THE ARCHITECTS' JOURNAL

THE ARCHITECTURAL PRESS, *WAR ADDRESS:* 45 THE AVENUE, CHEAM

NO. 2506] Price 6d. [VOL. 97

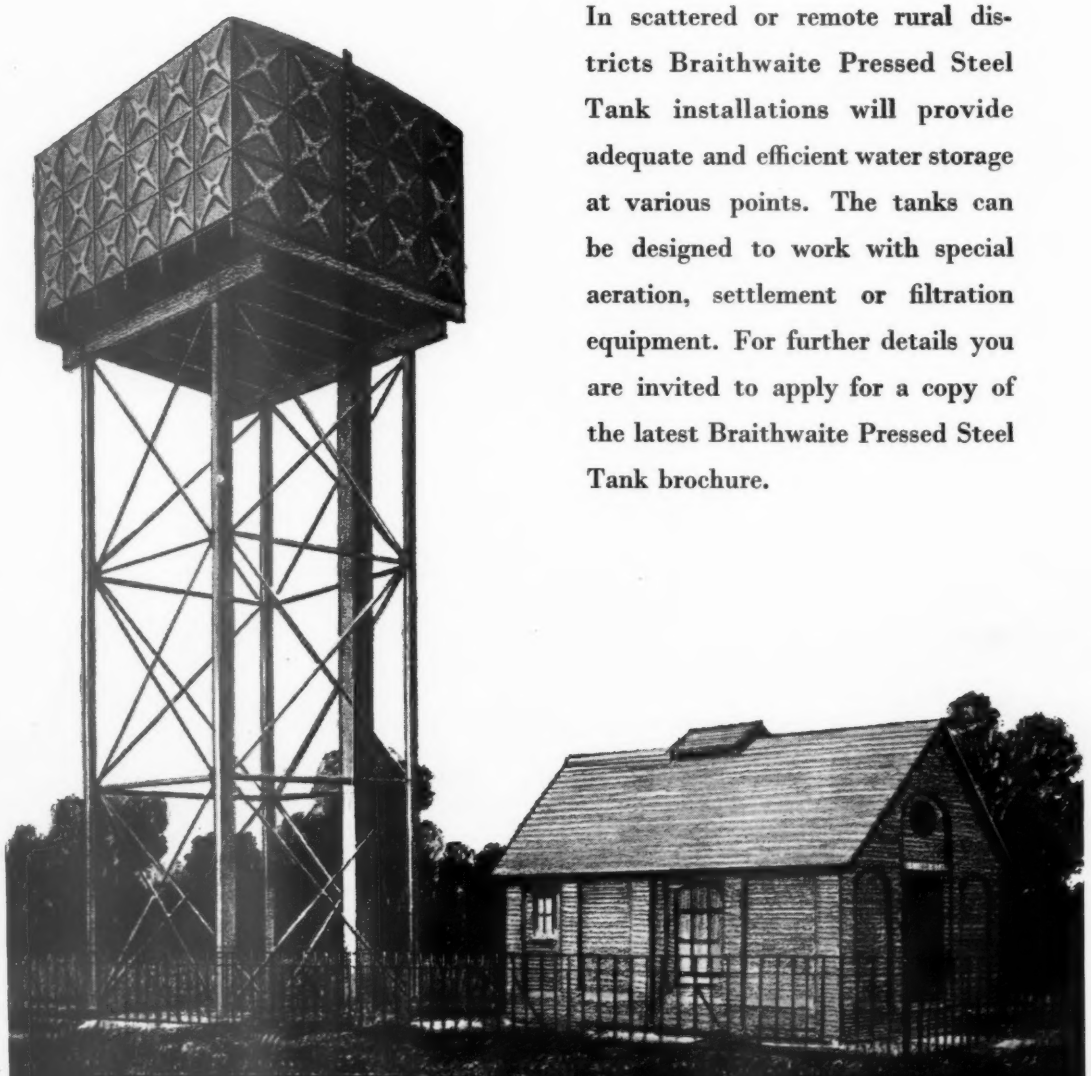
REGISTERED AS A NEWSPAPER

d
ts

rs,

"
-

d



In scattered or remote rural districts Braithwaite Pressed Steel Tank installations will provide adequate and efficient water storage at various points. The tanks can be designed to work with special aeration, settlement or filtration equipment. For further details you are invited to apply for a copy of the latest Braithwaite Pressed Steel Tank brochure.

BRAITHWAITE

PRESSED STEEL TANKS

BRAITHWAITE & CO. ENGINEERS LTD. 45 KINGS HOUSE, 10 HAYMARKET, LONDON, S.W.1

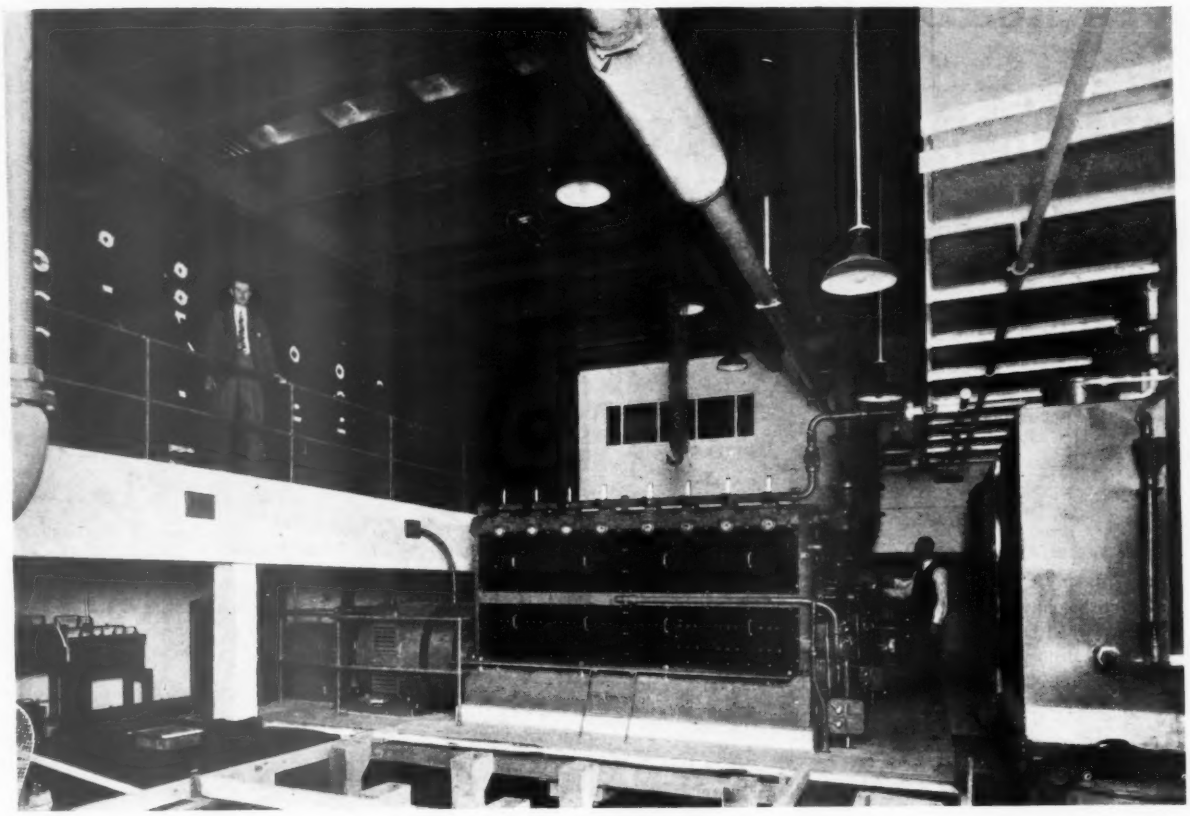
Telephone: WHitehall 3993

Alphabetical Index to Advertisers

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

SERIES No. 5

MODERN ENGINEERING INSTALLATIONS *by* HADENS



THE emergency generating plant and ventilating (anti-gas) control panel in the A.R.P. centre of a big building. This electrical ventilating and filtration plant was designed and installed by Haden.

HEATING
BY ALL SYSTEMS
HIGH PRESSURE HOT WATER
SYSTEMS FOR HEATING AND PROCESS WORK
AIR CONDITIONING AND VENTILATION
PLUMBING & SANITATION, ELECTRIC LIGHTING & POWER

IN WAR TIME:
A.R.P. VENTILATION
AND GAS FILTRATION
HOT WATER SUPPLIES
FOR CLEANSING STATIONS
PATENT DEINFESTING APPARATUS FOR CLOTHING, ETC.

G. N. HADEN & SONS LTD

* * *Estd. 1816*

FULLY EQUIPPED BRANCHES AT:

Manchester 2, 4 Albert Square - - - - - - *Blackfriars 6356*
Birmingham 3, 45 Great Charles Street - - - - - *Central 8391*
Glasgow C.2, 86 St. Vincent Street - - - - - - *Central 3196*
Bristol 1, Orchard Street - - - - - - - - *Bristol 20286*
Bournemouth, Avon Works, Avon Road - - - - - *Boscombe 512*
Torquay, Castle Road - - - - - - - - - *Torquay 3831*
Lincoln, Guildhall Street - - - - - - - - *Lincoln 993*
Newcastle-on-Tyne, 13 Mosley Street - - *Newcastle-on-Tyne 26780*
York, 39 Micklegate - - - - - - - - - *York 4258*
Aberdeen, 80-82 Upper Denburn - - - - - - *Aberdeen 391*

Temporary Addresses

Eastbourne: 19-29 Woburn Place, London, W.C.1 - - *Terminus 2877*
Canterbury: 19-29 Woburn Place, London, W.C.1 - - *Terminus 2877*
Liverpool: 4 Albert Square, Manchester 2 - - - *Blackfriars 6356*

WORKS: TROWBRIDGE - - - - - - - *Trowbridge 722*

Affiliated Company: HADENS ENGINEERING CO. LTD., 199 Pearse Street, Dublin, C.5 *Dublin 43987*

Head Office: 19-29 Woburn Place, LONDON, W.C.1 *'Phone:* TERminus 2877 (10 lines) *Wires:* Warmth, Westcent, London

SPEED *with* SAFETY

The call in the building world, particularly in war-time, is for speed, and still more speed . . . yet the profession will not be led into gaining time at the expense of safety. That is why more and more Franki piles are being employed.

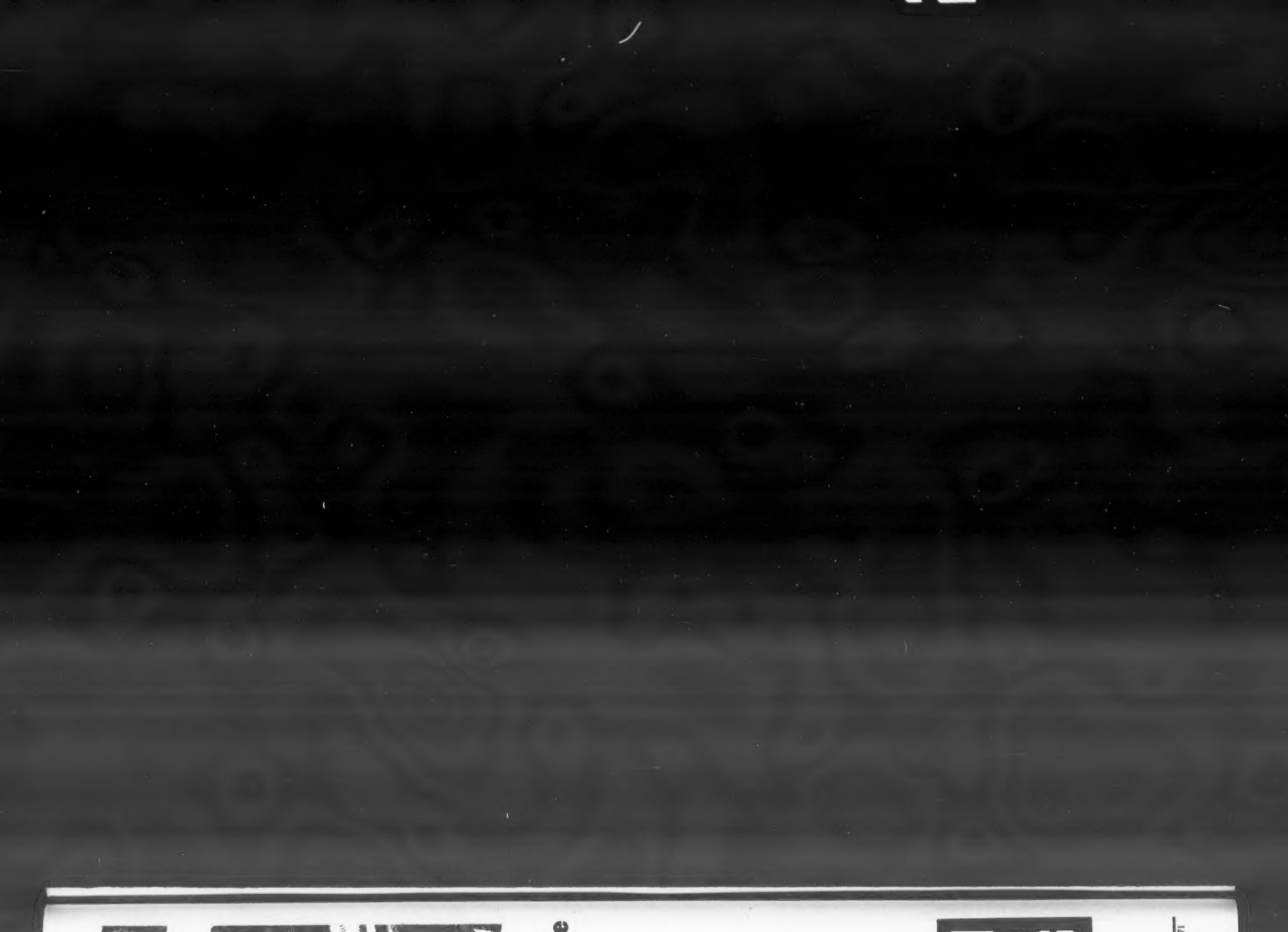
The Franki method of cast-in-situ piling combines speed with the utmost dependability because Franki piles "carry more tons per pile." Convincing evidence of the load-carrying capacity of these piles is given in the Franki brochure, a copy of which will be sent to you free upon request.

Your practical knowledge of the problems of to-day will enable you to assess the immense advantages of the Franki system.

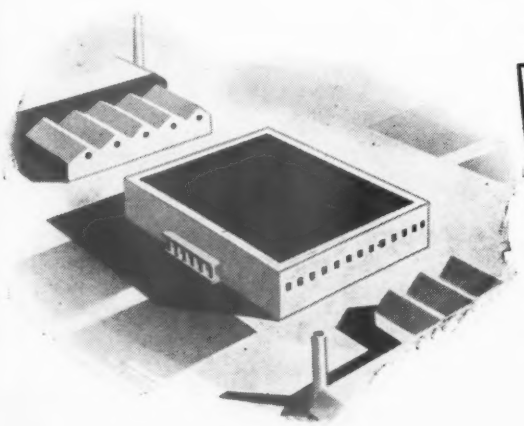
THE FRANKI COMPRESSED PILE CO., LTD.

39, VICTORIA STREET, LONDON, S.W.1.

'Phone : ABBey 6006-9 *'Grams : "Frankipile, Sowest, London."*



Architects specify the Briggs "Challenge" Flat Roofing System with absolute confidence. It is dependable, as durable as the building itself, and, whilst it provides strength without weight, gives scope for individuality. There's seventy-five years of experience behind the Briggs weather-proofing materials, which include their "Aqualite" system of waterproofing. This is now used extensively for keeping basements, underground shelters, etc., free from water and damp. Briggs' long experience is especially valuable for dealing with unusual roofing and waterproofing problems—may we send you further details?



William Briggs
AND SONS LTD.
DUNDEE

London: Vauxhall Grove, S.W.8
Also at Glasgow, Edinburgh, Liverpool, Bristol, Aberdeen, Norwich

Y!

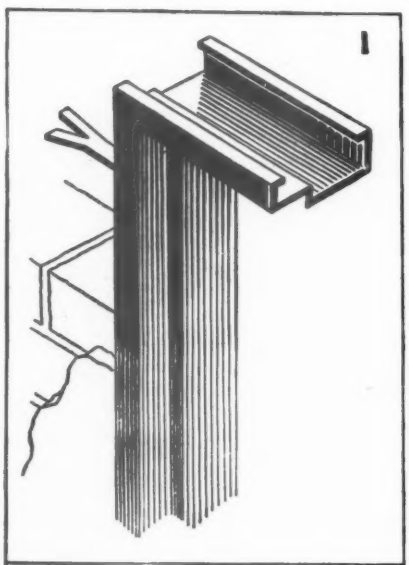
can be
equire-
nits are
ruction,
centers.
flooring
ruction.
olinters.

