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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.

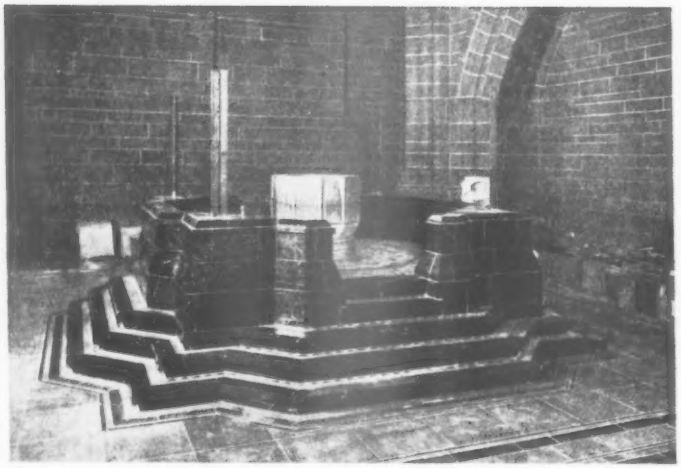
THURSDAY, AUGUST 8, 1940. NUMBER 2377 : VOLUME 92

PRINCIPAL CONTENTS

NEW FIRE STATION, MIAMI, FLORIDA

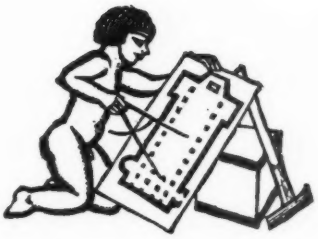
In designing the Dade Boulevard Fire Station at Miami, the architects, Messrs. Robert Law Weed and Edwin T. Reeder, had to provide for two fire companies and hose-tower, the city's fire-alarm control, a central training station, and a house for the fire chief. The problem was solved by placing these four services in separate but connected buildings. Construction : concrete frame and walls of hollow brick and tile ; floors throughout are reinforced concrete slabs finished in terrazzo, cement, cement-tile and wood. (Reproduced from the "Architectural Record.")

LIVERPOOL CATHEDRAL



Up till the outbreak of the war it had been hoped to open the new section of the Anglican Cathedral, Liverpool, last month, with the exception of the Tower, which it was hoped to finish in 1941. The present condition of the building is a measure of the inevitable slowing down of the work which has taken place since September. "While the Cathedral Committee is naturally anxious to go ahead steadily with its task, it realizes," states the Quarterly Bulletin, *"the paramount and over-riding national demand both for materials and man-power. Since it happens that the majority of the men employed on the site are masons and stone carvers, whose skill is not readily adaptable to war purposes, there is no reason why work should not continue as it did during the last war, though at a steadily decreasing rate as more and more men are called to the Colours. The Tower has risen a further 9 feet during the quarter and work is now proceeding at a height of 291 feet above floor level or 307 feet above St. James' Road. At this level the main walls are only 2 feet thick, as they have relatively little weight to carry, the main thrust of the roof being borne by the steel girdle at the 280 feet level. Only another 25 feet now remains to be built before the parapet is reached, and a total of 40 feet to the top of the pinnacles."*

Above are two illustrations from the Bulletin: *Top, the topmost outer gallery of the Tower from a position on the surrounding scaffolding. An openwork balustrade will fill the intervals between the piers, and the gallery will be roofed. Behind the piers can be seen the wall of the Tower, the intervening space forming the walking way. Right, the font under construction.*



WARTIME HOLIDAY

HOLIDAYS just now are a delicate, almost forbidden subject. Most of us are in need of them. Few of us are fortunate enough to have the time or money for them. All of us, perhaps, would feel slightly disloyal even to think of them. Besides, we can say with the affectedly careless laugh of a Riviera *habitué*, there's nowhere to go.

Europe certainly is impossible. Scotland is largely a prohibited area. The spas are crammed with civil servants, both active and moribund. And now, by a recent order, a large proportion of the coast has been barred—including that part which is the most highly organized for recreation and amusement. For a sea-loving nation this is serious. We can, of course, do without the five-star hotels and the lace-curtained lodgings, without the golf-courses and piers, the lobster teas and saucers of whelks. These are irrelevancies. But water is an essential ingredient of a British holiday, and this time it seems to have receded beyond our reach: remote, enticing, inviolate, guarded by a *cordon sanitaire* twenty miles deep.

