to get wages down. Therefore it is necessary to find some method of organizing labour and materials to remedy the defect of high prices.



Part of the publicity section of a workers' exhibition at an asbestos cement factory.



Controller of Experiments

Mr. Frederic E. Towndrow has been appointed the new Controller of Experimental Building Development of the Directorate of Post-war Building of MOW, an appointment announced by Lord Portal in the House of Lords on June 2. Mr. Towndrow, who is now 46, comes of a family of building craftsmen. He began his career as an art student but soon changed to architecture. He exhibited at the Royal Academy at the age of eighteen. Caught up in the last war he served in France, India, Afghanistan and Waziristan, and when peace came returned to architecture, which he studied at University College, London. His appointments have included: charge of the architects' office at the British Empire Exhibition, Wembley (as assistant to Sir John Simpson, P.P.R.I.B.A., and Mr. Maxwell Ayrton); assistant to Mr. Herbert J. Rowse, Liverpool; two years in HMOW as personal assistant to Mr. James West (now Sir James West, Chief Architect to MOW); Assistant Principal at the Regent Street Polytechnic School of Architecture, Building and Surveying. Before this war he combined private practice, his partner being Mr. Geoffrey Ransom, with architectural journalism and editorial work His more important written works include *Architecture in the Balance*, and a comprehensive work on building materials soon to be published. For several years past he has been exploring the possibilities of mass-produced house components, particularly for framed houses and low-cost dwellings. He built some of the first low-cost flat-roofed houses in the country. He believes that true economy is the basic virtue in design. He hates æstheticism for its own sake, and considers that beauty should be merely the result of *wholly* functional design. For the last two years he has been senior architect to Sir James West in the Directorate of Post-war Building. His new appointment is the subject of this week's leading article.

★

After three and a quarter years of service Mr. W. H. Ansell, THE PRESIDENT OF THE RIBA HAS RESIGNED. This is the longest period of office that any President has had since Earl de Grey, the first and last lay President of the RIBA, resigned in the year 1859.

In announcing the President's retirement, the RIBA states: the normal period for presidents of the RIBA is now two years, but in 1941 and again in 1942, the Council so strongly urged Mr. Ansell to continue in the chair that he reluctantly consented to do so, and even now it is against its unanimous wish that he has felt bound to adhere to his decision to retire. In spite of two serious illnesses, Mr. Ansell has carried on his work with a whole-hearted devotion and efficiency that have been of inestimable service to the RIBA and to the whole architectural profession during a period of unprecedented difficulty. He has served on a variety of important Government councils and committees and he has represented the architectural profession in a manner which has drawn unstinted praise from all who have come in contact with him. A speaker and lecturer of unusual lucidity and eloquence, he is the master of an incisive and persuasive pen, and his published letters and pronouncements, his prefaces and addresses have all been the expression of a vigorous and fearless personality. He will be remembered with admiration and affection as the war-time President who steered the RIBA safely through a period of storm and stress.

★

The City and County of Norwich have appointed Mr. F. Longstreth Thompson as town planning consultant and Mr. C. H. James, A.R.A., and Mr. S. Rowland Pierce as joint architectural advisers for the NORWICH POST-WAR DEVELOPMENT SCHEME. Particular reference is made in these appointments to the central area of the city.

Speaking in London, Lord Latham, leader of the LCC, said we must be on our guard against AN UNREASONABLE ANTI-FLAT complex.

Proceeding, he said: Those who advocate that the people in the congested areas of London should be rehoused in nothing but cottages are doing, perhaps unwittingly, a disservice to those people. Flats can be convenient and comfortable dwellings. What the housewife should be asked is whether she would prefer a convenient, well-built flat near her husband's work, near her usual shopping facilities and amid her friends and associations, and near the school to which her children go: or whether she would prefer herself and her family be uprooted and taken to a cottage some 10 to 15 miles out of London. There simply is not room in London to rehouse any substantial number of people in cottages. The overcrowded people of London will not look with favour on proposals which, if carried out, will result in up to half of them being removed from London in order that those who remained might live in cottages. "And in my view they will be right," Lord Latham concluded.

EXPERIMENTS AT MOW

IN last week's leading article, we urged the centralisation of Government building authority, and pointed to the muddled affair of the 3,000 agricultural workers' cottages as an object lesson of what occurs when authority is divided. Even further centralisation by combining town-planning and building under one Government Department would no doubt be the most effective and logical method of carrying out post-war rebuilding. This incorporation existed previously in the short-lived Ministry of Works and Planning before it gave birth to the Ministry of Town and Country Planning.

Nevertheless this splitting of the Government building and planning authorities into two distinct departments, however undesirable in some respects, had one useful effect—for the following reason. Town planning on a national scale is not possible without (a) a definite policy, first philosophical and, following automatically from that, political and financial, and (b) full power to act. MOWP possessed neither and was thereby frustrated in its planning preparations. This naturally affected its attitude to practical research and preparation for post-war building. But when the P was dropped from MOWP and MOTCP was born, MOW was able to take practical steps towards training for building, the setting up of Standards and Codes of Practice and the carrying out of building research and experiment, without suffering the nervous prostration due to lack of policy on the wider issues. While MOTCP, owing to the fiscal fog engulfing these issues, remains both without policy or power (and is likely to remain so under present conditions), MOW is now at least free to carry out practical research and those preparations for post-war building and housing which will be useful whatever political and economic changes this war may ultimately bring.

One of the most hopeful signs yet that MOW intends to produce results is the recent appointment of a Controller of Experimental Building Development, announced by Lord Portal, Minister of Works, in the House of Lords on June 2, when he said:—"I have recently appointed a Controller of Experimental Building Development whose business it will be to co-ordinate all the ideas and new methods put forward by any firm or individual interested in building or the manufacture of building materials and equipment. He will have the advice of an Interdepartmental Committee on House Construction*. . . The importance of this is that it will link up the people who are experimenting with those who are actually engaged in building operations."

From the experience of the last war, said Lord Portal, high costs of building would kill building. "If you have to look for economies you must not secure them at the expense of

* The Committee under Sir George Burt

the operatives; you must do it by more efficient use of labour and materials . . . If you want to reduce the figure of 105 per cent. above the pre-war cost of housing to, say, 50 per cent., you will have to do it either by working at greater speed or by different methods."

Mr. Frederic E. Towndrow has been appointed the Controller of Experimental Building Development. His duties will include the sifting of proposals both from the technical and costing points of view. He will maintain contact with the Post-war Building Study Committees, with industrial organisations, individual inventors and so on. Where proposals which appear to be valuable are not being carried out by private enterprise, his department, in conjunction with BRS, will carry out the job. He is especially interested in standardised unit construction and the standardising of dimensional modules rather than in complete prefabrication. Experimental models are already on the way. Research under his direction will be made into (i) large assemblies—parts of houses; (ii) small assemblies—components such as staircases, bathrooms and kitchens; (iii) new materials; (iv) factory-made fittings—fireplaces, boilers, etc. Research Officers under his direction will gather and co-ordinate useful information from various publications and reports, both foreign and British.

Costing will be a very important consideration in this work and in connection with MOW's experimental building development Mr. D. W. Nunn has been appointed Building Costs Research Officer to collaborate with the Controller on matters of costing. Let us hope that he and the Controller, as well as all others in the Directorate of Post-war Building, will treat costing realistically. Let us hope that they will realise two simple economic facts. First, that since money is in itself not real wealth, possibilities in rebuilding and housing should be limited only by the actual physical restrictions imposed by lack of materials and man power. Secondly, that the *real* cost of anything, whether it be a hair brush or a house, a tea cup or a town, is the actual wealth in food, clothes and so-called luxuries consumed by those connected with its production *while it is being produced;* all other costs are entirely fictitious.

Though the new appointment does suggest that MOW is fully aware that it will be a practical impossibility to tackle those four million houses by traditional building methods alone, Lord Portal did not give the impression in his speech in the Lords that he understands the two simple economic axioms outlined above. Belief in the fiction that money is real wealth has already caused enough castatrophe. We cannot build the new Jerusalem if we remain hypnotised by the money myth. Britain will not be rebuilt with pieces of paper and ink figures in bank ledgers, but with bricks and mortar, steel, concrete, timber, plastics and human skill and effort—that is, with real things. In the coming years, thanks to modern technology, these are likely to exist in abundance.

The Architects' Journal
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NOTES & TOPICS

THE STANDARD OF WAR-TIME BUILDING

H.M. Stationery Office has published a useful reference booklet on approved standards of economic war-time construction. It has been prepared by MOW, costs 9d. and is called *The Standard of War-time Building*. The standards set forth are the bases adopted in dealing with applications for licences for civil building.

★

The information is admirably succinct and reference is easy. Items of construction are grouped under the various trade headings, materials and methods of construction being divided into two sections—(i) Prohibited without reference; (ii) Permitted. In the case of (i) official approval must be obtained before they can be used. Methods and materials under (ii), however, can be used on licensed schemes without application.

★

The publication is a revised and amplified edition of the Notes on *Methods of Construction and Uses of Materials* issued by the Directorate of Constructional Design in February and July, 1942. It also embodies the main recommendations of the Committee on Building Materials Standardization in the use of alternatives for controlled or virtually prohibited materials. The text of the nine Economy Memoranda issued by the Committee is reprinted in an appendix and the relevant War Emergency British Standard Specifications and similar authoritative

publications are referred to under the appropriate trade headings.

★

This is a very handy publication, though some may quarrel with the item under *Concretor* dealing with reinforcement. High tensile steel is "prohibited without reference" "unless substantial saving in weight is effected by its use," but mild steel bars and fabric reinforcement are "permitted." Most of the various types of fabric reinforcement on the market, a structural engineer tells me, are of high tensile steel. Why then is this material "permitted" in fabric but "prohibited without reference" if used otherwise "unless substantial saving is effected by its use"?

★

One-third of the weight of mild steel would be saved if the use of certain types of high tensile steel were permitted at stresses corresponding to their higher strengths, as those who read the article on *Pre-stressed Reinforced Concrete* and the leader on *Saving Steel* in the JOURNAL for May 6, will have realized. The Code of Practice for the use of reinforced concrete, referred to in the General Note under *Concretor*, does not allow substantially higher stresses for high tensile steel than for mild steel, and is therefore, in this respect, obsolete.

★

"The purpose of *The Standard of Wartime Building*," says my engineering acquaintance, "is to help the economy of labour and materials. This purpose would be better achieved if up-to-date regulations were issued for the use of high tensile steel as reinforcement of concrete and the position of high tensile steel and mild steel were reversed in the item on reinforcement in MOW's booklet." It is to be hoped that, in the interests of war-time economy of steel, those concerned with drafting the relevant official standard will take note of this.