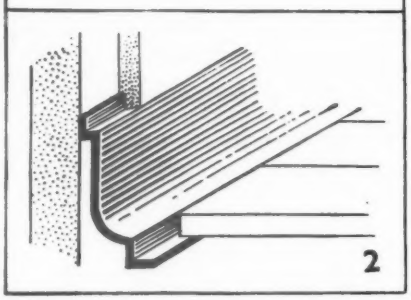
RS

.
Y
vince.

STEEL INSTEAD OF WOOD

Sankey METAL TRIM



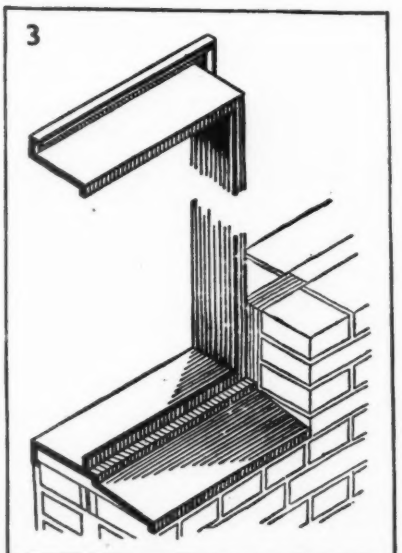


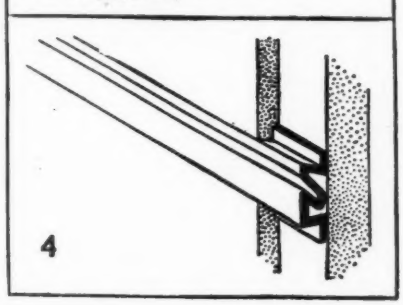
1
Pressed Steel Door Frame. Corners Welded and Complete with Hinges, Strike Plate and Lugs for fixing.

2
Coved Skirting. Stock Lengths 10ft. or cut accurately to size. Corners may be Mitred or Special Corner Pieces used.

3
Lining for Interior Window Reveal and External Cill. All sections Purpose Made and Rust Proofed if desired.

4
Flush Picture Rail fixed by Nailing and Corners Mitred in the usual way. Stock Lengths 10 ft.





Metal Trim will undoubtedly play an important part in post war reconstruction, and those interested are welcome to a copy of our catalogue. For the time being, of course, we are only able to execute orders carrying Government permits.

JOSEPH SANKEY & SONS, LTD., WELLINGTON, SHROPSHIRE. London Office : 168, REGENT ST., W.1.

BUILD FOR POSTERITY

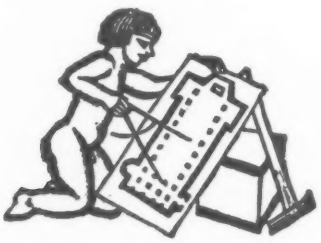
Wren, after the fire of 1666, had visions of a purer, cleaner, better London. Although petty officialdom and self-seeking merchants thwarted his dreams, many of his buildings were planned as he envisaged. Let us not commit the same crimes against the visionaries who desire to reconstruct Britain after the war. It must be a better land . . . the highest authorities in Britain and in the U.S.A. have determined that this shall be so.

Often courageous plans for a better world have been ruined in the past by the cost of pulling down before building up. This will not deter us this time.

A new world needs new methods and the latest science, air conditioning will play its part in this new development when Peace comes . . . the Air Conditioning Division of Mellor-Bromley & Co. Ltd., through their intensive endeavour to give the utmost service to firms on vital production, may not have been able to contact you recently but when Peace comes . . . and it may come sooner than we expect . . . Mellor-Bromley will be able to offer to you a complete service employing the accrued experience of applying air conditioning to almost every type of industry.

MELLOR BROMLEY & Co. LTD. MINOTAUR WORKS ST. SAVIOUR'S RD. **LEICESTER**

In common with every other periodical this JOURNAL *is rationed to a small part of its peacetime needs of paper. Thus a balance has to be struck between circulation and number of pages. We regret that unless a reader is a subscriber we cannot guarantee that he will get a copy of the* JOURNAL. *Newsagents now cannot supply the* JOURNAL *except to a "firm order." Subscription rates: by post in the U.K. and Canada, £1. 3s. 10d. per annum; abroad, £1. 8s. 6d. Special combined rate for* ARCHITECTS' JOURNAL *and* ARCHITECTURAL REVIEW *in the U.K. and Canada, £2. 6s.; abroad, £2. 10s. Single copies, 6d.; post free, 8d. Special numbers are included in subscription; single copies, 1s.; post free, 1s. 3d. Back numbers more than 12 months old (when available), double price. Volumes can be bound complete with index, in cloth cases, for 12s. 6d. each; carriage 1s. extra. Goods advertised in the* JOURNAL, *and made of raw materials now in short supply, are not necessarily available for export.*



Journal Abbreviations

AA	Architectural Association, 34/6, Bedford Square, W.C.1.	Museum 0974.
ABT	Association of Building Technicians. 113, High Holborn, W.C.1.	Holborn 1024-5.
APRR	Association for Planning and Regional Reconstruction. 32, Gordon Square, W.C.1.	Euston 2158-9.
ARCUK	Architects' Registration Council. 68, Portland Place, W.C.1	Welbeck 7938.
BC	Building Centre. 23, Maddox Street, W.1.	Mayfair 2128.
BINC	Building Industries National Council. 110, Bickenhall Mansions, W.1.	Welbeck 3335.
BCG	British Commercial Gas. 1, Grosvenor Place, S.W.1.	Sloane 4554.
BEDA	British Electrical Development Association. 2, Savoy Hill, W.C.2.	Temple Bar 9434.
BOT	Board of Trade. Millbank, S.W.1.	Whitehall 5140.
BPVM	British Paint and Varnish Manufacturers. Waldegrave Road, Teddington.	Molesey 1063.
BRS	Building Research Station. Bucknalls Lane, Watford.	Garston 2246.
BSA	British Steelwork Association. 11, Tothill Street, S.W.1.	Whitehall 5073.
BSI	British Standards Institution. 28, Victoria Street, S.W.1.	Abbey 3333.
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1.	Sloane 5255.
CDA	Copper Development Association. Grand Buildings, Trafalgar Square, W.C.2.	Abbey 2677.
CMC	Cement Marketing Company. Coombe Hill, Kingston, Surrey.	Kingston 2140.
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.1.	Sloane 4280.
CSI	Chartered Surveyors' Institution. 12, Great George Street, S.W.1.	Whitehall 5322.
DOT	Department of Overseas Trade. Dolphin Square, S.W.1.	Victoria 4477.
DIA	Design and Industries Association. Central Institute of Art and Design, National Gallery, W.C.2.	Whitehall 7618.
FGLMB	Federation of Greater London Master Builders. 23, Compton Terrace, Upper Street, N.1.	Canonbury 2041.
GG	Georgian Group. 55, Great Ormond Street, W.C.1.	Holborn 2646.
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1.	Whitehall 2881.
IAAS	Incorporated Association of Architects and Surveyors. 75, Eaton Place, S.W.1.	Sloane 3158.
IES	Illuminating Engineering Society. 32, Victoria Street, S.W.1.	Abbey 5215.
IRA	Institute of Registered Architects. 47, Victoria Street, S.W.1.	Abbey 6172.
ISPH	Industrial & Scientific Provision of Housing. 3, Albemarle Street, W.1.	Regent 4782.
LIDC	Lead Industries Development Council. Rex House, King William Street, E.C.4.	Mansion House 2855.
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1.	Museum 3767.
MARS	Modern Architectural Research Society. 8, Clarges Street, W.1.	Grosvenor 2652.
MICE	Member of the Institution of Civil Engineers. Great George Street, S.W.1.	Whitehall 4577.
MOH	Ministry of Health. Whitehall, S.W.1.	Whitehall 4300.
MOI	Ministry of Information. Malet Street, W.C.1.	Euston 4321.
MOLNS	Ministry of Labour and National Service. St. James' Square, S.W.1.	Whitehall 6200.
MOS	Ministry of Supply. Shell Mex House, Victoria Embankment, W.C.2.	Gerrard 6933.
MOWP	Ministry of Works and Planning. Lambeth Bridge House, S.E.1.	Reliance 7611.
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1.	Langham 4041.
NFBTO	National Federation of Building Trades Operatives. 9, Rugby Chambers, Rugby Street, W.C.1.	Holborn 2770.
NT	National Trust for Places of Historic Interest or Natural Beauty. 7, Buckingham Palace Gardens, S.W.1.	Sloane 5808.
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1.	Whitehall 7245.
PWB	Post War Building, Directorate of. Ministry of Works and Planning, Lambeth Bridge House, S.E.1.	Reliance 7611.
RCA	Reinforced Concrete Association. 91, Petty France, S.W.1.	Whitehall 9936.
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1.	Welbeck 6927.
SPAB	Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C.1	Holborn 2646.
TCPA	Town and Country Planning Association. 13, Suffolk Street, S.W.1.	Whitehall 2881.
WLA	Wrought Light Alloys Development Association. Union Chambers, 63, Temple Row, Birmingham, 2.	Midland 0721.
ZDA	Zinc Development Association. 15, Turl Street, Oxford.	Oxford 47988.

NEWS

THURSDAY, FEBRUARY 4, 1943
No. 2506. VOL. 97

Though every news item is news to someone, it doesn't follow that all news has the same value for everyone. The stars are used to draw attention to the paragraphs which ought to interest every reader of the Journal.

★ *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 paragraph marked with more than two stars is very hot news indeed.

At the Royal Exchange, London, the Lord Mayor recently opened the PAPER GOES TO WAR *exhibition. The exhibition, the largest about paper-saving ever to be shown, is a combination of "Paper in Battledress" and "Waste Paper Goes to War," with many new additions.* Visitors can see paper being sorted into some of the 50 odd grades into which it can be classified before being sent to the mills for repulping. There are several new exhibits not hitherto shown to the public, including one entitled Combined Operations, which shows some telescoping ideas to reduce the size of forms and questionnaires. The exhibition will be open on weekdays from 10 a.m. to 4 p.m. until February 12.

The BSI has just published a War Emergency British Standard for BLACK PAINT FOR IRON AND STEEL. *It provides definitions of the properties and general composition of tar-base black paints.* The products described can be prepared simply from materials at present in comparatively easy supply and give satisfactory protection for a reasonable period when correctly applied. It is emphasized that the protective properties of these paints, as with others, are fundamentally dependent on the care taken in application and special attention is therefore drawn to this point in Appendix G of the specification. Attention is also called to Clause 1, regarding paint for warm application. Copies of the Standard, B.S. 1070/42 can be obtained from the Institution, 28, Victoria Street, Westminster, London, S.W.1. Price 1s. net (post free).

from AN ARCHITECT'S *Commonplace Book*

LORD CURZON OF KEDLESTON [*from* Recording Ruin, *by A. S. G. Butler*]. He collaborated too in many of my gymnastic efforts. For instance, when it was necessary to explore the source of condensation which fell in large splashes from the Saloon's dome on to the heads of persons beneath, I had to climb up the outside of the lead cupola over a difficult convex curve and Lord Curzon insisted on being hoisted to the top as well. There was a dreadful moment when, in descending, he took the last five or six feet in a tobogganing movement and I had to act quickly as a human brake. Then, whenever we chose a bath for the comfort of his future guests, he would invariably sit in it, lined with fresh copies of *The Times*.

All this was a part of his immense thoroughness and terrific interest in detail, linked with a determination to see to everything himself. Otherwise, as he explained, I might commit some monstrous error. So the job became rather tiring at times and now and then my endurance gave way and I would sit down on a step or even the floor. He asked then " Are you ill ? " and I once said " Yes, dying." So he became very kind and gave me three helpings, at lunch, of gooseberry-fool which the housekeeper made with peculiar mastery whenever the fruit was available.

Thus our relationship became a quite human one and much of the work contemplated when we began was carried out successfully—usually after three or four abortive attempts. One or two items almost severed our connection ; but it turned out in each case that the explosions which accompanied their contrivance were more in the nature of near blast than direct hit. They upset and wore one down, but were not fatal. One of the worst incidents was when I had triumphantly completed the new bathroom off the State Dressing-Room—really rather exquisite, in the best Cuba mahogany, with silver touches—and Lord Curzon decided to use it. But, when he pulled out the plug, the waste-pipe chose to emit the loudest gurgles ever heard in the history of plumbing, so that bells pealed all over the house summoning me to judgment on the spot—dressing-gown and all.

Proposals formulated by the Post-War Planning and Development Committee for the DEVELOPMENT OF DROITWICH AS A SPA *have been adopted by the Council. The brine baths, park and the sea-bathers' lido are privately owned and it is the intention of the Council to approach the owner with a view to acquiring them.* The Council has also decided that sympathetic consideration be given to the provision of light industry in the locality already zoned by the town planning authority for industry. Another decision is that the Council should embark on a scheme for 750 houses—150 in the first 12 or 18 months after the war, a further 350 in the next five years, and the balance by the end of 15 years.

A deputation from the Birmingham City Council discussed the present and post-war problems of the City with the MOH, Mr. Ernest Brown. It estimated that BIRMINGHAM NEEDS 100,000 POST-WAR HOUSES. *Half of them would probably be required to replace slums.* Mr. Ernest Brown stated that a start would be made on new houses as soon as labour and materials could be made available. Local authorities should be ready with at least one year's housing programme immediately the war ends. It should be possible to select sites now which were almost certain to be housing sites whatever the local or national plan and to agree them with MOP and, where necessary, with MOA. The necessary preparations should then be put in hand at once and on this he would give the City Council every assistance and would arrange for his officers to keep in close touch with them. The post-war housing problem was a big one, but it could and would be solved, as past problems had been solved, by whole-hearted co-operation between the local authorities and MOH.

Bristol Housing Committee estimates that no fewer than 5,000 HOUSES REQUIRE IMMEDIATE DEMOLITION *in the City. These houses, haphazardly and indifferently built during the last century, have now come to the end of their useful life. In addition a large number of basement dwellings must be closed. These two items together represent a need for no fewer than 7,000 houses at the present time.* Obviously, it will only be possible to attempt such a building programme over a number of years, and it is therefore certain that before the end of such a period very many other houses will require to be demolished. The committee considers that full use should be made of any powers which exist or which may be available later for the purpose of clearing completely areas of the City by means of Compulsory Purchase Orders in an orderly and planned manner, so that the redevelopment, either for housing, industrial purposes or as open spaces shall be in accordance with the major plan adopted for the City as a whole. The committee says that any buildings which may stand on such sites and which are in too good a condition to be condemned should be purchased in accordance with any powers which may be possessed in order that they shall not hinder future development. Any buildings which are erected on these sites would be under the control of the local authority both during the period of their construction and their life.

The staff of the County Buildings Department of the Kent County Council have made a PRESENTATION TO MR. FRANK CREMER *on his retirement after thirty-five years in the Department.* In making the presentation Mr. S. H. Loweth, Architect to the Council, stated that Mr. Cremer first commenced his career when the head office was situated in London, and when there was a staff of only five members under Mr. W. H. Robinson, who had just previously been appointed as an Inspector of existing school buildings. During the course of time, the staff of the department had increased to one hundred and fifty and formed the County Buildings department, with a programme of new buildings. For the three years previous to the war it had handed over for occupation at least one school a month for the whole of that period, in addition to many large hospitals and other buildings for the Public Assistance and Public Health departments. Mr. Cremer, during that time, had specialized in the surveying side of the profession, and for many years was the chief surveyor to the department. Mr. Loweth also stated that he had been asked by the chairman and members of the County Buildings Committee to thank Mr. Cremer for his past services, and wish both himself and Mrs. Cremer a long life in which to enjoy his well-earned retirement. Mr. Loweth then presented Mr. Cremer with a cheque subscribed for by the staff of the department.

