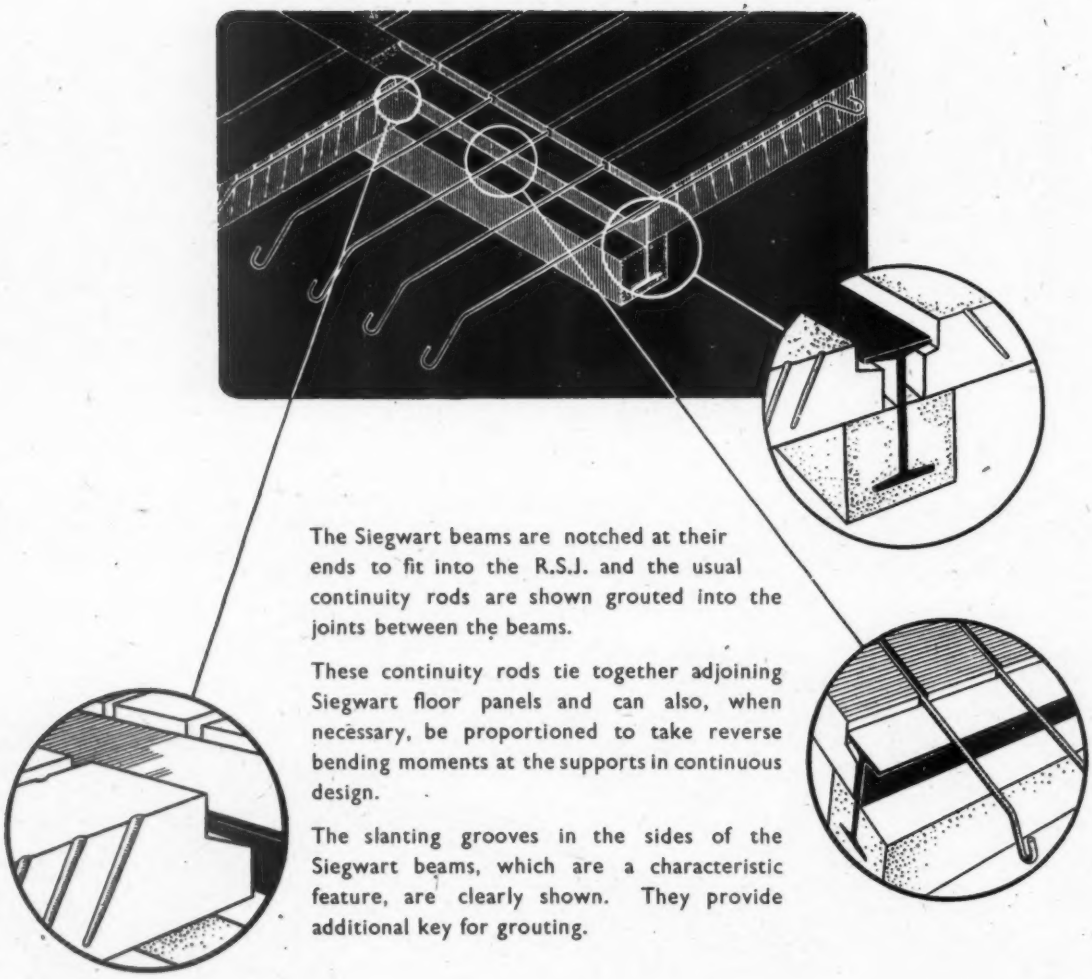
Typical detail of Siegwart floor on Siegwart casing to R.S.J.



The Siegwart beams are notched at their ends to fit into the R.S.J. and the usual continuity rods are shown grouted into the joints between the beams.

These continuity rods tie together adjoining Siegwart floor panels and can also, when necessary, be proportioned to take reverse bending moments at the supports in continuous design.

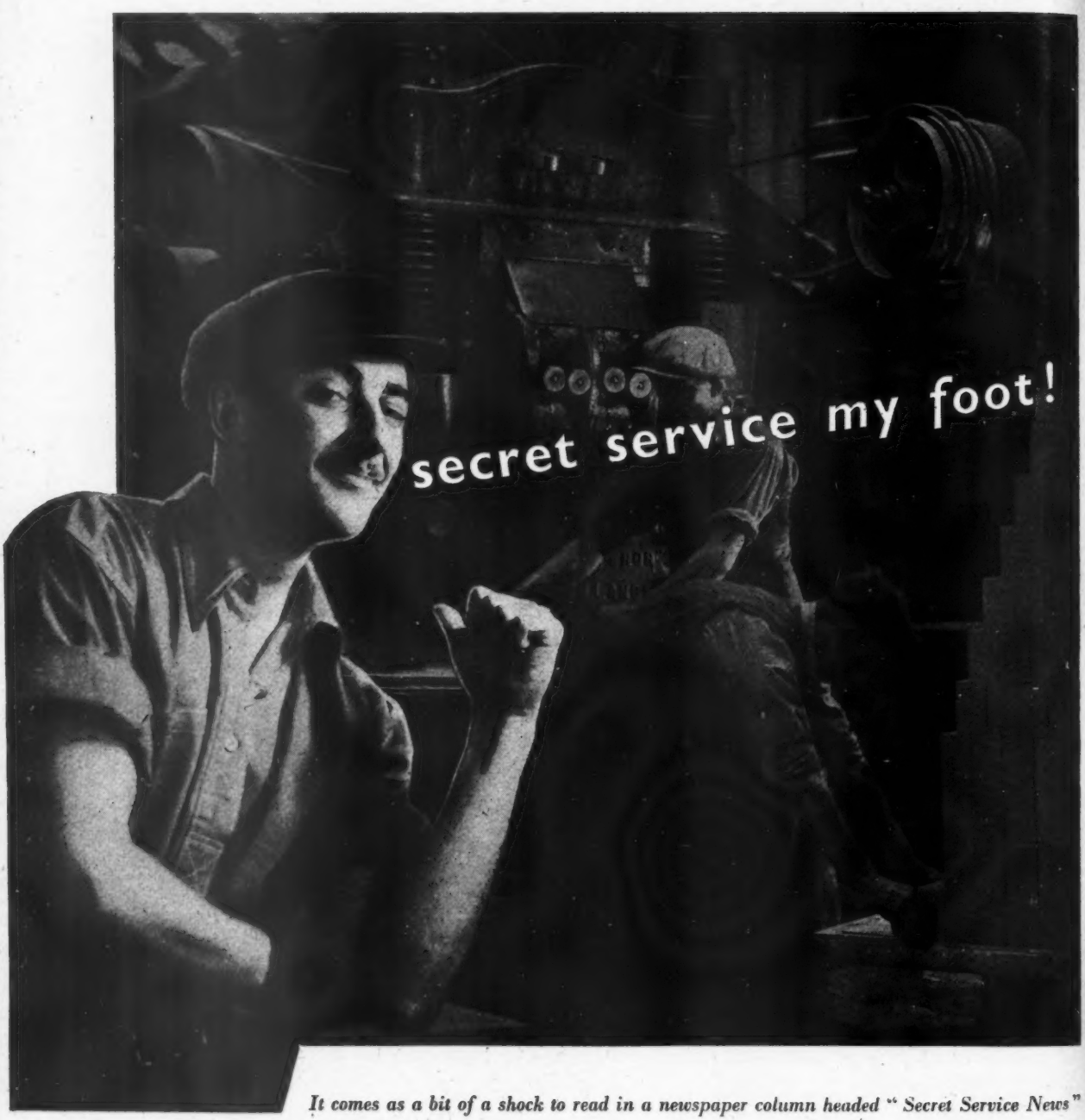
The slanting grooves in the sides of the Siegwart beams, which are a characteristic feature, are clearly shown. They provide additional key for grouting.

SIEGWART
PRECAST FLOORS

SIEGWART FIREPROOF FLOOR CO. LTD
CROXLEY GREEN, RICKMANSWORTH, HERTS. Tel.: Rickmansworth 2268

WORKS: Croxley Green, Rickmansworth, Herts., Enderby near Leicester, and Paisley, Renfrewshire
BRANCH OFFICES: Birmingham, Manchester, Glasgow.

1/46



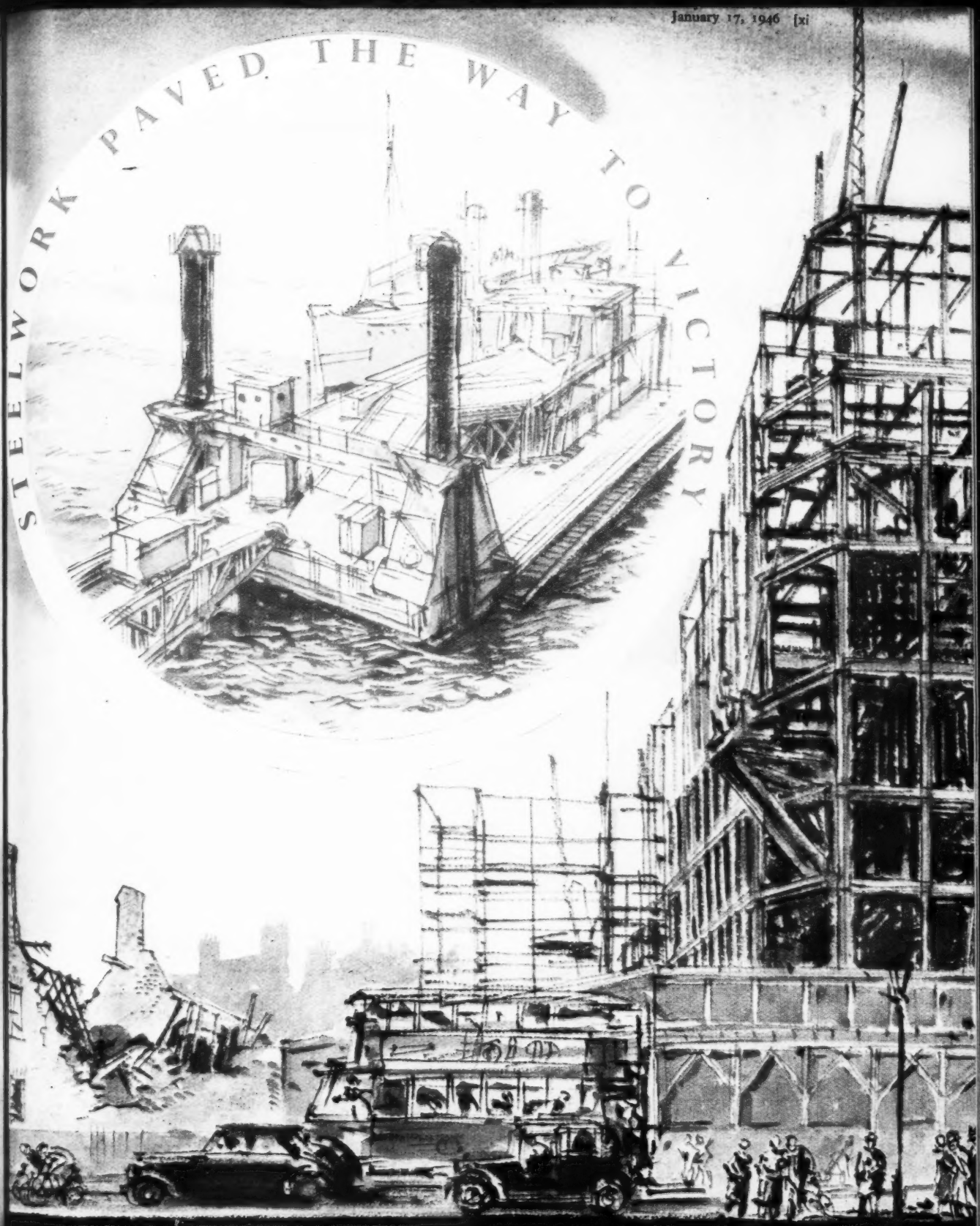
It comes as a bit of a shock to read in a newspaper column headed "Secret Service News" that one of our allies has developed a process for making bricks from clinker and cement and that this idea may assist our own reconstruction programmes. Sutcliffe Speakman make no secret of the fact that their Emperor Presses have been making similar bricks for a long time now. In fact, people who want to know more about making bricks from waste materials should put their secret service agents on our track.

SUTCLIFFE SPEAKMAN

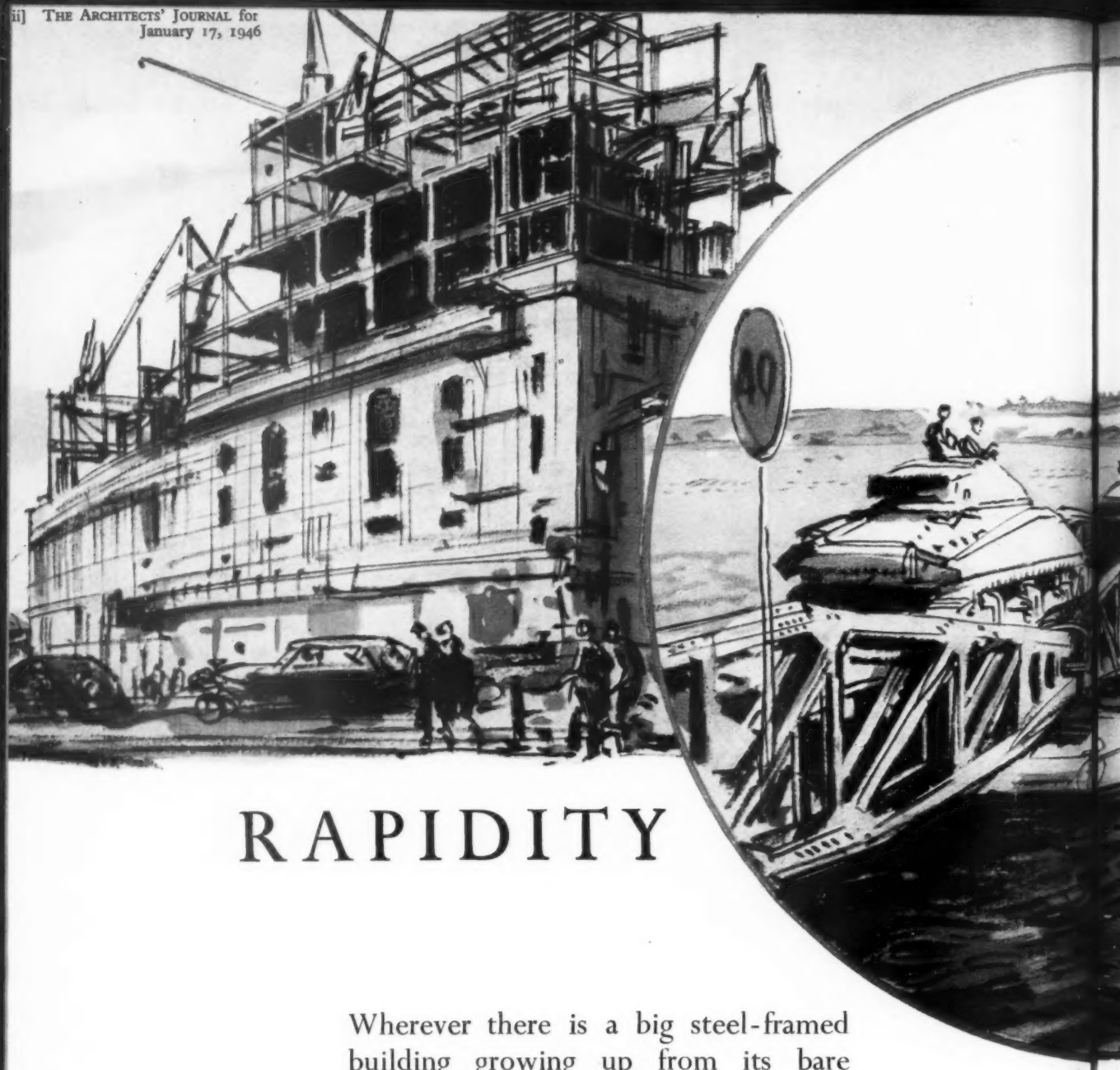
SUTCLIFFE SPEAKMAN & COMPANY LTD., LEIGH, LANCASHIRE

LONDON OFFICE: 82 KING WILLIAM STREET, E.C.4. TELEPHONE: MANSION HOUSE 1285-6

'Emperor' Presses are made in various sizes capable of producing from 1,200 to 2,400 bricks per hour and of exerting pressures of from 100 to 200 tons. They make excellent Sand Lime Bricks, Refractory Bricks and bricks from waste materials such as shale, clinker, ashes, etc.



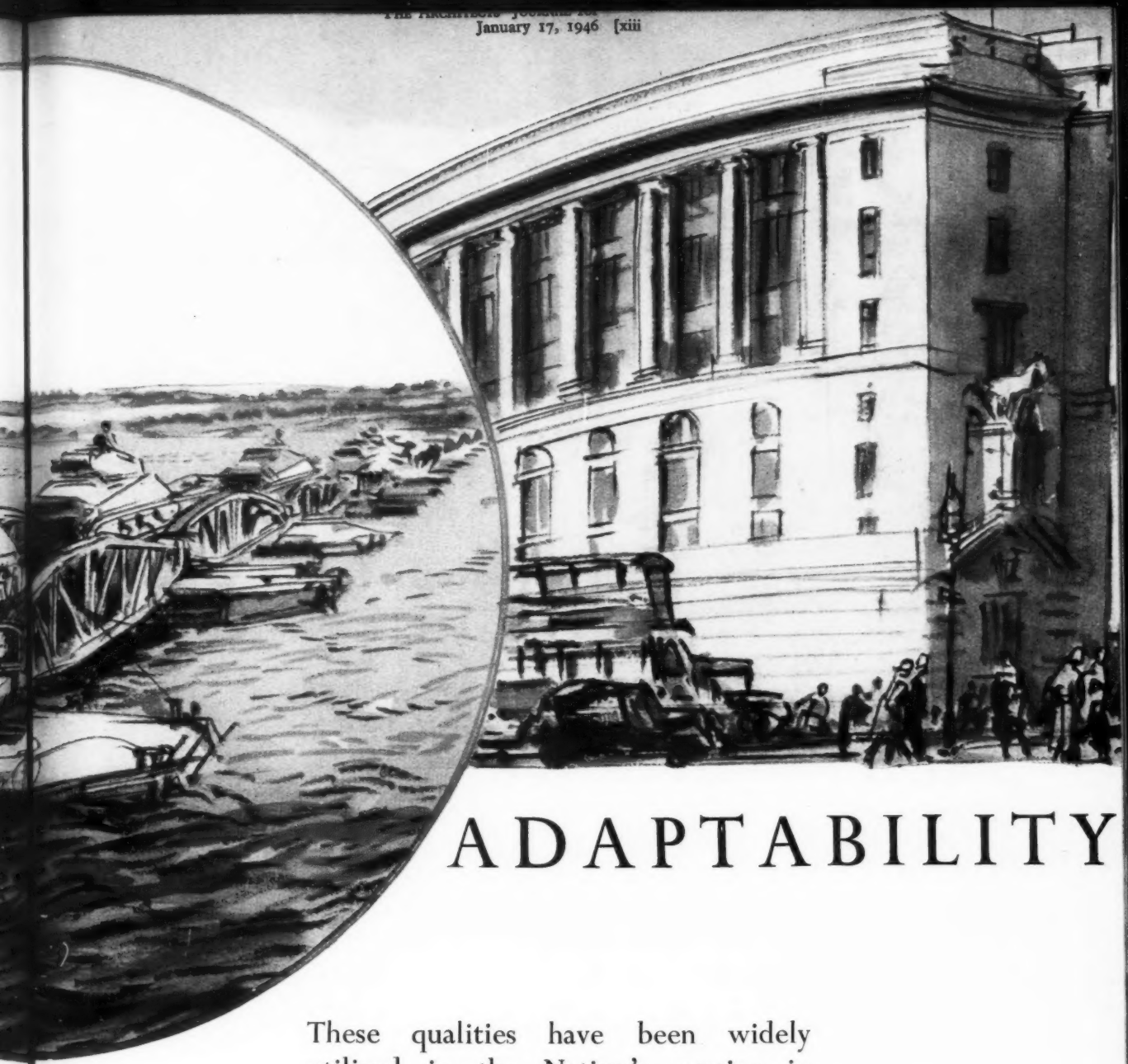
STEELWORK and the Nation



RAPIDITY

Wherever there is a big steel-framed building growing up from its bare foundations to a finished block of flats or offices, people are struck by the way that the girders so quickly come to the site, to be hoisted up and connected to form the framework, and with the speed with which the building is completed.

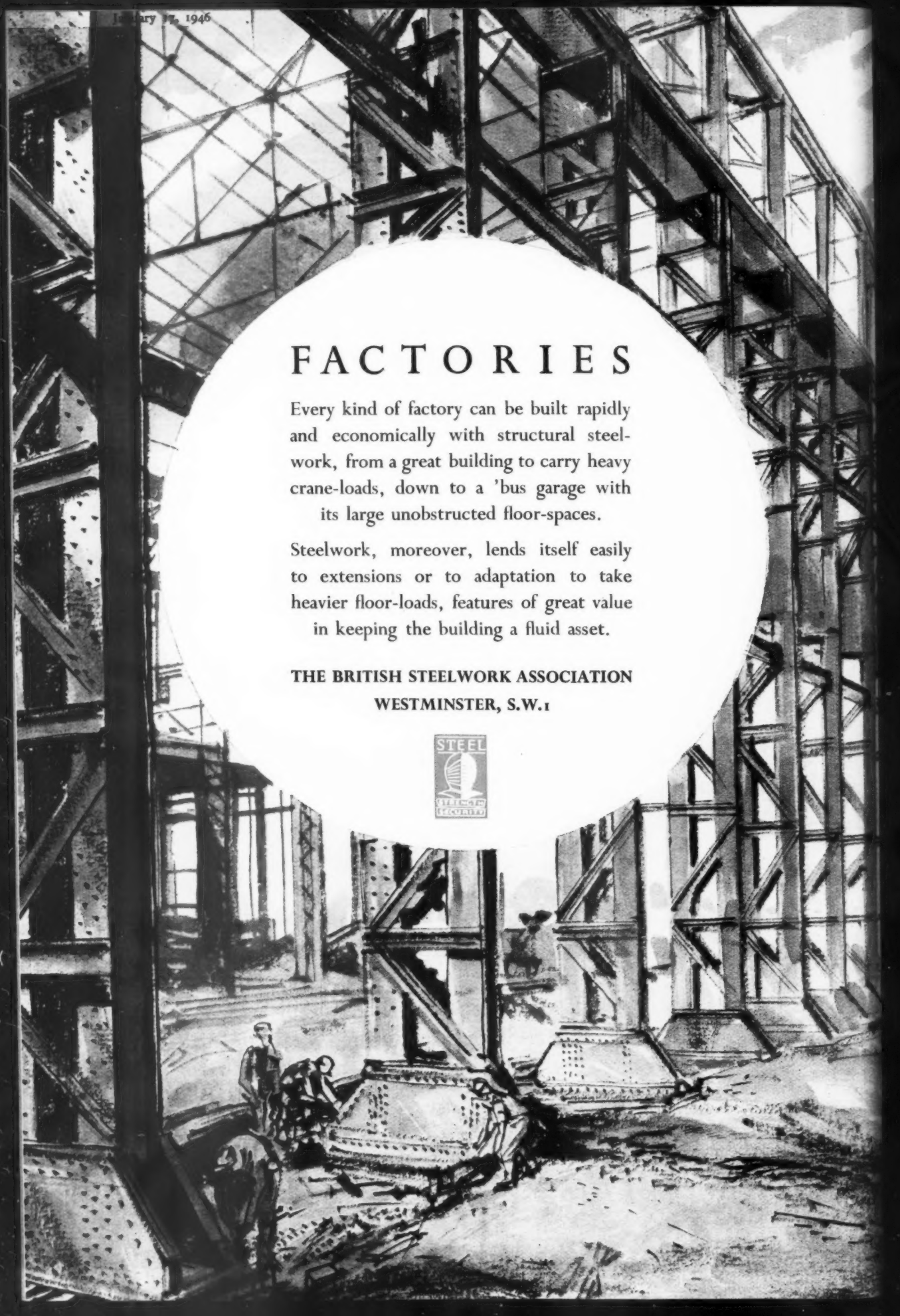
STEEL W



ADAPTABILITY

These qualities have been widely utilized in the Nation's service in every phase of the war effort, of which the 'Mulberry' is perhaps the best known. This adaptability of the concentrated strength of steelwork can be turned to full account in building blocks of flats, offices and other vital buildings.

WORK



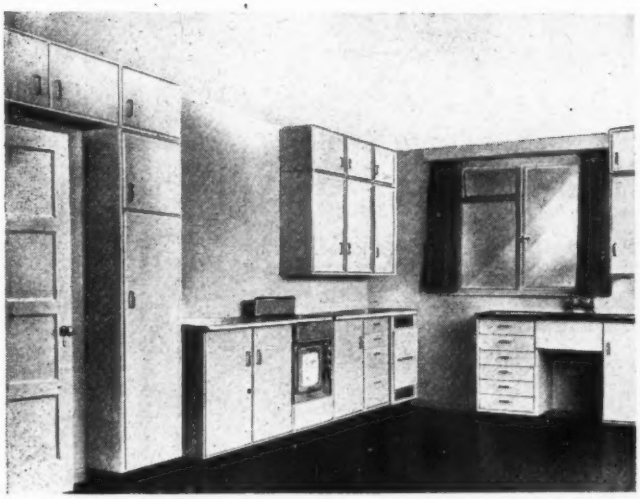
FACTORIES

Every kind of factory can be built rapidly and economically with structural steelwork, from a great building to carry heavy crane-loads, down to a 'bus garage with its large unobstructed floor-spaces.

Steelwork, moreover, lends itself easily to extensions or to adaptation to take heavier floor-loads, features of great value in keeping the building a fluid asset.

THE BRITISH STEELWORK ASSOCIATION
WESTMINSTER, S.W.1

For All the Best IN JOINERY



Illustrating a model kitchen specially built in our factory for your inspection.

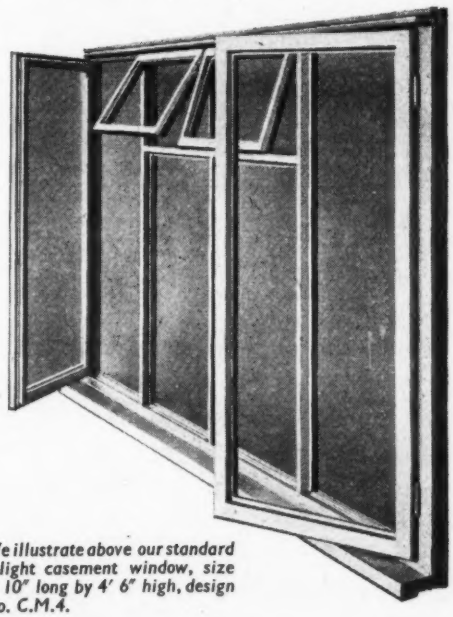
HALLS of PADDOCK WOOD offer the fully approved range of Ejma kitchen units to British Standard Specification standard as approved by the Ministry of Health and the Ministry of Works. Our kitchen units will make old kitchens new and new kitchens the last word in utilisation. 16 individual units combine into 50 different arrangements and every unit is interchangeable with A.B.C. simplicity.

For equipping kitchens small or large specify kitchen units to the approved standard by HALLS of PADDOCK WOOD, one of Britain's finest and greatest joinery plants.

HALL'S Ejma standard windows provide more than twice the daylight area per cubic foot of timber than that afforded in the pre-war standards. They are designed with extremely strong laminated joints and are specially machined to avoid the bugbear of binding windows. The sizes have been co-ordinated with brickwork dimensions thus saving many man hours on site. They are weather, draught and dust resisting.

We have an ample range of standardised units and you cannot do better than SPECIFY HALLS Ejma windows and doors.

Whatever you need in KITCHEN UNITS, WINDOWS, DOORS AND FRAMES MANUFACTURED TO THE Ejma STANDARD, REMEMBER the name is HALL the mark of QUALITY for the RIGHT STANDARD at the RIGHT PRICE.



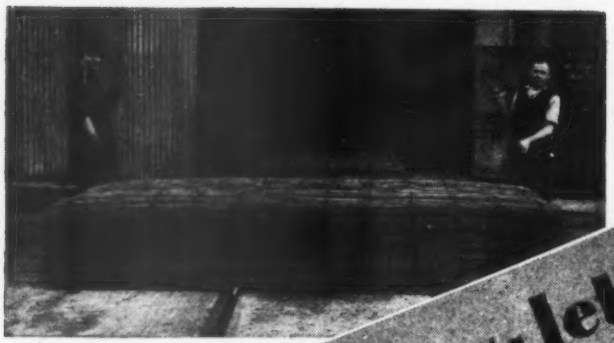
We illustrate above our standard 4-light casement window, size 7' 10" long by 4' 6" high, design No. C.M.4.

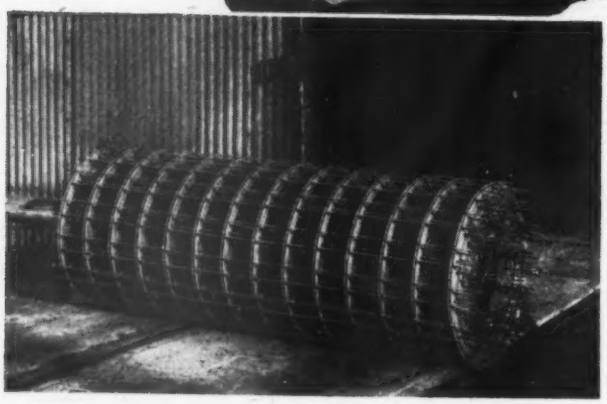
EJMA THE HALL MARK OF QUALITY

Ejma is the Certification Trade Mark of the English Joinery Manufacturers' Association.

ROBERT H. HALL & Co. (KENT) LTD.

PADDOCK WOOD KENT *TELEPHONE:* PADDOCK WOOD 105. 107. 108. 3 LINES





Painting by Doris Zinkeisen

This Present Age . . 11

The selection of suitable candidates for training for executive and technical positions in a highly organised concern presents a difficult problem. The criteria of skill and intelligence are not of themselves sufficient, as the most important factors are natural aptitude and temperament ; inherent characteristics which are greatly influenced by health, education, environment and experience. Important and far reaching provisions of the new Education Act deal with the assessment of human qualities. Education will provide the training of personality, develop habits of logical thinking and sound judgment, and thus will fit the pupil for a congenial vocational training, not merely to make a living, but to share and enjoy life to the full with his fellow men. This eventual simplification of management's task is a principle of the future, but in the meantime, schemes have been inaugurated for the occupational training of youth and others to ensure a smooth flow of recruits for the many responsible positions within our organisation. In operating their proposals the management welcome the co-operation of the trades unions and acknowledge the assistance of our Works Councils, Production Committees and other sections of the organisation in the selection and training of those whose character, abilities and energy, render them worthy of greater opportunities.

THE UNITED STEEL COMPANIES LTD

THE UNITED STEEL COMPANIES LIMITED

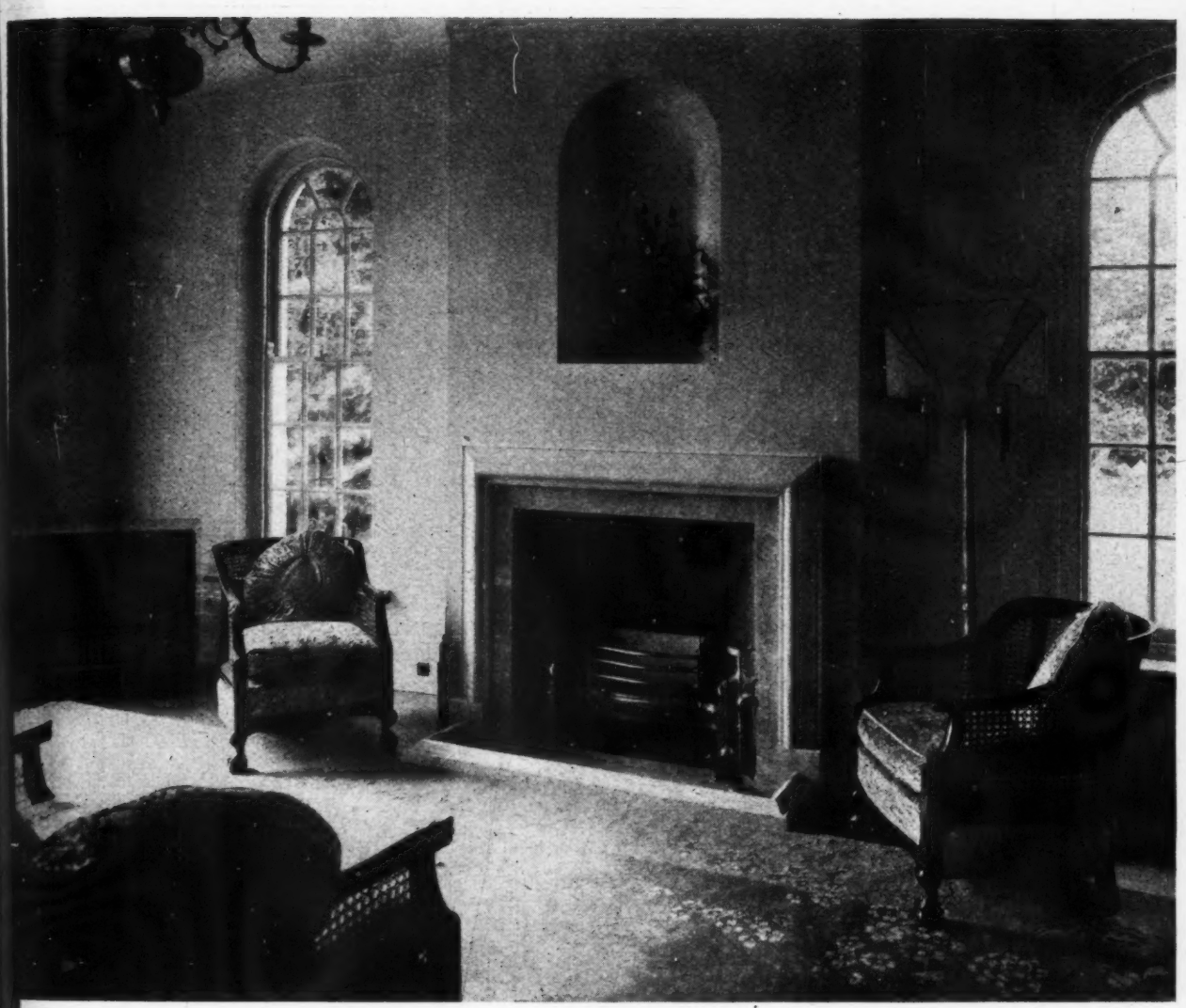
17, WESTBOURNE ROAD . SHEFFIELD 10

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
UNITED COKE & CHEMICALS CO. LTD., CUMBERLAND

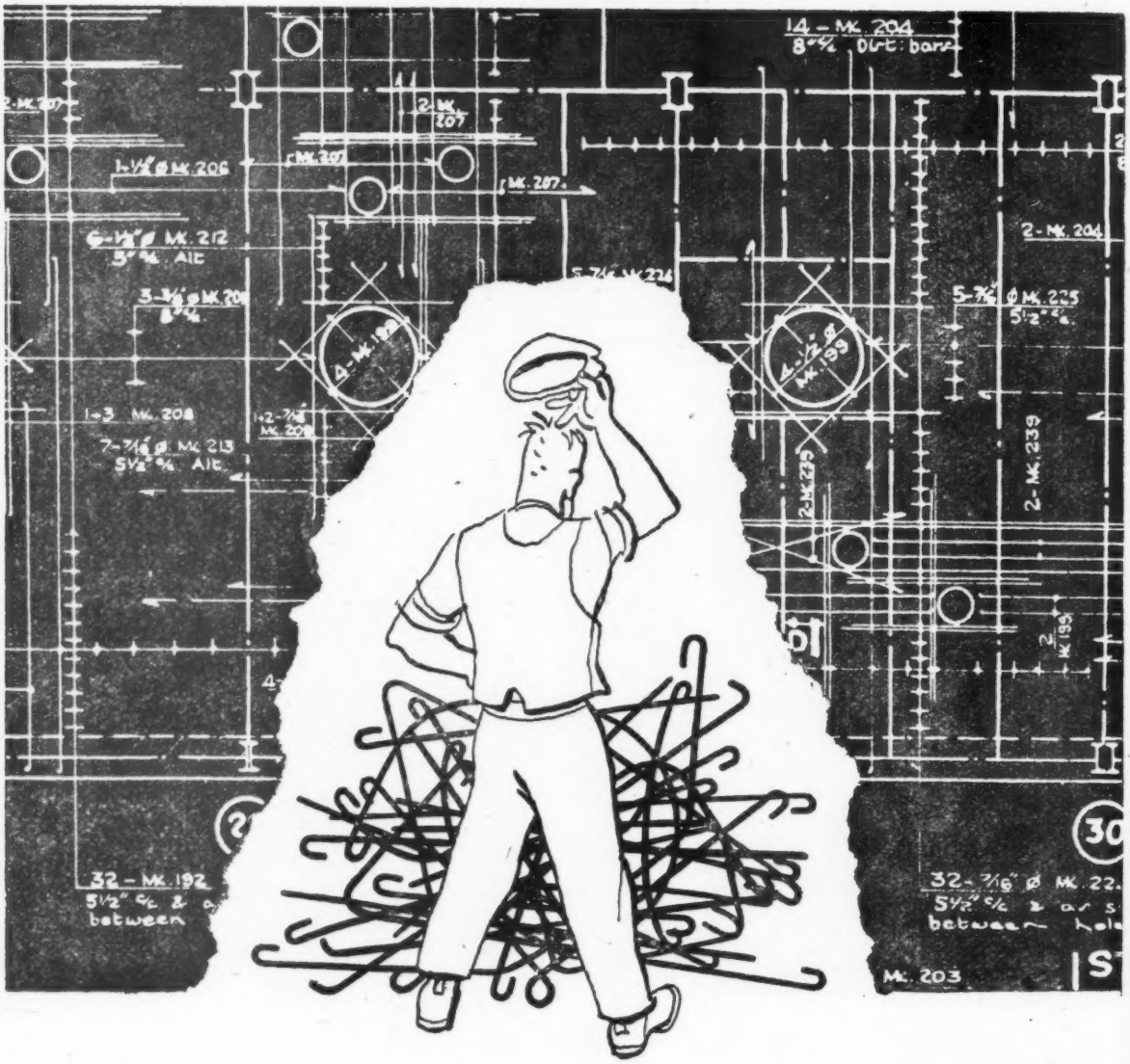
THE ROTHERVALE COLLIERIES, TREETON
THE SHEFFIELD COAL CO. LTD., TREETON
THOS. BUTLIN & CO., WELLINGBOROUGH

U.S.P. 43



THE quiet, sumptuous room shown above, is enhanced by the beautiful Georgian fireplace, itself a dignified example of fine craftsmanship. - We have many beautiful designs to submit for your approval, but we shall be pleased to produce fireplaces to clients individual requirements.

B. FINCH & CO. LTD. *Manufacturers* **BARKINGSIDE, ESSEX**



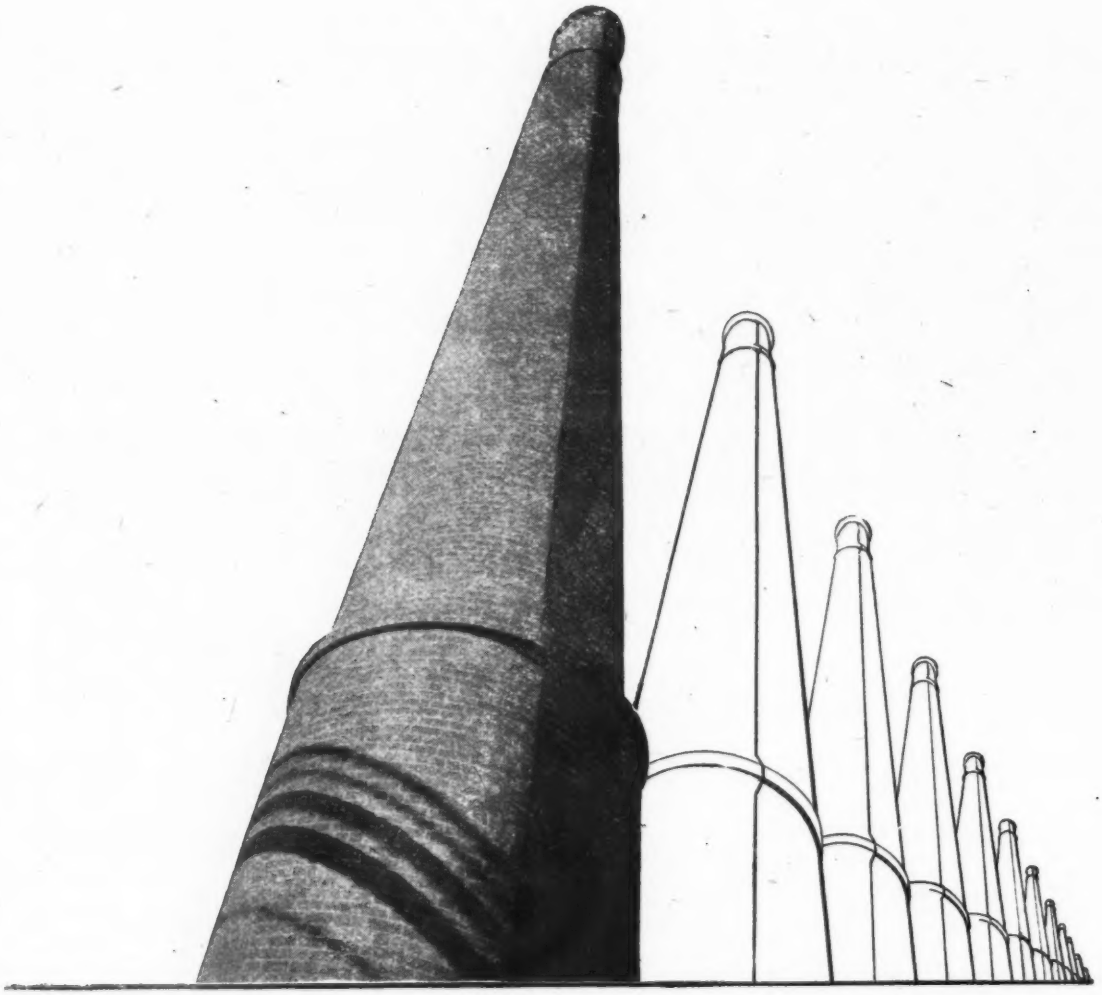
No head scratching on the site

From the time you let us have the specification we take off your hands all the worry concerned with the supply of reinforcing material; do all that's required in the way of bending, hooking, radiusing, etc., and get the material to the site not only when it's wanted but in the order it's wanted, and bundled and labelled for easy sorting and quick handling.

GUEST, KEEN & NETTLEFOLDS LIMITED

GKN
CARDIFF

CASTLE WORKS AND ROLLING MILLS, CARDIFF. 66 CANNON ST., LONDON, E.C.4. 111 NEW ST., BIRMINGHAM



Chimney after chimney . . .
built with PHORPRES bricks..

For many years now the leading firms of industrial chimney specialists have preferred PHORPRES bricks, and one firm alone (Chimneys Limited) has built 259 industrial chimneys using PHORPRES bricks. This type of structure imposes more severe and fluctuating loads than any other. From footings to cap, a standard of performance must be maintained far in excess of that required in any ordinary building.

PHORPRES

LONDON BRICK COMPANY LIMITED

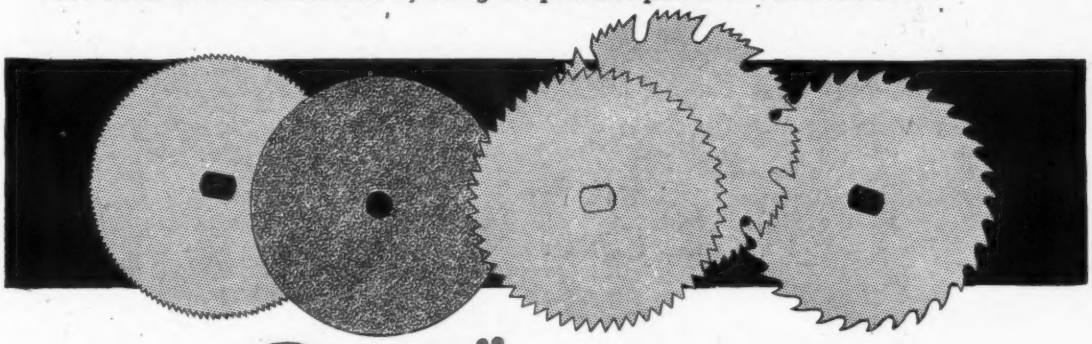
HEAD OFFICE: STEWARTBY, BEDFORD, BEDS. Telephone: KEMPSTON 3131
BIRMINGHAM OFFICE: PRUDENTIAL BUILDINGS, ST. PHILIP'S PLACE, BIRMINGHAM, 3. Telephone: COLMORE 4141
BRISTOL DEPOT: ASHLEY HILL GOODS DEPOT (G.W.R.) ASHLEY HILL. Telephone: BRISTOL 46572

POWER IN HAND

If you've a Van Dorn tool in your hand, you're holding power—enough for the job, and some in reserve.

For materials difficult to cut by ordinary methods—asbestos, guttering, bricks, tiles, stack pipes, etc., use the powerful "RIPSNORTER" saw fitted with an abrasive disc. The "RIPSNORTER" is ten times faster in wood than a hand saw, and has a variety of blades that will cut through most of the materials found in a builders' yard.

Save hours of time and labour by using the portable power of Van Dorn Tools.



"Van Dorn"

(Obtainable only from Van Dorn Distributors)

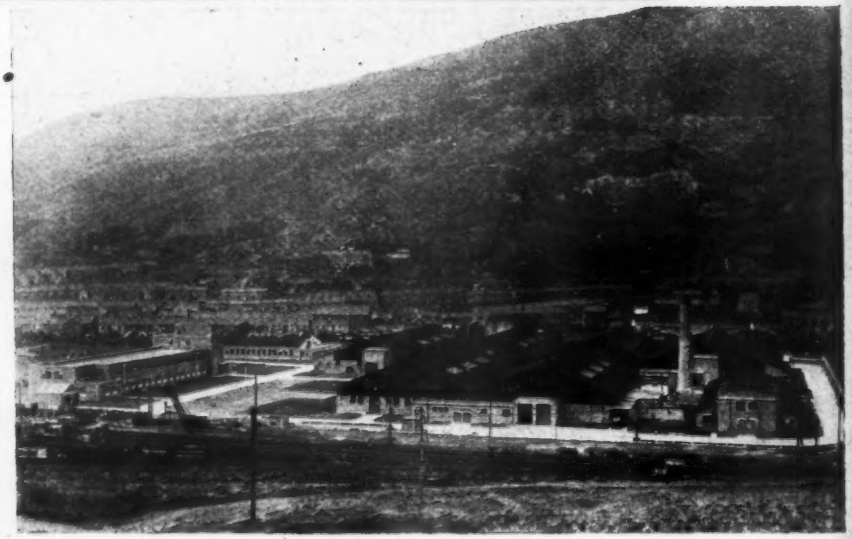
PORTABLE ELECTRIC TOOLS

VAN DORN ELECTRIC TOOLS

HARMONDSWORTH MIDDLESEX Phone: West Drayton 2681/6

Smee's

C. BRYANT & SON LTD., BUILDING & CIVIL ENGINEERING CONTRACTORS, BIRMINGHAM & LONDON



Government Factory completed in 1945.

KENT & SUSSEX CONTRACTORS LTD.

Building & Civil Engineering Contractors

ERITH

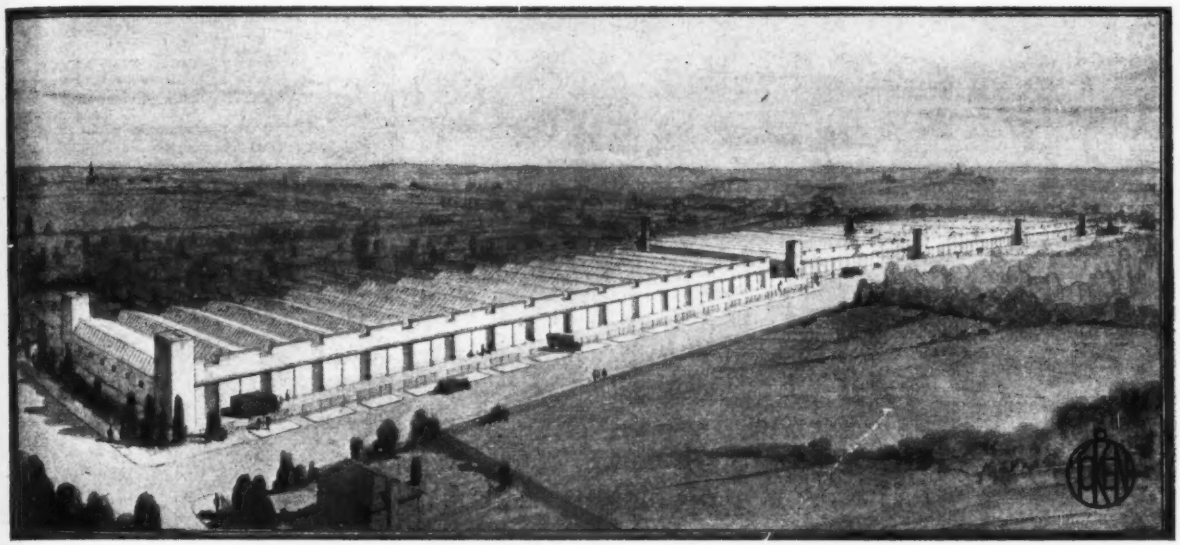
London Office:
120 Pall Mall, S.W.1

Birmingham Office:
270 Corporation St., Birmingham.

HIGGS AND HILL
LIMITED

LONDON

LEEDS COVENTRY



STORAGE BUILDINGS, IN A SOUTHERN COUNTY

Thomas Braddock, F.R.I.B.A., Architect

Erected by

THE TOKEN CONSTRUCTION Co. LTD.

Building and Civil Engineering Contractors

22 PARK STREET, LONDON, W.1

AND

Telephone:
LONDON OFFICE
Grosvenor
3821
(6 lines)

STATION ROAD, THATCHAM near NEWBURY, BERKS.

Telephone:
THATCHAM OFFICE
Thatcham, Berks.
3243
3275

¶ ENQUIRIES INVITED FOR INDUSTRIAL BUILDINGS, HOUSING ESTATES, SEWERAGE AND WATER SCHEMES, ROADS, CONCRETE WORKS, EXCAVATIONS, LEVELLING AND SPORTS GROUNDS

A New method of Building

The Wates precast concrete permanent houses are constructed with concrete units of which a specimen walling unit is shown on left. This system employs a widely distributed, cheap and well understood material, requires no steel frame, is capable of widespread production in existing factories and calls for no new machinery. The method of construction is extremely flexible and can be applied to almost any plan for houses or other buildings. Approved by H.M. Government for Local Authority Housing Schemes.

WATES BUILD

WATES LTD., BUILDING AND CIVIL ENGINEERING CONTRACTORS

1258-1260 LONDON ROAD, LONDON, S.W.16. TELEPHONE: POLlards 4401 (15 lines)

In a *fine* TRADITION...

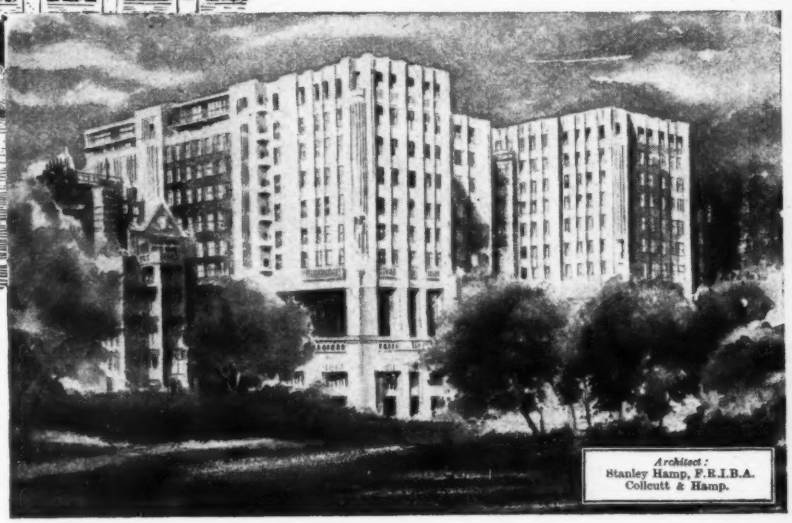
ROBERT ADAM, brilliant Scottish architect of 18th Century London. Architect to His Majesty, Member of Parliament, when he died in 1792 at the age of 64 he left behind him a tradition of fine building and decoration, 'the Adam Style'. Working with his brothers John, James and William, Robert Adam revived the classic beauty of ancient Roman and Grecian architecture. Each brother is honoured by a street named after him.

ἀδελφοι (the Greek word Adelphi meaning 'The Brothers') was the title chosen for the Adam Brothers' famous terrace. Completed in 1769 it stood for nearly one hundred and seventy years, the home of great men from David Garrick to Bernard Shaw.

The changing face of London, the ever-growing need for more spacious buildings, did not spare the Adelphi. But from the dust and rubble of that charming old street has sprung the new Adelphi, a graceful pile, modern in treatment yet built in the fine tradition of those earlier architects.

The new Adelphi is one of London's recent buildings in which Gee, Walker & Slater Limited take special pride. It is one of the many important works they have created for the Empire City.

The magnificent palace of the Emperor Diocletian with its terrace overlooking the Bay of Spalato in Dalmatia, was the inspiration for Adelphi Terrace. Cramped for space and with only a slippery river bank to build on, the Adam Brothers encroached on the Thames and built an embankment, to the great indignation of Londoners. They devised the massive system of arches on which the whole Adelphi stands. Their terrace, as shown in an old print, was one of the glories of 18th Century architecture.