MATCHBOX ARCHITECTURE

Can you find one of those rare and elusive matchboxes? If so, compare its cover with those shown on this page—rediscovered mementos, dug from the bowels of a junk cupboard, of a pre-war holiday in Sweden. They are typical of the high standard of design found in the everyday articles used in that civilized little country.

Matchbox covers designed for the Swedish Match Company by Mr. S. I. Lind, a Swedish architect. Astragal refers to these below as examples of good industrial design.

★

But what, you may ask, are matchbox covers doing in an architectural magazine? That question is easily answered. First, as examples of good industrial design, they should interest every architect. Secondly, they were actually designed by a young Swedish architect—S. I. Lind. And thirdly, as every worthy pencil-pusher of the old school knows, there is a very close connection indeed between boxes (especially matchboxes-on-end) and modern building.

FAIRY STORY

In these days of Tom Harrisson and Dr. Gallup we have no excuse for not learning most things about most people. We are told, for instance—and shown the evidence to prove it—not only what the Average Housewife thinks of kitchen planning or Vansittartism, but also what is Her age and height, and what is the colour of Her eyes.

★

No such documentation exists unfortunately about the fairies, or Little People. True, from such authorities as Shakespeare and Grimm we have learnt something of their appearance and habits. ("Fairies," wrote that great expert Sir James Barrie, "don't say they feel happy. They say they feel *dancey*.") The following experience which recently befell an architect is thus, perhaps, worthy of record.

★

Passing an automatic weighing-machine in a deserted arcade he was startled to hear it give a business-like clank and to see it discharge a weight-card into the tray. Sensing mystery, if not downright abracadabra, he picked the card out and read it. "You weigh," it said sternly, addressing its invisible but evidently sturdy little client, "two stone seven pounds. You are ambitious and self-willed to the point of obstinacy, but have many friends. If you persevere," it continued warming to its subject, "prosperity will be yours. Do not expect to pass through life without meeting evil as well as good." The card bore the date of a day three weeks previous to the day of its appearance—a detail which, the architect says, seemed somehow to intensify instead of to dispel the atmosphere of plausibility which enveloped the whole affair.

ASTRAGAL

LETTERS

H. M. Brockman, L.R.I.B.A.

Douglas Davies.

The LRRC Plan

SIR,—Your critic, G.M.K., favours the MARS proposals in his criticism of the LRRC Plan, describing the latter as "only an attractive mirage." Your leader writer is equally disappointed, agreeing with the critic that LRRC plans for disintegration. "The effect is as if London were flying apart in fragments like an exploded shell" and the point is further emphasized by your Leader's reference to the illustration of the plan itself. No criticisms could surely be more destructive or misleading than these. The basis of the plan is clearly indicated in the LRRC report, which quotes and supports the findings of the Greater London Regional Planning Committee (1924) as follows: "Hitherto, owing to the nature of Town Planning powers, the problem (of a city region) has been approached mainly from the point of view of planning limited tracts of open space to be reserved on a background of unlimited potential building development. It may, however, be stated in the opposite way, as the planning of ample, though selected tracts for building on a background of open land. In regard to Regional Planning at any rate there can be little doubt that the latter is the correct and only satisfactory method."

The solution adopted by LRRC clearly emphasizes the essential linking-up of the whole region if regarded in this light. Moreover, if the tones in the illustration representing the built-up areas and open spaces were to be reversed, the case would probably look very different.

I write as a cockney Londoner and feel that a necessary curb on London's physical extension, plus the sorting out of its parts in accordance with LRRC principles, is the only solution which can maintain its life and allow it to breathe during the process. We are not dealing with a machine that is to be taken down and renewed with differently designed components. London is a living organism whose expansion has, we hope, come to an end but whose extensions during the last two hundred years are now to be given the chance to mature culturally, spiritually and physically.

"The radial-plus-orbital" growth which has spread over centuries is of such a vital nature that the "dynamic" solution put forward by the MARS Group, with its time-space conception of planning, would be fatal; not, perhaps, to a machine with people as parts of the mechanism, but certainly to London with its established human qualities. Each example of dynamic planning quoted by your critic applies to a new town or to the extension of an old. By all means let our satellite towns, where they are found to be necessary, be developed on this dynamic basis. The Regional problem in the case of London has, however, certain established factors which are very much *there*, alive and well rooted in a spiritual and material soil.

H. M. BROCKMAN.

London

Here are the replies of G.M.K. and our leader writer.

G.M.K. writes: In view of Mr. Brockman's letter, I would like to amplify as follows:

1. When Mr. Brockman maintains that I favour the MARS proposals in my criticism of the LRRC plan, he over-simplifies and invalidates my argument. The proposals of the MARS and the LRRC cannot be really compared with each other. But it was found useful to take the MARS plan and the Royal Academy plan, the two recent attempts of dealing with problems arising in the London region, as reference points and thus to establish the significance of the LRRC scheme now under discussion. The MARS plan was then found to be on a different plane and of a different order altogether, from the RA or LRRC plan. Truly on the way 'towards a master plan' the MARS' work seemed to me more important, the LRRC plan (neither working on the basis of a master plan, thus making it real, nor contributing towards the establishment of a master plan) less important. The LRRC and Mr. Brockman may of course argue that the maxim of the Greater London Regional Planning Committee 1924 and the LRRC principles constitute a master plan idea. The former seems generalized and almost a truism in 1943, the latter too unco-ordinated to provide a scientific working method, and the need for such was fully discussed in the review.

2. Mr. Brockman fails to convince me that the built-over areas in the scheme are successfully linked to form a town entity. Ignoring for the moment the specific dwelling-work-amenity-transport relationships and regarding the LRRC scheme as just an impressionist picture of London, there still seems to be a lack of integration which is necessary to make the town function as a social organism. Parkways alongside the traffic routes and whatever other physical links there are, cannot prevent the general tendency of disintegration. Again I would like to refer to the so-called 'Potential Unit System' which, similar to atom and molecular structures, is able to build up to a higher organism, and yet provides small communities within the big framework. This form of organization, if I am not mistaken, was envisaged by Mr. Lewis Mumford and schematically proposed by the MARS group.

3. Examples of the dynamic planning principle were quoted for new towns and extensions only. The history of rational town-planning is very young, and there is no reason why this principle should not be applied to existing towns, and if applied wisely it might deal less roughly with London than the LRRC.

4. Certainly there are many established factors in the make-up of the old towns, which must be preserved and given a good chance of new life. Only the most insensitive planner would disregard them. But does the rail-road network and the radial-plus-orbital pattern belong here? I do not believe the Londoner feels very strongly about a system of which he knows the results too well, the traffic jams, congestion and all the other symptoms of town atrophy.

5. Why does Mr. Brockman think that the dynamic principle if applied to London would have fatal results? Does he believe that rational town organization is inimical to the established human qualities we all cherish? It is the essence of dynamic planning to further these human qualities and to release their energies within a flexible planning concept. Or are we here up against the old red herring, the scientist's conception of the town as a machine and the people as cogs in the machine? To this, for ninepence, Mr. Waddington, in the Penguin book, *The Scientific Attitude*, gives most of the answers.

Our leader writer replies: We, too, look upon London as a living organism, but do not necessarily look upon city growth as unfortunate or as a handicap to intelligent planning. We believe that intelligent town planning should take into account all possible future factors including growth or contraction so that the good conditions created by planning should be part of the organism and not endangered by unaccounted developments. To achieve this we believe that we need a more dynamic and scientific concept than that of the London Regional Planning Committee 1924. We do not believe that the approach of this committee quoted by Mr. Brockman from the LRRC report shows a clear enough understanding of the complex problems to be tackled if we are to achieve a more socially integrated London.

The time-space conception of planning is surely as essential to the successful realization of the LRRC plan as it is to any other; we imagined it was rapidly becoming an incontrovertible factor, particularly in the reconstruction of existing cities. Mr. Brockman's main contention appears to rest on the belief that you cannot treat a living organism as a machine which can be taken down and renewed with differently designed components. We heartily agree and neither the leader nor the article used that analogy. Nevertheless the scientific approach to the diseases of the human body is a permissible analogy when applied to the problem of urban reconstruction, and we do not see that spirit of scientific diagnosis and experimental cure in the LRRC approach. There is an urgent need for more open discussion amongst planners on the question of planning approach, if we are to reach that basis of agreement and mutual understanding which is necessary to work which demands such full co-operation. We are therefore very grateful for Mr. Brockman's contribution.

Built-in Book Shelves

SIR,—The Archbishop of Canterbury's proposal for built-in bookshelves in Britain's new houses is one that should be strongly supported. Apart from the utilitarian aspect of so desirable an amenity—already suggested by housewives themselves, incidentally—the present enormous increase in reading deserves as much encouragement as possible. The young people of to-day are interesting themselves in a far wider scope of literature than their fathers who seldom strayed beyond the fashionable triangle of Wells, Bennett and Galsworthy. The popular novel nowadays is having to compete with a new and increasing demand for essays, biography, history, politics and travel books, and that is a noteworthy advance.

"Books, the oldest and the best, stand naturally and rightfully on the shelves of every cottage," wrote Thoreau; and while this statement, referred to the cottages of England, may not be wholly true, it is certain that we will be bringing it a step nearer realization by carrying out the Archbishop's timely proposal.

Even if the "oldest and the best" are not receiving all the attention they deserve, it can at least be said that books generally are gradually coming to be viewed in the light of their true worth and as an invaluable asset to our education.

DOUGLAS DAVIES

Dalston

The first part of this article, published last week, described the more favourable distribution of stresses in continuous as against non-continuous structures. The conclusions are summarized below, and the treatment of continuous structures in this country, at the hands of the authorities, architects, engineers and contractors, is illustrated by examples, which also show the advantages of such structures from various points of view.

CONTINUITY

in Construction

[BY DR. K. HAJNAL-KÓNYI, M.I.Struct.E.]

PART II.

The following main features of continuous structures were shown in the examples given in Part I last week.

(1) The distribution of forces depends on the dimensions of the various members, and is influenced by the choice and variation of their cross-section.

(2) The distribution of forces is affected by possible movements of supports. (There are exceptions but these need not be considered here.)

(3) A greater factor of safety than in statically determinate structures can be obtained with less material.

(4) In spite of (3), the structure is more rigid and its deformations are smaller than those of statically determinate structures.

(5) In the case of accidents, which would be fatal to a statically determinate structure, collapse may be avoided.

(6) Variations of temperature cause additional stresses which do not occur in statically determinate structures.

The fundamental condition of continuous structures is the rigid connection of their members which can be achieved much better by welding than by riveting.

