

# Sisalkraft has been promoted



Government Departments,  
Municipal Authorities, and  
Public Works Contractors are  
using all available supplies of  
Sisalkraft. After the war you,  
too, will be able to use this  
tough, waterproof, 6-ply  
material for partitions, lining,  
sheathing, insulating, sound  
proofing, damp and draught  
proofing, sarking, emergency  
weather protecting, concrete  
curing, and 101 other jobs.

# SISALKRAFT

TRADE MARK

*Sole Distributors for British Sisalkraft, Ltd.*

## J.H. SANKEY & SON, LTD.

MANUFACTURERS AND DISTRIBUTORS OF BUILDING MATERIALS  
SANITARY WARE AND REFRACTORY GOODS SINCE 1857  
22, ALDWYCH HOUSE, ALDWYCH, LONDON, W.C.2

Telephone  
Telegrams

HOLborn 6949 (14 lines)  
BRICKWORK, Estrand, London

# THE ARCHITECTS'



## JOURNAL

THE ARCHITECTS' JOURNAL  
WITH WHICH IS INCORPORATED THE BUILDERS'  
JOURNAL AND THE ARCHITECTURAL ENGINEER  
IS PUBLISHED EVERY THURSDAY BY THE ARCHI-  
TECTURAL PRESS (PUBLISHERS OF THE ARCHITECTS'  
JOURNAL, THE ARCHITECTURAL REVIEW, SPECI-  
FICATION, AND WHO'S WHO IN ARCHITECTURE)  
FROM 45 THE AVENUE, CHEAM, SURREY

THE ANNUAL SUBSCRIPTION RATES ARE AS FOLLOWS :  
BY POST IN THE UNITED KINGDOM..... £1 3 10  
BY POST TO CANADA..... £1 3 10  
BY POST ELSEWHERE ABROAD..... £1 8 6  
SPECIAL COMBINED RATE FOR SUBSCRIBERS TAKING  
BOTH THE ARCHITECTURAL REVIEW AND THE  
ARCHITECTS' JOURNAL : INLAND £2 6s. ; ABROAD  
£2 10s.

SUBSCRIPTIONS MAY BE BOOKED AT ALL NEWSAGENTS

SINGLE COPIES, SIXPENCE ; POST FREE, EIGHTPENCE.  
SPECIAL NUMBERS ARE INCLUDED IN SUBSCRIPTION ;  
SINGLE COPIES, ONE SHILLING ; POST FREE, 1s. 3d.  
BACK NUMBERS MORE THAN TWELVE MONTHS OLD  
(WHEN AVAILABLE), DOUBLE PRICE.

SUBSCRIBERS CAN HAVE THEIR VOLUMES BOUND  
COMPLETE WITH INDEX, IN CLOTH CASES, AT A  
COST OF 10s. EACH. CARRIAGE 1s. EXTRA

45 The Avenue, Cheam, Surrey  
TELEPHONE : VIGILANT 0087-9 (3 LINES)

The Editor will be glad to receive MS. articles  
and also illustrations of current architecture in this  
country and abroad with a view to publication.  
Though every care will be taken, the Editor cannot  
hold himself responsible for material sent him.

THURSDAY, MARCH 26, 1942.

NUMBER 2461 : VOLUME 95

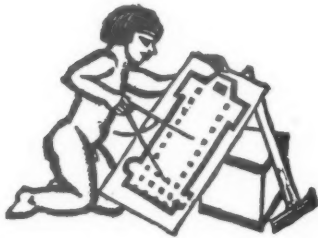
### PRINCIPAL CONTENTS

News .. .. .	223
Portrait : Lord Sempill .. .. .	224
This Week's Leading Article .. .. .	225
Notes and Topics .. .. .	227
<i>Astragal's Notes on Current Events</i>	
Pick's Legacy : The Underground Style .. .. .	228
Letters .. .. .	236
Information Sheet .. .. .	facing page 236
<i>Structural Steelwork (857)</i>	
Information Centre .. .. .	238
Trade Notes .. .. .	xxii

The fact that goods made of raw materials in short supply  
owing to war conditions are advertised in this JOURNAL  
should not be taken as an indication that they are necessarily  
available for export.

Owing to the paper shortage the JOURNAL, in common with all  
other papers, is now only supplied to newsagents on a "firm  
order" basis. This means that newsagents are now unable to  
supply the JOURNAL except to a client's definite order.

In common with every other periodical and newspaper in the country, this JOURNAL is rationed to a small proportion of its peace-time requirements of paper. This means that it is no longer a free agent printing as many pages as it thinks fit and selling to as many readers as wish to buy it. Instead a balance has to be struck between circulation and number of pages. A batch of new readers may mean that a page has to be struck off, and conversely a page added may mean that a number of readers have to go short of their copy. Thus in everyone's interest, including the reader's, it is



important that the utmost economy of paper should be practised, and unless a reader is a subscriber he cannot be sure of getting a copy of the JOURNAL. We are sorry for this but it is a necessity imposed by the war on all newspapers. The subscription is £1 3s. 10d. per annum.

### from AN ARCHITECT'S Commonplace Book

"He said that if he had his life over again he would prefer to be a small architect in a country town like Mr. Hicks, of Dorchester, to whom he was articted."

Thomas Hardy. From the "Later Years of Thomas Hardy," by his second wife, Mrs. Florence Emily Hardy.

## NEWS

★ Government Committee suggests there should be one standard size of brick throughout Gt. Britain page 223

★ The first woman architect to join the professional staff of the Ministry of Health page 224

★ Frank Pick's Legacy page 228

### MOWP

First Report of Committee\* on the Brick Industry has just been issued by Ministry of Works and Planning. It is obtainable from H.M.S.O., price 6d. Committee's recommendations are:—

(1) The current total national output of bricks should be decreased by 12½ per cent. and 4 per cent. by the closure under compulsory order of specific brickworks, or in the case of large works by reduction of productivity.

(2) A scheme should be established for contribution towards the care and maintenance of works closed under compulsory order or with the approval of the Minister.

(3) Unless essential output is to be jeopardised, the maximum release to the Forces which the industry might be called on to make under the present arrangement of reservation, deferment and release from the forces is only possible if there is a more comprehensive transfer of labour than at present appears practicable. It is essential that the closest consultation with managers of works should take place before transfers are made.

(4) The loss of men by the industry on account of the calling up for the Forces or other national work of a number in excess of

\*Committee was set up on September 16 last year under chairmanship of Mr. Oliver Simmonds, M.P., with following terms of reference:—To advise on steps to be taken to secure adequate output, maximum co-ordination, pooling of resources and information, economy of manufacture, introduction of more scientific methods and on labour and transport problems.

those transferred from closed works should be made up by the employment, under specified conditions, of women of a suitable type in the ratio of three women for each two men replaced, but subject to a limit so that the proportion of women to total operatives in the industry does not in the immediate future exceed 20 per cent.

(5) There should be one standard size of common brick throughout Great Britain.

The Report will be discussed in next week's issue.

Memorandum received from MOWP deals with iron and steel. MOWP draws attention to several points in connection with procedure announced in November, 1941, for simplifying the working of the Iron and Steel Distribution Scheme by the issue of bulk iron and steel authorizations for small orders of manufactured articles required primarily for building industry. This report is fully dealt with on page 237.

### A.R.P.

The National A.R.P. Co-ordinating Committee has prepared a comprehensive memorandum\* on all the most important aspects of A.R.P. This is based on the experiences of their members who have visited all the most important "blitzed" areas immediately after they have been raided, and on the experiences of members of organizations (such as the National Council of Social Service and the Friends' Ambulance Unit), whose members have been actively working in the A.R.P. services of all kinds. Memorandum, therefore, makes available a great amount of first-hand information, and much of the work of the Local Authorities themselves in solving A.R.P. problems. The authors state that it has been prepared with the object of placing at the disposal of all with an interest in A.R.P. the accumulated experience of preparing for blitzes.

Some of the points made are:—

Rest Centres and other emergency services should be housed in framed buildings to reduce the danger of their being put out of action in raids.

First-Aid Repairs to houses should be made bomb-resisting, by such measures as stripping damaged roofs and replacing with a concrete flat, "torching" slates, using light "replaceable" windows.

Where Local Authorities cannot earmark sufficient reserve of accommodation for rehousing the homeless, there should be reserves of sectional hutting. Any new housing should include a "shelter room."

Training facilities for all Civil Defence Services should be greatly expanded.

\*Memorandum on A.R.P. (price, 6d.), obtainable from National A.R.P. Co-ordinating Committee, 30, Bedford Row, London, W.C.1.

### WAR DAMAGE

L.C.C. have for many years been forming a collection of photographs and prints of buildings in London of architectural or historical interest. Council have added to this collection since the war began and it is being enlarged to include photographs of buildings that have been damaged by enemy action, and of interesting vistas opened up by demolition of buildings. Council are also making drawings of special features of these buildings and records of earlier foundations brought to view by demolition. Apart from photographs, a careful record is kept for war damage to buildings of architectural or historical interest and particulars of such damage are supplied to the Society for the Protection of Ancient Buildings and the National Buildings Record.

### POST WAR HOUSING

Minister of Health called together the Central Housing Advisory Committee to consider post-war housing, including house design, on March 20.

Advisory Committee is a statutory body set up under Housing Act, 1936, and met regularly before the war. Women's representation has now been increased by the appointment of Lady Sanderson, Chairman of the Women's



## Lord Sempill

Lord Sempill, now President of the Design and Industries Association, contributes a note on Frank Pick and his relations with the D.I.A. in this week's JOURNAL. He worked with and became an intimate friend of Pick, who was one of the Early Fathers of the D.I.A., and who was profoundly influenced by its creed as interpreted by architects like Charles Holden—so much so that what we have called "The Underground Style," on another page, might be described almost equally well as the D.I.A. style. Lord Sempill rejoined the Royal Naval Air Service in 1939. In the last war he served as a captain and flight-commander in the R.F.C., wing commander in the R.N.A.S., and colonel in the R.A.F. In seven consecutive years, from 1924 to 1930, he competed in the King's Cup Air Race round Great Britain. He is a member of the Advisory Council of the Department of Industrial and Scientific Research and a member of the executive committee of the Royal Society of Arts. Another personality renowned in the field of modern design was a cousin of his, the late Mansfield Forbes, of Finella fame.

Housing Advisory Council. Other new appointments to Committee are Alderman Ager, of Birmingham, the Earl of Crawford and Balcarres, Mr. R. Coppock, the General Secretary of the National Federation of Building Trades Operatives, Mr. David Smith, Joint General Manager of the Halifax Building Society and Mr. Louis de Soissons, F.R.I.B.A.