Mr. Frederick MacManus, A.R.I.B.A., has been appointed CONSULTING ARCHITECT TO EJMA (*English Joinery Manufacturers' Association*) *to direct the research and development of joinery for post-war and war-time needs.*

Lord Hirst of Witton

Lord Hirst, chairman and managing director of the General Electric Company, whose death was announced in the JOURNAL last week, came to this country in 1878 at the age of 16. Three years later he entered the electrical industry, but it was in 1886 that his life's work really began. In that year he joined Mr. Byng in what he himself called a little electrical shop, and from this business, in 1889, was formed the GEC. In 1937, while President of the FBI, he presided at a dinner in honour of Lord Baldwin, who said : " Lord Hirst is a man who, by his own ability and gifts of character, has made for himself an unchallenged position among the great employers of this country . . . if all big employers in this country were men of Lord Hirst's character, with his vision and breadth of mind, there would be no trouble in industry." Lord Hirst was a keen racing man, and won The Two Thousand Guineas with Diolite in 1930. A few months ago he gave £20,000 to the Benevolent Fund of the IEE and shortly before his death became chairman of an appeals committee representing all branches of electrical activity to raise funds for the Red Cross. His grandson, Harold Hugh, the only heir to the title, was killed on operational services with the RAF in May, 1941. A few months later Lord Hirst founded a scholarship at Marlborough College for sons of officers and ex-officers of the RAF. His own son, Harold Hugh, served in the last war and died in 1919 as the result of war service. Lord Hirst was created a baronet in 1925 and was raised to the peerage as Baron Hirst of Witton in 1934.

★★

At two sittings the House of Commons has passed the MINISTER OF TOWN AND COUNTRY PLANNING BILL *through all its stages. The Bill now goes to the Lords. M.P.s have accepted this as a Bill merely to establish the machinery of the new Ministry. The powers of the new Minister are to be the subject of a future Bill to be introduced shortly.*

★

The Council of ICE (Institution of Civil Engineers) has announced the AWARD OF THE JAMES ALFRED EWING MEDAL TO DR. R. E. STRADLING, *of BRS, on the joint recommendation of the Presidents of RS (Royal Society) and ICE. The medal is awarded annually for specially meritorious contributions to the service of engineering in the field of research.*

970 public elementary schools and 133 secondary schools including non-grant-aided efficient SCHOOLS HAVE BEEN DESTROYED *or seriously damaged by enemy action, said Mr. R. A. Butler, the President of the Board of Education, in the House of Commons.*

We regret to record the DEATH OF MR. HARRY EKERMANS OAKLEY, C.B.E., *a former Deputy Director of Works and Buildings at the Air Ministry. He was 76 years of age.*

In a report to MOH by the National Union of Townswomen's Guilds there is a suggestion for a PLAN OF SERVICES HUNG IN EVERY NEW HOUSE. *This, it is stated, should be a permanently fixed and indelible plan showing the position of water and gas pipes, electric cables, taps and drainage.* Other housewives demanded room measurements planned to accord with the standard widths of carpets and linoleums, and a sewing room or general utility room on the American style. There was the usual insistence on the need for anti-freeze plumbing. Other suggestions were: Rounded corners, bevelled ledges, no fancy woodwork, swing doors between kitchen and scullery and sound-proof playrooms.

BRS AND ASB

HAVE buildings of the past been regarded as great works of art by subsequent generations because their designers honestly related the technical knowledge of the time to their construction? If this, as one suspects, is true, a history of architecture written in terms of scientific building development should form a fascinating study. The last chapter of such a history might deal with the period from the last war until today followed by a postscript on the outlook for tomorrow. The survey of recent years would show that, while the profession as a whole has not readily accepted new building knowledge, there has been nevertheless a slow but definite trend towards a scientific approach to building.

The need for scientific research was officially recognised at the end of the last war when the Building Research Station was formed. Unfortunately this came too late to have any great influence on post-war building problems. In time, however, it has reached a place of importance in the building industry. Parallel to this official research has run a considerable and growing amount of research carried out for private interests. Though this has been valuable, it has for the most part been unco-ordinated.

The profession has not yet placed itself in a position to make the most of the research material available, but in the last few years before this war there was one significant development. The younger architects, and in particular the students in some of the schools, were demanding a better training in the scientific aspects of architecture. They realised that the complexity of their problems demanded a logical and scientific approach, both in the statement of problems and in their solution by the appropriate technique.

More recently the scientific approach has been stimulated by the appointment by the RIBA of the Architectural Science Board. ASB should be extremely useful in preparing architects for the work to come. Except for the publication of a report on Education making definite recommendations, the activities of the Board have hitherto been rather obscure. With its latest venture in providing courses of science lectures, however, it takes a definite step forward. The first series held in the autumn of last year was surprisingly well attended and this indicated a healthy realization by the profession of its need for greater technical knowledge. Unfortunately, some of the lectures were disappointing. The second series held in the last fortnight was an unqualified success. One of the lectures is dealt with at length elsewhere in this issue, but all were worthy of complete record. Again the lectures were well attended and the audiences appreciative.

The actual facts supplied in such lectures are, of course, valuable, but far more important is the attitude of mind towards architecture and building which they generate. Moreover, that three of the lectures were given by members

of the Building Research Station staff as a result of co-operation with the Architectural Science Board is a happy indication that a close collaboration between research worker and user is at last developing.

ASB deserves encouragement. We hope that it will maintain and increase its activities and so help to lay those lines of communication between science and architecture which are essential if architects are to take quick advantage of latent laboratory work. The birth of a contemporary architecture has been long and painful. Today science has unfortunately been misapplied to destructive ends but the time is coming when architects will be able to use modern technology for constructive purposes, and in so doing produce an architecture truly representative of the age. When that time comes great works of building art will once again be achieved.

The Architects' Journal
War Address: 45, The Avenue, Cheam, Surrey
Telephone: Vigilant 0087-9

NOTES & TOPICS

NFBTE

NFBTE, in their annual report, have blown the gaff on the Great American Mystery. In plain simple words the Report states that the Government indicated in the Central Hall, Westminster, on June 9, 1942, that a programme of special work for the accommodation of U.S. Forces in this country had to be carried out immediately. Thus fools step in where angels fear to tread. I hope that this marks the beginning of the end of the Great American Mystery.

*

Apart from one other statement—that a Committee has been appointed to consider registration of builders on a qualitative basis—the Report is noteworthy mainly for its air of beautiful complacency concerning the efforts of the Federation. Throughout the Report credit is taken for every step taken by the Federation or at its instigation. It can safely be assumed that where there is no "credit line"—as in paragraph 18 which refers to the supply of protective clothing and rubber boots—NFBTE neither did the work nor instigated the move. Yet, the wording of the paragraph implies "Look what we have done."

*

Referring to Government steps to control and regulate the industry, the Report states that the Federation "sometimes staved off what would have amounted to industrial disaster. . . . But the facts remain that the Government has felt bound to take drastic actions which could hardly appear satisfactory *to those building employers injured thereby* (my italics); that various conditions of secrecy and confidence have generally been imposed concerning the Government's policy (is this why the Great American Mystery has been solved? Or has the Government not imposed a condition of secrecy regarding the building programme for the Americans?); and that in consequence members confronted with new difficulties have not been able to appreciate that their representatives have repeatedly saved them from something worse."

*

Many industries have suffered more than the building and allied industries. They have taken on the chin the restrictions and controls imposed on them by the Government because they knew that this war has to be won. It is a pity that there is not a greater atmosphere of war effort about this Report. Do the employers not consider that the drastic actions "which could hardly appear satisfactory to those employers injured thereby" also injure the employees? This Report takes a narrow and self-centred view that cannot be commended.

RECORDING RUIN

Considering the wide contacts and interesting variety of their professional lives, architects write singularly few books about themselves—or, for that matter, about each other. If one is to judge by "conversation hours," building is quite as interesting as diabetes or divorce, and yet while books by doctors and lawyers have a regular success, architecture remains shrouded in a veil whose corners are only rarely tweaked aside. In fact this seems to have happened only twice in the last ten years—the tweakers being Sir Reginald Blomfield and Professor Reilly.

*

All the more welcome then is an amiable little book which has just swum into this dim, almost deserted, but potentially exciting, port—*Recording Ruin*, by A. S. G. Butler, FRIBA

*

The book, as its title suggests, is a story of the London blitz, during which Mr. Butler was employed to assess air-raid damage in his home

A. S. G. Butler. From the oil-painting by Russell Hall

borough of Chelsea. Many people would find this an intolerably depressing job, but though by no means insensitive to tragedy, Mr. Butler has more than a tale of horror to relate. To architects, other people's houses are always interesting, even if some of them are roofless, and as, jemmy in hand, he scrambled over their blackened floors laden with their surrealist loads of boots and marmalade, glass, plaster, clocks and bowler hats, he found much to reflect upon, from the silliness of Victorian planning to the powers of resistance shown by Lincrusta. He has a witty and observant eye, and records what he sees with the easy inconsequence of a good talker.

★

Not all of these half-shattered houses were as empty as they seemed. In one, Mr. Butler discovered a solitary woman brushing a pair of trousers ; in another, two foreigners fiddling with a powerful wireless-set ; in another, a colony of Belgians making mats. Some of his experiences were even more macabre. But not all the book is about ruins. Mr. Butler was architect for the modernisation of Kedleston, and has some good stories about his client, Lord Curzon, tobogganing down domes and lying in baths (previously lined with newspaper) in sanitary showrooms.

★

I should like, however, to pick up one of those brickbats over which Mr. Butler so elegantly stumbles, and throw it at somebody—(perhaps the publisher ?)—for permitting so amusing and witty a book to be illustrated by such unsympathetic drawings. I may be an old silly, but in my opinion a book about buildings by an architect should be illustrated by drawings of buildings—if possible by the author. The illustrations to Mr. Butler's book are like those which used to accompany the school serial in *The Captain*.

THE SHARP MODEL

Those who have read Thomas Sharp's excellent Penguin on Town Planning will be especially interested in the model he has designed for a new satellite town which has been on view at the Building Centre. Many of the proposals in his book are brought out in the model. The town, I hear, was designed in a week for a film company and is therefore, of course, merely a photogenic impression. It is built up of blocks which can be pieced together like a giant jig-saw puzzle as the argument of the film proceeds.

★

It has all the types of buildings in the public eye—a civic centre, a community centre, cinemas, nursery schools, but local shops are notably absent. And where are the pubs ? As this omission is serious, I will not bring up the beer joke, which like the beer itself grows flat. The public has developed a tendency in its strange and illogical way to associate town-planning with tedium and teetotalism. Letchworth and Welwyn may be largely responsible for this. Letchworth hasn't a pub in the place. If public enthusiasm for planning is to be stimulated, this unfortunate association must be killed by deliberately including public houses in all town plans. When the job of rebuilding is done, Mr. Sharp, we shall need a long drink. So let us have our pubs.

★

However, under the circumstances, the model should not be taken too literally and within its limitations the town has great strength and charm. Its strength lies in the coherence and balance of the whole design, and its charm in the variety and humanity of Sharp's grouping of dwelling houses in pleasant squares, terraces and crescents.

Mr. Sharp and his Model Town

RELAYING THE BRAINS

It was a curious, almost eerie, experience to hear Donald " Question-Master " McCullough on the radio the other week reading out questions put by, instead of to, members of the B.B.C. Brains Trust. He was presiding over a sort of second eleven—a Brains Trust composed of listeners, two of them women. Their performance was quite as stimulating as that put up by the more familiar team, and although Leslie Henson was among their number, the usual tee-heeing was (as the war communiqués say) on a considerably reduced scale.

★

One of the questions concerned the Ideal House. " Supposing," Dr. Edith Summerskill, M.P., had asked, " you were told to state your recommendations for the design of post-war housing, what would they be ? "

The answers were as unhesitating as they were practical.

From the women, space for a pram, better planned lighting especially in kitchens, and internal plumbing: from the men, privacy, cheaper and more widely available electricity, flat roofs and gardens. Not the sort of answers you'd expect, perhaps, if you were, say, the organizer of the Ideal Home Exhibition or a prospective speculating builder. Not a word about romantic external appearance, not a sigh for cosy inglenooks, leaded lights, crazy paving or bootlace door-latches.

*

How many architects, I wonder, sitting back in expectant scorn for the usual rigmarole of prejudices, were so encouraged by this display of good sense, as to forgive one of the women members of the Trust for referring to the designer of a house as an "engineer."

CAPITALIST ENDEAVOUR

Have you seen a beautifully produced magazine called "Endeavour," described as "A quarterly review designed to record the progress of the sciences in the service of mankind?" It is most improbable that you have because I understand it is only available for overseas. Can you guess who would launch such a project nowadays? Would it be a Royal Society or Government Department or Museum? No, it is the offering of Modern Capitalism. It springs from one of our greatest combines, ICI. I think you can read that as a sign of the times.

*

Edited by E. J. Holmyard, M.A., M.SC., D.LITT., F.I.C., for the Headquarters of ICI, the current number contains some extremely able articles on subjects ranging from *The Substance of Heredity* to *Plastics and their Application*. What one detects after a perusal of several other numbers is a curious reluctance on the part of all the contributors to concern themselves with final applications. The scientists still maintain their fundamental attitude of aloofness. Very little interest, for instance, in industrial design. In this case it doubtless has its origin in the fact that the owners of the periodical are primarily concerned with basic raw materials.

ASTRAGAL

LETTERS

Howard Robertson, F.R.I.B.A.
Mrs. Joan Gibbs-Smith
James Allner, F.R.I.B.A.
W. J. Cassidy
S. Webster, A.R.I.B.A.

The Architect and War-Time Building

Sir,—In a recent editorial of THE ARCHITECTS' JOURNAL it was stated that the war-time building programme had been carried out practically without the help of architects, and that the war had shaken the profession to its roots. Although it was no doubt the intention in this statement to deplore the neglect of architects, yet the inference appears to be that the war building programme has found the architect useless and wanting, and that a thoroughly shaken profession was waking up to discover the true measure of its incompetence.

Most architects will agree in deploring the misuse and neglect of the profession in the sense that its existing machinery has been disrupted and that its organizations, built up through years of hard and successful work, have in many cases been allowed—even encouraged—to disintegrate. But it is quite another thing to issue a broad general statement that war-time building has been (presumably successfully) carried out without the help of architects.

Such a statement is surely not only misleading but completely at variance with the facts. The real truth surely is that architects have been absolutely indispensable in war-time building, and were it not for their existence, and their capacity to do their job, the programme would never have been possible of realization. Further, had the services of architects been sought from the outset, abuses which are now familiar through the reports of select committees and debates in Parliament would, in a very large measure, have been avoided. Further still, this stupid failure to use the profession was not the fault of neglect on the part of architects, through their recognized organizations, to present a case for being permitted to play a role in the national interest. Anyone who has followed the course of the innumerable approaches, deputations and contacts of all kinds with appropriate Government departments, can testify to the heart-breaking obtuseness and misunderstanding of the architect's function which, in spite of constant effort to dispel it, still seems to cloud certain types of official mind.

There is no place here to recount the history of attempts to bring home to the War Office, the Ministry of Supply, and other departments in the early days, the advantage of using proper professional advice and services. We know what happened; which is that in a few instances architects were given their opportunity, but in too many cases they were employed quasi-anonymously in subordinate and unsuitable positions.

It was not many months before the muddle and waste taking place in hasty and unplanned construction on a vast scale became apparent, and was finally ventilated. But by that time a partial remedy had been seized upon, which was to draw off from the offices of important firms their leading assistants, and give them positions of responsibility in engineering and contracting undertakings. This method avoided the expense (?) of employing the architectural firm, finally left many offices denuded of their best men, and placed young and skilful architects in a position where they had great responsibilities, and did fine work, but all under the direction of other people who had the final say.

Much later, when the new Ministry of Works and Buildings was created, firms of architects were employed as such, and their names added to the restricted list of firms already working on war hospitals and other jobs. But at this stage many offices no longer had their full complement of staff, and some were so denuded that they could not muster figures of staff impressive enough to convince the authorities that they could work effectively.

All this is so familiar that one apologizes for taking up valuable space in recounting it. But it has seldom been related. And what has not been related at all is the fact that, while the organized profession has not had its proper chance, the elements of which it is composed have gradually been absorbed into Government departments and huge undertakings where they have done the work of architects without getting the credit for their very adequate performance.

Remove all the architects previously in private practice from the Ministry of Works and Planning, and see what would happen to that vast agency for building! Does anyone imagine for a moment that the clerical branch, or even the engineering branch, could manage without the architect? Take, for example, the programme of hostels all over the country, that of hospitals, of any other type of building, all of them now for Government purposes. It will be found that everywhere, doing the architectural work, is an architect, frequently one who was previously not an official architect. Of course, Civil Service architects have done fine work; but it is not to be forgotten that these are *architects*, too, part of the profession. How is it possible to say that the war-time building programme has been carried out practically without their assistance and that of the outside recruits who have temporarily joined them?

Added to architects working on buildings are men all over the country working as garrison engineers and in all sorts of major and minor Army and RAF posts in all parts of this country and abroad. They are constructors, doing part of the war-time programme at home and in the field.