Items 1, 3, 4 and 5 are of great practical importance and advantage, whereas items 2 and 6 show that caution and great care in the design are necessary. It would be very dangerous indeed to design statically indeterminate structures without a thorough analysis, relying on the "redistribution of stresses." For instance movements at the supports of an arch, whether pinned or fixed, may cause collapse without the possibility of a redistribution of stresses, to mention only two well-known examples. On safe foundations and in the hand of a skilled designer, however, statically indeterminate structures offer advantages which cannot be rivalled by determinate structures.

These advantages were realized long ago both in USA and on the Continent, and it is astonishing that in this country even now, in the fourth year of the war, with the experience of the behaviour of buildings in air raids, continuous structures are rather the exception than the rule.

Evidently, some people have, for whatever reason, been obstructing the spreading of continuity. The various parties concerned may conveniently be considered in two groups: the authorities on the one hand, and the architects, consulting engineers and manufacturers on the other.

(1) *Authorities.*

Since no National Code of Practice for Structural Steelwork exists it seems natural to consider the practice of the LCC as it deals with a larger volume of building than any other authority in the country (apart from Government Departments in wartime). An interesting example of their attitude to steel framed buildings was published in this Journal on May 21, 1936, p. 777. It is reproduced in part on the following page (Fig. 9).

The result of the alteration requested by the LCC is a reduced factor of safety in spite of an increased weight of steel. It is also obvious that the change has considerably decreased the stability of the building against lateral forces (such as bomb explosions) parallel to the front.

This incident occurred in 1935. The new LCC By-laws, which came into operation on January 1, 1938, preclude the repetition of similar requirements in the future, but the time between this date and the beginning of the war, which practically stopped the erection of buildings of this type in the LCC area, was too short to change the spirit fostered during a long period. Toleration of the use of framed structures is an advance on their prohibition. It is still a far cry to their active encouragement, though perhaps we may hope for such encouragement in the brave new post-war world. In the *Final Report of the Steel Structures Research Committee* (1936) recommendations were made to this effect, but these have not yet been included either in the LCC By-laws or in BSS 449 (*The Use of Structural Steel in Building*).

The reader who has frequently been told that "'framed' buildings stood up very well to the blitz" will perhaps wonder how this squares with the paucity of such buildings that has been described. The point needs some explanation.

Although, as our example shows, "framed" buildings in the proper technical sense of the term could not be designed until a recent date, the steel skeleton of a building would, in fact, be transformed into a framework by the fire encasement requirements of the London Building Act, 1909, which were precisely repeated in the Act of 1930. The Act provides for a minimum cover of 2 in. of 1 : 2 : 4 concrete. Whether this method achieves the most efficient protection against fire may be questioned, but it cannot be doubted that it makes any hinged connection rigid, and that a steel skeleton surrounded with concrete in accordance with the London Building Act acts as a rigid frame, whatever assumptions may have been made for its design.

It would be more economical to design structural steelwork which is itself continuous. Fire protection can then be provided by a more suitable material than 1 : 2 : 4 concrete, whose virtue—structural rigidity—which was unintentionally exploited by the Building Act, would then no longer be needed.

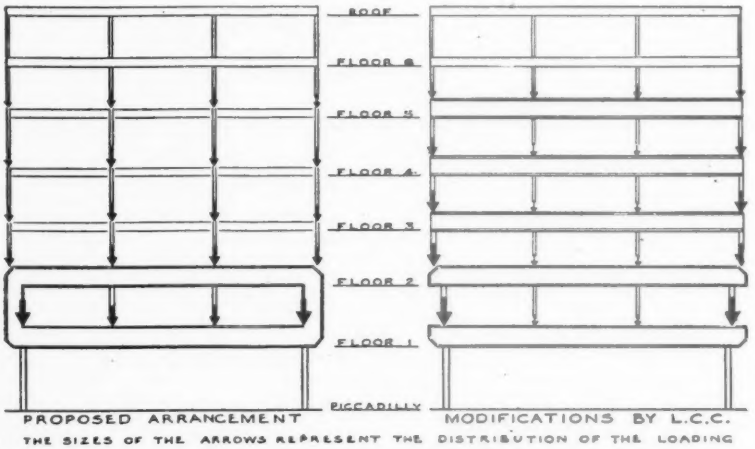
It need hardly be pointed out that reinforced concrete buildings are automatically framed, although much can be done in the arrangement of the reinforcement to increase their resistance against lateral forces if proper framing is aimed at in the design and continuity between columns and beams is not, as in many cases, ignored.

(2) *Architects, consulting engineers and manufacturers of steelwork.*

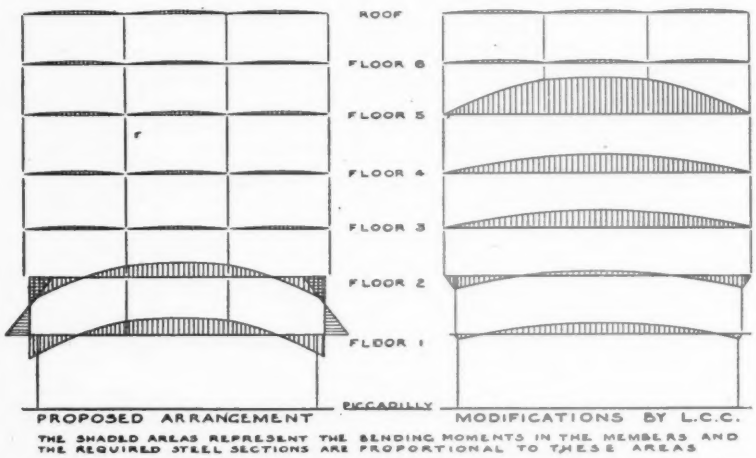
The attitude of the authorities, of course, made it impossible for architects, engineers or manufacturers of structural steelwork to develop the kind of framed structure shown in Fig. 5. There were, however, left to them other types of framing, an example of which we must now consider.*

A welding shop of 300 ft. length and approximately 80 ft. span had to be designed for two overhead travelling cranes of 20 tons capacity each, working simultaneously on tracks 75 ft. apart, 30 ft. above floor level. Before deciding on the most suitable type of structure

* Figs. 10 to 15 and the following description are reproduced from an article by O. Bondy: Welded Rigid-Frame Factory Building. (*Engineering*, Oct. 11 and 25, 1940.)



14 COMPARISON OF LOADING SYSTEMS



15 COMPARISON OF BENDING SYSTEMS

PROPOSED ARRANGEMENT OF PICCADILLY FRONT (Fig. 17)

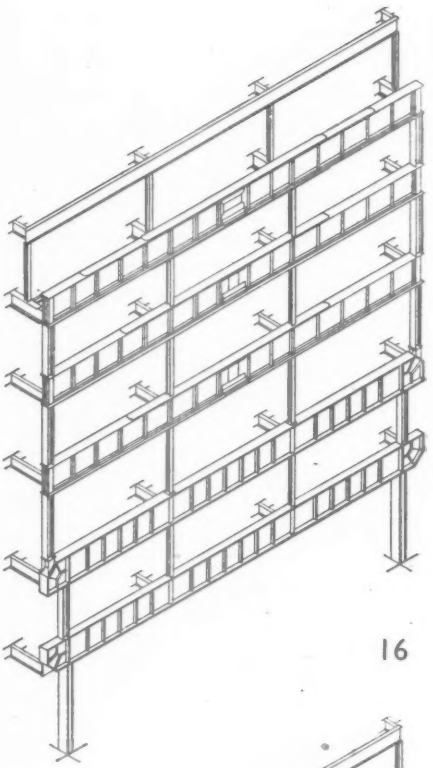
It was intended to use two welded plate girders, one at the first, and one at the second floor, to carry the whole of the wall on the Piccadilly front, together with the adjacent portions of the floors. In order to reduce the deflections, it was proposed to give them restraint at the supports. The required section of a beam fully continuous or " built-in " is only 66⅔ per cent. of that of a beam on two simple supports and the deflection is only 20 per cent. of the " simply supported " deflection.

PRINCIPLE OF THE PROPOSED FRAME (Fig. 18)

The central arrows represent vertical loading on the plate girders.
The corners are rigid.
The side arrows represent the shear due to the tendencies of the top half of the vertical legs to deflect outwards and of the bottom half to deflect inwards. These forces act in opposite directions, and therefore provide for each other, automatically, the reaction necessary to transmit to the plate girders the end restraint which is essential for economy and reduced deflection.

MODIFICATIONS REQUIRED BY L.C.C. (Fig. 16)

The L.C.C. requested that the two plate girders, which had been fabricated, should be freed of end restraint, i.e. be simply supported. As such, they were incapable of carrying the load, and additional simply-supported plate girders were required, one at each floor, to span the full width of the building. These were carried out in riveted construction because the steel contractors had already full commitments for their welding plant, and the contract time for the steelwork was very short. Actually, the whole of the steelwork was completed in eleven weeks.



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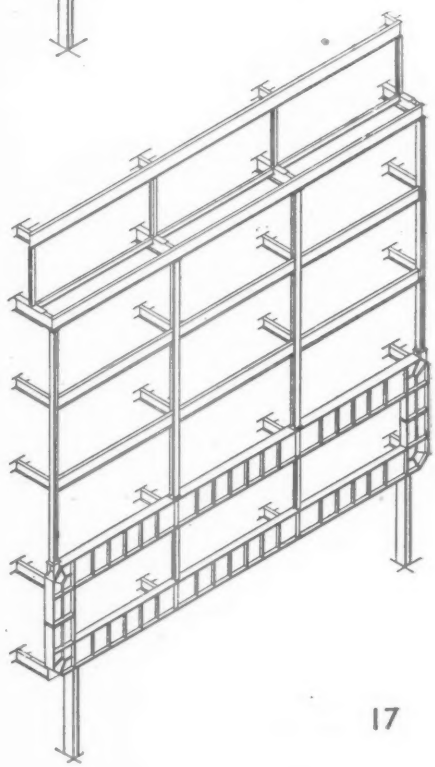

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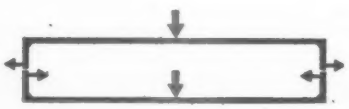

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FIG. 9.

No. 26 Piccadilly. Steel structure on the Piccadilly front.
(*Reproduced from A.J., May* 21, 1936, *p.* 777.)