Architect: Stanley Hamp, F.R.I.B.A. Collcutt & Hamp.

GEE, WALKER & SLATER LTD.

100 PARK LANE · LONDON · W.1.

UTTOXETER OLD ROAD · DERBY **MOUNT EARL · BRIDGEND · GLAM.**

WE take this opportunity of sending Greetings and Good Wishes for the New Year to our numerous friends in the Architectural and Surveying professions, and also to those engaged throughout the Building Industry.

(Est. 1864)

J. GERRARD & SONS

LIMITED

BUILDING AND CIVIL ENGINEERING CONTRACTORS

SWINTON

MANCHESTER

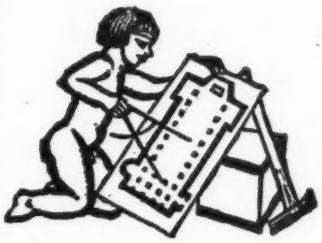
TELEPHONE: SWINTON 2261 (8 lines)

AND

LONDON

VICTORIA HOUSE, SOUTHAMPTON ROW, W.C.I. *Telephone*: Holborn 8340.

In common with every other periodical this JOURNAL *is rationed to a small part of its pre-war 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 JANUARY FEBRUARY AND MARCH

Titles of exhibitions, lectures and papers are printed in italics. In the case of papers and lectures the authors' names come first.

CHATHAM. *NALGO Exhibition.* At the Technical School for Girls, Fort Pitt. (Sponsor, BIAE.) JAN. 21-28

DARTFORD. *NALGO Exhibition.* At the Public Library. (Sponsor, BIAE.) JAN. 19-26

FLETCHING, *NALGO Exhibition.* At Sussex Parsonage Farm. (Sponsor, BIAE.) JAN. 25-31

LONDON. *London Master Builders' Association (Central Area No. 1).* Meeting at Derry & Toms' Restaurant, Kensington High Street, W.8. Chairman, C. E. B. Head. 2.15 p.m. JAN. 23

Two Day Conference. *The Family and Its Needs.* At BMA House, Tavistock Square, W.C.1. Speakers include F. J. Osborn, Miss E. E. Halton, Professor F. A. E. Crew, and Sir Montague Barlow. Conference fee 5s. (Sponsor, TCPA in conjunction with the British Social Hygiene Council.) JAN. 24-25.

R. L. Nicholas. *The Manchester Plan.* At the Town and Country Planning Association, 28, King Street, Covent Garden, W.C.2. (Sponsor, TCPA.) 1.15 p.m. JAN. 24

W. H. Hamlyn, LMS Railway Company's Architect, J. L. Martin, Principal Assistant Architect, and R. Llewelyn Davies, Development Assistant. *The Development Work of an Official Architects' Office.* At the AA, 34-36, Bedford Square, W.C.1. A film of the assembly of an experimental station will be shown. (Sponsor, AA.) 6 p.m. JAN. 29

National Federation of Building Trades Employers' Dinner. At The Dorchester Hotel. Guest of honour, Mr. Aneurin Bevan, Minister of Health. JAN. 30

Kenneth Holmes, Principal of the Leicester College of Arts and Crafts. *The Place of the Art School in the Life of the Community.* At the Royal Society of Arts, John Adam Street, W.C.2. (Sponsor, RSA.) 1.45 p.m. JAN. 30

H. M. Llewellyn, of the Building Research Station. *Painting Plastered Surfaces.* ASB Lecture at the RIBA, 66, Portland Place, W.1. (Sponsor, RIBA.) 5.45 p.m. FEB. 6

Professor J. D. Bernal, *Science in Architecture,* at the RIBA, 66, Portland Place, W.1. (Sponsor, RIBA.) 6 p.m. FEB. 12.

Professor G. I. Finch, Scientific Adviser to the Ministry of Home Security. *The Need for Scientific Research into the Prevention and Extinction of Fires.* At the Royal Society of Arts, John Adam Street, W.C.2. (Sponsor, RSA.) 1.45 p.m. FEB. 13

Max Lock. *Surveys and Their Practical Application to Planning.* At the Livingstone Hall, Broadway, Westminster, S.W.1. (Sponsor, TPI.) 6 p.m. FEB. 21

Miss Jacqueline Tyrwhitt. *Planning in Canada.* At the Town and Country Planning Association, 28, King Street, Covent Garden, W.C.2. (Sponsor, TCPA.) 1-15 p.m. FEB. 21.

J. F. Bickerton and Petros Protopapadakis. *Layout of Passenger Stations.* At the Institution of Civil Engineers, Great George Street, S.W.1. (Sponsor, ICE.) 5.30 p.m. FEB. 26

Solid Smokeless Fuel Appliances for Domestic Heating Services. Exhibition. At the Horticultural Hall, Vincent Square, S.W.1. The exhibition is being designed by Ian Jeffcott. (Sponsor, Solid Smokeless Fuels Federation.) MARCH

Maurice B. Reckitt. *The Polls and the Citizen.* At the Town and Country Planning Association, 28, King Street, Covent Garden, W.C.2. (Sponsor, TCPA.) 1.15 p.m. MAR. 7.

Percy Delf Smith. *Signs and Amenities.* At the Town and Country Planning Association, 28, King Street, Covent Garden, W.C.2. (Sponsor, TCPA.) 1.15 p.m. MAR. 21.

H. Berry, M.P. *Town Planning and Water Supply.* At the Town and Country Planning Association, 28, King Street, Covent Garden, W.C.2. (Sponsor, TCPA.) 1-15 p.m. APRIL 4.

MANCHESTER. G. Grenfell Baines. *Use of Colour in Buildings.* At the Engineers' Club, Albert Square, Manchester. (Sponsor, Manchester Oil and Colour Chemists' Association.) 2 p.m. JAN. 18

PUTNEY. *NALGO Exhibition.* At the High School. (Sponsor, BIAE.) JAN. 21-28

SITTINGBOURNE. *NALGO Exhibition.* At Bordon Grammar School. (Sponsor, BIAE.) JAN. 17-21

WINCHESTER. *Englishman Builds Exhibition.* At Hampshire Guildhall. (Sponsor, BIAE.) JAN. 29-FEB. 3
Rebuilding Britain Exhibition. At Hampshire Guildhall. (Sponsor, BIAE.) JAN. 29-FEB. 3

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

NEWS

THURSDAY, JANUARY 17, 1946
No. 2660. VOL. 103

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 RIBA is constantly receiving enquiries from schools, institutes, service groups and units, civic and village societies, etc., for LECTURES ON GENERAL ARCHITECTURAL SUBJECTS which it is at present quite unable to meet.

It is thought that there will be many architects and others being released from the Forces who have had a good deal of experience in giving lectures and talks who might care to offer their services in this connection. Evening and week-end lecturers are needed in addition to those who can spare an occasional afternoon. There is a wide field of opportunity in this direction, and the Secretary of the Lectures Committee will be very glad to hear from any volunteers who should write direct to the RIBA, 66, Portland Place, W.1. Intending lecturers will be interested to know that the Institute now has a collection of some 500 topical architectural photographs specially prepared for their use, particulars of which can be had on application.

Mr. Percy Thomas, P.R.I.B.A., has been appointed CONSULTING ARCHITECT FOR THE TUC MEMORIAL BUILDING.

The Trades Union Congress has appointed Mr. Percy Thomas, P.R.I.B.A., to act as consulting architect in connection with its Memorial building scheme. The scheme envisages the building of new national headquarters for the TUC, with which will be incorporated a trade union educational institution.

EDITORIAL NOTE

This New Year issue is intended, as was last year's, to be a useful reference to, and index of, both the year's events and of the year's developments in planning and housing for the future and in general building technique. It is designed particularly with the object of keeping architects now in the Forces *au fait* with what has been happening during 1945.

Mr. Lewis Silkin, Minister of Town and Country Planning, and Mr. George Buchanan, Under-Secretary of State for Scotland, met representatives of the advertising interests and discussed with them the question of the FUTURE CONTROL OF OUTDOOR ADVERTISING.

The Minister said the present position was unsatisfactory and existing legislation inadequate. It was his duty to see that the amenities and natural beauty of this country were not destroyed. In carrying out that duty he wished to be just to the advertising industry, and he was hopeful that it would be possible to reach a broad measure of agreement. Mr. Silkin said he had not yet had an opportunity of discussing the question with the local authorities' associations, but he hoped to do so in the near future. A full and friendly discussion took place, and the representatives agreed to consult their respective associations with a view to discussing details with the Minister at a further conference.

The historic town of ST. MALO is BEING REBUILT.

Out of 1,100 houses only 100 remained intact when the Germans surrendered in August, 1944. The Department of Historical Monuments in Paris has decided to rebuild the Pirates houses exactly as they were. Each brick is numbered before any shattered building is demolished, so that the task of reconstruction can be accurately carried out. The martyred city of St. Malo heads the list of towns which are to be completely rebuilt on account of their historic and artistic value. There were 20,000 inhabitants of St. Malo in 1939. To-day about 2,000 have returned to live in cellars and in a few temporary houses.

Mr. Clement Davies, K.C., M.P., Chairman of the Advisory Committee for London Regional Planning: OUR WATCHWORD MUST BE SPEED.

The Advisory Committee for London Regional Planning, set up in October at the request of the Minister of Town and Country Planning, held its first meeting in the Middlesex Guildhall. Mr. Clement Davies, K.C., M.P., Chairman of the Committee, said their watchword must be speed. They were more fortunate than their predecessors in the endeavour to save the London Region from creeping paralysis. They had the good fortune to begin with the Outline Plan prepared by Sir Patrick Abercrombie. The Committee had to consider the comments of the Joint Planning Committees and Local Authorities in the area, and decide what adaptations were advisable and the final form the plan should take. Mr. Silkin had suggested that a Plan should be agreed by June 30, 1946, and that must be the firm intention of the Committee. That would mean the technical officers would have to work their hardest, and that the Joint Planning Committees would have to submit their comments with the greatest despatch. Mr. Davies also referred to the smaller committee which was to be appointed by the Minister, and of which he was to be Chairman. This Committee would consider, as a matter of urgency, the methods to be adopted to implement the plan when it had been agreed by the Advisory Committee and approved by the Minister. The Committee agreed to the appointment of the following officers:—Honorary Secretary, Mr. C. M. Ratcliffe, Clerk to Middlesex County Council; Honorary Treasurer, Mr. L. A. Rothwell, County Accountant, Middlesex County Council; Chief Technical Officer, Mr. Harry Stewart, formerly Chairman of the Technical Committee of the Standing Conference on London Regional Planning. A Technical Sub-Committee was also appointed.

In July the Council of Industrial Design will hold its exhibition BRITAIN CAN MAKE IT.

For the first time in the post-war era the curtain will be lifted upon a representative selection of the products with which industry hopes to capture the goodwill of home and overseas markets. All firms will have an opportunity to compete through the various executive committees which their industries will set up. The Regional Branches of the Ministry of Aircraft Production and Supply, Board of Trade, and Chambers of Commerce are prepared to advise and encourage firms in preparing their goods for submission to the Council's selection committees. This is industry's first great chance to demonstrate how British designers and technicians will tackle an industrial test that can only be compared to the military test we faced in 1940.

The Government has decided that it is no longer necessary to maintain a Directorate for the co-ordination of the activities of the WOODWORKING Industry as a whole.

This decision has been made now that the very large Service contracts which occupied the major part of the capacity of the Woodworking Industry during the war, have been greatly diminished. Service and Supply Departments will, therefore, be directly responsible for placing their orders for woodworking. Mr. R. H. Hall, the Director of Woodworking in the Ministry of Supply, who has dealt with the manifold problems of this variegated industry since the inception of the Directorate has, at his own request, been released from his appointment. Responsibility for the woodworking industries is divided between the Board of Trade and the Ministry of Works. The Ministry of Works is responsible for builders' joinery, defined by the Joinery Industry Reconstruction Committee as follows:—"All articles and the processing thereof made in a permanent factory or workshop away from a building site such articles being wholly or mainly of wood and for permanent incorporation in a building and made prior to such incorporation by the joining of pieces of wood by skilled work of a recognized standard." This definition includes such products as doors, staircases, window-frames, balustrading, picture-rails, mouldings and skirtings, built-in cupboards, timber buildings. The Board of Trade is generally responsible for other woodworking industries.

T. P. Bennett, lately Director of Works, Ministry of Works (left) and Percy Thomas, President of the RIBA, who were created Knights Bachelor in the King's New Year Honours.

I A.A.

The event of 1945—and perhaps of all history—was the explosion of the atomic bomb. With appalling shock a new age began, and all the more dramatic was the explosion by contrast with the H.E. and robot bombs which had hitherto seemed sinister enough. Above, the effects of a V bomb on houses at Southgate contrasted with the ruins of Nagasaki. Left, a V bomb falls in Aldwych while people in Fleet Street go unconcernedly about their business. Right, the smoke from the atom bomb rising 20,000 feet above Nagasaki before billowing out above the clouds. Now, as we have been told so often, we shall destroy ourselves utterly or begin, with the help of overwhelming power, to build a new culture. Then architecture and physical planning could at last come into their own by virtue of the wealth and leisure which atom energy could provide if unlocked and controlled. Let us hope that I A.A. stands, not only for the first year of the Atomic Age, but for the beginning of a new Age of Architecture.

MESSAGE TO THE ARCHITECTS' JOURNAL FROM THE MINISTER, THE RIGHT HONOURABLE GEORGE TOMLINSON, M.P.

I gladly take this opportunity of sending my New Year Greetings to all the readers of your Journal.

During the war years both offensive and defensive operations were dependent, to a large extent, upon the part played by the construction industries of this country. They provided the great new buildings in which the munitions of war were made ; the covered stores and hard standings, the airfields and, last, but not least, the prefabricated harbours for D Day.

We are now at the beginning of a year in which the fight is to rebuild Britain in the shortest possible time. Great responsibilities rest upon the shoulders of all of us who are concerned with this great task. Upon our efforts will depend the comfort and prosperity of the Nation. The building of great factories, no less than the building of homes and schools, is an inspiring task and one that will absorb all the energy and efficiency that can be mustered. In this the Ministry of Works will play its full part.

I am fortunate in that I am confident of the closest co-operation of all engaged in this task—professional men, employers and operatives alike.

It is my desire that the Ministry of Works should be regarded by the industry as a friend and confidant in all its difficulties and problems, and that we may establish in the New Year an atmosphere of mutual helpfulness in meeting the Nation's expectations.

GEORGE TOMLINSON

DIARY FOR 1945

This diary, which first became a regular feature of the New Year Issue at the beginning of the War, records the outstanding events in the building world during the past year. Owing to the need of including other index features in this issue it has been condensed in size but is the same in format. Where it has been thought necessary the source from which the information was obtained appears at the end of certain items. Sir Charles Reilly, instead of his usual review of the year's buildings, contributes the introduction.

INTRODUCTION

[*BY SIR CHARLES REILLY*]

In the years before the war I used to get from THE ARCHITECTS' JOURNAL each December a grand pile of photographs of buildings erected during the past year, and used to have a great time kicking up my heels and saying what I thought of them. Now the paper sends me instead a long list of stuff they have printed each week of Government regulations, of stray statements by Ministers and Chairmen of Housing Committees and other strange people, and a few conditions of competitions for buildings architects may some day hope to build when the so-called "peace" is over and we settle down once more to normal times. Of course, when that happens it will not be like the old normal times. It will probably be much better, though some people think it will be much worse. When we come to the July notes I notice no mention is made of a general election. Perhaps that is right in a technical paper. One has the fun of inferring that something big and strange has happened from the change in all the Ministers' names. Probably every architect's life has been changed too, little as we think of it now; some very much for the better, some for the worse, perhaps. Imagine the new power the architect will more often have when he has the State behind him. There is J. H. Forshaw's new position with the whole housing drive passing through his hands to make or mar. Has any architect ever held such power for good or evil before? Instead, however, of the general election, we have once more the routine election of Mr. Percy Thomas as President of the RIBA.

Let us look at what has happened month by month, and see what, if anything, is of real interest to us as architects beyond all these new regulations.

January. The Royal Gold Medal is at last to be given by H.M. the King on the recommendation of the RIBA to a Russian, Victor Vesnin, the architect of the Dneiper Dam and its subsidiary buildings. The old lady of Portland Place is clearly beginning to open her eyes and take notice of what is happening in the world at large, even if she missed a year in her usual practice as judged from the list of giving the Medal every third year to a foreigner. The result is so good that the RIBA may perhaps be excused for taking an extra year before its cold plunge. Professor Patrick Abercrombie, my old colleague at Liverpool and that School's first Lecturer in and then its Professor in Town Planning, decently called there Civic Design, is given a Knighthood. Cheers. A most deserved honour after his London Plan and all his other ones. He is the first town planning knight in history and, of course, like Forshaw, had to come from Liverpool. The head of the Building Research Station, R. E. Stradling, is also knighted. Another good shot. The Chairman of the Bournemouth Beach Committee says piers cannot be rebuilt for ten years. We refuse to believe it. The President of the Board of Trade appoints yet another Council of Art and Industry, but, more important, the Association of Building Technicians appoints Mrs. Colin Penn, a holder of that not unknown name, its secretary. The Crown buys a twenty-five-roomed house at Ascot. I hope it will go on with the good work of carrying the baby. One wondered what would become of these houses. Now one wonders even more. The conditions of the Crystal Palace Competition are announced. That is the kind of thing that should increase in the near future.

February. An all-party architectural committee in the House of the Lords and Commons arrives with that delightful person, now for some funny reason a Mayor, Mr. E. H. Keeling, the Member for Twickenham, in the chair. America is to send us thirty thousand prefabricated houses—possibly? February 15. The Jubilee of this Journal. An Architect wins the George Medal for the first time, Mr. H. B. L. Horner. Wandsworth Borough Council, fortunately, finds nowhere to put its temporary houses.

March. St. Albans, Holborn, is to be rebuilt by both the Scotts, Sir Giles and Adrian, a very proper pair who seem to be running in double harness a good deal now. The London Master Builders' Association allege greengrocers, billiard-markers and fried fish men—an interesting collection—are being registered by the Government as builders. When the USA introduced registration for Architects, several undertakers, I understand, were included. Blackburn Corporation buys the ancestral home of its Lords of the Manor and 400 acres of parkland, a very proper arrangement, especially if one knows Blackburn. In ten years the Miners' Welfare Committee spent nine millions in pithead Baths and Institutes and made them the best range of modern buildings, in my opinion, in this country. They were put up mostly under the direction of J. H. Forshaw before he went to the LCC. It will be remembered in publishing the drawings of them the name of the assistant architects were always given, an excellent practice not followed yet by all authorities or, what is probably more important, their Chief Engineers or Architects. During the air raids one-third of the buildings of the City of London are said to have been destroyed, a fact often forgotten, especially in other countries, which applies to South London and other parts as well. West Ham has appointed a Borough Architect independent of the Borough Engineer, an excellent pointer to larger authorities which still lag behind in this respect. Mr. C. D. Spragg, who had been Assistant Secretary to the RIBA from 1926 to 1943, was appointed Secretary. Sincere congratulations. Sir Stafford Cripps says, in order to bring real success in the electrification of the country, we must bring down the price of generating electricity. Why not do it by combining electricity stations with district heating stations, as was done in Hamburg before the war, and so save most of the vast amount of coal now wasted by pure electricity ones, which at present only extract at most three-quarters of the heat the coal contains? I am told the Thames is considerably hotter at Battersea than at Hammersmith. Mr. Duncan Sandys announces the reorganization of the Ministry of Works on battle lines. Unfortunately he does not seem to have foreseen the result of another battle in three months' time.

April. To meet rebuilding costs the hotels alone are said to require three million pounds. Charing Cross Hospital Council approves a scheme for rebuilding the hospital at Wembley to include the Medical School. The Highland Hydro-Electric Board says it does not intend to accept the recommendations of its Amenities Committee nor of the Fisheries one, both appointed under the Act. One never was very hopeful of anything about this Board. A Plan is being made to double the size of Leningrad.

May. Brighton buys a mural painting of Rex Whistler's from the owner of his billet in a villa in that town. It is of the Regent, with single eyeglass, Garter Ribbon and little else, discovering in a nude lady on the beach at Brighton the spirit of that town. Perhaps other similar discoveries have followed since. The Incorporated Association of Architects and Surveyors follows the practice of the RIBA, much as it must dislike doing so, in reappointing its old president, Col. F. G. Sainsbury, for a third, but not for a fifth, term of office. The Government proposes the repair of war-damaged houses and the building of new ones as part of the training of apprentices. An excellent idea which I hear the Architectural Association is following with its School. The War Memorials Advisory Committee is against ugly little memorials scattered about. Who isn't? The Colonial Office announces it is to recruit architects for the Colonial Services. In the House of Commons, Sir Archibald Sinclair says there are still approximately fourteen hundred architects and surveyors in the Air Force alone. Mr. Winston Churchill, still Prime Minister in May, is awarded the Royal Albert Gold Medal founded to commemorate Prince Albert the Good. A seventy-three year old MP laid in proper shape two hundred bricks in fifty-eight minutes at the House of Commons. Planning Progress is reported in Northern Ireland under Mr. Denis Winston, with Mr. Davidge as Con-

sultant, in Wales under Mr. Clough Williams-Ellis, in the West Indies under Mr. Gardner Medwin, in East Africa under Mr. Maxwell Fry and Miss Jane Drew, in Malta under Messrs. Harrison and Hubbard, and in the villages and the towns of the USSR everywhere.

June. The Ministry of Education adopts temporary buildings for the time being. Schools are to be in Nissen huts; they could hardly be in worse. Mr. E. B. Gillett is elected President of the Chartered Surveyors' Institution. It is not said how many times he has held the post before. Mr. Willink, Minister of Health, introduces a never-to-be-forgotten Bill to enable local authorities to build houses in the public parks. The Architects' Registration Council has obtained powers from the Privy Council to announce its decisions in public however drastic, a process other bodies might well copy. Surbiton helps its tenants living in temporary bungalows to buy furniture. Obviously, there should be some compensation for so living. Mr. Hinchcliffe Davies, an old Liverpool student and architect, is appointed Controller of Building in the British Zone in Germany. Charlecote Park, where Shakespeare is reported to have poached, and its Manor House are given to the National Trust. St. Columba's Kirk, Pont Street, London, when rebuilt at the cost of £150,000, is to have a lift, a restaurant, kitchen and servery, but no mention is made of a Turkish Bath. Sir Peirson Frank, Chief Engineer to the London County Council and previously Chief Engineer to the City of Liverpool, is elected President of the Institute of Civil Engineers for the first time.

July. As an expiring effort after 12 months' delay Mr. W. S. Morrison, Minister of Town and Country Planning, turns down the City of London Plan. The day it was published a London evening paper called it "Confusion worse confounded," and strangely enough the *Manchester Guardian* followed suit. Messrs. Minoprio and Spenceley, both B.Arch. Liverpool, appointed Town Planning Consultants to the Worcester Corporation. Mr. Percy Thomas elected President RIBA as usual; only member to be elected five times, except Sir William Tite. The Architectural Association elects as President G. R. Dawbarn of airport fame. Mr. Thomas Sharp elected President of the Town Planning Institute and also appointed Town Planning Consultant to the City of Oxford. The first four permanent houses in the country to be entirely built by apprentices are erected at Bournemouth. I wish young architects could have a little similar practice during their education—a little, of course, not more. Manchester holds a grand Town Planning Exhibition in the City Art Gallery. International Housing Exhibition and Conference is held in the Chapter House and Cloisters of Gloucester Cathedral and a special Litany for Architects is very properly sung in the Cathedral itself. Exhibition opened by the Duke of Beaufort and the first speech of one of the new Ministers, Sir Stafford Cripps, made at the Conference.

August. The directors of Lewis Ltd., of which Lord Woolton is Chairman, have given the University of Manchester, of which he was a student and is now the first old student to become Chancellor, £35,000 for a Woolton Hall of Residence to commemorate the fact. In between he was of course at the University of Liverpool where he was Warden of the Men's Settlement and later Treasurer of the University. Woolton is on the outskirts of Liverpool, where 50 years ago resided two well-known ladies, friends of Edward VII, locally known as The Kingfishers. St. Bartholomew's Hospital is now to move out and be rebuilt at Watford at a cost of a million. There will clearly be some good jobs for hospital architects, when there are any jobs for anyone. The Regional Plan for Merseyside by Mr. Longstreth Thompson is issued. Mr. Aslan and I appropriated a good deal of it for the Birkenhead Plan which shows of course how good it is. The New Minister of Town and Country Planning, Mr. Silkin, wisely appoints Mr. Julian Huxley, Mr. Clough Williams Ellis and Mr. John Dower among others to a National Parks Committee. The President of the National Federation of Building Trades Employers says there are no rings among the builders in Great Britain. I wonder where they are then. Mr. Brian Bannatyne Lewis, M.A., B.Arch. Liverpool, appointed Architect to the Great Western Railway and for the first time in such appointments not under the Railway's Engineer. A great step this which the London County Council should notice. Four hundred and two, or twice as many firms as a year ago, are now making Utility furniture. Jacques Groag, the architect, who helps to design it, says a complete change has come over the scene since Sir Stafford Cripp's arrival. Durham Cathedral is saved and the threat to Lincoln reduced, both largely through the exertions of the Architectural Press. The Development Plan for Norwich and the proposals for Sheffield are published. The first seems good and reasonable, but the second do not even attempt to determine the size of the city. Poland demands a national plan and Mr. Lichtenstein prepares an outline one.

September. The Smoke Abatement Society urges that all new houses should be fitted with improved fuel burning appliances. Right. Smoke, dirt and slums are not the best of our national specialities. A Competition for the Cathedral at Colombo is announced with Sir Giles Gilbert Scott, O.M., as Assessor. Good in every way. The new Minister of Works, Mr. George Tomlinson, announces that he will be charged with the task of organizing all immediate building materials. Good too. Bradford-on-Avon chooses a prehistoric burial ground for its temporary houses and is surprised at criticism of the proposal. After more than a year the Royal Fine Arts Committee joins in the chorus of disapproval of the City of London's Plan. The RIBA Manchester Conference in the City Art Gallery on *The House and the Neighbourhood* is addressed very appropriately, by L. H. Keay, the Housing Director of Liverpool and the Architect of that City. Charles Holden, in my opinion our most imaginative architect, produces a plan for the environs of St. Paul's which the Dean and Chapter submit to the Corporation, to the Ministry of Town and Country Planning and to the Royal Fine Art Commission.

October. Mr. Silkin, who never sleeps, has appointed another committee, a New Towns Committee, with Lord Reith as Chairman. The Crown Prince of Sweden, who it may be remembered is also a good mural painter and head of the Swedish Co-operative Society, hence perhaps their splendid shops in contrast to our co-operative ones, opens at Gothenburg the largest town planning exhibition Sweden has ever had. The Federation of Registered House Builders is formally established at a meeting in London by a merger of several societies whose members all pledge themselves to deal only in houses in every respect up to the prescribed standards. This should make Sir Raymond Unwin happy in the Shades or in the Light or wherever he is. A new National Forest of ten square miles is to be formed in the Lake District. On the other hand, after a thousand years of quietude, and in spite of the strange movement of Burnam Woods to Dunsinane, a 50,000 acres estate comprising the ancestral lands of Macbeth is to be broken up. As a grandfather myself I like the idea of the grandmother's flat brought to the notice of the RIBA in which she can live alone but disturb her grandchildren as often as she likes. The MP bricklayer, Sir Harry Selley, who proved his skill at the House of Commons, is quite rightly appointed President of the Federation of Master Builders, apparently for the first time. The Wolverton Development Plan by G. A. Jellicoe is published. It is proposed very appropriately by a large tree-planting scheme to envelope and link the new housing with the new parks into a single design. Nothing I suppose will be seen but the trees, a very proper suggestion for this famous landscape architect to make.

November. Prefabricated bungalows are found too expensive and too extensive on a number of sites. After the Crystal Palace the Alexandra Palace. This last is to spend a million pounds in making itself really gay. I think it will require it. May it too, soon, advertise a competition. The £8,000,000 Royal Ordnance Factory, at Kirkby, which Professor Holford and his team built during the war, is now to be taken over by the Liverpool Corporation, but what they will do with it is at present a mystery. Mr. J. A. Forshaw's appointment as Chief Architect to the Ministry of Health is announced as from January 1. The Greater London Plan by Sir Patrick Abercrombie is published with its fine drawings, this time attached.

A piece of good news and a piece of bad news have so far arrived. The good news is that Professor Holford, Lever Professor of Civic Design at Liverpool, and Dr. Charles Holden have been appointed to replan the City of London. The piece of bad news is that the London County Council have demonstrated to the world that they do not understand what an architect is or does by putting their housing architects under the Valuer and taking them away from the Architect. That clearly shows where the Council now stands in relation to the Arts of Life as well as to the Fine Arts.

December. A good journalist has been defined as a person with an intelligent anticipation of events. We on the staff of the Architects' Journal, and I like very much being allowed to identify myself with them once a year, having been editor in the dim past, must therefore be very good ones, for we have anticipated both J. H. Forshaw's appointment as the Chief Architect to the Ministry of Health and Professor Holford's and Dr. Holden's as replanners of the City of London, and have implied that none better could be appointed in either case. The official announcements, however, are only made this month. Messrs. Dorman, Long and Company are to put up a new steel plant at a cost of eight millions, but in the new world of modern architecture, which our young men are to erect in a few years time, its product will no doubt be useful but a mere trifle in the total quantity, a trifle though not hidden behind the classical orders we old men used to do in our youth. Brighton forms a Regency Society, but I had better not say too much about that, except that the Duke of Wellington proved himself still an architect in spite of the RIBA making him an Honorary Fellow, when he wanted to be a retired one, but then the RIBA could hardly allow a duke to be that. His past, even in the Institute's special art, must not be referred to in public. We are a strange nation. Stanley Ramsay, my first pupil, is to assess a competition for 31 acres of flats— a pretty big lot—in Westminster. Mr. Stillman, who has put up such fine buildings as County Architect to Sussex, is now going to do the same, I hope, for Middlesex. Professor Sir Patrick Abercrombie is to have the Royal Gold Medal for Architecture for 1946, when medals are once more available. It makes me more proud still to be in the same waiting crowd.

P.S. New architect knights-to-be are in the Honours List. Percy Thomas, five times President of the RIBA, is very properly knighted, but not five times, which would have been even more proper. The President of the Royal Academy always is —he only lives a year. T. P. Bennett is to be knighted for his work during the war for the Ministry of Works and perhaps, too, for the hundreds of blocks of flats he built before it.

ASTRAGAL'S

Review of 1945

JANUARY

1945—last year of the war, first of the Angst-ridden, Adrenalin-soaked Atomic Age, the year of Monty and MacArthur, of Potsdam and Belsen, of V1, V2, VE, and VJ, of Eva Braun and Brendan Bracken, of fraternization and a fifty-year-old A.J., of Sharawaggi and Hiroshima—opened bleakly and without promise. Squeamish Londoners averted their eyes from the pavements as they shuffled to work, and streets were rocked by the regular descent of rockets emerging out of a sky from which the friendly barrage balloon had for ever vanished.

* * *

The building industry, glassy-eyed with frustration and ambition, crowded the corridors of MOW with miracle schemes for building houses, but only a handful of tolerably well-designed houses, temporary or permanent, had so far emerged from the scrum. The Government's White Paper on the Reform of Local Government was so unadventurous—tiptoeing in where no angel would hesitate for a minute—that a second White Paper on the Reform of Central Government seemed urgently called for.

* * *

Cigarettes were as scarce as houses, fuel as short as tempers, and Peter Jones—hitherto inviolate—suffered a broken window from a rocket. Even the war wasn't going too well. True, the Russians were only 45 miles from Berlin, but Rundstedt's offensive was booming and the civil war in Greece was unresolved.

* * *

Hope and comfort, however, were brought to many an unquiet grave by the news that the Paris boat train now left Victoria every day. Ah, the ecstasy of catching French [or Koestler's] Flu again.

JANUARY

THE KING'S NEW YEAR HONOURS

Viscount: Lord Portal, Minister of Works, 1942-1944.

Knights Bachelor: Leslie Patrick Abercrombie, Professor of Town Planning. University of London; Alan Campbell Macdiarmid, Chairman and Managing Director, Stewarts and Lloyds, Ltd.; Reginald Edward Stradling, Chief Adviser, Research and Experiments Department, Ministry of Home Security.

APPOINTMENTS

General Secretary of the Association of Building Technicians: Mrs. E. V. Penn.

Member of the Central Advisory Council for Wales set up under the new Education Act: T. Alwyn Lloyd.

RIBA GOLD MEDAL

RIBA Royal Gold Medal awarded to Victor Vesnin, President of the Academy of Architecture of the USSR and architect of the famous Dnieper Dam.

INDUSTRIAL DESIGN

The President of the Board of Trade appointed a Council of Industrial Design to encourage the improvement of design throughout the manufacturing industries and thereby to stimulate the sales of British goods both at home and in oversea markets.

COMPETITIONS

Women's Hospital at Golders Green, N.W., won by W. F. Howard. Promoters, Industrial Orthopaedic Society.

Pair of semi-detached houses which would show the advantages of timber construction in the speedy and economical provision in quantity, of attractive, permanent houses, won by John P. Tingay; Promoters, Timber Development Association.

Dartington Hall, Housing Competition, won by the Grenfell Baines Group, Preston; Promoters, Dartington Hall Trustees.

Blocks of terrace houses suitable for erection in towns, won by G. K. Findlay; Promoters, National Housing and Town Planning Council.

£2,000 offered for the winning design in the Crystal Palace Competition; Sponsors, Trustees of the Crystal Palace and CEMA.

THE HUB OF THE HOUSE

The Hub of the House, by the Association for Planning and Regional Reconstruction, and submitted as evidence to the Ministry of Health Central Housing Committee's Sub-Committee on the Design of Dwellings, under the chairmanship of Lord Dudley, published in the A.J. The report falls into three sections—1. Personal Hygiene, covering bathrooms and water closets. 2. Household cleaning, covering general design for cleanliness, cleaning cupboards and equipment, refuse storage and removal. 3. Laundry work, covering methods of home washing and its requirements.

APPRENTICES

Building Apprenticeship and Training Council start on an immediate drive for Apprentices. The scheme is for five years training under skilled craftsmen from the age of 15, though boys of 14 can enter as probationers.

HOWARD MEMORIAL MEDAL

At the opening of the new Headquarters of the Town and Country Planning Association at 28, King Street, Covent Garden, Lord Lytton presented the Howard Memorial Medal to Dr. Norman Macfadyen, the retiring Chairman of the Executive Committee.

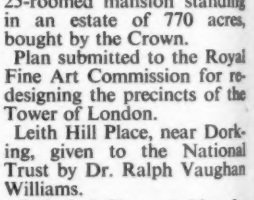
PHYSICAL PLANNING

Sunninghill Park, Ascot, a 25-roomed mansion standing in an estate of 770 acres, bought by the Crown.

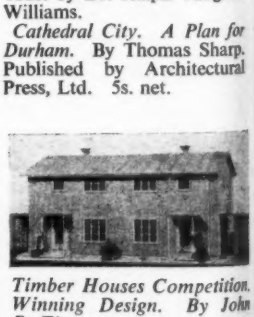
Plan submitted to the Royal Fine Art Commission for redesigning the precincts of the Tower of London.

Leith Hill Place, near Dorking, given to the National Trust by Dr. Ralph Vaughan Williams.

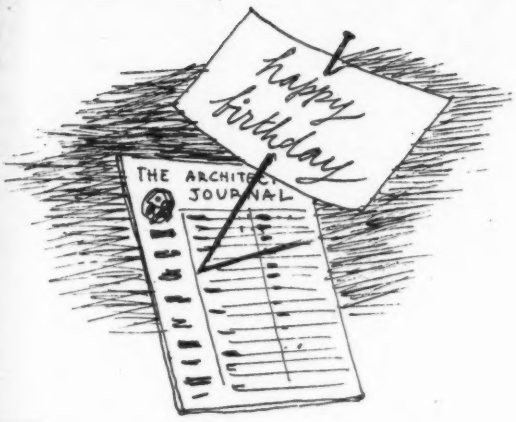
Cathedral City. A Plan for Durham. By Thomas Sharp. Published by Architectural Press, Ltd. 5s. net.



Timber Houses Competition. Winning Design. By John P. Tingay.



Leslie Patrick Abercrombie, created Knight Bachelor.



FEBRUARY

On February 12 the A.J. celebrated its fiftieth birthday, an occasion marked, reasonably enough, by a modest pride in achievement. From humble beginnings to its present secure niche in the facade of English architecture the A.J. has always fought hard for the causes it has considered worthy of support—from modern architecture to Carlton House Terrace, from Sharawaggi to an improved Portal—and is proud of those who fought alongside. Latest cause to be befriended was Thomas Sharp's Durham plan, published last month by the Architectural Press.

* * *

Innocently Mr. Willink, the Minister of Health [Bevan lies about us in our infancy] announced his housing programme of 100,000 houses for the first two years after the war, supplemented by 30,000 prefab. houses from the USA. He also revealed that 350,000 bomb-damaged houses had been repaired—not bad going considering the long hours worked, which were a strain on the elderly worker. Wages, of course, thanks to overtime, were comfortably high, as was illustrated by a police raid on the Victoria and Albert Museum lavatories, where they found a group of bomb-repair men passing a friendly hour with £84 in the kitty.

* * *

The war was picking up. Cologne was captured, Turkey had come in—[" Remember," Mr. Churchill is reported to have written to them, " Christmas is coming "]—and agreement had been reached amid the snows and strawberries of Yalta. The end of firewatching concluded what had become merely an uncomfortable symbolic ritual whose only result was blanket fluff in the files and a lot of poor jokes from radio comics.

FEBRUARY

GEORGE MEDAL

The King awarded the George Medal to Lt. Hugh Baldwynne Lyle Horner, A.R.I.B.A., Royal Marine Engineers, for gallantry in rescuing the injured occupants of a jeep which had been driven into a mine-field.

BOTH FIFTY YEARS' OLD

February 15 issue marked fiftieth anniversary of the A.J., for on February 12, 1895, the first number of the *Builders' Journal*, as it was first called, was published.

APPOINTMENTS

President of the Coal Utilization Joint Council: Robert W. Foot, Chairman of the Mining Association of Great Britain.

President of the National Association of Shopfitters: Stanley C. Hawes.

President of the London Master Builders' Association: J. S. Galbraith.

PHYSICAL PLANNING

Scheme submitted to the Ministry of Town and Country Planning for a new township near Three Bridges and Lingfield, Surrey.

Academician of Architecture L. Rudnev and I. Tkachenko, architect, described in the A.J. proposals for the replanning of Greater Voronezh.

Local Authorities set up a Committee to replan North Middlesex and South East Herts, and settle boundary problems.

A. Trystan Edwards selected by the Chadwick Trustees as the recipient of the £250 award to undertake research into the density per acre for houses in large towns.

Durham Replanned, by Thomas Sharp, described in the A.J. by Alfred C. Bossom, M.P.

Exhibition of a Plan for Bath prepared by Sir Patrick Abercrombie, John Owens (City Engineer), and H. Anthony Mealand (Town Planning Officer).

Nottinghamshire miners gave the National Trust a thousand pounds toward the cost of buying the Clumber Estate.

PARLIAMENTARY ARCHITECTURAL COMMITTEE

At the suggestion of the RIBA, an all-party Parliamentary Architectural Committee set up composed of members of the House of Lords and the House of Commons to discuss architectural questions from time to time.

AMERICA TO SEND HOUSES

America to build and send thirty thousand prefabricated houses to Britain.

MASTER PAINTERS

Master Painters of England, Scotland and Wales formed a Confederation of Master Painters to preserve the autonomy and independence of the painting industry as an essential national service.


THE ARCHITECTS' JOURNAL

standard contents

February 15 issue marked the fiftieth anniversary of the ARCHITECTS' JOURNAL, *for on February 12, 1895, the first number of the* BUILDER'S JOURNAL, *as it was called, was published. It was thus born within a few months of the Tower Bridge.*

MARCH

In an effort to speed up housing Mr. Duncan Sandys appointed his two buzz-bomb accomplices, General Pile and Colonel Post, to executive positions in MOW. A White Paper on Housing was issued setting a two-year target of half-a-million houses, and cutting down the temporary house programme. "The public," said Mr. George Hicks, without flickering an eyelash, "has been misled about the possibilities of prefabrication"—possibilities, incidentally, which were most skilfully displayed in an exhibition of designs by French architects held at the RIBA.

* * *

The Requisitioned Land and War Works Bill received an unopposed second reading, and the Gas Kitchen Exhibition, designed by Jane Drew, also opened unopposed, displaying a quantity of very handsome, highly polished, and quite unprocurable equipment to the frustrated housewife. This month's quota of Plans included Hastings, Merseyside and Canterbury—not an Abercrombie among them.

* * *

In Europe events, troops, and General Patton were moving fast. The Allies were across the Rhine, Vienna was ours, distinguished Nazis were led daily into captivity, and the name Olga was discovered over a bunk in one of Hitler's advanced H.Q.'s. The over-running of the V2 sites was welcome news to Southern England, and relief was given an added sharpness by the revelation of what we might have got if our troops hadn't got there in time.

MARCH

BUILDING

A Sub-Committee of the Minister of Health's Central Housing Advisory Committee set up to look into the possibility of converting or adapting existing houses, to increase the number of dwellings available in the post-war period.

Official British delegation arrived in Stockholm to inspect Swedish prefabricated houses.

Designed by L. H. Keay, the City Architect and Director of Housing, a narrow frontage bungalow placed on exhibition at Liverpool.

British Mission to go to Finland to buy timber for the United Kingdom.

In London a Central Joint Committee set up at the request of the Ministry of Works to speed up bomb damage repairs.

As a result of negotiations between industrial associations allied with the building industry and the National Federation of House-Builders, a joint organization established, to be known as the House Building. Industries' Standing Committee. The purpose of this committee is to bring about closer co-operation between builders registered under the National House-builders, Registration Council (who automatically engage to abide by the Council's standard specification, and to issue a quality guarantee with each house they build) and the allied industries.

London Master Builders' Association alleges that greengrocers, billiard room attendants and fried fish men are being registered by the Government as builders.

APPOINTMENTS

Secretary of the RIBA: Cyril Douglas Spragg. He had been Acting Secretary since the retirement of Sir Ian MacAlister in December, 1943, and Assistant Secretary from 1926 to 1943.

President of the National Federation of Building Trades Employers: G. W. Buchanan.

Member of the MOH Central Housing Advisory Committee: Dowager Lady Reading, Chairman of the Women's Voluntary Services.

Treasurer of the National Federation of Building Trades Employers: L. Allen Gerrard.

Director of Forest Products Research in the Department of Scientific and Industrial Research: F. Y. Henderson.

PHYSICAL PLANNING

New communities to house 250,000 people from central Merseyside areas are foreshadowed in a plan, for redeveloping Merseyside's 450 square miles, prepared by Longstreth Thompson, county planning officer for Essex.

Minister of Town and Country Planning consented to limestone quarrying at a beauty spot in Staffordshire. The winning and working of minerals and the disposal of quarry waste are to be in accordance with an operational programme and plans approved by the Minister.

Coed-y-Bwnydd, between Abergavenny and Usk, given to the National Trust.

National Trust announced the gift of High and Low Arnside farms, a property of 310 acres, which will form a valuable addition to the Monk Coniston Estate.

Blackburn Corporation bought Witton Park, the ancestral home of the Feilden family, Lords of the Manor of Blackburn.

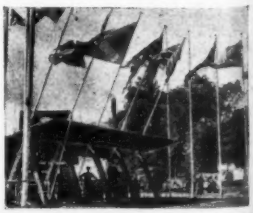
In his town plan for Hastings A. Trystan Edwards suggested the erection of a national holiday centre to be the world's largest single building of its kind.

Plan for Bath, reviewed in the A.J. by Alfred C. Bossom, M.P. The plan has been prepared by Sir Patrick Abercrombie, John Owen, city engineer, and H. A. Mealand, Town Planning officer. Something like 8,000 new houses will be required and the plan endeavours against clothing the green slopes of the hills round Bath with building developments that will disfigure the skyline.

ABT AND CLERK OF WORKS

Association of Building Technicians won its Arbitration Case for Clerk of Works. The ABT claimed improvements in the salary and overtime pay of Clerks of Works employed on bomb damage repairs at Lambeth, on the grounds that their conditions were worse than the average of other borough councils.

From the French Prefabricated Housing Exhibition at the RIBA.



Touring Army Equipment Exhibition produced by the Ministry of Information for the War Office.

APRIL

No home front topic could compete this month with events in Europe—events which were moving to their climax with a speed which seemed sometimes terrifyingly swift, and at other times desperately deliberate. A two-day debate in the Commons, however, revealed considerable dissatisfaction with the housing situation which was not dispersed by Mr. Duncan Sandys' promise to re-organize MOW on military lines. Public disappointment with the progress of the temporary house programme—[only 50 had so far been completed in the London area]—was tempered in many minds by the thought that some of the temporary houses were permanent disasters.

* * *

The RIBA issued a Housing Report which was widely criticized for lack of realism and imagination—(mostly by those, perhaps, who had never given the Institute a minute of their time or labour)— and 100,000 wives with mouths watering had visited the Post-War Kitchen Exhibition.

* * *

Blackout followed firewatching into history—the fuel shortage made this a symbolic event only—but not even the sudden death of President Roosevelt could divert the eyes and ears of the world more than momentarily from Europe, where Berlin smoked and shook, where daily the Nazi bosses fell flabby and pouting into the Allied net, and Mussolini and Petacci swung head downwards from a petrol station not far from the bomb-scarred remnants of The Last Supper.

* * *

Tired, expectant, fascinated, sickened rather than elated, we watched a nation fall apart before our eyes.

APRIL

BUILDING

Duncan Sandys announced concerning the reorganization of MOW that General Pile would be in charge of production, transport and erection of temporary houses, Sir Reginald Stradling research and experimental building, Sir Percival Robinson of financial arrangements and co-ordination of policy, and Sir Hugh Beaver materials and licensing priorities.

Professor James Mackintosh, Dean of the London School of Hygiene and Tropical Medicine, visiting Sweden to lecture for the British Council on Housing and Medicine. Professor Mackintosh hopes to obtain in Sweden information for inclusion in a report on housing which he is preparing for the British Government.

PALACE OF WESTMINSTER

Report of Joint Select Committee of the House of Lords and the House of Commons on accommodation in the Palace of Westminster. One of the proposals is the completion of the plans for the Palace as prepared by Sir Charles Barry by a building in the same architectural style as the rest of the palace extending from St. Stephen's Porch along the edge of the roadway outside Westminster Hall and New Palace Yard to the corner opposite Whitehall and thence eastwards to join up with the Clock Tower.

APPOINTMENT

Director of the National Federation of Building Trades Employers: S. F. S. Hearder.

LPTB WORKS PROGRAMME

The completion of the 1935-1940 new works programme will be one of the post-war tasks of the London Passenger Transport Board. Uncompleted plans include :—Extension of the Rickmansworth Line to Chesham and Amersham ; the Epping and Ongar section of the Central Line ; the Bushey Heath extension of the Northern Line ; the Denham extension of the Central Line , and the Finsbury Park-Highgate portion of the Northern Line.

CHARING CROSS HOSPITAL

Middlesex County Council approved the scheme for rebuilding Charing Cross Hospital at Wembley. In addition to a hospital for 1,000 patients, a building will be required for a medical school with an estimated annual entry of 100 students and a total strength of about 400 clinical and pre-clinical students, a hostel for students, a nurses' home for 400 nurses, a training school for probationers, a pathological institute and an administrative block.

PHYSICAL PLANNING

Amersham Rural District Council's application for a compulsory order to acquire land at 16th century Botterell's Close, Chalfont St. Giles, turned down by the Ministry of Health. The application was strongly opposed because of its historic associations. Milton was a frequent visitor to Thomas Ellwood, who lived there. The wife of William Penn also lived there and in more recent years Madame Tussaud, who made some of her early wax models there.

Plan for Leningrad by Chief Architect Baranov shows the city about doubled in size, although there will not be a proportionate increase in population.

Two committees, one Amenity, the other Fisheries, say: Don't dam the Rivers Tummel and Garry at Pitlochry. The Hydro Electric announces that it does not intend to accept the recommendation.

Post-war plans of the Tower Hill Improvement Trust provide a new setting for the Tower of London.

Lincoln City Council to ask the Electricity Commissioners to hold another Public Inquiry into the problem of cooling water for the extended St. Swithin's generating station.

Conversion of War Sites. Article especially contributed to the A.J. by the Association for Planning and Regional Reconstruction. By taking a typical wartime site it shows both a proposed treatment of sites chosen for industrial purposes and a method of survey for the selection of industrial sites.

Photographs at the Ministry of Town and Country Planning Exhibition in London. Top, part of a large model of Bermondsey reconstructed according to the County of London Plan. Bottom, Proposed Civic Centre at Bermondsey.

MAY

We had only a few days to wait for the end. By May 2 Italy was finally out, Hamburg and Berlin were in Allied hands and Hitler was dead. It is difficult to imagine the macabre horror of those last hours in the cellar below the splintered chandeliers and calcined marble of the Chancellery, as the generals listened to the final gibberings of Eva Braun's bridegroom.

* * *

The European war was over, and VE day officially proclaimed on May 8—a day marked—suitably enough for a war started by a house painter—by the opening in London of an exhibition of wallpapers. Victory was celebrated traditionally with bonfires throughout the land and high jinks in the city streets. Buff forms were torn up and distributed from Government office windows and, in Piccadilly and San Francisco, the pink forms of naked young women sported in the floodlights.

* * *

Next day several thousand tons of paper were picked up in the streets of New York and within a week there was a murder on the front page and the Loch Ness monster had appeared again. Peace seemed really to have returned. But the relief from tension was momentary. Mr. Churchill's coalition government resigned and was replaced by a cabinet of caretakers. The House of Commons was in a quarrelsome mood, trouble was brewing already in Trieste and Poland and even the capture of Haw-Haw failed to lift the feeling of exhaustion and anti-climax which had succeeded the first emotions of triumph and relief.

MAY

SIR JAMES WEST

After a total service of forty-one years with the Office of Works and the Ministry of Works, Sir James West has retired from his post as Chief Architectural Adviser to the Ministry of Works. He entered HM Office of Works in 1904, and became Chief Architect in 1934.

APPOINTMENT

President of the Incorporated Association of Architects and Surveyors: Lieut.-Colonel F. G. Sainsbury.

COMPETITIONS

Thistle Foundation invited competition designs for the housing of disabled ex-service Scottish officers and men on a site in Edinburgh.

REX WHISTLER

Brighton Council bought the last paintings of Rex Whistler, killed in France with the Welsh Guards last year. The paintings were executed on the walls of a house in Preston Park Avenue, Brighton.

BUILDING

Hospitals should provide feeding facilities and sleeping accommodation for patients' visitors, stated a memorandum by the General Nursing Council for England and Wales on Improved Construction in Hospital Building and Planning.

Minister of Works appointed an Advisory Committee on scientific research into building.

Government approved the re-erection of war damaged premises and the building of new houses by apprentices as part of their training, stated the Building Apprenticeship and Training Council.

The Ministry of Health prepared to consider applications from local authorities for permission to seek tenders to build permanent houses as when and where sites are ready.

Tees Conservancy Commissioners approved a three million pound scheme for the development of the ports

PHYSICAL PLANNING

War Memorials Advisory Council asked local authorities not to litter the countryside with ugly little memorials which have neither beauty nor performance.

Without substantial alteration in important details, the Government proposals on the control of land use will fail to achieve their purpose.—criticism of the White Paper on Control of Land Use made in a memorandum to the Minister of Town and Country Planning by the Central Landowners' Association.

Plan for Belfast. A.J. published report of the Northern Ireland Planning Commission. W. R. Davidge, Town planning consultant.

In planning the West Indies, housing ranks as one of the largest and most pressing problems.—Report by the Controller, for Development and Welfare published in A.J.

Following representations by the National Federation of Building Trades Employers, local authorities to be discouraged by the Ministry of Health from taking over builders' land in their areas, which had been prepared for development before the war, and which, if left in private hands, would be developed quickly after the war by individual building firms.

Planning Progress in Wales. Clough Williams-Ellis described in the A.J. the progress towards a solution of some of the problems and the production of a plan for Wales. A solution to many of the problems will continue to be impossible until an overall national planning policy is drawn up.

Russian Villages. Nikolai Shestopal described in the A.J. the procedure which is being followed in the reconstruction of villages in the USSR.

Two views of floodlighting of London's public buildings on VE-night, May 8. Left, St. Paul's. Right, Houses of Parliament.

JUNE

But at first all problems, domestic as well as foreign, were thrust aside for the election campaign [or "Operation Talk"], opened by an ill-conceived broadcast from Mr. Churchill. For three weeks, night after night, the British people was dosed by the representatives of the three main parties with an unappetizing mixture of tu quoque, scaremongering and irresponsible promises. The daily fare provided by the newspapers was hardly more savoury—particularly the Bombe Laski whipped up by the Beaverbrook Press. [Although if ever a man was born with a silver foot in his mouth it's Professor Harold.]

* * *

But though ministerial offices were deserted and the papers unreadable, life pottered on. The Ridley Report on Rent Control and the Dower Report on National Parks were published, the RIBA elections held, and an Aluminium Exhibition opened in which [in the words of a colleague] the exhibits were of aluminium but the minds of some of the designers evidently still of brass.

* * *

This month's Housing news was more encouraging. The first American prefabricated houses had arrived, 5,000 Swedish types had been ordered, the £10 limit threatened for the whole of England did not materialise, and MOH announced its readiness to consider applications for permanent home tenders. [As Lloyd George was the first to learn, there are votes in houses.]

* * *

Abroad, the Venus de Milo was home again, and at San Francisco—home of the United Nations Conference—a strip-tease dancer made her contribution to world peace by removing from her person [in order of priority] the national flags of the delegate nations.

JUNE

THE KING'S BIRTHDAY HONOURS

Knights Bachelor: Holloway, Henry Thomas, chairman, Uniformity Joint Board, Building and Civil Engineering Industries. Tennyson, Charles Bruce Locker, chairman of the Board of Governors, National Register of Industrial Art Designers.