If one travels thoughout this land at war, it is indeed extraordinary to discover how frequently, behind a job of work, is found the presence of a man who in civilian life was an architect. And, of course, still remaining civilians, there are considerable numbers of the profession working on maintenance, war

damage and other somewhat drab but necessary tasks.

It is useless to prepare a catalogue, or to attempt statistics, which in any case in war-time are not available. What can be added is a word to counter the suggestion that may sometimes be made that where architectural firms have been employed as, for instance, in camps, hostels, hospitals, etc., the results have been disappointing.

Of course, there have been failures. Is there any calling or profession—medicine, law, literature, drama, music, engineering or what you will—where there are not failures? Lawyers lose cases, doctors' patients die, engineers' trusses collapse. But does anyone condemn these professions wholesale for that reason? Of course, architects are not always a success. They are professional men, a cross section of society, with the merits and failings of human beings.

But they should be given their due. There is so much talk of architects not being this or that, of having to justify their existence in the future, that it would seem necessary to state a case for the very high average of merit which the profession, just before the war, could legitimately claim to possess.

Far greater justice could be done to the very real claims for recognition of the architects' services in war-time than is within the capacity of the writer of this letter. It is to be hoped that members of the profession will come forward and refuse to be ashamed of their contribution. The architect has not been the failure. If the profession is shaken to its roots, it should be with determination never to permit this sort of neglect and misuse to occur again, particularly in the forthcoming task of reconstruction.

HOWARD ROBERTSON

London.

The Value of Impermanence

SIR,—We have many complaints about the impermanence of modern buildings, but surely there is a great deal to be said for the deliberate planning of impermanent buildings? The goal of permanency does not seem to me to be a particularly good one in all circumstances. *It is infinitely better to have temporary buildings than no buildings at all*! In the past we have suffered from the ideal of permanency or nothing. It has actually led to the construction of many fake-permanent buildings, and to a shortage of buildings.

It should be possible to produce simple buildings of good design with replaceable parts. This would be of immense value in slum clearance schemes, and in country districts where there is often a great shortage of accommodation of any sort, largely owing to the bad state of many of the old cottages.

I am not an architect or builder, and therefore can make no practical suggestions, but it would be very interesting if the *Architects' Journal* could publish some ideas on this subject.

JOAN GIBBS-SMITH.

York.

The Building Control

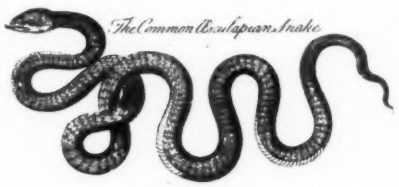
Sir,—I have had occasion to make many applications to the Ministry of Works and Planning for licences to build or repair buildings—in some cases in connection with urgent repairs to property damaged by enemy action—and on occasion it has been most necessary that such work should be carried out with the least possible delay.

Unfortunately, my experience has been that the applications generally are not handled by technical men at a sufficiently early stage and that a great deal of unnecessary delay has taken place resulting in hardship to the applicant, extra expense to the country due to deterioration, and inconvenience and financial loss to me. I could quote a typical case where delay and requests for irrelevant information seemed endless, and where all that would appear to have been required was a visit by a technical officer who had power to give a decision on the spot.

For reasons of brevity I will leave the matter there, although it is clear that it requires serious examination. If necessary, I am ready to develop my remarks with constructive suggestions, and I am sure that many other architects would be disposed to co-operate. I feel that the Ministry should be willing to listen to the profession in a matter which concerns its welfare so closely.

JAMES ALLNER

Poole.



After the War

SIR,—I was very interested to read the leading article in the JOURNAL, a few weeks ago, and Mr. Calveley Cotton's contribution entitled "After the War." I must admit to having experienced a certain uneasiness at the general trend of both articles, which appear to portray the profession as being in a rather unhappy state. As you invite readers to send along their observations, perhaps mine may be of some interest.

Having been in the Forces for the last two years or more I am, perhaps, rather out of touch with the profession, but if my memory is correct, prior to the outbreak of war, things were fairly good. The advertisement columns of all the professional journals contained many appointments vacant, which to my mind is always a good sign. Now, however, the position seems to be that, whilst there is great activity in the building industry the profession as a whole has suffered just as it did in the lean years of 1930 to 1935 or so, during and after the financial crisis.

Architects are apparently considered so unimportant by the powers that be, that the bulk of them, of military age at least are and have been swept into the Forces. Needless to say, many of them are now doing tasks for which they are considered to require a special course of training, or such jobs as cook-house hands, odd-job men, etc. I could give several instances of this, but that is getting away from the point. If we are to envisage the profession in a state of robust health after the war, the obvious thing to do now is to endeavour to diagnose the ills, and then suggest a cure. Most of your readers so far have contented themselves with expressing their opinion of what the profession will be like after the war; when suggestions have been made, they have been of such a nature as will require some years before they materialize.

In a nutshell, the position appears to be that slowly but surely the ground is being cut from under our feet. Thus we find civil engineers supervising much of the building work now being carried out. In peace time we found borough surveyors similarly encroaching. The only reason one can suggest for this state of affairs is that apparently an architect is not considered competent enough. I therefore suggest that a tightening up process is required, and a more offensive policy is indicated in order to remove this strange misapprehension.

The Royal Institute has done wonderful work in improving the standard of education, and in other directions, over a period of years, but I am still unable to understand why, say, an Associate should be offered a salary of £3 a week as an architectural assistant, whereas an engineering (surveying) assistant is offered £5, £6 or more. I am referring now to positions advertised often enough before the war. Only after many years practical experience can an Associate demand a reasonable salary, and this brings me to a point I shall now make, despite the fact that I am perhaps "treading on thin ice."

I cannot help but feel that in the case of the school-trained associate, the qualification is gained just a little too easily and denotes, to the uninitiated, a purely theoretical attainment. I would suggest that more importance be paid to the practical background, without which no one can call himself an architect. This could be achieved by withholding the qualification until a student had worked for two or three years in an office, following on his school training. Associateship would then denote not only proficiency in design, but in construction, specification writing, surveying and levelling, office procedure and the various other subjects not to be found, I think, in any school curriculum.

I would also suggest that some ruling be reached regarding the question of salaries, whereby a member, when offered a salary inappropriate to his qualifications, could rely on official backing in demanding a higher figure. It is no use recommending certain scales, we must insist on those scales being honoured by those who propose to employ an architect (I am referring now, of course, to the salaried architect).

A third point I would make is that I consider that all members of the profession should sink their personal differences for the common good. There should be one, and only one, professional institute. The medical profession is apparently able to conduct its affairs without the need of several professional institutions. Finally, might I suggest that stricter disciplinary action be taken against offenders under the Registration Act.

If we wish the profession to retain the prestige which it holds as a result of the labours of those who placed the welfare of the profession first; more than that, if we wish to increase that prestige, we must be prepared to act drastically, and without fear of offence, otherwise we must be content to sit back and undergo the humiliating experience of witnessing an ever-increasing encroachment of our professional preserves until we reach the stage when the architect as such ceases and becomes merely a glorified architectural draughtsman. I for one am not prepared to tolerate this, but unless we are all of the same mind, and are prepared to "stand up in our boots," I can foresee nothing else.

W. J. CASSIDY

Ruislip.

Sir,—Mr. Cotton in "After the War—I," ably enumerates many instances of the present flagrant ineffectuality of the profession. Are those who are aware of this ineffectuality so scattered that they cannot affect the profession's policy. The answer is "yes," because there is no channel through which opinions can be effectively registered.

Those parts of Mr. Cotton's plan reserved for eliminating certain recognized evils, which obviously require legislation for their elimination, and for the improvement of architectural education and propaganda, would automatically be part of the plan of an active body. Meanwhile his proposals for forming groups will raise doubts in some minds. I suggest that those of us who believe in work by groups would prefer to choose our own associates, our own heads and our own districts. (I interpret Mr. Cotton as intending the naming of firms by district to eliminate the use of the term architect as a screen for building speculation and not to set bounds to the firm's field or to stifle competition). I think, too, that the method of choosing *a* consultant for *a* job is superior to a consultant's permanent inclusion in a group, and that it would preserve the competitive spirit, as desirable between consultants as between architects.

Mr. Cotton's indictment of the small office

rests almost wholly on controversial ground. Are larger offices so notoriously more efficient or economic? Is a principal's direct contact with a small staff undesirable?

Finally, may I record that I firmly believe Mr. Cotton has done the profession a service by crystallizing its wishful thinking. I trust the response stimulated will be fittingly courageous.

S. WEBSTER.

Subjects which the Editors of the Information Centre regard as needing particular emphasis are printed as special articles. Here is one in which are discussed in detail the points raised by William Allen, ARIBA, of the BRS, in his Architectural Science Board lecture

Planning for DAY Light in urban buildings

[*BY OUR TECHNICAL CORRESPONDENT.*]

In THE ARCHITECTS' JOURNAL for December 17 last, appeared a review of a lecture on sound insulation by W. Allen. It was remarked then that what appeared to be the most interesting point of the lecture was the research on the relation between sound transmission and town planning which the Building Research Station had recently made. It seemed to open up a new line of thought on what he called the quantitative side of town planning, and the hope was expressed that the Building Research Station's interest in this development would be extended. Now, in the second of the second series of the RIBA Science Board's lectures, Mr. Allen has produced another study of town planning in terms of the provision of daylight in urban buildings. He suggested that other lectures should follow, i.e. on sunlight and fire, to be treated in the same sort of way. These will be awaited with some interest, and in the meantime, the present lecture on daylight gives food for thought.

The main points about daylighting are clear; for any given density of development, it depends on the shape of the building, i.e. its type of plan, and upon the spacing of the buildings.

The density of development can be given in terms of the floor space index, which is defined as the ratio of total floor space to total site area, including streets and open spaces. The term is apparently one which was devised by H. E. Beckett, who used it in an earlier paper on daylighting to the Illuminating Engineering Society in July last year. With the more recent developments it acquires an increased importance, for upon it depends the choice of the correct spacing of the buildings and their appropriate height, and to some extent the plan type for the building. It is suggested, in fact, that it should become one of the main devices of the town planner. For a given area, policy in respect of density should be defined in advance, in consideration of the present density and desirable future development of the district and the city as a whole. In this way traffic and urban building could be given a more effective link than they have previously had.

The shape factor in buildings is dealt with in the following way. Shapes are classified into four main types—the hollow square, the cruciform, the "Y" and the simple rectangle, the latter having blocks at right angles to one another. For a given floor space index these types are to be preferred in the order given, i.e. the hollow square is worst, the cruciform much better, and the others perhaps a further improvement, though not so marked. The point is that as the building is drawn away from the perimeter of the site towards the centre, better view of the sky is obtained from the lower floors, not only over the tops of the neighbouring buildings but past their sides as well. In fact, the latter is in some respects the more important light because it comes at a lower angle and can penetrate into the room better. From this can be drawn the principle, which is important, that the aim in civic design should be to produce a serrated sky-line, and not, as has been more customary, a constant building height. The proposals put forward would, in fact, produce such a sky-line.

Another point arising out of the analysis of plan types recalls a remark in the lecture on sound insulation. The hollow square plan type is the normal arrangement in towns; buildings line the streets, because it is inconvenient and often impossible to set them back. This means that before we can expect to get adequate daylight in cities, we must be able to develop land, not in bits and pieces, but more comprehensively. In other words, where you want these amenities, such as daylight and quiet, you must have some control of land. This is a new slant on an old question, and one that ought to be considered in the proper quarters.

The spacing of buildings is not very important beyond a certain point. This can be illustrated with a curve showing that the daylight continues to improve with increased spacing for a building of the same plan, but with increased heights, while the floor space index remains constant. One could carry on theoretically until the whole of a city was housed in one unobstructed building.

The actual improvements in the daylighting and the standards possible by this new means in modern cities are interesting. In a district such as is found in the City of London, largely developed during the past century, the overall floor space index was something like 2, including open spaces and streets. With this standard it is theoretically possible to have some daylight at a point 10 or 12 ft. inside the ground floor window, even with a storey height of only 9 ft., and this with the hollow square—not the improved arrangement. By the latter the depth of penetration could be increased to 15 or 16 ft. With the normal ground floor heights employed in cities, penetration apparently rises still further to 25 ft. or more, and even if the density of development is increased by 50 per cent., a penetration of 20 ft. is still practicable. These are surprising figures, far beyond our present standards, which are more often of so little daylight that artificial light is used all day, even in midsummer.

As for the future, the trend of population, before the war, was still towards the centres of cities—the density of development was still increasing—and if anything is done, as is likely, to improve traffic movement, this tendency will become more rapid, with the result that unless steps are taken to improve our policy in respect of natural lighting, conditions will continue to deteriorate. This seems a reasonable likelihood and calls for the serious attention of planners.

To conclude with two points of summary. Daylight is a subject for both the town planner and the architect. It is hopeless for one to try to do very much unless he has the co-operation of the other. This point needs attention in several quarters, for it is educational, it impinges on immediate practice, and it involves the legislator. On this point co-ordination or failure are the alternatives.

An even bigger question is the development of planning on its quantitative side, by which is presumably meant that you take those aspects which are suitable for development of this kind, and lift them from the realm of opinion into the field of fact. Town planning is not a subject which has often been so treated, especially on the side of amenities, and it is unusually interesting to see this work develop. It is to be hoped it will find its way into practice quickly enough to meet some, at least, of our opportunities in reconstruction.

3003

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATIO

DETAILED CONSIDERATIONS OF DESIGN IN WELDED STEEL : 18
RIGID CORNERS IN FRAMES MADE UP OF COLUMNS AND BEAMS (C)

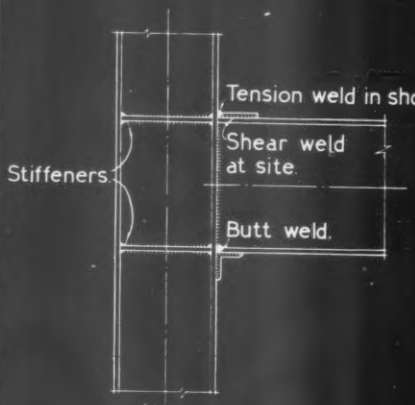


FIGURE 1a
SIMPLE TYPE OF RIGID CORNER.

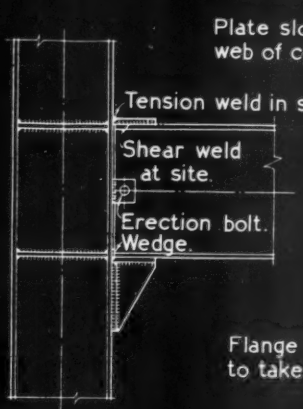


FIGURE 1b
VERTICAL FORCE TAKEN BY CANTILEVER BRACKET.

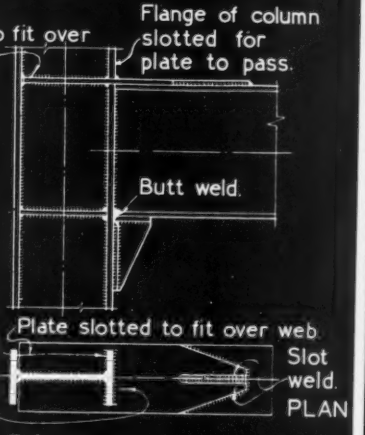


FIGURE 2a
CONNECTION WITHOUT TENSION WELDS.

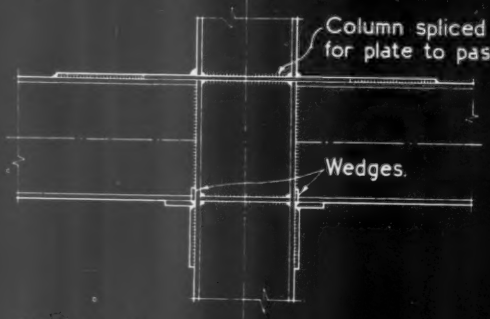


FIGURE 2b
CONNECTION WITHOUT TENSION WELDS.

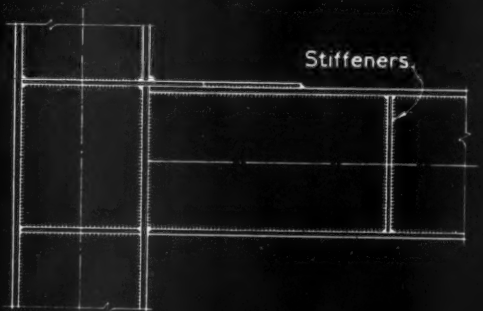


FIGURE 3a
EQUAL IN STRENGTH TO CONNECTION SHOWN IN FIG 3b.