Yet the situation is not hopeless. For thirty years the canals and rivers of Britain have been neglected by holiday-makers. This is their chance, and long they have awaited it. Lock gates have rusted from disuse, tow-paths are overgrown with weeds, and in deserted yards the boats lie blistering beneath the notice which hopelessly proclaims they are for hire. The reasons for this neglect are marshalled on two opposing fronts. Rivers are too quiet, it is said, or alternatively they are too noisy. Nothing ever happens, or, if you prefer, you never get a moment's peace. And of course there's always "the people." You like them or you don't. There are no half measures on the river front, and quite rightly so. There is no peace so deep, or if you like, so dull, as on a lonely stretch of river where the only movement is the dancing of midges, the only sound the swirl of water as it curls, like brushed-out white hairs, round a sunken branch. On the other hand there is no livelier (or more intolerable) atmosphere than can be found in the gramophone-loud reaches of Maidenhead. As to "the people," it must be admitted that the river has always had a reputation for rakishness. The double-sculling skiff has given way to the punt, but the same green canvas hood covers all, and doubtless in its livid shade the same delights are as relentlessly pursued. The blazer, the boater, the wicked moustache have gone, the openwork stockings and lace parasols are no longer to be seen; but the high-pitched giggle and the popping of corks survive, and to their accompaniment the electric launches of today slide by with a flash of gold teeth, a wave from a black-haired, platinum-strapped wrist and a gleam from female flesh ruthlessly exposed. Yes, river people are a friendly, flashy type, but so are most people on holiday, and, as everywhere, they keep together within well-defined areas, which can be entered or avoided according to choice.

For architects the river should have a strong attraction. It is a commonplace that, as a profession, they have always been fascinated by boats. When Pugin remarked that the only things worth living for were Christian architecture and a boat, he spoke (at least regarding the latter) for nearly all of us. Architects are, or should be, men trained in precision. They like to be surrounded by objects which are designed to do their job with the minimum of fuss and effort, and there is no better example of such qualities than a well-built boat. Every curve of its hull, every detail of its construction has its purpose, and fulfils it without effort. The satisfaction of handling so lively and sensitive an instrument as a boat should compensate for the rarity of architectural magnificence by the way. There will be plenty of the picturesque—what John Piper has called "packets of postcards"—plenty, too, of the fantastic.

Buildings by the river, like those by the sea-side, are not often great architecture, but they have their own definite character. They are often ugly, but usually in a trivial and lighthearted way. There is a profusion of bargeboards, chalet roofs, of white-painted balconies, oriels and flagstaffs. Even the names of these houses—Dunworkin or Appidaes—sound a note of carefree gaiety, which is echoed in the jaunty curving prow and fringed awnings of the pleasure steamers. The observant traveller will find much to study in these fretted houseboats and gimcrack bungalows, and if he prefers nature unadorned, there are a hundred little secret streams and backwaters awaiting him. Even the real travel snob, in search of hardship and discomfort, is catered for on the weed-blocked canals which wander, forgotten and almost impassable, across the face of the country.

There are signs that the possibilities of river holidays are beginning to be realized. Already a faint breath of publicity has ruffled the smooth surface of the Thames. A landlady at a riverside retreat has announced that she had received on one day twenty-two applications for rooms. Recent news-reels have recorded for our delight the short voyage in a Conservancy launch of the two Princesses, giving us a fleeting glimpse, against a background of towpath elms, of tweed hats, gloved and waving hands, polished mahogany and gleaming brass. Finally it was from the boatyards of the Thames that, not so long ago, a tiny armada set out for Dunkirk. Some of them returned a few days later, chipped, stained and scarred, but proof that good boats are still built on the banks of the Thames, and that the life of river craft is not always uneventful.

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

NOTES & TOPICS

THE GUARDED DOOR

THE designation "architect" is now protected by law. Only those who became Registered Architects before last Thursday or had made application for admission to the Register before that day can now or in the future call themselves architects.

*

Even in peacetime the moment when the profession's wide open door finally shut would probably have seemed dull. A learned profession cannot well hang out flags or fire guns, and nothing less could have prevented the end of the period of grace seeming an anti-climax after all that went before.

*

Registration has been a lively issue in architectural politics for half a century. It almost split the profession before the last war, it flickered up again early in the 'twenties, and developed at the time of the second reading of the Bill in 1937 into a battle royal in which the ingenuity, dexterity and energy of its opponents compelled the R.I.B.A., the great majority of architects and many other interested parties, to extend their powers to the utmost. I still remember with admiration the suggestion that two standards of qualifying examination should be allowed: the R.I.B.A. and a simpler, "more practical" affair for practical men. This plausible compromise would, of course, have made the R.I.B.A. standard of Final Examination a dead letter in under ten years.