Minister has recently appointed to the Housing Architects Staff of the Department, Miss Judith Ledebøer, A.R.I.B.A., who will be closely associated with the work of the Committee. She is the first woman architect to join professional staff of Ministry.

### SALVAGE

Waste Paper Recovery Association inform us that approximately 80 per cent. of the letters handled by the Post Office are in new envelopes. Association state: "Many people seem to think that as long as it is possible to buy envelopes, there is no point in using economy labels. That is a misunderstanding of the position. Stationery manufacturers are now cut down to 15 per cent. of their pre-war tonnage, so that when present stocks are exhausted, it will scarcely be possible to buy any new envelopes. For this reason, it is absolutely vital to use those in stock with the greatest economy, reserving them for registered letters, mail going abroad and the few other occasions when a used envelope will not do. In any case, economy labels are worth while from a patriotic point of view. If an envelope is re-used only once, 50 per cent. of the paper fibre that would be needed for a new envelope is saved. And most envelopes can do three or four journeys before being added to the salvage collection."

### TECHNICIANS AND OPERATIVES

About seventy people, consisting mainly of delegates from various trade unions, were present at Conway Hall, Red Lion Square, W.C.1, when a meeting, called by the Association of Architects, Surveyors and Technical Assistants, was held. Mrs. Penn presided.

In opening the proceedings, the Chairman said representatives of various trade unions had met to seek what part they could play in giving a lead to the building industry. Two objects were before the meeting, the first thing being to find in what way technicians and operatives could come to the assistance of each other, and the second being to formulate suggestions for machinery to carry out this purpose.

Mr. E. Bryan (District Organizer of the Amalgamated Order of Building Trade Workers) said this was the first time in the history of the industry that technicians and operatives had met together to discuss common problems. Where operatives had met technicians on contracts the operatives had found the technicians helpful, and this was especially the case with clerks of works. A lot of building up and pulling down again that had taken place in the past could have been avoided if operatives and technicians had consulted together. When he had met technicians he had found that they accepted practical suggestions and explored possibilities, while the operatives, consulting with the technicians, got a truer view of the industry as a whole than if he knew only his own section. Subdivision of labour and the introduction of specialist methods and synthetic materials were revolutionizing the industry. Craftsmanship was being abolished. During and after the war the A.A.S.T.A. and the N.F.B.T.O. could help each other in discussions and otherwise.

Mr. Kenneth Campbell said the present meeting was a landmark in building history. This was the first time that technicians were playing their right part in the industry, that being the part of a mouse allying himself with an elephant. Lack of co-operation between technician and operative had been partly the result of professional pride and partly that of economic circumstances. It was only since the close of the middle ages that the separate profession of architect had arisen, and even so late as Wren,



that great 'master had left a great deal of designing work to men on the job. It was only when industrialism came that we got the man in the office drawing down every detail of the job regardless of the fact that quite often he was not really capable of doing so. It was a fantastic position but inevitable owing to the growing complexity of building construction. Central design and central control were essential and would continue, but the present period of transition was a difficult one, with men following old crafts working side by side with other men using new methods. It added another cause of friction to that arising from the difference between the man with the drawing board and the man on the job. It was necessary to get one voice for all men engaged in building. The war was hastening the progress of new methods such as prefabrication, and the further consequential speeding-up increased the stresses and strains inside the industry. One thing which the war had brought, i.e. bonus rates and payment by results, was something against which builders had fought for a hundred years. There was need for co-operation between technician and operative in these matters. The Essential Works Order was difficult to operate but the technician could make things easier for the man on the job. Where bonus rates were set they must be set for general types, and by the method by which he prepared his drawings the technician could make it easy or difficult for the bonus rate to be applied. If collaboration and co-operation took place on the job before things were carried out, and the technician was present at the preliminary discussions, he could make an extremely valuable contribution. Besides operating bonus rates there was a necessity for establishing decent conditions and standards for workmen. In the past the technician had stood on one side during disputes and left the operative to struggle alone for better conditions. This had been a tragic mistake.

Mr. V. T. Sulston (Secretary, London Regional Council, N.F.B.T.C.) asked whether it was going to be good for operatives to associate with the A.A.S.T.A.? There were a number of problems. A first question was, how was it possible for the A.A.S.T.A. to associate itself with the joint agreement arrived at by the building industry? The architects and surveyors who employed most of the members of the A.A.S.T.A. had not signed that agreement. It would be a great advantage if they could be brought in and the circle for negotiation made wider. This was the first time in his experience that the man in the office had felt himself to have something in common with the man on the job. They must go forward in that spirit.

A number of other speakers contributed to the discussion. Several of them objected to bonus rates and payment by results, and expressed the hope that the system would be brought to an end with the war.

## DIARY

Friday, March 27. Morley College, Westminster Bridge Road, S.E.1. "The New Britain: Obstructions to Planning." By L. Dudley Stamp. 6.15 p.m. A.A.S.T.A.: 21, Gower Street, W.C.1. "Trade Unions and the War: A Challenge to the Building Technicians." By Ben Smith. 6.30 p.m.

Saturday, March 28. A.A.S.T.A.: 16, St. Mary's Parsonage, Manchester. "Building Technicians and the War." By Birkin Haward. 2.30 p.m. I.A.A.S. (London and Home Counties Branch): 75, Eaton Place, S.W.1. "The Future of Professional Education." By Winton Lewis. 2.30 p.m.

Monday, March 30. Living-in Cities Exhibition: Art Gallery, High Street, Ipswich. Until April 9.

Tuesday, March 31. A.A.: 36, Bedford Square, W.C. "Russia—Now." By Sir Bernard Pares. Nomination of Officers and Council. 5.30 p.m. Also, Exhibition of Russian Cartoons and Architecture.

Wednesday, April 1. Living-in Cities Exhibition: Museum and Art Gallery, Wardown House, Wardown Park, Luton. Until April 30.



## PICK and PORTAL

FRANK PICK'S great merit was that he broke away from the accepted tradition of Big-Business and set a new standard for business men. As head of the L.P.T.B. he made it clear by the care he devoted to design, from buildings and rolling stock right down to individual advertisements, that his organization had been set up to serve the people of London. Occasionally he lapsed; he once suggested that the population of London should be increased by a couple of million in order that the London Passenger Transport Board might open and run new lines at a profit. But his real standard was service and before the war he cut a somewhat unexpected figure in the world.

But war is changing things. Just as the rhythmic beat of a military march makes people who fail to swing along in step uncomfortably conspicuous, so the effort of total war which compels most of us on the home front to lay aside our private pleasures and fall in on the production line, throws into high relief the other ties which have power to hold men back. The smooth arguments of economists can't any longer hide the discrepancy between the real needs of the nation and needs as measured by profits alone. We've had a glimpse (not more) of what it means to work for a common purpose and we are in no mood to be fooled again by balance sheets and finance into the swithers of slums and slumps. In a nutshell, big-business in future will have to follow Frank Pick's lead and try to adjust itself to the fact that we shall judge its success no longer in terms of profits but in terms of the amenities it can provide. If it can't provide amenities then business and not amenities will have to go.

That is the way public feeling is running, and the current is pretty strong—which doesn't mean that attempts will not be made to see that it runs to waste. Indeed, Lord Reith's departure might be—and has been—construed in some quarters as the result of an effort to slow down the pace, as though some feared he might be too quick to harness the energy of the nation for reconstruction. Lord

Portal, a successful business man himself, must know how great and vested are the interests (not all naughty) which still seek to corner, in every meaning of the word, Reconstruction. He also knows, we hope, that reconstruction isn't going to be cornered. MOWP is the organization that stands before the public as the instrument of reconstruction. If with the most excellent intentions it were merely used as an instrument for preserving the *status quo* instead of as what it really is, an instrument for implementing *Necessary Change* in a decent British fashion, it and all its members and ministers would certainly be swept away, and something much less gentlemanly would certainly take its place. Lord Portal, we imagine, realizes the tricky nature of his position—and big-business, we may hope, has still time to profit by the example of Frank Pick.



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

## NOTES & TOPICS

A.A.S.T.A.

The coming of Spring on Saturday afternoon did not deter a hundred people from meeting to celebrate what I first took to be the marriage of A.A.S.T.A. and N.F.B.T.O., but afterwards found was only a proposal of marriage. This was the first such occasion, as one speaker observed, since Robert Owen's attempt at match-making a hundred years ago,\* when seven representatives of building craftsmen were invited to meet one

architect—and the architect failed to arrive.

The proposal is welcome for many reasons. Most architects have regretted the barrier set up between drawing-board and scaffold-board, often, I am sorry to say, in the guise of a general foreman. The Union of Supervisory Staff and Engineering Technicians came to the party, so there is some hope at least for the civil engineering side of the industry.

Office worker and operative can learn much from each other. Contact on the site or on committees may help to overcome manufacturing or craft opposition to new techniques; it will certainly do more to correct mistakes in design due to craft-ignorance than any amount of class-room lecturing.

Such a union would hardly have been possible before the war. Now there is a deepening sense of interdependence in the Industry, and of the urgency of Total Co-operation. At the same time the fortunes of war have brought both craftsman and draughtsman his weekly fiver, though still from two different pockets.

This was not a meeting to discuss ways and means, in spite of attempts to raise such knotty problems as payment by results. It was called to bless the union, and it did, in

the name of increased war production and improved peace organization, and it looked forward to better times with more service and less profit.

Meanwhile certain practical issues will have to be faced, particularly in connection with just those knotty problems. War conditions have laid on the technician some responsibility for arbitration between master and man. If A.A.S.T.A. is wedded to N.F.B.T.O., can its members retain the full confidence of the employers? A wife cannot plead her husband's cause. These and similar questions will call for a whole series of family conferences. They will be watched with interest.

### YOUR INHERITANCE

I have received this week some interesting comments upon *Your Inheritance* from the staff of a large provincial girls' grammar school. You never have to scratch a pedagogue very deeply to find a critic, but in this case approval was pretty general. Naturally enough, the Senior History Mistress thought the space devoted to the Enclosure system was inadequate, and communist opinion queried the attitude taken by the author to the police force.

Some found the presentation bewildering—inevitable perhaps when so much information is packed into so small a space—and all, curiously enough, agreed that it might be smart journalism, but it was certainly bad psychology to start off by calling democracy an "ugly" word. Finally, my own view that the cover is a bit waspishly repellent is endorsed by the fact that few people were observed to pick the pamphlet off the magazine shelf unless it was pointed out to them.