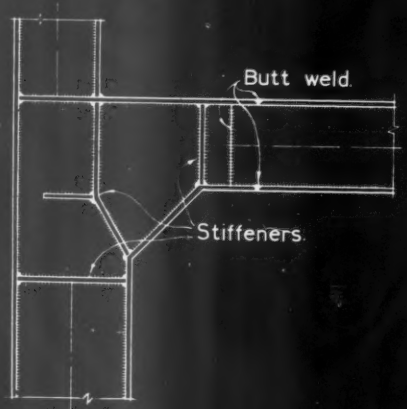


FIGURE 3b
APPLICATION OF HAUNCH

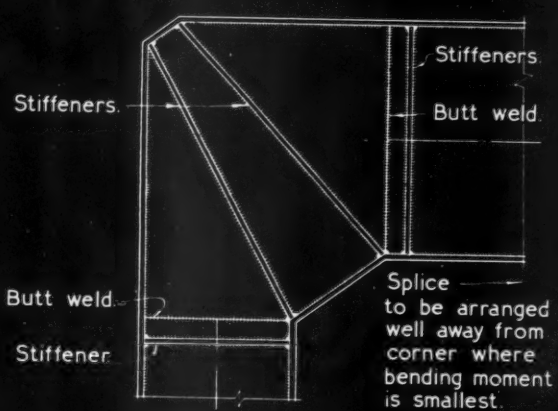


FIGURE 4
CONNECTION FOR HEAVY GIRDERS.

Issued by Braithwaite & Co. Engineers Ltd: Compiled by Samuely & Hamann Consulting Engineers

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 890 •

STRUCTURAL STEELWORK

Subject : Welding, 45 : Rigid Corners in Frames, made up of Columns and Beams.

General :

This series of Sheets on welded steel construction is a continuation of a preceding group dealing with riveted and bolted construction, and is intended to serve a similar purpose, namely—to indicate the way in which economical design, as affected by general planning considerations, may be obtained.

Both the principles of design and the general and detailed application of welded steelwork are analysed in relation to the normal structural requirements of buildings. The economies in cover and dead weight, resulting from the use of lighter and smaller steel members and connections, are taken into consideration in the preliminary arrangement of the building components in order to obtain maximum economy in the design of the steel framing.

This sheet is the eighteenth of the section on detailed considerations of design in welded steel, and is the third of the series dealing with Connections and Splices.

Rigid Corner between Beam and Column :

Any welded connection between a beam and a column constitutes a rigid corner, but if the web only of the beam were connected, the welds might be overstressed. For this reason, in every case where a rigid corner is required the flanges of the beams should be welded to the columns. However, as vertical forces are to be transmitted, the webs must also be connected. The simplest type of rigid corner is shown in Figure 1a. Figure 1b shows how the vertical force can be taken by a cantilever bracket, so that the bending moment only is transmitted to the column. Stiffeners should be arranged to transmit the horizontal forces from the beam to the web of the column.

Tension Welds :

The top weld may be stressed in tension, unless the building is subject to heavy shocks or vibration. Figures 2a and 2b show forms of construction for buildings where tension welds must be avoided.

Haunches :

Corners can be strengthened by means of haunches, but these are not strictly necessary. They can be used occasionally, in order to avoid the use of special flange plates : e.g., the forms of construction shown in Figures 3a and 3b are equal in strength, and the form shown in 3a—although involving the use of more material—gives uninterrupted headroom.

Heavy Sections :

The construction of rigid corners becomes simpler with heavier sections, i.e. with plate girders. The corners should, where possible, be reinforced with haunches. Two corners of this type are shown in Figures 3b and 4. It should be noted that the flange plates are not rounded, as with riveted connections, but are sharply bent. Stiffeners must always be provided at sharp corners to take the component forces from the flange plates. Even where column and/or beam are of R.S.J. section, it is often more suitable to replace the R.S.J. with a plate girder in the neighbourhood of the corner. For further illustrations see Figures 2, 4, 5 and 6 on Sheet No. 13 of this series.

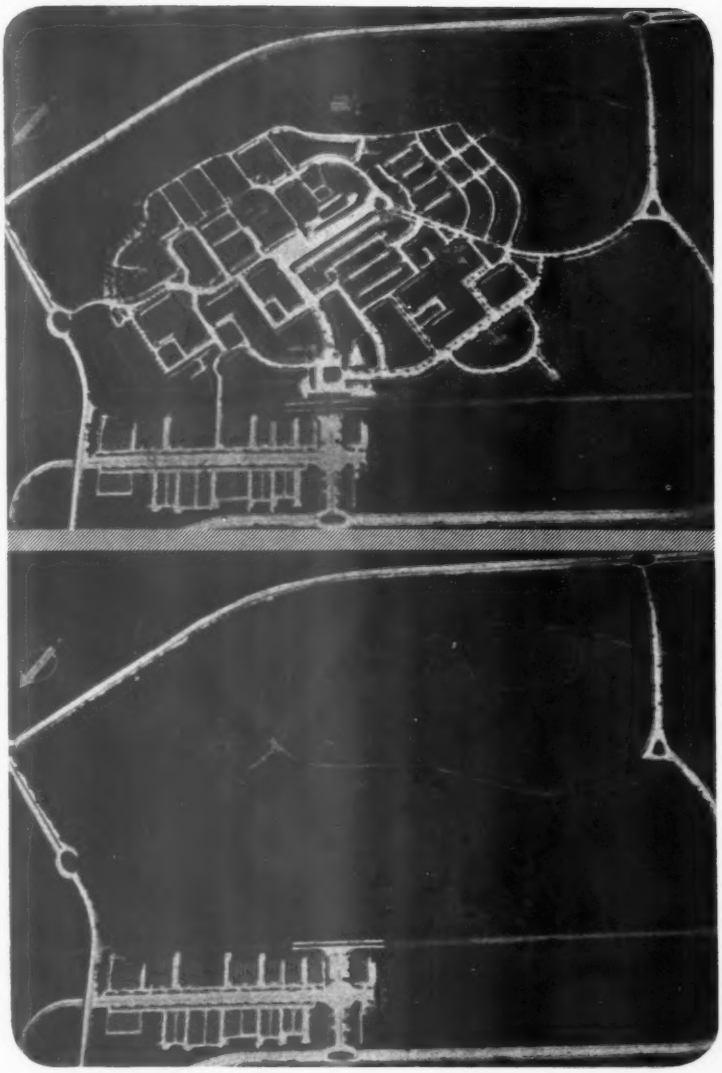
Previous Sheets :

Previous Sheets of this series on structural steelwork are Nos. 729, 733, 736, 737, 741, 745, 751, 755, 759, 763, 765, 769, 770, 772, 773, 774, 775, 776, 777, 780, 783, 785, 789, 790, 793, 796, 798, 799, 800, 801, 802, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 816, 819, 821, 822, 823, 824, 826, 827, 828, 830, 832, 836, 837, 838, 839, 840, 842, 843, 845, 847, 848, 849, 850, 851, 852, 853, 855, 856, 857, 859, 860, 862, 863, 865 revised, 867, 869, 870, 871, 874, 875, 877, 880, 882, 883, 886 and 887.

Issued by : Braithwaite & Co., Engineers, Limited.

London Office : Temporary Address :
King's House, Haymarket, London, S.W.1

Telephone : Whitehall 3993.



BEFORE

MODEL TOWN

BY THOMAS SHARP

Commissioned by a film company for a film on town planning sponsored by the Bournville Village Trust, the model is adapted to the requirements of film technique and is devised as an *impression* of a new town—a satellite town to a neighbouring large city — accommodating from 8,000 to 10,000 people. The model, to a scale of 1/500, is 11 ft. by 9 ft. 6 in. long. It was originally required to represent a town of 50,000 persons, but this was found impossible as portability governed the size of the model.

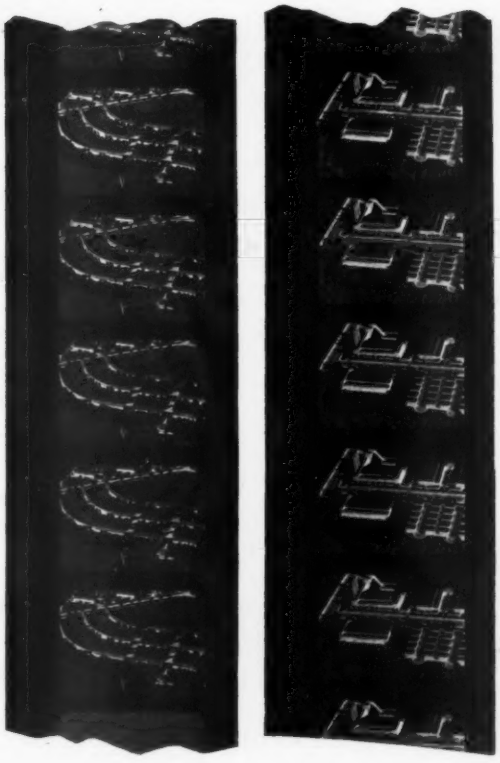
The site of the new town, an existing one, is the parkland of a north country mansion. Two models were prepared for the film. One shows the site before development, the other takes the form of a gigantic jig-saw puzzle with pieces fitting together to illustrate the narrator's arguments as the film proceeds. Rising gently to a little ridge, the site of the new town has a main railway on one side, a natural highway on another, and a regional artery on the north.

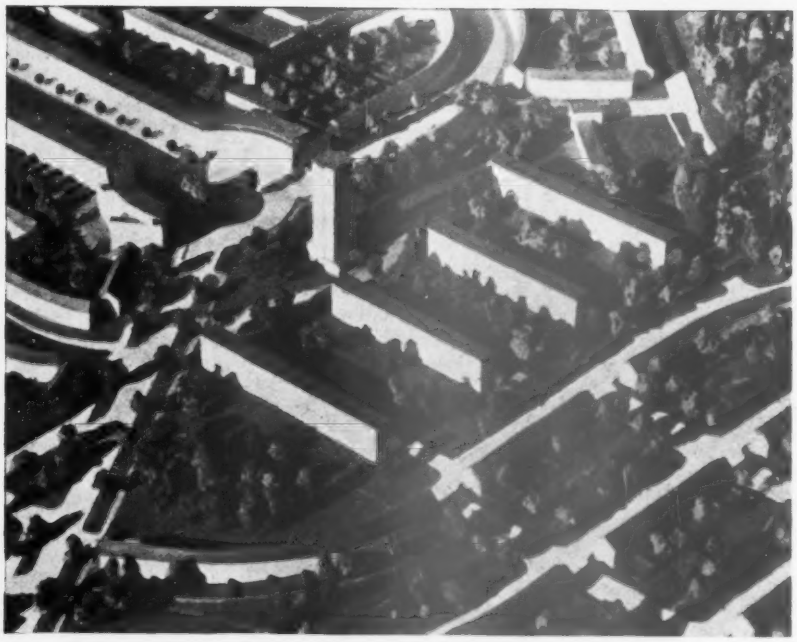
In the design of the new town there is no direct access from the town to the national highway. Instead there are two approach roads. On the north-west side of the site by the railway is the industrial area, with easy access to the main highways without passing through the town. There is also no direct vehicular connection between the town and the industrial area. Thus there is no possibility of industrial traffic passing through the town streets. The approach to the factories, for the workers, consists of a bridge for pedestrian and cycle traffic only (properly segregated) in about the middle of the factory area, and a pedestrian tunnel under the railway station. There is a possible extension area for factories to the south-west. Road junctions on the main highway are merely indicative: on more detailed design there would be fly-overs.

The shopping street (arcaded) is on a slight ridge: since the town is small and only domestic traffic is situated on the principal road. At one end is the town square: flanked on one side by the community centre (a range of buildings on the east, incorporating the mansion); on the north side by a church; and on the south by the principal cinema. At the station is a subsidiary town square with a second cinema and hotel on one side, offices (with railway depot, builders yards, etc.) on the north; and garage and bus station on the south.

The housing layout is in flexible rectangular form. Ten blocks of three-storey flats with generous communal gardens and one tower of flats (14 storeys) at the southern end of the shopping street. The

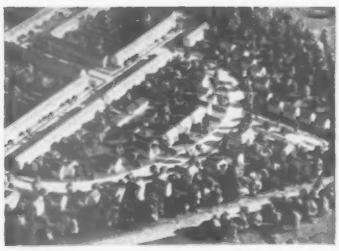
Below, two cuttings from the film.





Left. Top, residential and factory area, centre, three-storey blocks of flats and fourteen-storey tower of flats, bottom, shopping street area, below, another residential area.

Facing page. Mr. Thomas Sharp with the model; and the model in plan.



MODEL TOWN FOR A FILM:

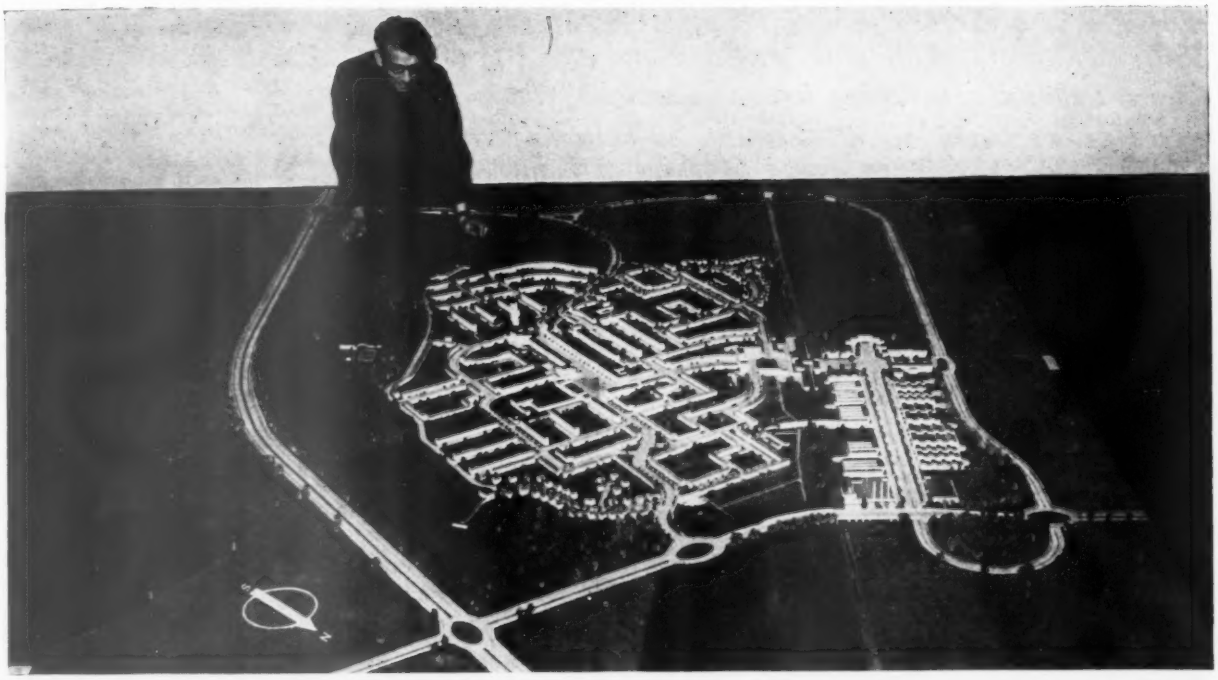
majority of the remainder of the housing is in terrace formation (with squares) at varying densities, a considerable part planned up to 24 to the acre (net). The majority of the terrace housing has small private gardens and communal gardens. There are some detached houses in thinning out of woods to north-east and south-west. The main aspect of the housing is in quarters of south-east and south-west. It is intended that in some parts garages would be incorporated in terraces: in other parts groups of lock-ups would be designed behind gardens.

In the housing areas are children's playgrounds: but no playing fields. These are in the green belt between the town and the roads. Throughout the town are many communal gardens. The layout retains use of trees of parkland and other natural features.

The schools on the eastern side look out on to the green belt, which would contain their playing fields. In the town are two nursery schools, one on either side of the principal street. There is also a school by the station which would also be a creche, where mothers going to factories or to adjoining cinema might leave children. There are allotments between the houses and the factories. In the green belt beside the stream is a swimming pool.

The model has been exhibited by the Town and Country Planning Association at the Housing Centre.

Mr. F. M. Wilson, A.R.I.B.A., assisted Mr. Thomas Sharp in the design. The model was made by John B. Thorpe.