*

Now that the Act is in force and the tumult has died down, we can try to make a true estimate of what has been gained.

*

Architects' strongest feeling concerning the Act is not, I think, that it can by itself raise architectural standards, but that it is an essential preliminary to such an improvement. In a world in which individuals are becoming more and more classified, specialized and organized, in which the work that a man can do is bound to be estimated more from the label he bears than from personal knowledge of him and his past work, a profession which remains unorganized—whose label anyone can assume at will—must be grievously, sometimes disastrously, handicapped. When an individual, Board or Committee has considered appointing a doctor, barrister, or solicitor, they have been certain that each candidate would have certain minimum, all-round, tested qualifications. In the case of an architect, they have found themselves faced, almost invariably, with a wrangle as to who is an architect and who is not. This could not go on.

*

The Registration Act will in the future prevent adventurers from assuming the title of architect. It will ensure that all new architects possess minimum all-round abilities and it will subject all architects to disciplinary control. We can hope that these achievements will in time raise the average of architectural performance. But even if we knew these hopes were vain, the Act is not a scrap less necessary. Without it the profession could not long have continued to exist.

POSSIBLE RAIDS AND US

The Air Correspondent of the *Observer* gave ten days ago an unusually candid description of the probable effects of big air raids, and went on to point out that the only way to keep going was for everyone to pop out of their shelters between waves of attack and "go to" rebuilding. Is it not conceivable that the prior organization of architects to help in this work might be of some use?

*

The present scheme, by which builders render first-aid, while such civil architects as are left fill in forms for the information of the Treasury, is adequate for a clearly limited tempo of destruction. In areas which are the object of concentrated attack, there will have to be a good deal of amateur rebuilding. Anyone able to give technical help in such efforts will be valuable. And there will be no need to keep records of the work done: Mr. Citizen's reconstructions will readily declare themselves.

STORY OF A HOUSE

My companion wanted to pay a short visit in the neighbourhood and I left his car at the end of the lane. "This will do," I said. "I once nearly built a house on that hill and I would like to see what happened in the end."

*

Walking up the lane, I recalled the details of an example of the trouble over a small house by which architects are hag-ridden. Two years before, an elderly and friendly professional man had come to me about building a small labour-saving house for his wife, himself and one maid on his retirement. He wanted to spend £2,000, exclusive of the cost of the site which he had already bought. The site—unusually enough—proved to be excellent and for once a small house job seemed to promise well.

*

This optimism proved premature. The affair proved—to use the manner of Sherlock Holmes—the most baffling and unhappy case of my career.

*

Developments were rapid. I had said that a good small house could be built for £2,000. In this small house the husband wanted: garage for two cars with space behind for carpenter's bench, a sun loggia for meals out of doors, and a room 16 feet long for a kind of billiards. The wife wanted: one "really large" living-room, a broad

first floor corridor for a collection of oak chests, a dining-room 15 feet long to take a rosewood table, and a bathroom and dressing-room off the bedroom. And neither of them liked anything unusual in plan form or construction.

*

Faced with clients' smiling refusal to believe anything whatever that they did not want to believe, a very wise or really wealthy architect might have thrown up the job. But I had met difficult man-and-wife clients before—not wholly without success. I persevered.

*

Four months' negotiations and alternative plans need not be described in detail. The first floor gallery and second car space in the garage were at length thrown out and we went to tender. The lowest price was £1,900 and the scheme was at once abandoned. I came away from my final interview overwhelmed by the power of an *idée fixe*. I had said a small house could be built for £2,000 : my clients called their first requirements a small house, and these had, in their view, been drastically reduced ; they thus expected a price of £1,600 : reality was too much for them.

*

And so, a fortnight ago, I climbed up to the site, to see if anything had happened in a year and a-half. As I approached, my late clients drove away.

*

On the site a perky £1,500 speculative house stood cheek by jowl with the hedge (not a hundred feet back as mine was to have been). It had elm-board fake half-timbering and diamond-paned windows, only one bath-room and no sun loggia. And if it had a twenty-five foot lounge, the dining-room must have been six feet square.