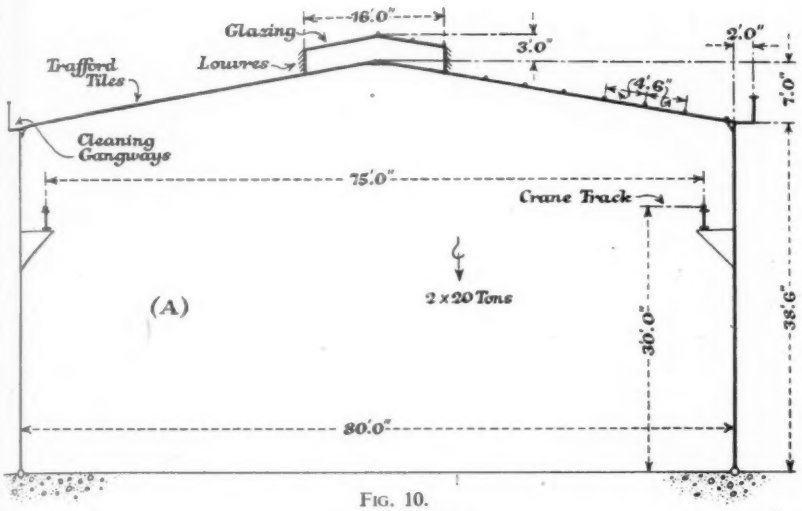


FIG. 10.
Two-pin rigid frame.

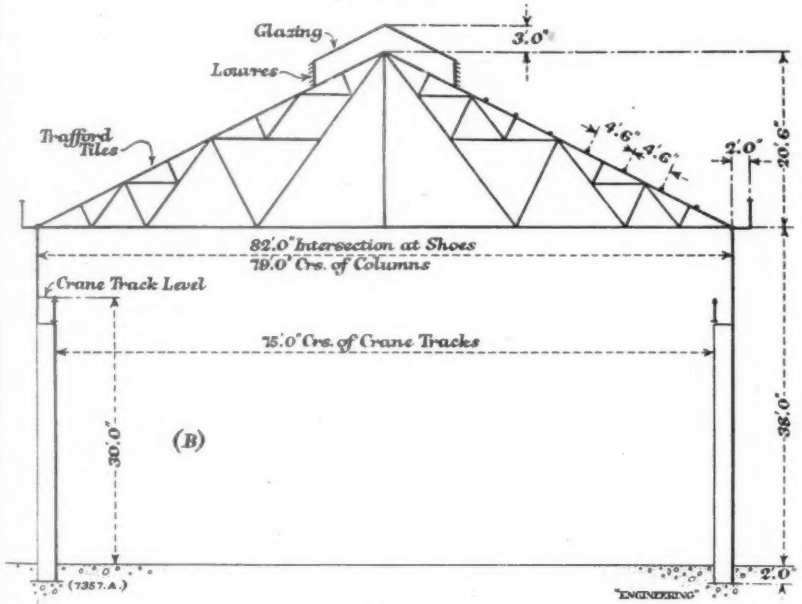


FIG. 11.
Conventional design.

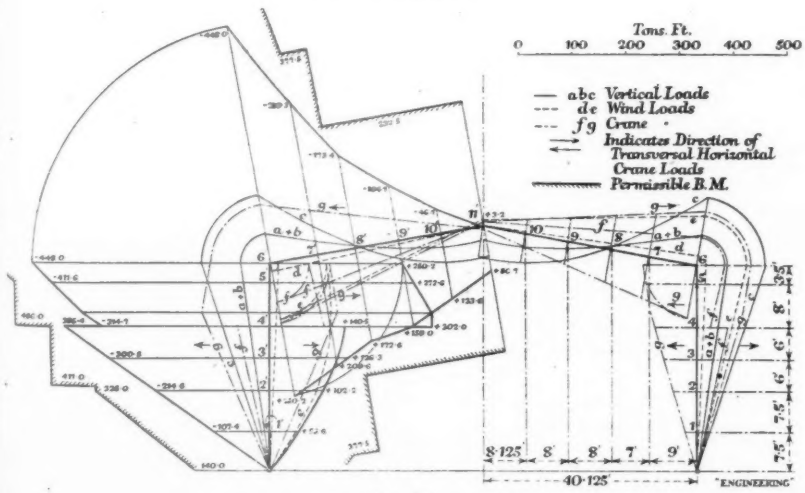


FIG. 12.
Bending moments in the two-pin rigid frame.

two designs were prepared in details so as to permit a fair comparison of costs. These two designs are illustrated in Figs. 10 and 11. Fig. 10 shows a two-pin rigid construction (Design A), and Fig. 11 a design in the conventional manner (Design B), with stanchions restrained at the bottom and latticed roof truss. It was assumed that both structures would be welded throughout.

"Comparison shows that the steelwork for Design A (rigid frame) is about 10 per cent. heavier than that of design B. The costs of the foundation, however, including excavation, were about 60 per cent. higher for the conventional design B. Final comparison of costs for the whole building showed a difference of only £150, in favour of the rigid-frame design A. There were, however, a number of additional advantages in favour of this design. The two-pin frame gave better lateral rigidity, transverse forces from the cranes and wind being partly transmitted through the roof portion of the frame; the solid web structure also had a higher degree of corrosion resistance and lower maintenance costs as compared with lattice work; the clear headroom was greater; easier access to roofing for inspection and repair from inside the building was provided; there was higher daylight intensity due to the roof apex being about 13 ft. nearer to the factory floor than in design B; finally, the finished structure was considered to be of better appearance. Taking all these points into consideration, the works decided in favour of the two-pin rigid frame design, in all-welded construction."*

It should be added that the poorer the ground, the greater the advantage of the rigid frame pin-jointed at the supports. In the conventional type horizontal forces cause substantial bending moments at the foundation level since the stanchions act as cantilevers. Accordingly, larger foundation blocks and, in the case of very bad ground, a greater number of piles are required than for pin-joints. By the arrangement of ties, embedded in the ground floor, lateral movements of the foundations of the pin-jointed rigid frame can be prevented. This may be desirable in unreliable ground.

The resistance of the conventional type (Design B), to bomb explosions is small since any rotation of the foundations which may be caused by an earth wave produces a big movement of the top of the stanchions where the trusses are freely supported. This is the most vulnerable part of the structure; it is the weakest spot of the conventional type and the strongest part of a properly designed frame.

The æsthetic appearance of the building described above may be seen from Figs. 13 to 15 which show the completed shop, a pin-joint and the upper corner of the frames. Some idea of the designing work involved in a framed structure may be conveyed by Fig. 12, the bending moment diagram of this frame for various cases of loading.

This building was designed by a consulting engineer without the help of an architect. This procedure is unusual and design by an architect without an engineer is far more

FIG. 13.
Interior of completed shop.

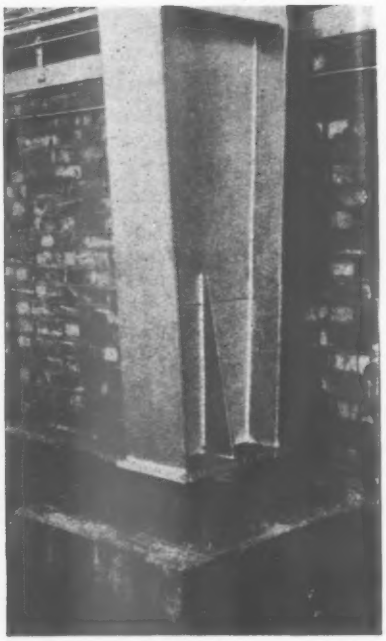


FIG. 14.
Pin joint of portal frame.

FIG. 16.
Interior of conventional type of construction.

FIG. 15.
Upper corner of the frames.

common. An architect who is not conversant with the possibilities of modern structures does not realize the advantage he could obtain from co-operation with an engineer, and goes to a reputable firm manufacturing structural steelwork from which he can obtain a conventional design free of charge and a quotation. There is no reason why this firm should try to persuade the architect to adopt a framed structure instead of a conventional one. From the firm's point of view, the framed structure involves far more designing work, possible complications in manufacture and in itself, separated from the rest of the job, may be even more expensive than the conventional type. (It should be remembered that in the above example the rigid frame A was 10 per cent. heavier than the conventional type B. The comparison was based on a welded structure for the conventional type too. If the usual procedure of riveting had been assumed, it is probable that there would have been no difference in the weight of steel required by the two designs.) The supplier of structural steel is not concerned with the comparative cost of the foundations or the other advantages enumerated above. But even if the architect were inclined to employ a consulting engineer, he would often find it difficult to persuade his client to pay the engineer's fee which might seem a superfluous addition to the cost of the building since the price of the structure per ton of steel is the same whether the manufacturer receives the design or has to supply it by himself.

To sum up, there is not much chance for framed steel structures as long as architects do not realize their advantages and the necessity of co-operation with engineers. Architects must be convinced that as a result of this co-operation their clients will get a better job. The example given above should be compared with the well-known conventional types, of which many hundreds have been built during the war. Fig. 16, in which such a building, erected before the war, may be seen, illustrates the difference in æsthetic appearance between the two types. It may perhaps be hoped that this article will contribute something to a better understanding on the part of architects of the importance, from their point of view, of attention to the type of the structure. This understanding is essential if advances are to be made. [*Concluded*]

A DAY AT MOW

The responsibilities of MOW are many and various including the building of scores of war time factories, hundreds of hostels, food stores, army camps and prisoner of war camps. In addition there is the preparation for post-war building. MOW has to attend to such jobs as housing the Government in some 20,000 buildings, which it maintains. There is also the little matter of spending £25 millions a year on supplies of equipment (including knives and forks) for hostels, factories, canteens and the NFS. Now we take you behind the scenes at Lambeth Bridge House to show how MOW goes about its daily routine.

A conference of high officials, presided over by Sir Hugh Beaver, the Director-General. From left to right, Mr. C. A. Morrison, Chief Quantity Surveyor; Sir James West, Chief Architect; Mr. E. J. R. Edwards, Principal Assistant Secretary, administrator of the war building programme; Mr. R. D. Farrington, Director of Building Programmes (hidden); Major-General Appleyard, Director of Opencast Coal Production; Sir Hugh Beaver; Sir William Leitch, Deputy Secretary; Mr. H. H. Montgomerie, Principal Assistant Secretary charged with administration of building programmes; Mr. T. P. Bennett, Director of Works; Mr. E. F. Muir, Assistant Secretary dealing with priorities; and Mr. C. C. W. Goodale, head of the Contracts Branch.

Mr. E. J. R. Edwards examines the plans of a standard hostel. He has to agree with the other Departments on the standard of accommodation that can be provided for factory workers and others for whom MOW is building. He also administers the Directorate of Emergency Works and Recovery, and signs the little note telling you your railings are to be requisitioned for 5s. when they cost you £50 to put up.

Whatever decisions are reached, many of them have to be made known to the building and allied industries. Here are three members of the Publicity Office. On the left, standing, is Mr. Harold Lewis, the Publicity Officer. Seated is Mr. Dudley Vernon, the Deputy Publicity Officer. At the telephone is Mr. J. Dixon-Scott, Assistant Publicity Officer. All these three men came from Fleet Street.