OBE: A. H. Adamson, member of Council, National Federation of Building Trades Employers. A Blok, Temporary Principal Scientific Officer, Department of Scientific and Industrial Research.

APPOINTMENTS

Controller of Building for the British Occupation Zone in Germany: Hinchcliffe Davies, a Liverpool architect.

President of the Chartered Surveyors' Institution: E. B. Gillett.

President of the Illuminating Engineering Society: H. C. Weston.

Deputy Director of Permanent Prefabricated Housing at the Ministry of Works: R. H. Stein.

President of the Institution of Civil Engineers: Sir Peirson Frank.

BUILDING

Duncan Sandys announced he had arranged for technical representatives of the Ministry of Works to go to Germany to examine the possibility of obtaining prefabricated houses from that country.

Minister of Town and Country Planning (W. S. Morrison) dismissed an appeal against the Sheffield Corporation's refusal of permission to erect dwelling houses at Fulwood, Sheffield, on a prominent ridge overlooking the Mayfield Valley, which is of considerable beauty.

St. Columba's Church of Scotland, Pont Street, London, destroyed by enemy action, to be built at a cost of £150,000, will have a lift for elderly people, a restaurant, kitchens and servery.

The Ministry of Education issued a circular to local authorities giving advice on priorities in school building needs over the next twelve months. New school accommodation will, for the time being, have to take the form mainly of prefabricated temporary buildings, but new schools of permanent construction will have to await the submission and approval of the local authorities' long term development plan under the Education Act.

In Westminster Hall, breeze block huts going up for use as temporary offices while the new House of Commons is being built.

A Ministry of Works' mission in Stockholm placing orders for 5,000 Swedish prefabricated timber houses for erection in Great Britain. Four types of houses are being ordered.

PHYSICAL PLANNING

Estates in County Durham, Surrey and Cornwall given to the National Trust.

Minister of Fuel and Power announced the publication of the North Midland Coalfield Report.

Sir Montgomerie Fairfax-Lucy offered to present Charlecote Park, including house and historical contents, near Stratford-on-Avon, to the National Trust.

Chelmsford Surrey, directed by Anthony Minoprio, with the assistance of H. G. C. Spencely and L. F. Richards, published in A.J.

An outline for a Survey and Plan: Dex Harrison. Penelope Whiting and Kenneth Smith described and illustrated in the A.J. the stages in the production of a plan in the most simple terms, taking London as an example.

The Ramblers' Association called for early action in creating National Parks. Rambling Clubs and individual members to be called upon to support the demand for immediate action, and all prospective candidates at the general election to be asked for pledges of support for the necessary legislation.

Bombed Churches as War Memorials. Published by Architectural Press, Ltd. Price 3s. 6d. net.

As the result of a bricklaying challenge made during a housing debate to ex-bricklayer George Hicks, 73-year-old ex-bricklayer Sir Harry Selley, M.P., laid 200 bricks in 58 minutes.

Temporary aluminium house being transported to a site behind Selfridge's for exhibition.

JULY

The silence, blissful, echoing, which fell after polling day was broken only by the champing of jaws from Potsdam—[the menus of the meals eaten by the Big 3 were practically the only news items issued from this conference]—and by angry mutterings from the City of London. In what was to be his splendid swan-song, Mr. W. S. Morrison had sent a letter rejecting the City Plan and suggesting the appointment of experts and a more imaginative approach to the problem. [Nowhere, incidentally, was this news more gladly welcomed than in that Brown's Hotel of Sharawaggi, Cheam.]

* * *

This month's quota of plans included Chelmsford, Manchester, Merseyside and Middlesbrough. The Ecclesiastical Commissioners appointed a Church Building Advisory Panel, the Department of Health for Scotland issued an unimpressive set of approved house elevations, MOW announced that 100,000 houses had been damaged beyond repair in the London area alone, and in Liverpool the body of a man was found in a cylinder.

* * *

At lunch time on July 26 the news was out and Labour was in. Round the tape machines of St. James's and Mayfair faces grew grave and the lorgnettes clicked nervously . . . Freddie out . . . Tom out . . . Reggie beaten . . . "What," said a matron in Harrods to the library assistant, "will they do with us now?" But it was no revolution—just a vast heave of irritation with the "old beaming second-rate faces," and a welcome [if surprising] confirmation that the British people is not always a flock of sheep which wheels this way and that at the yap of a Press Baron.

JULY

APPOINTMENTS

County Architect to the Essex County Council: Harold Conolly.

President of the Berks, Bucks and Oxon Architectural Association: R. G. Brocklehurst.

President of the RIBA: Percy E. Thomas. This is the fifth year that Mr. Thomas has filled the office of President. Only one man before has been elected President five times—Sir William Tite in 1861-63 and 1867-70.

President of the Architectural Association: Graham R. Dawbarn.

Chairman of the Welsh Board of Health: Capt. Geoffrey C. H. Crawshay.

President of the Town Planning Institute: Thomas Sharp. He was also commissioned to prepare a redevelopment scheme for the City of Oxford.

BUILDING

Site at Tottenham being used to train operatives for the erection of the 30,000 prefabricated houses from USA.

Minister of Town and Country Planning appointed an Advisory Committee on Estate Management.

Four pairs of permanent brick houses being built by the Bournemouth Corporation, the first to be erected entirely by apprentices under the Apprentice Master scheme devised by the Building Apprenticeship and Training Council.

Ecclesiastical Commissioners upon whom rests under statute the responsibility of approving churches as fit to become parish churches, appointed a Church Building Advisory Panel to consider the special problems confronting them at the present time.

Applications for utility furniture permits arriving at the Board of Trade at the rate of 10,000 a day.

Duncan Sandys, Minister of Works, appointed a domestic users' panel to advise the Minister on matters relating to fitments, components and other internal arrangements in small houses from the standpoint of domestic convenience.

At the instance of Major Leslie Shingleton, Chairman of the London Regional Joint Apprenticeship Committee, a London Building Trades Apprentices' Sports Association to be formed, under the auspices of the London Master Builders' Association and the National Federation of Building Trades Operatives (London Regional Council).

REGISTRATION

The Architects' Registration Council issued a statement on applications for registration as Architects by members of the Forces who are being demobilized. Although since August 1st, 1940, the normal method of entering the architectural profession is by passing one of the examinations recognized by the Architects' Registration Council, men who joined the Armed Forces of the Crown—other than the Home Guard—before August 1st, 1940, are still entitled to the benefit of the temporary provisions of the Architects' Registration Act, 1938, and the regulations of the Council, and can apply for admission to the Register of Architects within six months after discharge from the Forces, without passing an examination, provided they are able to fulfil the conditions of the Act and Regulations.

PHYSICAL PLANNING

Minister of Town and Country Planning appointed R. H. Mattocks and J. S. Allen to prepare an outline plan and report for the West Cumberland Development Area.

Outline redevelopment plan and report for the City of Worcester to be prepared by Messrs. Minoprio and Spencely, appointed Town Planning Consultants to the Council.

According to Plan. By Ernest Watkins. Published by Architectural Press, Ltd. Price 5s. net.

Exhibition of civil engineering achievements in War and Peace at Charing Cross Station.

Thomas Sharp, elected President of the Town Planning Institute.

AUGUST

The Japanese war ended, not with a whimper, but with the loudest bang in history. The atom bomb—for long a familiar feature of those unerring prophets, the Strips—had arrived with its load of problems. For days words like Nuclear and Fission studded the newspaper editorials and "Our Scientific Correspondent" [a reporter locked in a room with a copy of Popular Science] daily explained to us the physical possibilities of the new discovery.

* * *

The explosions at Hiroshima and Nagasaki brought Russia into the war, caused a ½-point rise in Japanese Government Bonds on the London Stock Exchange, and initiated the surrender of Japan. But seldom can victory have brought such insecurity as its reward, and most of us have been looking over our shoulders ever since.

* * *

Meanwhile the new Government, watched with friendly impatience by the electors, had got off to a cautious start under an elderly cabinet. Local authorities were given power to requisition empty houses without obtaining prior sanction from MOH, and Mr. Bevan promised speed and energy from his department. The plans for Norwich and Sheffield were published and the RIBA Schools Report issued. The exhibition opened in London of Sir Patrick Abercrombie's Greater London Plan—perhaps the most interesting of all the post-war plans to date and certainly one of the best presented.

* * *

It was announced that the Durham Power Station Scheme was to be abandoned, but that the Lincoln Cooling Towers were to be built. Score to date—Fifteen All.

AUGUST

BUILDING

RIBA submitted to the Ministries of Education, Works, Health, Labour, Transport and Agriculture a report on post-war school buildings.

Sir Hugh Beaver and Sir Frederick Pile resign from the Ministry of Works.

To co-ordinate the programmes of London local authorities over the whole field of housing, including bomb damage repair, an Interdepartmental Committee set up comprising representatives of the Ministries of Health, Works, and Labour and National Service, and the War Damage Commission.

Madame Carmen Portinho, one of the foremost women architects and town planners in Brazil, making a special study of reconstruction and town planning in this country.

Kensington Borough Council Housing and Town Planning Committee informed by the Ministers of Health and Works that no power exists to allow the erection of temporary bungalows in royal parks.

PHYSICAL PLANNING

City of London Corporation discuss Minister of Town and Country Planning's decision to turn down the City of London Plan and his suggestion that town planning experts should be appointed within the next six months to prepare a new plan.

Minister of Town and Country Planning appointed a National Parks Committee.

Sheffield Town Planning Proposals prepared by the city engineer, J. M. Collie, and Henry Foster.

Lincoln's cooling towers controversy, which has lasted for nine months, ended with a decision of the City Council to reject an alternative scheme submitted by E. C. Farran, consulting engineer, Doncaster, and accept the scheme which provides for four, and ultimately eight, cooling towers, 90 ft. high at their new electricity generating station.

A landmark in Sussex since the Norman Conquest, Bramber Castle, an ivy-mantled ruin near Steyning, Sussex, bought by the National Trust.

North-Eastern Electric Supply Co. abandoned the Durham power station scheme and took steps to instal generating plant elsewhere.

Work of the advisory National Planning Office of Poland, in co-ordinating national survey material and in supervising the planning and linking of regions resulted in a demand from the regions themselves for a National Plan for all Poland.

Plan for Norwich. Report by C. H. James and Rowland Pierce published in the A.J.

Middlesbrough Survey and Plan, prepared by Max Lock and a team of architects and town planners, published in the A.J.

APPOINTMENTS

Architect to the Great Western Railway Company: Brian Bannatyne Lewis.

Chairman of the British Gas Council: A. E. Sylvester.

Four Ministers in the Labour Government responsible for Housing, Town Planning and Health. Top, George Tomlinson (Works) and Lewis Silkin (Town and Country Planning). Bottom, Aneurin Bevan (Health) and Arthur Greenwood (Lord Privy Seal).

SEPTEMBER

" The housing problem," Sir Stafford Cripps is reported to have said during the election campaign, " can be solved in a fortnight." The new Government had been in office a month, but presumably did not take that time to discover that the housing problem is primarily a labour problem to which, in the present circumstances, there can be no immediate solution. However, some reorganization was put in hand. MOW was relegated to a subordinate and purely technical role—it was farewell to Sir Hugh Beaver and General Pile—and MOH became once more the principal housing authority—farewell too to the promised Ministry of Housing.

* * *

But once again domestic problems—demobilization, fuel shortage, strikes—seemed trivial beside those which faced us abroad in Palestine and Europe, in the Balkans and the Netherlands East Indies, and above all in our relations with our Allies. Within a few months of the Kaiser's abdication the work at Versailles was almost over. The same span of time from VE day had brought us only to a false start. The Big 5 conference in London opened in an atmosphere of distrust, soon reached stalemate and eventually broke down.

* * *

Against this discouraging background the arguments in the world's newspapers about which country had done most to win the war seemed more than usually pointless, for it was becoming increasingly apparent that unless the fog of disillusion and suspicion was soon dispersed we would all most certainly have lost it.

SEPTEMBER

CATHEDRALS

Five Years' Plan to extend Bradford Cathedral by nearly half its length approved by the Cathedral Council.

Adrian Gilbert Scott appointed successor to the late Sir Edwin Lutyens as Architect of Liverpool's Roman Catholic Cathedral.

Royal Society of Arts organising a competition for a design for a cathedral at Colombo.

BUILDING

Work begun on the building of the first of twenty-seven pairs of demonstration permanent houses at Oadby, Leicester.

Deputation to the Ministry of Health from the Brighton Town Council requested that powers should be given to requisition any unoccupied property suitable for housing, and any large houses not fully occupied.

Ministry of Works demonstration houses at Northolt to be handed over for letting in the normal way to the Ealing Borough Council.

Deputation from the Wandsworth Borough Council to the Ministry of Health protested against the compulsory acquisition of bombed out sites for temporary houses.

Minister of Works decided to strengthen the existing Regional Organisation of the Ministry by the appointment of Regional Directors who will be generally responsible for all aspects of the Ministry's work in their Region.

The Administrative Committee of the London Master Builders' Association passed an urgent resolution reminding its members that they are under pledge not to tender for work over £1,500 without quantities, and instructing them that this now applies to housing contracts.

Parliamentary Powers to be sought for the construction of the Seven Bridge, to cost several million pounds. The scheme provides for a bridge over two and one-eighth miles long, with a span of about 1,400 ft. over the navigation channel of the river, which would save 54 miles between Bristol, Southampton, and Cardiff.

APPOINTMENTS

President of the Institution of Electrical Engineers: Dr. Percy Dunsheath.

HOUSE BUILDERS

All House Builders' Organizations united to improve Housing Standards. This announcement was made at Birmingham by Mr. H. E. Coniben, President of the National Federation of Registered House Builders, who said that all members will be pledged to build up to the standards of construction prescribed by a National Registration Council, which will arrange for the independent inspection of houses and the issue of certificates of compliance with an approved specification.

PHYSICAL PLANNING

Manchester Planning Proposals. By R. Nicholas. The first all-out effort to deal with Cottonopolis basically, radically and as a whole described in A.J.

Fifty-eight acres of cliff land at Fairlight, near Hastings, including Stumblet Wood, with views over Tyr Bay to Dungeness, presented to the National Trust.

Dean and Chapter submitted a plan and report drawn up by Dr. Charles Holden on the treatment of the environs of St. Paul's to the Corporation of London.

Observations on the City of London's Report on post-war reconstruction, issued by the Royal Fine Art Commission.

Anticipating that competition in business freed from war-time conditions may lead to a resumption of unsightly advertising, the Lancashire branch of the Council for the Preservation of Rural England is to urge the Government to prohibit new commercial advertisements in rural areas, other than those essential advertisements permitted under existing by-laws.

At Bradford-on-Avon, Wiltshire, the Urban District Council's decision to build ten temporary houses on a prehistoric burial ground criticized but approved. The houses are to be built on the prehistoric Budbury site, and some of them will be in the centre of the ancient mound, now dated by experts at 2,000 B.C.

Physical Planning. Edited by Ian McCallum. Published by Architectural Press, Ltd. Price 21s. net.

Steel House at Northolt. By Frederick Gibberd.

Coughton Court, Warwickshire, transferred to the National Trust.

OCTOBER

During a speaking tour, the new Minister of Town and Country Planning promised that a Compensation Bill would be introduced into the House this session, and announced the setting-up of a New Towns Committee under the chairmanship of his energetic predecessor Lord Reith. He also drew attention to the shortage of qualified planners. [This might perhaps be assisted by better salaries. One Local Authority was advertising for an assistant architect at a lower wage than the mayor's mace-bearer.]

* * *

A White Paper was issued explaining why temporary houses were going to be twice as expensive as estimated—[familiar, melancholy reading to architects]. Proposals for the nationalization of the Bank of England, Cables and Wireless, and Civil Aviation were announced, the new Budget was generally welcomed, and the national dock strike ended.

* * *

Abroad the news continued to be discouraging. There was civil war in China, active revolt in Java, revolutions in Argentina, Venezuela and Brazil, pillage and destitution in occupied Europe.

* * *

Symbolic of domestic troubles were two incidents in London. The first—an echo of the Middle Ages—was the organized commotion and protest in the streets over the enthronement of the new Bishop of London. The second—more redolent of contemporary risks—was the vindictive debagging of a passenger by the mechanical teeth of an escalator in a West End store.

OCTOBER

BUILDING

Merger of all existing house-builders' organizations in the Federation of Registered House-Builders formally completed. Under this new constitution all existing members pledge themselves to build only such houses as will conform to the standards prescribed by the National House-Builders' Registration Council, and to give to purchaser a guarantee to make good free of all cost any defects reported within a period of two years and due to non-compliance with the approved specifications.

From an RIBA memorandum: It is not generally realized that the employment by public bodies of qualified assistant architects to work under another specialist official cannot take the place of the independent architect who is directly responsible to his employer, the public authority itself.

At the London County Hall there are now forty thousand applicants for houses.

Ministry of Works announced that four specimen Swedish prefabricated houses had arrived at Hull Docks. They were the first of 5,000 permanent two-storey timber houses, specially designed for British conditions, ordered in Stockholm last June. Swedish foremen now on their way to England will demonstrate their erection at Abbots Langley, Hertfordshire.

The production in the United States of temporary housing for Britain stopped, by the Federal Public Housing Authority. This action was taken following termination of Lend/Lease and the decision by Great Britain not to take the balance of the houses ordered.

BIGGEST HOUSING EXHIBITION

The biggest housing exhibition ever held in Sweden, a Complete Model Town overlooking Gothenburg, opened by the Crown Prince. It was situated on a rocky hill northwest of Gothenburg with a view of the town and its environs. Here two young architects, Wejke and Ödeen, created a housing area from the town plan to the equipment and furniture in the flats. The scheme was drawn up by the Swedish Sloyd Association.

The first of the 5,000 Swedish timber prefabricated houses arrive at Hull Docks.

At the Exhibition of American Students Work at the Architectural Association.

APPOINTMENTS

President of the Federation of Master Builders: Sir Harry R. Selley.

Secretary of the War Works Commission: Harold F. Williams.

PREFABRICATED COW HOUSES

In the South Swedish province of Skania the first prefabricated cow-house erected. The cow-house, planned by the Swedish State Research Committee for agricultural buildings, is of modern labour-saving design. Works starting the manufacture of the cow-houses will be able, it is estimated, to produce 2,500 a year.

PHYSICAL PLANNING

For the first time in 1,000 years, the 50,000-acre estate of Urquhart, ancestral lands of Macbeth, which includes a large part of Loch Ness, to be broken up.

Large-scale physiographic features and areas in England and Wales containing many items of geological interest should be maintained so far as possible in their present state—the Report by the Conference of Nature Preservation in Post-War Reconstruction.

Forestry Commission proposed to form a new National Forest Park, to include over 10 square miles of some of the finest scenery in the Lake District.

Ministry of Town and Country Planning proposed to appoint a new Towns Committee under the chairmanship of Lord Reith.

Wolverton Urban District Town and Country Plan issued. Prepared by G. A. Jellicoe, the plan proposes modest immigration with large scale tree planting enfolding and linking new parks and new housing in a single design. See A.J.

Old-established parts of London, said the London Council of Social Service, are in urgent need of community centres.

Qualified Planners. France Points the Way. Digest in A.J. of the comprehensive legislation which embodies a Grand Planning Council, definition of regions and districts, decentraalisation and a supervisory Departmental Planning Commission with nationa powers.

NOVEMBER

The Building Materials and Housing Bill, which this month was read a second time without a division, revealed that the Government proposed to go into business in a big way in the manufacture and distribution of building materials and components—and possibly even for direct building. Finance was not to be allowed to stand in the way, and MOW Flying Squads were to help Local Authorities in serious need of labour. This news, coupled with the facts that Temporaries were now being produced at the rate of 500 per week and that the first two permanent post-war houses had been completed at Birmingham, cast a faint glow of optimism over the housing situation.

* * *

At the Institute of Landscape Architects conference, Mr. Silkin *almost* mentioned Sharawaggi, and the BINC conference was addressed by three Cabinet Ministers and opened by the Archbishop of Canterbury, but the atmosphere of moral deflation and crossness persisted both at home and abroad. Tempers in the House of Commons were rising and the correspondence in *The Times* between Lord Latham and Mr. Percy Thomas over the LCC proposals to put Housing under the Chief Valuer did not lack acerbity.

* * *

In Europe Tito was in and Yugo-Slavia a republic. Elections were held in Austria, Hungary and Portugal. De Gaulle was in, out, and in again. At home those suffering from low gas pressure or lack of opportunity to stand in buses were proffered comfort in the shape of longer socks, an airspeed record of 606 m.p.h., the auction of Ribbentrop's furniture to ex-members of the BUF, and the return of Bracken from Bournemouth. A case of coals from Newcastle if ever there was one.

NOVEMBER

APPOINTMENTS

Chief Inspector of Ancient Monuments: B. H. St. J. O'Neill.

Chief Architect and Housing Consultant to the Ministry of Health: J. H. Forshaw.

COMPETITION

Workers' Travel Association, anxious to preserve rural amenities whilst helping to provide greatly needed new holiday facilities at reasonable cost for workers, announced an architectural competition for a holiday centre.

BUILDING

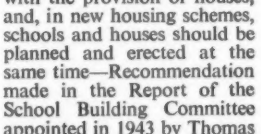
London Regional Joint Apprenticeship Committee decided that entry into crafts in the building industry to be limited to indentured apprentices.

Firms wishing to be considered for invitation to tender for the foundation work and the superstructure of the new Chamber for the House of Commons to apply to the Minister of Works before November 24.

The building of schools should have equal priority with the provision of houses, and, in new housing schemes, schools and houses should be planned and erected at the same time—Recommendation made in the Report of the School Building Committee appointed in 1943 by Thomas Johnston, former Secretary of State for Scotland.

Henry A. Benson joined the Ministry of Health as adviser in the organization of the housing programme and on housing progress at all stages.

Aneurin Bevan, Minister of Health, visiting as many as possible of the regions in England and Wales to discuss with local authorities ways of speeding up housing progress.



The Saracen's Head, Beaconsfield, one of the paintings at the Recording Britain Exhibition to tour the London public houses.

J. H. Forshaw appointed Chief Architect and Housing Consultant to the Ministry of Health.

COST OF PREFABRICATED HOUSES

The big increase in the Cost of prefabricated houses was accounted for by insufficient allowance for uneven sites; the need for higher standards of drainage; the fact that houses are sited in smaller groups than originally estimated for; clearance of bombed buildings from sites in towns; too optimistic estimates of man-hours required for erection of the houses; subsistence allowances to mobile labour being paid by contractors where it was assumed that local labour would be employed; improvements and modification of the designs; shortages of certain materials and other causes.

ALEXANDRA PALACE

Alexandra Park Trustees plan to spend a million pounds on Alexandra Palace to make it world-famous as a centre of sport and cultural entertainment.

PUBLIC HOUSE EXHIBITIONS

More than two hundred public houses in London and the Home Counties to give their patrons a show of water-colours and drawings during the next twelve months. Four London brewers, in association with the Central Institute of Art and Design, have commissioned paintings of places of historical interest and beauty, in and around London including breweries and inns

PHYSICAL PLANNING

Durham Rural District Council petitioned the Ministries of Town and Country Planning, Health, and Fuel and Power for permission for the North-Eastern Electric Supply Co. to erect a power station at Kepier, near Durham.

Minister of Town and Country Planning issued the following warning on the buying of building plots. Land is often offered for sale for building purposes on which, in fact, no building is likely to be allowed.

Survey published in the A.J. by the Association for Planning and Regional Reconstruction of the Gorhambury Estate, Hertfordshire.

Greater London Plan, by Sir Patrick Abercrombie, published in the A.J.

DECEMBER

As a Christmas present to the building industry, cost-plus contracts and the EWO were abolished for war damage repairs, regional officers were appointed by MOH to hasten licensing procedure, and builders' wages were raised by 4d. an hour. There was no such consolation for architects who were most of them—or at any rate those of them outside government offices—facing difficult times and were not encouraged by the LCC's decision to place housing under the control of the Valuer.

* * *

Waterloo Bridge was officially opened by Mr. Herbert Morrison—who originally raised the first pickaxe—and the rumour was confirmed that the new City plan was to be prepared by Dr. Holden and Professor Holford—a highly satisfactory decision. But the sensation of the month was not the Big Three meeting in Moscow, nor the American loan debate, nor even housing—but the exhibition organized by the British Council at the Victoria and Albert Museum of new paintings by Picasso and Matisse. This aroused a storm on the Whistlerian scale—letters to *The Times*, speeches of protest by Pre-Raphaelite descendants (forgetful perhaps of their own disruptive effect a century ago) and packed crowds daily thronging the pavements of the V. and A.

* * *

Equally packed were the pavements of the country's shopping streets, where we grimly pursued the search for presents. So finished 1945, a crowded momentous and decisive year. Though it brought the end of the war most of us are glad to see it go. Don't think it hasn't been fun, as the G.I.s say, because it hasn't.

DECEMBER

THE ROYAL GOLD MEDAL

His Majesty the King, on the recommendation of the RIBA, awarded the Royal Gold Medal for 1946 to Professor Sir Leslie Patrick Abercrombie.

APPOINTMENTS

County Architect of Middlesex : C. G. Stillman.

County Architect for Westmorland : Lieut. R. H. Crompton, R.N.V.R.

Chairman of the Wales Regional Board for Industry : Percy Thomas, P.R.I.B.A.

HISTORIC BUILDINGS

A committee of Experts appointed by the Minister of Town and Country Planning to advise on Historic Buildings. Chairman : Sir Eric MacLagan, Director of the Victoria and Albert Museum, 1924-1945.

COMPETITIONS

Proposed Buildings of the Thistle Foundation at Edinburgh won by Stuart R. Matthew, of Edinburgh. Assessor : A. G. Henderson.

Westminster City Council invited architects to submit in competition designs for the lay-out of about 31 acres in Westminster and for the design of flats to be erected on the site. Assessor : Stanley C. Ramsey.

FEES FOR CONVERSION

Scale of Fees for the Emergency Conversion of Dwelling Houses into Flats, issued by the RIBA.

WATERLOO BRIDGE OPENED

New Waterloo Bridge formally opened. Although the bridge has been in use for pedestrians for nearly three years, and fully open for traffic since November 21 last year, the LCC thought it proper to hold a ceremonial opening now that circumstances were more appropriate. There is a memorial to Rennie, the engineer of the old bridge, consisting of columns and balustrading from the old bridge, which have been re-erected at the south abutment. The present temporary handrails and lamp standards will be replaced, when conditions permit, by new ones in keeping with the structure. The four stone blocks at the ends of the bridge are intended for appropriate sculpture groups.

FIRST UNIVERSAL BEAM MILL

On Tees-side a new steel plant, the first universal beam mill in this country to be built by Dorman Long and Company at a cost of £8,000,000.

PHYSICAL PLANNING

Professor W. G. Holford, Director of Research, Ministry of Town and Country Planning, to be released by the Ministry during his appointment as consultant, together with Dr. Charles Holden, on the City of London Reconstruction Scheme. The suggestion that town planning experts be appointed was made by W. S. Morrison, the Minister of Town and Country Planning in the last Government, when he turned down the plan submitted by the City of London Corporation.

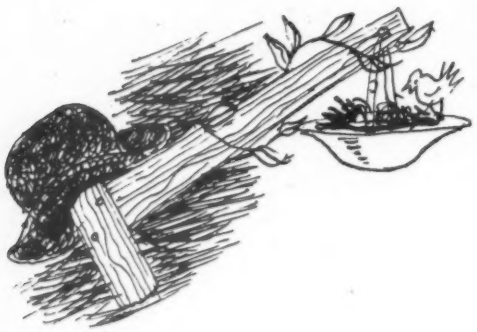
Formation of the Regency Society for the Preservation of Brighton and Hove.

The Minister of Town and Country Planning appointed T. Alwyn Lloyd and Herbert Jackson to prepare a co-ordinated outline provisional plan for South Wales and Monmouthshire Development Area, with the exception of the Borough of Pembroke.

Gravesend Corporation's redevelopment plans published in the A.J. The authors of the plan are George E. Hill, Borough Engineer and Planning Officer, Maurice Fuller, Deputy Engineer and Planning Officer, and Douglas H. E. Hockley, Senior Planning Assistant.

Waterloo Bridge officially opened by Herbert Morrison, M.P., Lord President of the Council. Left, Rennie's old bridge. Right, the new bridge, Sir Giles Gilbert Scott, R.A., Architect.

PERSONALITIES



ASTRAGAL's vote for personality of the year 1945 goes unhesitatingly not to an individual but to a group—to those architects who are daily returning from the Services to civilian life. Yellowing faces beneath bowler hats, British warms concealing the pin-stripes under those unmistakable " demob" macintoshes—we are very glad to see you all and wish you good luck.

Runner-up—if so absurd a term may be permitted in connection with the Director of the Soane Museum—is **John Summerson,** scholar, antiquary, historian and wit. Astragal also doffs his hat to presidents **Percy Thomas** (RIBA) **Graham Dawbarn** (AA), **Thomas Sharp** (TPI), and **G. A. Jellicoe** (ILA) : to Knights **Patrick Abercrombie** (also Royal Gold Medallist), **Reginald Stradling, Henry Holloway, Charles Tennyson** and (1946) **T. P. Bennett** and **Percy Thomas,** to secretaries **C. D. Spragg** (RIBA) and **E. V. Penn** (ABT) : to Colonial planners **Max Fry** and **Gardner Medwin** : to authors **S. Sitwell** (*British Architects and Craftsmen*), **Sir Ernest Simon** (*Rebuilding Britain*), **Salvador Dali** (*The Secret Life of Salvador Dali*), **Palinurus** (*The Unquiet Grave*), ex-architect **George Millar** (*Maquis*), and **John Gloag** (titles too numerous to mention) : to inventor **Ove Arup** (Box Frame), **Edward Armstrong** (Granny-flat), and the man who invented and named the **Bilton-Scratcheley Router** for removing putty from broken windows : to the **Ministries of Education** (for the Community Centre booklet), of **Town and Country Planning** (for the Arts Centre project), and **Health,** on ceasing to build upon Piles of Sandys : to lecturers **Goodhart Rendel** (on Lutyens) and **Nikolaus Pevsner** (on Visual Planing) : to artists **Picasso** and **Steinberg** : to the **SCR** for organizing an architecture group and to the **Georgian Group** for their Report on Cheltenham : to **Sir Harold Selley,** M.P., for laying 200 bricks in 58 minutes and to **Mr. and Mrs. Hancock** who, unaided, built their house within 12 months for £82 : to **Signor Ruin,** Minister of Reconstruction in one of the Italian Cabinets, and **Clive Entwhistle,** Garrison Engineer for a time of Chelsea : to **T. P. Bennett,** architect chairman of the Boot and Shoe Working Committee, and **Frank Lloyd Wright** in spite of the Guggenheim Gallery : to **Sir Kenneth Clarke** in farewell, and **Philip Hendy** in greeting : in homage to the organizers of the enchanting French Haute Couture exhibition : in respect to the creator of the stamp-covered room in Leicester Square, and in regret to the promoter of the Oxford Street display of Epstein : in congratulations to **Noel Coward, Lady Astor** and **Beverley Baxter** for appearing on the Gestapo Black List, and in sympathy to those who failed somehow to make it : to poets **John Betjeman** and **Edward Lewis** : in farewell to **Mr. Willink** and in greeting to **Mr. Bevan** : to the American Air Force station in Suffolk which contributed ten tons of pin-up girls to paper salvage and in farewell to those who took the AA American Refresher course : to the **National Trust** which acquired Leith Hill Place, Eltham Palace, Bramber Castle, and Apsley House, and to the miners of Nottingham who contributed £1,000 for the purchase of Clumber : to film directors **Gabriel Pascal** (for taking corny technique to Egypt) and **Cavalcanti** (for making the central figure of *Dead of Night* an architect) : to film poster-artists **John Piper** and **Leslie Hurry,** and to entertainers **Joyce Grenfell** and **Arthur Marshall** : to schoolmaster **Gordon Brown** and to **Cyril Connolly,** prisoner in his playpen : to the newly-formed **Council of Industrial Design,** and to that other **C.I.D.** busy with the crime-wave : to the members of Mr. Molotov's bodyguard and to **Phyllis " Body-Beautiful " Dixey** : to the entrants for the Crystal Palace competition, and a final tip to surrealist author **Peter Takal,** of New York, who published his memoirs bound in shatterproof glass—each copy personally cracked by the author.

The Journal recently asked Mr. Watkins to make a survey of the whole building industry to discover its present constitution and future prospects, and to assess whether its present structure is adequate or not to cope with the enormous job of building, especially in housing, with which it is faced. During the past weeks he has interviewed many representatives of the building industry, private and official, including representatives of the various building trades and professions. Here he epitomises his findings, and the conclusions he draws from them, on matters such as training, priorities, rents and rates, prefabrication and the position of, and relationship between, Government, Local Authorities and builders.

HOW DO WE STAND IN THIS FIRST YEAR OF PEACE?

[*by Ernest Watkins*]

No one could say that we face 1946 with any lack of appreciation of the problems that the building industry faces. On the contrary, some would argue that the shortage of houses, and to a lesser extent, of buildings of all kinds, has exercised greater fascination on the public mind than a balanced view would justify. There are other problems left behind by the war, and its waste and destruction, the settlement of which is equally important if our social and economic structure are to reach a balanced wording. The export trades follow closely behind the building industry in the public eye, but transport, another industry disrupted by the war, is sometimes almost ignored. However, in the last analysis, the public is right. If a man has nowhere to lay his head at night, nowhere in which to establish a stable family life, what good are his other activities to him?

There are a great many other tasks that the building trades have to face. We need new schools and new hospitals, new factories and new offices, and we have learnt that a new housing estate without any places of entertainment or of community interest is dead and lifeless and disliked by those compelled to live there. Nevertheless, houses are the first need.

What do we want?

What is the extent of the need for new houses, at the beginning of the first year of peace?

That is a question which permits of many answers, the answers depending on the assumptions behind the question. Is it the immediate need for the replacement of the actual destruction of war, or the number of separate living units required to give one to each family that desires one? Those two variations of the question are the most easily answered. 200,000 houses were absolutely destroyed in direct consequence of the war, another 250,000 seriously damaged. 4,000,000 were slightly damaged, and one half of this damage was done in the London Region. That provides one target. The answer to the other question is that it is estimated that 750,000 additional houses are needed to give a home to every family desiring one.

Then there are the houses required to complete the slum clearance and overcrowding plans that were in existence in 1939. That total is 500,000. It is reasonable therefore to say that the first phase of any rehousing plan must have as its target a total of 1,400,000 houses, made up of the number required to achieve the separate family standard, the number required to wipe out the worst of the slums and overcrowding that existed in 1939, plus the replacement of that small number of houses destroyed during the war that fall outside either of the other two groups, which one may estimate at one quarter of the total war destruction. At the rate of building achieved in the five years before the last war that plan would take four years to complete.

But that is not the end of the need. Although our population is nearing the point at which its absolute total will cease to increase, for some time yet the number of families will grow. Provision must be made for that to cover the increase during the war and during the time taken to meet the most urgent need. Thereafter it is a question of what standards you choose to adopt. Even if you have given every family a separate roof, what kind of a house is it to have? Is it to be a house that was considered adequate for the working classes in Victorian days, with no bathroom, a very sketchy water supply and an outside w.c., if any? Or is it your purpose to provide everyone with a house of the standard of those you are building now? On the answers to those questions the size and scale of your second and third housing drives depend. If the answer to the second question is yes, by 1950 the number of additional houses that you will have to build, mostly on the sites of demolished houses, will be between five and seven million.

That is a section of the tasks that faces the building and civil engineering trades and the hosts of professions and trades that are associated with them. At one end of the scale are the major industrial projects, the £10,000,000 ICI works in the vicinity of Middlesbrough. At the other end are the odd job men and the maintenance men, clearing up the minor damages of gales and frosts. In between lies this vast housing programme, which, whatever the politics of the Government and whatever the financial measures adopted to carry it along, will in one shape or another have to be tackled if we as a nation are to retain our vitality and confidence in our ability, as well as our health and capacity for work and enjoyment.

What have we got?

What instrument have we for this task? The effect of the war on the organisation of the industry as a whole was drastic. Its manpower was depleted. It has suffered its share of killed and wounded. Its organisation was strained and distorted to cope with war tasks and, as is probably inevitable, the distortions were made worse by mistakes. The industry can as a whole be divided into four sections, those who plan what is built, those who make what is finally to be erected, those who deal in what has been made and finally those who build with what has been made. The ramifications of each section are considerable. In the first are to be found the estate developers, the financiers, the architects, and the surveyors, both land and quantity, and the engineers. In the second are the manufacturers, ranging from the brick and cement makers to those who manufacture electric or toilet fittings, the heating and ventilating engineers down to the pure specialists, such as the lift and hoist makers. In the third section come the builders' merchants and wholesalers, and finally there are the hosts of craftsmen of various kinds, the bricklayers and the steel erectors, the glaziers and the plasterers, the electricians and the plumbers and those who employ them and organize their activities. All the various trades and crafts have suffered differing fates during the war.

Some kept their organizations more or less

intact. The big contractors who switched from estate development to the manufacture of prefabricated harbours changed some of their employees and the materials they handled but not their central structure. So with those whose iron foundries made mouldings and castings for other things than the interior of houses. But some undertakings were of no direct use for war purposes and so the whole organisation fell to pieces. Proprietor, manager and workman found themselves in other jobs. And in nearly all cases the younger men went into the Armed Forces. There some did their peacetime jobs in uniform. Others learnt entirely new skills. But this one effect is general. Throughout the industry the pre-war organisations, the pre-war teams of experienced men were broken up and few can be restored intact.

That is equally true of labour as well as of management. Bricklayers became gunlayers, architects navigating officers. And foremen who had gangs they knew to build houses found themselves living in hostels miles from home building aero fields with Irish labourers. Then finally came the organisation of the bomb repair parties. There can be little doubt that that did nothing but harm to the trade. The direction of men in various directions, mostly south, was bad enough for organisation. The method of payment was even more demoralising.

The statistics underline the picture. In 1938 there were some 100,000 firms in the building and civil engineering industries. By the end of the war the figure had been reduced to 80,000. The figures for the employees show even more variation. In 1939 there were 1,362,000 males between 16 and 64 in those industries. By June, 1944, the figure had fallen to 497,000. And all those men were six years older. It is from the lower age groups that the men have gone.

Official figures also show that the loss has not been spread equally throughout the various trades. The maintenance worker and the odd-job man have gone in larger numbers. It is estimated that 300,000 men in 1939 fell into this category, and that by 1944 the total had been reduced to 100,000.

Nor is the solution anywhere near full restoration, but the tide has turned. By December 1, 1945, the total number employed in the industries had risen to 555,000. There are fewer complaints of experienced bricklayers spending their days in transit camps waiting to go to India or their hours of duty in picking seaweed out of the Baltic. The shortage of architects and surveyors that held up the preparation of local authorities' plans is gradually being remedied. There is a flow of some 100,000 men out of the Armed Forces each month and the building trades do not seem to be losing their proper proportion of these men. Class B releases are becoming a reality and not a paper plan, as the files in Government departments cease from circulation and become instruments for action. The bomb repair men concentrated in London from all over the country have broken the back of their task and are returning to their home areas. In short, it is possible to indulge, in the opening days of 1946, in a certain amount of reasonable hope, if not in optimism.

Nor has the war been wholly loss. We can deal with questions of organisation and equipment later, but it is worth while mentioning one important question, the relations between employers and men. Some advances have been made in making the industry an attractive one to its labour force. A serious attempt has been made to tackle the problem of idle time caused through bad weather. The principle of guaranteed time is finding acceptance. Employers are becoming conscious that personnel management is not just a phrase to be found among the more glib samples of American sales talk. The provision of canteen facilities is not longer looked upon as mollycoddling. In fact it may be actually more economical than paying one man in six full wages for doing little else but brew tea for his mates.

But overshadowing everything in the minds of all concerned in the industry is the fact that for the first time we have in power a Government which has pledged itself to see that houses are in fact provided, and that one particular agency shall be given priority in their provision. Other Governments in the past have paid subsidies, have encouraged, with very erratic emphasis, the building of this type of house or that, have from time to time blown hot and cold in this direction and the other, have tinkered here and tinkered there. The industry has flourished, so it believes, despite all that and it says that it has flourished because fundamentally it worked on the basis that you built for profit or you did not build at all. Now we have a Government which, in the eyes of its critics, is the implacable enemy of the profit motive. Now what, is the cry?

There's nothing in it for me

Before dealing with the declared plans of the Government, it is perhaps worth while saying something on this question of the profit motive. The issue is never as clear-cut as partisans try to make out. At one end of the scale is, say, the jerry-builder working under a lax local authority who buys his estate for development, who builds as cheaply and as flashily as possible, who sells his houses on long lease to the ignorant buyer with a series of unscrupulous misrepresentations and with the financial aid of a building society devoid of any serious standards of conduct, and who then disposes of his freehold ground rents to some investment concern at an inflated price. The profits that can be made on the development of an estate of that kind are enormous and the fact that they have been made in many parts of the country has done the industry a great deal of harm in the eyes of the public.

At the other end of the scale is the local authority of well meaning but stupid political extremists, who decide that the sacred task of housing can be entrusted to Labour only, who use all their legal powers to acquire land below its fair price, who attempt to do all their building operations on a basis of direct labour and who demoralize the whole labour force of the locality by the wages they pay and the slackness they tolerate, leaving the ratepayer, or the taxpayer, to foot the bill for their incompetence.

Both these two pictures have been painted, although not, of course, in the same circles, and both of them have some measure of truth. But they are not the only illustrations of the operation or non-operation of the profit motive. If a contractor is asked to tender for a local authority he is not expected to fix his price at a figure that will eliminate all profit to him. If he builds a house for a local authority at a price of £1,100 he may not make so much money now as he would if he were free to build the same house and sell it for what it would fetch, but he still makes a profit. In short, the introduction of political cries and the technique of partisan argument may be a useful mental safeguard for those who have not yet recovered from the blows of the General Election, but to base solid arguments, or, still worse, to base plans for future action, on this kind of consideration is rather like taking a vow of celibacy as a result of a broken engagement. Superficially it may be logical but it is unnecessarily drastic.

But what are the declared plans of the Government?

The Plan is—

The Government's plan fall into three sections. The first is the building up of the labour force, the second the strengthening of the supply trades, and the third is the concentration of house building in the hands of local authorities. Allied to the last two are the continuance of a system of controls and priorities over all work started and all material released.

In the first section the plans are well advanced. This is the Government estimate of the additional man-power required. Column 1 shows the peak labour force in the Building Industry *only* divided into crafts, using the proportion in which the crafts were employed in 1939, which assumes, of course, that the building programme will consist of the same types of work in the same proportions as that of 1939. Column 2 shows an estimate of the labour force divided into crafts at December 1, 1945, together with the discrepancy between Columns 1 and 2.

It should be emphasized that the discrepancy figure must be used with caution. It represents simply the deficiency between what the labour force will be if it does the same types of work as it did in 1939 and the labour force as it is at present constituted and engaged on present types of work.

BUILDING INDUSTRY

Number of insured males aged 16-64 (Great Britain)

	Estimated numbers at post-war peak (1)	Estimated number at 1st Dec., 1945 (2)	Estimated shortage at 1st Dec., 1945 (3)
Carpenters	182,000	87,000	95,000
Bricklayers	134,000	63,000	71,000
Masons	27,000	10,000	17,000
Slaters and Tilers	11,000	7,000	4,000
Plasterers	47,000	17,000	30,000
Painters	174,000	73,000	101,000
Plumbers and Glaziers	54,000	32,000	22,000
Craftsmen's and Builder's labourers	357,000	128,000	229,000
Navvies and general labourers	131,000	68,000	63,000
All other occupations	133,000	70,000	63,000
Total	1,250,000	555,000	695,000

Training the men

The problem of training new entrants to the trade was tackled well before the end of the war. It is in the hands of the Ministry of Labour, which has acquired the experience and built up the organisation necessary for the thorough training of unskilled labour in the course of supplying man power for munition factories during the war. The first step was to obtain a syllabus that both employers and trade unions would accept as satisfactory, that is, as adequate to turn out a man worth a journeyman's pay. In the courses for the building trade themselves men are drawn in by choice not compulsion. There are some 36 training centres in various parts of the country training men for one or other of the building trades. The instructors are selected from men with practical experience in the trades they are to teach and they are given a fortnight's course at a special centre in the art of instruction.

The course is practical. The trainee starts by learning the use of his tools. He proceeds to practice on models. About two-thirds of the way through the course he it at work on erecting a full scale model house in the centre, in conjunction with all the other trades he will find on the job outside. He finishes up by actual work on a housing site in the vicinity of the centre in

which he is training. When he leaves he will draw not less than 85 per cent. of the full journeyman's pay for the locality and the job. During training he is paid the standard Government rates for trainees, which provide a reasonable income (equivalent to about £4) for a single man, but which are not so attractive to the married.

Furthermore the scheme has this advantage. It has been running long enough for the inevitable difficulties at the start to be solved before the rush of men is at its greatest. It started with men discharged from the Forces and industry, mainly those with injuries, and a steady stream of men released from the Forces and industry has gone into it since. It is the least criticised of all the Government's plans.

When we come to the position of the supply trades the position is not so clear-cut. Broadly speaking the Government is leaving the main initiative for increased production to the concerns in those trades (but with various diverse forms of Government assistance (or interference). The Ministry of Works claims that it is stimulating a volume of labour to these industries, but it is a stimulation that has a good deal of competition from other industries. Other trades are also being stimulated by Government departments in precisely the same way. Perhaps the most positive act of encouragement is the direction of a certain number of men into the light engineering and mouldings side of the supply trades.

Priorities and releases of material

But the Government is endeavouring to achieve some flexibility. It has co-ordinated, by means of joint committees, or conferences, on a regional basis, the work of all Government departments that affect the trades. Each department provides the Ministry of Works each quarter with an estimate of their building and civil engineering requirements for each of the two subsequent quarters, and these estimates cover most of the building projects that are likely to exist. The Ministry of Health sponsors the housing side, and hospitals, the Board of Trade industrial premises. From these estimates the Ministry of Works allocates global labour ceilings. From this is built up a National Building Programme agreed to by all the Ministries concerned and once it is settled it is passed down to be administered regionally.

In each case the National Building Programme is broken down into estimates of the total man-hours and of the materials required, and the estimate for materials is further translated into terms of factory space and labour required. Once the labour allocations are made, and for this Defence Regulation 56A still remains the major compelling instrument, contracts can be approved and given priority and materials and labour allocated accordingly.

Prices are fixed in every case save one by agreement between the trade organisations and the Government. The sole exception is the case of asbestos cement where the price is statutorily controlled.

The new Act

Then there is the Government's plan to set up a National Building Undertaking under the Building Materials and Housing Act which has now reached the statute book. There are various sides to this plan. The first is to ensure the production of the goods that are needed and at a reasonable price and in the right quantities. This will be achieved, as the plan is, either by the bulk manufacture of the goods that are short in Royal Ordnance Factories or by production agreements under which the Government (or its instrument) places a firm order for a definite quantity of goods and undertakes to indemnify the manufacturer in respect of any goods remaining unsold at the end of the agreement. It is too early yet to say how this plan is likely to operate. If labour in these industries is still short, competition between Government factory and private employer for any existing labour force will not necessarily increase the total production, but one advantage is that production in Ordnance Factories will automatically be in areas in which there is probably still left a large partially trained labour force available for work there, but which is not likely to move simply to work in a novel trade in a new area.

Another branch of the Government undertaking is proceeding towards the assembly of a body of skilled men for work on housing in areas in which the local authorities are in difficulties. Apparently it is the intention that this force shall only be used where and when the local authority asks for it.

Over to the Town Clerk

Finally we come to that aspect of the Government's plan of which the critics speak most harshly, the virtual concentration of all house building likely to take place in the next two years in the hands of local authorities. True, building by the private builder for private sale is not prohibited, but things are so arranged that he is very unlikely to get much chance of doing so.

The plan of the Government is to place responsibility for filling up the existing shortage squarely on the shoulders (or round the necks) of the local authorities. They, by now, should have a fair picture of the number of people seeking homes in their area, and 1,500 or so of those pictures, of course, cover the whole country. Maybe some cautious people have put their names down in more than one area but it is doubtful if the numbers of those destroy the substantial accuracy of the picture the local authorities' return should provide. With this plan of the needs of the area in their mind, the local authority is able to plan its own housing scheme, and from there proceeds to obtain tenders. The principle of the acceptance of the lowest tender is that, so far, generally adopted. Then, with the necessary consents of the Ministry of Health, the contracts are signed and the work proceeds.

There is one thing that distinguishes this plan from the otherwise not dissimilar plan adopted at the end of the last war, and that is that the letting of contracts marches hand in hand with the state of the labour and materials situation in the authority's area. The authority is supplied, through the local Labour Exchange, and indirectly through the Regional officials of the Ministry of Labour, with a day to day picture of the labour and materials available to the contractors that are tendering. It should thus be possible to avoid the placing of contracts with those optimistic concerns who believe that, once a contract is safely in their pockets, everything else necessary to build houses will be added to them, in the last resource, no doubt, by Providence.

It is only if a situation arises in which there is more labour and materials available than the local authority needs that the private builder can hope to obtain a licence to build for sale. No house building may be done without a local authority's licence, and even if the private builder is permitted to build for private sale, or for letting if his mind, for some reason, prefers that unlikely coursle, the price at which he may sell or let those houses is fixed. In London the selling price has a ceiling of £1,300, elsewhere £1,200. If the house is to be let the rent must be fixed by agreement with the local authority. These ceiling figures were originally fixed by Defence Regulation. They have since received statutory authority under the Buildings Material and Housing Act, 1945, and the Act also adds a further restriction, one by which it is impossible to sell a house built under these circumstances for four years at a price higher than the limit fixed for its cost.

What progress has been made with the plans and contracts of local authorities since the end of the year is still unknown. The Ministry of Health hopes to publish a progress report with full details at the end of January. In the meantime the Minister is insisting that even more important than the job of getting the maximum practicable number of houses under way in those areas in which plans are well advanced is the necessity of getting building started all over the country, in other words in gingering up those authorities which are slow. He claims, and, on the evidence, rightly, that the best means of recruiting labour for the building industry is the opportunity for immediate employment in it for the returning serviceman or munition worker in the area in which he lives.

Summarized, the Ministry's plans for new housing construction may be said to be the stimulation of local authorities to make use of all possible supplies of material and labour in their areas. Only if the authorities own plans do not fully utilize all these supplies can private builders be given permission to use the surplus in the construction of houses for sale. As for finance, that can wait. Houses are not to be built at all costs, but contracts are not to be held up because the financial future is obscure.

The case against

Those are the proposals, and the declared intention, of the Government. It is clear that they do not meet with the full and unanimous support of the employers' side of the building trades. What do the employers say?

First, they say that the building trade is not adapted to the production of houses under contract for a local authority. The large firms are used to the routine of tendering; they confess to having departments that understand how to fill in forms and steer them through the various channels to produce results in the form of contracts, permits, licences and, finally, material, employees, sites and houses. But they say the trade generally does not consist of large contractors. It consists of large numbers of small employers. In 1943, when already some of the smaller firms had closed down and conditions encouraged the larger firm as against the smaller, there were 36,925 firms employing less than 20 operatives, 514 employing between 100 and 500 men, and only 39 employing over 1,000. They say that it is idle to argue, at this moment, whether this is a good thing or a bad thing. At the moment it is a fact, and if attempts were made to change it drastically the whole trade would be disorganised.

Then they say that the small man is not a skilled accountant or estimator. He has his own rule of thumb methods of posting and pricing a job, based on his experience of the locality, the materials and men available there and the habits of action, and even of the minds of the people who live there. He can successfully produce a house which will, when sold, produce a profit in cash. He is likely to be dismayed at the thought of calculating a price at which he will

will tender to a local authority, and if you discourage him in this way you will destroy some of the drive that is essential to produce any results at all.

They also criticise the method of finding the contractor by means of the competitive tender system. They point out that the competitive tender implies that more firms are tendering than can be supplied with work and that it is based on the plan that you shall not use to the full the capacity of the local employers organisations.

They also say that the Government's plan for entering the field of manufacture will be more likely to disorganise it than strengthen it. They hold the belief that the best way to create supply of materials is to allow the manufacturer to see an expanding market beginning to blossom under his eyes. Then he will respond with his best efforts in an attempt to capture as much of the available trade as possible, and the result will be a genuine increase in output and so of available supplies. Again, this process will bring with it a fall in prices as competition among the manufacturers develops and they are driven to maintain their volume of trade by increasing their efficiency and so reducing their costs. A Government department, they say, will never face the first big lesson in production and that is that you must cut your losses if you make a mistake. A Government department finds it easier to spend someone else's money (that of the taxpayer) than it does to admit of a mistake and write off a loss.

Finally, they say that of all things a local authority is the least adapted to the task of organising a drive for more houses. What, they ask, is a local authority. It consists of a lawyer, its clerk, a number of officials who are mentally in awe of regulations, statutes and the superior powers of Whitehall, in constant apprehension lest the mills of the Government machine, grinding slowly, will call them over the coals for mistakes, even decisions, that they made months before and which now cannot be remedied, and over all these men is a collection of part-time councillors who may be experts in many trades but rarely in housing, and who regard their work on a council as a form of glory-bringing hobby and who are too prone to be influenced by what will and what will not attract votes in their support on the occasion of the next municipal election.

You should do it this way

Their solution to the problem is simple. Remove these controls, they say. Give us once more the freedom to buy where we like and make our own mistakes and triumphs (which, of course, are revealed in the shape of profits and losses), and we will produce the houses you need. If we find that one thing is in short supply we will use our own experience to discover or invent a substitute and to persuade some manufacturer to market it. We agree that to cut out luxury building you should set a limit of the price at which a new house should be sold, and leave it to us to produce a house to your minimum dimensions at our own price in our own way and with as much profit as we can get out of it. Competition will keep the prices down and the efficient firms will prosper and the inefficient ones fade away, as they should.