DESIGNED BY THOMAS SHARP

This feature, developed from the previous Information Centre, which dealt only with questions and answers, provides a technical intelligence service in tabloid form. Its function is to record all developments in building technics throughout the world as reflected in technical publications, papers read before learned societies, official statements, reports of research institutions and building experiments. Lack of scientific data is a handicap both to the technician and to the planner. Even where there is no lack of information the organization for putting it over has remained so rudimentary as to negative most of the advantages of the original research. The ***information centre*** *attempts to remedy this deficiency and to keep all busy men, whether fighting or working, abreast of current developments in building technique. The items are written by specialists of the highest authority who are not on the permanent staff of the Journal. The views expressed are disinterested and objective. The A.J. system of starring important items applies in this section.*

Physical PLANNING

1042 **Year Book**

F. J. Osborn (*edited by*): PLANNING AND RECONSTRUCTION YEAR BOOK, 1942. A comprehensive book giving much useful information.

The first 136 pages deal with articles on planning subjects. Then follows a brief analysis of the Scott and Uthwatt Reports, a statement on the Autumn 1942 position on Planning Legislation, statements on the policy and work of the more notable planning organizations, some useful statistics, and a valuable list of personnel in planning from Government Committees to the secretaries of local organizations.

1043 **PEP**

PEP: PLANS FOR PHYSICAL RECONSTRUCTION. *Broadsheet No.* 198, *December* 22, 1942. Summary in 16 pages of the most important recommendation of the Barlow, Scott and Uthwatt reports; indicates such action as has already been taken; describes the issues which remain still to be decided; points out some of the wider implications of the movement for physical planning.

Such planning can only be adequate if it is based on thorough fact-finding surveys. A group of PEP is engaged on such a survey of social and economic needs in relation to physical planning; preliminary findings will be published in forthcoming broadsheets.

1044★ **Regional Boundaries**

APRR: REGIONAL BOUNDARIES OF ENGLAND AND WALES. *Broadsheet No.* 9, *November*, 1942. Regional divisions of England and Wales that have been suggested by Professor C. B. Fawcett (1942), John Dower (1938), E. W. Gilbert (1941), Professor E. G. R. Taylor (1941) and E. A. A. Rowse (1941).

1045 **Delimitation of Regions**

APRR: THE DELIMITATION OF REGIONS FOR PLANNING PURPOSES. *Broadsheet No.* 1, *September*, 1942. Five methods of selecting areas as planning units, fairly widely used or discussed, are reviewed.

They are: (1) Grouping of administrative areas; (2) Delimitation of areas according to Metropolitan influences; (3) Use of single function areas; (4) Use of areas possessing administrative convenience; (5) Use of geographical regions.

1046 **Model Town**

Thomas Sharp: MODEL OF A NEW SATELLITE TOWN. *On view at Building Centre, January* 20, 1943. Impression model for use in film on town planning sponsored by Bournville Village Trust. See A.J., February 4, 1943, page 93.

Model is 11 ft. by 9 ft. 6 in. Original requirements were for a town of 50,000, but owing to size and transport difficulties, town as shown accommodates less than 10,000. An actual site, the parkland of a north country mansion, was used. Main points: Access from town to highway is by two approach roads only. Industrial area has easy access to highways not passing through town. There is no direct access, except by foot or cycle, between town and industrial area. Shopping street is on principal road, first town square being at one end flanked by community centre, existing mansion, church, principal cinema and other main buildings. Second town square at station is flanked by second cinema, hotel, offices, railway depot, garage and bus station.

Housing layout is on flexible rectangular form having blocks of 3-storey flats with communal gardens, one tower of flats of 14 storeys at south end of shopping street, and the rest mainly terrace housing. Playgrounds are within the housing areas but playing fields lie in green belts between town and main roads. Schools on east look on to the green belt.

STRUCTURE

1047 **Old Concrete Building**

Anon: WRECKING OF OLD CONCRETE BUILDING. *Engineering News Record, September* 10, 1942. In spite of poor quality concrete and faulty design, building resisted collapse to amazing extent, and floor system remained cantilevered

after removal of most columns and walls. Interesting data.

A four storey reinforced concrete building of 1910 was recently demolished at the Puget Sound Navy Yard to make way for the erection of a new building. The building had concrete walls and its framing was of conventional beam and girder type with columns arranged in 18 ft. square bays. Attempts to crash the building by breaking the columns in the first storey proved unsuccessful. Demolition was carried out from the roof downwards. A skullcracker of 5,000 lb. was used for battering down the columns and girders and for breaking the concrete loose from the reinforcing steel.

The demolition revealed that the quality of the concrete ranged from mediocre to very poor. Design and disposition of the reinforcement was also faulty. In spite of that, the building frame had a remarkable rigidity. Even after supporting columns and walls had been removed from two sides of a bay, the floor system remained cantilevered with very little sag. With the resistance to collapse observed in this building, there is much encouragement for expecting highly creditable performance from modern reinforced concrete structures that may be subjected to shock sufficient to carry away part of the framing.

Between 80 and 90 per cent. of the reinforcement was salvaged for scrap.

MATERIALS

1048★ Uncovered Concrete

N. Davey: THE SURFACE FINISHING OF CONCRETE STRUCTURES. *Journal of the Institution of Civil Engineers, April*, 1942, *pp.* 183-224. Paper and discussion, illustrated, on the basis of research at BRS in collaboration with CCA on finish of uncovered concrete.

It is a common phenomenon to see concrete buildings masked with stone or brick. One reason, besides prejudice, is the failure of engineers, as a whole, " to produce a satisfactory finish to their concrete structures. Some finishes were deplorable from the start, but even others which were more pleasing to begin with suffered very badly from weather and at the end of say five or ten years were very disappointing from the æsthetic point of view."

The first essentials from the æsthetic point of view are the same as from the structural and economic points of view. Strict control of the cement and water content of the concrete and the grading of the aggregate is necessary to obtain a concrete surface of uniform colour, free from honeycombing, defective construction joints and other blemishes. Secondly, the formwork must be carefully designed, for instance the effect of the haphazard use of horizontal boards in one place with vertical boards in another is distinctly unsightly.

Boards should be matched in width, thickness and age and have equal absorptive properties to avoid differences in surface colouring and texture. Dr. Davey demonstrates by photographs that the impress left on the concrete by well designed formwork can produce excellent and varied architectural effects. Thirdly, the placing and compacting of the concrete must be carried out carefully, quickly and continuously up to construction joints. Of course, fresh concrete must be protected from the weather. Fourthly, these construction joints must be distributed with a view to architectural effect (since they cannot be masked), and carried out with great attention to the proper bond to ensure an æsthetic appearance.

Though well-planned board-textured concrete gives a fine effect particularly in engineering structures, a finish which obliterates board marks may sometimes be more suitable. The best methods to achieve this are: smooth finishes, exposed aggregate, special aggregates, colour, or applied coverings.

Smooth finishes are normally produced by lining the formwork with metal sheets, plywood or compressed fibre boards. Various decorative effects can be produced by lining the formwork with special sheets such as crepe rubber, corrugated cardboard, etc. Unfortunately smooth concrete surfaces tend to become patchy and streaky owing mainly to the flowing or dripping of rainwater. In Germany and Switzerland flashings are provided at window sills and other projections from the vertical to prevent this.

Many interesting surface textures can be obtained by exposing the aggregate by removing the cement skin from the face of the concrete. Specially selected aggregates produce pleasing colour effects. Various methods of tooling, picking, working with masons' tools (on the continent often with specially designed hammer heads), scrubbing, sand-blasting or surface retarding are available.

Special aggregates may be used on the surface of the concrete (they are frequently too expensive to be used all through). Concrete may be coloured by using coloured aggregates or by pigmenting the cement. Finally, various coverings may be applied by means of rendering, painting and staining, glazing or metal spraying.

Thus the variety of effects of which concrete is capable if proper attention is paid to them by architects, is very large. Of course, technical considerations of the suitability and ease of application of any particular finish must be taken into account.

This paper should be very useful for the correct co-operation between architects and engineers to achieve an æsthetic appearance for concrete structures. " Having determined the minimum sections required for structural purposes the engineer should consider what additional covering to the reinforcement is necessary in view of the surface treatment he proposes to adopt. . . . He should indicate at elevations the exact position of construction joints and specify very closely the surface treatment to be employed. This construction joint drawing should form part of the contract. Similarly the actual details regarding the shuttering and formwork and the method of finishing the concrete should be decided upon before construction is started." No subsequent treatment will mask slip-shod construction.

1049 Uncovered Concrete

Anon: CONCRETE IN ARCHITECTURE; CONCRETE SURFACE FINISHES. *Concrete and Constructional Engineering, January*, 1943, *pp.* 1 *to* 13. Economic considerations in favour of uncovered concrete. Much American work done.

Economies may be effected by using uncovered concrete elevations. This saving will be particularly important for reconstruction after the war owing to the added strain on the industry and the shortage of both labour and materials. It will take time for the men now on war service to return and be apprenticed in the industry and for the factories now engaged on war production to resume the manufacture of building materials. But part of the monetary saving will have to be reinvested in shuttering and concreting to obtain proper care in proportioning, mixing and so forth.

A number of photographs of fine American workmanship in uncovered concrete elevations are given. (In this country much less has been done.) Effects, lines and patterns obtained by using inserts in the formwork are illustrated and technical tricks described. Uncovered concrete is in fact easily more capable of varied beauty than any other type of facing. There is no excuse for continuing the silly practice of pretending that our buildings are made of some other material.

1050 Uncovered Concrete

E. N. Vidal and R. F. Blanks: ABSORPTIVE FORM LINING. *Journal of the American Concrete Institute, January*, 1942, *pp.* 253 *to* 268, *illustrated*; *discussion, June*, 1942. Interesting new method of securing good concrete surface free of air and

water voids, sand streaks and water-courses.

Absorptive form lining has been carefully developed in experiments since 1938 and millions of sq. ft. have been used. It consists, in the type found most satisfactory, of a wallboard lining to the formwork. This soaks up a great deal of water near the surface of the concrete and thus reduces the water-cement ratio so as to produce a " case-hardened " effect. The result is a surface of even texture and great strength which resists the weather and prevents crazing. On the other hand every discontinuity of the normal appearance and texture is contrastingly magnified. However, wire-brushing or light sand-blasting will produce a surface of lasting attractiveness.

1051 Concrete Facing

H. C. Fisher : ARCHITECTURAL CONCRETE ON THE NEW NAVAL MEDICAL CENTER. *Journal of the American Concrete Institute, February*, 1942, *pp.* 281 *to* 311, *illustrated.* Concrete facing to brickwork, used in a series of buildings in a huge Naval Medical Centre in U.S.A.

This is the exact opposite of the normal procedure in this country of masking concrete. These precast reinforced concrete panels (with exposed aggregate) may be backed by concrete, though this presents difficulties in the concreting. One advantage of the use of these panels is that they can be designed previously to produce precisely the effect at which the architect is aiming. The range of colours, by the use of various natural stones, manufactured ceramics and glass aggregates is practically unlimited. Three-dimensional ornamentation in this plastic medium is possible at much less cost than the carving of natural stone. The total effect is very similar to stone panelling. The architectural concrete is extremely durable.

HEATING
and ventilation

1052 Unit Air Conditioners

E. H. Whittaker : THE PRACTICAL SIDE OF OPERATING UNIT AIR CONDITIONERS. *Heating and Ventilating Engineer, p.* 225, *No.* 186, *Vol.* 16. A valuable article describing actual experience with unit air conditioners in this country.

The conditioner used by the author is the Carrier " Weathermaker," which has been installed for comfort conditioning in executives offices, hospital wards and restaurants. The unit may be either air or water cooled, the latter being recommended where access to the external air is difficult or extreme quietness of operation is desired. Power consumption is under 3 kw. ; air capacity is 60 c.f.m. fresh and 250 c.f.m. total including recirculation ; cooling capacity is 8,000—8,800 B.Th.U. per hour. One unit will normally deal with a room of cubic capacity not greater than 3,500 cu. ft., maintaining a relative humidity of 50 to 60 per cent. The water-cooled model requires a cold water and drain connection, but the air-cooled model needs neither. Owing to the use of direct expansion cooling, some chilling of the air is noticeable each time the unit is brought into operation by its automatic control. Humidification in winter is carried out by an electrically heated evaporator but in summer no real dehumidification is attempted.

The author finds that contrary to American experience a lower indoor temperature is desirable in summer than in winter. (This may be due to the fact that in general our summers are far less oppressive than those in America, and therefore the contrast between outdoors and a cooled interior far less severe.) Units installed in hospitals have been chiefly in wards dealing with respiratory cases. Many cases have been reported of complete immunity from attacks of asthma given by controlled air conditions. Major chest operations may be carried out at any time of the year in a theatre equipped with unit conditioners. A chart is included showing the very satisfactory temperature and humidity conditions maintained in a particular installation.

1053 Warm Air Heating

A. P. Kratz and S. Kenze : PERFORMANCE OF A FORCED WARM AIR HEATING SYSTEM. *Heating Piping and Air Conditioning. Vol.* 14, *No.* 6, *p.* 375. A warm air system is one in which air is warmed by direct contact with the external surface of a combustion chamber. Authors describe experiments carried out at Warm Air Research Residence of University of Illinois.

The results are summarised as follows :

1. The forced warm air heating system proved to be very flexible in that it was adequate to heat the residence with air volumes and temperatures different from those for which the installation was designed.

2. With air leaving the furnace at approximately 150° F. and with air speeds through the grilles of approximately 600 feet per minute variations in air quantity handled by the fan of approximately three to six recirculations per hour produced no significant effect on either the successful operation of the plant or the comfort conditions produced.

3. The furnace was stoker fired with intermittent operation. It was found that when the air temperature leaving the furnace was approximately constant, the average air delivered per hour including both the on periods and the off periods of the stoker, remained constant in spite of the variations in fan duty mentioned under 2.

4. The use of grilles at skirting level resulted in floor temperatures about 1° F. warmer and ceiling temperatures about 2° F. cooler than those obtained with grilles in the wall about 7 ft. above the floor. This is a desirable feature. High level wall grilles, however, permitted the employment of high air velocities and low air temperatures without draughts.

5. The use of high velocities and low air volumes permitted the employment of wall grilles much smaller than those usually used.

6. The use of small ducts and small grilles requires accurate calculation of pressure losses.

7. From the standpoint of low temperature difference from floor to ceiling, long total time of fan operation, shorter lengths of off-periods for the stoker, and lower fuel consumption, the most favourable results were obtained with the lower temperatures of the air leaving the furnace.

(A warm air system is one in which air is warmed by direct contact with the external surface of a combustion chamber : the term " forced " means that a fan is used to force air over the heating surface and through ducts into the rooms).

ACOUSTICS
Sound Insulation

1054★ Concert Stage

H. Burns Mayer : THE CONTROL OF ACOUSTIC CONDITIONS OF THE CONCERT STAGE. *Journal Acoustical Society of America, January* 1941. Useful for architects dealing with problems of multi-purpose auditoria, particularly in existing halls.

In such cases it is not uncommon to provide an ordinary theatre stage in order to make it suitable for plays and variety. The attendant disadvantage acoustically is that solo singers and instrumentalists, or small groups of these, are surrounded by absorptive conditions, wherein they feel a necessity to greater effort than is normally needed. They have no sense of strength

Photo. Copyright "Architecture Illustrated."

"BERRY LEAS," NEW ELTON
THE LATE SIR GUY DAWBER, R.A., ARCHITECT

OLD Northampton stone was used for the building of the external walls, and its weathered condition has given the mellow appearance that is the exclusive product of age. The old-time builders of such walls used to strap them on the inside with wood battens to which laths and plaster were applied. This kept the dampness out of sight, but it was no remedy in the proper sense; the danger to health that remained was the greater because it was not suspected. The modern method is to use waterproofed cement mortar, made with sand, cement and 'PUDLO' Brand waterproofing powder, for the undercoats of the internal plastering to all outer walls. A skimming coat of lime putty and sand, gauged with a little Plaster of Paris, prevents condensation, and provides a good texture when left from the wood float. This is how the work was done at "Berry Leas" and many other important buildings. It is economical and permanent, and the finished thickness is no greater than that of ordinary plastering.