*

I have described this fiasco at some length because its results will affect all other architects and future architects, and because on this job I said " It can't be done " more often than on any other. Yet I know that throughout the whole of his retirement my late client, an educated and apparently reasonable man, will say when architects are mentioned : " Ah, yes. I spent a fortune on an architect's fees once, while he tried to get me to spend twice what I intended. And when I got rid of him, I got just what I wanted at the right price from the local builder."

*

And he, and his wife, will believe it absolutely.

THE PASSING OF VINE STREET

Vine Street, the famous police station whose impending sale I announced last year, has now closed its doors for ever. Its fate, I understand, is uncertain, but its name will not easily be forgotten. It will join the old Empire, Leicester Square, and the Gaiety Theatre, those other ingredients of an Edwardian night-out, in many an aristocratic memory.

*

For some years its glories, like those of a fashionable restaurant on the downgrade, had declined. The best people were no longer seen there. Boat Race nights had ceased to cast up their flotsam of inebriated undergraduates. Nor was it often that a member of the peerage was bailed out for some suitable misdemeanour. Vine Street, in fact, had become a dowdy, hardworking police-station with about as much glamour as a milk bar.

The entire staff and organization have moved to new premises in Savile Row. It is an impressive stone-faced structure, severely composed and, appropriately enough, rather heavy on its feet. The building internally is lavishly equipped and sanitated, the cells, I am told, being unusually luxurious. A full house is not expected before Armistice Night.

THE PLAN THAT DIDN'T PAY

Time was the only news-organ sufficiently plan-minded to point out the influence of the Napoleon-Haussmann plan on the surrender of Paris to the Nazis. Originally designed as much for mob-control as for princely grandeur, the spacious vista planning of the Palace d'Etoile—Champs Elysées—Place de la Concorde section of Paris might have made things even simpler for the Nazis' artillery than for Napoleon III's cannon.

*

From this we may infer that the prospect for defending London is decidedly promising.

*

I don't remember seeing in any other paper except *Time*, which is usually reliable on such points, that the grand manner of the period Louis XV was responsible for the dramatic entry of Hitler's envoy, who lighted gently on the Place de la Concorde in a specially constructed 'plane, capable of a landing speed of only 25 miles an hour.

NORTH-WESTERN EXPEDITION

I spent a day in Liverpool last week and made a pilgrimage to the cathedral. (That is, cathedral number one, by Sir Giles Scott.) The twin transepts are complete, and work is still going steadily ahead on the tower which, so far as I can judge from its scaffolded outline, has nearly achieved its final proportions, and is becoming a better and better landmark every day.

*

There is no sign of shutting down the mason's yard, as in the last war. There are those who say it is shocking that this kind of work should go on at such a time ; but there are those others who say that it is splendid. I am inclined to support those in favour.

*

After leaving Liverpool I spent the night with a friend on a coast draped with barbed wire in surprising places. High tides had left bits of seaweed suspended, achieving perfect camouflage and a weird surrealistic effect simultaneously. My host, who has to make a half-mile detour for a morning swim, has hung baited lines on the wire which are enthusiastically tended by his young son. So far he has had no luck, but time alone, he maintains, will tell.

WAR READING

I have been re-reading Lethaby's essays in " Form in Civilization." Always worth re-reading, their sane and powerful words are a rare tonic just now. Many of them written during the last war, or just after it, are very much to the point. Steps should be taken now to see that, when the world comes in sight of the end of this conflict, the vision of the essay on " Memorials of the Fallen " shall be driven into the heart of every responsible person, with pneumatic drills and blasting powder if necessary.

ASTRAGAL

NEWS

A.A.S.T.A.

In accordance with a resolution passed by the Council of the A.A.S.T.A., a ballot of all full members of the association has been held on the question of affiliation to the Trades Union Congress. Of the full members entitled to vote, 40 per cent. returned ballots, and the result, announced by the association's auditors who acted as tellers, showed 96 per cent. for affiliation and 4 per cent. against. The association is making immediate application to the T.U.C.

IN PARLIAMENT

In the House of Commons last week Mr. Levy asked if it was intended to create a Ministry of Building or whether the idea was to incorporate some organization of this nature in a general Ministry of Reconstruction after victory had been won.

Sir Percy Hurd asked if, in planning a Ministry of Building, full use would be made of architects, so as to ensure good design and economical layout in all future construction.

Mr. Attlee, the Lord Privy Seal, said that the question whether any changes were desirable during the war in the present distribution of responsibility for Government building work was being considered. In this connection the point raised by Sir Percy Hurd would be borne in mind. He could not say now what arrangement might be necessary after the war.