They agree that some houses must be built by local authorities. They have little interest in the building of small houses where the occupier must be subsidised because his income will not permit his paying the rent, or the cost of instalment purchase, unaided. Nor are they concerned to build and own the blocks of flats where, too, the rents must be subsidised or adjusted. That, they agree is the field of the local authority, or some other state organised concern. But the two forms of building can proceed side by side. They did before the war. Why not now?

Are they right?

These are massive arguments. Not all builders hold them all. Some, on the other hand, may go further in condemning the plans of the Government. Some say that complete disaster will fall upon the whole industry if they are followed through. But in any case they deserve and require some examination.

It is not unfair to set these arguments against the situation that actually took place after the last war. Allowing for the inevitable differences caused by changes in national organisations, conditions are not so different as to make the comparison unfair, and we have the advantage of being able to study what would happen if all the most scathing of the critics of control asked for came true, for there was after the last war no effective system of rationing of materials or of determining priorities. It was a fair field to all and no favour (or, indeed, quarter) asked for or given. Local authorities competed with the private builder for what supplies and labour there were. Local authorities were compelled to offer specially favourable terms to contractors to induce them to take the contracts up. In short, throughout the situation exhibited all the signs and results of a seller's market, which is what the situation in 1946 will be.

Building started slowly. Between 1919 and March, 1923, some 213,821 houses were built. 170,100 were built by local authorities under the subsidy given by the Housing Act of 1919, 4,545 by public utility societies and 39,186 by private builders with the benefit of a subsidy and 54,000 by private enterprise without any subsidy. It is impossible to break down these figures year by year with complete accuracy as the total of houses built in each separate year by private enterprise without subsidy is not available, but for the subsidy aided houses the figures are:—

To March,	1920	... 700
" "	1921	... 28,600
" "	1922	... 101,100
" "	1923	... 67,800

It is probable that the rate of building of the unsubsidised houses would follow the same sort of curve but that there would be rather greater proportion built in the earlier years. This four year period forms a compact whole as in 1922 the subsidy under the 1919 Act was discontinued and a fresh subsidy, not so favourable to local authority building substituted. In the following twelve months, to March, 1924, local authorities built only 14,300 houses as compared with 67,500 built by unsubsidised private enterprise, but it is worth while noticing that the level of unsubsidised private building ran between the 60,000 and 70,000 mark for no less than another five years, the upward curve only starting again in 1920 with 90,100 houses.

But the effect of this freedom from restriction on costs was considerable. In 1919 the average tender price for a local authority house was about £730. It started to rise at the end of that year. By the end of April, 1921, the average all-in cost of these houses was about £1,000. But the fall at the end was equally rapid. By 1922 the average tender price was down to under £500.

The levels of the costs of building materials and wages show, of course, the same fluctuations. One calculation gives the following figures for the wholesale prices of building materials.

1918	1919	1920	1921	1922
205	271	298	311	242

the 1913 figure being 100.

For wages with 1914=100 as the basis, the changes in bricklayers' wages moved from 172 (January, 1919) up to 201 twelve months later, reaching their peak of 237 between September 1920, and May, 1921, and falling to 168 by June, 1922. The wages of bricklayers' labourers moved from 207 through 303 to 185 over the same period and roughly with the same curve.

Nor is it true to say that the upward curve of both material costs and wages were caused by the subsidy under the 1919 Act. True, that subsidy influenced them because it put into the competing market local authorities who might otherwise never have started any building at all at the time, but as we have seen local authority building did not really get under way until 1922, by which time the curve of the peak was passed. The biggest increases were in 1920 and were due in part to the general inflationary boom at the time, aggravated by competition for a limited supply of materials and labour then available.

The position is not difficult to understand. If resources are limited and yet uncontrolled, not only will all costs rise. The actual use made of the resources will be below its maximum efficiency. Contracts will be hamstrung because both material and labour will be suddenly diverted to a field that looks immediately more lucrative and if there is one thing more than another that increases the actual cost of a house it is irregular supplies of materials and labour.

The argument can be extended and deepened, but it seems to be clear beyond much doubt, both on theoretical grounds and on the history of the past, that with limited supplies there must be a complete system of overall control. That is necessary not only to keep down costs but also even to produce the maximum results with the limited supplies you have.

But, of course, that does not dispose of the employers' arguments completely. They admit the necessity for some sort of control when they agree that a ceiling on the selling price is justifiable, for that is of course an admission that there isn't enough in the pool to admit of everybody's building what he wants in 1946. But is that price ceiling a satisfactory mechanism?

It seems unlikely that in itself it is sufficient. For one thing it is exceedingly difficult to enforce. It opens the door to a black market in houses for sale, and if there is one thing that war has taught it is that where there is a shortage and inadequate control there will be a black market also. Already there is something of a black market in repairs and decorationns. The man with cash in his pocket and time to spend can find the back street builder who will take on a job without a licence, at a price. What possible check is there on the builder who will take fifty pounds in notes, outside the written contract, from the man who desperately wants a house? Is the experience we have of house owners and agents who have property to let an indication that of course that kind of thing could never happen in the property market?

Besides, it leaves untouched the heart of the problem, which is, for whom are these houses most urgently needed? The man with an accumulation of capital sufficient to put down the full price of a house or the man who is trying to make a war gratuity stretch far enough to set up a home? If a man has to pay a £50 deposit on a house to buy, how much furniture will the balance of his gratuity, and, indeed, the balance of his savings, actually fetch? A couple of kitchen chairs and a dozen dishcloths would be about the answer. The people who need houses most urgently, and the

people the country needs most urgently settled in houses, are the age groups below 35, and after six years of war the amount of cash they have available is not their most conspicuous feature.

As for Local Authorities—

But the critics of the Government are on firmer ground when they complain that local authorities are not ideally suited to be the sole authority responsible for this vast effort to provide houses. There is a great deal of truth in the description that the critic would give of a local authority. Nor is their record during the period between the two wars so completely satisfactory.

Local authorities, of course, vary, but the figures showing the progress made by local authorities in clearing their slums and in abating their overcrowding under the five year plan that started in 1938 do not make pretty reading. The authorities with the largest problem were those that made the poorest showing. Leeds had the worst task. It should, under its survey, have rehoused 23 per cent. of its 1931 population. Only one third of its task was completed in the period. Manchester showed the next greatest failure, reaching only 62 per cent. of its target. Of the five worst boroughs, only Sheffield exceeded its target figure. Nor were the black spots confined to the largest towns. The Clement Davies Committee on Tuberculosis in Wales pointed out in 1938 with regret that a number of local authorities in Wales had failed to take advantage of either their statutory powers or the offer of Treasury aid in improving housing conditions which the Committee considered bad. The building effort of local authorities has fluctuated too much between the wars to give any real belief that many of them are capable of giving a lead. Some are distinguishable only by their capacity to resist pressure from the Ministry of Health.

A local authority is always faced with this problem. Its major concern must be the level of its rates. That may be a bad thing but it remains a fact. A local authority can only build with a light heart when it is convinced that its housing estates will never over the whole forty or fifty years of the amortisement period require to be subsidised by the general rates of that area and so far never has that happy state been realised. There has usually been a subsidy, but the amount has fluctuated too often to inspire any feeling of confidence. It is possible, too, in the last analysis, that a local authority would be empowered to fix its rentals on a basis that would show, unaided, a return sufficient to discharge all liabilities, but it is left with an unhappy belief that if rents went as high as that there would be no one in the area capable of affording them and that the whole population would disappear in a concerted exodus.

In short, while a local authority may be the proper guardians of the town's health and amenities, it is not therefore to be considered the town's best possible landlord. There is no more real connection between local government and house-ownership than there is between local government and beekeeping.

Again, reduced to its essentials, a housing estate, once built, presents two problems only, finance and estate management. The financial manager is concerned to see that enough income is received, either by rent or from subsidies or from a combination of both, to produce enough each year to pay his interest and amortisement charges. The housing management side is a branch of personnel management. Tenants are not simply rent producing machines, and the additional elements required to keep the estate a place in which people willingly live can be cultivated by the right type of person who has been given the right type of training. Are local authorities the best agencies for finding those two different types of twin managers required? The first, yes. The answer in the second case depends very much on the sagacity of the town clerk and the housing committee, and the standard of that varies considerably. This is a problem that local authorities will have to face rather more definitely than they have in the past, if they are to justify the claim implicit in the confidence placed in them by the Minister of Health. In fact, the two very different functions of accepting responsibility for seeing that houses are built and responsibility for seeing that they are well managed after they are let is one which too few authorities appreciate.

But criticize as one may, what alternative is immediately available? One may wish that a public housing corporation had been set up to take over the management of all houses built with public moneys and to give an administration that was uniform over the whole country and untainted by any suspicion of party feeling, such as does creep into some local authorities' estates. But, while such a corporation might have been established in 1934, when there was a renewal of the campaign against slums, or in 1943, when it was reasonable to argue that some sensible planning for housing after the war was not premature, it is useless to argue that such a corporation could have been set up after August, 1945, without inevitably causing more problems than it would have settled. And, as yet, no private builder has gone on record to say that he believes that the private builder can solve the problem of supplying houses that must be let because the prospective tenants cannot afford to buy.

Rent and Rates

Reference to the Government's plans would not be complete without some mention of the problems of rents and rates, on neither of which have the Government's proposals been fully revealed, if, in fact, they are already formulated. It is impossible to deal with them in detail here, except to emphasize both the fact that they are artificially controlled and that some form of control seems to be inevitable.

Rents of privately owned houses have, with the exception of the small percentage at the extreme upper end of the scale, been controlled by some form of Rent Act for the last thirty years, and the resulting situation defies logical analysis. Control started in 1917 when the fixed rent was related to the actual rents paid in 1914. Even then the rents of equivalent houses might vary, and so be fixed at varying levels, but it is unlikely that the variations were considerable. Between the two wars houses were released from control by methods in which chance was the prevailing element, and at once wide variations in rents of equivalent properties became possible and took place. Finally, all these rents, now with all their illogical variations, were fixed again with relation to the figure payable in 1939. The resulting situation is one that is fair neither to tenant nor houseowner.

Again, the rents of houses owned by local authorities have been affected by the various subsidies that have been granted, and although all subsidies payable, to the same authority, at whatever rate, are merged in the one common subsidy fund and applied for the benefit of all houses owned by that authority (thus giving equality of treatment to all the authorities' own tenants), there are still variations between one authority and another in corresponding areas which have no real justification although they are commonly accepted.

Rating is equally a subject in which lack of determination on the part of the central authority has produced a situation in which injustices between one area and another are widespread. These are the kind of minor injustices affecting the individual which are rarely harsh enough to cause any violent complaint, which can easily be glossed over by a smooth Parliamentary reply and which the public is driven to accept as one of those smaller misfortunes of life that can never be remedied, like the common cold and burst pipes.

Finally there is the problem of the land itself. It would be unfair to criticize the present Government for not having produced their solution of the problems of compensation and betterment within the first six months of taking office. Nor, fortunately, is there evidence that they fail to see how much it underlies the whole prospect of further progress in building once the immediate shortage is made good. But it is worth while pointing out that at the moment local authorities are building blind, financially speaking. They know what the actual structure will cost, they do not know what the land will cost, nor do they know what burden, if any, will fall on them as the local authority, nor what rents they will be able to charge for the houses they let.

The issue can be stated comparatively simply. We are some way down a road into which we turned when first we made it compulsory for a builder of a house to observe some standard of public health. We then reach the stage that it is no longer economical for the private investor to build houses for letting as an investment as the rent that will give him a commercial return on the capital investment is beyond the means of an increasingly large percentage of the public. That stage was realised at the end of the 1914-19 war. Believing that stage to be merely a temporary one, Parliament tried, and as hastily dropped, an experiment in subsidised housing. The next stage followed from the evil conditions in existing slums, not from any clarity of vision in seeing that the problem of the man who cannot afford to rent anything better than a sub-standard house still remains unsolved. We proceeded then on a plan that if the worst of the slums are destroyed the duty of the State would be discharged. For the rest, the houses vacated by those who can afford to buy a new one would be adequate for those less fortunate citizens who cannot reach that standard of financial independence. Are we on the point of accepting that it is the duty of the State to see that all its citizens are adequately housed? If so we are on the verge of a real revolution in political thought.

And, of course, planning

The problem of town and country planning is all the more urgent because it is not so immediate.

The problem is not immediate because for the next twelve months most of the house building that will in fact be undertaken will be done either on existing sites in towns or on land which has already been zoned for the erection of small houses. But the larger issue remains and it is difficult to find any evidence that there is any general attention being given to its complete solution.

It is true that individual towns and localities have their plans. There is the London plan, the plan for Exeter, Manchester or Canterbury. There are the plans for the develop-

ment areas, but there is yet nothing that can be described by what is an unfortunate but true phase, the master plan. Nor does the building trade as such seem interested in whether there is one or not. One gets the impression that builders regard land as something figuring in costs as a bed in which to put foundations, and nothing else.

We can perhaps deal better with these longer term problems at another place in this article, but it is perhaps worth while suggesting that no industry that claims to have a national status, and therefore to be entitled to consideration from both public and State, can really justify that claim until its members accept the fact that their work has social consequences and unless they make some attempt to make their actions conform to the demands these consequences make. A national industry without a social conscience is like a cancer cell in a human body. It does its own job only too well, and kills the organization of which it is a part in the process.

Prefabrication

The word Prefabrication now has a sinister fascination. Rarely can any word, not specifically linked with purposeful propaganda, such as Squanderbug, have achieved so quickly such an unenviable reputation. Before the war, to the layman it was a word which he occasionally ran across in the technical press or its advertising columns. Now, use it and you bring into his mind horrid visions of dreadful little pale grey boxes of a kind he would, before the war, have been ashamed to garage a second-hand car in and which have sprung up, like an enemy-sown weed, on the sites of the houses that have been destroyed by war. If he has a house or a flat, every time he passes one he thanks Heaven, fasting, that his blessings are so extensive. If he is without a house or flat, he looks at one of these structures with the feelings of a man compelled to live on unreconstituted dehydrated food. The alternative is worse, but only just. To this pass have the late Government and industry reduced the man in the street.

It is said that the Portal house was invented by someone who admired the jerrican, who was so fascinated by the ease and skill with which a machine could turn out these useful containers that he imagined that the similar kinds of machines could turn out anything that was needed, with the possible exception of tropical fruit. So appeared the Portal house. And now the labours of many intelligent men are directed, not to the making of houses, but to the invention of propaganda that will make pre-fabricated houses slightly less unpalatable to the general public.

Actually the Government of the day acted in a very fair, if leisurely, way in the earlier problems of the prefabricated house. The Inter-Departmental Committee on House Construction known as the Burt Committee was appointed as far back as September, 1942, and included representatives of the Ministry of Health and of the Ministry of Works. Its first report appeared in October, 1943, and following on that report the Ministry of Health decided to grant building licences to permit of experimental work and the construction of experimental prototypes where they thought there was some chances of a practicable prefabricated house appearing. By the end of November, 1945, 1,381 applications for licences had been received and 195 had been granted. The others failed mostly on grounds of lack of novelty, intrinsic technical defects in the design excess of cost or non-compliance with the agreed minimum standards. Of these 195 licences that have been granted, about half relate to complete houses, 33 to assemblies of structural components and 19 to plumbing installations, kitchen and bathroom fittings and assemblies. 10 are for new types of plant and machinery.

In the initial stages it was left to the promoters of the design to finance their own experiments, but the Government has given some assistance in certain cases in which the scheme seemed more promising. It was decided to assist in the erection of groups of the various kinds of houses, on sites taken over from local authorities, and about 50 of each selected type of house were erected on these sites. Local authorities were urged to come and inspect them and many of them have, and these exhibitions have not been without result. But they have not yet produced the completely satisfactory prefabricated house.

The result has, in fact, been that local authorities are prepared to buy about 40,000 of these houses. The decision has been left to the authority. Where the house is of the concrete type (which, however, forms the minority), the authority has been told to proceed with the purchase and erection of these houses. In the remainder of cases, that is, with the steel houses, the supply is dependent upon the usual machinery of licences to cover the supply of the steel and labour. At the moment there is no complete guide to the total of each which authorities will wish to buy. But an even total order of 40,000, divided between the various different steel houses and the different concerns that make them, does not seem likely to set up a trade on what can be called a real mass-production basis.

In short, there is not yet any completely satisfactory answer to the demand for a prefabricated house.

The demand exists, despite the disillusionment that the public have suffered and not only because people will be glad to take anything that will give them shelter and warmth. It exists because the public is not wedded to the traditional house as the building trade chooses to believe. The public is interested in good houses of reasonably decent exterior appearance and with the maximum of convenience and comfort inside, and if those homes can be cheaply and easily provided by non-traditional methods, the public will not mind whether they are made of extruded sawdust or processed blotting paper.

Prefabrication could make its biggest contribution in rural areas. There for generations men, women and children have been living in traditionally built houses, of various eras, that have given them rheumatism and tuberculosis, that have never kept out the wind or rain and that are without conveniences that have been used elsewhere for a century. Those houses can never be replaced by traditionally built houses, at an economic rate; at least, traditional building and traditional organization never seem to have been able to replace them, in some cases never seem to have tried. Bad as a problem is, there usually does come a day when it is solved.

Prefabrication has suffered more from its friends than from its enemies. There is some prefabrication about every house. Every factory-made door or window does deprive the traditional carpenter on the site of a job that once was his. The assembly that groups all the apparatus to be heated around the one fire, the assembly that shepherds all the plumbing along the one accessible and warmed channel, is a step towards prefabrication. But only adverse effects are achieved by the advocate who claims that his prefabricated house can be assembled on a site complete in three days and who ignores the fact that to do so will require some thousands of pounds worth of special plant and also that, unless he has a guaranteed run of some 50,000 sets of parts a month, his total assembly will cost more, in both man-hours and capital expenditure than an equivalent traditionally built structure.

Conclusions

This account of the building industry on the threshold of 1946 is incomplete and inadequate. It suffers from compression and omission. It deals with a subject on which readers may well be better informed than the writer, and it deals with it as though the only problem that faced the industry and all who work with it was the erection of the maximum number of small dwellings within the shortest possible time. It leaves out of account the skill and the resources that must go into the rehabilitation of our industries and trades and into the finer work in which the skill of the craftsman is given its full scope. Of that the writer is fully conscious, yet he feels that the problem of housing the man and woman of under thirty-five, who have lost six years in a war, is such an important human and social problem that it demands the best that combined skill and capacity can supply.

Again, it may leave the reader with the impression that the leaders of the industry are inclined to subordinate this crying need to their own views on how the problem should be handled. That is not so. If a considerable building contractor is critical of the Government, it does not mean solely that he is concerned that his freedom to operate as he wills and to make such profits as he can. It means, too, that he is concerned because he feels, mistakenly or otherwise, that the methods adopted by the Government will fail to produce as good results as the method he would himself prefer to see adopted.

Again, it may leave the reader with the impression that the critics of local authorities are foolish enough to condemn them all indiscriminately and to label them all with the same faults. Again, that is not true. The harshest critic of local authorities in general will suddenly give vent to a startling word of praise for one.

But with these disclaimers in mind the writer does feel justified in stating some of the conclusions that he has reached on the attitude of the trade to the task that they have in hand. An outsider does see a good deal of the game and, even if he does not understand all of the rules, it may be that some of the rules could be changed with advantage.

The first item on the list is the tendency of the leaders of the industry to ignore changes in social conditions and trends, to look back instead of to look forward. Too many seem to accept without further thought the belief that it will be perfectly possible to go on building 300,000 houses a year for sale, all on virgin estates around our big cities, all likely automatically to have near them factories and business areas that will give sufficient employment to enable the instalments on the houses to be paid for the requisite twenty years or so, all to be supplied in good time with transportation facilities, railway stations, main sewers and, of course, their proper share of luxury cinemas and grand old Tudor public-houses. Yet is this assumption correct?

In what is popularly known as Year One of the Atomic Age it would be a bold man who would prophesy that the trends in population and in industrial development that have been evident for the last twenty years will not suddenly be reversed. No doubt, a hundred and fifty years ago there were men who laughed to scorn the notion that England would ever be able to maintain a population four times as big as then existed. But it is worth while pointing out that what kept the population stationary then was a high death rate. What is reducing it to a stationary state now is a low birth rate. It is possible that we shall find an antidote to a low birth rate as quickly as our ancestors solved the problem of a high death rate, but even if we do, it is again worth while pointing out that it will take at least a generation for this increased family to reach an age when it demands an additional residence.

Is it not advisable to make some plans on the assumption that henceforth we are not so much concerned generally with expanding the area covered by houses (save in so far as we increase the open spaces inside towns). We are much more concerned with the replacement of worn-out houses in roughly the same places as the former house stood and this raises a number of problems that are quite different in kind from those which existed in the period between the wars.

As has been said, between the wars we relieved the housing shortage, in general, by building more and more for those in the higher income groups, leaving those in the lower income groups to improve their living conditions by moving into the houses vacated in the process. We built for the man who could buy. The man who could not buy, or who could not pay so much, had to be content with the second-hand. The whole finance of estate development, the whole structure of the building society movement in the last twenty years, was built up on that basis.

Now, once the pressure to make up for the war damage and to clear up the accommodation needed for six years' accumulation of increase in families is gone, we are faced with a situation that only a small minority of the new building will be intended for an increase in family numbers. The rest, if it is done at all, must and will be done for the man with the least amount of money available each week. True, social legislation is gradually helping to maintain, and increase, the minimum in the pockets of each man each week. Family allowances automatically assist the growing family and ease that tight period in every family history when the family is at its most expensive and at the nadir of its total earning capacity. But social legislation is not yet giving to the lowest paid worker the ability to stand a jump from a rent of 10s. a week to a total payment of 25s. a week for mortgage instalments, rates, ground rent and repairs.

In short, most houses in the next ten years will have to be built to let, and probably at a local subsidized rent, and will be owned by a local authority or a public utility equivalent. The political complexion of the Government of the day may affect how many are in fact built and, possibly the rents at which they can be let, but it is unlikely that any Government will be able to reverse this trend and increase to its old figure the number of people who can buy new houses of a local authority standard in the numbers that were sold before the war.

Is the industry facing up to that possibility?

The Industry itself

Another and quite different point is the internal organization of the building side of the industry. There is no doubt that the industry is inefficient, judged by any modern standard. It is quite true that a great many external factors help to keep the trade inefficient. Its working time is affected by the weather. The job of building a house is not one in which modern large-scale plant can be usefully employed. Always the efficiency of a job will mainly depend on the organizing ability of the employer and the common sense and practical skill of the foreman. Bulky and elaborate equipment may reduce costs and so justify itself in the construction of roads and the excavation of sewers, but it is difficult to see how ever it can add anything really appreciable to the output per man-hour in the construction of a 900 super. ft. house. But do those facts justify the almost defiant pride the industry seems to have in the fact that nothing ever changes in the traditional methods of building a traditional house?

Has the industry, for example, ever fostered research into how power-driven hand tools can improve output and, if they do, how best the operative can be brought to use them? Is it for ever essential that the craftsman should own his own tool kit and so be reluctant ever to try anything more efficient, but more costly, because, by custom, the additional cost might fall on him? Have experiments ever been made to see how a district pool of power-tools operated on a co-operative basis, would work? The British farmer is not usually considered to be a keen innovator, yet he has found that area pools of costly but time-saving farm equipment is a practical as well as a paying proposition.

Again, is it essential that the standard brick should remain unchanged in size and structure? Is the cavity wall the only solution to problems of insulation? Is the builder's hod ordained in its present size by some Divine decree or could some more rapid method be found of passing the brick to the layer? Is it not possible to eliminate some of the movements that a bricklayer makes or are time and motion studies all right for every other industry but not for the building trade?

Again, is it not possible that to connect the electric power to a building site before the work starts and not, as now, leave the connection until after all work is finished? A great deal can be done with electricity, particularly when you have it there willy-nilly and are faced with the fact that it is there if you want it.

All these questions, no doubt, have been considered by the Government Research Laboratories. No doubt their findings are available. Is it a matter of keen interest throughout the whole industry that science can, or cannot, help each individual employer in increasing his output and so cutting down the overall time of building each house? Or does he live in a world in which science only enters the finished home, never the unfinished carcase? Is there something slightly indecent about trying to cut down the amount that has to be done by hand?

And all these questions are not academic. Someday somebody will devise a practicable prefabricated house that actually attracts the public, and then——. But enough of prefabrication.

Then is it really essential for the trade to operate with such a high pool of unemployed operatives? Between 1931 and 1939, the years in which the building trade regards itself as in smooth water, there were never less than 10 per cent. of the total number of workers unemployed, and that in June, a good building month. In 1934, a good year, with 142,500 insured workers in the industry, the June percentage of unemployment among insured workers between 16 and 64 was no less than 15.4 per cent. An industry is not in a satisfactory state when the proprietors derive a reasonable income from their activities, but the operatives are left with a grave risk of something worse than seasonal unemployment.

Finally, under this heading, we reach the subject of the extraordinary gap that still exists between the professions and the business sides of the industry. Is it essential that the builder should know so little about architecture and the architect so little about building? Do architects ever think in terms of prices when they specify their materials, and do builders ever think in terms of design or landscape when they run up something that they think will be cheap enough to sell easily? Are architects really interested in the job that only costs £1,100? Are they still pining for the industrial project that will cost tens of thousands, or the rich patron who is prepared to exchange the money he has for the distinction that he has not? The industrial projects may be long delayed and the rich patron may not be so easily found as formerly.

And is the practical side of building always to remain a matter of rule of thumb? Everyone in the industry, even those who disregard the advice that they give, says that the ideal unit for the individual builder consists of a team of about twenty, all practical men, some doubling one job with another, but all men of the trade who know how to use their hands. But is there no scope anywhere for the man who, when he starts, is prepared to study a little of the background to his job? The junior clerk in an insurance office studies law and accountancy. The merchant seaman has to take his courses and his examinations to climb to the rank of master mariner. He does that under a system that permits him to earn his living at the same time. He need not spend three years at a University. But is it suggested that all this is unnecessary, or that the industry loses by having at its head men who have gone through such a course of training? Are all practical builders so satisfied with themselves and their organizations that they think it would be waste of time to try and improve the status of their trade in such a way?

Last thoughts on Local Authorities

But perhaps the most important question of all for the immediate future is the question of whether or not we have the right instrument for our rebuilding of this country in the local authority. It is difficult to be convinced that we have.

True, there are some local authorities that have an organization that can, and will, solve their own rebuilding problems as well, if not better than they could be by any other organization. A good local authority creates not only its own standards of performance but, by that very act, trains its critics in the art of keeping it up to the standards it has chosen for its own. If a local authority tries to raise the standards of design and convenience, of efficiency and administration, it automatically teaches the citizen what they are entitled to expect. Similarly, a poor local authority can damp down criticism by the very negation of its efforts. It is, therefore, totally unfair to some authorities to generalise on the poverty of the performance of others, even of the majority.

But for twenty years now local authorities have been concerned with housing. They have laboured under Governments of varying political shades, for both the two Labour administrations between the wars, if they did nothing else, left their marks on the world of local authority housing. The Addison Act of 1919 was the design of a man who was not then a socialist, but both the Wheatley Act and the Greenwood Act played considerable parts in this field. So, on the other side, did the Chamberlain Act. In short, local authorities have been tested under Governments that have been disposed to drive and Governments that were disposed to discourage an active housing policy. The latter had the easiest task.

Again as a generalisation, but speaking as accurately as a generalisation permits, local authorities prefer the line of least resistance. They do not improve on the policy of a Government. On the contrary, they incline to cut it down to suit their views. If the Government policy is defective, they will exaggerate its defects. They were incapable of or unwilling to estimate their own needs in slum clearance and in the reduction of overcrowding and many of them have evaded the duties that were laid upon them under the Acts dealing with these matters. Nor has the Ministry of Health shown very much skill or enterprise in its attempts to secure from the country as a whole adherence to the policies that Parliament has laid down.

On the other hand, the standard of the houses they have built has been relatively good, both in design and construction. The majority have shown some concern to make themselves good estate managers and they

have certainly avoided most of the worst scandals associated with the more unscrupulous type of speculative builder.

It is not difficult to see how these defects and virtues come into being. A local authority is basically an affair of committees and committees tend to have the quality of activity represented by the lowest common denominator of all those concerned. A local authority cannot hide its mistakes from either its members or its superiors, in the shape of the Ministry of Health, as can a private concern. Its tendency is therefore always to avoid taking any action that may later be considered a mistake until it has authority from all its possible critics sufficient to provide all the officials concerned with a sufficiently thick coat of whitewash. This, naturally, takes time to accumulate.

Not only that. A local authority is the meeting place of many interests and among many authorities the balance of interests are those which are opposed to an extension of house building by local authorities. The ratepayer with a satisfactory home is rarely prepared to see an increase of rates to provide someone else with a house. Many of the local builders are not themselves in a position to tender for building for the local authority, while they are very anxious to build themselves. Again, the various professions that profit from the construction and sale of houses derive no business at all from the construction and letting of council houses, and these professions are usually strongly represented on councils.

On the other hand, once the house is built and paid for and the rent fixed, the house ceases to be a bone of contention and its administration becomes a matter of routine. Local authorities usually pay a reasonable rate of pay to their employees and do therefore tend to attract men and women of reasonable experience and with some sense of responsibility in running the administrative side of the authorities' affairs. It is unlikely, therefore, that there will be harshness in the control of the authorities' estates. On the other hand, there will inevitably be a good deal of red tape.

But the fact remains that there are two essential requirements necessary to make a success of the present Governmental plan for housing construction. The first is drive applied to the local authority. The other is some plan to absorb and utilize the skill and experience of the small local builder who is likely either not to tender at all for housing contracts or be unlikely to submit a tender that is competitive with the bigger and better organized firm.

The first requirement may be met by the plans the Ministries concerned have already formulated. The existence of what may be called the flying columns of the Ministry of Works should be useful, although it will be useless to leave this column unemployed until the local authority calls it in in aid. Obviously, the authority that is inert will be the last to take the step of calling in something that will only underline, or spotlight, its own inertness. Pressure is only effective when the person applying it has some sanction to impose if the person in default is taking no action.

The second element in the drive should come from the regional organization set up by all the Ministries concerned. Their task is not to do the work that the local authority should be doing. It is rather to see that the work is being done and to take action if the authority is not. If they are not prepared to act with the speed and precision needed in a military operation, then they are worse than useless for they merely will present a facade of supervision that will act as an additional screen between the local authority and Parliament that represents the public.

The problem of the small builder is more difficult. It is useless to say that if a town needs 1,000 houses and three out of six builders are given the contracts for those houses, those three successful contractors will absorb all the available materials and labour and so the same result will be obtained so far as the public is concerned. There is no reason why the small builder should lose his labour and his claim to the existing supplies of materials simply because his larger rivals have a better tendering organization. In the first place, it is unlikely that the other builders will attract away all the employees of the smaller man. In any case, it leaves the small man himself unemployed or, more likely, left to drift into either the legitimate or the illegitimate maintenance and repair sections of his trade. One solution is to empower the authority to buy from a builder a completed house at the price of the successful tender, provided the house conforms to the specification of the authority. A man may be a poor estimator and yet perfectly capable of building a satisfactory house to a specification in his own way.

But there is no easy answer to any of these problems that confront the industry; nor is there any answer which holds good for very long. The factors change from day to day and so the answers must vary. The problem of new housing construction must truly be treated as a military operation. To achieve success in that the commander must have his facts brought up to date day by day and he must be prepared to change his decisions day by day. The extent by which system, and individuals, fall short of that standard will be the extent by which their results fall short of all that might be done.

Now the great job begins — 5 to 7 million houses by 1950

INFORMATION CENTRE

INDEX 1945

The function of the Information Centre is to supply a digest of current developments in planning and building technique as recorded in publications and statements of every kind. To this is added an annual index, which will build up year by year, containing the title, author, source and brief description of every item that has been published in the Centre since its inception in its new form in the JOURNAL *for January 28, 1943. For fuller information than can be found in the index, reference should, of course, be made to the original* JOURNAL *text published week by week. The serial number and date number after each item relate to the issue in which it appeared. The headings are—Acoustics and Sound Insulation, Equipment, Heating and Ventilation, Lighting, Materials, Physical Planning, Plumbing and Sanitation, Structure. Subheadings are in alphabetical order.*

ACOUSTICS and Sound Insulation

CHURCHES

The Sound Control and Hanging of Church Bells. *J. H. R. Freeborn.* (*RIBA Journal, September*, 1944, *p.* 283.) Design of towers for bells. Conditions for ringers. (*No.* 2147 : 4.10).

FACTORIES

Noise in Engineering. *A. J. King.* (*Bulletin of the Liverpool Engineering Society, October*, 1944, *p.* 11.) Measurement of noise, its main sources in mechanical plant, and its reduction. (*No.* 1991 : 14.6).

The Problem of Industrial Noise. *P. E. Sabine.* (*American Journal of Public Health, March*, 1944, *p.* 265.) Data on effects of noise on people. (*No.* 2280 : 20.12).

GENERAL

Sound Insulation and Acoustics. The Ministry of Works Post-War Building Studies, No. 14. *Report of the Acoustics Committee of the Building Research Board of the DSIR.* (*HMSO*, 1*s.*) Divided sharply into the two subjects. Sound insulation covers (*a*) insulation against external and internal noise ; (*b*) insulation by planning and structural measures. Desirable standards. (*No.* 1763 : 4.1).

Acoustics of Buildings. *F. R. Watson.* (*Building Standards Monthly, February*, 1945, *p.* 4.) Theory of acoustics. Public address systems. Application in the Pentagon. (*No.* 2031 : 12.7).

The Noise Problem in Relation to Town and Country Planning. (See *PHYSICAL PLANNING : Town Planning*).

The Study of Sound Attenuation in Air Ducts. (See *HEATING : Air Conditioning*).

INSULATION

Sound Insulation and Acoustics. The Ministry of Works Post-War Building Studies, No. 14 (See *General*).

REPRODUCTION

Recent Research and its Effect on Loudspeaker Design. (*Electronics and Television, April*, 1944, *p.* 174.) Causes of poor electro-acoustic reproduction. An improved cabinet design. (*No.* 2071 : 23.8).

Acoustics of Buildings. (See *General*).

Planning for Audio-Visual Education. (See *Schools*).

SCHOOLS

Planning for Audio-Visual Education. *A. L. Terlouw.* (*Architectural Record, September*, 1945, *p.* 76.) Picture projection of all kinds in classrooms. Loudspeaker systems. (*No.* 2279 : 20.12).

STUDIOS

Acoustical Design and Treatment for Speech Broadcast Studios. *E. J. Content and L. Green.* (*Proc. of the Institute of Radio Engineers, February*, 1944, *p.* 72.) Optimum reverberation time. Shape of reverberation response curves. Discussion of acoustics in several studios based on principles stated. (*No.* 1784 : 1.2).

Recording Theatre at Denham Film Studios. (*Architects' Journal, August* 5, 1943, *pp* 95-96, and *Builder, March* 2, 1945, *p.* 171.) Acoustic design of recording theatre. (*No.* 1990 : 14.6).

EQUIPMENT

ARCHITECTURAL PRACTICE

Drawing Boards and Tee Squares. *BS* 1265-68 : 1945. (*British Standards Institution*, 2*s.* Covers size, materials and constructional requirements. Two changes in size of boards to be noted. Imperial to be 32 in. by 23 in. and large double elephant 42 in. by 32 in. (*No.* 2289 : 27.12).

Architectural and Drawing Office Practice. (See *STRUCTURE : Architectural Practice*).

BATHROOMS

Ceramic Lavatory Basins. *BS* 1188 : 1944. (*British Standards Institution*, 2*s.*) Covers dimensions and workmanship. Two sizes only. (*No.* 2017 : 5.7).

MOW Exhibition of Standard Housing Equipment. (See *Housing*).

Ceramic Washdown WC. Pans (See *Water Closets*).

Light Where You Want It. (See *Fluorescent Lighting*).

COOKING

Gas Cooking Installations for Single Family Dwellings. *British Standard Code of Practice* (*Draft for comment.*) (*British Standards Institution on behalf of the Codes of Practice Committee*, 1*s.*) Ventilation, capacity, fire precautions, etc. Diagrams of four types : (1) Vertical ; (2) Range ; (3) and (4) Raised Oven. (*No.* 2054 : 9.8).

The Yorkdal Back-to-Back Range. (*Smokeless Air, Summer*, 1945, *p.* 17.) Description of new multi-purpose appliance. (*No.* 2136 : 4.10).

Kitchen Equipment : No. 1, Cookers. (*Architectural Design and Construction, June*, 1945.) First of series of reference sections. 45 illustrations of electric, gas and solid fuel and oil cookers and combination appliances with notes by Jane Creswell and Owen Evans. Name of manufacturer and overall dimension of appliance given in each case. (*No.* 2213 : 22.11).

Electric Kitchen Plans. (See *Kitchens*).

MOW Exhibition of Standard Housing Equipment. (See *Housing*).

A Planned Electric Kitchen. (See *Kitchens*).

Comfort with Economy in the Northolt Demonstration Houses. (See *Gas*).

Radiation Demonstration Kitchen. (See *Kitchens*).

Kitchen Planning. (See *Kitchens*).

Gas Fire and Cooker Combined. (See *Space Heating*).

Space Required for Domestic Electrical Appliances. (See *Electricity*).

DISH WASHING

Fireclay Sinks. *BS* 1206 : 1945. (*British Standards Institution*, 2*s.*) Dimensions and workmanship of glazed fireclay sinks. (*No.* 2016 : 5.7).

Draining Boards. *British Standard* 1226 : 1945. (*British Standards Institution*, 2*s.*) Deals mainly with quality of materials and method of manufacture and defines method of measurement for lengths. Covers asbestos cement, cast iron, fireclay, plastics, pressed steel, stainless steel and wood. (*No.* 2212 : 22.11).

Metal Sinks. *BS* 1244 : 1945. (*British Standards Institution*, 2*s.*) Covers single sinks, sink plus draining board and sink plus draining board and work-table, all with or without back ledge. Materials : porcelain, enamelled iron or steel, stainless steel and Monel metal. Qualities of material specified, including the enamelling. Dimensions and diagrams. Aluminium sinks not included. (*No.* 2291 : 27.12).

MOW Exhibition of Standard Housing Equipment. (See *Housing*).

Kitchen Unit and Washer. (See *Kitchens*).

Post-War Building Techniques. 3. Equipment. (See *General*).

Space Required for Domestic Electrical Appliances. (See *Electricity*).

The Effect of Electricity on the Kitchen Plan. (See *Kitchens*).

Kitchen Equipment : No. 3, Laundry and Washing-up Equipment. (See *Laundry*).

Fireclay Wash Tubs and Sink Sets. (See *Laundry*).

ELECTRICITY

Rising Mains in Flats. *E. E. Jolly.* (*Electrical Review, July* 7, 1944, *p.* 9.) New form of distribution box and some suggestions for wiring rising mains in old and new flats. (*No.* 1768 : 4.1).

Plugs and Socket Outlets. *A Supplementary Report of the Electrical Installations* (*Study*) *Committee of the Ministry of Works.* Review of design factors. One standard plug not recommended. Ring mains recommended. (*No.* 1786 : 1.2).

An American Electric House. (*Electrical Times, March* 1, 1945, *p.* 277.) Electrical equipment of proposed post-war house. Fluorescent lighting. (*No.* 1922 : 10.5).

Space Required for Domestic Electrical Appliances. *BS* 1183 : 1944. (*British Standards Institution*, 2*s.*, 12 *pp.*) Covers maximum sizes of electric cookers, refrigerators, wash-boilers, washing machines, water heaters. In latter case, notes on installation also included. (*No.* 2002 : 28.6).

House Service Units. *H. S. Peat and C. E. Rose.* (*Engineering Supplement to the Siemens Magazine, February/March*, 1945.) House service units, mainly of built-in type. Considerable recent development towards neater arrangement of electrical control apparatus. Kitchen units, centralizing all electrical control, also illustrated. Many designs of units now available will mean greater cost to public ; could be avoided by standardization. (*No.* 2051 : 9.8).

British Standard Plug and Socket Outlets. *Statement by BSI on new agreement.* Decision on much debated problem of new all-purpose socket outlet now reached by Electrical Industry Committee of BSI. New BSS to be prepared. (*No.* 2174 : 25.10).

Electric Kitchen Plans. (See *Kitchens*).

A Planned Electric Kitchen. (See *Kitchens*).

Electric Kitchen. (See *Kitchens*).

The Effect of Electricity on the Kitchen Plan. (See *Kitchens*).

Kitchen Equipment : No. 1, Cookers. (See *Cooking*).
Kitchen Equipment : No. 2, Water Heaters. (See *Water Heating*).
Electrical Water Heating in the Post-War House. (See *HEATING : Water Heating*).
Estimating Energy Consumption. (See *HEATING : Electrical Installations*).
Consumption of Domestic Appliances. (See *HEATING : Electricity, General*).
Space Heating by Electricity. (See *HEATING : Electrical Installations*).

FITMENTS

Kitchen Fitments and Equipment. *British Standard* 1195-1944 (*British Standards Institution*, 2*s*.) Part I gives recommendations for overall space dimensions for all types of equipment, including cabinets. Part II provides for series of standard storage units based on recommendations of Part I. (*No*. 1927 : 10.5).
MOW Exhibition of Standard Housing Equipment. (See *Housing*).
A Planned Electric Kitchen. (See *Kitchens*).
The Effect of Electricity on the Kitchen Plan. (See *Kitchens*).

GAS

Comfort with Economy in the Northolt Demonstration Houses. (*Gas Industry House*, 1, *Grosvenor Place, S.W*.1.) Illustrated trade pamphlet describes gas and coke equipment in two terrace houses in MOW's demonstration houses. Fuel consumption figures. (*No*. 1861 : 5.4).
Radiation Demonstration Kitchen. (See *Kitchens*).
Kitchen Planning. (See *Kitchens*).
Installation of Gas Operated Refrigerators. (See *Refrigerators*).
Gas Cooking Installations for Single Family Dwellings. (See *Cooking*).
Gas Fire and Cooker Combined. (See *Space Heating*).
Kitchen Equipment : No. 1, Cookers. (See *Cooking*).
Kitchen Equipment : No. 2, Water Heaters. (See *Water Heating*).
Draft Codes of Practice on Gas Installations. (See *HEATING : Gas*).

GENERAL

Post-War Building Techniques. 3. Equipment. (*Architectural Forum, March*, 1945.) General article on equipment likely to be available soon, mainly for houses. Heaters, laundry machines, dish washers, lamps, doors, windows, etc. (*No*. 2001 : 28.6).
Electric Kitchen Plans. (See *Kitchens*).
MOW Exhibition of Standard Housing Equipment. (See *Housing*).
Electric Kitchen. (See *Kitchens*).
An American Electric House. (See *Electricity*).
Household Appliances. (See *Housing*).
Report on the Market for Household Appliances. (See *Housing*).
Building Science for Students of Architecture and Building. Vol. 1. (See *STRUCTURE : General*).
Business Buildings. (See *STRUCTURE : Offices*).
Birmingham Civic Centre. (See *STRUCTURE : General*).

HOUSING

MOW Exhibition of Standard Housing Equipment. (*Architects' Journal, November* 23, 1944, *pp*. 383-386.) Illustrations and descriptions of exhibition held in Birmingham. Principal items of equipment as recommended in Government's *Housing Manual*, to be adopted by local authorities. Bathroom, kitchen, storage and heating equipment, and their relation to living-room, dining-room and kitchen plans. (*No*. 1765 : 4.1).
Household Appliances. (*Planning, PEP Broadsheet No*. 231, *March* 2, 1945.) Study of market and design of appliances available before war and market as it may exist after war. Full report to be published later in year by Oxford University Press. Deals with :—(1) Household activities. (2) Factors affecting demand. (3) Design of appliances. (4) Estimated post-war demand. Particular appliances referred to as examples. (*No*. 1923 : 10.5).
Report on the Market for Household Appliances. (*Published by PEP. Distributed by Oxford University Press*. 18*s*.) Title gives little idea of wide scope and value of book. Thorough investigation of post-war market. Descriptions of large range of appliances. Useful comment added. Of real value to industry, architects and builders. (*No*. 2290 : 27.12).
Electric Kitchen Plans. (See *Kitchens*).
Rising Mains in Flats. (See *Electricity*).
Comfort with Economy in the Northolt Demonstration Houses. (See *Gas*).
An American Electric House. (See *Electricity*).
Radiation Demonstration Kitchen. (See *Kitchens*).
Kitchen Planning. (See *Kitchens*).
A Planned Electric Kitchen. (See *Kitchens*).
Kitchen Fitments and Equipment. (See *Fitments*).
Post-War Building Techniques. 3. Equipment. (See *General*).
Space Required for Domestic Electrical Appliances. (See *Electricity*).
The Effect of Electricity on the Kitchen Plan. (See *Kitchens*).
House Service Units. (See *Electricity*).
The Household Laundry. (See *Laundry*).
Gas Cooking Installations for Single Family Dwellings. (See *Cooking*).
The Yorkdal Back-to-Back Range. (See *Cooking*).
The Newer Heat Plans for Housing. (See *Room Heating*).
Housing Manual, 1944 : Technical Appendices. (See *STRUCTURE : Housing*).
Safety in Post-War Houses. (See *HEATING : Fire Prevention*).
Heating Appliances for Small Houses. (See *HEATING ; Houses*).
Lighting Fixture Style Preference in America. (See *LIGHTING ; Equipment*).

KITCHENS

Electric Kitchen Plans. (*The British Electrical Development Association*.) Booklet announcing electrical industry's attitude to equipment for post-war homes. Analysis of kitchen design, with examples.' (*No*. 1764 : 4.1).
Kitchen Unit and Washer. (*Electrical Times, June* 22, 1944, *p*. 733.) Kitchen unit comprising sink, water heater and washing machine, with power-operated wringer. (*No*. 1766 : 4.1).
Electric Kitchen. *R. Illingworth ;* and **Another Planned Kitchen.** (*Electrical Review, August* 11, 1944, *pp*. 180 *and* 192.) Descriptions of two all-electric kitchens. (*No*. 1767 : 4.1).
Radiation Demonstration Kitchen. (*Architects' Journal, December* 28, 1944, *pp*. 487-489 ; *Gas Journal, November* 8, 1944, *p*. 609, *and other journals*.) Illustrated description of gas and coke kitchen. Central plumbing duct. (*No*. 1924 : 10.5).
Kitchen Planning. *Kitchen Planning Exhibition at Dorland Hall, London, sponsored by British Commercial Gas Association.* (*Architects' Journal, March* 1, 1945.) Brief description and 4 pages illustrations, mainly photographs. Cooking and hot-water equipment by gas or coke. (*No*. 1925 : 10.5).
A Planned Electric Kitchen. *Designed by E. R. Gilbert.* (*Architects' Journal, March* 29, 1945, *pp*. 245-246.) **Planned Kitchens.** (*Electrical Review, December* 29, 1944, *p*. 929.) *E. R. Gilbert*. Illustrated descriptions of all-electric kitchen in aluminium with its equipment. (*No*. 1926 : 10.5).
The Effect of Electricity on the Kitchen Plan *A. L. Osborne*. (*Official Architect, December*, 1944, *p*. 572.) Two modern solutions to food storage problems. Planning should include for washing machine. Electric drying cupboards. (*No*. 2015 : 5.7).
Kitchen Planning. (*British Commercial Gas Association*, 1, *Grosvenor Place, S.W*.1, 5*s*.) Brochure of new plans and suggestions for labour-saving kitchens based on joint research by the Gas Industry and Jane B. Drew. Useful examination of kitchen planning and equipment not confined to heating and cooking appliances. (See AJ, 1.3.45, pp. 173-176.) (*No*. 2137 : 4.10).
MOW Exhibition of Standard Housing Equipment. (See *Housing*).
Kitchen Fitments and Equipment. (See *Fitments*).
House Service Units. (See *Electricity*).
Installation of Gas Operated Refrigerators. (See *Refrigerators*).
Gas Cooking Installations for Single Family Dwellings. (See *Cooking*).
The Yorkdal Back-to-Back Range. (See *Cooking*).
The Newer Heat Plans for Housing. (See *Room Heating*).
Draining Boards. (See *Dish Washing*).
Kitchen Equipment : No. 1, Cookers. (See *Cooking*).
Kitchen Equipment : No. 2, Water Heaters. (See *Water Heating*).
Kitchen Equipment : No. 3, Laundry and Washing-up Equipment. (See *Laundry*).
The Planning of Kitchens. (See *PHYSICAL PLANNING : Kitchens*).

LAUNDRY

The Household Laundry. Time Saver Standards. (*Architectural Record, May*, 1945.) Short discussion of advantages of home laundry. Eight plans of home laundry lay-out. All rather elaborate. (*No*. 2052 : 9.8).
Kitchen Equipment : No. 3, Laundry and Washing-up Equipment. (*Architectural Design and Construction, August*, 1945.) Some illustrations of stainless steel sinks, various wash boilers and washing machines, two water softeners, two drying cabinets, and two dish washing machines. Generally dimensions given. Notes and comments. (See also Nos. 2213, 2214 : 22.11.45.) (*No*. 2270 : 13.12).
Fireclay Wash Tubs and Sink Sets. *BS* 1229 : 1945. (*British Standards Institution*, 2*s*.) Covers single wash tubs, separate wash tubs and sinks and combined wash tubs and sinks. Each of these with or without a back shelf. Specification mainly concerned with dimensions. No recommendation on fixing height. Diagrams of each type. (*No*. 2292 : 27.12).
MOW Exhibition of Standard Housing Equipment. (See *Housing*).
Kitchen Unit and Washer. (See *Kitchens*).
A Planned Electric Kitchen. (See *Kitchens*).
Post-War Building Techniques. 3. Equipment. (See *General*).
Electric Kitchen. (See *Kitchens*).
Space Required for Domestic Electrical Appliances. (See *Electricity*).

REFRIGERATORS

Installation of Gas Operated Refrigerators. *British Standard Code of Practice.* (*Draft for comment*.) (*British Standards Institution on behalf of the Codes of Practice Committee*, 1*s*.) Refers to both independent and built-in types. Proper siting in relation to other fittings and adequate ventilation. Sizes. Fire precautions. (*No*. 2053 : 9.8).
Comfort with Economy in the Northolt Demonstration Houses. (See *Gas*).
Space Required for Domestic Electrical Appliances. (See *Electricity*).
The Effect of Electricity on the Kitchen Plan. (See *Kitchens*).

SPACE HEATING

Gas Fire and Cooker Combined. (*Architect and Building News, June* 15, 1945.) Description and illustration of gas fire with small oven over and topped by boiling ring. Suitable for one room flats or possibly for offices. A production of Radiation Ltd. (*No*. 2055 : 9.8).
The Newer Heat Plans for Housing. (*Brochure by Coal Utilization Joint Council*, 54, *Victoria Street, London, S.W*.1, 2*s*.) Solid fuel appliances of new types described and illustrated. House plans using these appliances illustrated. Estimated running costs given. (*No*. 2138 : 4.10).
MOW Exhibition of Standard Housing Equipment. (See *Housing*).
Kitchen Unit and Washer. (See *Kitchens*).
Comfort with Economy in the Northolt Demonstration Houses. (See *Gas*).
Post-War Building Techniques. 3. Equipment. (See *General*).
The Yorkdal Back-to-Back Range. (See *Cooking*).
Heating Appliances for Small Houses. (See *HEATING : Houses*).
Unit Heater. (See *HEATING: Unit Heaters*)
National Heating Problems and District Heating. (See *HEATING : District Heating*).

Space Heating by Electricity. (See *HEATING : Electrical Installations*).
Smoke Reduction on Open Fire. (See *HEATING : Open Grates*).
Estimating Energy Consumption. (See *HEATING : Electrical Installations*).

STANDARDS

MOW Exhibition of Standard Housing Equipment. (See *Housing*).
Kitchen Fitments and Equipment. (See *Fitments*).
Space Required for Domestic Electrical Appliances. (See *Electricity*).
Fireclay Sinks. (See *Dish Washing*).
Ceramic Lavatory Basins. (See *Bathrooms*).
Ceramic Washdown WC Pans. (See *Water Closets*).
House Service Units. (See *Electricity*).
Installation of Gas Operated Refrigerators. (See *Refrigerators*).
Gas Cooking Installations for Single Family Dwellings. (See *Cooking*).
British Standard Plug and Socket Outlets. (See *Electricity*).
Draining Boards. (See *Dish Washing*).
Drawing Boards and Tee Squares. (See *Drawing*).
Metal Sinks. (See *Dish Washing*).
Fireclay Wash Tubs and Sink Sets. (See *Laundry*).

WATER CLOSETS

Ceramic Washdown WC Pans. *BS* 1213 : 1945. (*British Standards Institution*, 2*s*.) Prepared pending preparation of BS for complete w.c. suites. Covers dimensions and workmanship. (*No.* 2018 : 5.7).

WATER HEATING

Kitchen Equipment : No. 2, Water Heaters. (*Architectural Design and Construction, July*, 1945.) Second of series of reference sections. 28 illustrations of electric, gas, solid fuel and oil water heaters with notes by Owen Evans. (Reference also to previous notes in June issue dealing with combination appliances for hot water plus cooking.) (*No.* 2214 : 22.11).
MOW Exhibition of Standard Housing Equipment. (See *Housing*).
Comfort with Economy in the Northolt Demonstration Houses. (See *Gas*).
Radiation Demonstration Kitchen. (See *Kitchens*).
Kitchen Planning. (See *Kitchens*).
Post-war Building Techniques. 3, Equipment. (See *General*).
Space Required for Domestic Electrical Appliances. (See *Electricity*).
The Newer Heat plans for Housing. (See *Space Heating*).
Kitchen Unit and Washer. (See *Kitchens*).
Estimating Energy Consumption. (See *HEATING : Electrical Installations*).
Electrical Water Heating in the Post-War House. (See *HEATING : Water Heating*).
Circoil Electric and Solid Fuel Water Heater. (See *HEATING ; Water Heating*).