Complaints, in fact, were all of presentation of material—not of the material itself. The real value of *Your Inheritance* remains—the message so relentlessly told with the help of carefully chosen photographs and excellently illustrative drawings by Robert Austin. To architects its interest is obvious. Even if the story, when it reaches modern times,

\* 1845 to be precise.

is painfully familiar to some of us, it remains as absorbing as the career of *Jane*, and as fantastic as the adventures of Colonel Up and Mr. Down.

The anonymous author of *Your Inheritance* is to be congratulated upon collecting in so compact and readable a form so much information hitherto only available in a multitude of technical volumes. It was a job which needed doing, and it is good news that a second edition is now in preparation.

#### EXETER REVISITED—

Exeter must surely be one of the most overcrowded county towns at the present time. What is the cause of its apparently enormous increase in population since the last war? There are no signs of new industries, but on all sides, and particularly southwards along the banks of the Exe, vast new residential suburbs "of a better type" (than what?) have sprung up.

Few if any of these show the least regard for local traditions or an intelligent use of local materials. Most of the villas vary only as between their Great West Road or Bournemouth prototypes. They have nothing to do with either Exeter or Devonshire.

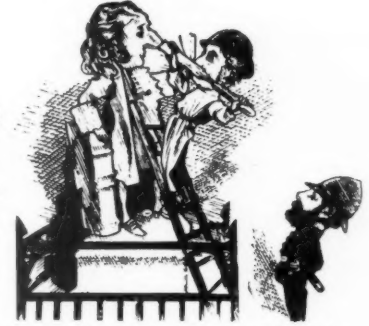
Topsham (still mercifully undiscovered, thanks to the twist by which the Exmouth road just avoids it) is now linked to Exeter, and that once magnificently timbered road which ran between private parks has become the usual superior building estate, all but denuded of its great elms in the interests of ribbon-development. The two charming Georgian terraces just beyond Topsham Barracks are like an enclave of some forgotten civilization among this capricious chaos of fancy-free frontages.

Probably the cause of this depressing transformation scene has been the new Exeter by-pass. It is almost the only really ugly road in Devonshire. Lined by grass earthworks to exclude the view and by that concrete kerbing which announces imminent suburbanization,

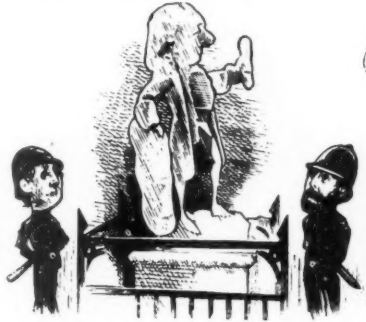
#### ALL THAT CONFOUNDED CLIMATE!



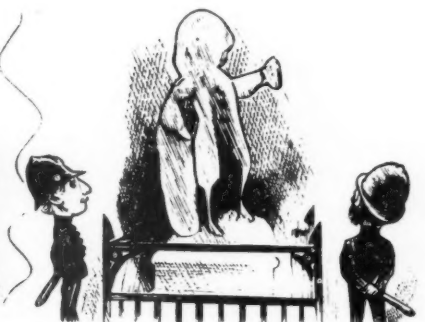
We cannot preserve a statue in our climate. Only a year ago we put up a beautiful statue and we stationed two policemen to keep off boys.



And we hired a man to scrape it hard every week with chisels.



And yet that statue surface seemed gradually to wear away. Oh, that climate.



So we hired a stronger man to scrape the statue every day with bigger chisels. But, would you believe it? The surface is actually wearing away faster than



ever. Oh, that climate. We've ordered a patent steam scraper warranted to scrape away a ton an hour, and if that won't preserve the statue, well—

*The British Tradesman together with the Complete Builder published by Fun Office London, 1880, contains a series of prodigious jokes aimed mostly at the enterprising Capitalist. One on Enclosures was reproduced in the JOURNAL for March 12. Elaborate after the manner of all Victorian humour, they leave nothing to the imagination, but some at least of their subjects are still wonderfully alive, and Astragal has decided to give a small selection from the book. This week's choice shows an example of prevision startling for 1880, and reveals for positively the first time the birth of the modern movement whose bourgeois origins are at last scandalously exposed.*

its verges are bare of a single tree or shrub. About the only orderly building it can boast is an Army camp. R.E. lay-outs may not be exactly imaginative, but there is at least no nonsense about them.

#### —AND BATH

On the other hand, if ever a town cried out for a by-pass it is under-bridged Bath. But hardly anywhere

would the task of providing one be more ticklish than in the steep and narrow Avon Valley. It could be done without much demolition, but it would almost certainly involve half-a-mile of tunnels or viaducts. A big opportunity for the same sort of bold handling which characterized Bath building a century and a half ago.

ASTRAGAL



# PICK'S LEGACY : THE UNDERGROUND STYLE



A PRELIMINARY TRIBUTE

PICK AND THE D.I.A.

BY THE LORD SEMPLL

"Artists like Keats and Mozart have given themselves to their art, and reformers like Shaftesbury and Granville Sharp to good works of a different kind. Rarely has a tradesman been moved to follow their high example. Pick was one of the great exceptions. Not since Wedgwood has an English tradesman done so much to make his trade a spiritual asset to the society on which it feeds. . . . But, even then, Pick will be remembered less for his physical works than for his shining personal example. His chief merit was this, that he showed us a new type of business executive, cultured, sensitive and creative in the highest sense, which modern business will have somehow to produce if our material civilization is to keep what little of humanity still clings about it. Certainly Frank Pick was a patron of modern architects and painters. Charles Holden and McKnight Kauffer are only two among the many who owe him as much as a good artist can ever owe to someone else. But the novel and remarkable thing about him is just that he was the very opposite of a Lorenzo. You could apply the term Lorenzo very aptly to Mr. Jack Beddington, for example, or to Sir Kenneth Clark. To both these men the art they serve is the main thing. They work for art as a gardener prunes and tends his favourite roses. To Pick, art was always a means to an end. He held the still somewhat *démodé* view that the art of painting should be the handmaid of architecture, and the art of architecture a way of making towns."—Christian Barman in *The Architectural Review*.



Those of us who had the privilege of working with Frank Pick, and I am proud, indeed, to be numbered amongst these, carry an indelible impression of one of the most vivid and constructively forceful personalities this age has produced.

He was not an easy man to know. To form a real friendship with him took time, but the long struggle involved was fully repaid to those who were at last successful. Incisive himself in speech and action, he would not suffer fools gladly, and had no patience with time servers or people who could not come to the point. It was for this reason that many people found him difficult and complained of his directness of speech, but it was such characteristics which made him an invaluable man in a high executive post or on a committee. He would sum up the matter under discussion in clear, crisp sentences, and press forward to a conclusion, thus avoiding that immense waste of time and the somewhat inconsequent decisions so often arrived at by such bodies. He always profited by experience.

I have seen Frank Pick at work under a variety of conditions, and have enjoyed few occasions so much as a visit with him to the Private View at the Royal Academy. A tour of the rooms in his company was an education in itself, as each picture brought forth some pertinent remarks as to the past and prognostications of the future.

The design of equipment of all kinds and its functioning in the vast enterprise of London Transport, has set a standard which has had an important influence on other similar organisations throughout the world. He made a mark on the face, and, physically, in the very core of London, and this must rank him as one of her unique citizens.

In the last war, when the days were so dark for our cause, it was Frank Pick who looked ahead and planned for the days of peace. It was due in a large measure to his initiative and faith in the future that the Design and Industries Association was formed; and it was again his courage and vivid personality that put new life into the Association, when, in the difficult days between wars, some hearts grew faint and progress in industrial design seemed frozen.

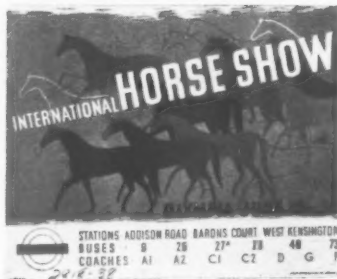
The Design and Industries Association owes him a very real debt of gratitude, and this can be repaid in the one way which would have appealed to Frank Pick, and that is, by everyone of us pressing forward with the work—planning for peace. The work of the Association if properly handled now can exercise a vital influence on the future.

As Pericles said: "If our remote ancestors deserve praise, much more do our fathers." Frank Pick was certainly a father to the D.I.A.





When he joined the L.P.T.B., Frank Pick began by producing better posters—and went on to produce a better arrangement of the posters. He called upon several artists to execute the designs. Some are illustrated here: facing page, by Osbert Lancaster; left, top, by E. Topolski; centre, by the Reimann School; bottom, by E. McKnight Kauffer. Above is one of the streamlined trains introduced by Pick; below, posters displayed (top) in an omnibus and underground station.





Frank Pick was 30 years old when he became a Traffic Development Officer of the Metropolitan District and London Electric Railways. His work in this department fell mainly under two heads. One part was to plan extensions and improvements to omnibus routes. His other task was to develop poster advertising at Underground stations. Here he began by producing better posters (some are reproduced here) and went on

(for Pick never stood still) to produce a better arrangement of the posters on the Underground and L.P.T.B. vehicles. An example of the standardized display of posters on a bus is shown in illustration at top of facing page.

With incredible energy and determination he set about to make the Underground a clean, orderly and harmonious environment for its travellers, to impart to all its physical aspects what may be

SUMMER MEETING MAY 31 - JUNE 1 - 2 - 3



BOOK TO MORDEN UNDERGROUND STATION  
BUSES EVERY MINUTE • BUS FARE 1/- SINGLE  
17-18





The difference between the old and the new London bus sums up the changes in design that took place throughout the London transport system during the Pick regime. Facing page : on the left is a B-type bus, brought into service in October, 1910. On the right and above is an RT-type, introduced in January, 1940. Posters were executed by : facing page (from top to bottom) : Eckersley-Lombers, Fred Taylor, Hans Schleger and Lewitt-Him. Left, Walter Goetz (top) F. Topolski. (centre) ; A. Sorrell (bottom). Above, top deck of the RT-type bus showing posters ; below, two shelters for bus passengers.