Mr. Parker asked Mr. Greenwood whether he proposed to take any action to re-establish the brick-making industry, in view of the present brick shortage and the urgent needs of defence and air-raid precautions works.

Mr. Greenwood said that negotiations were at present proceeding with representative bodies in the brick-making industry with a view to securing increased production of bricks to meet national requirements.

HOME GROWN TIMBER

As already announced, Direction No. 3 made under the Control of Timber (No. 13) Order, 1940, frees merchants from the necessity of obtaining licences for the acquisition of home-grown timber for resale either directly or indirectly to mines. Attention is drawn to the fact that this exemption does not apply to the acquisition of such timber when standing. Sales of standing timber for felling remain subject to licence under the Control of Growing Trees (No. 2) Order, 1939, and licences are similarly required for the felling of standing timber in excess of 1,000 cu. ft. in any one calendar month.

TIMBER CONTROL

Under the Control of Growing Trees (No. 3) Order, 1940, which came into force on August 7, a minor adjustment has been made to the price schedule to the Control of Growing Trees (No. 2) Order, 1939. The descriptions under the heading "Larch" in the Table in Part A of the schedule to the No. 2 Order have been amended to read "6 in. to 9¾ in." and "under 6 in." instead of "7 in. to 10 in." and "under 7 in."

Copies of the new Order are obtainable directly, or through any bookseller, from H.M. Stationery Office.

COMPETITION RESULT

Mr. J. Mansell Jenkinson, F.R.I.B.A., the assessor of the limited competition for proposed hospital at Sheffield, has announced his award as follows:

Design placed first: Messrs. Adams, Holden and Pearson, 25 and 26 Torrington Square, London, W.C.1.

Design placed second: Messrs. Sir John Burnet, Tait and Lorne, 1 Montague Place, Bedford Square, London, W.C.1.

Design placed third: Messrs. Stanley Hall and Easton and Robertson, 54 Bedford Square, London, W.C.1.

ANNOUNCEMENT

Mr. Robert W. Paterson, A.R.I.B.A., is now conducting his practice at his private residence, 7 Fryes Road, Cheltenham (Telephone No.: Cheltenham 4341), having closed his offices at Royal Chambers, 45a The Promenade, Cheltenham.

MEMORIAL PLAQUE

The memorial plaque illustrated on this page has been erected by Mr. Leonard H. Bentall, J.P., as a token for all time of the warm and affectionate friendship that grew up between Client and Architect (the late Mr. Maurice E. Webb) during the work on the new Bentall Store at Kingston-on-Thames. The memorial is in bronze and takes the form of a lunette placed above one of the principal entrances. In the centre, enclosed in a circle, is the architect's portrait in relief, a scroll above bearing the words, "Friend, Collaborator, Architect."

Two upright flambeaux, right and left, symbolize the flame of friendship and that of genius, and with the firm lines of the hanging laurel give an architectural stability to the centre panel. On the right and the left of the portrait are seated figures of Science and Art. Running the full length of the panel at the base is the inscription: "The immense and brooding spirit still shall quicken and control."

The panel is the work of Mr. Gilbert Bayes, P.R.B.S., H.R.I.

OLD LINEN DRAWINGS

The Women's Volunteer Service Headquarters, Thrift Section, under the direction of Lady Gower, has discovered that old linen drawings and tracings can be easily treated, and utilized for the making of all kinds of articles where the use of fine linen is required—surgeons' caps, masks, pillow cases, aprons, and even children's frocks and underwear.

The Building Centre has organized a campaign to keep the W.V.S. supplied with material sufficient to keep busy their hundreds of members all over the country who are anxious to help in this great scheme of making things out of material which may otherwise be waste.

Bundles should be addressed to Mr. F. R. Yerbury, at The Building Centre, 158 New Bond Street, W.1 (marked "Old Linen" with name of sender), where a clearing depot has been arranged for the whole country.

R.I.B.A.

Mr. Richard Henniker, the Secretary of the R.I.B.A. Research Board, is being called up for active service and will in consequence be relinquishing his post. Mr. R. A. Duncan, A.R.I.B.A., will be Acting Secretary for the time being and all future communications should be addressed to him at 16 Harpur Street, London, W.C.1.

The R.I.B.A. Reference and Loan Library will remain open this month during the hours of 10 a.m. and 6 p.m. (Saturdays, 10 a.m. to 5 p.m.).