HEATING and Ventilation

AIR CONDITIONING

The Study of Sound Attenuation in Air Ducts. *B. G. Churcher and A. J. King*. (*Metropolitan-Vickers Gazette, January*, 1944, *p.* 261.) Largely discussion of method of studying reduction of sound along ducts. Few results quoted. No discussion on principles. (*No.* 1809 : 22.2).
Refrigeration and Air Conditioning. *T. Mitchell*. (*Architectural Record, August*, 1944, *p.* 97.) Applications of refrigeration and air conditioning in hospitals. (*No.* 1815 : 22.2).
Multi-room Buildings Pose Air Conditioning Problems of Their Own. *W. L. McGrath*. (*Heating, Piping and Air Conditioning, August*, 1944, *p.* 470). Requirements in hotels, offices, flats, etc. Individual control in each room desirable. (*No.* 1825 : 1.3).
The Use of Glycol Vapour for Air Sterilization and the Control of Airborne Infection. *B. H. Jennings, E. Bigg, and F. C. W. Olsen*. (*Heating, Piping and Air-conditioning, September*, 1944, *p.* 538.) Low concentrations of propylene and triethylene glycol have been found to have bactericidal properties, and are suitable for use in occupied rooms. (*No.* 1874 : 12.9).
Department Store Air Conditioning. *A. L. Jaros, Jr.* (*Architectural Record, November*, 1944, *p.* 97.) Brief review of factors in conditioning stores buildings. (*No.* 2014 : 5.7).
Plastics for Air Conditioning. *P. I. Smith*. (*Air Treatment Engineer, February*, 1945, *p.* 31.) Thermal insulation with expanded plastics. Air ducts and piping. Fan blades coating against corrosion. (*No.* 2070 : 23.8).
Tobacco Smoke Control : A Preliminary Study. *C. S. Leopold*. (*Heating, Piping and Air Conditioning, March*, 1945, *p.* 164.) Control of tobacco smoke in sports arenas. Visibility, eye-irritation and odour. (*No.* 2130 : 27.9).
Lighting, Air Conditioning and Air Cleaning. *S. R. Lewis*. (*Illuminating Engineering, January*, 1945, *p.* 37.) Arguments and data for having artificial control of light and air in buildings. (*No.* 2132 : 27.9).
Heating and Ventilation, embracing hot-water supply and air treatment. (See *General*).
Mist and Dust Collection. (See *Atmospheric Pollution*).
Engineering Services for a New Office Building. (See *Offices*).
Engineering Services for a Modern Theatre. (See *Theatres*).
Efficient Factory Heating with Maximum Fuel Saving. (See *Factories*).
Ventilation of Dwellings. (See *Houses*).
Heating and Ventilation in a Public Library. (See *Libraries*).
Heating, Ventilating and Air Conditioning Hospitals. (See *Hospitals*).
Heating and Ventilation Design Problems in a State Hospital for Mental Cases. (See *Hospitals*).
Principles and Practice of Heating and Ventilating. Hot Water Engineering. (See *General*).
Flues for Gas Appliances. (See *Gas*).
These War Buildings Were Significant. (See *STRUCTURE : General*).
Possibilities in Post-War Techniques. (See *STRUCTURE : Housing*).
Birmingham Civic Centre. (See *STRUCTURE : General*).

ATMOSPHERIC POLLUTION

Mist and Dust Collection. *C. E. Lapple*. (*Heating, Piping and Air Conditioning, July*, 1944, *p.* 410.) Review of commercial applications of mist and dust collection, with discussion of characteristics of mists and dusts. (*No.* 1810 : 22.2).
Mist and Dust Collection. *C. E. Lapple* (*Heating, Piping and Air Conditioning, August*, 1944, *p.* 464). Methods of measurement and character of atmospheric pollution. (*No.* 1811 : 22.2).
Mist and Dust Collection. *C. E. Lapple*. (*Heating, Piping and Air Conditioning, October*, 1944, *p.* 578.) Description of apparatus for sampling gases. Position of sampling tube discussed. End of long, straight duct preferred. (*No.* 1997 : 21.6).
Clean Air and Practical Politics. *G. A. C. Saword*. (*Journal of the Royal Sanitary Institute, October*, 1944.) Suggestions for practical plan to reduce air pollution. (*No.* 1824 : 1.3).
The Reduction of Industrial Smoke. *Coal Utilization Joint Council* (54, *Victoria Street, London, S.W.*1). Pamphlet on means of reducing smoke from industrial plants. (*No.* 1872 : 12.4).
Sulphur and Atmospheric Corrosion. *R. J. S. Thompson*. (*Gas Journal, November* 8, 1944, *p.* 608.) Reduction of sulphur pollution would lead to considerable reduction in corrosion of metals exposed to atmosphere. (*No.* 1873 : 12.4).
Joint Conference of the Institute of Fuel and National Smoke Abatement Society. (*Institute of Fuel*, 2*s*. 6*d*.) Text of eight papers read at recent conference on atmospheric pollution and prevention : (1) Atmospheric Pollution (G. M. B. Dobson) ; (2) Coal and Civilization (Major S. F. Markham) ; (3) Small-scale Steam-raising Plant (S. N. Duguid) ; (4) Cleaning of Boiler Plant Flue Gases from Electricity Generating Stations (John Bruce) ; (5) Industrial Furnaces (R. J. Sarjant) ; (6) Smoke Abatement in the Clay Industries (E. Rowden, W. Noble and T. Green) ; (7) Atmospheric Pollution from Domestic Appliances (A. Blackie) ; (8) Railway Smoke (M. G. Bennett). (*No.* 2039 : 26.7).
Smokeless Zones. (*National Smoke Abatement Society*, 12 *pp. Price* 3*d*.) As a first step to a general prohibition of smoke emission, booklet proposes prohibition of smoke in certain zones of large towns. Central (business) and industrial areas first on list as present least difficulty. Difficulties of extension to residential areas discussed. (*No.* 2128 : 27.4).
Smoke Reduction on Open Fire. (See *Open Grates*).
District Heating and the Smokeless City. (See *District Heating*).
Tobacco Smoke Control : A Preliminary Study. (See *Air Conditioning*).
Sanitation in Post-War Building. (See *PLUMBING : General*).

BOOKS

Heating and Ventilation, embracing hot-water supply and air treatment. (See *General*)
Principles and Practice of Heating and Ventilating. Hot Water Engineering. (See *General*).
The Efficient Use of Fuel. (See *Fuel Saving*).

CENTRAL HEATING

A Central Heating and Hot Water Installation (*Gas Journal, August* 30, 1944, *p.* 276.) Brief description of gas-heated installation in factory canteen. (*No.* 1864 : 5.4).
Central Heating. *Advertisement leaflet*. (*The Ric-Wil Company, Cleveland, Ohio*, 1945.) Description of a group of 15 single dwellings spread over 1½ acres supplied with heat and hot water from central plant at total cost of 500 dollars p.a. (about £6 a dwelling). Each house has thermostatic controls. Scheme has been in satisfactory operation for seven years. (*No.* 1932 : 17.5.).
Copperad Convector. (*Trade literature ; Messrs. Copperad.*) New Copperad convector adaptable for high pressure steam or high pressure hot water. Illustrated by photographs and diagrams. (*No.* 2234 : 29.11).
Heating and Ventilation, embracing hot-water supply and air treatment. (See *General*).
Seeking Fuel Conservation by One Boiler for Several Buildings. (See *Fuel Saving*).
The Efficient Use of Fuel. (See *Fuel Saving*).
Heating and Ventilation in a Public Library. (See *Libraries*).
Flues for Gas Appliances. (See *Gas*).

CODES OF PRACTICE

Draft Codes of Practice on Gas Installations. (See *Gas*).
Flues for Gas Appliances. (See *Gas*).
Hot Water Supply by Gas for Single Family Dwellings. (See *Water Heating*).

CREMATION FURNACES

Electric Cremation Furnaces. (*Trade Brochure of Birlec Ltd., Birmingham.*) Three installations in this country illustrated with description and some constructional notes. (*No.* 2233 : 29.11).

DISTRICT HEATING

National Heating Problems and District Heating. *O. Faber* (*Journal of the Institution of Heating and Ventilating Engineers, March/April*, 1944, *p.* 12.) Presidential address to the Institution. Need to conserve coal. Efficiency of open coal fire. Recent development of domestic closed stove. District heating methods and economy. (*No.* 1779 : 1.2).
Coal Economy and District Heating. *L. C. C. Rayner* (*Plan*, 1944, *No.* 1, *p.* 5.) Discusses efficiency of electricity generation and of production of gas and coke. Shows how district heating by thermo-electric stations may improve overall efficiency of electricity and heat generation, and lead to economy of coal. (*No.* 1783 : 1.2).
Automatic Control of District Heating Installations. *P. G. Kaufmann* (*Heating and Ventilating Engineer, July*, 1944, *p.* 12). Theory and practice of methods of control used in Russia.

Two chief methods are control of flow temperature and control of time for which heating is available. Both claimed to give room temperature fluctuations of less than 1 deg. F. (*No.* 1784 : 1.2).

Laid-On Engineering Services to Satellite Towns. *D. G. J. Matthews* (*Air Treatment Engineer*, *May*, 1944, *p.* 74.) Ideal district heating scheme providing steam heating and electric power. (*No.* 1812 : 22.2).

District Heating and the Smokeless City. *Donald V. H. Smith.* (*Journal of the Royal Sanitary Institute*, *January*, 1945.) Climatic conditions of dampness increase nuisance of combined fog and smoke. Sources of pollution. House heating requirements and fuel usage. Case for district heating argued with table suggesting it is far cheaper than other methods, even with housing at density of 12 per acre. (*No.* 1937 : 17.5).

Heating Laid On. Some Notes on a Danish System. (*The National Builder*, *April*, 1945.) Description of district heating system in Copenhagen. Piping, methods of insulation, trenches. Cost. (*No.* 2040 : 26.7).

District Heating and the Smokeless City. *D. H. V. Smith.* (*Heating and Ventilating Engineer*, *April*, 1945, *p.* 425.) Survey of advantages of district heating, with particular reference to smoke abatement. Dismissal of objections and discussion of economics of Dundee scheme. (*No.* 2129 : 27.9).

The Position of District Heating in Britain. (*Architect and Building News*, *September* 28, 1945.) Short general article with analysis of three proposed schemes in terms of costs and fuel consumptions compared to individual heating installations. Concludes that district heating unlikely to show much saving in cost but has other appreciable advantages. (*No.* 2249 : 6.12).

Heating and Ventilation, embracing hot-water supply and air treatment. (See *General*).

Seeking Fuel Conservation by One Boiler for Several Buildings. (See *Fuel Saving*).

Central Heating. (See *Central Heating*).

ELECTRICITY, GENERAL

An Assessment of Electrical Accidents in Relation to Other Accidents. *A memorandum prepared by the Institution of Electrical Engineers.* (*Journal of the Institution of Electrical Engineers*, *July*, 1944, *Part I*, *p.* 257.) Scrutiny of fatal accident statistics, especially those which are domestic and have electrical causes. Appraisal of some electrical fire statistics. (*No.* 1822 : 1.3).

Progress in Electric Supply. *F. W. Lawton.* (*Official Architect*, *December*, 1944, *p.* 566.) Progress in electricity consumption. Avoidance of price increases. Wiring temporary houses. Need for close collaboration between architect and electrical expert. Future of electricity supply industry. (*No.* 2011 : 5.7).

Consumption of Domestic Appliances. (*Electrical Times*, *April* 12, 1945, *p.* 466.) Analysis of electricity consumption in houses of different rateable value. (*No.* 2068 : 23.8).

Coal Economy and District Heating. (See *District Heating*).

Laid-On Engineering Services to Satellite Towns. (See *District Heating*).

Engineering Services for a New Office Building. (See *Offices*).

Joint Conference of the Institute of Fuel and National Smoke Abatement Society. (See *Atmospheric Pollution*).

Replanning Plymouth—The Electrical Aspect. (See *PHYSICAL PLANNING : Town Planning*).

The Effect of Electricity on the Kitchen Plan. (See *EQUIPMENT : Kitchens*).

ELECTRICAL INSTALLATIONS

Mass Installation (Electrical). *T. Dunwoody.* (*Electrical Review*, *June* 30, 1944, *p.* 929.) Review of wartime experience on camp sites with wiring and cable-laying in bulk, with suggestions for future development. (*No.* 1826 : 1.3).

Estimating Energy Consumption. *A Supply Engineer.* (*Electrical Times*, *December* 28, 1944, *p.* 745.) Energy consumption for electrical appliances for cooking, water heating and space heating. (*No.* 1875 : 12.4).

Circoil Electric and Solid Fuel Water Heater. (*Trade note in Electrical Times*, *March* 1, 1945, *p.* 281.) Flue gases from solid fuel stove used to heat water as supplement to electric water heating. (*No.* 1935 : 17.5).

Space Heating by Electricity. *J. I. Bernard.* (*Official Architect*, *December*, 1944, *p.* 576.) Methods of thermal insulation. Convective and radiant electric heating. Types of heaters. (*No.* 2009 : 5.7).

Heating Buildings. *H. C. Harris.* (*Electrical Review*, *March* 2, 1945, *p.* 321.) Survey of electrical methods of heating. Relative values of radiation and correction. Tubular and unit heaters. Radiators and converters. Panel heaters. Thermostatic control. Calculation of size of plant. Thermal insulation. (*No.* 2069 : 23.8).

The Domestic Consumer and Methods of Charging. *J. M. Donaldson.* (*Electrical Review*, *June* 29, 1945, *p.* 933.) Queries by electricity consumers. Several bases for charging. Adjustment for coal cost. (*No.* 2117 : 20.9).

Electrically Heated Houses in the Tennessee Valley. *B. H. Martin.* (*Electrical Engineering* (*New York*), *December*, 1944, *p.* 437.) Summary of experience gained in Tennessee Valley. (*No.* 2127 : 27.9).

Jute-Insulated Cables for Electricity Supply at Voltages not Exceeding 660 Volts. *BS* 1216, 1945. (*British Standards Institution*, 2*s.*) Previous specification was in BS 7 : 1926 for various cables, since re-issued to cover only rubber-insulated type. Covers standards for the copper, standard sizes and their insulation and metal sheath. (*No.* 2145 : 4.10).

Heating by Electrode Boilers without Thermal Storage. *James Jamieson.* (*Journal of the Institution of Heating and Ventilating Engineers*, *July-August*, 1945.) Experience of heating by electricity without thermal storage. Reliance upon heat capacity of buildings to enable current to be taken between power station peaks. Paper of importance to architects as affecting choice of method of heating. Useful discussion follows paper. (*No.* 2245 : 6.12).

Runwell Hospital—Operating Experience with a Thermo-Electric Plant. (See *Hospitals*).

Electrical Water Heating in the Post-War House. (See *Water Heating*).

Heating Appliances for Small Houses. (See *Houses*).

Electric Cremation Furnaces. (See *Cremation Furnaces*).

Combining Power and Heating. (See *Factories*).

Fuel Saving by Thermostatic Control. (See *Fuel Saving*).

British Standard Plug and Socket Outlets. (See *EQUIPMENT : Electricity*).

An American Electric House. (See *EQUIPMENT : Electricity*).

House Service Units. (See *EQUIPMENT : Electricity*).

Rising Mains in Flats. (See *EQUIPMENT : Electricity*).

Use of Ring Circuits in Wiring Practice. (See *Wiring*).

Plugs and Socket Outlets. (See *EQUIPMENT : Electricity*).

EQUIPMENT

National Heating Problems and District Heating. (See *District Heating*).

Smoke Reduction on Open Fire. (See *Open Grates*).

Estimating Energy Consumption. (See *Electrical Installations*).

Circoil Electric and Solid Fuel Water Heater. (See *Water Heating*).

Electrical Water Heating in the Post-War House. (See *Water Heating*).

Unit Heaters. (See *Unit Heaters*).

Space Heating by Electricity. (See *Electrical Installations*).

Joint Conference of the Institute of Fuel and National Smoke Abatement Society. (See *Atmospheric Pollution*).

Safety in Post-War Houses. (See *Fire Prevention*).

Heating Appliances for Small Houses. (See *Houses*).

Copperad Convector. (See *Central Heating*).

Housing Manual, 1944 : Technical Appendices. C to L. (See *STRUCTURE : Housing*).

Post-War Building Techniques. 3. Equipment. (See *EQUIPMENT : General*).

Kitchen Unit and Washer. (See *EQUIPMENT ; Kitchens*).

FACTORIES

Efficient Factory Heating with Maximum Fuel Saving. *E. B. T. Tanner.* (*Air Treatment Engineer*, *May*, 1944, *p.* 69.) Discusses advantages of unit heaters compared with radiators, overhead pipe-coils and plenum heating. (*No.* 1823 : 1.3).

Combining Power and Heating. *Fuel Efficency Bulletin No.* 40. (*Ministry of Fuel and Power*, *August*, 1945, *free.*) Intended for managing executives and engineers at plants where electric power and heat required on any scale. Shows importance of surveying heat and power requirements. Describes various types of plant suitable for particular circumstances. Combines simple explanation of principles with considerable amount of more technical detail. (*No.* 2246 : 6.12).

A Central Heating and Hot Water Installation. (See *Central Heating*).

The Efficient Use of Fuel. (See *Fuel Saving*).

The Reduction of Industrial Smoke. (See *Atmospheric Pollution*).

The Thermal Insulation of Buildings. (See *Insulation*).

Joint Conference of the Institute of Fuel and National Smoke Abatement Society. (See *Atmospheric Pollution*).

The Recovery of Waste Heat from Flue Gases. (See *Fuel Saving*).

FIRE PREVENTION

Safety in Post-War Houses. *F. L. Ahern* (*Technology Review* (*Cambridge*, *Mass.*), *November*, 1944, *p.* 32.) Fire hazards arising from heating appliances. (*No.* 2126 : 27.9).

An Assessment of Electrical Accidents in Relation to Other Accidents. (See *Electricity, General*).

FUEL SAVING

How to Watch Fuel Use. *W. S. Bard* (*Heating, Piping and Air Conditioning*, *February*, 1944, *p.* 69.) Outline of application of statistics to fuel records, to determine standard consumption for purposes of checking and for estimating future consumption. (*No.* 1781 : 1.2).

Seeking Fuel Conservation by One Boiler for Several Buildings. *R. B. Duncan* (*Plumbing and Heating Journal. Edwin Scott. Philadelphia, Pa.*, *September*, 1944, *p.* 39). Advantages of block heating. Examples described. (*No.* 1782 : 1.2).

The Efficient Use of Fuel. *Edited by Dr. G. E. Foxwell.* (*HMSO*, 1944, 807 *pp.*, 12*s.* 6*d.*) Covers whole range of fuel in industry. Heat transmission through walls. Central heating. Steam heating. Domestic heating not dealt with. (*No.* 1865 : 5.4).

Fuel Saving by Thermostatic Control. *A. Leslie Longworth.* (*Journal of the Institution of Heating and Ventilating Engineers*, *July-August*, 1945.) Need for control. General problem of estimating probable fuel saving. Detailed consideration of problem of space heating control. Relative effects of length of heating season and indoor temperature on heating load. (*No.* 2247 : 6.12).

The Recovery of Waste Heat from Flue Gases. *Fuel Efficiency Bulletin No.* 42. (*Ministry of Fuel and Power*, *September*. 1945, *free.*) Specialist knowledge of subject applicable to large furnaces. Not concerned with use of waste heat from domestic chimneys, etc. (*No.* 2248 : 6.12.)

Sun-exposed Glass Walls Provide Test for Solar Heating. (See *Solar Heating*).

National Heating Problems and District Heating. (See *District Heating*).

Smoke Reduction on Open Fire. (See *Open Grates*).

Coal Economy and District Heating. (See *District Heating*).

Engineering Services for a New Office Building. (See *Offices*).

Efficient Factory Heating with Maximum Fuel Saving. (See *Factories*).
Estimating Energy Consumption. (See *Electrical Installations*).
The Thermal Insulation of Buildings. (See *Insulation*).
The Influence of Heat Capacity of Walls on Interior Thermal Conditions and Heat Economy. (See *Insulation*).
Heat Pump Experiments at Norwich. (See *Heat Pump*).
Heat Conservation in Small Houses. (See *Houses*).
Heating by Electrode Boilers without Thermal Storage. (See *Electrical Installations*).
Combining Power and Heating. (See *Factories*).

GAS

The Internal Installation in the Post-War Home. *R. N. leFevre.* (*Gas Journal, June* 28, 1944, *p.* 831 ; *July* 5, *p.* 25.) Recommendations for gas installations. Meters and piping. (*No.* 1862 : 5.4).
Possible Developments in Gas Water Heating for the Post-War Period. *L. Friedman.* (*Gas Journal, June* 28, 1944, *p.* 826.) Review of present usage of gas for domestic water heating. Plan of gas and coke in post-war period. (*No.* 1863 : 5.4).
Draft Codes of Practice (General Series Codes) on Gas Installations. *Codes of Practice Committee of the Ministry of Works.* (*British Standards Institution*, 2*s. each.*) Drafts for comment, subject to revision. Four codes : (i) *Installation of Gas Service Pipes* (3.421). (ii) *Gas Metering and Consumer Control* (3.4211). (iii) *Gas Installation Pipes* (3.422). (iv) *Space Heating by Independent Gas Appliances* (*single family dwellings*) (3.4233). (*No.* 1976 : 7.6).
Flues for Gas Appliances. *Draft British Standard Code of Practice: General Series Code* 34236. (*British Standards Institution*, 2*s.*) Deals with flues as ventilators and for removal of products of combustion of gas appliances. Selection of materials and choice of appropriate size. Position of terminals. Details of connections. Built in flues. Existing flues adapted. Canopy ventilation. Ventilation for central heating boilers. Jointing. (*No.* 2231 : 29.11).
Coal Economy and District Heating. (See *District Heating*).
A Central Heating and Hot Water Installation. (See *Central Heating*).
Heating Appliances for Small Houses. (See *Houses*).
Hot Water Supply by Gas for Single Family Dwellings. (See *Water Heating*).
Kitchen Planning. (See *EQUIPMENT : Kitchens*).
Centrifugally Cast (Spun) Iron Pipes for Water, Gas and Sewage. (See *PLUMBING : Pipes*).
Light Gauge Copper Tubes for Water, Gas and Sanitation. (See *Pipes*).
Asbestos Cement Spigot and Socket Flue Pipes and Fittings for Gas Appliances. (See *PLUMBING : Pipes*).
Malleable Cast Iron and Cast Copper Alloy Pipe Fittings for Steam, Water and Gas. (See *PLUMBING : Pipes*).
Gas Fire and Cooker Combined. (See *EQUIPMENT : Space Heating*).
Kitchen Equipment : No. 2, Water Heaters. (See *EQUIPMENT : Water Heating*).
Comfort with Economy in the Northolt Demonstration Houses. (See *EQUIPMENT : Gas*).

GENERAL

Heating and Ventilation, embracing hot-water supply and air treatment. *Louis J. Overton* (*5th edition, edited by F. Herod. The Sutherland Publishing Co., Manchester*, 1944, 16*s.*). Book dealing mainly with calculations for design of heating and ventilation systems. Well illustraded. Warming and hot-water supply for post-war house. District heating. (*No.* 1772 : 25.1).
Principles and Practice of Heating and Ventilating. *Edited by E. Molloy.* (*George Newnes*, 21*s.* 0*d.*) **Hot Water Engineering.** *Edited by E. Molloy.* (*George Newnes*, 21*s.* 0*d.*) Both books intended primarily for engineers, but each contains good deal of information with which architects should be familiar. Both start with explanation of principles, then give details of systems with examples. Many tables and illustrations. (*No.* 2050 : 9.8).
National Heating Problems and District Heating. (See *District Heating*).
Engineering Services for a New Office Building. (See *Offices*).
Engineering Services for a Modern Theatre. (See *Theatres*).
Heating and Ventilation in a Public Library. (See *Libraries*).
Radiation Corrections for Basic Constants used in the Design of All Types of Heating Systems. (See *Radiant Heating*).
Heating, Ventilating and Air Conditioning Hospitals. (See *Hospitals*).
Effective Teamwork in Building Design. (See *STRUCTURE : General*).
Birmingham Civic Centre. (See *STRUCTURE : General*).
Sanitation in Post-War Building. (See *PLUMBING : General*).
Building in One Package. (See *STRUCTURE : General*).
Business Buildings. (See *STRUCTURE : Offices*).
Post-War Electricity Showrooms. (See *LIGHTING : Shops*).
These War Buildings Were Significant. (See *STRUCTURE : General*).

HEAT PUMPS

Economics of the Heat Pump Applied to Space Heating Installations. *P. G. Kaufman.* (*Heating and Ventilating Engineer, September*, 1944, *p.* 78.) Working and economics of heat pump. Use of plant for summer cooling. (*No.* 1870 : 12.4).
Results with a Heat Pump System. (*Electrical Times, January* 11, 1945, *p.* 56.) Power consumption and costs of heat pump system for heating and cooling USA office building. (*No.* 1871 : 12.4).
Heat Pump Experiments at Norwich. " *Meteor.*" (*Electrical Times, June* 28, 1945.) Report of first large installation in this country of a heat pump. Other installations projected. Probable high efficiency and resultant saving in fuel. (*No.* 2144 : 4.10).

HOSPITALS

Runwell Hospital—Operating Experience with a Thermo-Electric Plant. *W. A. Flack.* (*Electrical Times, January* 11, 1945, *p.* 36.) Thermo-electric plant supplies all heating and part of power requirements of Runwell Hospital. Has proved very economical. (*No.* 1876 : 12.4).
Heating, Ventilating and Air Conditioning Hospitals. *J. G. Mench.* (*Heating, Piping and Air Conditioning, November*, 1944, *p.* 641.) Suggested methods for hospitals. Radiators and panel heating. Double wall practice for operating theatres. Air conditioning for certain departments. (*No.* 2041 : 26.7).
Heating and Ventilation Design Problems in a State Hospital for Mental Cases. *R. W. Tuer.* (*Heating and Ventilating* (*New York*), *March*, 1945, *p.* 62.) General discussion of the problems. (*No.* 2131 : 27.9).
Refrigeration and Air Conditioning. (See *Air Conditioning*).
The Use of Glycol Vapour for Air Sterilization and the Control of Airborne Infection. (See *Air Conditioning*.

HOUSES

Ventilation of Dwellings. *Thomas Bedford.* (*Journal of the Royal Sanitary Institute, April*, 1945.) Quantity of fresh air required for comfort. Results of large number of tests on ventilation rates in houses with flues closed, flues open, and with wall ventilators of varying sizes and with heated flues. (*No.* 1933 : 17.5).
Ventilation of Dwellings. *John Greenwood Wilson.* (*Journal of the Royal Sanitary Institute, April*, 1945.) General paper on ventilation, its value, and need for attention to subject in connection with post-war housing. Points out fallacy of idea that small child needs less fresh air space in rooms than adult. Ventilation must be related to heating. (*No.* 1934 : 17.5).
Heating Appliances for Small Houses. (*RIBA Journal, June*, 1945, *p.* 217.) Three articles by spokesmen of solid fuel, gas and electrical industries on developments in heating of dwellings. (*No.* 2166 : 25.10).
Heat Conservation in Small Houses. *A. F. Dufton.* (*RIBA Journal, August*, 1945.) General talk on heat conservation. Economy in hot water installation. Basis for calculations for heat loss. Double windows. Wallpaper of little value for fuel saving. Some recent tests at BRS. (*No.* 2167 : 25.10).
Domestic Heating for Small Houses. *Col. S. F. Newcombe.* (*Coke and Smokeless Fuel Age, August*, 1945.) General article with considerable emphasis upon desirability of intermittent heating and use of low thermal capacity wall linings. Insulation generally and insulation of flues dealt with. (*No.* 2168 : 25.10).
Heating and Ventilation, embracing hot-water supply and air treatment. (See *General.*)
Sun-exposed Glass Walls Provide Test for Solar Heating. (See *Solar Heating*).
An Assessment of Electrical Accidents in Relation to Other Accidents. (See *Electricity, General*).
The Internal Installation in the Post-War Home. (See *Gas*).
Possible Developments in Gas Water Heating for the Post-War Period. (See *Gas*).
Central Heating. (See *Central Heating*).
District Heating and the Smokeless City. (See *District Heating*).
The Thermal Insulation of Buildings. (See *Insulation*).
Electrical Water Heating in the Post-War House. (See *Water Heating*).
Consumption of Domestic Appliances. (See *Electricity, General*).
Safety in Post-War Houses. (See *Fire Prevention*).
Electrically Heated Houses in the Tennessee Valley. (See *Electrical Installations*).
Hot Water Supply by Gas for Single Family Dwellings. (See *Water Heating*).
An American Electric House. (See *EQUIPMENT : Electricity*).
Housing Manual, 1944 : Technical Appendices C to L. (See *STRUCTURE : Housing*).
Space Required for Domestic Electrical Appliances. (See *EQUIPMENT : Electricity*).
Comfort with Economy in the Northolt Demonstration Houses. (See *EQUIPMENT ; Gas*).
The Newer Heat Plans for Housing. (See *EQUIPMENT ; Space Heating*).
Possibilities in Post-War Techniques. (See *STRUCTURE : Housing*).

INSULATION

Thermal Insulation in Buildings. *A. F. Dufton.* (*RIBA Journal, February*, 1945.) Short paper dealing with need for better appreciation of benefits of heat insulation. (*No.* 1938 ; 17.5.)
The Thermal Insulation of Buildings. *N. S. Billington.* (*Journal of the Institute of Fuel, February*, 1945, *p.* 62.) Review of theory and uses of thermal insulation for dwellings and industrial buildings. (*No.* 1996 : 21.6).
Summer Comfort Factors as Influenced by Thermal Properties of Building Materials. *C. O. Mackey and L. T. Wright.* (*John B. Pierce Foundation* (*NY.*). *Research Study No. II.*) Charts given of temperatures at different times for single layer walls of any material. Simple method of finding effects of wall materials upon rate of heat flow. Discussion of effects of wall materials upon comfort conditions. (*No.* 2115 : 20.9.)
The Influence of Heat Capacity of Walls on Interior Thermal Conditions and Heat Economy. *C. E. A. Winslow, L. P. Herrington and R. J. Lorenzi.* (*Heating, Piping and Air Conditioning, April*, 1945, *p.* 207.) Results of experimental study of temperatures in rooms with walls of high and low thermal capacity. Reference made to possible fuel economies following from night-cooling. (*No.* 2116 : 20.9).
Condensation in Prefabricated Constructions. *C.W. Glover.* (*Building, July*, 1945.) Discusses thermal insulation values recommended in recent official publications. Draws attention to importance of thermal capacity on condensation and possibility of condensation occurring within wall and therefore need for vapour barriers. Does not distinguish between " permanent " and " temporary " condensation

Includes some calculations and tables. (*No.* 2251 : 6.12).

Sun Exposed Glass Walls Provide Test for Solar Heating. (See *Solar Heating*).

The Efficient Use of Fuel. (See *Fuel Saving*)

Space Heating by Electricity. (See *Electrical Installations*).

Radiation Corrections for Basic Constants used in the Design of All Types of Heating Systems. (See *Radiant Heating*).

Heating Laid On. Some Notes on a Danish System. (See *District Heating*).

Heating Buildings. (See *Electrical Installations*).

Heat Conservation in Small Houses. (See *Houses*).

Domestic Heating for Small Houses. (See *Houses*).

Hot Water Supply by Gas for Single Family Dwellings. (See *Water Heating*).

Housing Manual, 1944 : Technical Appendices C to L. (See *STRUCTURE : Housing*).

Walls, Floors and Roofs : MOW Building Study No. 15. (See *STRUCTURE : General*).

LIBRARIES

Heating and Ventilation in a Public Library. (*Industrial Heating Engineer, October*, 1944, *p.* 133.) Brief account of system at large library. (*No.* 1936 : 17.5).

OFFICES

Engineering Services for a New Office Building. *H. Kirkby* (*Air Treatment Engineer, April*, 1944, *p.* 50.) General outline scheme for heating and ventilation of office block, using off-peak electrical thermal storage and panel-heating. Details of necessary controls included. (*No.* 1813 : 22.2).

Multi-room Buildings Pose Air Conditioning Problems of Their Own. (See *Air Conditioning*).

Results with a Heat Pump System. (See *Heat Pump*).

The Use of Glycol Vapour for Air Sterilization and the Control of Airborne Infection. (See *Air Conditioning*).

OPEN GRATES

Smoke Reduction on Open Fire. *R. H. Rowse, B.Sc., F.Inst.P.* (*Note from Fuel Research Station of Department of Scientific and Industrial Research.*) Fundamental requirements of any smoke-reducing apparatus are robustness, simplicity and freedom from moving parts and reasonable certainty of working under all conditions. Appliance described, developed at FRS, reduces smoke from open fires by 50 per cent. or more. Diagram of appliance included. (*No.* 1780 : 1.2).

National Heating Problems and District Heating. (See *District Heating*).

Domestic Heating for Small Houses. (See *Houses*).

PIPES

The Internal Installation in the Post-War Home (See *Gas*).

Draft Codes of Practice on Gas Installations. (See *Gas*).

Heating Laid On. Some Notes on a Danish System. (See *District Heating*).

Plastics for Air Conditioning. (See *Air Conditioning*).

Hot Water Supply by Gas for Single Family Dwellings. (See *Water Heating*).

RADIANT HEATING

Radiation Corrections for Basic Constants used in the Design of All Types of Heating Systems. *B. F. Raber and F. W. Hutchinson.* (*Heating, Piping and Air Conditioning, December*, 1944, *p.* 705.) Effect of radiation on accepted values of the design of inside air temperature, inside and outside surface film coefficients of heat transfer. (*No.* 2012 : 5.7).

Space Heating by Electricity. (See *Electrical Installations*).

Radiant Heating in a Theatre. (See *Theatres*).

RADIO HEATING

Radio Heating. *Exhibition.* (*Descriptive pamphlet available from Rediffusion, Ltd.*) Recent exhibition at Dorland Hall, London, showed how Radio Heating works and what it could do for industry, including pre-heating of plastics, drying of materials, glueing of wood, welding of thermoplastics, and case-hardening. (*No.* 2269 : 13.12).

SCHOOLS

School Buildings for Scotland. (See *STRUCTURE : Schools*).

SOLAR HEATING

Sun-exposed Glass Walls Provide Test for Solar Heating. (*Glass Industry, USA, September*, 1943, *p.* 384.) Value of large glass area as means of saving fuel for heating not conclusively determined. Experiments on house. (*No.* 1773 : 25.1).

SOLID FUEL

National Heating Problems and District Heating. (See *District Heating*).

Smoke Reduction on Open Fire. (See *Open Grates*).

Coal Economy and District Heating. (See *District Heating*).

Possible Developments in Gas Water Heating for the Post-War Period. (See *Gas*).

Circoil Electric and Solid Fuel Water Heater. (See *Electrical Installations*).

Electrical Water Heating in the Post-war House. (See *Water Heating*).

Joint Conference of the Institute of Fuel and National Smoke Abatement Society. (See *Atmospheric Pollution*).

Heating Appliances for Small Houses. (See *Houses*).

Domestic Heating for Small Houses. (See *Houses*).

The Newer Heat Plans for Housing. (See *EQUIPMENT ; Space Heating*).

Kitchen Equipment : No. 2, Water Heaters. (See *EQUIPMENT : Water Heating*).

Comfort with Economy in the Northolt Demonstration Houses. (See *EQUIPMENT : Gas*).

Kitchen Planning. (See *EQUIPMENT : Kitchens*).

THEATRES

Engineering Services for a Modern Theatre. (*Air Treatment Engineer, August*, 1944.)

Engineering Services for a Savile Row New Building. (*Air Treatment Engineer, September*, 1944.) General outline of heating, ventilating and engineering services for these two classes of building. (*No.* 1814 : 22.2).

Radiant Heating in a Theatre. (*Plumbing and Heating Journal* (USA), *September*, 1945.) Very brief description of floor panel heating in theatre at Jewell Valley. System said to be very successful. (*No.* 2250 : 6.12).

The Use of Glycol Vapour for Air Sterilization and the Control of Airborne Infection. (See *Air Conditioning*).

UNIT HEATERS

Unit Heaters. *G. L. Copping.* (*Journal of the Institution of Heating and Ventilating Engineers, November/December*, 1944, *p.* 206.) Use and installation of unit heaters. Types of heaters described. Position of heaters. (*No.* 2013 : 5.3).

Efficient Factory Heating with Maximum Fuel Saving. (See *Factories*).

Heating Buildings. (See *Electrical Installations*).

WATER HEATING

Electrical Water Heating in the Post-War House. *P. Honey.* (*Official Architect, December*, 1944, *p.* 579.) Advantages of electric water heating. New types of electric water heaters. Costs and consumption figures. Use in conjunction with solid fuel boilers. (*No.* 2010 : 5.7).

Hot Water Supply by Gas for Single Family Dwellings. *Draft British Standards Code of Practice.* (*British Standard Institution, 2s.*) General considerations in choice of method of heating. Instantaneous and storage types. Water connections, flues and insulation. Fixing of pipes. Tables giving storage capacity, gas input, initial heating time, type of flue, etc.. Information on pressure losses in pipes. Diagrams of hot water systems with various types of apparatus and circulations. (*No.* 2232 : 29.11).

Heating and Ventilation, embracing hot-water supply and air treatment. (See *General*).

Possible Developments in Gas Water Heating for the Post-War Period. (See *Gas*).

A Central Heating and Hot Water Installation. (See *Central Heating*).

Estimating Energy Consumption. (See *Electrical Installations*).

Central Heating. (See *Central Heating*).

Circoil Electric and Solid Fuel Water Heaters. (See *Electrical Installations*).

Principles and Practice of Heating and Ventilating. Hot Water Engineering. (See *General*).

Heat Conservation in Small Houses. (See *HEATING : Houses*).

Galvanized Mild Steel Cisterns, Tanks and Cylinders. (See *PLUMBING : Equipment and Fittings*).

Copper Cylinders for Domestic Purposes. (See *PLUMBING : Equipment and Fittings*).

Kitchen Equipment : No. 2, Water Heaters. (See *EQUIPMENT : Water Heating*).

Kitchen Planning. (See *EQUIPMENT : Kitchens*).

Space Required for Domestic Electrical Appliances. (See *EQUIPMENT : Electricity*).

LIGHTING

ART GALLERIES

Art Gallery Lighting. *A Report by a Committee of the Illuminating Engineering Society (America).* (*Illuminating Engineering, January*, 1945, *p.* 11.) Colour and Intensity. Lighting of flat objects and solids. Light sources. Examples. (*No.* 2080 : 30.8).

CHURCHES

Requirements for Church Lighting. *E. Rowbusch.* (*Architectural Record, September*, 1944, *p.* 111.) General requirements. Combination of general and specific illumination. Design of fittings. (*No.* 1987 : 14.6).

CODES OF PRACTICE

Interim Code of Functional Requirements for Dwellings and Schools (Classification Code). Chapter VII (*a*), Artificial Light. (See *Domestic Lighting*).

Gas Lighting for Single Family Dwellings. (See *Gas*).

COLOUR

A Symposium on the Ostwald Colour System. (*Journal of the Optical Society of America, July*, 1944.) Series of papers on philosophy, analysis, specification, and application of Oswald system. (*No.* 1827 : 1.3).

Geometric Formulation of Classical Colour Harmony. *Parry Moon and D. E. Spencer.* (*Journal of the Optical Society of America, January*, 1944, *p.* 46.) History and theoretical basis of colour harmony, its analysis in geometric terms. Some examples of use of the analytical methods. (*No.* 1828 : 1.3).

The Psychophysics of Colour. *The Committee of Colorimetry.* (*Journal of the Optical Society of America, May*, 1944, *p.* 245.) Full and satisfactory descriptions of wide terminology concerned with colour problems. (*No.* 1892 : 19.4).

Colour and Lighting Co-ordination in Industrial Interiors. *Faber Birren.* (*Lighting and Lamps, August*, 1944, *p.* 22.) Series of instructive case histories. Some general principles of use of colour in factories. (*No.* 1906 : 26.4).

Notes on the Problem of Color Harmony and the Geometry of Color Space. *A. Pope.* (*Journal of the Optical Society of America, December*, 1944, *p.* 759.) Discussion of articles by Moon and Spencer on geometric formulation of classical colour harmony. (*No.* 2093 : 6.9).

Post-War Requirements of Department Store Lighting. (See *Shops*).

Merchandising with Light. (See *Shops*).

Art Gallery Lighting. (See *Art Galleries*).

The Role of Lighting in Amusement Parks. (See *Public Lighting*).

Colour-Harmony in the Moulding Shops. (See *Industrial Lighting*).

Achievement of Poise in a Lighting System. (See *Vision*).

DAYLIGHT

Light and Air in Town Planning. (See *General*).

The Lighting of Buildings (MOW). (See *General*).
Some Observations on Hospital Dust, with Special Reference to Light as a Hygienic Safeguard. (See *Hospitals*).
The Natural Lighting of Houses and Flats, with Graded Daylight Factor Tables. (See *Domestic Lighting*).
The Schools We Should Build. (See *Schools*).
Lighting and Child Development. (See *Schools*).
School Lighting. (See *Schools*).

DOMESTIC LIGHTING

Interim Code of Functional Requirements for Dwellings and Schools (Classification Code). Chapter VII (*a*), Artificial Light. *Codes of Practice Committee of the Ministry of Works.* (*British Standards Institution, 2s.*) Draft for comment. Recommendations for intensity and minimum power of sources. (*No.* 1798 : 15.2).
The Natural Lighting of Houses and Flats, with Graded Daylight Factor Tables. *T. Smith and E. D. Brown.* (*Published by HMSO, price 4d.*) Elementary daylight requirements in dwellings. Important new method of daylight design by means of standard tables of window performance. (*No.* 2035 : 19.7).
Lighting the Homes of To-morrow. *J. B. Carne.* (*Transactions of the Illuminating Engineering Society* (*England*), *June*, 1944, *p.* 95.) Conditions to-day. Decoration. Lighting units. Practice. (*No.* 2079 : 30.8).
The Post-War Home Will be Fluorescent Lighted. *F. Fernan.* (*Lighting and Lamps* (*America*), *February*, 1945, *p.* 26.) Fluorescent lamps for post-war use. Sketches. (*No.* 2142 : 5.10).
The Lighting of Buildings (MOW). (See *General*).
Lighting Fixture Style Preference in America. (See *Equipment*).
Wiring and Lighting. (See *Wiring*).
Installations—Wiring and Lighting. (See *Electrical Installations*).
Gas Lighting for Single Family Dwellings. (See *Gas*).
American Survey of Fluorescent Home Lighting. (See *Fluorescent Lighting*).
Possibilities in Post-War Techniques. (See *STRUCTURE : Housing*).
An American Electric House. (See *EQUIPMENT : Electricity*).
The Planning of Kitchens. (See *PHYSICAL PLANNING : Kitchens*),

ELECTRICAL INSTALLATIONS

Installations—Wiring and Lighting. *H. T. Young.* (*Official Architect and Planning Review, December*, 1944, *p.* 569.) Domestic electrical installations. Wiring, sockets, outlets, intake, control gear. (*No.* 2060 : 16.8).
Modernising Old Lighting Installations. *H. L. Miller.* (*Illuminating Engineering, November*, 1943, *p.* 504.) Adaptability of old circuits for modern light sources and intensity requirements. (*No.* 2143 : 4.10).
Wiring and Lighting. (See *Wiring*).
Theatre Lighting. (See *Theatres*).
Post-War Electricity Showrooms. (See *Shops*).
Prefabricated Wiring System. (See *Wiring*).
Use of Ring Circuits in Wiring Practice. (See *Wiring*).
Jute-Insulated Cables for Electricity Supply. (See *HEATING : Electrical Installations*).
An American Electric House. (See *EQUIPMENT : Electricity*).
House Service Units. (See *EQUIPMENT : Electricity*).
Replanning Plymouth—The Electrical Aspect. (See *PHYSICAL PLANNING : Town Planning*).
Mass Installation (Electrical). (See *HEATING : Electrical Installations*).
Plugs and Socket Outlets. (See *EQUIPMENT : Electricity*).
Progress in Electric Supply. (See *HEATING : Electricity, General*).
Rising Mains in Flats. (See *EQUIPMENT : Electricity*).
British Standard Plug and Socket Outlets. (See *EQUIPMENT : Electricity*).

EQUIPMENT

Lighting Fixture Style Preference in America. (*Lighting and Lamps, August*, 1944, *p.* 29.) Survey of American taste in fixtures for dining rooms. (*No.* 1912 : 3.5).
Luminous Metals. *F. H. Blumer.* (*Lighting and Lamps, November*, 1944, *p.* 38.) Decorative use of finely perforated sheet metal. (*No.* 1989 : 14.6).
Decorative Lighting Developments in Sweden. *S. Zimmerman.* (*Lighting and Lamps, May*, 1945, *p.* 34.) Design traditions of Sweden. Effect upon decorative lighting fixtures. (*No.* 2173 : 25.10).
Wiring and Lighting. (See *Wiring*).
Requirements for Church Lighting. (See *Churches*).

EVALUATION

Brightness Units. *H. Reinhardt.* (*Illuminating Engineering, September*, 1944, *p.* 521.) Examination of brightness terminology. (*No.* 1889 : 19.4).
Brightness and Helios. *P. Moon and D. E. Spencer.* (*Illuminating Engineering, September*, 1944, *p.* 507.) Lighting terminology. (*No.* 1890 : 19.4).
Experiments Illustrating the Production and Nature of Light, Photometry, the Fundamental Principles of Illuminating Engineering and the Advantages of Good Lighting. (See *General*).
Interim Code of Functional Requirements for Dwellings and Schools (Classification Code). Chapter VII (*a*), Artificial Light. (See *Domestic Lighting*).
Lighting and the Eye. (See *Vision*).
Visual Acuity and Visual Tasks. (See *Vision*).
The Psycophysics of Colour. (See *Colour*).
Visual Data Applied to Lighting Design. (See *Vision*).
Lighting the Homes of Tomorrow. (See *Domestic Lighting*).
Art Gallery Lighting. (See *Art Galleries*).

FLUORESCENT LIGHTING

Study of Illumination. *E. B. Ley.* (*Illuminating Engineering, September*, 1944, *p.* 501.) Evidence concerning effect of fluorescent light on eye. (*No.* 1884 : 19.4).
Fluorescent Lighting. (*Textile Manufacturer, January*, 1945, *p.* 25.) Types and cost of fluorescent tubes. Notes for textile trade. (*No.* 1885 : 19.4).
Fluorescent Lighting—Comparison of Cost. *S. D. Lay.* (*Electrical Review, June* 29, 1945, *p.* 948.) Fluorescent lighting cheaper than tungsten. (*No.* 2082 : 30.8).
American Survey of Fluorescent Home Lighting. (*Lighting and Lamps, May*, 1945, *p.* 25.) Present and future use of fluorescent lighting in American homes. (*No.* 2170 : 25.10).
There is Something Wrong with our Fluorescent Lighting Applications. *L. D. Morgan.* (*Illuminating Engineering, May*, 1945, *p.* 275.) Possible causes of complaints attributed to fluorescent lighting. (*No.* 2189 : 8.11).
Radiant Energy from Fluorescent Lamps. *M. Luckiesh and A. H. Taylor.* (*Illuminating Engineering, February*, 1945, *p.* 77.) Comparison of radiant energy from lamps and from sun and sky. Effect upon the eye. (*No.* 2190 : 8.11).
Light Where You Want It. *M. Fahshender.* (*Lighting and Lamps, May*, 1945, *p.* 30.) Fluorescent mirror lighting for bathrooms and dressing tables. (*No.* 2191 : 8.11).
Fluorescent Light and Eye Trouble. (*Pencil Points, September*, 1945, *p.* 98.) Ill-effects of UV, infra-red, and visible radiant energy. *No.* 2285 : 27.12).
What About Fluorescent Street Lighting. (See *Street Lighting*).
The Lighting of Merchandize. (See *Shops*).
Store Lighting Survey Indicates Huge Post-War Demand for Fluorescent. (See *Shops*).
Fluorescent and Germicidal Lamps Used in School Lighting Renovation. (See *Schools*).
Lighting of a Color Press. (See *Industrial Lighting*).
The Post-War Home Will be Fluorescent Lighted. (See *Domestic Lighting*).

GAS LIGHTING

Gas Lighting for Single Family Dwellings. *Draft British Standard Code of Practice ; General Series Code* 3.4231. (*British Standards Institution, 2s.*) Although gas lighting to new houses not likely, this code valuable. Section dealing with design considerations gives sizes of mantles for recommended illumination values of various rooms. (*No.* 2169 : 25.10).

GENERAL

Light and Air in Town Planning. *P. J. Waldram.* (*Builder, September* 22, *p.* 232, *and September* 29, 1944, *p.* 254.) General discussion of measures to control light in urban development. New method to assist daylight contouring in plans. (*No.* 1796 : 15.2).
Experiments Illustrating the Production and Nature of Light, Photometry, the Fundamental Principles of Illuminating Engineering and the Advantages of Good Lighting. (*Transactions of the Illuminating Engineers' Society, September*, 1944, *p.* 133.) Symposium of experiments organized as demonstration for science teachers. (*No.* 1797 : 15.2).
The Lighting of Buildings. *The Ministry of Works Post-war Building Study, No.* 12. *The Lighting of Buildings Committee of the Building Research Board.* (*HMSO, 2s. 6d.*) Fundamental principles of vision. Methods of measurement and principles of design for daylight, artificial light, and sunlight. Lighting in dwellings. Lighting in schools. Education of designer and public. Recommendations for research. Recommended standards. Appendices on daylight illumination intensities. Methods of analysis for daylighting and sunlighting. Influence of window shape. Light and site planning. Two surveys, one on daylighting in flats, the other on lighting in dwellings generally. Report has implications for legislators, lighting engineers, architects, sociologists, town planners and manufacturers. (*No.* 1832 : 8.3).
Lighting Education. *C. H. Atherton.* (*Illuminating Engineering, June*, 1944, *p.* 351.) Education for lighting engineer. His attitude to the purchaser. (*No.* 1911 : 3.5).
Visual Data Applied to Lighting Design. (See *Vision*).
Decorative Lighting Developments in Sweden. (See *Equipment*).
Achievement of Poise in a Lighting System. (See *Vision*).
Business Buildings. (See *STRUCTURE : Offices*).
These War Buildings Were Significant. (See *STRUCTURE : General*).
Lighting, Air Conditioning and Air Cleaning. (See *HEATING ; Air Conditioning*).
Sanitation in Post-War Building. (See *PLUMBING : General*).

HOSPITALS

Some Observations on Hospital Dust, with Special Reference to Light as a Hygienic Safeguard. *L. P. Garrod.* (*British Medical Journal, February* 19, 1944, *p.* 245.) Strong evidence that daylight is valuable bactericidal agent in ordinary rooms. (*No.* 1915 : 35.).

HOTELS

Lighting for Hotels. (*Lighting and Lamps* (*America*), *February*, 1945, *p.* 20.) Principles to be followed. Examples and sketches. (*No.* 2140 : 4.10).

INDIRECT LIGHTING

Indirect Lighting in a Huge Industrial Plant. *J. L. Kilpatrick and L. N. Blugerman.* (*Lighting and Lamps, September*, 1944, *p.* 22.) Indirect lighting from continuous catwalks in large factory with vaulted roof. (*No.* 1799 : 15.2).
Indirect Lighting as Applied to Exterior and Interior Illumination. *A. Knudstrup.* (*Illuminating Engineering, July*, 1945, *p.* 465.) Examples of indirect lighting. Special indirect unit for downward and upward light. (*No.* 2284 : 27.12).
Requirements for Church Lighting. (See *Churches*).

INDUSTRIAL LIGHTING

Improving Mill Lighting Conditions. *T. S. Jones.* (*Textile Manufacturer, October*, 1944, *p.* 44.) Bad lighting common in mills. General points for improvement. (*No.* 1914 : 3.5).
Lighting of a Color Press. *C. H. Tibbetts.* (*Illuminating Engineering, January*, 1945, *p.* 45.) Fluorescent lighting system for printing press. (*No.* 2083 : 30.8).
Lighting for War Production Plants—Stage 3.

J. L. Kamm. (*Lighting and Lamps, April*, 1945, *p.* 24.) Reduction of brightness contrasts in war factories. (*No.* 2094 : 6.9).

Making Work Lighter. (*Published* 1945 *by the Illuminating Engineering Society and illustrated by Fougasse.*) Popular pamphlet on factory lighting. (*No.* 2095 : 6.9).

Efficient Factory Lighting. (*Production and Engineering Bulletin, June*, 1945, *p.* 193.) Public services available to factory managements and designers for guidance in lighting. (*No.* 2195 : 8.11).

Colour-Harmony in the Moulding Shops. *J. A. Meacham.* (*Modern Plastics, June*, 1945, *p.* 105.) General guidance. Use of colour to prevent glare. Some decoration systems. (*No.* 2207 : 22.11).

Solving Lighting Maintenance Problems in Aircraft Plants. *W. Davis.* (*Illuminating Engineering, April*, 1945, *p.* 234.) Arrangements for re-lamping and cleaning fixtures. Life of lamps in service. (*No.* 2208 : 22.11).

Vision and Industrial Production. *J. Tiffin* (*Illuminating Engineering, April*, 1945, *p.* 239.) Statistical data relating visual performance to productive capacity. (*No.* 2209 : 22.11).

Indirect Lighting in a Huge Industrial Plant. (See *Indirect Lighting*).

The Lighting of Buildings (MOW). (See *General*).

Fluorescent Lighting. (See *Fluorescent Lighting*).

Colour and Lighting Co-ordination in Industrial Interiors. (See *Colour*).

LAMPS

The Centenary of a Lighting Company. (*Lighting and Lamps, November*, 1944, *p.* 30.) Good description of early types of lamps. (*No.* 1984 : 14.6).

Bright Light Sources. *J. N. Aldington.* (*Transactions of the Illuminating Engineering Society, January*, 1945, *p.* 1.) Incandescent light sources for special purposes. (*No.* 1985 : 14.6).

Post-War Requirements of Department Store Lighting. (See *Shops*).

Fluorescent Lighting. (See *Fluorescent Lighting*).

The Lighting of Merchandise. (See *Shops*).

Art Gallery Lighting. (See *Art Galleries*).

Fluorescent and Germicidal Lamps Used in School Lighting Renovation. (See *Schools*).