The telephone is the quickest method of conveying information, but Ministries are notoriously slow in giving their decisions. Our photographer was therefore somewhat surprised when he discovered this large switchboard—praised by the GPO as being the most efficient in London—on the ground floor of Lambeth Bridge House. The girls are not employed by MOW, but by the GPO. A standing instruction is that they shall all have with them every day their gas masks and steel helmets.

Every morning an average of eight mail bags arrive at the Ministry's headquarters. Despite the enormous volume of the correspondence all letters are delivered to the correct rooms within half an hour of their arrival at the building. This is due to the efficiency of the sorting staff on whose work depends to a large extent the speed with which things get done. Unfortunately, although the letters are usually correctly addressed and correctly delivered, the Civil Servants at Lambeth Bridge House are reputed still to pass letters and minutes to someone else.

Passing the buck is a Civil Service game which takes the place of the more robust sports such as pontoon. Girl messengers intent on doing their bit, play an important part in this game, for it is they who carry the missives from room to room, from floor to floor. Here a group of girls is seen receiving instructions from the Office Keeper, who is their chief of staff. We do not envy them their job—tramping round the endless corridors of Lambeth Bridge House from one Civil Servant to another—but without them what is achieved could not be done.

Also important in Government Departments are the girls who type. The photograph here is of a representative typing pool, one of which is situate on each of the eight floors of L.B.H. Only the top dogs of each section of the Ministry are allotted a typist or shorthand writer of their own. The rank and file rely on the pools who are inundated with requests to "do this at once please." So here sit the typists, slogging away at letters, minutes and memoranda all of which are the outcome of the vast Civil Service machine.

A D A Y

After a day wandering round Lambeth Bridge House our photographer was eventually taken into the drawing office. Here in a department where the work of architects is put on paper, where negatives from which hundreds of copies of standard plans for hostels, huts and so on, are prepared, he found something he did not expect to find in an office of Civil Servants—a little bit of GLAMOUR. There are many women employed in the architectural section of the Ministry but this anonymous representative was our photographer's choice.

Can I do you now, Sir ? Crossing the courtyard of Lambeth Bridge House our photographer saw some of the 400 women cleaners employed by MOW, which is responsible for scrubbing and dusting all headquarter buildings of the Government. As he took the photograph of the women cleaners (no, they are *not* charladies), heads appeared from windows on all floors. Judging from the grins on those heads, this was the funniest thing that had ever happened in the Ministry. Maybe they were right—but after all a tribute should be paid to those gallant women who keep MOW clean.

MOW gets an hour for lunch. When you are able to go to exclusive haunts, or to reserve a table, an hour is plenty of time for eating at midday. But the hoi polloi do not find it so easy. MOW therefore installed a canteen at which the majority of the junior members of the staff eat a cafeteria lunch, though high officials are often to be seen in the canteen.

Puzzle Corner. Who are the men behind the gas masks ? Is that Mr. F. R. S. Yorke having his mask adjusted ? Surely that's Mr. Frederic Towndrow in the centre with Mr. Christian Barman on his right ? At all events these are the men who have joined the Ministry's section of the Home Guard. They give up their Saturday afternoons and many of their week-day evenings to learning how to defend their country. Here they are about to go into a gas chamber to test their gas masks and gain experience of gas—as though Civil Servants didn't already know enough about gas.

A T M O W

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

1174 Health in Housing

HEALTHY HOUSING. *Three papers by Percival T. Harrison, Rees Phillips and George Laws, and a Memorandum by the Council of the Royal Sanitary Institute, submitted to the Sub-Committee on the Design of Dwellings of the Central Housing Advisory Committee.* (*Journal of the Royal Sanitary Institute, April*, 1943, *pp.* 51 *to* 75). General views on factors affecting health including density of building, size of house, water supply, drainage, smoke abatement, noise reduction, hot water supply, kitchen equipment, vermin, dampness and other matters.

The three papers are of interest in that they express the views of individuals who have given thought to the subject of healthy housing. They contain a number of useful hints and a large number of debatable opinions but a disappointingly small amount of scientific analysis or data.

The memorandum follows much the same lines as the papers and much the same criticism might be made. A short supplementary memorandum deals with sewage disposal from rural dwellings. This is of interest for two reasons: first, it suggests that certain services which are considered highly desirable can only be supplied at anything approaching reasonable cost if rural dwellings are grouped, and, second, it suggests standardization and possibly mass production of a really efficient cheap septic tank and filter for small rural buildings.

STRUCTURE

1175 Reinforced Concrete

PRE-STRESSED REINFORCED CONCRETE. *Dr. K. Hajnal-Kónyi.* (*A.J. for May* 6, 1943, *pp.* 300 *to* 302). Permissible steel stress in ordinary reinforced concrete limited by the width of cracks. Economic use of steel of very high strength possible only with pre-stressing, which can also give safety against cracking. New applications of reinforced concrete.

Progress in cement manufacture has resulted in increased compressive, but not in higher tensile strength of concrete. Cracks under design load cannot be prevented in normal reinforced concrete structures, and (except for special cases) are of no particular disadvantage as long as their width does not exceed a certain limit which is about .01in. For this reason no higher working stresses than say 34,000 lb./in.^{2} can be permitted. Consequently steel of a yield point higher than 70,000 lb./in.^{2} cannot be used as reinforcing material at its full strength, although steel of much higher strength is available and is comparatively less expensive than mild steel.

Cracking of the concrete can safely be avoided or greatly reduced by the introduction of permanent stresses of opposite sign into the concrete, i.e. of compressive stresses where tensile stresses occur under loading. This is called "pre-stressing." The idea is not new, but earlier attempts failed, because part of the stretching force is immediately lost at release and further losses occur due to shrinkage and creep. The cumulative effect of these losses may be about 30,000 to 40,000 lb./in.^{2} If mild steel is used, embedded in the concrete in the usual manner, and stretched to its normal permissible limit or even higher, the stress is completely lost after a certain time.

There are two ways to overcome this difficulty. One is the application of the stretching force when most of the shrinkage has taken place ("post-stretching"), the other is the use of steel of such high strength that a substantial part of the pre-stressing force remains in the structure even after a loss of 40,000 lb./sq. in.

Post-stretching has been extensively used in USA and Germany. The use of steel of exceptionally high strength was adopted by Freyssinet (France) and Hoyer (Germany). Freyssinet created a new building material in which after shrinkage and creep no tensile stresses occur in the concrete under the maximum load for which the structure is designed.

LIGHTING

1176 Industrial Lighting

INDUSTRIAL VISION. *Wittekind, J. R.* (*Journal of the Illuminating Engineers' Society, USA, February*, 1943, *p.* 99). Economic wastage in industry due to eye accidents and poor visual conditions. Amount of visual defects. Treatment of eyes in industry.

The author speaks first of the cost of eye accidents in America, as measured by the compensation claims. There are stated to be about 300,000 eye injuries per annum, about one-fifth of which lead to claims amounting in the aggregate to some £6,000,000. Indirect costs are estimated to exceed £20,000,000. Prevention of eye injuries is a problem of either engineering design or personal protection.

By engineering design is meant the proper placing of machines, the use of safe processes, and suitable lighting. Personal protection for eyes is accomplished by the use of goggles, guards, helmets, hoods, etc., of which it is stated that many types are now available in the USA for specific tasks.

Conservation of vision is the second aspect discussed.

Some of the American firms are stated to take great care of the general health of their workers in this respect. Eyes are examined as being one of the principal assets which the firm is employing in taking on new staff, and subsequently, eye health is closely watched. Lighting is discussed briefly as a measure of prevention.

The author mentions, as the third consideration in industrial vision, the relation of eyes to safety efficiency and production. Essentially this is a discussion of the characteristics of the eye and its clinical behaviour under industrial conditions. Guidance is given for industries which want to know what to look for in eyes for their types of work, and for the health of staffs in industry.

Finally the author describes an example case in which measures of these kinds were effectively organized in a large steel mill and forge where risks to the eye were serious. In the three-month period between the organization of protective measures, etc., and the delivery of the lecture, no eye accidents had occurred, nor major accidents of any kind.

The paper is short, interesting, straightforward and stimulating. Its interest for the architect lies not so much in what the author says of lighting alone, but in his experience in relating the lighting problems to those of industrial health generally.

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.*

1177 Dilapidation Schedule

Q *A client of mine owns house property which is let on a 21 years' lease with rather more than 7 years to run. The tenant has obviously not fulfilled his obligation to repair, and I have been asked to get out a Dilapidation Schedule.*

On getting in touch with the tenant, he told me no Schedule could be enforced and that he is advised by his solicitor that he is protected by law. Can you tell me what law or laws he can be referring to?

A We assume that repairs are necessitated by genuine dilapidations and not by war damage.

In the first place, of course, restrictions upon building prevent the expenditure of more than £100 per annum on any one building, without a licence, but you are no doubt conversant with this restriction.

What the tenant is probably referring to is the Leasehold Property (Repairs) Act 1938. This applies to houses with a rateable value of £100 or less and it provides that where five years or more of the term of lease remains unexpired a notice to repair cannot be enforced without leave of the Court. Briefly, leave will only be given in the case of repairs required for preventing substantial deterioration in the value of the reversion or where the expense involved is relatively small in comparison with the expense which would be occasioned by postponement of the work.

The procedure is, that upon receipt of notice to repair the tenant may serve a counter notice claiming the benefit of the Act, and it is worth noting that any notice to repair must contain a statement to the effect that the tenant is entitled to serve a counter notice.

We should advise you to get the Act which only consists of four pages and which is obtainable from H.M. Stationery Office, price 1d.

SOCIETIES AND INSTITUTIONS

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 economise 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.

HOUSE OF LORDS

Town and Country Planning Bill

Building æsthetics was the chief topic when the Town and Country Planning Bill was received on report in the House of Lords on June 29. Here are points from the debate.*

Viscount Wimborne (Nat.) rose to ask His Majesty's Government whether, in view of the great rebuilding that will take place after the war, it will ensure that due regard will be paid to æsthetic considerations, either by increasing the powers of the Fine Art Commission or by appointing some analogous body; and to move for papers.

It is very difficult to be certain at this time how post-war Britain will work out, but one thing I think is certain and that is that there will be an absolute spate of building.

I am not one of those who wish to reorientate London to make a sham Paris of boulevards and open spaces. I would with certain exceptions—perhaps the area round St. Paul's—rebuild the streets on the old lines, but I do plead that the buildings should be of good design, of suitable materials and should present a harmonic whole. There is also the normal rebuilding which is always taking place in this country consequent upon the falling in of leases and other reasons. That also, to my mind, should be subject after the war to a measure of control and planning. Some of the buildings that have been erected in the past fifty years or so have gone a long way to change London from the beautiful city it must have been in the middle of last century into an ugly one. Fine old houses are pulled down and replaced by others where the only idea seems to be to get as many apartments as possible into the space available. The result in many cases has been that we get buildings hideous to look at and uncomfortable to live in.