**ASCOT** JUNE 16-17  
Special Green Line Coaches

Every few minutes from  
Horse Guards Avenue, S.W.  
starting 8 a.m., 3/6 return

Every 15 minutes from  
Hammersmith Rd. W. near  
Red Cow Public House  
starting 9 a.m., 5/- return

A Transport System Serving 3 Lines at 100,000,000 Passengers  
An National Service, Unsurpassed in Britain, Europe

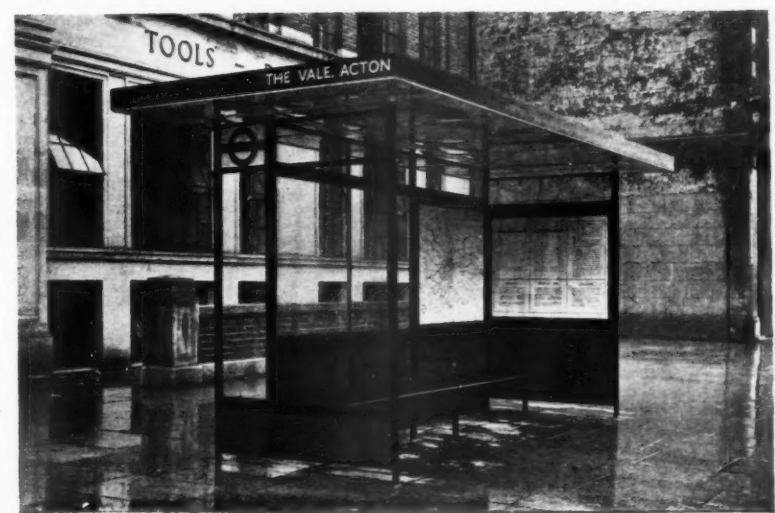
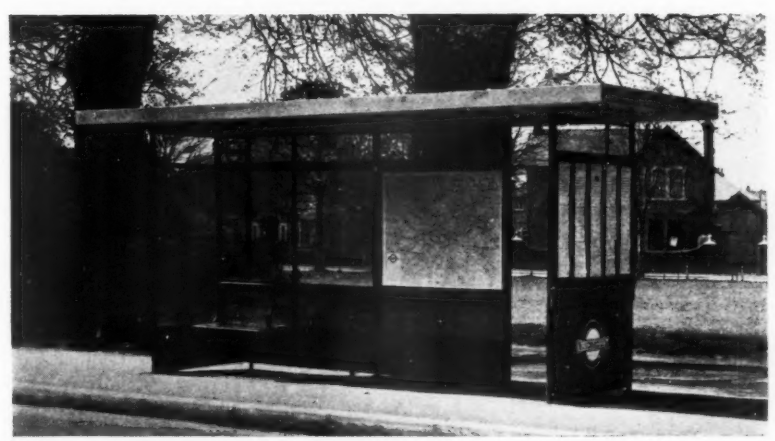
**TROOPING THE COLOUR**  
JUNE 9 at 11 a.m. • HORSE GUARDS PARADE

BY UNDERGROUND  
TRANSFERRAL CHANGING  
ST. JAMES PARK  
WESTMINSTER STRAND  
BY BUS • HARRY COACH

770-38

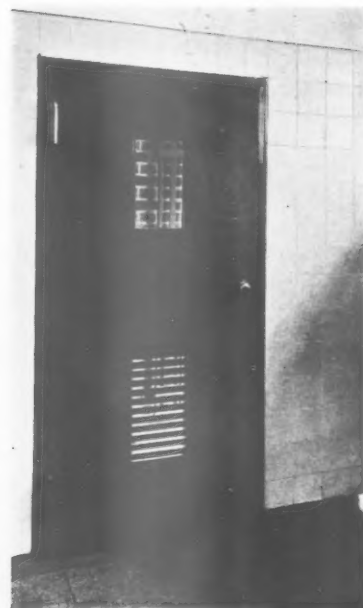
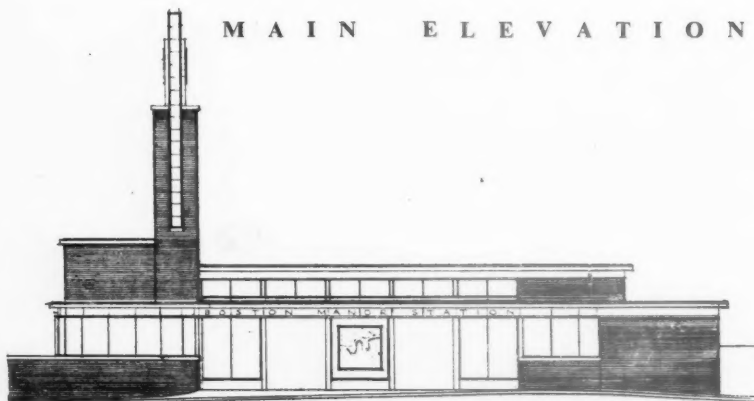


described as a decent, gracious and even an aristocratic personality, or what for want of a better term has sometimes been called a "soul." And so, over a period of twenty years, the Underground at his hands became a possession that London regards with a good deal more pride than it does most of its recent acquisitions.





Above and below, Boston Manor Station, designed by Adams, Holden and Pearson. Built in 1932, this is one of the smaller stations along the western extension of the Piccadilly District line. Building is carried on steel girders over the track. Tower is carried up in brickwork, 18 ft. 6 in. above the roof of the booking hall and is finished with a tiled blocking carrying the bull's-eye sign, with a glazed lighting column for publicity. Right, louvred self-closing sheet steel doors to lavatories at South Harrow Station.







Above, escalators at two of the L.P.T.B. stations: Below: a typical instance of the "tidying-up" process initiated by Pick in the Underground system—standardized litter-basket and automatic machines grouped in a specially designed recess in the station wall. Right, poster by E. McKnight Kauffer.



*Adams, Holden and Pearson were the architects with whom Pick worked to produce the Underground style.*

**CHARLES HOLDEN**, one of the partners, was a friend of Pick's for over 25 years. *He contributes the following appreciation.*



## PERSONAL

[BY CHARLES HOLDEN]

It was about the year 1915 that I met Frank Pick on the committee of the Design and Industries Association which had been founded in that year.

For some years he had been concerned with the improvement of the advertising system on the Underground Railway. His great series of posters, often by young and little-known artists, created a great and almost world-wide interest and added a note of brightness and colour to the otherwise drab and depressing stations.

This success and, to some extent, his contact with the small but lively group of the Design and Industries Association soon led to an enlargement of his field of activities and, with the extension of the City and South London Railway to Morden, began the long series of extensions and reconstructions which have followed almost continuously to this day; West London and Cockfosters Extensions, extension on the Highgate Line to East Finchley, and

many reconstructed stations on the Piccadilly, Central London and District lines.

Throughout the new stations the posters and their lighting remained almost the sole means of colour decoration, the architectural treatment of the stations being carried out in subdued or neutral colours in order to give the poster its maximum decorative value, a fact which incidentally added to the commercial value of the poster display.

It was an inspiration to work with Frank Pick. Always ready with helpful suggestions he needed only the ready response in others to bring his sown seed to fruition.

He was always ready to start out on some new adventure and the opportunities for adventure were many and various.

It was an exciting adventure all the time, sometimes a very strenuous one—it was certainly never allowed to be dull.

Fortunately for the success of our collaboration we were united in bringing the Design and Industries Association slogan "Fitness for Purpose" to play on all our problems. It was an acid test which led to the exclusion of many playful fancies but the finished work was always the better for these exclusions.

He had an extraordinary grasp of detail and was quick to appreciate the possibilities of any scheme put before him.

He was suspicious of large and impressive perspectives but a small freehand sketch on a half-sheet of notepaper to explain the plan would frequently set us going on an important scheme.

Always critical, he might have been thought by many to be cold and unsympathetic but he was a tower of strength where his sympathies lay.

In his contact with designers he would offer suggestions freely but if these suggestions found no response he, very wisely, would not press his suggestion, he knew that was not the way to get the best work out of an artist.

As a travelling companion he was always friendly and genial and quietly humorous; with his critical and analytical mind he was much given to collecting photographs of amusing and instructive comparisons of good and bad examples of design and these he would work off on his friends and his staff in lantern lectures, often with appropriate quotations from the proverbs.

Behind the austere exterior this man of affairs was moved by a deep ideal of service and this ideal of service was applied to every detail, large or small—there was nothing too small, nothing too remote.

In the last months of his life he gave expression to this ideal of service in two essays recently published entitled *Paths of Peace*.



Under Pick's influence the mean and shabby stations of London's suburbs were transformed into a series of buildings that have acquired a world-wide reputation for appropriate design. Above, general view of Arnos Grove Station. Below, interior of Cockfosters Station. Both stations were designed by Adams, Holden and Pearson. Right, poster by H. Blacker. Facing page : Osterley Station. By S. A. Heaps, Chief Architect, L.P.T.B. (Consulting Architects, Adams, Holden and Pearson). Below, Northfields Station, designed by Adams, Holden and Pearson and carried out by S. A. Heaps.



#### STATIONS built during Pick's term of office are detailed below :

Those marked D were carried out under the direct control of Adams, Holden & Pearson.

The others were designed and detailed by Adams, Holden & Pearson, and carried out by Mr. S. A. Heaps, Chief Architect, L.P.T.B.

DX was carried out from Adams Holden and Pearson's design in association with James & Bywaters and Pearce.

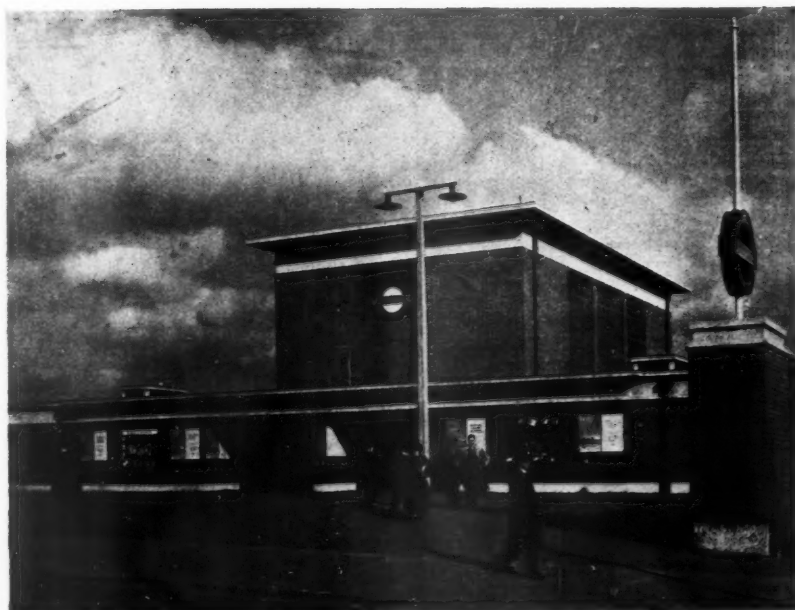
DY was carried out from their design in association with R. H. Uren.