The Post-War Home Will be Fluorescent Lighted. (See *Domestic Lighting*).

Radiant Energy from Fluorescent Lamps. (See *Fluorescent Lighting*).

The Role of Lighting in Amusement Parks. (See *Public Lighting*).

Glasgow's Street Lighting. (See *Street Lighting*).

Solving Lighting Maintenance Problems in Aircraft Plant. (See *Industrial Lighting*).

Raising Our Lights to Meet Tomorrow's Horizons. (See *Shops*).

PUBLIC LIGHTING

The Role of Lighting in Amusement Parks. *E. D. Tillsen.* (*Illuminating Engineering, May*, 1945, *p.* 290.) Floodlighting, pools and fountains, colour, luminescent effects, light sources. (*No.* 2192 : 8.11).

See also *Street Lighting*.

RESTAURANTS

Lighting a Modern Restaurant. *F. H. Blumer.* (*Lighting and Lamps* (*America*), *January*, 1945, *p.* 16.) Ideas on restaurant lighting. Good sketches. (*No.* 2139 : 4.10).

SAFETY PRECAUTIONS

Lighting and Safety. *H. L. Logan.* (*Electrical Engineering, June*, 1945, *p.* 217.) Physiology of lighting. Relationship between light and accidents. (*No.* 2171 : 25.10).

SCHOOLS

The Schools We Should Build. *C. G. Stillman* (*Architectural Design and Construction, December*, 1944, *p.* 276.) Flexibility of layout. Improved daylighting. (*No.* 2063 : 16.8).

Fluorescent and Germicidal Lamps Used in School Lighting Renovation. (*Lighting and Lamps, March*, 1945, *p.* 18.) Experimental fluorescent lighting for schools. Use of germicidal lamps. (*No.* 2081 : 30.8).

Lighting and Child Development. *D. B. Harman. Illuminating Engineering, April*, 1945, *p.* 199.) Medical condition of school children. Studies to show effect of good lighting. (*No.* 2172 : 25.10).

School Lighting. *D. Haskell.* (*Architectural Record, June*, 1945, *pp.* 83-5.) Part of note on neighbourhood schools. Classroom lighting using sawtooth roof and reflected sunlight. (*No.* 2206 : 22.11).

Interim Code of Functional Requirements for Dwellings and Schools (Classification Code), Chapter VII (*a*), Artificial Light. (See *Domestic Lighting*).

The Lighting of Buildings (MOW). (See *General*).

School Buildings for Scotland. (See *STRUCTURE : Schools*).

SHOPS

Post-War Requirements of Department Store Lighting. *R. J. Chapin.* (*Lighting and Lamps, September*, 1944, *p.* 26.) Colour of lighting, variety of types, *e.g.*, full spectrum lamps, cool lighting, germicidal lamps. (*No.* 1847 : 22.3.)

Merchandising with Light. *R. C. Allison.* (*Illuminating Engineering, September*, 1944,*p.* 534.) Lighting of merchandise for display in department stores. (*No.* 1903 : 26.4).

Merchandising with Light. *S. R. McCandless.* (*Architectural Record, November*, 1944, *p.* 104.) Visibility, distribution of light, and use of colour in shops. (*No.* 1904 : 26.4).

The Lighting of Merchandise. (*Architectural Record, November*, 1944, *p.* 102.) General principles of lighting merchandise in shops. Fluorescent and incandescent lamps. (*No.* 1905 : 26.4).

Store Lighting Survey Indicates Huge Post-War Demand for Fluorescent. (*Lighting and Lamps, November*, 1944, *p.* 28.) National survey of American shop lighting conditions and demands. New and interesting method of survey. (*No.* 1988 : 14.6).

Post-War Electricity Showrooms. *R. P. Reynolds.* (*Electrical Times, June* 14, *p.* 708.) Design and layout requirements for electricity showrooms. Site, layout, character, lighting and heating, and space usage. (*No.* 2084: 30.8).

Background and Lighting Most Important Factors in Displaying Glassware. (*Lighting and Lamps* (*USA*), *July*, 1945.) Description of new display showroom for Owens Illinois Glass Co. (*No.* 2210 : 22.11).

Raising our Lights to Meet Tomorrow's Horizons. *K. A. Staley.* (*Lighting and Lamps May*, 1945, *p.* 28.) 140 foot-candle intensities in office and shop. (*No.* 2211 : 22.11).

STREET LIGHTING

What About Fluorescent Street Lighting ? *K. M. Reid.* (*Illuminating Engineering, May*, 1944, *p.* 311.) Interesting technical discussion. Difficulties in respect of outdoor temperature, starting and maintenance likely to prevent fluorescent street lighting at present. (*No.* 1886 : 19.4).

Trunk Road Lighting. *F. H. Pulvermacher.* (*Electrical Review, August* 25, 1944, *p.* 265.) Technique and cost of trunk road lighting. (*No.* 1913 : 3.5).

Street Lighting in Towns and Villages. *H. E. Mahan.* (*Lighting and Lamps* (*America*), *February*, 1945, *p.* 24.) Purposes of street lighting. Review of IES recommendations. (*No.* 2141 : 4.10).

Lighting of Bends, Junctions and Roundabouts. *Francis F. Middleton.* (*Paper read at Association of Public Lighting Engineers' Conference at Glasgow, September*, 1945.) Interesting examination of efficiency of road lighting in terms of objects viewed against light or dark background. Shows value of lighted pavement as compared to lighted road. (*No.* 2193 : 8.11).

Glasgow's Street Lighting. *S. M. Wood* (*Paper read at Association of Public Lighting Engineers' Conference at Glasgow, September*, 1945.) Description of street lighting, sizes of lamps, types of poles and methods of switch control. Includes useful description of public lighting of tenement stairs. (*No.* 2194 : 8.11).

Light and Air in Town Planning. (See *General*).

THEATRES

Theatre Lighting. *L. G. Applebee.* (*Electrical Review, January* 19, 1945, *p.* 90.) Socket outlets on stage floors. Illumination in dressing rooms. (*No.* 1986 : 14.6).

VISION

Lighting and the Eye. *D. B. Harmon.* (*Illuminating Engineering, September*, 1944, *p.* 481). Function of illuminating engineer. Challenge to some of foundations of modern practice and use of physiological evidence. (*No.* 1887 : 19.4).

Visual Acuity and Visual Tasks. *M. Luckiesh.* (*Illuminating Engineering, July*, 1944, *p.* 415.) Discussion of sight-testing techniques as index of fundamental requirements of vision. (*No.* 1888 : 19.4).

Ocular Photography as a Scientific Approach to the Study of the Psychological Aspects of Seeing. *H. F. Brandt.* (*Illuminating Engineering, May*, 1944, *p.* 279.) Method of photographing the eyes as they move across a picture. (*No.* 1891 : 19.4).

Visual Data Applied to Lighting Design. *P. Moon and D. E. Spencer.* (*Journal of the Optical Society of America, October*, 1944, *p.* 605.) Fundamental data on contrast, visual angle, flux density for adequate vision, practical applications. (*No.* 2061 : 16.8).

The Physical and Photo-Chemical Basis of Visual Resolving Power. *G. M. Byram.* (*Journal of the Optical Society of America, October*, 1944, *p.* 571.) Distribution of illumination in retinal images. (*No.* 2062 : 16.8).

Achievement of Poise in a Lighting System. *A. H. Brainerd.* (*Illuminating Engineering July*, 1945, *p.* 455.) " Reverberent " illumination. Use of high reflection factors and colour. (*No.* 2283 : 27.12).

Experiments Illustrating the Production and Nature of Light, Photometry, the Fundamental Principles of Illuminating Engineering and the Advantages of Good Lighting. (See *General*).

Interim Code of Functional Requirements for Dwelling and Schools (Classification Code). Chapters VII (*a*) Artificial Light. (See *Domestic Lighting*).

The Lighting of Buildings (MOW). (See *General*).

Study of Illumination. (See *Fluorescent Lighting*).

Brightness Units. (See *Evaluation*).

Brightness and Helios. (See *Evaluation*).

The Psychophysics of Colour. (See *Colour*).

Merchandizing with Light. (See *Shops*).

Lighting for War Production Plants. (See *Industrial Lighting*).

Lighting and Safety. (See *Safety Precautions*).

Lighting and Child Development. (See *Schools*).

There is Something Wrong with our Fluorescent Lighting Applications. (See *Fluorescent Lighting*).

Radiant Energy from Fluorescent Lamps. (See *Fluorescent Lighting*).

Colour-Harmony in the Moulding Shops. (See *Industrial Lighting*).

Vision and Industrial Production. (See *Industrial Lighting*).

Fluorescent Light and Eye Trouble. (See *Fluorescent Lighting*).

WINDOWS

The Lighting of Buildings (MOW). (See *General*).

The Natural Lighting of Houses and Flats, with Graded Daylight Factor Tables. (See *Domestic Lighting*).

EJMA Window Book. (See *Doors and Windows*).

Post-War Building Techniques. 3. Equipment. (See *EQUIPMENT : General*).

WIRING

Wiring and Lighting. *H. T. Young.* (*Official Architect, December*, 1944, *p.* 569.) Design, choice of fittings, installation, wiring systems and control gear. Mainly for domestic installations. (*No.* 1983 : 14.6).

Prefabricated Wiring System. (*Electrical Times, July* 5, 1945, *p.* 8.) " Octopus " unit. Pre-cut wiring and pre-fixed fittings. (*No.* 2085 : 30.8).

Use of Ring Circuits in Wiring Practice.

(*Journal of the Institution of Electrical Engineers, June*, 1945, *Part I, p.* 215.) IEE wiring regulations being altered to validate ring main wiring. (*No.* 2096 : 6.9).

Theatre Lighting. (See *Theatres*).

Installations—Wiring and Lighting. (See *Electrical Installations*).

Modernising Old Lighting Installations. (See *Electrical Installations*).

Jute-Insulated Cables for Electricity Supply. (See *HEATING : Electrical Installations.*)

Rising Mains in Flats. (See *EQUIPMENT : Electricity*).

Progress in Electric Supply. (See *HEATING : Electricity, General*).

MATERIALS

ASBESTOS CEMENT

Asbestos Cement Slates and Sheets. *BS* 690 : 1945. (*British Standards Institution*, 2*s.*) Second revision. Slates and unreinforced flat and corrugated sheets, both straight and curved. Dimensions and tolerances. Tests. Recommendations for use of unreinforced corrugated sheets for roofing. (*No.* 2185 : 8.11).

BOOKS

World Timbers. (See *Timber*).

Structural Steel Section Book. (See *Steel*).

A Constructional Engineer's Compendium. (See *General*).

Plastics and Industrial Design. (See *Plastics*).

More Advanced Quantity Surveying. (See *Quantity Surveying*).

The Wood from the Trees. (See *Timber*).

Spons' Architect and Builders Pocket Price Book. (See *Quantity Surveying*).

Handbook of Building Standards, Materials and Components. (See *Standards*).

Elements of Technical Science. (See *General*)

BRICKS AND CLAY PRODUCTS

Clay Products and the New Building. *Tom Wathey.* (*Architectural Design and Construction, October and December*, 1944, *pp.* 231-232 *and* 283-285.) New uses of brick. New types of brick. Hollow clay blocks. Combination of hollow block and concrete. Clay as plasticizer. Reinforced brickwork. Clay products prefabricated. (*No.* 1806 : 22.2).

Methods of Testing Clay Building Bricks. *BS* 1257 : 1945. (*British Standards Institution*, 2*s.*) Sampling. Determination of compressive strength. Water absorption tests and calculation of saturation coefficient. Soluble salts analysis. Efflorescence test. Drying shrinkage measurement. (*No.* 2187 : 8.11).

Concrete Aggregates and Building Sands from Natural Sources. (See *Concrete*).

Airbricks and Gratings. (See *Standards*).

External Rendered Finishes. (See *Concrete*).

Brickwork for Apprentices. (See *STRUCTURE : Brickwork*).

Hollow Clay Building Blocks. (See *STRUCTURE : Walls and Partitions*).

BUILDING BOARDS

Fibre Building Board for General Building Purposes. *War Emergency British Standard* 1142—1943. (*British Standards Institution*, 2*s.*) Amendment No. 1, April, 1945, referring to flame-retardent fibre building boards. Definition and classification. (*No.* 2125 : 27.9).

Gypsum Plasterboard. *BS* 1230 : 1945. (*British Standards Institution*, 2*s.*) Definitions, dimensions, test requirements, methods of test. (*No* 2204 : 22.11).

Holoplast. *Technical Bulletin No.* 1. (*Holoplast, Ltd., New Hythe, near Maidstone, Kent.*) Physical properties of new type of laminated cellular plastic board of kraft paper having high load bearing capacity. (*No.* 2230 : 29.11).

The Prebuilt Dry Construction Duplex House. (See *STRUCTURE : Housing*).

CONCRETE

Lightweight Concrete Aggregates. *F. M. Lea.* (*Building Research Bulletin, No.* 15. *Revised Edition*, 1944, *HMSO*, 3*d.*) Uses of lightweight concrete aggregates. Materials available. Properties of lightweight concretes. Precautions in use. Misleading generalizations. (*No.* 1793 : 15.2).

ASB Lecture : Recent Developments in Lightweight Concrete. *T. W. Parker* (*at the RIBA on November* 22, 1944, *RIBA Journal, December*, 1944, *pp.* 43-47.) Properties and uses of lightweight concrete. Examples of external wall construction. (*No.* 1794 : 15.2).

ASB Lecture : Concrete, Its Appearance and Durability. *N. Davey* (*at the RIBA on November* 29, 1944 ; *The Architects' Journal, January* 4, 1945, *pp.* 15-18, *XL, and the RIBA Journal, January*, 1945, *pp.* 75-82.) Controlling factors in the production of concrete of uniform quality and of good appearance. Finishing and texturing. Basic requirements for good durability. (*No.* 1795 : 15.2).

Concrete Flooring Tiles and Fittings, Dimensions and Workmanship. *BS* 1197—1944. (*British Standards Institution*, 2*s.*) Dimensions and workmanship of flooring tiles and fittings made with cement and inert aggregate, plain or coloured, matt or polished. (*No.* 1854 : 29.3).

Concrete Aggregates and Building Sands from Natural Sources. *BS* 882, 1198, 1199, 1200, 1201—1944. (*British Standards Institution*, 5*s.*) Collection of British Standards relating to coarse and fine aggregates from natural sources for concrete ; natural sands and crushed natural stone sands for plastering, external and internal renderings, brickwork and masonry ; aggregates for granolithic concrete floors. Appendices on sampling, testing and physical characteristics of aggregates. (*No.* 1869 : 12.4).

Expanding Cements and their Application—Self-stressed Concrete. *A. Caquot and H. Lossier.* (*Le Genie Civil, April* 15 *and May* 1, 1944, *pp.* 61-65 *and* 69-71. *See also Journal of the American Concrete Institute, January*, 1945, *pp.* 238-240.) Review of development of pre-stressed concrete. Physical characteristics of expanding cements and their use in various types of structure. (*No.* 1900 ; 26.4).

Concrete Looks Ahead. (*Cement and Concrete Association.*) Record of exhibition held in London from November 20 to 23, 1944, intended to show contribution concrete could make to post-war building. (*No.* 2047 : 9.8).

Natural Cement Blend Improves Concrete. *C. E. Lovewell.* (*Engineering News-Record, July* 26, 1945, *pp.* 100-102.) Concrete made from blend of air-entraining natural cement and normal portland cement more durable, more plastic and workable, more watertight, more resistant to sulphates and certain dilute acids, and has lower heat of hydration than concrete made with portland cement alone. (*No.* 2123 : 27.9).

External Rendered Finishes. *F. L. Brady.* (*Architectural Design and Construction, August*, 1945, *pp.* 202, 205.) Report of ASB lecture at RIBA dealing with knowledge gained during pre-war visit to several Continental countries. (*No.* 2135 : 4.10).

Ready-made Mortars and Concrete and their Application. *L. J. Eichelgrun.* (*Civil Engineering, October*, 1945, *pp.* 223-225.) Advantages of ready-mixed lime mortar and concrete. USA methods for mixing and transport. (*No.* 2203 : 22.11).

Field Use of Cement Containing Vinsol Resin. *C. E. Wuerpel.* (*Journal of the American Concrete Institute, September*, 1945, *pp.* 49-82.) Results obtained from 22,396 test specimens made in connection with extensive construction, principally during period 1941-1944. Experience with handling concrete containing over 2,000,000 barrels of Vinsol resin cement. Comparison between concrete made with plain cement and cement interground with Vinsol resin as they affect compressive and flexural strength, unit weight and mixing, placing and finishing. Bibliography. (*No.* 2228 : 29.11.)

Limestone Concrete. *J. Singleton-Green.* (*Chapman & Hall*, 1945, 8*s.* 6*d.*) Properties of limestone aggregates and of concrete made of such aggregates and limestone "dust." Advantages of limestone concrete for particular purposes. (*No.* 2277 : 20.12).

Clay Products and the New Building. (See *Clay Products*).

A Constructional Engineer's Compendium. (See *General*).

Vacuum Processing of Shasta Dam Spillway. (See *STRUCTURE : Concrete*).

Concrete Plain Roofing Tiles and Fittings. (See *STRUCTURE : Roofs*).

The Principles of Concrete Making and its Reinforcement. (See *STRUCTURE: Concrete*).

GENERAL

A Constructional Engineer's Compendium. (*Published by Appleby-Frodingham Steel Co.*, 1 *guinea.*) Data on plates and sections. Stanchions and struts. Beams, compound girders, gantry girders, plate girders and roof trusses. Electric welding. Sheet piling. Reinforced concrete slabs, beams, columns and foundations. Timber. General information, formulæ, tables. (*No.* 1910 : 3.5).

ML Building Products. (*Pamphlet issued by Ieda Trading Co., 114a, Cromwell Road, S.W.7.*) New lightweight building material. (*No.* 2154 : 11.10).

Elements of Technical Science. *A. Spencer White.* (*J. M. Dent & Sons*, 1945, 4*s.* 3*d.*) Elementary book on physics with some chemistry for building and other technical students. (*No.* 2229 : 29.11).

Spons' Architect and Builders Pocket Price Book. (See *Quantity Surveying*).

Handbook of Building Standards, Materials and Components. (See *Standards*).

External Rendered Finishes. (See *Concrete*).

Summer Comfort Factors as Influenced by Thermal Properties of Building Materials. (See *HEATING : Insulation*).

Post-War Building Techniques. (See *STRUCTURE : General*).

Building Science for Students of Architecture and Building. Vol. 1. (See *STRUCTURE : General*).

GLASS

Reference Back to No. 1791, Housing Manual, 1944 : Technical Appendices. (*A.J.*, 15 : 2 : 45.) Two errors in manual have been pointed out by MOW relating to thickness of window glass and hemi-hydrate plaster. (*No.* 1851 : 29.3).

Developments in Glass. *A. S. Tylor.* (*Illuminating Engineering, June*, 1944, *p.* 369.) Brief review of more unusual achievements in glass technique. (*No.* 1902 : 26.4).

Hollow Glass Blocks. *BS* 1207—1944. (*British Standards Institution*, 2*s.*) Types, composition of glass, thickness, surface finish, jointing faces, dimensions. (*No.* 2048, 9.8).

Glass in House Design. *Frank G. Lopez.* (*Pencil Points, May*, 1945, *pp.* 93-100.) New properties of glass. New forms. Solid glass : sheet forms, block forms, cellular glass. Fibrous forms. Applications in house design. Possible future uses. (*No.* 2122 : 27.9).

Le Verre Ondule. *A. Mallet.* (*L'Architecture Francaise, Juin*, 1945.) Corrugated glass, new roof material. (*No.* 2134 : 4.10).

Stained Glass Window in Reinforced Concrete. (*Information from the London Sand Blast Decorative Glass Works, Seager Place, Burdett Road, E.*3.) Experimental Aureole window made of 1 in. to 2½ in. thick coloured glass pieces set in reinforced concrete. (*No.* 2278 : (20.12.

IRON

Cast Iron. (*Special number of Official Architect, Vol.* 8, *No.* 5, *May*, 1945.) Records of an Iron Age (John Summerson) ; What is Wrong with Cast Iron ? (Hartland Thomas) ; Cast Iron and Architectural Design (John Gloag) ; Structural Uses of Cast Iron (Richard Sheppard) ; Yesterday and To-day—Designing for Cast Iron (Grey Wornum) ; Cast Iron To-day (J. G. Pearce) ; Finishes on Cast Iron (Derek Bridgwater). Historical uses of cast iron. Cast iron in modern building technique and equipment. (*No.* 2103 : 13.9).

Metal Wall Ties. *BS* 1243 : 1945. (*British Standards Institution*, 2*s.*) Materials, types, dimensions, tests. (*No.* 2188 : 8.11).

Airbricks and Gratings. (See *Standards*).

NAILS AND SCREWS

Wire Nails and Cut Nails for Building Purposes. *BS* 1202—1944. (*British Standards Institution*, 2*s.*) Classification, dimensions, surface finish, weights of bright steel wire nails and cut steel nails. (*No.* 1856 : 29.3).

Dimensions of Mild Steel and Brass Wood Screws. *B.S.* 1210 : 1945. (*British Standards Institution*, 2*s*.) Standard dimensions. Three types of screws specified : countersunk head, round head and raised head. (*No.* 1970 : 31.5).

Comparative Test Data on Nail- and Pressure-Glued Plywood Beams. (See *Plywood*).

NON-FERROUS METALS

Classification of Copper and Copper Alloys. *Prepared by Copper Development Association.* (*Revised August*, 1944. *Free of charge.*) Tabulated data of chemical and mechanical properties of the more common copper-base materials. (*No.* 1901 : 26.4).

The Application of Light Aluminium Alloys to Structural Engineering. *D. V. Pike.* (*The Structural Engineer, July*, 1945, *pp.* 309-335.) Examples of structures in aluminium. Available forms. Properties of aluminium alloys. Principles of design. (*No.* 2113 : 20.9).

Electroplated Coatings of Nickel and Chromium Steel and Brass. (See *Steel*).

A Planned Electric Kitchen. (See *EQUIPMENT ; Kitchens*).

PAINT

Flat Colours for Wall Decoration. *BS* 381*WD*—1945. (*British Standards Institution*, 6*d*.) Colour card containing ten colours. (*No.* 2105 : 13.9).

PLASTER

Specifications for Suspended Solid Plaster Ceiling Supports. Metal Lath and Plaster Partitions. (*The Association of Metal Furring and Lathing Contractors, August*, 1944.) Lays down standard of workmanship and materials for design of supports of suspended plaster ceilings. (*No.* 1808 : 22.2).

Gypsum and Anhydrite Building Plasters. (See *Plaster*).

BS 1191—1944. (*British Standards Institution*, 2*s*.) Plasters used in general building operations and in manufacture of pre-formed building products. Definitions, classification, purity, composition, marking, quality, of different classes, testing. (*No*, 1852 : 29.3).

Reference Back to No. 1791, Housing Manual, 1944 : Technical Appendices. (See *Glass*).

Concrete Aggregates and Building Sands from Natural Sources. (See *Concrete*).

External Rendered Finishes. (See *Concrete*).

PLASTICS

Plastics and Industrial Design. *John Gloag. With a section on the Different Types of Plastics, their properties and uses, by Grace Lovat Fraser.* (*George Allen and Unwin*, 10*s*. 6*d*.) Plastics in relation to industrial design. Origin and character of plastics. Plastics no substitute. Industrial design to be considered a basic operation in the production of plastic goods. Survey of various types of plastics. 48 plates of illustrations. Glossary. (*No.* 1921 : 10.5).

Talk on Plastics. *L. G. Couzens at meeting of the Design and Industries Association.* (*The Architects' Journal, October* 4, 1945, *pp.* 251-252, xlvi.) Examples of misuses. Only laminated sheets may be applied structurally. Plastics are auxiliary materials but have many uses of their own. Varieties of plastics almost infinite. Right use of properties of material essential. (*No* 2205 : 22.11).

Holoplast. (See *Building Boards*).

The Prebuilt Dry Construction Duplex House. (See *STRUCTURE : Housing*).

Radio Heating. (See *HEATING : Radio Heating*).

Cast Iron Baths for Domestic Purposes. (See *PLUMBING : Equipment and Fittings*).

Plastics for Air Conditioning. (See *HEATING: Air Conditioning*).

PLYWOOD

Comparative Test Data on Nail- and Pressure-Glued Plywood Beams. *D. Countryman.* (*Engineering News-Record, November* 16, 1944, *pp.* 622-626). Nail-glued beams, using both casein and low-pressure phenolic glue, averaged 87½ per cent. as efficient as shop-fabricated beams that had been assembled with pressure glueing. (*No.* 1853 : 29.3).

Synthetic Resin Adhesives for Wood. *BS* 1203 *and* 1204—1945. (*British Standards Institution.* 2*s*.) Synthetic resin adhesives for the manufacture of flat or curved plywood (BS 1203) and cold setting synthetic resin adhesives for constructional work in wood (BS 1204). (*No.* 1977 : 7.6).

QUANTITY SURVEYING

Memorandum on Contracts Based upon Approximate Bills of Quantities. *O. A. Davis, F.S.I., F.I.ARB.* (*Issued privately and published here in full.*) Type of contract which has received least criticism under special, urgent war conditions. Advocated by CSI for cases where exact requirements cannot be determined before commencement of job. Advantages and disadvantages. Probably of great post-war value. (*No.* 1857 : 29.3).

More Advanced Quantity Surveying. *Arthur J. Willis.* (*Crosby Lockwood & Son*, 1945, 25*s*.) Not full treatise but intended for more advanced students. Completes triology by same author. Ample information in convenient sections with examples. Separate drawings in case. Taking off, editing of Bills, reproduction and reading of proofs, issuing of Bills, receipt of tenders, and examination of prices. Reduction Bills, writing of specifications. (*No.* 2026 : 12.7).

Spons' Architect and Builders' Pocket Price Book, 1945 (72nd edition). *Edited by Clyde Young and Bernard Engell.* (*E. and F. N. Spon, Ltd.*, 57, *Haymarket, S.W.*1, 9*s*.) Compact book with wealth of pricing data. (*No.* 2059 : 16.8).

Architectural Practice and Procedure. (See *STRUCTURE : Architectural Practice*).

REINFORCED CONCRETE

Effect of Type of Bar on Width of Cracks in Reinforced Concrete Subjected to Tension. *David Watstein and Norman A. Seese, Jr.* (*Journal of the American Concrete Institute, February*, 1945, *pp.* 294-304). Tests to determine effect of various kinds of deformations on width of cracks. Effect of repeated application of load. Width of cracks for most efficient type of bar less than 50 per cent. of that found for plain round bar at stress of 40,000 lb. sq. in. in both types. (*No.* 1980 : 7.6).

Steel Fabric for Concrete Reinforcement. Part A : Hard-drawn Steel Wire Fabric: Part B : Twisted Steel Fabric. Part C. Expanded Metal (Steel) Fabric. *BS* 1221—1945. (*British Standards Institution*, 2*s*.) Properties of materials, tests, tolerances, dimensions and weights. (*No.* 2025 : 12.7).

Stained Glass Window in Reinforced Concrete. (See *Glass*).

Standards of the American Concrete Institute. (See *STRUCTURE : Reinforced Concrete*).

Reinforced Concrete Design for Engineering Students. (See *STRUCTURE : Reinforced Concrete*).

The Principles of Concrete Making and its Reinforcement. (See *STRUCTURE : Concrete*).

SLATES

Roofing Slates. *BS* 680—1944. (*British Standards Institution*, 2*s*.) Roofing slates of true slate rock. Characteristics, designations, thickness, marketing description, tests. (*No.* 1855 : 29.3).

Asbestos Cement Slates and Sheets. (See *Asbestos Cement*).

STAINS

Oil Stains. *BS* 1215—1945. (*British Standards Institution*, 2*s*.) Description and constitution, colour, light fastness, dying and resistance to rubbing, effect on varnish, flashpoint, storage and keeping properties, conditions of supply. (*No.* 1979 : 7.6).

Report on Stains in Stonework. (See *Stone*).

STANDARDS

Airbricks and Gratings (Dimensions and Workmanship). *BS* 493—1945. (*British Standards Institution*, 2*s*.) General requirements and examples. (*No.* 2023 : 12.7).

Handbook of Building Standards, Materials and Components : *Supplement to BS Handbook No.* 3. (*British Standards Institution*, 1945, 7*s*. 6*d*.) Revisions of 18 and additions to 4 standards included in Handbook No. 3. Details of 78 new and revised standards and index of whole range of building specifications referring to both volumes. (*No.* 2184: 8.11).

Gypsum and Anhydrite Building Plasters. (See *Plaster*).

Concrete Flooring Tiles and Fittings, Dimensions and Workmanship. (See *Concrete*).

Concrete Aggregates and Building Sands from Natural Sources. (See *Concrete*).

Synthetic Resin Adhesives for Wood. (See *Plywood*).

Cast Stone. (See *Stone*).

Steel Fabric for Concrete Reinforcement. (See *Reinforced Concrete*).

Expanded Metal (Steel) for General Purposes. (See *Steel*).

Flat Colours for Wall Decoration. (See *Paint*).

Fibre Building Board for General Building Purposes. (See *Building Boards*).

Wallpapers. (See *Wallpapers*).

Asbestos Cement Slates and Sheets. (See *Asbestos Cement*).

Electroplated Coatings of Nickel and Chromium on Steel and Brass. (See *Steel*).

Methods of Testing Clay Building Bricks. (See *Bricks*).

Metal Wall Ties. (See *Iron*).

Gypsum Plasterboard. (See *Building Boards*).

Wire Nails and Cut Nails for Building Purposes. (See *Nails*).

Dimensions of Mild Steel and Brass Wood Screws. (See *Nails and Screws*).

STEEL

Structural Steel Section Book. (*7th Edition, December*, 1944. *Issued by Fleming Bros., Glasgow, C.*2.) Data on beams, stanchions, struts, plate girders, brackets, roof trusses. General tables. Estimating data. Welding. Two-pin rigid frames. (*No.* 1909 : 3.5).

Expanded Metal (Steel) for General Purposes. *BS* 405—1945. (*British Standards Institution*, 2*s*.) Definition. Material, tests, tolerances. Table of dimensions and weights. (*No.* 2049 : 9.8).

Electroplated Coatings of Nickel and Chromium on Steel and Brass. *BS* 1224 : 1945. (*British Standards Institution*, 2*s*.) Definition, classifications, tests. (*No.* 2186 : 8.11).

A Constructional Engineer's Compendium. (See *General*).

Effect of Type of Bar on Width of Cracks in Reinforced Concrete Subjected to Tension. (See *Reinforced Concrete*).

Steel Fabric for Concrete Reinforcement. (See *Reinforced Concrete*).

STONE

Cast Stone. *BS* 1217—1945. (*British Standards Institution*, 2*s*.) Definition, materials, colour and texture, strength, shrinkage, methods of testing. (*No.* 2924 : 12.7).

Report on Stains in Stonework. *Prepared by the Brickwork and Masonry Sectional Committee of the Institution of Structural Engineers.* (*The Structural Engineer, October*, 1945, *pp.* 493-496.) Results of laboratory tests and site observations made since 1933. (*No.* 2227 : 29.11).

Concrete Aggregates and Building Sands from Natural Sources. (See *Concrete*).

TESTS

Gypsum and Anhydrite Building Plasters. (See *Plaster*).

Comparative Test Data on Nail- and Pressure-Glued Plywood Beams. (See *Plywood*).

Roofing Slates. (See *Slates*).

Concrete Aggregates and Building Sands from Natural Sources. (See *Concrete*).

Effect of Type of Bar on Width of Cracks in Reinforced Concrete Subjected to Tension. (See *Reinforced Concrete*).

Steel Fabric for Concrete Reinforcement. (See *Reinforced Concrete*).

Expanded Metal (Steel) for General Purposes. (See *Steel*).

Methods of Testing Clay Building Bricks. (See *Bricks*).

Gypsum Plasterboard. (See *Building Boards*).

Report on Stains in Stonework. (See *Stone*).

Field Use of Cement Containing Vinsol Resin. (See *Concrete*).

Electroplated Coatings. (See *Steel*).

Cast Stone. (See *Stone*).

Wallpapers. (See *Wallpapers*).

TIMBER

World Timbers. Vol. I. (*Timber Development Association.*) Fifty loose leaflets, each giving concise description of an individual tree and timber (seasoning, strength, durability, working qualities, use, supplies, etc.), filed in handy binder. Easy reference table. Useful reference book for all users of timber. (*No.* 1807 : 22.2).

Chemically Transmuted Wood. *Treatments developed by Dr. J. F. T. Berliner* (*American Du Pont Company*). New American experimental process making softwood into hardwood with methylolurea. Greater strength, wearing qualities, hardness, resistance to warping and swelling. Retention of natural colour. Flame and rot resistance improved. Impregnated self-bonding veneers. Full cell impregnation. (*No.* 1838 : 15.3).

Dry Rot in Buildings and Its Prevention. *W. P. K. Findlay.* (*Journal of the Royal Sanitary Institute, April,* 1945.) Description of dry rot, causes, cure. Prevention in new buildings. Emphasis on severe damage caused by dry rot in war-damaged houses, particularly from dampness due to water used in putting out fires. Also in houses left empty for some time. (*No.* 1978 : 7.6).

The Wood from the Trees. *Richard Jefferies.* (*Pilot Press, London, 9s. 6d.*) Timber producing areas in war and peace. Radical changes in use of timber. New products of timber. Past and future of British forestry. (*No.* 2046 : 9.8).

New Specification for Stress-grade Lumber. (*Engineering News-Record, June* 14, 1945, *p.* 808.) National Design Specifications for stress-grade lumber and its fastenings published by National Lumber Manufacturers' Association. (*No.* 2104 : 13.9).

Dry Rot in Buildings and Its Prevention. *W. P. K. Findlay. Paper read at a Sessional Meeting of the Royal Sanitary Institute in London on January* 17, 1945. (*Journal of the Royal Sanitary Institute, April,* 1945, *pp.* 85-90.) Prevalence of dry rot. Cause and nature of the disease. Conditions influencing the development. Cure of dry rot. Prevention in new buildings. Increase of dry rot as a result of the war. (See short item on this paper, No. 1978 : 7.6.45.) (*No.* 2106 : 13.9).

Stress Grading of Timber. *C. J. Chaplin.* (*Timber Development Association, London,* 1945.) Reasons for grading for strength. Influence of defects and of natural characteristics of timber upon its strength. General requirements for stress-grades. (*No.* 2114 : 20.9).

Dry Rot in Wood. *Fourth Edition. Forest Products Research Bulletin, No.* 1. (*HMSO,* 1945. *Price* 1*s.*) Fungi causing dry rot in wood. Detection and practical treatment of dry rot. Precautions to be taken in use of timber in new buildings to prevent outbreaks. (*No.* 2124 : 27.9).

Pressure Impregnated Timber Floors. *F. R. S. Yorke* (*Specially written for Information Centre.*) Financial loss from dry rot serious. Timber impregnated with fluoride, chromate and phenol mixture would give immunity at lower building cost than usual floor construction. Comparative costs given. (*No.* 2159: 18.10).

Green Timbers in Australian Structures. *Ian Langlands.* (*Engineering News Record, September* 6, 1945, *pp.* 290-1.) Some failures caused by permanent loading. (*No.* 2202 : 22.11).

Timber. An Outline of the Structure, Properties and Utilization of Timber. *B. Alwin Jay.* (*Issued by Timber Development Association.*) Re-issue in the red booklet series of a booklet published in connection with special timber exhibition held in Science Museum in 1937-38. (*No.* 2276 : 20.12).

A Constructional Engineer's Compendium. (See *General*).

Synthetic Resin Adhesives for Wood. (See *Plywood*).

Wood Flooring. (See *STRUCTURE : Floors*).

Radio Heating. (See *HEATING : Radio Heating*).

WALLPAPERS

Wallpapers. B.S. 1248-1943. (*British Standards Institution, 2s.*) Definitions, sizes, tests. (*No.* 2160: 18.10).

Physical PLANNING

AGRICULTURE

Agriculture Handbook. 16*th Census of the US,* 1940. (*US Department of Commerce,* 1943.) Illuminating descriptions and illustrations of uses of Agriculture Census Statistics in Education, Business, Research and Visual Analysis. (*No.* 1930: 17.5).

Report on the Determination of Regional Boundaries within the State of Victoria. (See *Regional Planning*).

Planning for Action : TVA. (See *Regional Planning*).

TVA : 1944-1945 Progress Report. (See *Regional Planning*).

BOOKS

Physical Planning. *Edited by Ian McCallum.* (*Architectural Press,* 1945, 21*s.*) See A.J., October 25, 1945, p. 291.

Bombed Churches as War Memorials. *J. Groag.* (*Architectural Press,* 3*s.* 6*d.*).

According to Plan. *Ernest Watkins.* (*Architectural Press,* 5*s.*) Useful to those just demobilized.

Cathedral City : A Plan for Durham. (See *Town Planning*).

Dispersal. (See *General*).

The Slums are Still With Us. (See *Housing*).

We Must Go On. (See *Housing*).

Country Towns in the Future England. (See *Town Planning*).

Patrick Geddes, Maker of the Future. (See *General*).

Rebuilding Britain. (See *National Planning*).

Agriculture Handbook. (See *Agriculture*).

English City : The Growth and the Future of Bristol. (See *Town Planning*).

Community Restaurants in Design. (See *Restaurants*).

Planning the New Nursery Schools. (See *Schools*).

Merseyside Plan, 1914. (See *Town Planning*).

A Plan for Belfast. (See *Town Planning*).

Planning for Action : TVA. (See *Regional Planning*).

COMMUNITY PLANNING

Post-War Urban Redevelopment. (See *Town Planning*).

Orchard Heights, Washington. (See *Housing*).

Design for the New Community Town of Halewood. (See *Town Planning*)

Community Restaurants in Design. (See *Restaurants*).

A Plan for Bath. (See *Town Planning*).

The Plymouth Plan. (See *Town Planning*).

EDUCATION

Education for Planning. *Konrad Wittmann.* (*Pencil Points, May,* 1944.) Many Committees working on post-war plans, results being orgies of figures. Artistic or spiritual issues hardly permitted. Traditional training of architect does not equip him for task ahead. Suggestions for new type of training. (*No.* 1840 : 22.3).

Planning the New Nursery Schools. (See *Schools*).

GENERAL

Dispersal. *An enquiry by the National Council of Social Service.* (*Oxford University Press* 1944, 3*s.* 6*d.*) Discussion of possibilities of dispersing office staffs from large cities (particularly London), based on views of a number of employers and employees. (*No.* 1762 : 4.1).

Patrick Geddes, Maker of the Future. *Philip Boardman.* (*University of North Carolina Press,* 1944, 5 *dollars.*) First full biography of Professor Sir Patrick Geddes, Scots biologist and father of town planning surveys. Teacher of Mumford, and inspirer of regional planning and school of post-garden-city planners. (*No.* 1836 : 15.3).

The Position of the Engineer in Relation to Town and Country Planning. (*Institution of Civil Engineers,* 1945, 3*s.* 0*d.*) Record of four lectures delivered at ICE, 1944, by H. J. Manzoni, W. C. Cameron, D. G. Bevan, J. B. Watson. Extent to which engineering forms basis of planning. (*No.* 2179: 8.11).

Desirable and Practical Planning Policy. *Town and Country Planning Association.* (*Architects' Journal, September* 6, 1945, *pp.* 179-180.) Memorandum sent to Heads of Ministries concerned and MPs on close relationship between good planning policy and emergency and permanent housing programme. (*No.* 2272: 20.12).

Planning Data : A New Era for Building. (See *Surveys*).

Outline of Studies in Town Planning. (See *Town Planning*).

Education for Planning. (See *Education*).

Maps for the National Plan. (See *National Planning*).

The Noise Problem in Relation to Town and Country Planning. (See *Town Planning*).

HOSPITALS

1844-1944 and Onwards. (*Prepared and published by the St. Albans and Mid Herts Hospital in collaboration with the Architects' Co-operative Partnership,* 1944, 1*s.*) Booklet on past, present and future of St. Albans and Mid Herts Hospital. Contains chapters useful to architects. Mainly on new principles of ward planning. (*No.* 1850: 29.3).

HOUSING

The Slums are Still With Us. (*An Opportunity Club's Publication, Melbourne, July,* 1944, 2*s.* 6*d.*) Main defects of Greater Melbourne. Speedier methods of slum demolition and reconstruction. Work of Victoria Housing Commission. (*No.* 1801 : 22.2).

We Must Go On. A study of planned reconstruction and housing. *F. Oswald Barnett, W. O. Burt, F. Heath.* (*The Book Depot, Melbourne,* 1944, 6*s.*) Planning fundamentals and their meaning for Australia. Method of fact-finding survey. Ways and means to realize balanced development. Activities of Victoria Housing Commission in zoning and housing. (*No.* 1802 : 22.2).

What Kind of Homes ? (*Hackney and Stoke Newington Social Workers' Group,* 1944, 9*d.*) Results of limited housing inquiry to ascertain views of young parents. No comments on kind of homes suitable for grown-up families, adult workers or old people. (*No.* 1849 : 29.3).

Orchard Heights, Washington. *Jones, Bouillon, Thiry and Sylliaasen.* (*Pencil Points, January,* 1945.) Description of wartime housing project developed under FPHA. Self-contained, temporary community of 2,900 war-working families. (*No.* 1993 : 21.6).

Housing Report. *RIBA Housing Committee.* (*Architects' Journal, April* 5, 1945, *pp.* 268-270.) Summary of evidence received and findings of Committee appointed January 31, 1945, "to examine the question of housing production in detail." (*No.* 2273: 20.12).

Rebuilding Britain. (See *National Planning*).

The Planning of Kitchens. (See *Kitchens*).

Desirable and Practical Planning Policy. (See *General*).

INDUSTRY

Industrial Record, 1919-1939. (*Cadbury Bros.,* 1945, 8*s.* 6*d.*) Well-produced account of organizing manufacture and distribution of milk chocolate between wars. Organization and management. Technical progress and factory development. Marketing and distribution of retail shops. Welfare. (*No.* 2005 : 5.7).

Country Towns in the Future England. (See *Town Planning*).

Report on the Determination of Regional Boundaries within the State of Victoria. (See *Regional Planning*).

Planning for Action : TVA. (See *Regional Planning*).

TVA : 1944-1945 Progress Report. (See *Regional Planning*).

Business Buildings. (See *STRUCTURE : Offices*).

KITCHENS

The Planning of Kitchens. (*The Kitchen Planning Centre, Lever Bros. Brochure.*) Background of KPC research. Application of research. Analysis of functions. Diagrams and plans of various kitchen types. Note on kitchen lighting. Emphasis throughout on need for planning to avoid unnecessary move-

ment, particularly movement when carrying heavy weights. (*No.* 2065 : 23.8).

Kitchen Planning. (See *EQUIPMENT: Kitchens*)

MAPS

Planning Data : A New Era for Building. (See *Surveys*).

Regional Boundaries in the Murray Valley. (See *Regional Planning*).

Maps for the National Plan. (See *National Planning*).

NATIONAL PLANNING

Rebuilding Britain. *Sir Ernest Simon.* (*Gollanz*, 1945, 6*s.*) Knowledgeable and constructive analysis of housing position now and after last war. Not hopeful regarding planning. (*No.* 1842 : 22.3).

Maps for the National Plan. *Association for Planning and Regional Reconstruction.* (*Lund Humphries*, 1945, 15*s.* 8*d.*) Series of 37 maps of Britain drawn to uniform scale and providing vivid background to selected passages from Barlow, Scott and Uthwatt Reports. (*No.* 1919 : 10.5).

We Must Go On. (See *Housing*).

Inter-Regional Highways. (See *Transport*).

Desirable and Practical Planning Policy. (See *General*).

RECREATION

Facilities for Physical Recreation. (*Central Council of Physical Recreation*, 1944, 6*d.*) Pamphlet on siting, maintenance and equipment of ground and buildings for indoor and outdoor activities. Bibliography, list of sports, associations and publications. (*No.* 1830 : 8.3).

REGIONAL PLANNING

Regional Boundaries in the Murray Valley. *Macdonald Holmes.* (*The Australian Geographer*, 1944.) Three States meet in River Murray Valley in Australia. Yet should be one region for planning purposes. Maps show more logical divisions. (*No.* 1841 : 22.3).

Report on the Determination of Regional Boundaries within the State of Victoria. (*State Regional Boundaries Committee of Victoria, Australia.*) Report presented to the Cabinet, December, 1944, by Committee under chairmanship of W. J. Jungwirth, containing recommendations on regional boundaries. Basic information collected on topography, population distribution, climate, industry, transport, soils and geology, water resources, etc. (*No.* 2074 : 30.8).

Planning for Action. *Gordon Stephenson* (*Architects' Journal, March* 29, 1945, *Physical Planning Supplement, pp.* 241-244.) **TVA : Democracy on the March.** *D. E. Lilienthal* (*Penguin Books*, 1944, 9*d.*) Reviewed together with extracts from a paper by Lilienthal read at meeting of American Society of Planning Officials. Creation of TVA in 1933. TVA finance and returns. Local participation. Planning for action. Technical teamwork. Lessons of TVA. New VAs. (*No.* 2253: 13.12).

TVA : 1944-1945 Progress Report. *Extract from the TVA* 1944-45 *Report to Congress.* (*Architects' Journal, October* 11, 1945, *Physical Planning Supplement, pp.* 259-262.) Survey of TVA activities under wartime conditions. Production of agricultural fertilizers. New methods of food preservation. Increased power for war production. Land acquisition. Population redistribution. Research progress. (*No.* 2254: 13.12).

Planning in West Africa. *Lecture by Maxwell Fry, at RIBA, March* 26, 1945. (*Architects' Journal, April* 26, 1945, *pp.* 323-324.) Account of planning activities in the four British Colonies, West Africa, by Town Planning Adviser to British West African Government. (*No* 2274: 20.12).

Patrick Geddes, Maker of the Future. (See *General*).

Inter-Regional Highways. (See *Transport*).

RESTAURANTS

Community Restaurants in Design. *F. Le Gros Clark. With Designs by L. H. Bucknell and R. Ellis, FF.R.I.B.A.* (London Council of Social Service, 1945, 2*s.* 6*d.*) Alternative plans for "model" community restaurant, with written report and short appendices on construction and costs. (*No.* 2177: 8.11).

SCHOOLS

Planning the New Nursery Schools. *The Nursery School Association of Great Britain.* (*University of London Press*, 1945, 2*s.* 6*d.*) Series of recommendations to local education authorities for new nursery schools in urban districts. Information on siting in relation to population densities. Gardens and external layout. Planning of the school building. Comprehensive schedules of requirements for accommodation and equipment. (*No.* 2178:8.11)

SITE PLANNING

Facilities for Physical Recreation. (See *Recreation*).

Post-War Urban Redevelopment. (See *Town Planning*).

Planning the New Nursery Schools. (See *Schools*).

The Lighting of Buildings (MOW). (See *LIGHTING : General*).

Business Buildings. (See *STRUCTURE : Offices*).

SOCIOLOGY

Dispersal. (See *General*).

What Kind of Homes? (See *Housing*).

Industrial Record. (See *Industry*).

The Lighting of Buildings (MOW). (See *LIGHTING : General*).

SURVEYS AND RESEARCH

Planning Data : A New Era for Building. (*Zurn Manufacturing Co., USA.*) List of data and maps necessary to provide information for groups concerned with rebuilding. (*No.* 1770 : 25.1).

Country Towns of Victoria : A Social Survey. *A. J. and J. J. McIntyre.* (*Melbourne University Press*, 1944.) First survey of amenities of 180 country towns in Victoria of between 250 and 10,000 people. Towns largely dependent on Melbourne excluded. (*No.* 2109 : 20.9).

We Must Go On. (See *Housing*).

Patrick Geddes, Maker of the Future. (See *General*).

What Kind of Homes? (See *Housing*).

Agriculture Handbook. (See *Agriculture*).

The Location of Trunk Roads in Urban Areas. (See *Transport*).

A Plan for New Haven, Connecticut. (See *Town Planning*).

The Planning of Kitchens. (See *Kitchens*).

Report on the Determination of Regional Boundaries within the State of Victoria. (See *Regional Planning*).

English City : The Growth and the Future of Bristol. (See *Town Planning*).

Durham Replanned. (See *Town Planning*).

A Plan for Belfast. (See *Town Planning*).

TOWN PLANNING

Outline of Studies in Town Planning. *Dr. H. V. Lanchester.* (*RIBA*, 1944, 1*s.*) Town Planning in 10,000 words. (*No.* 1771 : 25.1).

Country Towns in the Future England. (*Faber & Faber*, 1944, 8*s.* 6*d.*) Report of conference held in autumn, 1943, under auspices of the Town and Country Planning Association, at which representatives of some 10 per cent. of smaller towns of England were told how to plan to get more industry and better amenities into their boroughs. (*No.* 1831 : 8.3).

Post-War Urban Redevelopment. (*USA Federal Works Agency pamphlet*, 1944.) Suggestions for redevelopment to overcome distressing conditions resulting from gridiron street system. Free planning within grids ½ mile wide and 1 mile long. (*No.* 1835 : 15.3).

Replanning Plymouth—The Electrical Aspect. *H. Midgley.* (*Electrical Review, November* 24, 1944, *p.* 734.) Detailed discussion of Plymouth plan in relation to electrical load, distribution and finance. (*No.* 1931 : 17.5).

New York City Amends Zoning Law. (*Engineering News Record*, December 28, 1944, *pp.* 65-67.) Major changes in zoning regulations of New York City. Additional restrictions on height, bulk and area of new buildings. Initial admittedly imperfect step to raise zoning standards before post-war building starts. (*No.* 1964 : 31.5).

Design for the New Community Town of Halewood. *Watson Garbutt.* (*Rural District Council of Whiston, Lancs.*) Liverpool must decentralize. Adjacent rural district of Whiston preparing to receive some of surplus population. Brochure describes suggested satellite for 20,000 to be built on fringe of borough. (*No.* 2038 : 26.7).

A Plan for New Haven, Connecticut : Planning with You. (*Architectural Forum, January*, 1945.) Results of six months' master planning project "to define problems and objectives of the city, analyze all important facts, and propose tentative solutions in form of directive plans." (*No.* 2058 : 16.8).

English City : The Growth and the Future of Bristol. (*J. S. Fry & Sons, Ltd., and University of London Press, Ltd.*, 1945, 10*s.* 0*d.*) Story of Bristol, showing life of the city at selected periods—1200, 1500, 1750 and 1939, destruction caused by the Blitz, and plans for future. (*No.* 2176: 8.11).

A Plan for Bath. *Reviewed by A. C. Bossom.* (*Architects' Journal, March* 1, 1945, *Physical Planning Supplement, pp.* 169-172.) Review of new plan for Bath presented in an exhibition and in a report prepared by Sir Patrick Abercrombie, J. Owen and H. A. Mealand. Plan includes 14 neighbourhoods and 13 parishes or parts of parishes, covering 220,990 acres with combined present population of some 78,500 people, and allowing for future population of about 81,000. (*No.* 2223: 29.11).

Merseyside Plan, 1944. *F. Longstreth Thompson.* (*HMSO*, 7*s.* 6*d.* *Reviewed in Architects' Journal, July* 5, 1945. *Physical Planning Supplement, pp.* 7-10.) Report prepared in consultation with Technical Committee of the Merseyside Joint Advisory Planning Committee at request of Minister of Town and Country Planning, reviewed by Professor S. D. Adshead. (*No.* 2224: 29.11).

Durham Replanned. *Thomas Sharp's Plan for Durham described by A. C. Bossom.* (*Architects' Journal, February* 1, 1945, *Physical Planning Supplement, pp,* 97-100.) *Review of* **Cathedral City, A Plan for Durham,** *by T. Sharp* (*Architectural Press*, 5*s.*). Report described as positive and challenging document, which examines both possibilities and limitations of Durham. Replanning proposals based on review of existing conditions, with particular reference to historical and architectural quality. (*No.* 2225: 29.11).

First Planning Report to the Highways and Planning Committee of the Corporation of Glasgow. *Robert Bruce, City Engineer. Reviewed by J. A. Coia, H. J. Crone, and W. Linn.* (*Architects' Journal, July* 26, 1945, *Physical Planning Supplement, pp.* 63-66.) Report described as sincere attempt to solve city's problems, but shows considerable number of defects which might have been overcome if preparation and publication of complete statistical information had been undertaken before consideration of actual remedies. (*No.* 2226: 29.11).

A Plan for Belfast. *Report of the Northern Ireland Planning Commission. Reviewed by J. Roy McKee.* **(Planning Proposals for the Belfast Area.** [*HMSO*, 2*s.* 6*d.*].) (*Architects' Journal, May* 3, 1945, *Physical Planning Supplement, pp.* 331-334.) Report described as carefully considered opinion of body of unbiased experts. Based on surveys prepared by Planning Advisory Board Recommendations made for location of industry, housing, transport, etc. Suggestions for industry and housing based on Barlow Report. (*No.* 2237: 6.12).

Architects' Plan for Norwich. *Designed by C. H. James and Rowland Pierce.* (*Architects' Journal, August* 16, 1945, *Physical Planning Supplement, pp.* 115-118.) Planning of precincts of central area by architects of Norwich's new Town Hall opened in 1938. Emphasis on three-dimensional aspect of town planning. Recommendations for improving appearance without recourse to drastic surgery. (*No.* 2238: 6.12).

The Plymouth Plan. *Designed by J. P. Watson and Sir Patrick Abercrombie. Reviewed by Sir Charles Reilly.* (*Architects' Journal, September* 13, 1945, *Physical Planning Supplement, pp.* 187-189.) Description of new city centre and precincts with comments on proposed architecture, community centres and neighbourliness. (*No.* 2239: 6.12).

Sheffield. Replanning Proposals. *Designed by J. M. Collie and H. Foster, City Engineers.*

Reviewed by Cecil Stuart. (*Architects' Journal, August* 23, 1945, *Physical Planning Supplement, pp.* 133-135.) Proposals for a general framework of zoning. Proper grouping of various uses of land. Removal of much heavy industry from central area. Provision of new civic centre. Readjustment of road system. (*No.* 2240: 6.12).