PATENT WELDED TUBULAR CONSTRUCTION

Data Sheet No. 11

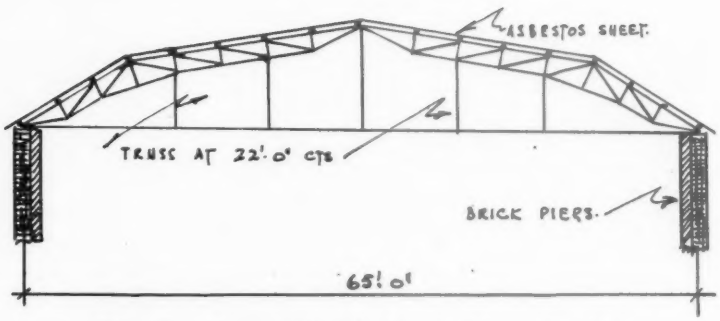


Fig. 22. Composite tubular roof truss used in conjunction with brick construction.

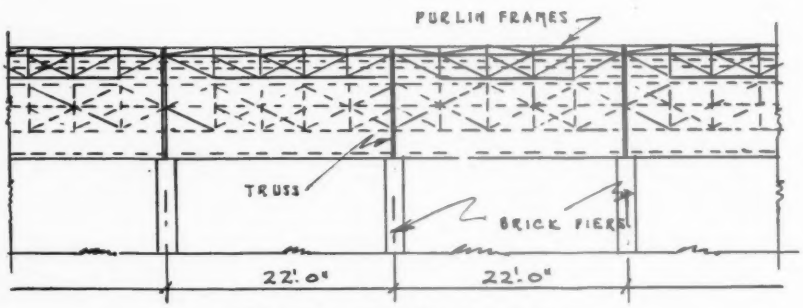


Fig. 23. Elevational detail.

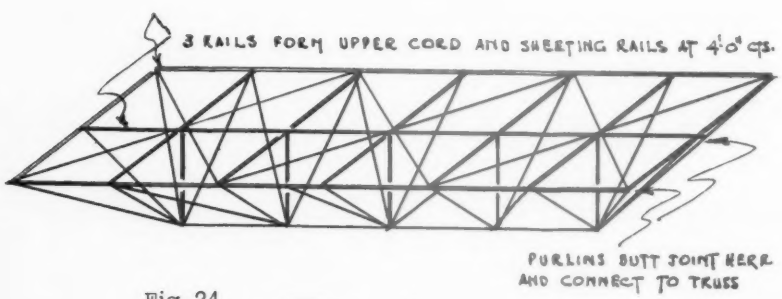
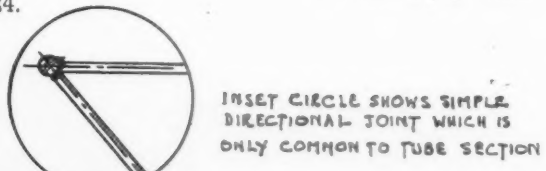


Fig. 24.



Triangular girder detail, a form of directional jointing only possible with the tubular section.

IN CONJUNCTION WITH BRICK CONSTRUCTION

This sheet demonstrates a satisfactory method of employing standard tubular roof principles in conjunction with brick construction, the tubular principles being placed at 22 ft. centres.

The tubular design and assembly only differs in minor details from the examples shewn in previous data sheets. The purlins are of the same fabricated beam construction but, instead of being used as single members, they are framed into triangular girders, the upper chord being three members at 4 ft. 6 in. centres (Fig. 24).

At first glance Fig. 24 would appear to indicate intricacy of design and fabrication, but the inset detail shews its real simplicity — this simple form of directional jointing can only be used with tubular steel members, the circular section allowing braces and diagonals to be used in any direction.

A structure of this type 80 ft. in length and with a roof span of 65 ft., has a total steel tonnage of 7.0, and cost details of roof construction and assembly (inclusive of delivery, erection and asbestos-cement covering) are available.

• • •

NOTE—These data sheets are appearing weekly in THE ARCHITECTS' JOURNAL—*they are now available in complete Folder form and application for these Folders should be addressed to Scaffolding [Great Britain] Limited, 77, Easton Street, High Wycombe, Buckinghamshire.*

or power in their musical output, and this puts a strain on them. A similar condition was noted by Bagenal in his description of the treatment of the Albert Hall for orchestral music*; there is no stage there, but the enormous volume and the amount of sound absorbent greatly reduces the strength of high frequencies with a loss in brilliance and definition, and again, a sense of weakness in the output of individual performers. The treatment which Meyer used on stages for concert purposes consisted of an electrical apparatus, reproducing the sound of the performer, feeding the sound back to him from the wings of the stage after a brief interval of about the amount experienced in ordinary rooms. The audience receives none of the reproduced sound which goes only to the performer, who then obtains artificially the impression that he is singing in a small and resonant room. It is reported that a number of singers, including Paul Robeson, have found it extremely satisfactory, so much so that the whole effort of singing is reduced. It is not, of course, a substitute for a well-designed concert platform, but might be a very good way of dealing with some of the problems of auditoria for multiple uses, and especially for existing auditoria. As for cases like the Albert Hall, one is tempted to suggest that possibly the high frequencies which Bagenal noted as deficient might have been restored to the audience electrically, mixed with the orchestra, though of course this could not deal with the famous echo.

* Bagenal, H.: "Concert Music in the Albert Hall," *Journal RIBA*, August, 1941.

QUESTIONS and answers

1055

Q I am making a RETURN FOR TAXATION purposes with regard to the increased costs OF BUILDING WORKS of a maintenance nature. For this purpose it is necessary to give the percentage of increased cost of such work over and above pre-war prices, for each of the years ending December 31, 1939, 1940 and 1941. Can you inform me of any recognised percentage of increased costs in this type of work for the three years mentioned.

A There is no recognised percentage of increased costs for maintenance work. The increased cost of labour and materials can be established from THE ARCHITECTS' JOURNAL, but a great deal depends upon local conditions, loss of output due to calling up of the younger and more able-bodied men, keenness in tendering (i.e., the amount of other work available in the district), and the necessity for using substitute materials.

We consider that a reliable opinion can only be given by someone fully conversant with the nature of the work and of local conditions.

1056 Plastics

Q Are there any authoritative PUBLICATIONS ON PLASTICS, particularly with reference to their use in the building and allied trades?

A There is a monthly magazine, *Plastics*, published by Temple Press Ltd., Bowling Green Lane, London, E.C.1, price 1s. 0d. *Plastics* deals with the manufacture, potentialities and uses of plastic materials generally, but devotes a considerable amount of space to materials connected with the building industry.

The following are some books on Plastics (recommended by the RIBA) which treat the subject generally, but are not specifically in connection with building :—

"Plastics—Problems and Processes," by Dale E. Manspurger and Carson W. Pepper. Published by International Textbook Co., Scrunton, Pennsylvania. This book deals mainly with domestic articles, e.g., ash trays and bowls.

"Plastics in Industry," by "Plastes," 1940, price 12s. 6d. Published by Chapman & Hall, Ltd., Henrietta Street, London, W.C.2.

"Making and Molding of Plastics," by L. M. T. Hall. Published by Hutchinson & Co., Ltd., 47, Princes Gate, London, S.W.7.

There is a paper, read before the North East Coast Institution of Engineers and Shipbuilders, entitled "Plastics and Engineering," by Dr. A. Caress, published by E. & F. N. Spon, Ltd., 57, Haymarket, London, W.1.

There are, of course, many articles in periodicals on plastics and we give below a list of articles published, which the librarian of the RIBA has given us :—

"Plastics in Architecture"—*Architectural Forum*. February, 1937.

"Plastics" Special Issue of THE ARCHITECTS' JOURNAL, October 29, 1942.

"Development in Materials, 13—Plastics"—*National Builder*, March, 1938.

"Development in Materials, 14—Plastics"—*National Builder*, April, 1938.

"Plastics," by W. Owen Griffiths—*Building*, February, 1935.

Article by E. F. Lougee—*Pencil Points*, June, 1939.

"Plastics in Building"—*Architectural Forum*, June, 1940.

"Plastics as Constructional and Engineering Materials," by H. V. Potter—*The Journal of the Royal Society of Arts*, June 14, 1940.

"Plastics," by Sanders—*Architectural Record*, July, 1940.

Various articles by R. Cotterell Butler—*Builder*, November 15 and 29, December 6, 13 and 20, 1940.

"Materials Old and New," by E. Frankland Armstrong—ARCHITECTS' JOURNAL, January 29, 1942.

"Plastic Possibilities: The House of the Future," by T. W. Kennedy, of Building Plastics Research Corporation of Glasgow—*Architectural Design and Construction*, Feb., 1942.

"Plastics: The Fourth Material in Construction"—*Builder*, January 18, 1935.

Ditto—*Architectural Association Journal*, January, 1935.

"The Plastic Industry": Twenty-four page Trade and Engineering Supplement—*The Times*, February, 1942.

SOCIETIES AND INSTITUTIONS

Speeches and lectures delivered before societies, as well as reports of their activities are dealt with under this title, which includes trade associations, Government departments, Parliament and professional societies. To economise space the bodies concerned are represented by their initials, but the hazy or lazy reader can look up their meaning in the list of Journal abbreviations on the contents page. In cases where the abbreviations are not shown there the name of the association is given in brackets here. Except where inverted commas are used, the reports are summaries and not verbatim.

RIBA

Science Lectures

★★

The first of two lecture meetings, the third in a series of four, arranged by the Architectural Science Board and held at the RIBA on Saturday afternoon, January 30, was given by R. Fitzmaurice on "The PROBLEM OF NOISE IN BUILDINGS." Sir Edward Appleton, Secretary of the Department of Scientific and Industrial Research, who presided, said :

There is now an accurate knowledge of how sound travels from its source to the ear, and the scientific worker can give a definite answer to most of the questions which the building practitioner might put to him on the subject. The application of this scientific knowledge to everyday building practice has yet to be worked out, but the public has a right to expect that architects and builders will use every means available to provide better conditions in buildings so far as sound is concerned.

The lecturer, Mr. R. Fitzmaurice, of the BRS, said :

From the point of view of noise most buildings are unsatisfactory, but for most of the phenomena encountered it is now possible to give an explanation on the basis of the scientific work which has been done. It is for the industry to look at the results obtained and work out proper practical solutions.

So far as auditorium acoustics are concerned, almost the whole problem is the prolongation of sound, after the source has ceased, by

reflection from the bounding surfaces. It is possible to calculate in advance, however, what the performance of any auditorium will be, and to ensure that no auditorium shall be a complete failure. To go further involves great refinement in design, using the principles of the control of reflection. The shape of the auditorium and the nature of the bounding surfaces are both equally important; it is a mistake for the architect to think that he can have absolute freedom in the shape of the hall and leave it to a sub-contractor to put sound absorbers on the walls and ceiling to correct deficiencies. In the near future it should be possible to give such refined and critical treatment to a hall as to ensure complete success.

Dealing next with insulation against noise, the first step is to assess what the noise conditions are outside and what they are likely to be inside the building, and then to assess the degree of absence of noise required for various kinds of occupancy. It is very seldom necessary to reduce the intruding noise to absolute inaudibility; it is sufficient if it is somewhat below the background noise which is always present. It is impossible to say that for any particular occupancy a given level of background noise should be assumed; average figures are subject to wide divergencies.

The first line of defence against noise is by planning, putting places where quiet is needed as far as possible from sources of noise. The reduction with distance is large at first, but then falls off; even setting a building back 30 feet from the road will have a big effect on traffic noises. If the sound approaches the windows and other openings in a building obliquely the noise level inside will be greatly reduced. In the higher floors of a tall building the obliquity to street noises is greater and the noise less.

To stop noise from one room penetrating to a room adjoining, it is useless to think only of the partition between them; what matters is the weakest path by which noise is transmitted. Noise in a room sets all the bounding surfaces in vibration, and sound transmission is a three-dimensional problem. For sound insulation, with all homogeneous structures weight is a fair criterion of value, but sound insulation expressed in decibels varies as the logarithm of the weight; there is a good return for a moderate increase, but after that the return is small. Weights which are economically reasonable usually do not provide sufficient insulation. Discontinuity has therefore to be used. Two 4½-in. brick walls which are quite independent will be twice as good as one, whereas a 9-in. wall is little better than one of 4½-in. It is almost impossible, however, to make them wholly independent, but the Building Research Station is trying out the idea of a series of boxes (the rooms) inside a big box (the shell of the building), overcoming the transmission from one box to the next by mounting them on resilient materials.

The remedy for contact noises is very simple—not to make them. Lavatory basins, baths, w.c. sets and so on should be chosen which are silent. The noise of footsteps can be dealt with by carpeting or by some floating floor treatment which stops the noise getting into the structure.

Mr. Alister MacDonald questioned the value of weight for noise insulation, and said:

When designing the news theatre at Victoria Station I relied on mixing my materials. The external walls were not 14-in. thick but consisted of three separate walls; there were two thin reinforced concrete walls, different mixes of concrete being used for each, and between the two was hung an asbestos blanket. This confused the sound waves which were trying to get in, and in the end they gave it up as a bad job.

Mr. Fitzmaurice said:

The use of walls of different thicknesses is sound, because they will have different natural periods of oscillation; and that applies also to Mr. MacDonald's sandwich construction. Discontinuity, however, is much more important. Dealing with noise transmission due to water-pipes, etc., the insertion of a rubber sleeve will reduce noise transmitted directly along the pipe to below nuisance value. Synthetic materials will not be of value as insulators if used for partitions, but they might be useful if employed as resilients or damping materials.

The second lecture was by Mr. F. L. Brady, liaison officer between MOW and BRS, on "THE WEATHERING OF BUILDING MATERIALS." Mr. Hugh Beaver, Director-General of MOW, who was in the chair, said:

The Ministry takes a real interest in applying science to building; in the past there has been far too little emphasis on science and far too much on art. It will become increasingly necessary not only to find out what is best but to enforce its use.

Mr. Brady, after giving a general review of building materials and their characteristics, said:

It is a mistake to attach great importance to the property of water absorption, which is no index of any property of value in building materials. The ratio of water absorption to total porosity, however, is extremely important because if there is insufficient space to accommodate the expansion of the water content on freezing intense stresses will be set up. Where the saturation coefficient, as this ratio is called, exceeds 0.8, poor resistance to frost is likely.

In renderings a degree of water absorption is an advantage. A certain amount of cracking is inevitable in a rendered finish, but if the rendering has a certain amount of water absorption the water which runs down its surface may be mopped up before it can pass through the cracks and injure the structure. Architects cannot avail themselves of the many advantages of a more open-textured rendering, however, as long as they leave horizontal projections unprotected and carry renderings right over the top of parapets.

The kind of pores present in material can be as important as their total quantity, and the ratio of fine pores to coarse has a marked influence on the weathering behaviour of stones. If building limestones are arranged in the order of their proportion of small pores to coarse, it will represent roughly the order of their durability.

Texture influences the weathering pattern only, and is almost without effect on durability or decay, save that the choice of a smooth texture for the concrete facing of a building will increase the liability to crazing. From experiments on the rate of discolouration of concrete finishes in the polluted air of towns the interesting result emerges that bush-hammered surfaces discolour more rapidly than smooth, but after the first year the relation between the deeply-textured and the smooth surfaces hardly change. It is often thought that a rough-textured surface will darken much faster than a smooth one, but the difference is not so great as is commonly believed, and what is important is the variation in discolouration from point to point on the surface. This is less in a deeply-textured surface, which breaks up and diffuses the streams of water which run down the face of the building.

The immersion test for bricks on which architects sometimes insist is valueless. If the water absorption is low the durability is likely to be good, but it does not follow that if it is high the durability will be bad. Strength is no guide whatever to durability. It is vain for the architect to do his own testing; he must depend on the expert, who will base his conclusions on a conjoint consideration of a group of suitable tests.

A material which often fails to come up to expectations, because of the false standards used in judging it, is cast stone. Some architects test it by pouring a few drops of water on it, and, if the water sinks in, say that the stone is bad. Makers of cast stones, knowing that that test will be employed, make a particularly dense test sample and put a fatty waterproofer in it, so that the water floats on the surface like globules of mercury. That class of material, however, is very liable to crazing, and will develop the drab discolouration characteristic of the denser type of concrete product. Architects should avoid in concrete products the very fine textures, and adopt very deep ones, which in a hand sample may look repulsively rough but which in a building will have very happy effects.

The selection of materials will be very important when repairing buildings damaged by bomb splinters. When blocking the holes up with a cement composition, if too dense a mix is used, the patch, if denser than the surrounding material, will show up dark against a light background in rain-washed areas, while in sheltered areas, where soot films are developed, will show up light on a dark background.

Architects have for a long time been looking for a facing material which will maintain a uniformly clean appearance in the dirty atmosphere of a town. Such a search must be fruitless, because the requirements are mutually incompatible. The only remedies are washing, painting, or the careful selection of materials which develop a pleasing weathering pattern. Much disappointment will be saved if the fundamental factors which lead to that conclusion are understood and accepted.