Nowhere has that been more evident than in the fine squares which form one of London's best features. To my way of thinking Berkeley Square is already ruined and St. James's Square is well on the way to suffer the same fate. Leicester Square, which was never noted for beauty, has been almost entirely rebuilt in the past twenty years and is now even uglier than before, dominated as it is by that black monster, the Odeon Theatre. I do not think in any other capital city or in any provincial city in Europe would that building have been allowed to have been erected.

As a contrast there is one good example of planning in London, and that is Grosvenor Square, which has the advantage of being under a single ownership. There I think you have a fine example of modern town architecture. That, in my view, would have been achieved elsewhere also had there been an authority charged with the duty of protecting the amenities of London.

I would suggest that there should be set up an authority which will at once proceed to make a survey of the bombed areas and those areas due for re-development in the near future; that they should prepare elevations, and lay down—and this is most important to my mind—the materials which are to be used in new construction, and that all owners of property, whether public or private, should have to submit their plans to this authority before they would be allowed to rebuild. It is not, after all, such a revolutionary idea.

In submitting this motion I have suggested the Fine Art Commission. I have done that because they appear to me to be the only body which have the necessary knowledge to undertake this admittedly arduous task. But, as at present constituted, the Fine Art Commission has no powers. It can only advise, and its advice need not be taken. One solution, therefore, would be to invest the Fine Art Commission with statutory powers under a new or amended Building Act.

I think, personally, that the best solution would be the setting up of a Ministry of Fine Arts. I think that never has the necessity for a Ministry responsible to Parliament for the cultural side of the nation's life been more urgent.

The Minister of Works: (Lord Portal): The Government realize their responsibility for ensuring that in the post-war building period all authorities responsible for planning or building, whether Government departments or local authorities, should have regard to æsthetic considerations, with a view to avoiding inartistic building and haphazard planning. The Royal Fine Art Commission had established a very considerable reputation before the war, and this was built up on a record of solid achievement. There would obviously be no point in setting up an alternative body to cover the same field. The multiplication of authorities would lead only to confusion. In the opinion of the Government, the best way of bringing about æsthetic control is to make sure that the eminent advice available in the Royal Fine Art Commission is properly understood and fully used.

It will certainly be the policy of the Minister, in exercising his powers of control, not only to consult other departments who may be concerned, but also in all appropriate cases to consult the Royal Fine Art Commission, or such other bodies as may appear suitable. The Royal Fine Art Commission should therefore, in the Government's opinion, be looked upon as the ultimate authority for consultation on matters of taste and æsthetics. The question of adding to the functions of the Royal Fine Art Commission will be considered from time to time but it would not be practicable to vest in the Commission powers to veto.

The Earl of Crawford: (C.) (Chairman of the Fine Art Commission): I entirely agree with Lord Portal, in feeling that as the Fine Art Commission is not responsible to Parliament, as it is a Royal Commission and has not a statutory position or basis, it would create constitutional problems of very considerable magnitude were powers to be delegated to that Commission, which is in a sense not answerable to Parliament. I would very much prefer that it should remain in its present advisory position and that the final responsibility should rest, as now, with the Ministers concerned. I feel very gratified that these extensive powers should be suggested for the Royal Fine Art Commission, but I cannot help feeling that the suggestion would not be desirable.

From what Lord Portal said, it is clear that all problems affecting Government departments will be referred to it. It is clear, also, that any major schemes put forward by local authorities will equally be referred to it. That includes, as I see it, all the major schemes of post-war rebuilding. Already local authorities are coming to us. Already major schemes of post-war development have been brought to us for our consideration and advice. Others, of course, will follow.

Viscount Lee of Fareham: (C.) I would add my view to that expressed by Lord Crawford and Lord Portal that it would be a great mistake to try and set up a new Ministry of that character. There would be no guarantee at all that a Minister of Fine Arts might not be as ignorant of æsthetic considerations as a Hindu is of skates.

The motion was by leave withdrawn.

*Printed from the Partiamentary Debates, House of Lords by permission of H.M. Stationery Office.

TCPA

Ernest Barker

June 24, at 1, Grosvenor Place, S.W.1. Lunch-time meeting of the Town and Country Planning Association. Lecture by Dr. Ernest Barker on *The Social Background of Town Planning*.

E. Barker: The ideas which I put forward are those which I have learned during the last year and a half, as the chairman of a planning group of the National Council of Social Service, set to consider the size and social structure of towns—a subject which, in an industrial country, comes to much the same as that of the civic and social background of industry. We knew the merits of the new municipal and private housing estates; we also knew their defects.

Their merits were that they provided healthy and comparatively comfortable housing for a large part of our population. But there were some defects. First, transport was costly, in money and time, for the dwellers on these estates and industry was divorced from residence. Secondly, the residents were all of one class, which was thus separately segregated, in a sort of isolation, and it was not easy for them to find leadership and help in their struggles to weave some sort of pattern of social life. Finally, there was not the common equipment—the social centres, the open spaces, the whole apparatus of social life—which any community needs. There were indeed schools. Apart from these, there was a cold wilderness of hundreds and often thousands, of separate houses, without the filaments, the links, the bonds of intimacy and warmth which are needed for a community.

We had also in our minds another fact of a far greater scale, the fact of British urbanization, and over and above these, the fact of the great size and dense population of the urban "wens." We noticed that this is not only a matter of separate cities or *urbes*; it is also a matter of "conurbations" or strings of uninterrupted towns, without a break of country like the conurbation which stretches

from Bolton to Manchester. The six largest conurbations contain a third of the total population of Great Britain. In addition, if our figures are correct, another tenth is contained in urban centres with a population of over a quarter of a million. We thought of these facts and we tried to think of a desirable pattern of urbanization. The thing is to find our ideal, which may serve in two ways. First, it may be used, and life shaped according to it, whenever new ground is being broken; in other words, whenever new urban centres are being built. Secondly, it may even be used in dealing with the old conurbations. Suppose, for example, tracts of them have been devastated by bombing and other tracts are so congested that they *must* be cleared. In either case new ground can be broken even in the old and established centres of urbanization.

First, what is the ideal of a civic background, or, in other words, what are the proper size, the proper divisions, the proper layout and general type of a good urban centre ? Secondly what is the ideal of a social background and pattern of life ?

The proper size of a good urban centre may be put at a population of about 50,000, with an ideal maximum of 75,000, and a possible maximum, if special circumstances demand such a size, of 100,000. I limit *size* for the sake of *life*. A town exists to discharge a function—that of providing a good life for its members. Aristotle taught long ago that anything which has a function to discharge—whether a ship or a town—is limited in size by its function. Now if the function of a town is to provide and build a good life, the members of that town must be able to get at one another and to know one another, and they must all be able to get at the country, and to flow into it, as the people of the country must be able to get at and flow into the town. All that means a limit of size. There is also a downward limit of size. You can hardly go below 50,000 if you want to be a good urban centre. A town must possess variety ; it must have different types of people, industry, and interest, all able to contribute to one another and to receive from one another, if it is to have any width of life and richness of outlook, and to be, as it should be, a little world.

It will be an integrated society. The fatal divorce between residential dormitory and work must be ended. The common equipment —forgotten in the old municipal housing estates, but not to be forgotten in the neighbourhood units—will include, first of all, a community centre—a place for drama, music, recreation, study, and the general cultivation of the uses of leisure. You also need nurseries and junior schools and a branch of the public library (education). You need child welfare and other clinics (health). You need a public garden, playing fields, and if you can get it, a swimming bath (recreation). You need a shopping centre and restaurants for purposes of daily life. You need the places and homes of public worship.

PWB

Study Committees

The following is the seventh extract from the booklet issued by the Directorate of Post-war Building of MOW containing reviews of ten of the *First Draft Reports* of its twenty-three Study Committees. See leading article for April 22, and these columns for April 22, 29, May 6, 20, 27 and June 17, 24.

15. ELECTRICAL INSTALLATIONS COMMITTEE. First Draft Report, Part I, November, 1942. 14 pp. plus 2 figures, and 7 pp. summary, divided thus :

Terms of reference.
Introduction.
Section I. Service and control arrangements in small houses and flats.
Section II. Consumers' installations in small houses and flats.
Section III. Installations in schools.
Figures 1-2.

Introduction.

Attention has been confined to types of building which will have priority in post-war period.

Further draft reports, now in preparation, deal with installations, appliances and telecommunications in larger houses and flats, offices, business buildings, hotels, hospitals, shops, stores and farm buildings.

Specially emphasised are those aspects of electrical installations which may influence planning and function and design of buildings, so that they may be considered at an early stage by appropriate Study Committees.

The Committee has recommended only those amenities which it considers can be obtained at reasonable cost.

About 90 per cent. of domestic consumers are covered in the following grouping of premises :

1. Council estate type of house.
2. Building estate semi-detached or detached villa, £750 to £1,500 pre-war valuation.
3. Larger detached self-contained house, £1,000 to £3,000 pre-war valuation.
4. Flats, low and high rental.

While small houses (group 1) and low rental flats have been main concern of Committee, many recommendations apply also to larger premises.

Proposals are, generally, suitable for application in Scotland.

Section I. Service and control arrangements in small houses and flats.

Past practices for effecting intake of electricity, from the undertaker's main to consumer's supply control, could be improved, particularly in ordinary domestic premises by application of standards to consumer's supply control.

For purpose of service and control arrangements, every domestic consumer should be regarded as potential user of electricity for lighting, cooking, water heating and space heating.

It is assumed throughout the report that tariffs will be so adjusted as to require one meter only for each consumer, and correspondingly simplified wiring.

Service cables from underground distribution systems to houses.

RECOMMENDED that 0.0225 sq. in. twin, paper insulated lead-sheathed, unarmoured cable, to B.S.S. 480, 1942, be standard, as minimum cross-section necessary to meet present and potential development under complete electrification.

Greater size may be required when voltage drop occurs, which may happen when length of service cable exceeds 30 yards.

Should expected loading, for larger premises, exceed 15 K.W., it is

RECOMMENDED that 0.04 sq. in. twin cable, to the same Specification, be used.

Service cables to flats.

Committee considers that supply authority should have control of distribution network up to eventual consumer's terminals, as now happens in many multi-consumer buildings, but definite recommendations at this stage would be premature.

Layout of consumers' supply control.

RECOMMENDED that standard form of apparatus and mode of installation be adopted for small dwellings.