Manchester. Town and Regional Planning Proposals. *Designed by R. Nicholas. Reviewed by Justin Blanco White.* (*Architects' Journal, September* 6, 1945, *Physical Planning Supplement, pp.* 169-172.) Based on extensive surveys of region. Proposals include: re-housing on vast scale; green belt defining region from surrounding towns; grouping of industries in zones; decentralization of lighter industries with overspilling of population; efficient transport. (*No.* 2241: 6.12).

The Noise Problem in Relation to Town and Country Planning. *Hope Bagenal.* (*Architects' Journal, May* 3, 1945, *p.* 342.) Report of lecture at TCPA Planning Centre. Noise described as one of unnecessary drawbacks of unorganized physical environment. Classification of sources of noise and suggestions for noise abatement through planning. (*No.* 2275: 20.12).

Dispersal. (See *General*).

The Slums are Still With Us. (See *Housing*).

Patrick Geddes, Maker of the Future. (See *General*).

The Location of Trunk Roads in Urban Areas. (See *Transport*).

Country Towns of Victoria : A Social Survey. (See *Surveys*).

Light and Air in Town Planning. (See *LIGHTING : General*).

Smokeless Zones. (See *HEATING ; Atmospheric Pollution*).

Laid-On Engineering Services to Satellite Towns. (See *HEATING : District Heating*)

The Lighting of Buildings (MOW). (See *LIGHTING : General*).

TRANSPORT

Inter-Regional Highways. *Report of the US Highway Committee.* (*Reprinted in Great Britain by the Cement and Concrete Association,* 1944.) Fully documented report of National Inter-regional Highway Committee, outlining and recommending national system of inter-regional highways. Analysis of road use. (*No.* 1920 : 10.5).

The Location of Trunk Roads in Urban Areas. *Prepared by L. B. Escritt.* (*Report No.* 35 *of the Association for Planning and Regional Reconstruction, February,* 1945.) Schemes of yesterday. By-pass roads, ring roads, through roads, and direct roads in light of theory and traffic censuses. Irrationality of ubiquitous use of ring roads. Advantages of the Three-Axis Direct, or Triangular, System in places where there are no marked features. (*No.* 1982 : 14.6).

Post-War Urban Redevelopment. (See *Town Planning*).

Report on the Determination of Regional Boundaries within the State of Victoria. (See *Regional Planning*).

First Planning Report to the Highways and Planning Committee of the Corporation of Glasgow. (See *Town Planning*).

PLUMBING
and Sanitation

BOOKS

The Practical Plumber and Sanitary Engineer. *Edited by W. J. Woolgar.* (*Odhams Press,* 8*s.* 6*d.*) Eight authors contribute to book. While intended for students of plumbing, is in parts useful to other students, including architects. Simple explanations of all aspects of plumbing. Many diagrams. (*No.* 2265 : 13.12).

Water, Drainage and the Community. (See *Water Supply*).

CODES OF PRACTICE

Dirt and Vermin. (See *Pests*).

DRAINAGE

Sanitation in Post-War Building. (See *General*).

Clayware Field Drain Pipes. (See *Pipes*).

Concrete Porous Pipes. (See *Pipes*).

Manhole Step Irons. (See *Equipment*).

Advance Preparation of Housing Sites : Model Specifications for Concrete Roads. (See *STRUCTURE : Roads*).

The New Builders' Handbook No. 1. Brickwork and Drainage. (See *STRUCTURE : Brickwork*).

Building Construction. (See *STRUCTURE : General*).

EQUIPMENT AND FITTINGS

Non-Ferrous Thimbles (Spigot and Socket) and Ferrules (Sleeve). (*British Standard* 1182—1944, 2*s.*) Thimbles and ferrules for drainage connections to soil and waste pipes specified as to quality of material, finish and dimensions. (*No.* 1940 : 17.5).

Non-Ferrous (Including Lead) Traps and Wastes (*British Standard* 1184—1944, 2*s.*) Traps and wastes (including lead) for use with baths, basins and sinks. Also overflows to baths. 1¼ in. and 1½ in. sizes only. Mainly specification of design and size. (*No.* 1941 : 17.5).

Water Taps, Bib Pillar Globe and Stop. (*British Standard* 1010—1944, 2*s.*) Specification for ½ in. to 2 in. sizes. Based on recommendations of British Waterworks' Association and BWA Licences' Association. Supersedes issue of March, 1942, War Emergency Standard. Does not deal with methods of fixing. (*No.* 1943 : 17.5).

Cast Iron Baths for Domestic Purposes (*British Standard* 1189—1944, 2*s.*) Standardization concentrated on three patterns. Quality of materials. Dimensions. Appendices on water capacity, bath panels and method of determining water absorption of laminated plastic sheets. (*No.* 1947 : 17.5).

Copper Cylinders for Domestic Purposes ! Grades 1, 2 and 3. (*British Standard* 699—1944, 2*s.*) Revised edition covering greatly reduced range of sizes to permit concentrated production for post-war building. Previously soldering of top and bottom seams of grade 3 cylinders was permitted, but now all jointing is by brazing. Positions of connections for circulators and immersion heaters now standardized. (*No.* 1948 : 17.5).

Galvanized Mild Steel Cisterns, Tanks and Cylinders. (*British Standard* 417—1944, 2*s.*) Revised edition to deal with post-war programme. Range considerably reduced compared to pre-war, but quality similar. Another specification will deal with thermal insulation, and it is recommended that this be followed for insulation of cisterns, tanks and cylinders. (*No.* 1949 : 17.5).

Zeross Anti-burst Valves. (*Information from manufacturers, S. Grahame Ross, Ltd.*) Relief valve designed to obviate bursting of pipes due to build up of pressure during freezing. Tests have been carried out by makers in presence of independent authorities. (*No.* 1973 : 31.5).

Cast Iron Gutters, Fittings and Accessories. Part I, Half-round Gutters. *BS* 1205 : *Part I ;* 1945. (*British Standards Institution,* 2*s.*) Quality of material, sizes and finish. Diagrams of gutters and fittings. (*No.* 2027 : 12.7).

W.C. Flushing Cisterns. *BS* 1125 : 1945. (*British Standards Institution,* 2*s.*) General requirements for high and low level cisterns and standard dimensions for each type. (*No.* 2220 : 22.11).

Capillary Fittings and Compression Fittings for Light Gauge Copper Tube. *BS* 864 : 1945. (*British Standards Institution,* 2*s.*) Specification for two types of fittings for use with light gauge copper tubing. (1) By flow of solder by capillary action. (2) By compression either of a ring or sleeve or part of the fitting on to the tube or by compression of flared end of tube against true face of fitting. Working pressures defined. Method of designation of sizes of fittings and dimensional specification for each type which will enable interchange of fittings on any one type even though differing in design. (*No.* 2264 : 13.12).

Manhole Step Irons. *BS* 1247 : 1945. (*British Standards Institution,* 2*s.*) Design, material and dimensions. Type 1, general purpose pattern, and type 2, pre-cast concrete manhole pattern. Method of test. (*No.* 2267 : 13.12).

Cast Iron Spigot and Socket Soil, Waste and Ventilating Pipes, Fittings and Accessories. (See *Pipes*).

Cast Iron Spigot and Socket Rainwater Pipes, Fittings and Accessories. (See *Pipes*).

Stop-Tap Guard-Pipes. (See *Pipes*).

Asbestos Cement Spigot and Socket Flue Pipes and Fittings for Gas Appliances. (See *Pipes*).

Asbestos Cement Soil, Waste and Ventilating Pipes and Fittings. (See *Pipes*).

Asbestos Cement Spigot and Socket Rainwater Pipes, Gutters and Fittings. (See *Pipes*).

Concrete Cylindrical Pipes and Fittings. (See *Pipes*).

Concrete Cylindrical Pipes and Fittings, Including Manholes, Inspection Chambers and Street Gullies. (See *Pipes*).

Malleable Cast Iron and Cast Copper Alloy Pipe Fittings for Steam, Water and Gas. (See *Pipes*).

Metal Sinks. (See *EQUIPMENT : Dish Washing*).

Fireclay Sinks. (See *EQUIPMENT : Dish Washing*).

Fireclay Wash Tubs and Sink Sets. (See *EQUIPMENT : Laundry*).

Ceramic Washdown WC Pans. (See *EQUIPMENT : Water Closets*).

Ceramic Lavatory Basins. (See *EQUIPMENT* : Bathrooms).

Kitchen Equipment : No. 3, Laundry and Washing-up Equipment. (See *EQUIPMENT : Laundry*).

GENERAL

Sanitation in Post-War Building. *Herbert J. Manzoni.* (*Journal of the Royal Sanitary Institute, July,* 1944.) General review of sanitation in widest sense, including drainage, water supply, ventilation, lighting, noise, atmospheric pollution, warmth, fatigue, colour and mass. (*No.* 1788 : 1.2).

One Hundred Years' Progress in Sanitation in Great Britain. *The late H. C. Whitehead.* (*Journal of the Royal Sanitary Institute, April,* 1945.) Review, mainly of legislation, of sanitation over past 100 years, with appendix giving list of Bills, Acts, and other important events. (*No.* 1959 : 24.5).

The Neutralization of Trade Effluents. *Noel E. Rule.* (*Plumbing Trade Journal, January,* 1945.) Paper on specialized subject of neutralization of trade wastes, with particular reference to wastes from steel works in form of spent pickles from processes of de-sealing and cleaning of steel. (*No.* 1962 : 24.5).

Employee Services. (*Brochure on Exhibition organized by the Recruitment and Training Department of the Cotton Board, Manchester.*) Little information of value to architects, but interesting as yet another example of growing demand for better conditions for factory workers. Deals with sanitary and working facilities, first-aid and rest rooms, clothing accommodation, factory seating and overall design. (*No.* 2030 : 12.7).

The Thames Barrage Scheme and its Importance in the London Reconstruction Plans. *J. H. O. Bunge.* (*Journal of the Royal Society of Arts, May* 25, 1945.) Outline of schemes supported by Thames Barrage Association. Discussion of paper includes opposition on number of points by Sir Cyril Kirkpatrick, lately of Port of London Authority. (*No.* 2107 : 13.9).

Rational Design of House Plumbing. (See *Housing*).

MOW Kitchen and Bathroom Plumbing Unit. (See *Prefabrication*).

Hygiene and Sanitation : The Hub of the House. (See *Housing*).

Report on Plumbing for Low Cost Housing. (See *Housing*).

Water, Drainage and the Community. (See *Water Supply*).

The Practical Plumber and Sanitary Engineer. (See *Books*).

HOUSING

Rational Design of House Plumbing. *A. Longworth.* (*Journal of the Royal Sanitary Institute, July*, 1944.) General survey with number of detailed suggestions. One-pipe system. Anti-siphonage pipes. Prevention of noises. (*No.* 1787 : 1.2).

Hygiene and Sanitation : The Hub of the House. *Report prepared by the Association for Planning and Regional Reconstruction.* (*Architects' Journal, January* 11, 1945.) Full reproduction of report dealing with personal hygiene, household cleaning and laundry work. Includes time-saver standards reproduced from *The American Architect.* (*No.* 1916 : 3.5).

Report on Plumbing for Low Cost Housing. (*Booklet from Technical Information Bureau of Lead Industries Development Council, London.*) Accepts MOW Plumbing Committee Report as to factors affecting design. Detailed methods of plumbing for two typical plans from housing manual. Suggestions for minor modifications of plans which assist plumbing. Notes and diagrams of technique of applying off-site preparation methods to plumbing of this kind where lead or lead alloy pipe is used. (*No.* 1971 : 31.5).

MOW Kitchen and Bathroom Plumbing Unit. (See *Prefabrication*).

Cast Iron Baths for Domestic Purposes. (See *Equipment and Fittings*).

Copper Cylinders for Domestic Purposes. (See *Equipment and Fittings*).

PESTS AND VERMIN

The New Insecticidal Material DDT. *Professor I. M. Heilbron.* (*Journal of the Royal Society of Arts, January* 5, 1945.) History, properties, and uses of new insecticide. (*No.* 1972 : 31.5).

Insect Pests of Food, and the Consumer. *R. V. Wadsworth.* (*Journal of the Royal Sanitary Institute, July*, 1945.) Although general content of Paper is hardly concern of architects, author refers to need for smooth and easily cleanable surfaces in buildings. Illustrations given of old and new methods. Welding advocated as providing cleaner job than riveted steelwork. (*No.* 2221 : 22.11).

Dirt and Vermin. *Draft British Standard Code of Practice* (*Chapter X*). (*HMSO*, 1*s.*) Description of habits of vermin. Constructional precautions. (*No.* 2266 : 13.12).

PIPES

Cast Iron Spigot and Socket Soil, Waste and Ventilating Pipes, Fittings and Accessories. (*British Standard* 416—1944, 3*s.* 6*d.*) Amends earlier specification by omission of 1½ in. and 5 in. sizes which experience has shown are little used. Effective length now specified. No reference to rainwater, which is covered in BS 460. (*No.* 1939 : 17.5).

Cast Iron Spigot and Socket Rainwater Pipes, Fittings and Accessories. (*British Standard* 460—1944, 3*s.* 6*d.*) Combines two earlier specifications which dealt separately with light-weight and heavier pipes, and includes number of useful revisions and modifications. (*No.* 1942 : 17.5).

Stop-Tap Guard-Pipes. (*British Standard* 1185—1944, 2*s.*) Specification for guard-pipes for underground stop-taps in place of usual brick-pits or walls. (*No.* 1944 : 17.5).

Clayware Field Drain Pipes. (*British Standard* 1196—1944, 2*s.*) Unglazed clayware field drain pipes, plain butt jointed and circular in section, specified in terms of quality and size and methods of test, including strength test. (*No.* 1945 : 17.5).

Concrete Porous Pipes. (*British Standard* 1194—1944, 2*s.*) Concrete porous pipes for underdrainage specified in terms of material, moulds, and method of manufacture, size, strength and porosity. (*No.* 1946 : 13.5).

Asbestos Cement Spigot and Socket Flue Pipes and Fittings for Gas Appliances. (*British Standard* 567—1945, 2*s.*) Specification of pipes and fittings in terms of size and workmanship. Tests for straightness, regularity of thickness, and diameter. Hydraulic test for soundness, bursting strength and water absorption. Recommended fixing with sockets downward outside buildings and upward inside buildings. Jointing by special mixture of cement and asbestos fibre. List and illustrations of accessories. (*No.* 1950 : 17.5).

Centrifugally Cast (Spun) Iron Pipes for Water, Gas and Sewage. *BS* 1211—1944. (*British Standards Institution*, 2*s.*) Materials, methods of test, tolerances on dimensions. Marking. Special conditions applicable to such pipes, according to methods of casting. Tables of dimensions, weight, etc. (*No.* 2028 : 12.7).

Light Gauge Copper Tubes for Water, Gas and Sanitation. *BS* 659 : 1944. (*British Standards Institution*, 2*s.*) Revision of 1936 standard. Now provides for reduction in thickness of the tubes. Two thicknesses included for larger sizes, one for water and gas and other for sanitation. Other minor amendments and inclusion of minimum tensile strength and revised clause on chemical composition. (*No.* 2029 : 12.7).

Concrete Cylindrical Pipes and Fittings. *BS* 556 : 1945. (*British Standards Institution*, 2*s.*) Quality of material, control of manufacture, methods of test and sizes for concrete pipes from 6 in. upwards internal diameter, including bends, junctions, manholes and inspection chambers. (*No.* 2218 : 22.11).

Asbestos Cement Soil Waste and Ventilating Pipes and Fittings. *BS* 582 : 1945. (*British Standards Institution*, 2*s.*) Materials, workmanship, methods of test and specification of dimensions of pipes and fittings. (*No.* 2219 : 22.11).

Concrete Cylindrical Pipes and Fittings, including Manholes, Inspection Chambers and Street Gullies. *BS* 556 : 1945. (*British Standards Institution*, 2*s.*) Quality of materials and manufacture. Manufacturing date to be marked on. Dimensions and tolerances. Hydraulic, absorption and crushing tests. Maturing time. Information to be given by purchaser. Diagrams. (*No.* 2286 : 27.12).

Malleable Cast Iron and Cast Copper Alloy Pipe Fittings for Steam, Water and Gas. *BS* 1256 : 1945. (*British Standards Institution*, 3*s.* 6*d.*) Provides for fittings screwed BS pipe thread but having taper male threads and parallel female threads. Sizes up to 6 in. short turn, long sweep and extra long sweep types. Section included on testing of fittings for porosity and malleability. Dimensions only, not composition of material. (*No.* 2287 : 27.12).

Asbestos Cement Spigot and Socket Rainwater Pipes, Gutters and Fittings. *BS* 569 : 1945. (*British Standards Institution*, 2*s.*) Dimensions and tolerances. Workmanship. Tests for straightness and dimensions. Hydraulic tests and test for resistance to acidic water. Diagrams of standard units. (*No.* 2288 : 27.12).

Rational Design of House Plumbing. (See *Housing*).

Non-Ferrous Thimbles (Spigot and Socket) and Ferrules (Sleeve). (See *Equipment and Fittings*).

Non-Ferrous (Including Lead) Traps and Wastes. (See *Equipment and Fittings*).

Water Taps, Bib Pillar Globe and Stop. (See *Equipment and Fittings*).

Report on Plumbing for Low Cost Housing. (See *Housing*).

Zeross Anti-burst Valves. (See *Equipment and Fittings*).

Designing Water Supply for Buildings. (See *Water Supply*).

Capillary Fittings and Compression Fittings for Light Gauge Copper Tube. (See *Equipment and Fittings*).

PREFABRICATION

MOW Kitchen and Bathroom Plumbing Unit. (*Memorandum and illustration issued by the Ministry of Works, published here in full.*) List of essential requirements which were tabulated before the unit (incorporated in Portal temporary houses and Northolt flatted dwellings) was designed. (See A.J., May 11, 1944, pp. 349-357 ; October 12, 1944, p. 270 ; January 18, 1945, pp. 59-60.) (*No.* 1833 : 8.3).

Radiation Demonstration Kitchen. (See *EQUIPMENT ; Kitchens*).

SEWAGE

A Survey of Sewage Treatment and Sewage Treatment Works. *J. Campbell Riddell,* (*Journal of the Royal Sanitary Institute, October* 1945.) General description of method and sewage treatment. (*No.* 2268 : 13.12).

The Neutralization of Trade Effluents. (See *General*).

Centrifugally Cast (Spun) Iron Pipes for Water, Gas and Sewage. (See *Pipes*).

Water, Drainage and the Community. (See *Water Supply*).

STANDARDS

Cast Iron Spigot and Socket Soil, Waste and Ventilating Pipes, Fittings and Accessories. (See *Pipes*).

Non-Ferrous (Including Lead) Traps and Wastes. (See *Equipment and Fittings*).

Non-Ferrous Thimbles (Spigot and Socket) and Ferrules (Sleeve). (See *Equipment and Fittings*).

Cast Iron Spigot and Socket Rainwater Pipes, Fittings and Accessories. (See *Pipes*).

Water Taps, Bib Pillar Globe and Stop. (See *Equipment and Fittings*).

Stop-Tap Guard-Pipes. (See *Pipes*).

Clayware Field Drain Pipes. (See *Pipes*).

Concrete Porous Pipes. (See *Pipes*).

Cast Iron Baths for Domestic Purposes. (See *Equipment and Fittings*).

Copper Cylinders for Domestic Purposes. (See *Equipment and Fittings*).

Galvanized Mild Steel Cisterns, Tanks and Cylinders. (See *Equipment and Fittings*).

Asbestos Cement Spigot and Socket Flue Pipes and Fittings for Gas Appliances. (See *Pipes*).

Cast Iron Gutters, Fittings and Accessories. (See *Equipment and Fittings*).

Centrifugally Cast (Spun) Iron Pipes for Water, Gas and Sewage. (See *Pipes*).

Light Gauge Copper Tubes for Water, Gas and Sanitation. (See *Pipes*).

Concrete Cylindrical Pipes and Fittings. (See *Pipes*).

Asbestos Cement Soil, Waste and Ventilating Pipes and Fittings. (See *Pipes*).

W.C. Flushing Cisterns. (See *Equipment and Fittings*).

Capillary Fittings and Compression Fittings for Light Gauge Copper Tube. (See *Equipment and Fittings*).

Manhole Step Irons. (See *Equipment and Fittings*).

Concrete Cylindrical Pipes and Fittings, Including Manholes, Inspection Chambers and Street Gullies. (See *Pipes*).

Malleable Cast Iron and Cast Copper Alloy Pipe Fittings for Steam, Water and Gas. (See *Pipes*).

Asbestos Cement Spigot and Socket Rainwater Pipes, Gutters and Fittings. (See *Pipes*).

WATER SUPPLY

Rural Water Supplies. *F. G. Jones.* (*Journal of the Royal Sanitary Institute, January*, 1945.) Short Paper on problems of provision of water supplies to farms and houses in rural areas. Figures quoted show need. Financial difficulties mentioned. (*No.* 1960 : 24.5).

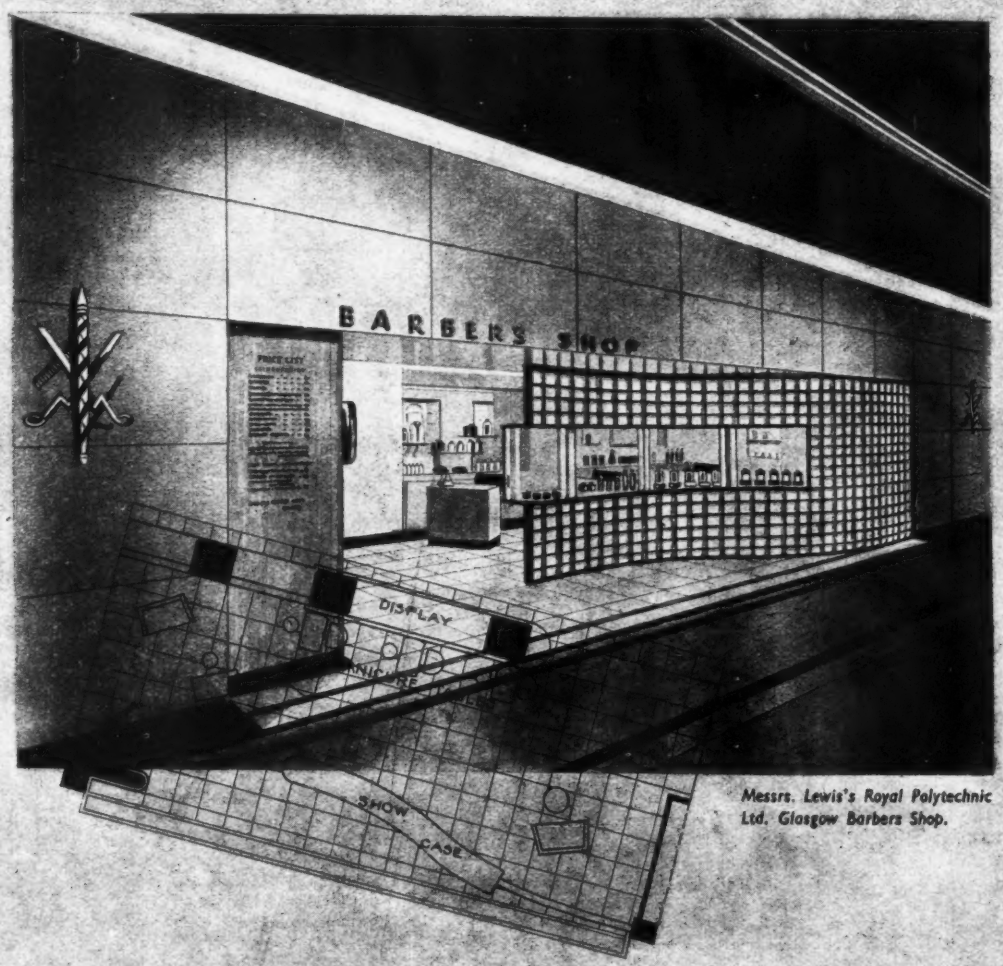
Rural Water Supplies. *W. H. Ashmole.* (*Journal of the Royal Sanitary Institute, January*, 1945.) Some discussions of White Paper on water policy. Description of local water supply plant, with costs. (*No.* 1961 : 24.5).

Water, Drainage and the Community. *Rolt Hammond.* (*J. M. Dent & Sons*, 3*s.* 6*d.*) One of series of books sponsored by Co-Operative Permanent Building Society. Deals in non-technical way with technical problems of water supply to the community, with one chapter on public health and sewage disposal. (*No.* 2146 : 4.10).

Designing Water Supply for Buildings. *Fred. W. Hanburger.* (*Plumbing and Heating Journal (USA), July*, 1945.) Method of sizing water piping in buildings from small apartments to skyscrapers. Some of data previously unpublished are results of survey by author. (*No.* 2215 : 22.11).

Water Supply in Rural Districts from the Engineering Point of View. *Aubrey J. Allen.* (*Journal of the Royal Sanitary Institute, July*, 1945.) Quantity of water required, particularly for farms, water mains, pressures, etc., water supply sources. (*No.* 2216 : 22.11).

Water Supply Problems in Rural Districts. *Sir William Savage.* (*Journal of the Royal Sani-*



Messrs. Lewis's Royal Polytechnic Ltd. Glasgow Barbers Shop.

BEAUTY IN LINE

Designs for tomorrow, although based on the essentially practical, must embody a sense of beauty.

While our Designers keep an ever watchful eye to the practical functions of interior planning of a shop or store, and continually study new processes and new materials, they keep in view the line and proportion which form the basis of all good work.

GEORGE PARNALL & CO LTD.

4 BEDFORD SQUARE, LONDON, W.C.1

QUANTITY-PRODUCTION AND THE HOUSING PROBLEM

Entrance to the new plant at Middlesbrough.

The housing needs of this country must be met adequately *and quickly*. Quantity-production methods, which have proved their worth over the last two decades, must be used to supplement the efforts of the skilled craftsmen in the traditional building industry.

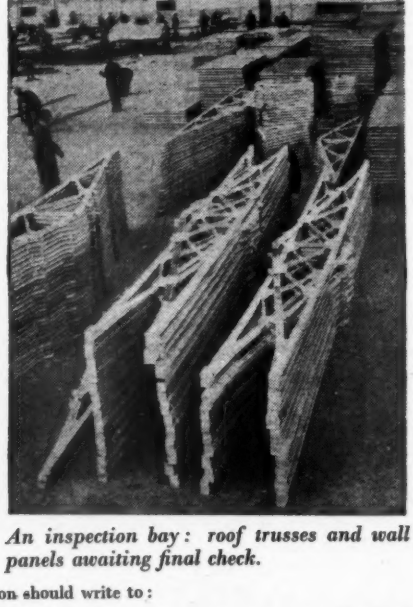
Kingston Building Industries, Ltd. has planned the production of permanent homes which by applying the principles of quantity-production to the best developments in construction secure the fullest amenities in the home, at the lowest possible cost.

The method of construction brings most of the work into the factory so that the fullest use can be made of semi-skilled labour. This will in turn relieve the pressure on skilled site labour and will help further to reduce costs.

The Company has planned a nation-wide organisation dividing the country into regions, each served by its factory and storage depots. The four existing factories form but the beginning of a system of factories located to serve all parts of the country. They are already in production for the Government's temporary housing scheme, and will be available in due course for the manufacture of Kingston permanent homes.

In the joinery shop: after inspection, completed floor panels are impregnated with wood preservatives.

Completed floor panel: operator trims cut-out section for fire grate.



An inspection bay: roof trusses and wall panels awaiting final check.

Local Authorities desiring further information should write to:

KINGSTON BUILDING INDUSTRIES, LTD.

Subsidiary of **TARRAN INDUSTRIES, LTD.**

Head Office: **32, Duke Street, St. James's S.W.1. Telephone: Whitehall 0321.**

tary Institute, July, 1945.) Paper deals mainly with legal aspects, methods of financing. Also considers estimation of water needs and purity of supply. (*No.* 2217 : 22.11).

The Water Undertaking and Its Contribution to the Nation's Health. *Donald Whiteley, (Journal of the Royal Sanitary Institute, October.* 1945.) General discussion of waterborne diseases. Summary of main points of 1945 Water Bill. (*No.* 2260 : 13.12).

Water Supplies in the County of Durham. *J. Arthur Rodwall.* (*Journal of the Royal Sanitary Institute, October*, 1945.) Meeting demand. Preservation of purity. Afforestation as means of conservation, as purifying medium and as profitable investment. Government aid for afforestation. Æsthetic value. Problems of distribution, particularly failures in mains and reservoirs due to colliery operations. (*No.* 2261 : 13.12).

Water Supplies in the County of Durham. *W. Gordon Carey.* (*Journal of the Royal Sanitary Institute, October*, 1945.) Deep well water supplies. Purity of supply. Value of fluorine in water in preventing decay of teeth. Unlikelihood of hard water being responsible for various diseases. Surface water supplies. Need for, and methods of, purification. Chlorination. (*No.* 2262 : 13.12).

Water Supplies in the County of Durham. *Alfred B. E. Blackburn.* (*Journal of the Royal Sanitary Institute, October*, 1945.) Some results of 1939 survey of water supplies. Figures of water supply companies in County of Durham. Future sources. The 1945 Water Act. Public relations as aid to preventing water waste. (*No.* 2263 : 13.12).

Sanitation in Post-War Building. (See *General*).

Centrifugally Cast (Spun) Iron Pipes for Water, Gas and Sewage. (See *Pipes*).

STRUCTURE

ÆSTHETICS

The Aesthetic Aspect of Civil Engineering Design. (*A Record of Six Lectures delivered at the Institution of Civil Engineers*, 1945. *Price* 6*s.*) Lectures by Oscar Faber, Charles Holden, Prof. C. E. Inglis, Prof. P. Abercrombie, C. A. Jellicoe, Edward Wadsworth. (*No.* 2282 : 27.12).

ALUMINIUM

The Application of Light Aluminium Alloys to Structural Engineering. (See *MATERIALS : Non-Ferrous Metals*).

The Airoh Aluminium Temporary House. (See *Housing*).

ARCHITECTURAL PRACTICE

Architectural and Drawing Office Practice. (*British Standard*—1192 : 1944, 5*s.*) Size of drawings and drawing boards. Types of line to be used. Dimensioning and lettering. Scales. Projection methods. Symbols, hatching and abbreviations. Layout of drawings with titles, etc. Numbering of plan units and drawings. Selection and preparation of papers and cloth. Reproduction of drawings. (*No.* 1958 : 24.5).

Architectural Practice and Procedure. *Hamilton H. Turner.* (*B. T. Batsford*, 18*s.*) Third Edition of standard work. Office records, surveying of sites and buildings, drawings and specifications, bills of quantities, schedules of prices, approximate estimates and tenders. Inspection of work, certificates, variations, provisional sums. London Building Acts, Ancient Lights, dilapidations, etc. Reports and arbitrations. (*No.* 2092 : 6.9).

Specification for Houses. (See *Housing*).

Drawing Boards and Tee Squares. (See *EQUIPMENT : Architectural Practice*).

BOOKS

Building Construction. (See *General*).

Building Science for Students of Architecture and Building. Vol. 1. (See *General*).

The New Builders' Handbook No. 1. Brickwork and Drainage. (See *Brickwork*).

The New Builders' Handbook, No. 2. Carpentry and Joinery. (See *Carpentry and Joinery*).

Builders' Calculations. (See *General*).

The Elements of Building Mathematics. (See *General*).

Architectural Practice and Procedure. (See *Architectural Practice*).

Practical Building Mechanics. (See *General*).

Reinforced Concrete Design for Engineering Students. (See *Reinforced Concrete*).

Constructional Steelwork Simply Explained. (See *Steel*).

An Introduction to Soil Mechanics. (See *Soil Mechanics*).

EJMA Window Book. (See *Doors and Windows*).

Brickwork for Apprentices. (See *Brickwork*).

Building Craft Series : Brickwork. (See *Brickwork*).

Bricklayer's Repair Work. (See *Repair*).

BRICKWORK

Simplified Brick Construction. *Frank Gollins.* (*Architectural Design and Construction, January*, 1945, *pp.* 9-15.) Houses built of large prefabricated double-skin panels. Outer leaf 4½ in. brickwork, inner leaf 4 in. lightweight concrete, connected by ties. Erection by cranes. (*No.* 1804 : 22.2).

The New Builders' Handbook No. 1. Brickwork and Drainage. *E. J. Ward and A. Vollor.* (*George Allen and Unwin, 5s.*) Practical and comprehensive instructions on brickwork and drainage in the modern house. Useful to young trainee. (*No.* 1895 : 26.4).

Brickwork for Apprentices. *J. C. Hodge.* (*Edward Arnold, 6s.*) Mainly for apprentices. Covers City and Guilds of London Intermediate Syllabus in Brickwork. Fully illustrated. (*No.* 1898 : 26.4).

Smith's Building System. *H. Howard Smith.* (*Architectural Design and Construction, February*, 1945, *pp.* 40-44.) **More About Smith's Building System.** (*Architect and Building News, March* 3, 1945, *pp.* 206-208.) House composed of large pre-fabricated panels in brick-faced lightweight concrete, erected by gantry. (*No.* 1908 : 3.5).

Building Craft Series : Brickwork. *W. B. McKay.* (*Longman, Green & Co. Price* 7*s.* 6*d.*) Compendium on fundamentals of bricklaying with many detailed examples. 172 drawings. (*No.* 2151 : 11.10).

Building Construction. (See *General*).

The Elements of Building Mathematics. (See *General*).

Bricklayer's Repair Work. (See *Repair*).

The Repair of Bomb-Damaged Buildings. (See *Repair*).

A New Invention for Expediting the Laying of Bricks. (See *Plant*).

Clay Products and the New Building. (See *MATERIALS : Clay Products*).

BRIDGES

The Design and Erection of the Birchenough and Otto Beit Bridges, Rhodesia. *H. S. Smith and R. Freeman, jr.* (*Journal of the Institution of Civil Engineers, No.* 7, 1944-45, *May*, 1945, *pp.* 171-208.) Details of design and erection of two large span steel bridges. (*No.* 2066 : 23.8).

Composite Action Between Steel Beams and Concrete Decks. (See *Steel*).

CARPENTRY AND JOINERY

Hinges. *B.S.* 1227 : 1945. (*British Standards Institution*, 2*s.*) Cast iron, steel and drawn brass hinges. Types and sizes suitable for houses. (*No.* 2078 : 30.8).

The New Builders' Handbook, No. 2. Carpentry and Joinery. *S. H. Glenister.* (*George Allen & Unwin, 5s.*) Tools. Fundamental joinery processes. Floors. Door frames and casings, doors, windows. Roofs. Stairs. (*No.* 2091 : 6.9).

Building Construction. (See *General*).

EJMA Window Book. (See *Doors and Windows*).

Panelled and Glazed Wood Doors. (See *Doors and Windows*).

Wood Windows and Casement Doors. (See *Doors and Windows*).

CODES OF PRACTICE

British Standard Code of Practice, cp 4 : 1944. Code of Functional Requirements of Buildings (Classification Code), Chapter V, Loading. (See *Loading*).

South American Building is Challenging. (See *General*).

Building Codes Explain the Slenderness of South American Structures. (See *Reinforced Concrete*).

Standards of the American Concrete Institute. (See *Reinforced Concrete*).

Foundations and Sub-Structure. (See *Foundations*).

COLLAPSE OF BUILDINGS

Atom Bomb Ruined Nagasaki by Pressure and Superheat. *H. W. Richardson.* (*Engineering News Record, September* 27, 1945, *pp.* 397-398.) First authoritative report by an engineer on effect of atomic bomb on structures. (*No.* 2197: 22.11).

Three Huge Blimp Hangars Destroyed in 130 mph Florida Hurricane. (*Engineering News Record, September* 20, 1945, *p.* 87.) Timber structures at Richmond Naval Air Station near Miami fall on planes and burn. (*No.* 198 : 22.11).

CONCRETE

The Foamed Slag Hollow Block. *M. Gallai-Hatchard.* (*The Architects' Journal, February* 15, 1945, *pp.* 137-139.) Application of pre-cast lightweight concrete hollow blocks in housing. Auxiliary units for window reveals, corners, etc. (*No.* 1879 : 19.4).

The Principles of Concrete Making and its Reinforcement. *Compiled and edited by R. V. Chate.* (*The Reinforced Concrete Association, Technical Paper No.* 3, 1944, 2*s.* 6*d.*) Properties of concrete. Principles of concrete making. Reinforcement. (*No.* 1897 : 26.4).

Vacuum Processing of Shasta Dam Spillway. *C. S. Rippon.* (*Engineering News-Record, June* 14, 1945, *pp.* 829-832.) Excess water and entrapped air removed from surface of concrete by vacuum process to densify and increase hardness and resistance to wear. (*No.* 2075 : 30.8).

Wintertime Concreting at the Soo. (*Engineering News Record, July* 26, 1945, *pp.* 94-99.) Modern methods of cold weather concreting in construction of 878-ft. long concrete facing wall along approach canal. (*No.* 2255 : 13.12).

Progressive Concrete Shuttering. *L. E. Hunter.* (*Civil Engineering, October*, 1945, *pp.* 220-223.) Details of moving shutters for long sea walls, culverts, lifts, chimneys. (See also No. 1193 : 5.8.43.) (*No.* 2256 : 13.12).

Demonstration Houses. (See *Housing*).

Housing Manual, 1944 : Technical Appendices C to L. (See *Housing*).

Advance Preparation of Housing Sites. (See *Roads*).

Simplified Brick Construction. (See *Brickwork*).

Cottages in Somerset. (See *Housing*).

Reconditioning Concrete Floors to Carry Heavy Warehouse Traffic. (See *Floors*).

Smith's Building System. (See *Brickwork*).

Army Post Office. (See *Offices*).

The Bryant System of Construction. (See *Housing*).

A New Method of Concrete Floor Repair. (See *Repair*).

The Orlit System of House Construction. (See *Housing*).

Expansion Joints Unnecessary in Pavements. (See *Roads*).

Joints in Concrete Roads. (See *Roads*).

Pneumatic Concrete-Compacting Machine for Road Construction. (See *Plant*).

Lightweight Concrete Aggregates. (See *MATERIALS : Concrete*).

ASB Lecture : Concrete, Its Appearance and Durability. (See *MATERIALS : Concrete*).

ASB Lecture : Recent Developments in Lightweight Concrete. (See *MATERIALS : Concrete*).

Limestone Concrete. (See *MATERIALS : Concrete*).

Concrete Looks Ahead. (See *MATERIALS : Concrete*).

DOORS AND WINDOWS

EJMA Window Book. (*The English Joinery Manufacturers' Association.*) Book on EJMA standard wood casement windows, casement doors and frames. Also covers general principles of window arrangement. (*No.* 1844 : 22.3).

Panelled and Glazed Wood Doors. *BS* 459, *Pt.* 1—1944. (*British Standards Institution*, 2*s.*) Designs, dimensions and construction of dowelled and morticed, tenoned panelled, and glazed wood doors for internal and external purposes, and garage doors. (*No.* 1846 : 22.3)

Wood Windows and Casement Doors. *B.S.* 644, *Part I*, 1945. (*British Standards Institution.* 2*s.*) Casement windows and casement frames, Types. Construction. Hinges and fittings. (*No.* 1967 : 31.5).

British Standard Code of Practice for the Glazing and Fixing of Glass for Buildings. *No.* 973 : 1945. (*British Standards Institution*, 2*s.*) Methods of glazing and fixing in wood and metal windows. (*No.* 1968 : 31.5).

Glass Internal Sills to Wood and Metal Windows. *B.S.* 1209 : 1945. (*British Standards Institution*, 2*s.*) Materials, shape, finish, dimensions. (*No.* 1969 : 31.5).

Hinges. (See *Carpentry and Joinery*).

Possibilities in Post-War Techniques. (See *Housing*).

The New Builders' Handbook, No. 2. Carpentry and Joinery. (See *Carpentry and Joinery*).

Heat Conservation in Small Houses. (See *HEATING : Houses*).

FACTORIES

Vibration Insulation and Structural Rubber. *J. A. Connon.* (*Electrical Engineering, June*, 1945, *p.* 325.) Principles of mechanical vibration and insulation. Properties of structural rubber. Design of suspension units. (*No.* 2180: 8.11).

New Works Canteen in Essex. (See *Reinforced Concrete*).

Business Buildings. (See *Offices*).

Reconditioning Concrete Floors to Carry Heavy Warehouse Traffic. (See *Floors*).

Pioneer Design in Laminated Wood I-Beams. (See *Timber*).

Building in One Package. (See *General*).

FIRE PROTECTION

Walls, Floors and Roofs : MOW Building Study No. 15. (See *General*).

Three Huge Blimp Hangars Destroyed in 130 m.p.h. Florida Hurricane. (See *Collapse of Buildings*).

Fibre Building Board for General Building Purposes. (See *MATERIALS : Building Boards*).

FLOORS

Wood Flooring. (*Timber Development Association.*) Booklet on preparation, laying, finishing and properties of various types of wood flooring. (*No.* 1845 : 22.3).

Reconditioning Concrete Floors to Carry Heavy Warehouse Traffic. (*Engineering News-Record, January* 25, 1945, *pp.* 116-119.) Methods of resurfacing concrete runways. Procedures for hardening concrete surfaces to prevent dusting under traffic. (*No.* 1882 : 19.4).

Plysyl Formwork Panels. (*Pamphlet issued by Plysyl Formwork, Ltd., Victoria House, Southampton Row, London, W.C.*1.) New system of reinforced concrete floor cast *in situ* on prefabricated plywood panels, forming permanent shuttering and flat soffit. (*No.* 1956: 24.5).

British Standard Code of Practice, cp 4 : 1944. Code of Functional Requirements of Buildings (Classification Code), Chapter V, Loading. (See *Loading*).

Walls, Floors and Roofs : MOW Building Study No. 15. (See *General*).

Business Buildings. (See *Offices*).

Hollow Clay Building Blocks. (See *Walls and Partitions*).

Possibilities in Post-War Techniques. (See *Housing*).

The New Builders' Handbook, No. 2. Carpentry and Joinery. (See *Carpentry and Joinery*).

A New Method of Concrete Floor Repair. (See *Repair*).

FOUNDATIONS

Bearing Piles. *R. R. Minikin.* (*Civil Engineering, March, April, May, June, July*, 1945, *pp.* 64-72, 84-88, 112-118, 132-134, 158-165.) Formulae for bearing capacity of piles. Assessment of cushioning effect. Results of experiments. Handling of piles. Types of hammer. Water jets. Various types of piles. (*No.* 2112 : 20.9).

Foundations and Sub-Structure. *British Standard Code of Practice CP;* 1945, *Draft for Comment.* (*British Standards Institution*, 2*s.*) Draft code for houses, flats and schools of not more than two storeys. (*No.* 2200 : 22.11).

Housing Manual, 1944 : Technical Appendices C to L. (See *Housing*).

The Repair of Bomb-Damaged Buildings. (See *Repair*).

An Introduction to Soil Mechanics. (See *Soil Mechanics*).

Post-War Building Techniques. (See *General*).

Building Plant. (See *Plant*).

Possibilities in Post-War Techniques. (See *Housing*).

A Constructional Engineer's Compendium. (See *MATERIALS : General*).

GENERAL

Building Construction. (*Volumes II and III.*) *W. B. McKay.* (*Longmans, Green and Co., London*, 1944, 9*s.* 0*d.* each.) Cover parts of Building Construction which are regarded as suitable for second-year course of students of architecture, but also useful to practising architects. Brickwork, drainage, masonry and mild steel roof trusses dealt with in Vol. II ; carpentry, joinery and roof coverings in Vol. III. (*No.* 1778 : 1.2).

Walls, Floors and Roofs. *Ministry of Works Post-War Building Study No.* 15. *By a Committee convened by the RIBA*, 1944. (*HMSO*, 9*d.*) General properties (strength and stability. weather-resistance, thermal and sound insulation, fire resistance), special requirements, recommendations, including suggestions for standards and research. Appendix on wartime experience in new forms of construction. (*No.* 1792 : 15.2).

These War Buildings Were Significant. (*Engineering News-Record, October* 19, 1944, *pp.* 487-496.) Examples of important wartime structures in USA in steel, reinforced concrete, and timber. Air-conditioning, heating, lighting. (*No.* 1818 : 1.3).

Building Science for Students of Architecture and Building. Vol. I. *Alfred G. Geeson.* (*The English Universities Press, London*, 1944, 21*s.*) Elementary treatment of physics and chemistry in their relation to building. Three sections : Materials, Structures, Equipment. (*No.* 1821 : 1.3).

The Elements of Building Mathematics. *T. H. Fallows.* (*J. M. Dent*, 1944, 3*s.* 3*d.*) Over 200 diagrams, 165 pages. Covers needs of Junior Technical Schools of Building. Elements of arithmetic and algebra. Calculation of areas and volumes, including brickwork and timber. Practical examples with answers. Useful guide for self-instruction. (*No.* 1830: 1.3).

South American Building is Challenging. *Arthur J. Boase.* (*Engineering News-Record, October* 19, 1944, *pp.* 499-506.) Report on intensive building activity in Brazil, Argentina and Uruguay. Predominance of reinforced concrete construction. Reinforced concrete codes of practice. (*No.* 1859 : 5.4).

Effective Teamwork in Building Design. *An Architect's View : Thomas H. Creighton. An Engineer's View : Fred N. Severud.* (*Engineering News-Record, October* 19, 1944, *pp.* 507-512.) Plea for more intelligent co-operation in planning and designing buildings. Details of design for a Nurses' Home for Bellevue Hospital, New York, as example. (*No.* 1860 :5.4).

Birmingham Civic Centre : The Work of the Architect and the Engineer on a Present-Day Building Scheme. *T. C. Howitt and H. J. B. Manzoni.* (*Journal of the Institution of Civil Engineers, No.* 7. *May*, 1944, *pp.* 186-222 *Supplement to No.* 8, *October*, 1944, *pp.* 443-446.) Detailed account of competition and of construction of first part actually completed. Problems, research, type of contract, procedure and organization, costs, steelwork, heating, ventilation, air conditioning, equipment. (*No.* 1867 : 12.4).

Post-War Building Techniques. 1, Construction. 2, Materials. (*Architectural Forum, January, February*, 1945, *pp.* 129-142, 139-158.) Analysis of building techniques and products developed in wartime. Likely effect on future building. New construction techniques and their more significant applications (foundations, new methods of framing, wall fabrication, roof construction). New materials and their anticipated uses (wood, masonry, metals, synthetics, paints and coatings, insulation). (*No.* 2000 : 23.6).

Practical Building Mechanics. *Newman Tate.* (*Chapman & Hall*, 15*s.*) Elementary introduction to building mechanics. (*No.* 2152 : 11.10)

Builders' Calculations. *S. H. Glenister* (*George G. Harrap & Co.*, 5*s.* 0*d.*) Compact book on simple arithmetic, algebra, logarithms, geometry, trigonometry, formulae useful to building students. (*No.* 2181: 8.11).

Building in One Package. (See *Organization*).

Building Plant. (See *Plant*).

Production in Building and Civil Engineering. (See *Organization*).

The Sound Control and Hanging of Church Bells. (See *ACOUSTICS : Churches*).

Cast Iron. (See *MATERIALS : Iron*).

Elements of Technical Science. (See *MATERIALS : General*).

HOUSING

Demonstration Houses. *Ministry of Works.* (*HMSO*, 1*s.*) Short account of the demonstration houses and flats erected at Northolt by MOW. Structural details and methods alternative to traditional ones described. Steel frame and lightweight concrete. Costs. (See A.J., October 12, 1944.) (*No.* 1790: 15.2).

Housing Manual, 1944 : Technical Appendices C to L. Ministries of Health and Works. (*HMSO*, 1*s.* 6*d.*) Technical data for design of dwelling houses. Foundations, lightweight concrete in walls, sheet lining materials, thermal and sound insulation, scientific use of timber, cooking and heating appliances. Typical dimensional standards. Index. (*No.* 1791 : 15.2).

Developments in Post-War Housing in 1944. *Richard Sheppard.* (*The Architects' Journal, January* 18, 1945, *pp.* 54-60.) Survey of prefabricated houses produced in 1944. Temporary houses : MOW Steel House, Arcon, Tarran, Uni-Seco, Jicwood. Permanent houses: Uni-Seco (Chobham), Unibuilt (Coventry), Tarran (Hull), Glasgow, Braithwaite (Hendon), Birmingham, BISF (Northolt), MOW (Northolt). *No.* 1878 : 19.4).

Cottages in Somerset. *Designed by C. J. Woodbridge and R. Riches.* (*The Architects' Journal, February* 15, 1945, *pp.* 140-141.) Pair of agricultural workers' cottages, built in hollow blocks of foamed-slag concrete. First application of system described in article referred to in No. 1879. (*No.* 1880 : 19.4).

BCCF Temporary Bungalow. (*The Architects' Journal, February* 22, 1945, *pp.* 157-158, *and other Journals.*) Reinforced concrete structure of post and panel type to provide bungalow similar to MOW emergency-factory-made dwelling. (*No.* 1881 : 19.4).

The Tomo Temporary Bungalow. *Designed by F. R. S. Yorke, E. Rosenberg and C. Sjostrom Mardall.* (*Architects' Journal, April*, 1945, *pp.* 303-304.) Prefabricated bungalow of stressed skin type. (*No.* 1957 : 24.5).

The Bryant System of Construction. Experimental houses for Birmingham's Post-War Housing Programme. *C. Bryant & Son, Ltd.* (*Architectural Design and Construction, April*, 1945, *pp.* 84-90.) Permanent house with cast *in situ* walls in ordinary concrete lined by lightweight concrete cavity blocks on inside, erected with special steel shuttering. (*No.* 2006 : 5.7).

The Prebuilt Dry Construction Duplex House. *Designed by I. Shamah.* (*The Architects' Journal, May* 3, 1945, *pp.* 335-339.) First Duplex House sponsored by private enterprise. Steel framed two-storey building. (*No.* 2007 : 5.7).

Lease-Lend Temporary Bungalow from the United States. (*The Architects' Journal, May* 10, 1945, *pp.* 353-356, *and other journals.*) First of 30,000 prefabricated houses from USA. (*No.* 2008 : 5.7).

House Moving Day for the FPHA. (*Engineering News-Record, May* 3, 1945, *pp.* 107-111.) 109 FPHA two-storey timber buildings, built originally as permanent, transported by truck

and trailer to new site 260 miles away. (*No.* 2067 : 23.8).

Extra-Rapid Two-Stage Housing. *E. J. Buckton.* (*The Engineer, July* 13, 1945, *pp.* 32-33.) Utilization of the civil engineering industry in rapid production of housing. (*No.* 2076 : 30.8).

Proposed Houses of Stabilized Earth. *Architect : Herbert Collins.* (*Architectural Design and Construction, July*, 1945, *pp.* 169-173.) Suggestion to build bungalows in rammed earth, improved by addition of 6 to 10 per cent. of cement. Earth walls reasonably stable, with good heat insulation. Chief problems : Shrinkage cracks and weather protection. (*No.* 2077 : 30.8).

Possibilities in Post-War Techniques. *Robert L. Davison.* (*Architectural Record, May*, 1945, *pp.* 85-90.) Recent trends in construction of small houses. Consumer research. Different types of prefabrication. Foundations, floors and basement. Walls, windows and doors. Sunlight and sun heat. Roofs. Interior finishes. Heating, air-conditioning and lighting. Kitchens, bathrooms, utility rooms. (*No.* 2089 : 6.9).

Dennis Steel-Framed Houses. *Designed by Dennis Steel-Framed Houses, Ltd.* (*Architectural Design and Construction, July*, 1934, *pp.* 163-166.) One of few alternative methods originating from last post-war period still being adopted. Outer skin brick, inner skin of foamed slag slabs. (*No.* 2090 : 6.9).

The Orlit System of House Construction. *Architect : E. Katona.* (*The Architects' Journal, July* 12, 1945, *pp.* 29-34.) Pre-cast reinforced concrete frame with cavity walls. Simple method of horizontal and vertical connections. Outer leaf of special stone-faced dense concrete slabs, the inner of lightweight concrete slabs. Floors and roofs of channel shaped concrete units. (*No.* 2100 : 13.9).

Proposing To-Morrow's House To-Day by Two-Stage Permanent Housing. (*Pamphlet issued by John McDonald (Contractors), Glasgow.*) Disadvantages of temporary and Duplex houses. Proposed two-stage permanent housing more economical. (*No.* 2121 : 27.9).

The Wates System of House Construction. *Architect ; K. W. Bland.* (*The Architects' Journal, August* 16, 1945, *pp.* 119-123, and other journals). Precast reinforced concrete panel units of standard widths. Plaster board lining and glass quilt insulation. (*No.* 2153 : 11.10).

The Airoh Aluminium Temporary House. (*Architects' Journal, June* 21, 1945, *pp.* 461-466.) House made in four sections, each complete in itself, erected within a few hours. (*No.* 2163 : 25.10).

The Phoenix Temporary House. (*The Builder, September* 7, 1945, *p.* 195.) One of seven types of temporary houses supplied to local authorities. (*No.* 2164 : 25.10).

The Howard House. *Architect ; Frederick Gibberd.* (*The Architects' Journal, April* 26, 1945, *pp.* 317-324, and other journals.) Light welded steel frame of standard rolled sections with only dry assembly on site. (*No.* 2165 : 25.10).

The Scottwood Plywood House. *Consulting Architect: H. V. Diplock.* (*Architectural Design and Construction, September*, 1945, *pp.* 208-212.) Prefabricated two-storey house in phenol-bonded laminated wood. (*No.* 2182: 8.11).

British Cancel Orders for Houses Designed and Prefabricated in US. (*Engineering News Record, September* 20, 1945, *p.* 355.) American comments on cancellation of 17,000 houses scheduled for production under lend-lease arrangement. (*No* 2199 : 22.11).

Specification for Houses. *B. Price Davies.* (*The Building Estimator Publications, Western Mail and Echo, Lt., St. Mary Street, Cardiff, 15s. post free.*) Recast fourth edition of value to architects concerned with housing. Standard General Specification to be read in conjunction with Conditions of Contract, and Supplementary Specifications for amendments. Index. (*No.* 2243 : 29.11).