DZ was carried out from their design in association with L. H. Bucknell.

1925 Bus Station Wembley—  
British Empire Exhibition.



- 1925 City and South London  
Morden Extension :  
Stockwell.  
Clapham Common.  
Clapham South.  
Balham.  
Balham, Trinity Road.  
Tooting Broadway.  
Colliers Wood.  
South Wimbledon.  
Morden.
- 1929 Central London Railway :  
Post Office.  
1924 Bond Street.  
1932 Marble Arch.
- District Railway :  
Mansion House.
- 1927-9 D St. James's Park.  
West London :  
1933 D Chiswick Park.  
D Acton Town.  
Ealing Common.  
Alperton.
- 1932 D Sudbury Town.  
Sudbury Hill.  
Northfields.







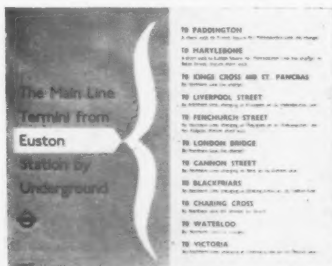
Lamp standards in the forecourt to South Harrow Station.

- 1936 D Boston Manor.  
Osterley.  
Hounslow.  
D Eastcote.  
DY Rayners Lane.  
DZ Uxbridge.  
D Ruislip Manor.  
South Harrow.  
1931-3 Piccadilly Line :  
Leicester Square.  
D Piccadilly Circus.  
D Green Park.  
D Hyde Park Corner.  
Knightsbridge.

## Hampstead and Highgate Line :

- Warren Street.  
Archway.  
1939 D Highgate.  
DZ East Finchley.  
1932-4 Cockfosters Extension :  
D Manor House.  
D Turnpike Lane.  
D Wood Green.  
D Bounds Green.

- D Arnos Grove.  
D Southgate.  
DX Enfield West.  
D Cockfosters.  
1938 East London Line :  
D Wanstead } under  
D Gantshill } con-  
D Redbridge } struction.  
D and about 12 sub-  
stations and Cock-  
fosters Depot.  
1927-9 D 55, Broadway.  
D Acton Works Offices  
and Canteen.



## LETTERS

Professor C. H. REILLY  
OSCAR GAMBAZZI

*The Year's Work*

SIR,—I am naturally interested in the lapse of taste in my recent Year's Work article which Mr. Launcelot Ross points out. I am indeed surprised and relieved he can only find this little one about Sir John Burnet and his work. My object, in suggesting it was time this gentleman's name be no longer used together with those of his old partners and successors now that he has been dead some years, was to pour a little gentle ridicule on architects, especially those we would rank as artists, calling themselves like bookies (the old firm) or pawnbrokers or any other business men by names not their own. The form of my attempted gibe was to make my rebuke to Messrs. Tait and Lorne a little more palatable. Nevertheless, it expresses my firm opinion as to the quality of their work and it is one with which I venture to think so liberal-minded a man as Sir John would to-day agree.

C. H. REILLY  
Twickenham, Middlesex.

*News from Switzerland*

SIR,—Details of the substitution of wood for iron on buildings at the Swiss Industries Fair at Basle are given in a note published in the current issue of the *Swiss Observer*. I enclose the cutting.

OSCAR GAMBAZZI.

[The note is printed below.—Editor, A. J.]

The constantly increasing demand for exhibition space for the Swiss Industries Fair at Basle, has forced the management of the fair to add new provisional buildings to the existing ones. These provisional showrooms were intended to be replaced as soon as possible by permanent buildings. Since 1939 a plan existed to erect a new hall measuring 262 feet in length and 144 feet in width to house the exhibits of the building industry. The increasing difficulty in obtaining iron has caused a revision of this project, by using wood instead of iron. According to the calculations of the Architects and Constructional Engineers, the execution in ram-concrete and wood should be more economical than the con-





S

in the  
Work  
oints  
and  
little  
d his  
ng it  
be no  
of his  
that  
as to  
fects,  
k as  
ookies  
r any  
their  
gibe  
lessrs.  
table.  
firm  
work  
ure to  
in as

LLY

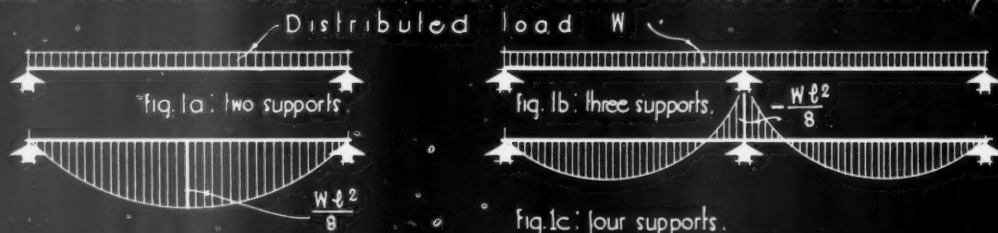
on of  
Swiss  
n in a  
sue of  
utting.  
ZZI.  
A.J.]

nd for  
lustries  
gement  
ildings  
risional  
placed  
ildings.  
a new  
nd 144  
of the  
fficulty  
sion of  
of iron.  
Archi-  
rs, the  
wood  
ne con-

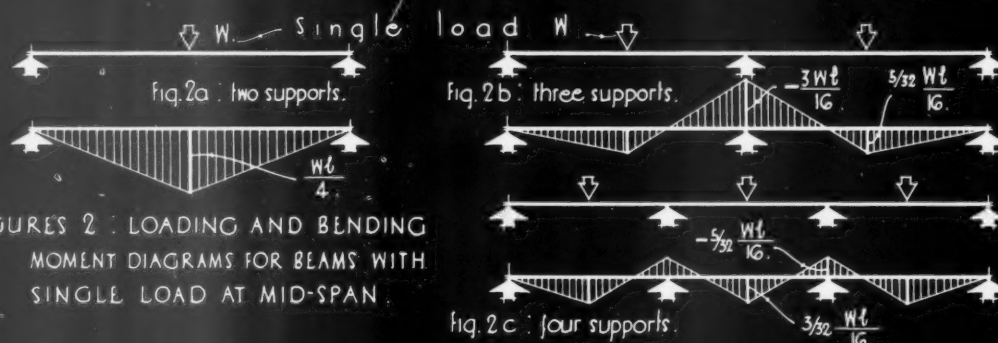


## THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

## GENERAL CONSIDERATIONS &amp; PRINCIPLES OF DESIGN IN WELDED STEEL: 17, beams

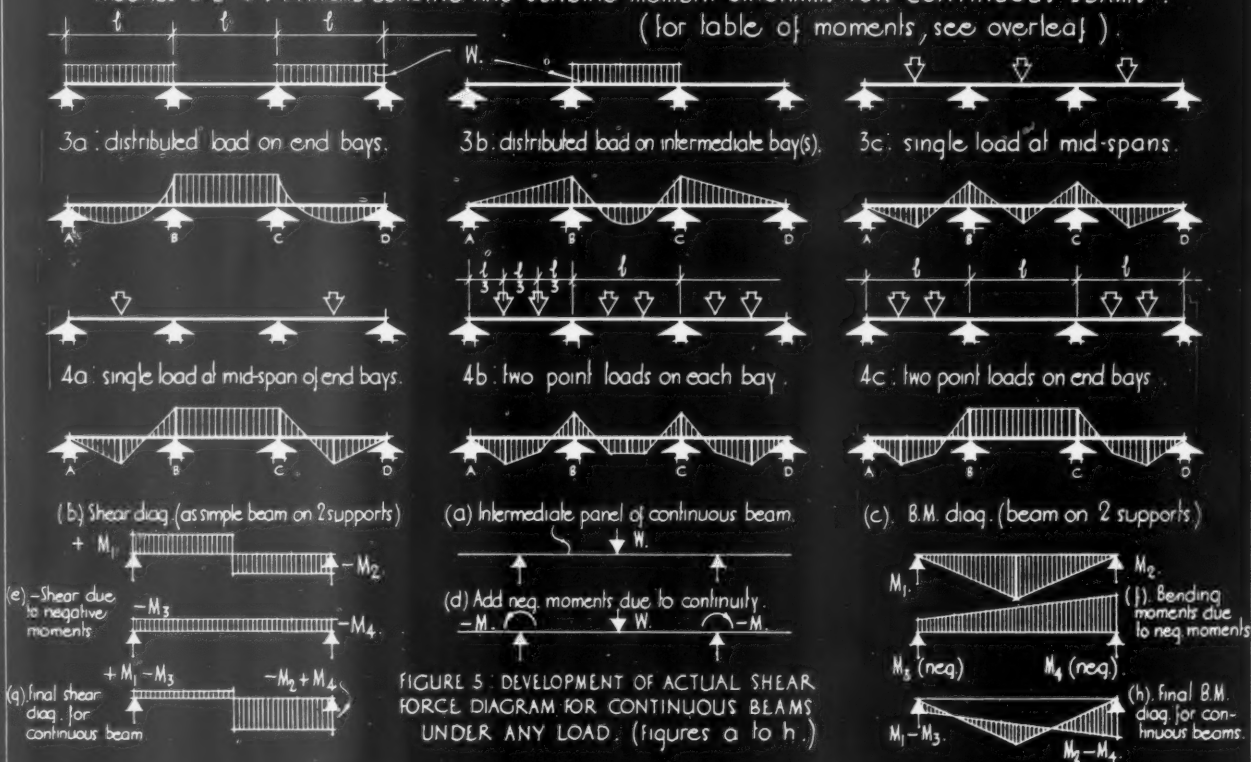


FIGURES 1: LOADING AND BENDING MOMENT DIAGRAMS FOR BEAMS WITH DISTRIBUTED LOADS.



FIGURES 2: LOADING AND BENDING MOMENT DIAGRAMS FOR BEAMS WITH SINGLE LOAD AT MID-SPAN.

FIGURES 3 &amp; 4: TYPICAL LOADING AND BENDING MOMENT DIAGRAMS FOR CONTINUOUS BEAMS: (for table of moments, see overleaf)



Issued by Braithwaite & Co, Engineers, Ltd. Compiled by Samuel & Hamann, Consulting Engineers.