DIARY

Thursday, August 8. NORTHERN ARCHITECTURAL STUDENTS' ASSOCIATION. At the Mortimer Gallery Hall. Exhibition of evacuation and holiday camp scheme. Until August 31.

Memorial plaque which Mr. Leonard H. Bentall has erected to the late Maurice E. Webb in his store at Kingston. See note on this page.

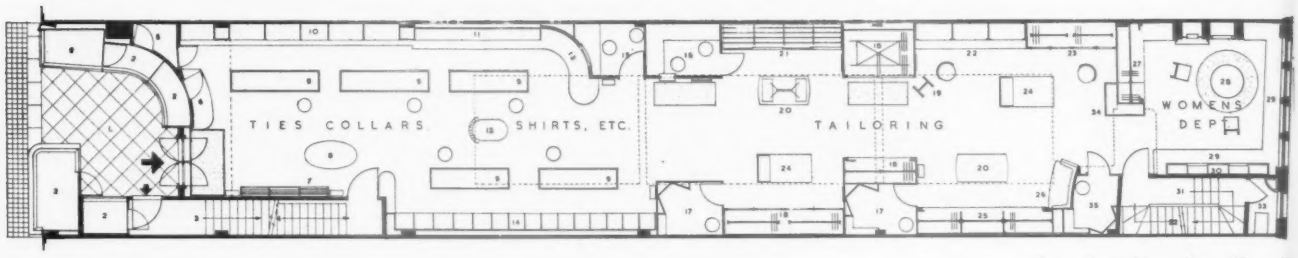
GENERAL—The shop is for the sale of men's wear, but also contains a small department for the sale of women's clothes. Externally the existing building is of the typical eighteenth century type, faced in stone and having three storeys above the shopfront. The shop itself is all on one floor, with a stock-room in the basement, and the manager's flat over the front part and a tailor's workshop over the rear. The whole of the centre of the shop is lit from a large skylight.

Above, entrance ; right, general view of display shopfront

SHOP, MILSOM STREET, BATH

DESIGNED BY P. J. WESTWOOD AND SONS

Before (left) and (above) after reconstruction



GROUND FLOOR PLAN

KEY

1 : Entrance lobby
2 : Show windows
3 : Up to manager's flat
4 : Up from stock room
5 : Switch room
6 : Display platform
7 : Display case
8 : Tie display table
9 : Counters
10 : Ties, collars, underwear, etc.
11 : Display space
12 : Umbrella display table
13 : Pullovers, etc.
14 : Shirt and pyjama fitting
15 : Manager's office
16 : Cash office
17 : Men's fitting rooms
18 : Rod fittings for overcoats, raincoats and suits
19 : Cheval mirror
20 : Cap table
21 : Hat fitting
22 : Cloth bins
23 : Rod fittings for dressing gowns and dress wear
24 : Display tables
25 : Rod fitting and bins for sports wear
26 : Seat
27 : Rod fitting for women's coats and jackets
28 : Table
29 : Stock fittings
30 : Display case
31 : Up to tailors' room
32 : Up from stock room
33 : Women's cloaks
34 : Display case for women's wear
35 : Women's fitting room

Showcase, tailoring department

SHOPFRONT—Before rebuilding, the front included a door to the flat above, but in the new front this has been arranged in the lobby and a more spacious display obtained. The problem resolved itself into providing as much show window as possible without spoiling the general effect—the frontage is 21 ft. A deep arcade was not required ; one window had to be large enough to display suits and overcoats, and the other smaller goods. The external treatment, it was felt, should conform to the simple classical character of the street, the upper parts of the buildings having been little interfered with, and the character of the shops below is in keeping. The front is constructed of oiled teak with gilded letters. The stall-riser is of travertine and the

SHOP, MILSOM STREET,

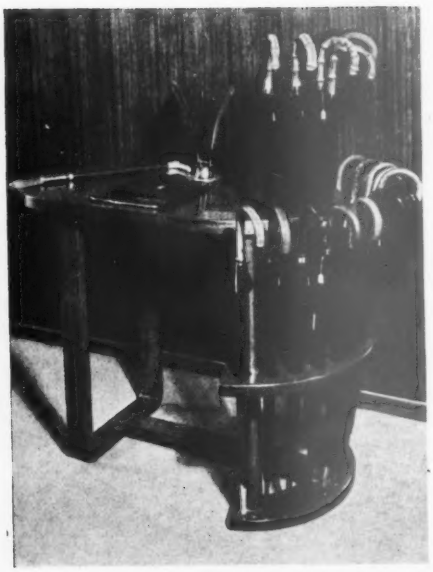
Corner of the women's department

floor of travertine terrazzo jointed with ebonite strips. External blinds are of the slideaway type with telescopic arms fixed in the space above the windows, and are invisible when the blinds are not in use.