Cottages at Ongar. *Architect: J. E. M. Macgregor.* (*The Architect and Building News, October* 19, 1945, *pp.* 42-43.) Built in 1936. Walls in Heraklith, forming the centring of reinforced concrete stanchions, cement rendered externally, plastered internally. First floor : 2 in. solid timber spanning between reinforced concrete beams without joists, faced below with wall boards. Construction successful except for occasional condensation on concrete stanchions not plastered. (*No.* 2244 : 29.11).

Pair of BISF Prototype Houses at Northolt. *Designed by Frederick Gibberd.* (*The Architects' Journal, September* 20, 1945, *pp.* 205-213, *and other journals.*) Third in series of steel house types produced by British Iron and Steel Federation. (*No.* 2258 : 13.12).

Lamella House with Trussless Wood Roof. (*The Architects' Journal, September* 6, 1945, *pp.* 175-176, *and other journals.*) Lamella trussless timber roof, system suitable for covering large spans without intermediate support, applied to house construction. Maximum length of component timber pieces 4 ft. (*No.* 2259 : 13.12).

Advance Preparation of Housing Sites. (See *Roads*).

Simplified Brick Construction. (See *Brick work*).

The Prefabricated House Industry. (See *Prefabrication*).

Prefabrication in Great Britain. (See *Prefabrication*).

Progress Charts in Housing Contracts. (See *Organization*).

Foundations and Sub-Structure. (See *Foundations*).

The Slums are Still With Us. (See *PHYSICAL PLANNING : Housing*).

LOADING

British Standard Code of Practice, cp 4 : 1944 Code of Functional Requirements of Buildings (Classification Code), Chapter V, Loading. *The Codes of Practice Committee of the Ministry of Works.* (*British Standards Institution,* 2*s.*) Superimposed floor loads. Reductions of total superimposed loads on columns. Superimposed roof loads. Wind pressure on buildings. (*No.* 1776 : 1.2).

Business Buildings. (See *Offices*).

A New Method of Concrete Floor Repair. (See *Repair*).

OFFICES

Business Buildings. *The Ministry of Works Post-War Building Study No.* 16. *By a Committee convened by the RIBA*, 1944 (*HMSO.* 1*s.*). Principles for planning and general treatment of office buildings, shops and stores, factories, warehouses and storage buildings. Site development. Plan analysis. Floor heights, column spacing, corridor widths, etc. Structure and materials. Services and equipment. Bibliography. (*No.* 1837 : 15.3).

Army Post Office. (*Architectural Forum, December.* 1944, *pp.* 85-95.) Huge sorting station erected to speed up Army's Christmas mail. Partly prefabricated structure of concrete and cinder block. Construction made easier by use of grid and module system. Typical truss used in almost any situation. (*No.* 1975 : 7.6).

A New System of Office Partitions. (See *Walls and Partitions*).

ORGANIZATION

Building in One Package. (*Architectural Forum, January and February*, 1945, *pp.* 93-112, 113-128.) Study of a modern building organization. Structure. Walls and roofs. Lighting. Heating and ventilating. Power and steam plants. Oklahama City plant. Plant layout. Administrative buildings. Food and process plants. Employee facilities. Materials handling. Special purpose buildings. Aviation facilities. (*No.* 2034 : 19.7).

Production in Building and Civil Engineering. *Ministry of Works.* (*HMSO*, 6*d.*) Valuable statistics and analyses on labour and man-hours on measurable and non-productive work. (*No.* 2157 : 18.10).

Progress Charts for Housing Contracts. *Ministry of Works.* (*HMSO*, 9*d.*) Type charts for organizing programme and progress in preparation of sites and building of small houses. (*No.* 2158 : 18.10).

Standard Form of Time and Wages Sheet and Pay Packet for the Building and Civil Engineering Contracting Industries. *BS* 1151 : 1945. (*British Standards Institution,* 2*s.* 6*d.*) 2nd revision, issued September, 1945, due to National Joint Council for Building Industry's new wage agreement in respect of inclement weather time allowance and guaranteed make-up. (*No.* 2201 : 22.11).

Birmingham Civic Centre. (See *General*).

House Moving Day for the FPHA. (See *Housing*).

Architectural Practice and Procedure. (See *Architectural Practice*).

PLANT

Building Plant. *Lecture by R. M. Wynne-Edwards at meeting of RIBA Architectural Science Board, April* 18, 1945. (*The Architects' Journal, May* 31, 1945, *pp.* 412-414.) Survey of development of building technique in past. Effect of new forms of motive power. Present methods of foundation. New materials and devices for superstructure. Power driven tools Tendency towards mechanization and increased output per man-hour. Suggestions for further study and research, and closer co-operation between engineer and architect. (*No.* 2045 : 9.8).

Pneumatic Concrete-Compacting Machine for Road Construction. (*Engineering, September* 14, 1945, *pp.* 206-7.) New type of road-making machine compacting dry concrete by hammering. 12-ft. machine with two hammers gives full compaction up to 12 in. depth. (*No.* 2156 : 18.10).

A New Invention for Expediting the Laying of Bricks. (*The Builder, September* 7, 1945, *p.* 196.) Equipment, called Transome, composed of steel angle guide posts and transomes. Rising transomes form horizontal and level shutter against which bricks are placed. Mortar prevented from falling into cavity walls. (*No.* 2183: 8.11).

Wintertime Concreting at the Soo. (See *Concrete*).

Progressive Concrete Shuttering. (See *Concrete*).

PREFABRICATION

Prefabrication in Great Britain, *F. R. S. Yorke.* (*Architectural Record, May*, 1945, *pp.* 99-112.) Lack of interest in prefabrication before war. Present necessity of non-traditional methods. Technical development under Government control. Fifty experimental building licences issued ; about 30 prototypes already built. Survey of 9 types, all but one already published in *The Architects' Journal.* (*No.* 2101 : 13.9).

The Prefabricated House Industry. *E. G. Faludi and Catherine Chard.* (*Journal of the Royal Architectural Institute of Canada, March*, 1945.) Post-war Canadian housing market. Production capacity of Canadian building industry. Prefabricated house production in Britain, USA and Canada. (*No.* 2102 : 13.9).

Simplified Brick Construction. (See *Brickwork*).

Developments in Post-War Housing in 1944. (See *Housing*).

Smith's Building System. (See *Brickwork*).

Plysyl Formwork Panels. (See *Floors*).

The Tomo Temporary Bungalow. (See *Housing*).

Pair of BISF Prototype Houses at Northolt. (See *Housing*).

BCCF Temporary Bungalow. (See *Housing*).

The Orlit System of House Construction. (See *Housing*).

The Prebuilt Dry Construction Duplex House. (See *Housing*).

The Scottwood Plywood House. (See *Housing*).

The Howard House. (See *Housing*).

Lease-Lend Temporary Bungalow from USA. (See *Housing*).

The Airoh Aluminium Temporary House. (See *Housing*).

The Phoenix Temporary House. (See *Housing*).

Condensation in Prefabricated Constructions. (See *HEATING : Insulation*).

REINFORCED CONCRETE

New Works Canteen in Essex. *Designed by*

Edward D. Mills. (*The Architect and Building News, December* 8, 1944, *pp.* 147-155.) Wartime application of Zeiss Dywidag Shell construction in this country. (*See No.* 1717, *December* 21, 1944.) (*No.* 1817 : 1.3).

The Standardiation of Reinforced Concrete Structural Members. (*The Reinforced Concrete Association, January*, 1945.) Standard sizes recommended for structural members. (*No.* 1953 : 24.5).

Fully and Partly Prestressed Reinforced Concrete. *P. W. Abeles.* (*Journal of the American Concrete Institute, January*, 1945, *pp.* 181-214.) Distinction between fully and partly prestressed concrete. Various systems and methods of pre-stretching and post-stretching. Losses of initial pre-stress. Factor of safety against cracking. Comparative test results. (*No.* 1954 : 24.5).

Reinforced Concrete Design for Engineering Students. *J. S. Berry.* (*Hutchinson's Scientific and Technical Publications*, 10s. 6*d.*) Introduction to theory and design of simple reinforced concrete structures. Working stress and ultimate strength theories. (*No.* 1995 : 21.6.)

Building Codes Explain the Slenderness of South American Structures. *A. J. Boase.* (*Engineering News-Record, April* 19, 1945, *pp.* 564-573.) Details of Brazilian Codes of Practice for reinforced concrete buildings compared with USA and other codes. (*No.* 2043: 9.8).

Brazilian Concrete Building Design Compared with United States Practice. *A. J. Boase.* (*Engineering News-Record, June* 28, 1945, *pp.* 902-910.) Cost of reinforced concrete structure of 16-storey apartment building recently erected in Rio de Janeiro compared with cost of similar structure designed in accordance with American Concrete Institute (ACI) Building Regulations. (*No.* 2120 : 27.9).

Standards of the American Concrete Institute (ACI). (*Journal of the American Concrete Institute, June*, 1945, *pp.* 559-703.) (1) Building Regulations for Reinforced Concrete. (2) Recommended Practice for the Use of Metal Supports for Reinforcement. (3) Recommended Practice for Measuring, Mixing and Placing Concrete. (4) Recommended Practice for the Design of Concrete Mixes. (5) Specifications for Concrete Pavements and Bases: (6) Specification for Cast Stone. (*No.*2149.11.10)

Application of Civil Engineering Method to Building Construction. (*The Builder, July* 20, 1945, *pp.* 43-46.) System developed by MOW of precast reinforced concrete framework units not exceeding 5 tons to be assembled by cranes in multistorey buildings. (*No.* 2150 : 11.10).

Lapped Bar Splices in Concrete Beams. *R. W. Kluge and E. C. Tuma.* (*Journal of the American Concrete Institute, September*, 1945, *pp.* 13-33.) Tests to determine behaviour and strength of lapped bar splices varied in length and method of splicing. (*No.* 2257 : 13.12).

These War Buildings Were Significant. (See *General*).

South American Building is Challenging. (See *General*).

The Principles of Concrete Making and its Reinforcement. (See *Concrete*).

Physyl Formwork Panels. (See *Floors*).

The Orlit System of House Construction. (See *Housing*).

BCCF Temporary Bungalow. (See *Housing*).

The Wates System of House Construction. (See *Housing*).

Cottages at Ongar. (See *Housing*).

Effect of Type of Bar on Width of Cracks in Reinforced Concrete Subjected to Tension. (See *MATERIALS : Reinforced Concrete*).

A Constructional Engineer's Compendium. (See *MATERIALS : General*).

Expanding Cements and their Application—Self-stressed Concrete. (See *MATERIALS : Concrete*).

Stained Glass Window in Reinforced Concrete. (See *MATERIALS : Glass*).

REPAIR

Repair of Damaged Buildings. *Department of Scientific and Industrial Research, Building Research Station.* (*See A.J., February* 8, 1945, p110.) Fourteen leaflets on various aspects of repair issued free to all on war damaged or neglected buildings. (*No.* 1843 : 22.3).

The Repair of Bomb-Damaged Buildings. *S. B. Hamilton.* (*The Structural Engineer, February*, 1945, *pp.* 77-92.) Repairs to brickwork, masonry and timber, structural steelwork, reinforced concrete, foundations. (*No.* 1899 : 26.42).

Bricklayer's Repair Work. *William Frost.* (*The Technical Press, London*, 4*s.* 6*d.*) Manual of instruction on brickwork repair to damaged property. (*No.* 2044 : 9.8).

A New Method of Concrete Floor Repair. *Cyril H. Fitch.* (*The Architects' Journal, July* 26, 1945, *pp.* 61-62.) Repair by cement gun of reinforced hollow tile floor in departmental store, badly damaged by fire in air raid. Loading up to 1½ times design load after repair caused deflection less than 1/1,000th the span. BRS thoroughly satisfied with method and results. (*No.* 2099 : 13.9).

Reconditioning Concrete Floors to Carry Heavy Warehouse Traffic. (See *Floors*).

ROADS

Advance Preparation of Housing Sites. Model Specifications for Concrete Roads. No. 1—Using Mechanical Methods of Compacting the Concrete. No. 2—Using Manual Compaction of Concrete (*April*, 1944, 2*s.* 6*d.*) **No. 3—Using Pitched or Hardcore Foundations and Single Course Tarmacadam Surfacing.** (*October*, 1944, 2*s.* 6*d.*) (*Prepared in consultation with the Government Departments concerned, by a Committee of the Institution of Municipal and County Engineers.*) Purpose is to arrive at reasonable standardization among local authorities, amended to suit local conditions as necessary ; materials, workmanship, drainage. (*No.* 1803 : 22.2).

Expansion Joints Unnecessary in Pavements. (*Engineering News-Record, March* 22, 1945, *pp.* 398-401.) Comprehensive tests by Oregon State Highway Department indicate expansion joints not needed in concrete roadways, provided dummy joints are properly spaced. Conclusions based on three-year observation of two test sections of roadway. (*No.* 2110:20.9).

Joints in Concrete Roads. *T. R. Grigson.* (*Concrete and Constructional Engineering, June and July*, 1945, *pp.* 111-117, 138-146.) Reasons for desirability of joints. Efficiency of various types of joints. Spacing. Joint fillers. Most commonly used types of joints. Treatment of joints. Expansion joints with pre-moulded filler. (*No.* 2111 : 20.9).

ROOFS

Concrete Plain Roofing Tiles and Fittings. *B.S.* 473—1944. (*British Standards Institution*, 2*s.*) Materials colour, dimensions of tiles, tests. Eaves, tops, tile-and-a-half tiles, hips, valleys and angles. (*No.* 1966 : 31.5).

British Standard Code of Practice, cp 4 : 1944. Code of Functional Requirements of Buildings (Classification Code), Chapter V, Loading. (See *Loading*).

Walls, Floors and Roofs : MOW Building Study No. 15. (See *General*).

New Works Canteen in Essex. (See *Reinforced Concrete*).

New Design of Welded Trusses. (See *Welding*)

Hollow Clay Building Blocks. (See *Walls and Partitions*).

Army Post Office. (See *Offices*).

Post-War Building Techniques. (See *General*).

Pioneer Design in Laminated Wood I-Beams. (See *Timber*).

Possibilities in Post-War Techniques. (See *Housing*).

Lamella House with Trussless Wood Roof. (See *Housing*).

Asbestos Cement Slates and Sheets. (See *MATERIALS : Asbestos Cement*).

Le Verre Ondule. (See *MATERIALS : Glass*).

SCHOOLS

School Buildings for Scotland. *Post-War Building Study, No.* 21. (*HMSO*, 1*s.*) Sites. Sizes of schools. Delays in erection. General survey of detailed requirements. Improvements to existing buildings. Appendices on heating, visual aids, wiring for broadcast. Illustrations of plans. (*No.* 2242 : 29.11).

Foundations and Sub-Structure. (See *Foundations*)

The Schools We Should Build. (See *LIGHTING ; Schools*).

Planning for Audio-Visual Education. (See *ACOUSTICS : Schools*).

SOIL MECHANICS

An Introduction to Soil Mechanics. *W. L. Lowe-Brown.* (*Sir Isaac Pitman & Sons.* 4*s.* 6*d.*) Elementary explanation of modern methods of investigating the stability of earth slopes and retaining walls. (*No.* 1994 : 21.6).

STANDARDS

Panelled and Glazed Wood Doors. (See *Doors and Windows*).

Concrete Plain Roofing Tiles and Fittings. (See *Roofs*).

British Standard Code of Practice for Glazing and Fixing of Glass in Buildings. (See *Doors and Windows*).

Glass Internal Sills to Wood and Metal Windows. (See *Doors and Windows*).

Hollow Clay Building Blocks. (See *Walls and Partitions*).

Standards of the American Concrete Institute. (See *Reinforced Concrete*).

The Standardization of Reinforced Concrete Structural Members. (See *Reinforced Concrete*).

Hinges. (See *Carpentry and Joinery*).

Foundations and Sub-Structure. (See *Foundations*).

Wood Windows and Casement Doors. (See *Doors and Windows*).

Walls, Floors and Roofs. (See *General*).

Architectural and Drawing Office Practice (See *Architectural Practice*).

STEEL

Composite Action between Steel Beams and Concrete Decks. *W. A. Ozanne.* (*Engineering News-Record, October* 5, 1944, *pp.* 400-401.) Test on bridge of composite type in Australia has verified combined action between steel girders and concrete deck. Economizes steel. (*No.* 1819 : 1.3).

Constructional Steelwork Simply Explained. *Oscar Faber.* (*Second edition. Oxford University Press*, 6*s.*) Elementary treatment of the design of structural steel welding. (*No.* 1868 : 12.4).

The New Aviary in the Zoological Gardens in Rome. *Eric Miles.* (*The Architect and Building News, February* 23, 1945, *p.* 132.) Stainless steel frame in the form of a polyhedron inscribed within a sphere of 96 ft. diameter. (*No.* 1883 : 19.4).

Welding Applied to Steel Structures. (See *Welding*).

Demonstration Houses. (See *Housing*).

The Howard House. (See *Housing*).

Pair of BISF Prototype Houses at Northolt. (See *Housing*).

Dennis Steel-Framed Houses. (See *Housing*).

The Prebuilt Dry Construction Duplex House. (See *Housing*).

These War Buildings Were Significant. (See *General*).

Welding Beam Connections for Continuity. (See *Welding*).

The Design and Erection of the Birchenough and Otto Beit Bridges, Rhodesia. (See *Bridges*).

A Constructional Engineer's Compendium. (See *MATERIALS : General*).

Structural Steel Section Book. (See *MATERIALS : Steel*).

TIMBER

Pioneer Design in Laminated Wood I-Beams. *S. B. Barnes.* (*Engineering News Record, February* 22, 1945, *pp.* 250-252.) Three-hinged arches of 120 ft. span with rise of 72 ft. of laminated timber in wartime industrial plant. (*No.* 2022 : 12.7).

EJMA Window Book. (See *Doors and Windows*).

Lamella House with Trussless Wood Roof. (See *Housing*).

Wood Windows and Casement Doors. (See *Doors and Windows*).

The New Builders' Handbook, No. 2. Carpentry and Joinery. (See *Carpentry and Joinery*).

Panelled and Glazed Wood Doors. (See *Doors and Windows*).

Wood Flooring. (See *Floors*).

A New System of Office Partitions. (See *Walls and Partitions*).

Housing Manual, 1944 : Technical Appendices C to L. (See *Housing*).
These War Buildings Were Significant. (See *General*).
Three Huge Blimp Hangars Destroyed in 130 m.p.h. Florida Hurricane. (See *Collapse of Buildings*).
Post-War Building Techniques. (See *General*).
A Constructional Engineer's Compendium. (See *MATERIALS : General*).
Pressure Impregnated Timber Floors. (See *MATERIALS : Timber*).
Green Timbers in Australian Structures. (See *MATERIALS : Timber*).

WALLS AND PARTITIONS

A New System of Office Partitions. *Produced by the General Panel Corp.; developed by Konrad Wachsmann.* (*Architectural Forum, September*, 1944, *pp.* 97-100.) Connecting device allowing for two, three and four-way panel intersections without projecting posts or elaborate connectors. (*No.* 1777 : 1.2).
Hollow Clay Building Blocks. *B.S.* 1190 : 1944. (*British Standards Institution*, 2*s.*) Types, trueness of shape. Blocks for internal walls and partitions. Blocks for structural floors and roofs. Dimensions and tolerances. Tests for water absorption and crushing strength. (*No.* 1965 : 31.5).
Walls Floors and Roofs. (See *General*).

WELDING

Welding Beam Connections for Continuity. *C. M. Siquot.* (*New Pencil Points, July*, 1944, *pp.* 79-82.) Examples of welded joints. Advantages of continuity and welding. (*No.* 1805 : 22.2).
New Design of Welded Trusses. (*The Engineer, February* 16, 1945, *p.* 139.) Standard welded trusses of 50, 60, 70 and 80 ft. lengths, composed of H sections with their webs in a vertical plane throughout. (*No.* 1896 : 26.4).
Welding Applied to Steel Structures. *Lecture by R. G. Braithwaite at the Institute of Welding on March* 28, 1945. (*The Architect and Building News, March* 30, 1945, *p.* 199.) Correct treatment of joints essential to achieve economy. Practical considerations in design to facilitate welding and avoid distortions. Advantages of rigid portal frames as against conventional roof trusses. (*No.* 1955 : 24.5).
Constructional Steelwork Simply Explained. (See *Steel*).
A Constructional Engineer's Compendium. (See *MATERIALS : General*).
Structural Steel Section Book. (See *MATERIALS : Steel*).
Insect Pests of Food and the Consumer. (See *PLUMBING AND SANITATION : Pests and Vermin*).

Announcements

Mr. E. Denis Knight, P.A.S.I., F.I.A.S., Chartered and Corporate Quantity Surveyor, has started practice on his own account at 248, Ditchling Road, Brighton, 6, Sussex. Telephone: Preston 3112.

Mr. David Hooper, A.R.I.B.A., has resumed practice, carrying on the business known previously as Messrs. V. Hooper & Son, at 67, High Street, Reigate, Surrey, and will be pleased to receive trade catalogues, etc.

Mr. Godfrey L. Clarke, F.R.I.B.A. (Messrs. Empsall, Clarkson & Clarke, Architects, late of 18, North Park Road, Bradford), is now at 18, Brechin Place, London, S.W.7, telephone Fremantle 2720.

Mr. Edward Narracott, A.R.I.B.A., having been released from the RAF, has commenced practice at 31, Torwood Street, Torquay (Telephone: 4670). Trade catalogues and information about new materials will be appreciated.

The Civil Engineering, Surveying and Building Department of Tube Investments (Group Services) Limited, would be pleased to receive trade catalogues addressed to Civil Engineering, Surveying & Building Department, Rocky Lane, Aston, Birmingham, 6.

Messrs. E. W. Brocklebank and J. A. H. Brocklebank have resigned their positions with Aero Pipe & Glass Co., Ltd., and Associated Company, and Messrs. H. A. Snelling, F.C.A., W. O. Julius, M.I.E.E. (Netherlands), and F. E. Gartside, F.I.A.C., have been elected Directors in their place.

Mr. Stanley C. Ramsey, F.R.I.B.A., formerly of 46, Gt. Russell Street, W.C.1, and Messrs. Keith Murray & C. S. White, F/F.R.I.B.A., formerly of 19, Russell Square, W.C.1, have taken offices at 32, Wigmore Street, W.1. They will practise under the style of Ramsey, Murray & White.

Messrs. J. Douglass Mathews & Partners, Chartered Architects, 3, Ebury Street, (London, S.W.1, announce that Lt.-Col. E. D. Jefferiss Mathews, O.B.E., A.R.I.B.A., R.E., having been released from the Army, has returned to practise with this firm as senior partner. Mr. H. Edmund Mathews, O.B.E., F.R.I.B.A., continues his connection with the firm as Consultant and Mr. Oswald Pearce, F.R.I.B.A., continues as partner.

Messrs. M. McCarthy & Sons, Limited, Nottingham, have re-started their Sandlime Brick Plant, and are now in a position to accept orders for their High Quality White Facing Bricks, S.P.W. Brand.

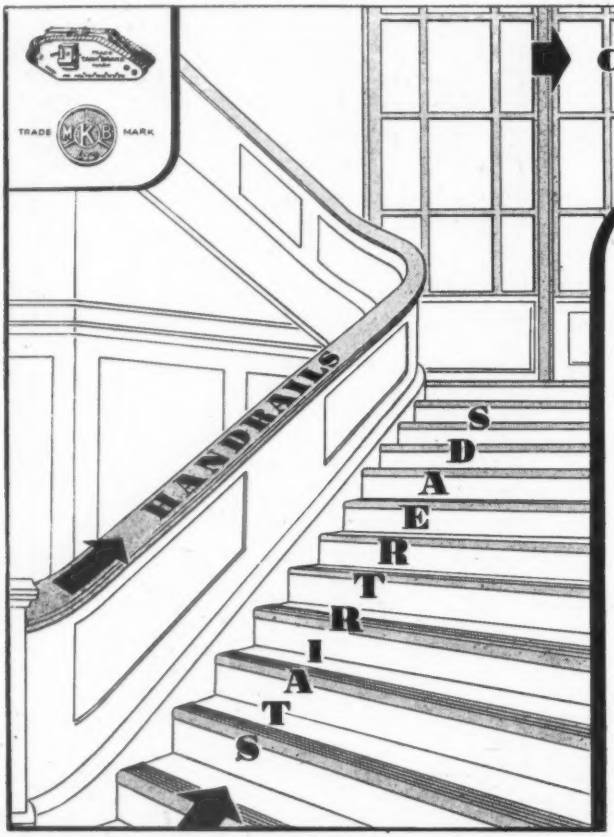
Messrs. Victor Kerr & Colbourn, both partners, having been released from the Services, have resumed personal control of the practice from their locum and would be glad to receive trade catalogues and information. New address: 7, Bedford Row, W.C.1. Chancery 7611.

Wood — the servant of man, 'pre-tested' to stand up to all kinds of weather — comes to us from all over the world to be fashioned by skilled British craftsmen to the requirements of builders and rebuilders.

The Midland Woodworking Company Ltd

MELTON MOWBRAY

Craftsmen in Domestic Joinery



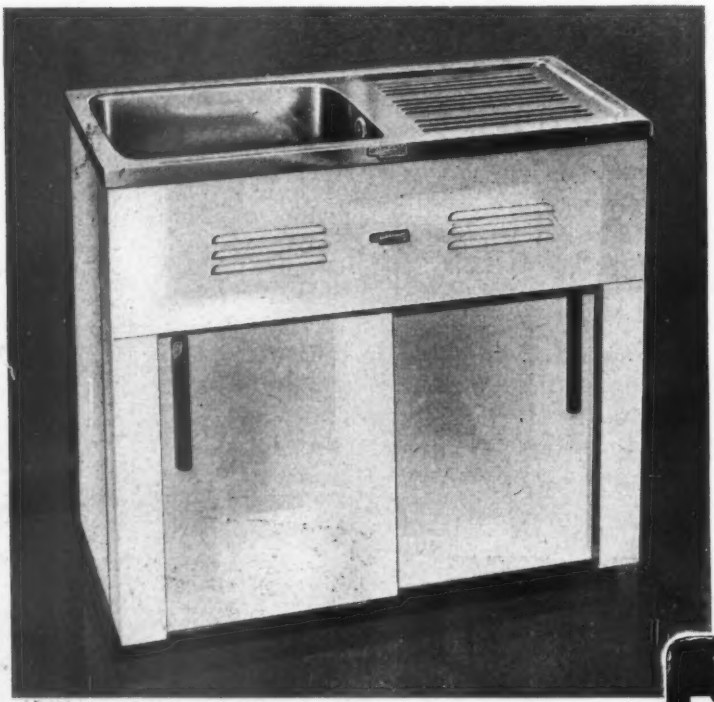
Where **METAL** *matters*

The extraordinary versatility of extruded sections in brass and bronze keeps pace with architectural development. In adaptability, speed of erection, beauty of line and durability, McKechnie Metal is unrivalled. All architects, constructional engineers and builders should be in possession of the latest data showing the unusual possibilities of McKechnie Architectural Metal.

McKECHNIE
metal technique

McKECHNIE BROS. LTD., ROTTON PARK STREET, BIRMINGHAM, 16
'Phone: Edgbaston 3581

LONDON - - - 62, Brook Street, W.1. 'Phone: Mayfair 6182/3/4
LEEDS - - - - Prudential Buildings, Park Row. 'Phone: Leeds 23044
MANCHESTER-509/513, Corn Exchange Buildings,4. 'Phone: Blackfriars 5094
NEWCASTLE-ON-TYNE - - 90, Pilgrim Street 'Phone: Newcastle 22718



The NEVASTANE Sink and Cabinette is a complete kitchen unit in itself. Produced in various sizes to suit every building need. It is scentifically designed and produced in finest stainless steel with stove-enamelled steel cupboards. A unique, labour-saving fitment for the modern home. Obtainable only from genuine Builders' and Plumbers' Merchants.

Manufacturers and Patentees
BENHAM AND SONS LIMITED
65 WIGMORE STREET · LONDON · W.1
Telephone: Welbeck 9253 *Telegrams: Benham, Wesdo, London*

THE FIRST NAME IN SINKS
NEVASTANE
STAINLESS STEEL SINKS

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 Friday morning for inclusion in the following Thursday'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, HAYOR PLACE, LONDON, E.W.1. TEL.: SLOANE 5615. 991

SURREY COUNTY COUNCIL.

ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of an Architectural Assistant in the County Architect's Department.

Applicants should be members of the R.I.B.A. and of good training. The salary offered is £400 per annum, rising by annual increments of £20 to £500 per annum, with the addition of war bonus at the rate of 23s. per week.

Applications, stating age, qualifications, and previous experience, with copies of two recent testimonials, should be addressed to the County Architect, Surrey County Council, Kingston-on-Thames, and received not later than the 26th January, 1946.

DUDLEY AUKLAND,
Clerk of the Council.

County Hall, Kingston-on-Thames, Surrey. 552

CITY OF COVENTRY.

CITY ARCHITECTURAL DEPARTMENT.

The Corporation of Coventry invites applications from qualified persons for the following appointments in the City Architectural Department.

Permanent whole-time appointment of SENIOR QUANTITY SURVEYOR; salary commencing at £360, and rising annually by £10 to a maximum of £400. Salary increments are subject to satisfactory service.

Temporary whole-time appointments of ASSISTANT QUANTITY SURVEYORS; salaries according to qualifications and experience, but not exceeding £450.

The above posts are subject to one month's notice on either side, and to the provisions of the Local Government Superannuation Acts, as amended in regard to annuities to widows by the Coventry Corporation Act, 1936, and a satisfactory certificate will be requisite from the Council's medical referee.

The person appointed as Senior Quantity Surveyor will also be required to contribute to the Coventry Municipal Officers', Widows' and Orphans' Pension Fund.

The posts will be subject to the Council's cost-of-living war bonus, which may vary, but which at present amounts to 23s. per week for men, and 18s. 6d. for women.

Applications, giving particulars as to age, training, qualifications and experience, should reach the undersigned not later than Wednesday, the 23rd January, 1946.

Applicants must state for which post they wish to apply.

Canvassing, directly or indirectly, will be a disqualification.

D. E. E. GIBSON, M.A., A.R.I.B.A., A.M.T.P.I.,
City Architect.

1a, Warwick Row, Coventry.
10th January, 1946. 565

SURREY COUNTY COUNCIL.

JUNIOR ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of a Junior Architectural Assistant, in the County Architect's Department.

Applicants should have had training in architectural work. The salary offered is £270 per annum, rising by annual increments of £10 to £330 per annum, with the addition of war bonus at the rate of 23s. per week.

Applications, stating age, qualifications, and previous experience, with copies of two recent testimonials, should be addressed to the County Architect, Surrey County Council, Kingston-on-Thames, and received not later than the 26th January, 1946.

DUDLEY AUKLAND,
Clerk of the Council.

County Hall, Kingston-on-Thames, Surrey. 551

MONMOUTHSHIRE COUNTY COUNCIL.

COUNTY ARCHITECT'S STAFF.

APPOINTMENT OF ARCHITECTURAL ASSISTANTS.

Applications are invited for the appointment of six permanent Grade I Architectural Assistants in the County Architect's Department, at a salary of £400 per annum, increasing by annual increments of £25 to a maximum of £500 per annum, plus cost of living bonus, at present £59 16s. per annum. Applicants must have a knowledge of design and construction, particularly in relation to schools, public buildings, police stations, etc., and must be Associate Members of the Royal Institute of British Architects.

The appointments will be subject to the Local Government Superannuation Act, 1937, and to the Regulations of the Council in force from time to time governing their administrative, technical and clerical staff, and will be determinable by one month's notice on either side. The successful candidates will be required to pass a medical examination.

Forms of application and conditions of service can be obtained from the undersigned. Applications, stating age, experience, and qualifications, together with copies of three recent testimonials, must be delivered to Mr. Colin L. Jones, F.R.I.B.A., County Architect, Queen's Hill, Newport Mon., not later than first post on the 4th February, 1946.

VERNON LAWRENCE,
Clerk of the Council.

County Hall, Newport, Mon.
January, 1946. 570

BOROUGH OF GUILDFORD

APPOINTMENT OF ARCHITECTURAL ASSISTANT AND QUANTITY SURVEYING ASSISTANT.

Applications are invited for the following permanent appointments in the Department of the Borough Engineer and Surveyor:—

(*a*) Architectural Assistant, at a salary of £365, rising by annual increment of £15 to £410 per annum, plus bonus, at present £59 16s.

(*b*) Quantity Surveying Assistant, at a salary of £365, rising by annual increment of £15 to £410 per annum, plus bonus, at present £59 16s.

Applicants for appointment (*a*) must be Registered Architects, and have had good experience on general architectural work, including housing development. Preference will be given to applicants holding an appropriate professional qualification.

Applicants for appointment (*b*) should have had considerable experience in preparing bills of quantities, estimating, measuring up of work and adjustment of variations. Preference will be given to applicants who are Professional Associates of the Surveyor's Institution (Quantities Division).

The appointments will be subject to one month's notice on either side, and to all relevent regulations of the Council. The successful applicants will be required to pass medical examination.

Applications, giving full particulars, and accompanied by copies of not more than three recent testimonials, must be endorsed "Architectural Assistant" or "Quantities Surveying Assistant," as the case may be, and delivered to the Borough Surveyor, Municipal Offices, High Street, Guildford, not later than Tuesday, 22nd January, 1946.

GERALD H. R. WILSON,
Town Clerk.

Municipal Offices, Guildford.
January, 1946. 571

COUNTY BOROUGH OF BURNLEY.

APPOINTMENT OF THREE ARCHITECTURAL ASSISTANTS.

Applications are invited for the appointment of three Architectural Assistants, in the Borough Engineer and Surveyor's Department:—

(*a*) Senior Architectural Assistant (Grade E). Salary £420 per annum, rising by two annual increments, each of £20, to £460 per annum, plus £59 16s. per annum bonus. Candidates should preferably be Associates of the Royal Institute of British Architects.

(*b*) Architectural Assistant (Grade D). Salary £360 per annum, rising by three annual increments, each of £15, to £405 per annum, plus £59 16s. per annum bonus.

(*c*) Architectural Assistant (Grade C). Salary £320 per annum, rising by two annual increments, each of £15, to £350 per annum, plus £59 16s. per annum bonus.

The appointments are subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidates will be required to pass a medical examination.

Forms of application and conditions of appointment may be obtained from the Borough Engineer and Surveyor, Town Hall, Burnley, to whom applications must be returned not later than Monday, the 11th February, 1946.

C. V. THORNLEY,
Town Clerk.

Town Hall, Burnley.
January, 1946. 583

COUNTY BOROUGH OF NEWPORT, MON.

BOROUGH ARCHITECT'S DEPARTMENT.

Applications are invited for the following temporary appointments:—

(*a*) Three ASSISTANT QUANTITY SURVEYORS. Commencing salary £474 10s. per annum, plus cost-of-living bonus.

Applicants should have experience in the preparation of specifications, bills of quantities, estimating, measuring, and the settlement of final accounts.

(*b*) Four SENIOR ASSISTANT ARCHITECTS, qualified Members of the R.I.B.A. by examination, and who have had considerable experience in educational and housing work. Commencing salaries. £474 10s. per annum, plus cost-of-living bonus.

(*c*) Two ASSISTANT ARCHITECTS. Commencing salaries, £351 per annum, plus cost-of-living bonus.

All the appointments are subject to the Corporation's Conditions of Service, and Superannuation Scheme, and the successful candidates will be required to pass a medical examination.

Applications, accompanied by three recent testimonials, must reach the undersigned not later than the 24th January, 1946.

JOHNSON BLACKETT, F.R.I.B.A.,
Borough Architect.

Town Hall, Newport, Mon. 590

NEWMARKET URBAN DISTRICT COUNCIL.

APPOINTMENT OF ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of an Architectural Assistant, in the Architect's Department, at a salary of £240, rising by annual increments of £15 to a maximum of £300, plus war bonus, amounting at present to £59 16s. per annum. The appointment will be on the temporary staff in the first instance, but there may be a possibility of permanency at a later date. The Council are prepared to find the successful applicant housing accommodation in the district, should he be married. Applicants should have had experience in the preparation of plans, specifications, and quantities for public and domestic buildings. Preference will be given to persons who have passed R.I.B.A. Intermediate Examinations, or its equivalent, and who have had experience in the preparation of housing schemes.

Applications, endorsed "Architectural Assistant," stating age, qualifications and experience, past and present appointments, accompanied by copies of three recent testimonials, must be submitted to the undersigned not later than Friday, the 25th January, 1946.

JOHN CRABB,
Clerk of the Council.

Stratford House, Old Station Road,
Newmarket, Suffolk. 566

BOROUGH OF ILFORD.

APPOINTMENT OF ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of an Architectural Assistant in the Borough Engineer and Surveyor's Department.

Applicants must have had previous experience of school work, and should be Registered Architects, and preference will be given to Associates of the Royal Institute of British Architects.

The commencing basic salary will be up to £4[illegible] per annum, depending upon the experience and qualifications of the candidate. The salary is subject to the addition of a war bonus, at present amounting to 23s. per week.

The appointment is temporary, but is likely to be for a minimum period of two years in the case of a suitable candidate, and will be subject to the provisions of the Local Government Superannuation Act, 1937.

Applications, stating age, present and previous positions and experience, must be delivered to the undersigned not later than first post on the 30th January, 1946.

CHARLES N. ROBERTS,
Town Clerk.

Town Hall, Ilford.
7th January, 1946. 577

Amended Advertisement.

COUNTY BOROUGH OF CROYDON.

BOROUGH VALUER'S DEPARTMENT.

Applications are invited from qualified persons for the appointment of a Temporary SENIOR SURVEYOR on the staff of the Borough Valuer, at a salary of £8 per week, plus war bonus (at present £1 3s. per week).

Applicants must be competent to deal in their entirety with applications for building licences, be conversant with the Ministry of Works regulations and the procedure relating thereto, and be able to control the staff engaged in this section of the department; experience is also required in connection with the preparation of specifications and estimates for the adaptation and/or conversion of houses requisitioned by the Corporation.

Applications, on forms to be obtained from the Borough Valuer, 71, Park Lane, Croydon, together with copies of three recent testimonials, to be returned to him not later than the 26th January, 1946.

E. TABERNER,
Town Clerk.

Town Hall, Croydon.
January, 1946. 579

COUNTY BOROUGH OF OLDHAM.

APPOINTMENT OF ARCHITECTURAL ASSISTANTS.

Applications are invited for the appointment of Architectural Assistants in my Department.

The salary will be at the rate of £360 per annum, rising by three increments to £405, plus £59 16s. cost-of-living bonus.

Applicants must be neat and capable draughtsmen, competent to prepare working drawings, take out quantities and prepare estimates. They must possess a recognized Architectural qualification, and experience in a Municipal Office will be an advantage.

The appointments will be subject to the Local Government Superannuation Act, 1937, and the successful applicants will be required to pass a medical examination. Conditions relating to the appointment can be obtained from the undersigned.

Applications, stating age, qualifications and experience, and accompanied by copies of three recent testimonials, must reach the undersigned not later than the 4th February, 1946.

A. L. HOBSON,
Borough Engineer and Surveyor.

Municipal Buildings, 75, Union Street, Oldham.
10th January, 1946. 594

BOROUGH OF LUTON.

BOROUGH ENGINEER'S DEPARTMENT.

APPOINTMENT OF TECHNICAL STAFF.

Applications are invited for the following appointments:—

(1) CHIEF PLANNING ASSISTANT. Salary £600 per annum, rising by annual increments of £25 to £750 per annum. (Previously advertised at £500—£25—£600 per annum.)

(2) ESTATES AND MAINTENANCE ASSISTANT. Salary £500 per annum, rising by annual increments of £25 to £600 per annum. (Previously advertised at £420—£20—£480 per annum.)

(3) ARCHITECTURAL ASSISTANT. Salary £430 per annum, rising by annual increments of £20 to £480 per annum.

(4) ARCHITECTURAL ASSISTANT. Salary £310 per annum, rising by annual increments of £15 to £355.

Appointment No 1 will be on the Council's permanent staff, and the remaining appointments will be temporary in the first instance, with prospects of transfers to the permanent staff. A temporary cost-of-living bonus of £59 16s. per annum will be paid in respect of each appointment, and all appointments will be subject to the provisions of the Local Government Superannuation Act, 1937.

The persons appointed to the vacancies Nos. 1 and 2 will be required to provide and maintain a car, for the use of which an allowance will be paid on the basis of the Ministry of Home Security Scale, or such other scale as may be adopted by the Council.

Applicants for appointment No 1 must have had extensive experience in the preparation and administration of planning schemes, and be suitably qualified; for appointment No. 2, extensive experience in maintenance of buildings of all descriptions and estate work, including valuations, and be A.R.I.B.A. or P.A.S.I.; for appointment. No. 3, have had extensive experience and be A.R.I.B.A.; and for appointment No. 4, have made specific progress in obtaining a recognised professional qualification.

Applications, stating age, qualifications, and experience, together with copies of not more than three recent testimonials, should be delivered, suitably endorsed, to the Borough Engineer, Town Hall, Luton, not later than Friday, 8th February, 1946. Canvassing will be a disqualification.

W. H. ROBINSON,
Town Clerk.

Town Hall, Luton.
9th January, 1946. 585

URBAN DISTRICT COUNCIL OF BILLERICAY.

PERMANENT APPOINTMENTS VACANT—SURVEYOR'S DEPARTMENT.

ARCHITECTURAL PLANNING ASSISTANT. Salary scale: Grade "C," *i.e.*, £365×£15—£410 per annum.

CHIEF BUILDING INSPECTOR. Salary scale: Grade "B." *i.e.*, £310×£15—£355 per annum.

DRAUGHTSMAN. Salary scale: Grade "A," *i.e.*, £240×£15—£300 per annum.

Persons between the ages of 18 and 30 should not apply for the above appointments in the Surveyor's Department.

CHIEF CLERK. Salary scale: Grade "A," *i.e.*, £240×£15—£300 per annum.

Cost-of-living bonus additional in each case. Details of each of these appointments, and form of application, may be obtained from the undersigned, and must be delivered not later than 28th January, 1946.

A. HATT,
Clerk of the Council.

Council Offices, High Street, Billericay.
9th January, 1946. 596

BOROUGH OF WELSHPOOL.

BRONYBUCKLEY HOUSING SCHEME.

APPOINTMENT OF CLERK OF WORKS.

The Town Council invites applications from experienced persons for this full-time appointment for approximately 8 months. Duties to commence almost immediately. Salary £6 6s. per week. Applications, with two recent testimonials, to be sent to undersigned not later than 26th January, 1946.

(Signed) J. BEN DAVIES,
Town Clerk.

Borough Council Offices, Welshpool.
3rd January, 1946. 572

DERBYSHIRE COUNTY COUNCIL.

ARCHITECT'S DEPARTMENT.

Applications are invited for the appointments of SENIOR ARCHITECTURAL ASSISTANTS. The salary will be £400 per annum, rising by annual increments of £12 10s. to £450 per annum, plus cost-of-living bonus, at present £59 16s. per annum.

Candidates must be qualified Associates of the Royal Institute of British Architects, and over 30 years of age, unless medically unfit for Army Service.

Applications should be sent to the undersigned by 25th January, 1946.

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

F. HAMER CROSSLEY,
County Architect.

11th January, 1946. 581

THE RURAL DISTRICT COUNCIL OF GODSTONE.

ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of Architectural Assistant, in the Engineer and Surveyor's Department of the above Council. Salary £400 per annum, with travelling allowance of £70 per annum.

The appointment is to the permanent staff of the Council, and the post is superannuated.

Applications, stating age, qualifications and experience, accompanied by copies of not more than two testimonials, to be delivered to the undersigned as early as possible.

F. W. WALPOLE,
Clerk of the Council.

Council Offices, Oxted, Surrey.
8th January, 1946. 592

COUNTY BOROUGH OF DONCASTER EDUCATION COMMITTEE.

APPOINTMENT OF SCHOOL ARCHITECT.

Applications are invited from men of suitable qualifications and experience for appointment as School Architect.

Salary £500 per annum, plus bonus.

The post will be superannuable. Conditions of appointment obtainable from the undersigned on receipt of stamped addressed foolscap envelope. Last date for receipt of applications 9th February, 1946.

V. H. HOSKIN,
Chief Education Officer.

Education Offices, Wood Street, Doncaster.
9th January, 1946. 591

Partnership

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

JUNIOR PARTNER wanted in established flourishing Worcestershire practice. School trained gentleman, not over 35 years. Interesting work, including Schools, Housing, Country Houses, Church Work, Rural Development. Exceptional opportunities; one principal.

Replies, in strict confidence, to Box 586.

Architectural Appointments Vacant

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

BUILDING DRAUGHTSMAN required for works engineer's department; fully experienced in building construction, preparation of specifications and estimates, and general maintenance single and multi-storey buildings. Apply, stating age and fullest details of training and experience, to The Gramophone Co., Ltd., Personnel Department, Hayes, Middlesex. 556

REQUIRED, in the Midlands, Architectural Assistant, with experience in surveys, alterations, conversions, etc.; permanent progressive post offered to suitable applicant. Apply, stating qualifications, age, and salary required, to Box 568.

ARCHITECT'S ASSISTANT required; must be good draughtsman; working drawings, details, and good knowledge of construction; experience in supervision an asset. Write, stating previous experience and salary required, to H. S. Goodhart-Rendel, P.P.R.I.B.A., 13, Crawford Street, W.1. 576

ARCHITECTURAL ASSISTANT required in Architects' drawing office for design, sketch plans and perspective, with knowledge of interior decoration. Also two experienced Architectural Draughtsmen. Reply, stating age, experience, and salary, to Box 578.

WANTED, immediately, experienced Architectural Draughtsman, for housing development. Apply Box 580.

ARCHITECTURAL ASSISTANTS, senior and junior, required urgently in South Coast town; knowledge of hotel work an advantage; high salary offered for the right man. Apply Box 582.

ARCHITECT'S ASSISTANT required. Apply, stating age, experience, and salary, to Henry C. Smart & Partners, Architects and Surveyors, 251-3, Finsbury Pavement House, 120, Moorgate, E.C.2. 587

ASSISTANT ARCHITECT and Surveyor, for busy professional practice in Notts and Lincs; experience on housing and general work, including levelling and surveying and ability to take responsibility; please state when available, salary, age, experience, etc. Sheppard, Lockton & Saunders, 24, Castle Gate, Newark-on-Trent. 593

Architectural Appointments Wanted

ASSISTANT (age 29); neat, accurate, and essentially quick draughtsman; school trained; fully conversant all types of construction; 11 years' experience, etc., cinemas, shops, flats, housing and conversions, perspectives; good detailer, specifications, etc.; excellent references; London area only; salary £10 10s. per week. Edward Watkinson, 30, St. James Gardens, Holland Park, London, W.11. 240

CHIEF ARCHITECTURAL ASSISTANT, 25 years' experience domestic and industrial, seeks responsible post; first-class work; rapid design and planning; accustomed complete charge; excellent testimonials. Box 236.

ARCHITECTURAL ASSISTANT, intermediate standard, with 12 years' general experience, including housing, after war service in provinces, desirous of returning to London; central or suburban area; in situation offering opportunity of housing accommodation. Box 235.

ASSOCIATE, A.A. Diploma (Hons.), released from Army, age 32, seeks position as Architect or Assistant Architect to industrial concern in London; permanency, with good salary and prospects; experienced industrial work; 6 years' war service with R.E. works and staff appointments. Box 216, or 'phone Vigilant 3138.

LIEUTENANT (age 27), awaiting early release from Army, capable most kinds of work, working drawings, specifications, etc., and continuing studies, seeks progressive position in London district; keen and prepared to take any kind of position, with responsibility and prospects. Box 241.

SECRETARY, educated woman, seeks responsible post; London or Bucks; 5 years' West End architect; excellent references; shorthand-typing, accounts, etc. Box 242.

JUNIOR ASSISTANT, with 3½ years' office experience, passed R.I.B.A. Inter-examination and now preparing for final, seeks position in Architect's office; North Yorkshire or South Durham area preferred; salary required, £260 per annum. Box 243.

JUNIOR ASSISTANT requires position in Architect's office; 3 years' office experience; West Riding of Yorkshire preferred; salary, £208 per annum. Box 244.

JENNIFER WRIGHT, A.A. Dipl., Reg. Arch., age 28, will assist architects, engineers or surveyors in the preparation of drawings, tracings, surveys, perspectives, etc., from own home at 11, Campden Hill Road, W.8.; office experience with private architects, and over 2 years with a London Borough; neat draughtswoman; specialising in drawing for reproduction, and some experience in measured surveys for war damage claims. Tel.: Western 8483. Box 245.

DIPL. ARCH. (Regent Street Polytechnic), registered architect, Austrian nationality, seeks position with Local Authority or in progressive office; London only; at present with County Council. Box 246.

YOUNG LADY, aged 20, with over 3 years' drawing office experience, seeks progressive post as Junior Draughtswoman. Box 247.

ARCHITECT'S ASSISTANT (29), ex.R.A.F., 4½ years' architectural experience, 1½ years as engineering assistant, requires employment; experience in surveying, levelling, planning and supervision, preparation of details and specification; good draughtsman. Box 248.

SECRETARY seeks re-engagement; many years' experience in Architects' office; accustomed to responsibility and handling accounts; West End preferred. Box 249.

ARCHITECT, A.R.I.B.A., A.M.T.P.I. (31), single, with scattered interests but no set practice, just returned from three years service East, wishes to contact Lady Architect (single) with a view to establishing a settled practice, and should interests prove mutual, life partnership. Box 253.

YOUNG MAN (21), 2 years in Architect's office, no National Service liabilities, seeks position as Assistant or Junior Draughtsman in an Architect's or Builder's office; London area. Wright, 105, Castlewood Road, Stamford Hill, London, N.16. 252

B.Sc. (Horticulture), trained also as Draughtswoman and now Assistant to landscape architect, wishes similar employment in Southern England counties. Box 252.

STUDENT R.I.B.A. (26) desires position on high priority work, preferably as Assistant to an Architect in private practice; 5 years' drawing office experience, test rig installations, airframe structures, and commercial aircraft cabin interiors; neat and expedient draughtsman; perspectives and wash colours a specialty; work Kingston, or South London area preferred. Box 250.

Other Appointments Vacant

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

MILL and Joinery Manager required immediately; good opening for right man. C. H. Coates, Ltd., Davis Road, Surbiton. Tel.: Elmbridge 1913. 584

Property for Sale

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

KENSINGTON PRIVATE HOTEL Premises for Sale, with vacant possession; imposing corner building, just off Kensington High Street and close Tube station; some 37 beds, 4 reception, usual offices, kitchens, etc.; r.v., £452; price, £15,000, freehold. Box 589.

HERTS.—High-class and charming residential village; close to good town and railway station; Building Estate of 26 acres, zoned for 50 houses; electricity and water; suitable for small detached houses; price, £10,000, freehold. Box 567.

For Sale

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

ELECTRICITY FOR COUNTRY HOUSE.—Complete equipment for Sale, including 20 h.p. Oil Engine, Electric Generator and Booster Set, Switchboard, Battery, and Motors, 200 volts supply; in good running order; inspection.—Apply Baily, Grundy & Barrett, Ltd., Electrical Engineers, Cambridge. 577

WAYGOOD-OTIS Six Passenger Auxiliary Micro Lift; 1,000 lbs. duty load; 150 ft. per min.; 7½ h.p., 400 volts, 3-phase, 50 cycles; complete with shaft equipment and control gear; in perfect condition; purchaser to dismantle on site; price £600. Yardley & Co., Ltd., Sackville House, 40, Piccadilly, London, W.1. 554

DUMPY LEVEL, in case, tripod, and 16 ft. staff; £21. GULiver 3385. 573

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, Gt. Marlborough St., W.1. Gerrard 4223-4224-4225.

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

FENCING AND GATES of every type, supplied and erected. Specialists in chain link. Boulton & Paul, Limited, Norwich. 562

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

SALES EXECUTIVE, of proven ability (16 years' experience and an established and live connection with the most progressive architects, surveyors, building contractors, Councils and Local Authorities), seeks preliminary interview with progressive company. Box 208.

ARCHITECTURAL INTERIORS.—A newly formed firm—Bombay and New Delhi—under the direction of British interior specialists, are desirous of securing agencies covering all India for materials and products appertaining to high-class interior work. Reply to Abbott, 1, Courthope Road, Wimbledon, S.W.19. 563

RAPID CALCULATIONS: Dimension Books, Bills, Abstracts, Wages Sheets, etc., accurately and speedily calculated by expert comptometer operators; where time is money this service is invaluable; inquiries invited. Box 574.

TYPING, of all kinds, at reasonable rates; knowledge architectural terms. Tel.: Flaxman 4492. 575

BUILDING ESTATE DEVELOPMENT.—Ample funds available; liberal advance on cost of land; then building finance; then up to 90 per cent. long term mortgages to owner-occupiers, free of brokerage; low interest rates and charges. Chas. B Buxton, Ltd., Local Authorities Loans Brokers, 9, Clements Lane, Lombard Street, E.C.4. 588

CENTRAL HEATING OIL BURNERS.—Insist on the British-made Parwinac—no stoking, clean, trouble free; no waiting for coal or coke deliveries; available now if oil permit obtainable. Parker, Winder & Achurch, Ltd., Makers, 80, Broad Street, Birmingham, 1. 992

ARCHITECT offers "flatlet" residential accommodation for three students or young architects in his small Bayswater house. Write for appointment to view, 31, Ossington Street, Bayswater, W.2. 569

STUDENT urgently requires the 1932 "Architectural Review Supplement on the B.B.C., London." Box 595.

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 of Correspondence and Personal in Studio, 115, Gower St., London, W.C.1 (Tel.: Euston 3906), and at 23, St. James's St., Derby (Tel.: 45648).

R.I.B.A. and T.P. INST. EXAMS. Private Courses of Tuition by correspondence arranged by Mr. L. Stuart Stanley, M.A., F.R.I.B.A., M.T.P.I. Tutor, 161, West Heath Road, N.W.3. Tel.: SPE 5319. 415

Alphabetical Index to Advertisers

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