INFORMATION SHEET: STEEL FRAME CONSTRUCTION, 71: WELDING 27.  
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC

# THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION INFORMATION SHEET

• 857 •

## STRUCTURAL STEELWORK

**Subject :** Welding 27 : General Considerations and Principles of Design in Welded Steel 17 : Welded 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 requirement of buildings. The economies in cover and dead weight, resulting from the use of smaller and lighter steel members and connections, are taken into consideration in the preliminary arrangement of the building components, in order to obtain a maximum economy in the design of the steel framing.

This Sheet is the last of the section illustrating general considerations and principles of design in welded steel, and deals with welded beams.

### Types of Beams :

Beams can be divided into two groups :—

- (a) Beams on two supports ;
- (b) Continuous beams.

### Application :

In riveted construction, beams are nearly always of the first type, because the labour and cleats involved in continuous beams offset all advantages of economy of material (see below). This is not so in welded construction, and as welds tend to create a rigid connection between beam and support, it is natural that continuous beams should be used to a much greater extent (as in reinforced concrete construction).

### Bending Moments :

The advantage of a continuous beam lies in the fact that the bending moments are smaller, and as symmetrical sections are used, the resulting economy is even greater than in reinforced concrete construction. In

Figures 1a, b and c, bending moment diagrams are given for beams on 2, 3 and 4 supports respectively with uniformly distributed loads, and in Figures 2a, b and c with single loads in the centre. It will be seen that with the exception of the uniformly distributed load for the beam on three supports, all bending moments are smaller for the continuous beam than for the beam on two supports, and in the case of a beam on three supports, the maximum bending moment is actually the same as for the beam on two supports. It falls off so rapidly, however, that often only the connecting plates need be designed for this bending moment, the actual beam needing a section modulus of approximately 75 per cent. of that of the plates.

In Figures 3 and 4 (taken from \*" Building Design and Construction ") some bending moment diagrams are given for typical cases of loading. The following table sets out the bending moments for these examples :—

**Table of Bending Moments in Figures 3 and 4.**

Figure No.	Span Bending Moment.		Support Bending Moment.	
	AB	BC	Mb	Mc
3a ...	0.101	—0.050	—0.050	—0.050
3b ...	—0.025	0.075	—0.050	—0.050
3c ...	0.175	0.100	—0.150	—0.150
4a ...	0.213	—0.075	—0.075	—0.075
4b ...	0.244	0.067	—0.267	—0.267
4c ...	0.289	—0.133	—0.133	—0.133

### Shear :

Where shear forces are of importance, it must be remembered that the shear force diagram of continuous beams is different from that of a beam on two supports, owing to the negative bending moments over the support, which produce their own shear forces. The actual shear force diagram for any load is explained by Figure 5.

\*By Samuely and Hamann.

### 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, 822, 823, 824, 826, 827, 828, 829, 830, 832, 836, 837, 838, 839, 840, 842, 843, 845, 847, 848, 849, 850, 851, 852, 853, 855 and 856.

**Issued by :** Braithwaite & Co., Engineers, Ltd.

**London Office (Temporary address) :** King's House, Haymarket, London, S.W.1.

**Telephone :** Whitehall 3993.



struction which was in use up to now. Instead of the previously calculated 350 tons of building iron necessary for this particular building, only 32.5 tons are required by the new method. Entirely new, and up to the present never previously applied, will be the roofing over in wood, without any support and with a span of 44 metres.

## R. I. B. A.

*A meeting to celebrate the conclusion of the first year's work of the R.I.B.A. RECONSTRUCTION COMMITTEE was recently held at the Institute. Report appears below.*

The President opened the conference with a description of both the central and the regional machinery through which the Reconstruction Committee was working. The Central Committee had set itself the task of working out general principles and each of several groups was devoting itself to the particular problems of reconstruction which fell within its province. It had been hoped that the Regional Reconstruction Committees would deal with problems peculiar to their own locality rather than along general lines and in certain regions this had been the case.

The principal subjects dealt with so far by the groups were: the necessity and machinery for the national plan; legislation affecting town and country planning and building structure; housing, both immediate and post-war; the organisation of the building industry and the relationship of the architectural profession to reconstruction, on each of which interim reports had been produced, both for submission to the Ministers of Works and Planning and of Health and to the general public.

The formation of a Central Planning authority, urged by the Reconstruction Committee since its inception, had been announced by the then Minister of Works and Buildings in February last, but while this was the first step, new legislation to give effect to the findings of the Uthwatt Committee and a new Town and Country Planning Act would obviously be required. This, however, was only a start and it would be necessary for the remaining steps to be taken at greater speed otherwise we should once more find ourselves unprepared for the deluge of problems which would come with the peace. There were matters on which as architects we would not claim to speak with authority, but there were many aspects of reconstruction on which it was the architect's right and duty to speak. Far more evil had resulted from the lack of architectural control than from the vagaries of individual architects. More efficient administration of Town Planning Acts would never make a good planner, much less a good architect, nor would it produce a good plan. Local authorities on whom will fall the greater part of the work, ought to have a planning officer and an architect—who might sometimes be the same person—to work together in preparing the plan and in carrying it out. There should be co-operation of architect, engineer and surveyor. The main point now was, to stop talking and get down to the architect's real job—designing and building.

The chairman of each of the groups then outlined the scope of the work which had been done and the plans for the future.

Mr. Howard Robertson, Policy Group, said their job was to formulate the policy and co-ordinate the work of the Reconstruction Committee and to bring the architect more closely in touch with the public.

Mr. W. R. Davidge, Planning and Amenities Group, said that the team for post-war reconstruction must be drawn from every profession which had a constructive thought to contribute. Health, transport, industry and agriculture must all be considered in the plan. Decisions would soon have to be reached on questions such as decentralization, the acquisition of land and some form of finance to implement these decisions. There should be an early stock-taking of all national assets, e.g. the railways, docks, water supplies, electricity, etc.

Mr. G. A. Jellicoe, Housing Group, said that this group was concerned primarily with housing after the war, but the effect of the present war-time building on the post-war situation had to be considered. The great volume of housing put up during the inter-war period had been done without any regard to the siting or architectural aspects.

Mr. Howard Robertson, Architecture and the Building Industry Group, said that this group was enquiring into the capacity and the organization of the industry to carry out post-war reconstruction.

Mr. J. Alan Slater, Building Legislation Group, said that in their analysis of existing legislation they found confusion and extensive overlapping. Their recommendations envisaged codification under three headings: i, planning for human needs; ii, structural standards; and iii, financial provisions to implement these requirements. He was of the opinion that the question of control of land would have to be established before planning could be begun.

Mr. Darcy Braddell, Professional Status and Qualification Group, said his group was the result of the fusion of two groups, one set up to consider the professional status of architects and the other to examine their qualifications for the town and country planning which will be involved in post-war reconstruction. Among their recommendations was one advocating the appointment of planning officers, another that the control of architectural design and the protection of buildings of architectural and historic importance should be in the hands of architects. It had also been recommended that the architect to local authorities should become a statutory office as in the case of the town clerk or borough engineer. The group was also considering the possibility of asking for the early return of mobilised planners, particularly teachers of planning, before the end of the war.

Mr. Edric Neil, Hon. Sec. Building Technique Group, said that building technique had become more of a science than any other aspect of physical reconstruction. They were considering among other subjects the time-lag between the findings of scientific research and their application in practice and also the inter-relation between research and practice. They hoped to make recommendations based on their findings.

Mr. John Gloag, Public Relations Group, said that their work for the moment was chiefly being done by a Lectures Sub-Committee and an Exhibitions Sub-Committee, which hoped to organize a national exhibition.

The meeting was then thrown open to discussion.

Dr. Dudley Stamp, Vice-Chairman of Lord Justice Scott's Committee, said that at the Ministry they were compiling a library of maps which it was hoped would be of great value to all planning work. The whole problem of national planning came back to the land, and a balance would have to be made between uses and users. It was possible to find an optimum use of land of different types—highest grade for agricultural use, areas for national parks and some for ordered industrial development and housing. A plan must be evolved and developed. We were anxious to see a happy, contented and peaceful countryside, and in view of the in-

adequacy of existing housing, architects must get down to the visualization of the ideal village and cottage.

Sir Guilym Gibbon said that there should be some method of ensuring that the bombed sites of London were redeveloped as a unit and not in patches. We were asking for failure if we relied on any large sum of money being available for reconstruction.

Mr. P. V. Burnett agreed with several of the earlier speakers, that the question of ownership of the land would have to be settled, that there was much to be done to improve the status both of the official and the private architect, and that the profession would have to consider seriously this time-lag between research and practice.

Mr. Cart de LaFontaine, representing the Town Planning Institute, emphasized the necessity for co-ordination of the views of architects working and making recommendations from two different bodies such as the T.P.I. and the R.I.B.A.

Sir Ernest Simon expressed the interest with which the work of the architects is being followed in the Ministry of Works and Planning.

## IRON AND STEEL DISTRIBUTION

Ministry of Works and Planning draw attention to the following points in connection with the procedure announced in November, 1941, for simplifying the working of the Iron and Steel Distribution Scheme by the issue of bulk iron and steel authorizations for small orders of manufactured articles required primarily for the building industry.

1. The "small orders" arrangement: (a) applies only to orders for manufactured articles (or fitted and finished goods), containing in all 1 cwt. or less of iron and steel combined in each other; (b) does not apply to iron and steel in the forms listed in the First Schedule to the Control of Iron and Steel (No. 15) Order, e.g. plain or rough castings, cast-iron pipes, steel tubes, bolts, nuts, rivets, wire rope, etc.; the "small lots" exemption under the No. 15 Order (e.g. 5 cwt. of rough castings, 2 cwt. of wire rope, etc.) is unaltered, and small quantity certificates must still be obtained from consumers in appropriate cases.

The limit of 1 cwt. under the arrangement applies to the ultimate consumer and not to the merchant or retailer (but see paragraph below).

The purpose of the Form of Certificate S.Q.C. to be used by merchants and retailers when making periodical applications for replacement of their stock of manufactured articles is to ensure that supplies are used only for essential purposes. In the case of individual orders sent direct to manufacturers a letter explaining the essentiality of the order would be adequate.

Manufactured articles such as cast iron baths, ranges, stoves, etc., which individually weigh more than 1 cwt. are obviously not covered by the "small orders" arrangement.

In the case of manufactured articles in short supply (e.g. hinges), it should be noted that the manufacturers are not in a position to increase the ration allowed to wholesalers, merchants and retailers for the essential requirements of the home civil trade.