It is a good thing to remove the skin which forms on limestones when they weather in towns; the gypsum which forms is not a protection but a source of decay. The application of clear water to the surface of stone does no harm, but I do not recommend the use of so-called stone preservatives. The black lines which form at the joints of cast stone masonry are the result of the shrinkage of the cast stone, which causes a hair crack at the joint and allows the formation of a reservoir of moisture which seeps over the face of the stone near the crack. Anything which prevents that hair crack developing, or which increases the absorption of the surrounding material, will be advantageous. The mortar used for jointing should itself be porous, and a certain porosity in the stone itself is advantageous.

AA

Film Evening

General meeting at 34, Bedford Square Tuesday, January 26. The President, Mr. A. W. Kenyon, dealt with the business of the meeting consisting mainly of the election and re-instatement of members. Two interesting documentary sound films were then shown.

The first was "The City," issued by the Museum of Modern Art, produced by the American Institute of Planners in association with American Documentary Films. The commentary was by Lewis Mumford. The film was non-technical being made for public propaganda. Opening views showed an old type of American agricultural village where there was harmony between man and the land and where "the towns were us." Contrasted with this came a modern industrial town of squalor and gloom, where "smoke makes prosperity no matter if you choke on it." Shots followed of the centre of a modern American city with its cramped and teeming millions below the skyscrapers, where money fights life. Tragi-comic scenes, brilliantly "cut," showed the rush hour with its quick dyspeptic meals and traffic jams. Finally, came the New City where a new and harmonious pattern between men and machines is made possible, a town of sunlight, air and green spaces which is not allowed to grow too large to manage. The school becomes the focus of activity. We must choose between the old and the new. "Each is real and each is possible. The choice is yours."

The second film, brought from the USA by Mr. G. A. Jellicoe, "A City Rises Over-

A Perfected HYGIENIC PAINT with high Reflective Properties

"SNOWCEM" cement paint possesses many features which make it particularly suitable for use in public and private buildings and workshops, factories and A.R.P. shelters.

HYGIENIC: CAN BE WASHED OR SCRUBBED.

"SNOWCEM" can be applied direct to brick or concrete and gives a hard dustless surface. It is unaffected by humidity, rapid changes of temperature or condensation. It can be applied to newly completed work without being affected by the moisture and alkalies almost always present. It will not flake or peel. It can be washed or scrubbed when necessary. It is hygienic and is impervious to moisture.

EASY TO APPLY.

"SNOWCEM" cement paint is applied with a brush like ordinary paint, and is available in two shades only: white and broken white.

BRIGHT REFLECTIVE SURFACE.

It gives a clean pleasing finish which is strongly reflective and therefore in most cases actually increases the value of lighting by day and night. "SNOWCEM" is thus a definite asset in saving light and fuel.

ECONOMY.

1 lb. of "SNOWCEM" gives two coats to a superficial area of approximately 3-4 sq. yards. It is delivered in airtight metal containers at the following prices:—

112 lbs. 56/- 56 lbs. 32/6 28 lbs. 21/-
14 lbs. 14/- 7 lbs. 7/-

No permit is required for "SNOWCEM" and prompt delivery is assured. You are invited to write for leaflet (enclosing 1d. stamp):

"SNOWCEM"

THE NEW CEMENT PAINT FOR BRICK OR CONCRETE

A BLUE CIRCLE CMC PRODUCT

THE CEMENT MARKETING CO. LTD., THE CLUB HOUSE, COOMBE HILL, KINGSTON-ON-THAMES

night," issued by the Homasote (Wallboard) Company, showed the construction of 977 homes by 642 men in 65 working days. These are temporary dwellings for workers at the USA Naval Construction Yards in California. Shots were shown of the construction of these prefabricated, precision built, demountable, timber houses from the laying of the pre-cast concrete footings on the site, through the factory construction of wall and roof units made of timber framing onto which stressed skins of wood-fibre boards were glued, to the final erection and finishing on the site.

The houses mostly contain two bedrooms but, being built in terraces, they can be adapted to one or three bedroomed homes by relating one bedroom in a house to the adjoining house, thus forming houses of one, two or three bedrooms from a single type. Of particular interest was the method of constructing wall and roof units on special jigs in the factory. This allowed that precision building which was the secret of the speed of erection. As the President pointed out, such houses could not be erected in the same way in this country owing to climatic difficulties. Nevertheless, we could learn a lot from the film especially by watching the type of organization, the various tools, jigs and transport vehicles used in the construction of these Homasote houses.

NFBTE

New President

At the age of 46, Mr. F. Leslie Wallis, J.P., of Maidstone, becomes PRESIDENT OF THE NFBTE. He is one of the youngest Presidents the Federation has ever had.

Mr. Wallis is a member of the firm of builders, G. E. Wallis & Sons, Ltd., of Maidstone and London, of which he is joint managing-director with his cousin, Major F. A. Wallis, M.C., a Past President of the LMBA. He is a Fellow of the IB, and a member of the Council of that body.

Mr. Wallis served in France from 1915 up to the Armistice, leaving the army with the rank of captain.

In 1928 he joined the Royal Observer Corps, and since the outbreak of the present war has served as a Duty Controller at one of their Centres.

Mr. Wallis and his firm were responsible for the Shakespeare Memorial Theatre at Stratford-on-Avon. Among other contracts carried out by his firm are the Royal Academy of Music ; the Town Hall, Lewisham ; Mr. C. S. Jagger's Royal Artillery Memorial at Hyde Park Corner ; the Guards' Memorial in Horse Guards' Parade ; and the Royal Naval Memorial, Chatham, designed by the late Sir Robert Lorimer.

FGLMB

Luncheon

Luncheon and second annual general meeting, held at the Connaught Rooms, Great Queen Street, W.C.2, on Thursday, January 28, 1943. The guest of honour was the Rt. Hon. Ernest Brown, MOH, who spoke.

Builders, local authorities and others concerned have done a splendid bit of war work in repairing houses damaged by bombs. The speed and energy with which the work has been done has helped the public morale. Bomb damage will continue, and it is impossible to build many new houses at the present time. Therefore, the MOH must co-operate with local authorities, master builders and workers to see that as many damaged houses are brought back to use as possible.

A great programme of house building will be necessary after the war and we must see that we do not fall into the same errors as we did at the end of the last war. All new houses must relate to family life. They must be well built and built in the right places.

It is impossible to know what post-war conditions will be like, but we shall probably have to use untraditional methods of construction and new materials which can be handled by semi-skilled and unskilled labour. We must get the building industry into full swing as soon as possible when the war ends, and perhaps even before that.

A committee under Sir George Burt and various other sub-committees are now sitting and in collaboration with the Building Research Station are considering the possible uses of new materials, methods and types, together with a general survey of the housing problem. Their findings will eventually be made public. The committee is inter-departmental but has been instigated by the MOH. I look to the Federation to play its part in the great task before us.

Mr. Childs, chairman of the Council, proposed a vote of thanks to Mr. Brown, and said : Builders will do what they can. They look to the Ministers for co-operation. Will there be private enterprise or will the Government cramp builders ? We want freedom of action.

DIARY

Tuesday, February 9.—CSI, 12, Great George Street, S.W. 2 p.m. Ordinary general meeting to discuss (1) Development Rights Scheme as Recommended in Chapter 4 of Uthwatt Report. (2) Scheme for a Periodic Levy on Increases in Communal Site Values Recommended in Chapter 4 of Uthwatt Report.

Wednesday, February 17.—RIBA. 6 p.m. "The Village and the Small Town." By A. W. Kenyon, F.R.I.B.A., M.T.P.I. The first of a course of six lectures on Town and Country Planning.

Books on the Planning of Modern Buildings

TOWN HALLS By A. Calveley Cotton, A.R.I.B.A.

Under the collective title of "Town Halls" the author includes the Departments usually incorporated in a municipal centre—Municipal Buildings, Assembly Hall and Law Courts, and examines in detail the planning problems associated with each. In the chapters on departmental layout the views, both of Councillors and permanent officials, are summarized concerning the merits of different arrangements. Six recently built Town Hall schemes—Slough, Worthing, Hornsey, Beckenham, Southampton and Swansea—are fully illustrated by plans, sections and axonometric projections, and have been specially drawn to be easily read. About 40 other town hall plans are included, as well as details of various plan units. Price 6s. Postage 7d.

SMALLER RETAIL SHOPS By Bryan and Norman Westwood

This is the second book to be published in *The Planning of Modern Buildings Series*, which is considering the planning, structure and equipment of certain specialized types of buildings.

The text is sectionized under various headings such as: The Various Problems—Sites and Sales Values—Sites in Detail—Elements of the Plan—Windows—Blinds—Signs—Pavements—Lights, etc.; and is fully illustrated by photographs and plans, while a large number of detail drawings are included. In addition, grouped together at the end of the book, there are 35 pages of illustrations of specially selected shop-fronts, interiors, plans and detail drawings of shops at home and abroad, with descriptive matter. Size: 12½ ins. by 9 ins. Price 12s. 6d. Postage 7d. Abroad 1s.

THE DESIGN OF NURSERY AND ELEMENTARY SCHOOLS.

By H. Myles Wright, M.A., A.R.I.B.A., and R. Gardner-Medwin, B.Arch., A.R.I.B.A.

The new educational policy of which the framework was laid down by the Hadow Report is slowly being put into practice by education authorities throughout the country. With larger grants being made available, it is probable that the pace of re-organization will improve; but the greatest obstacle will still remain the changes in school buildings and their surroundings which the new policy requires. Of these changes the largest are: new Nursery Schools, separate Infant, Junior and Senior Schools; larger sites and looser groupings; and higher standards of equipment.

This book is concerned solely with such problems. It considers Nursery Schools and Classes, Junior and Senior Schools. Dimensions and layouts are suggested for each element in the school plan; the various alternative groupings of the plan units are discussed, and a large number of complete school schemes carried out in this country and abroad are illustrated. No such survey of contemporary school buildings exists at present in this country. The book contains 128 pages and about 250 photographs and drawings. Size 12½ ins. by 9 ins. Price 10s. 6d. Postage 7d. inland.

The principal contents of these books originally appeared in "The Architects' Journal."

Published by THE ARCHITECTURAL PRESS, *War Address*—**45 The Avenue, Cheam, Surrey**

CLASSIFIED ADVERTISEMENTS

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

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

Public and Official Announcements

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

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

COUNTY BOROUGH OF CROYDON

QUANTITY SURVEYOR'S ASSISTANT—VALUER'S DEPARTMENT

Applications are invited for the above temporary post. Applicants should be over military age, or exempt from military services and must be qualified and able to prepare specifications, drawings, quantities, estimates, measure up and adjust final accounts. Salary £400-£450 per annum, according to age, qualifications and experience.

Applications, on forms obtainable from the Borough Valuer, 71, Park Lane, Croydon, by sending a stamped addressed foolscap envelope, to be sent to me by the 22nd February, endorsed "Temporary Quantity Surveyor's Assistant."

E. TABERNER,
Town Clerk.

Town Hall,
Croydon. 860

CITY OF NOTTINGHAM COLLEGE OF ART AND CRAFTS

Principal: ALFRED H. RODWAY, A.R.C.A.

Applications are invited from Men and Women holding recognised qualifications in Architecture for the post of full-time Studio Instructor to teach Architectural Design and Construction in the School of Architecture of the College. The School is "recognised" for the purposes of exemption from the R.I.B.A. Intermediate and Final Examinations. Salary £300 per annum until such time as the position under the Burnham Scale overtakes this amount. The commencing salary may, however, be higher than £300 if the successful applicant possesses sufficient previous teaching and or practical experience. The appointment will, in the first instance, be temporary for the duration of the war. Duties to commence on the earliest date possible. Residence within the City boundary is a condition of appointment. Application by letter, together with copies of three recent testimonials, to the Principal, by February 15th, 1943, giving details of professional training, qualifications and experience, and stating earliest date on which services will be available.

J. E. RICHARDS,
Town Clerk and Secretary to the College of Art and Crafts Committee.

The Guildhall,
Nottingham. 861

Architectural Appointments Wanted

CHARTERED ARCHITECT, A.R.I.B.A., Dipl. Arch. Lond., experienced in all branches of the profession, including architectural education, desires part-time teaching appointment (architectural subjects) in London or Home Counties. Box 34.

A.R.I.B.A., age 37, Exempt Military Services, requires work in London. Salary £450 per annum or by arrangement. Box 37.

PROBATIONER R.I.B.A., age 22½ years. Exempt Military Service, seeks progressive position of Architectural Assistant in Birmingham area. Five years office experience of all types of work. Box 36.

ARCHITECT, experienced carrying through works complete, requires post in London area as manager. Please state approximate salary and prospects. Box 38.

YOUTH just turned 17, seeks position in drawing office, preferably architect's, in London area. Had 6 months' varied training in Provincial Civil Engineering Drawing Office. Willing to submit testimonials. Box 40.

ARCHITECTURAL AND BUILDING DRAUGHTSMAN would like part-time work.—F. T. P. W., 53, Eaton Mews West, S.W.1. 42

ARCHITECT AND SURVEYOR, A.R.I.B.A., seeks position or work in own office which will allow him a day per week to attend to his own practice. Box 45.

ARCHITECT AND SURVEYOR with own office in Gloucester, offers assistance in all branches of the Profession. Box 46.

JUNIOR ASSISTANT requires a progressive position in an Architect's office. London area. Has knowledge of draughtsmanship and building construction. Studying second year at Regent Street Polytechnic. Excellent references. Pupilage is possible. Box 47.

ARCHITECT'S ASSISTANT, A.R.I.B.A., T.P.I. Final Exam.; 31 years (woman); all round experience; present salary £355 per annum; seeks position in Sheffield. Box No. 48.

SENIOR ASSISTANT (age 26), recent experience in hostels, factories, canteens, etc., expert draughtsman, requires responsible position in London architect's office. Exempt from military service. Box 49.

Classified Advertisements continued on page xxxii.

DRAUGHTSMAN, experienced all classes of architect's work, requires spare-time work, complete drawings carried out from rough sketches, moderate fees. Write Box 50.

DRAINAGE ENGINEER.—Specialist in purification works. Requires part-time jobs. Box 52.

YOUTH, just turned 17, seeks a progressive position in a surveyor's office in the London area. Has knowledge of draughtsmanship, building construction and making war damage survey specifications. Studying at the Northern Polytechnic. Box 53.

YOUTH (under 17) seeks position in Quantity Surveyor's office, or with firm of Contractors. Matriculated with distinction in General Science and at present attending evening classes on Quantity Surveying. Anxious to extend knowledge by practical experience. Box 54.

TO ARCHITECTS AND SURVEYORS. Architectural Drawing Office Work of every description undertaken at reasonable prices. Write or phone L.Y.M.K., c/o K's Studio, 30, Westbourne Grove, Bayswater, W.2. 'Phone : BAYswater, 7130. 55

ARCHITECTURAL AND LANDSCAPE ARTIST. Experienced all classes of Architectural and Survey Drawings, requires spare time work. Complete drawings carried out from rough sketches. Survey and site plans, Axonometric and Perspectives and Tracings. Box 56.

ARCHITECT'S ASSISTANT, present salary £359, requires position in town on or near coast (health). Preferable replanning work. Box 57.

Other Appointments Vacant

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

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

Miscellaneous

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

A. J. BINNS, LTD., specialists in the supply and fixing of all types of fencing, tubular guard rail, factory partitions and gates. 53, Great Marlborough Street, W.1. Gerrard 4223-4224-4225.

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

WANTED TO PURCHASE. Copies of *Architectural Record* (N.Y.) for July and August, 1942. Box 853.

PRINCIPAL wishes to obtain substantial interest, control or purchase outright of a well-established building contractor's business (not jobbing builder). Would entertain partnership. Write Blundell Baker & Co., Solicitors, 9, New Square, Lincolns Inn, W.C.2. 859

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.
Short Term Wartime Tuition Arranged.
Courses by Correspondence and Personal in Studio.
115, Gower St., London, W.C.1. Telephone . Euston 3906

R.I.B.A. AND T.P. INST. EXAMS. Private Courses of tuition by correspondence arranged by Mr. L. Stuart Stanley, M.A., F.R.I.B.A., M.T.P.I. Tutor, St Catherine's College, Cambridge. 231

S

Edit

TH

45

ACC

COM

TELEP

TELEC

Printed in Great Britain for the Proprietors of "THE ARCHITECTS' JOURNAL"
(The Architectural Press, Ltd.) War Address: 45 The Avenue, Cheam, Surrey
by KNAPP, DREWETT & SONS LTD. Kingston on Thames and London