PLAN—The plan divides itself into three main parts : the front part for shirts, pyjamas, socks, ties, etc. ; the centre part for suits, overcoats and hats ; and the rear part for the ladies' sports wear department.

INTERNAL FINISHES AND EQUIPMENT—Owing to the war, considerable difficulty was experienced in providing the various fittings. Some old ones were adapted and substitute materials used in the construction of the new ones. The use of several kinds of wood was unavoidable, but the general scheme is in light mahogany, and the other woods were toned down to match. The ladies' department was veneered in Tasmanian mountain ash, which has a light colour and figuring. A special proprietary glass was used for the fittings in the counters. This material can be stuck together and almost invisible structures can be built up without resort to the clips which are necessary if ordinary glass is used. Special concertina-type blinds were used to cover the rooflight which extends over the whole of the centre part of the shop. These are of pleated construction and run on steel wires. They are smooth in action and easy to operate, and can be drawn where required to keep out the direct sunlight, or drawn completely at night for black-out purposes.

BATH • BY P. J. WESTWOOD AND SONS



LIGHTING—The lighting, wherever possible, is by means of the new fluorescent tubes. These tubes are in six-foot units similar in appearance to architectural striplights, and they give a light very close to natural daylight, without any appreciable heat and with very low current consumption. Each lamp requires a transformer unit, and in order to avoid the slight hum from these units they are placed in the basement. Apart from the difficulty of using such long units in display cases they seem to be the best type of lighting available, and the extra initial cost is offset by the low consumption and the simple fittings required. The fittings for the lamps shown in the illustrations were designed by the architects in such a way that while most of the light is thrown downwards, a certain amount is allowed to illuminate the ceiling. The actual surface intensity of the lamp itself is not sufficient to make screening necessary. Where it was not possible to use these units owing to their size, ordinary reflectors were appropriately sprayed in order to match the daylight effect of the other lamps as closely as possible. The units in the shop windows were placed vertically in the angles of the windows, thus giving a better distribution of light than the ordinary top-lighting.

Shopfitting was executed by George Parnall & Co., Ltd.; building contractors were Axford and Smith, Ltd.; for list of sub-contractors and suppliers, see page xvi.

Left, top, umbrella display table; centre, display case for women's wear; bottom, tailoring department. Below, detail of fluorescent lighting fitting.

SHOP, MILSOM STREET, BATH

DESIGNED BY P. J. WESTWOOD AND SONS

ABELL HOUSE, WESTMINSTER

DESIGNED BY T. P. BENNETT AND SON

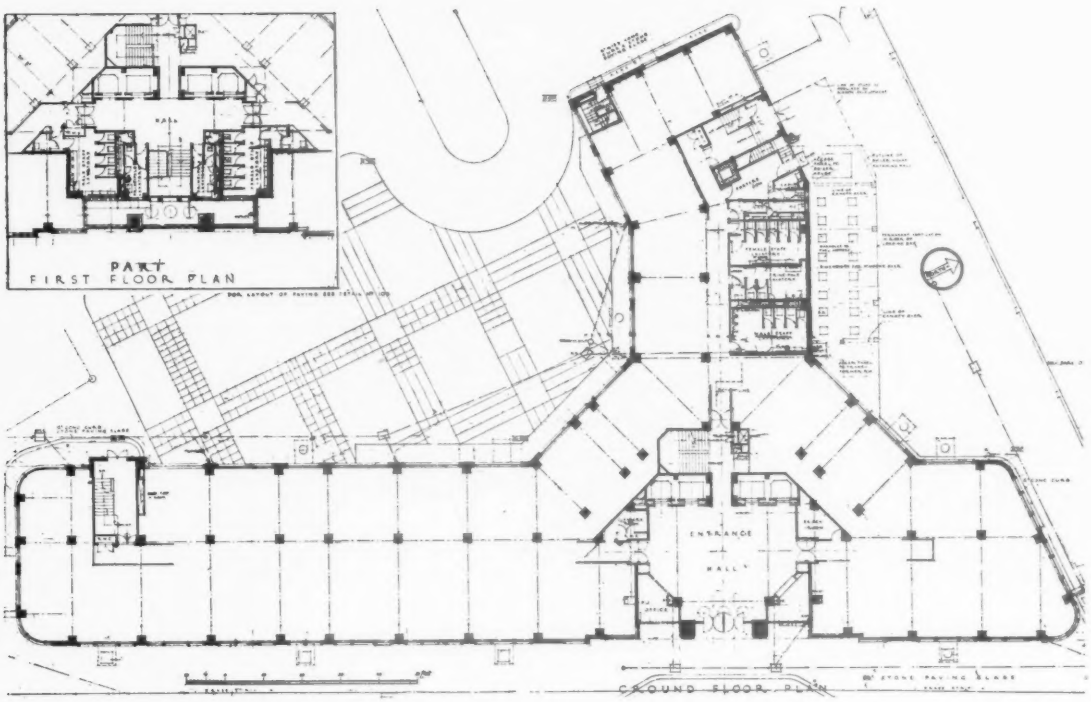
GENERAL AND SITE—This block of offices in John Islip Street forms part of the development which is being carried out in Westminster by Associated London Properties, Ltd., by whose courtesy the photographs of this building are reproduced.