The manufactured articles for which the Ministry of Works and Planning (headquarters, A.S.69) issues bulk authorizations of iron and steel to manufacturers for production for (a) small orders (all essential purposes other than exports) and/or (b) essential home civil trade (excluding work subject to licence under Regulation 56A) are:

Stoves, grates, ranges and cooking apparatus (solid fuel), oil heaters and cookers; cast iron hot water boilers (including gas-fired boilers used for central heating), radiators and radiator fittings and other manufactured apparatus and accessories used in connection with central heating (installation); cast iron baths, sanitary cisterns and other sanitary cast iron and steel goods; galvanized furnace pans (and swirl boilers) except if forming part of a furnace or other plant; steel rain water goods; pumps for domestic and agricultural water supplies; builders' ironmongery: gate fittings, door bolts (wrought iron), door plates, doorletter-boxes, handles and knockers, locks and hinges (except furniture locks and hinges and locks for cases), latches, hasps and staples, shelf brackets, other items of builders' ironmongery; steel flush pipes; expanded metal for goods for purposes not covered by the Ministry of Home Security and not being machine guards; metal windows and window fittings, skylights, rooflights, ventilators and ventilator frames; exterior fencing; steel ladders for attachment to chimneys or buildings; cable racks and hangers; cowl ventilators; wall ties; slating clips and other roofing fittings; rolling shutters and fittings; sanitary fittings; gutter fittings; sliding door fittings; iron and steel reinforcement for pre-cast concrete products; tanks, cisterns and cylinders other than those of a kind commonly forming part of industrial plant. (This non-industrial equipment would not normally exceed 1,000 gallon capacity for cisterns and 100-gallon capacity for cylinders and tanks, and would be manufactured from materials of  $\frac{1}{4}$  in. plate or less); electrical heaters of a fixed type (i.e. incorporated in the structure of buildings); unit heaters and convectors; and ventilating and air conditioning equipment (fixed type) other than that required for processing purposes.

★ *MY wife is anxious to do some form of war work; she is considering the possibility of training in draughtsmanship; can you help me?* - - -

Q 880

★ *CAN you assist me in estimating the cost of air raid damage?* - - - - -

Q 882

# THE ARCHITECTS' JOURNAL INFORMATION CENTRE

THE Information Centre answers any question about architecture, building, or the professions and trades within the building industry. It does so free of charge, and its help is available to any member of the industry.

Enquirers do not have to wait for an answer until their question is published in the JOURNAL. Answers are sent direct to enquirers as soon as they have been prepared. The service is confidential; and in no case is the identity of an enquirer disclosed to a third party.

Questions should be sent to—

THE ARCHITECTS' JOURNAL

45 THE AVENUE,  
CHEAM, SURREY.

Telephone: VIGILANT 0087

Q 880

ARCHITECT, BUCKS. — *My wife is anxious to do some form of WAR WORK, and is considering the possibility of a TRAINING IN DRAUGHTSMANSHIP and TRACING; she has no architectural or engineering experience. Can you tell me:—*

(a) *The names of any schools or drawing offices where a course in draughtsmanship and tracing can be taken;*

(b) *If there are at present vacancies in drawing offices for women who have attended such a course.*

If you require a school in your own locality, you should apply to your County Council, if in London to the L.C.C. Tuition by correspondence is given by the International Correspondence Schools, Ltd., International

Buildings, 71, Kingsway, London' W.C.2.

The possibilities of obtaining a job with a private architect or engineer are not great for someone with only a minimum of training and no practical experience. For vacancies for technicians in Government departments you should apply to your local office of the Ministry of Labour. As your wife is not already trained in draughtsmanship we think it is probable that she will be encouraged to take up some other form of war work.

Q 881

ARCHITECT, LONDON.—*Can you assist me on the following points.*

*In 1938, I designed a house, the first floor construction consisting of oak beams, the upper side being covered with  $\frac{3}{8}$  in. Donnaconna fibreboard, fillets 1 in. thick, providing space for conduits and tongued and grooved secret nailed oak floorboards over.*

*The house is situated in open country and recently, due to colder weather, MICE have apparently INVADED the UPPER FLOOR and are eating through the fibreboard ceilings.*

*I shall be pleased to know what recommendations you have in this matter as traps, cats and poisoned food have so far proved ineffective.*

Mice do not eat Donnaconna board, though they probably scratch the board to obtain bits and pieces for their nests. In short, the boarding does not account for the presence of the mice in the house, and the construction is quite sound, but there is no easy, economical method of protecting the surface of the board or of making the cavity below the floor inaccessible.

Apart from employing a specialist firm that deals with the destruction of pests, you can only persevere with the methods you have already tried.

Mice do not usually stay where there is no food, and we should advise your client to be particularly careful not to leave any food exposed, even

in the form of crumbs. We might add that traps are best left for a week without being touched as mice grow accustomed to them, and that a hungry cat is a better mouser than an overfed one.

Q 882

ENQUIRER, YORKS.—*Can you assist me in estimating the cost of AIR RAID DAMAGE and also in getting out cost of materials, etc., for quantities by supplying me with to-day's costs for the materials outlined on the attached sheet?*

*The prices are solely for estimating purposes and can be placed on the high side rather than on the low.*

*I have tried to include for all materials which are likely to be necessary for urgent repairs, but if you know of any more I shall be very pleased if you will include them.*

*(The enquirer enclosed a considerable list of items to be priced).*

Pricing requires a knowledge of local conditions and although we attempt to answer all questions of a general nature, we cannot pretend to have an intimate knowledge of every locality.

Pricing materials is not estimating and no theoretical knowledge that we possess can help you. Our experience in estimating the cost of "work executed" can only be of use to you if we know the prices of materials in your locality and other factors likely to influence the particular job.

Sand, gravel, stock bricks and timber are materials normally obtained through local firms or merchants, from whom you can obtain prices, but it must be remembered that different merchants' prices are not always the same, even in the same locality.

The cost of sand or gravel depends very largely on the cost of transport. Different quality bricks at different prices are manufactured in different districts. The prices of timber though stabilized to some extent by Government control, vary very considerably according to the quantity of each scantling ordered, etc. Also it must be remembered that the appropriate size and quality is not always available and a better quality timber than is required may have to be purchased.

Prices for the other materials mentioned may sometimes be obtained from a merchant, although quantities of any size are normally obtained direct from the manufacturer. Prices are more or less stable, but quotations vary according to the quantity ordered, and again the cost of transport is an important factor.

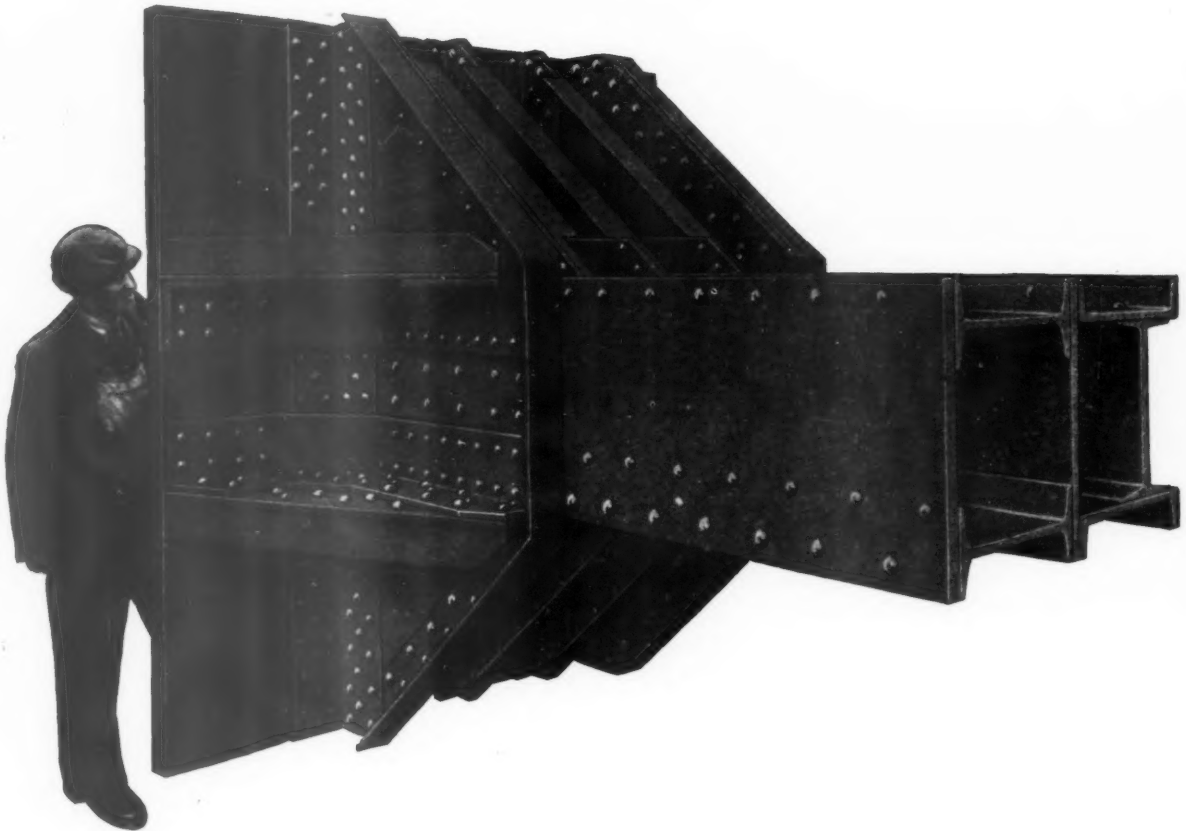
If you only need very approximate prices and are prepared to waive the question of transport and other local factors, there is no need to seek further than the architectural papers,

**STEEL**  
  
**STRENGTH  
SECURITY**

# STRUCTURAL STEELWORK

**STEEL**  
  
**STRENGTH  
SECURITY**

BASE OF A STANCHION WEIGHING 18 TONS



COMPETENT TECHNICAL STAFFS AVAILABLE IN LONDON,  
BIRMINGHAM, COVENTRY AND DARLASTON

MAY WE OFFER OUR FACILITIES FOR  
YOUR NEW FACTORY REQUIREMENTS?

# RUBERY·OWEN

**DARLASTON**

LONDON: IMPERIAL BUILDINGS, 56, KINGSWAY, W.C.2. BIRMINGHAM: LOMBARD HOUSE, 61, CHARLES ST. COVENTRY: BRITANNIA WORKS, PAYNES LANE

# ECO LTD

**SOUTH STAFFS**



most of which (including THE ARCHITECTS' JOURNAL) give prices for materials delivered to the London Area.