RECOMMENDED that meters of same function and capacity be standard as regards terminal arrangement, external shape, dimensions and fixing bolt centres.

" Consumer's supply control " means here the apparatus belonging to the undertaking which is connected to the service cable, together with the consumer's main switch and fuses.

RECOMMENDED that, pending development of combined unit, the type of fitting which serves as cable sealing box and main fuse box be standard for domestic consumers, in two sizes for 0.0225 sq. in. and 0.04 sq. in. cable. Possibility of standard unit suitable for both sizes of fuse and cable should be considered.

RECOMMENDED that for simplification, economy, reduction of dimensions and ease of housing, the main supply (undertakings) fuse and consumers' main fuses be combined in suitably designed switch fuse box. Details are given.

Housing and location of consumers' supply control.

Possible arrangement of consumers' supply control compactly housed is illustrated in Figs. 1 and 2, with dimensions and suggestions for housing in thickness of 11 in. external cavity wall, with lockable access doors both sides, for convenience of house occupier and meter reader.

RECOMMENDED that consideration be given to still more compact control to be achieved by assembling meter unit and switch fuse in one metal or plastic case, with meter plugged into control unit.

Usual location, over or behind front door or under staircase, is unsuitable. Standard units on lines suggested above could be located conveniently. Such units would also facilitate mass production, and reduce installation work on consumers' premises.

Relation to other services.

RECOMMENDED that consumers' supply control be housed separately from other services to avoid possibility of contamination by gas or moisture. Whether enclosure might be contiguous to gas and water controls is being further considered.

Section II. Consumers' installations in small houses and flats.

Extent of electrification.

Advantages of complete electrification are enumerated and costs are discussed.

RECOMMENDATIONS for installations are made under the headings :

(*a*) lighting ; (*b*) general utility socket-outlets ; (*c*) occasional fires ; (*d*) cooking ; (*e*) water heating ;

(*f*) refrigeration ; (*g*) general space heating ; (*h*) laundering.

RECOMMENDED that an adequate number of socket-outlets of standard size be provided for the connection of portable appliances, and that, for simplification and interchangeability a 10 amp. socket-outlet and fused plug of the flush mounting type be standard throughout the country for small dwellings.

RECOMMENDED that socket-outlets be located at 9 in. approx. from floor level. Possibly higher in kitchen.

Consumers' wiring circuits.

RECOMMENDED for small dwellings there be three separate circuits, each controlled by separate single-pole fuses : (1) lighting ; (2) socket-outlet " ring " circuit ; (3) cooker circuit.

Special kitchen appliances should be supplied from (2) which may have to be increased appropriately in rating. (2) may also be used for standard lamps.

Fusing.

RECOMMENDED that use of re-wirable porcelain fuse be discouraged and that, for convenience and safety, a standard, ready-wired enclosed fuse take its place.

Systems of wiring.

New opportunity for co-operation with architects at early stage in planning is welcomed. Wiring systems are discussed.

RECOMMENDED that, failing the provision of planned system of ducts and ways, screwed or grip-joint steel conduit be used.

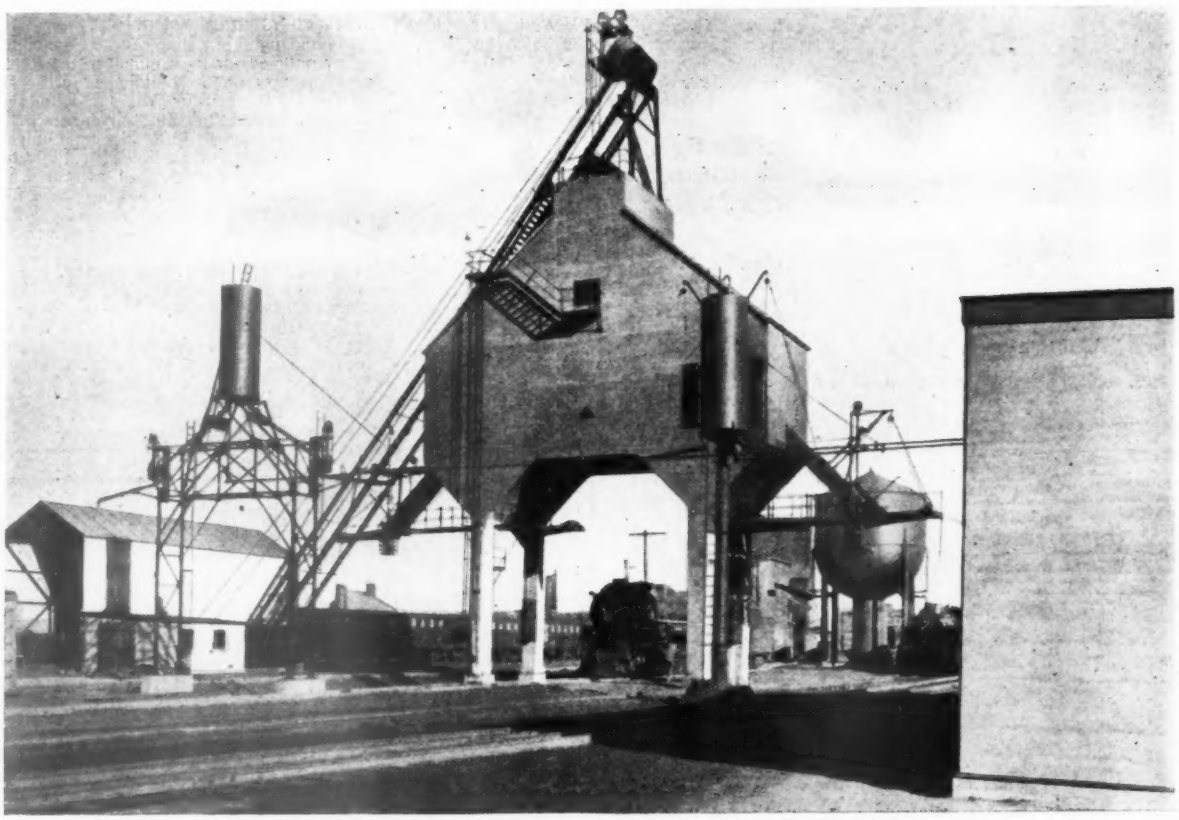
If, however, plans allow ducts, etc., particularly in skirtings and between floors, flexibility of installation is improved, and choice of wiring system possible.

RECOMMENDED that, for domestic use, flex smaller than 23/.0076 be eliminated.

With any system of wiring, all switches, socket-outlets and other permanent accessories should be flush-mounted.

Overwhelming evidence of the resistance to fire and the great structural strength of reinforced concrete has been provided during five years of aerial attack on cities. Whilst it may not be necessary to design against aerial attack in the future, it is only common sense to select for war-time and post-war construction the material which has been conclusively proved to possess the greatest structural advantages.

REINFORCED CONCRETE AND RAILWAY CONSTRUCTION



Reinforced concrete coaling plant, Decatur, Illinois, U.S.A.

REINFORCED concrete structures have played an important part in maintaining vital railway links for the transport of essential war supplies. This material has also been used extensively to protect vulnerable points of the system and to effect speedy repairs where damage has been caused by enemy action. Modernisation of the railway system, begun before the war, made extensive use of reinforced concrete, and in the years of peace it will again be the chosen material for new termini, station buildings, tunnel linings, goods depots and warehouses.

RECOMMENDED that consumers' fuses be labelled, and a diagram showing cable runs be available.

Prefabrication.

Ducts in prefabricated wall sections providing for flexibility in the installation would be welcomed.

Central heating in flats.

Immaterial from tenant's point of view whether source of energy of central heating system is electricity, gas or other fuel, and question of extent to which central heating is desirable is for Heating and Ventilation Committee to decide. Suggestion is made that central heating should provide background heat only, small radiant fires being used to "top up."

Central hot water in flats.

Suggested that many or all advantages of central hot water can be more economically obtained by individual electric water heaters which avoid waste of un-metered common supply.

Section III. Installations in Schools.

RECOMMENDATIONS, which follow preliminary examination of draft plans prepared by School Planning Group, are made under the headings: intake, wiring system and layout, prefabrication, additional circuits, heating and lighting. At this stage consideration has been given only to matters affecting construction, in order to ensure suitable provision for electrical installation.

RIBA

New Members

On June 15, the following members were elected:

AS HON. FELLOW (1).—Portal, the Rt. Hon. Lord, P.C., D.S.O., M.V.O., V.L. (Whitchurch, Hants).

AS FELLOWS (3).—Hammond, Col. Frederic Snowden, D.S.O., O.B.E., Order of the Nile (London), Reading, Albert Frederick Warth (Nottingham), Wilson, Henry, O.B.E. (Grangemouth).

AS ASSOCIATES (9).—Duffy, Hugo, B.ARCH. (University College, Dublin) (Dublin), Hoskins, Herbert Neville (The Polytechnic, Regent Street, London) (London), O'Malley, Miss Marie, B.ARCH. (University College, Dublin) (Barna, Co. Galway, Eire), Paxton, David Raymond Pryce (Birmingham School of Architecture) (Stafford), Riley, Charles Frederick, DIP.ARCH., DIP.T.P. (Mancr.) (Victoria University, Manchester) (Macclesfield) Cheshire). *Overseas*: Booker, Lawrence Charles (Sydney, New South Wales), Cooke, Bernard Stanley (Johannesburg), Friendly, Miss Jae, B.ARCH. (Rand) (Johannesburg), Moffatt, John Boyd (Durban, Natal).

AS LICENTIATES (29).—Adam, William John (London), Bliss, George Harold (London), Carter, William Mathias (Kingston-on-Thames), Cubitt, Frederick William (London), Davis, Graham Robert Oswald (Plymouth), Golding, Roland Claude Neville (London), Haines, Harry Norman (London), Haysom, Ernest William (Birmingham), Heward, George Tyrer (London), Hough, John (Leeds), Jack, Miss Lilian Eugenie (London), Johnson, Cyril John (Chatham), Lyons, Eric Alfred (Birmingham), McAnally, Alexander (Glasgow), Mummery, John Frank (London), Pickering, William Longfield (Newcastle-on-Tyne), Pratt, Arthur William (Leeds), Robinson, Harold Conyers (Hull), Ruddick, Lawrence Hope (York), Simpson, Joshua James (Northallerton, Yorks), Smith, Colin Holden (Birmingham), Stott, James Herbert (Bradford), Stubbs, Alan Valentine (London), Sunlight, Joseph (Manchester), Sweet, Frank Alan (Rugeley, Staffs), Theobald, Charles Reginald (Boston, Lincs), Warner, Ion Victor Godfrey Hamilton (Edinburgh), Watt, John (Edinburgh), Williams, Arthur Ernest (Shrewsbury).

BATC

Inaugural Meeting

The important work of providing an adequate and well-trained personnel for the post-war building programme has already been put in hand by Lord Portal's *Building Apprenticeship and Training Council*, which is under the chairmanship of Sir Malcolm Trustram Eve.

A General Purposes Committee has been elected, with instructions (see the JOURNAL, July 1, page 15) which are to to be considered urgent. The Committee will also consider the provision of teachers and instructors.

At the inaugural meeting of the Council, the policy outlined for the Council in the Report on "Training for the Building Industry" of the Central Council for Works and Buildings was discussed and unanimously endorsed.

Lt.-Col. W. French, of the City and Guilds of London Institute, Mr. E. G. Savage, Education Officer of the London Council, and Sir Ernest Simon, late Chairman of the Education Committee of the Central Council for Works and Buildings, were elected additional members of the Council.

The following members were elected to form the General Purposes Committee: Sir Malcolm Trustram Eve, Messrs. Coppock, Drury, Fawcett, Forsdike, Lt.-Col. French, Messrs. Gibson, Howarth, Hutton, Jones, McTaggart, Peyman, Savage, Sir Ernest Simon, Mr. T. E. Scott, Major Shingleton, Messrs. Stephenson, Wolstencroft, and Lord Provost Garnet Wilson.

CLASSIFIED ADVERTISEMENTS

Advertisements should be addressed to the Advt. Manager, "The Architects' Journal." War Address: 45 The Avenue, Cheam, Surrey, and should reach there by first post on Monday morning for inclusion in the following week's paper.

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

Public and Official Announcements

Six lines or under, 8s.; each additional line, 1s.

The Incorporated Association of Architects and Surveyors maintains a register of qualified architects and surveyors (including assistants) requiring posts, and invites applications from public authorities and private practitioners having staff vacancies. Address: **75 Eaton Place, London, S.W.1. Tel.: Sloane 5615** 991

GLAMORGAN COUNTY COUNCIL.

APPLICATIONS are invited for the APPOINTMENT of DEPUTY COUNTY ARCHITECT. Candidates must be either Fellows or Associates of the Royal Institute of British Architects and must be under 45 years of age. This condition may be relaxed in the case of a specially suitable candidate employed by a local authority. The Officer appointed must devote his whole time to the work. The appointment which is superannuable will be terminable by three months notice on either side. The person appointed who will be required to pass a medical examination before taking up duties, will be subject to the Council's general regulations with regard to conditions of service. Salary will be £625 per annum rising by increments of £25 per annum to £700, with travelling and personal expenses on the County scale. Applications (on forms obtainable from the undersigned) accompanied by copies of not more than three recent testimonials must be received by me not later than the 26th July, 1943. Canvassing, directly or indirectly, will disqualify.

HENRY ROWLAND,
Clerk to the County Council.
909

ESSEX EDUCATION COMMITTEE.

SOUTH-WEST ESSEX TECHNICAL COLLEGE AND SCHOOL OF ART.

FOREST ROAD, WALTHAMSTOW, E.17.
DEPARTMENT OF ARCHITECTURE & BUILDING.

The Governors invite applications for a full-time Lecturer in Architecture up to the standard of the R.I.B.A. Final Examination. Applicants must be Associates of the Royal Institute of British Architects.

Applications by letter should be sent immediately to the Clerk to the Governors, at the College.

Salary for the above post Burnham (Provincial) Technical Scale, with allowance for professional experience.

B. E. LAWRENCE,
Chief Education Officer.

County Offices,
Chelmsford. 914

Architectural Appointments Vacant

Advertisements from Architects requiring Assistants or Draughtsmen, and from Assistants and Draughtsmen seeking positions in Architects' offices will be printed in "The Architects' Journal" free of charge until further notice. Other "Appointments Vacant" and "Wanted" will be found under later headings, and are subject to the charges given under each heading.

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.

ARCHITECTS' ASSISTANT. Preferably qualified, Slough district, required for investigation and design, should be experienced in medium-size dwelling-house construction, plumbing and equipment. Exempt from Military Service. State salary. Box 906.

WANTED, in London, well-educated Junior Assistants, either sex, ineligible for military service, for work connected with architecture. No previous experience necessary. Good working conditions, 5-day week. Write, stating age, experience and salary required to Box K. 766, Willings, 362, Grays Inn Road, W.C.1. 908

Architectural Appointments Wanted

A.R.I.B.A. (31), seeks full-time post in any capacity, fully trained in all branches of profession; good references, last employed with firm of consulting engineers. Box 111.

F.R.I.B.A., 36 years old, exempt, requires post; Watford district preferred; 12 years' general experience. Salary by arrangement. Box 112.

15 YEARS' EXTENSIVE EXPERIENCE in peace and war-time planning and design, including R.A.F. aerodromes, storage depots, turfed camouflage sheds and traversed bomb stores, hutted camps; also strutting and shoring of dangerous buildings in bombed areas and general emergency measures. Box 114.

WANTED AT ONCE, summer vacation work, for an architectural student, in an architects' office or in the building industry, engaged on work of national importance; dates approximately July 10th—September 20th, 1943. Write Box 115.

SURVEYOR desires position. Measurements, adjustments, final bills, W.D. and Air Ministry Schedule; extensive experience all trades; references. Staples, 49, Highview Avenue, Edgware, Middlesex. 116

CLERK-OF-WORKS, BUILDING SURVEYOR, Etc., requires appointment as a Clerk-of-Works, Surveyor, Property Manager, etc., in Birmingham Area, or the West Midlands, etc.; over military age; rendered War Service during the 1914-18 first Great War; control of all contract works, etc., supervision all branches of the building trades, etc., over 25 years' practical and theoretical experience; keen and alert; highest recommendations. Please apply Box 117.

SENIOR ARCHITECTURAL ASSISTANT requires position in progressive office on reconstruction and post-war planning or research; 12 years' sound experience on good classes of building. Scotland or Provinces preferred. Exempt military service. Box 119.

PUBLIC SCHOOL BOY, aged 17, desires post in architects office in the London area. Applicant takes Higher Certificate in July.—Write Mrs. Custance, 433, Edgware Road, W.2. 120

SITUATION IN ARCHITECTS OFFICE required by youth, aged 16 years. Leaving County School this term. Now sitting for General Schools Examination. Write Bass, 6, Denbigh Road, Southall, Middx. 121

CHARTERED ARCHITECT, over military age, desires engagement; wide experience in all branches; recently engaged upon War Ministry Buildings. Box 122.

Classified Advertisements continued on page xxxiv.

ARCHITECTURAL ASSISTANT, seven years' experience, age 25 years, exempt military service, seeks position in architects or similar office. Experienced in design and construction, surveying, levelling and estimating. Studying for forthcoming Inter. R.I.B.A. examination. Good references. Box 124.

Other Appointments Vacant

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

ASSISTANT EDITOR wanted for Architectural Paper. Write, with full particulars of qualifications, salary required, &c., to Box 51.

BUILDING AND SURVEYING ASSISTANT required for Monmouthshire Contract. Civil Engineering. Experience necessary. Hinkins & Frewin, Ltd., Oxford. 915

BUILDING AND ENGINEERING DRAUGHTSMAN required for Monmouthshire Contract. Hinkins & Frewin, Ltd., Oxford. 916

LONDON COUNTY COUNCIL.

Full-time teacher of Brickwork, practical and theoretical, Building Construction and associated subjects, required at Hammersmith School of Building and Arts and Crafts, Lime Grove, Shepherds Bush, W.12.

The appointment is temporary, subject to review at any time and in any event at the end of the war. Salary in accordance with technical instructor's scale (£290—£14—£410) plus war bonus. Incremental allowances for industrial and/or teaching experience. Also visiting teachers of (1) Quantity Surveying, Specifications and Estimating, Wednesday, 6.30—9.30 p.m., salary 33s. per attendance; and (2) Architectural Drawing and Design, Tuesdays and Thursdays, 6.30—8.30 p.m., salary 22s. per attendance.

Application forms (T.1/40) obtainable from the Education Officer, T.1, County Hall, Westminster Bridge, S.E.1. Stamped addressed foolscap envelope necessary. 917

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. 53, Great Marlborough Street W.1. Gerrard 4223-4224-4225.

SPECIFICATIONS AND BILLS OF QUANTITIES, etc., expeditiously and accurately typed or duplicated. Translations and Facsimile, Typewriting. All work treated confidentially. Miss G. Saunders, Typewriting Bureau, 17, Dacre Street, Westminster, S.W.1. Telephone: Whitehall 2605.

WANTED to purchase, The Library of Planned Information, Vols. I—IV. Box 76.

WANTED. Complete set of Information Sheets, loose or bound. State price. Box 77.

WANTED. Complete set of volumes of the Architects' Journal Library of Planned Information. Box 98.

WANTED TO BUY, complete edition of *Planned Information* by Sir John Burnet, Tait & Lorne, first or second-hand. Please write Mrs. Marianne Walter, A.R.I.B.A., 260, Fulwood Road, Sheffield. 904

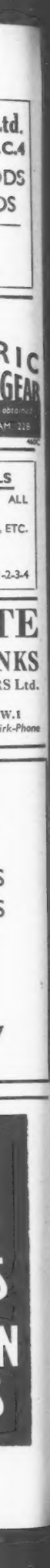
WANTED TO PURCHASE. A copy of *Specification*, 1933. Box 123.

Educational Announcements

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

R.I.B.A. QUALIFYING EXAMINATIONS
Mr. C. W. Box, F.R.I.B.A., M.R.San.I.
Courses by Correspondence and Personal in Studio.
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, St. Catherine's College, Cambridge. 231



Architectural Styles.

TOMB OF ABSALOM

THE so-called Tomb of Absalom is one of a group of four tombs in the Valley of Jehosaphat, near Jerusalem, but the architecture shows that it is not the pillar which Absalom "reared up for himself during his lifetime in the King's dale." It bears some resemblance to the monuments at Petra and has a similar peculiarity in that the outer pillars join the pilasters at the angles. It is probably Idumean in origin and possibly Herodian.

The lower part is a monolith with an upper part of masonry. The body of the monument is ornamented with two columns in the centre, and a quarter column adjoining the pilaster at each end, which columns and pilasters are of the Ionic order but support a Doric frieze with triglyphs and pateræ. There is an Egyptian cornice terminated by two layers of large stones, above which is a cylinder of three more layers, with projecting cable moulding, surmounted by a small dome with a spire, expanding at the summit like the bell of a flower.

The total height of the monument is about 54 ft., and in the lower part there is a small chamber 8 ft. square, with a little door on the east side above the cornice.

A heap of stones around the base is due to the Jewish habit of casting stones at the tomb in abhorrence of Absalom's memory.

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