**Q** 883

**ENQUIRER, HANTS.**—*I enclose particulars of a new "Utility Slab" which holds a ceiling underneath thus saving joists and floor boards. You will see from the pamphlet that it is not only suitable for floors, ceilings, etc., but also for air-raid shelter construction. I shall be grateful if you will kindly give me the names and addresses of firms you think might be interested in this invention.*

We cannot undertake to effect introductions between enquirers and manufacturing concerns. Makers of precast concrete units are, of course, most likely to be interested in the "Utility Slab," and we can send you a list of firms, if necessary; however, you are probably already acquainted with many of them who advertise in the architectural papers.

We suggest that your best course would be to write to the Cement and Concrete Association, which is a non-trading organization interested in the advancement of all ideas in connection with cement and concrete. They, too, would be able to let you have a list

of manufacturers of precast units, if necessary.

Should we receive any correspondence as a result of publishing your enquiry, it will, of course, be forwarded to you.

The Cement and Concrete Association, 52, Grosvenor Gardens, London, S.W.1. (Phone: Sloane 5255.)

## TRADE NOTES

### GROUP WASHING

The Leonard Thermostatic hot and cold water mixing valve has been specially devised for use in wash-rooms, where numbers of people cleanse their bodies and hands at the same time. A movable bi-metallic thermostat controls the mixing of the water to the desired temperature. If too much cold water comes down the pipe the thermostat closes the part that admits it; if too much hot it closes the part admitting the hot water. If the hot water begins to lose its temperature the thermostat gradually closes off the cold and lets in more hot. If the supply fails of either the hot or cold water the valve closes and little more than a trickle comes through. In the case of a range of wash-basins all that is necessary is to run the separate hot and cold water supplies to one of the valves fixed in a suitable position, and from this valve to run a single pipe with a branch to each basin, with, of course, only one tap in each case. Shower baths can be grouped in batteries of from four to eight, with a single valve to provide them with a suitable admixture of water. By the use of the Leonard valve it is claimed that in some cases a saving can be obtained of 30 per cent. in pipework and accessories. Installations have been made in

colleges, evacuation camps, A.R.P. clearing stations, factories, police buildings, pit-head baths and other buildings. The manufacturers of the valve are Messrs. Walker, Crosswell & Co., Ltd., of Whaddon Works, Cheltenham, Gloucestershire.

## MICRO - COPYING OF DOCUMENTS

Records of valuable scientific and other documents can now be photographed in such a way that they can be inspected at any time or reconstituted in their original form if the master records should be damaged. To meet this need the technique of micro-copying has been developed whereby continuous lengths of small negatives are obtained on special cinematograph film. According to the apparatus in use from 800 to 4,000 negatives can be obtained on a 100 ft. length of film which fits into a tin only four inches in diameter. The special photographic films for this work are manufactured by Messrs. Ilford, Ltd., and the whole process is described in detail in a booklet, "The Technique of Micro-Copying," issued free by the company. Alternatively the firm have a special document copying department equipped to undertake this work. Negatives can, if necessary, be enlarged back to the original size of the document or they can be projected on to a screen by a miniature projector and read at leisure.

## ANNOUNCEMENTS

Messrs. Taylor Woodrow Construction Ltd., civil engineering and building contractors, have opened branch offices at:—2, Lansdowne Place, Warwick Road, Coventry; 114, Tavistock Road, Plymouth; and Prospect Buildings, East Street, Newquay.



**A reminder for  
Post War  
Reconstruction**

**Mellowes**

**MELLOWES & CO LTD** **SHEFFIELD & LONDON**



# DUFAWYRE DUFAYGLASS DUFAYNET DIALUX

**THE BEST SAFETY GLASS SUBSTITUTES  
made by DUFAY-CHROMEX LTD.**

*All approved by Research & Experiments Dept. of  
Ministry of Home Security and Ministry of Works  
and Buildings.*

First things must come first—and the supply position in these times is difficult, but we are trying, in every way, to assist our customers from available supplies.

**LONDON DISTRIBUTORS:**

R. PASSMORE & CO. LTD., BROAD & CO. LTD.,  
Lime Kiln Wharf, Three Colt Street, E.14 4, South Wharf, Paddington, W.2

JOHN LINE & SONS LTD., EASTWOODS LTD.,  
213/216, Tottenham Court Road, W.1 47, Belvedere Road, S.E.1

Write to us for copy of Memorandum presented by  
the Committee Advocating Daylight in Factories.

**DUFALITE LIMITED • ELSTREE • HERTS • Phone: ELSTREE 1733**

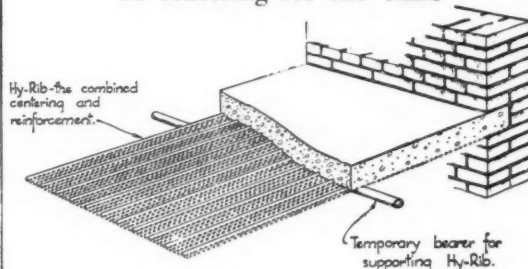
## COMFORT THE SUFFERING

Give to the Duke of Gloucester's  
Red Cross and St. John Fund—  
and give a little extra.

Contributions should be sent to  
the Fund at St. James's Palace,  
London, S.W.1.

### HY-RIB is the answer to your centering problem

Use the reinforcing steel  
as centering for the slabs



HY-RIB is a centering for  
concrete during construction

HY-RIB is a reinforcement  
for the structural slab

**Over 11,000,000 square feet of HY-RIB  
combined centering and reinforcement  
has been used in wartime buildings.**

For the guidance of Con-  
structional Staffs we pro-  
vide working drawings  
for particular applications  
of Hy-Rib.



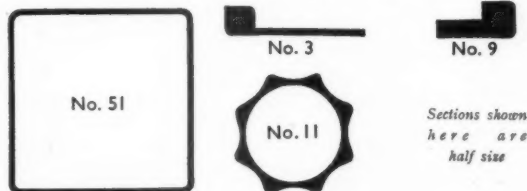
HY-RIB SALES, 6 COLLINGHAM GARDENS, EARLS COURT  
LONDON, S.W.5 TELEPHONE: FROBISHER 8141

80 4/266

## Plastics in extruded sections

These extrusions should be of special appeal to the  
engineer, in view of the close tolerances now achieved in  
plastics sections by means of a special patented process.

Here are some typical sections:



Sections such as those shown and others can be  
supplied (subject to licence) in varying lengths  
from a few inches to several feet to a dimen-  
sional tolerance of plus and minus  $\frac{1}{2}$  % to 1 %.

## ROCKITE PHENOLIC MATERIAL

Write for details: **F. A. HUGHES & CO., LTD.,**  
ABBAY HOUSE, BAKER STREET, LONDON, N.W.1

Telephone: WELbeck 2332-6 (5 lines).

Telegrams: Distancing, Norwest, London

TAS/RK. 29

### CLASSIFIED ADVERTISEMENTS

Advertisements should be addressed to the Advt. Manager, "The Architects' Journal," 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," 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

CITY OF LEEDS EDUCATION COMMITTEE.

LEEDS COLLEGE OF ART.

THE LEEDS SCHOOL OF ARCHITECTURE.

Applications are invited for the post of Senior Lecturer in Architecture. Applicants should be Associate members of the R.I.B.A., preferably trained in a recognised School of Architecture and should have practical knowledge of steel and reinforced concrete design.

Salary and increments will be in accordance with the Burnham Scale. Applicants will be expected to have the professional experience and academic qualifications to justify a commencing salary of at least £400 a year.

Further particulars and forms of application can be obtained by sending a stamped addressed envelope to the undersigned by whom applications should be received by the 30th June.

GEORGE GUEST,  
Director of Education.

Education Department,  
Leeds, 1.

778

### Architectural Appointments Vacant

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

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

WANTED. ASSISTANT ARCHITECT AND SURVEYOR to assist Company engaged on essential work in connection with extensive reorganisation of their buildings to increase production. Salary £6/7 per week. Apply Box No. 779.

### Architectural Appointments Wanted

SURVEYS for war damage reinstatement, schedules of dilapidations, etc. Qualified architect (37) offers part-time services in London area and Surrey. Please write Box No. 444.

ARCHITECT (Registered), 33, general experience, at present on Canteen Buildings. Office alterations, and new buildings, Air-raid Shelters, Factory Alterations, Pickle Boilers, Storage Tanks, etc. Desires post on work of National importance in Birmingham area. Box 443.

SENIOR ARCHITECTURAL ASSISTANT, 40 years, A.R.I.B.A., exempt military service, with 22 years' experience in Private Offices, Public Works and present position permanent with Municipal Office. requires position of advancement where knowledge and industry are appreciated. Box 445.

Classified Advertisements continued on page xxiv.

## BRAITHWAITE PRESSED STEEL TANKS

BRAITHWAITE & CO., ENGINEERS, Ltd.

London office, Temporary address

35, KINGS HOUSE, HAYMARKET, S.W.1  
Telephone, WHI 3993. Telegrams: Bromkirk-Phon

### ARENS WINDOW CONTROLS

THE MODERN METHOD OF OPERATING ALL TYPES OF VENTILATORS

NO UNSIGHTLY RODS, LEVERS OR CORDS, ETC.  
SEND FOR INFORMATION SHEET No. 441

ARENS CONTROLS LIMITED

Tunstall Rd., East Croydon. ADDiscombe 3051-2-3-4

### STEELWORK BY

## SHARMAN

SWANWORKS, HANWORTH, MIDDX.

\*Phones: Feltham 3007. Sunbury 2367.

## THE MIDLAND JOINERY WORKS Ltd.

### BURTON-ON-TRENT

Architects can rely on a quality unmatched, by men who have learnt their craft.

Phone: 3685 (3 lines).

Grams: "Midjoin" Burton-on-Trent.

**THREE JAYS**

**SELF ADHESIVE CLOTH & PAPER TAPES**  
FOR ALL KINDS OF MASKING & PROTECTION

**DRAWING OFFICE TAPES FOR EVERY USE**  
IN THE DRAWING OFFICE INCLUDING EDGE BINDING

**COLOURED CELLULOSE TAPES FOR**  
THE IDENTIFICATION OF PIPELINES ETC

**BUTTERFLY BRAND**

**A.I.D. APPROVED**  
All colours & widths

**SAMUEL JONES & Co. Ltd**  
16-17 NEW BRIDGE ST, E.C.4 Telephone CEN 6500

**SELF ADHESIVE TAPE SPECIALISTS**

TE  
NKS  
S, Ltd.

W.1  
irk-Phon

S  
ALL  
ETC.  
II  
-2-3-4

N  
DDX.