CONSTRUCTION AND EXTERNAL FINISHES—R.C., with the exception of R.C. hollow-tile floors. Walls are faced with brickwork and artificial stone dressings and are lined internally with cork, plastered. The basement, with reinforced concrete floor and retaining walls, is tanked with asphalt and floored at ground-floor level with 7½ in. solid reinforced concrete, the normal floor spans being sub-divided to give a maximum of 9 ft. and the whole structure designed to withstand a debris load of 200 lb. and a super load of 100 lb. per sq. ft., in addition to the finishing load. This basement is for use as a shelter and is divided by 14 in. walls into cells to accommodate not more than 50 persons each, and is provided with alternative escapes by staircases and A.R.P. manholes, the latter being arranged in recesses in the retaining walls outside the building lines.

PLAN—The plan consists of three unequal wings, having the entrance hall, lifts and lavatories grouped at the junction. The building has nine floors, excluding basement, for the greater part of its area, although two floors are omitted from the end of the long wing. Standard 18 ft. bays, planned wherever possible, allow sub-division in multiples of 6 ft.

The main front

Main entrance



ABELL HOUSE, WESTMINSTER • DESIGNED

INTERNAL FINISHES—Entrance hall and lobbies and lavatories are floored with terrazzo with brass dividing strips. Indian silver greywood panelling is used on the walls of the entrance hall and for the door frames and surrounds of the lift lobbies on the upper floors, the remaining walls, including the main staircase, being painted. Pre-cast terrazzo partitions and *in situ* terrazzo wall finishes are used in the lavatories. Secondary staircases have grano finished treads and risers and painted walls. All office floor space is finished with Empire grown Serayah or a Canadian birch block flooring laid on 2-in. cork slabs.

General contractors were Sir Robert McAlpine and Sons. For list of sub-contractors, see page xvi.

The entrance hall

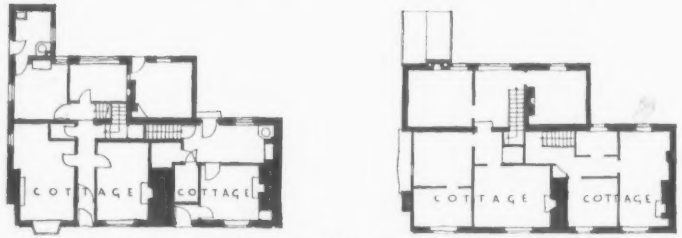
BY T. P. BENNETT AND SON

RECONSTRUCTION AND ADDITION, COTTAGES AT SUTTON, SUSSEX

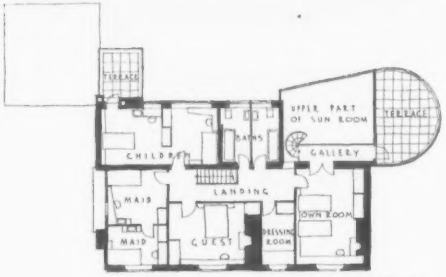
The two cottages seen from the main village street. Left, garden front showing, on the left, the new sun room

ARCHITECT:

F. R. S. YORKE



BEFORE ALTERATION:—GROUND AND FIRST FLOOR PLANS



AFTER ALTERATION: GROUND AND FIRST FLOOR PLANS

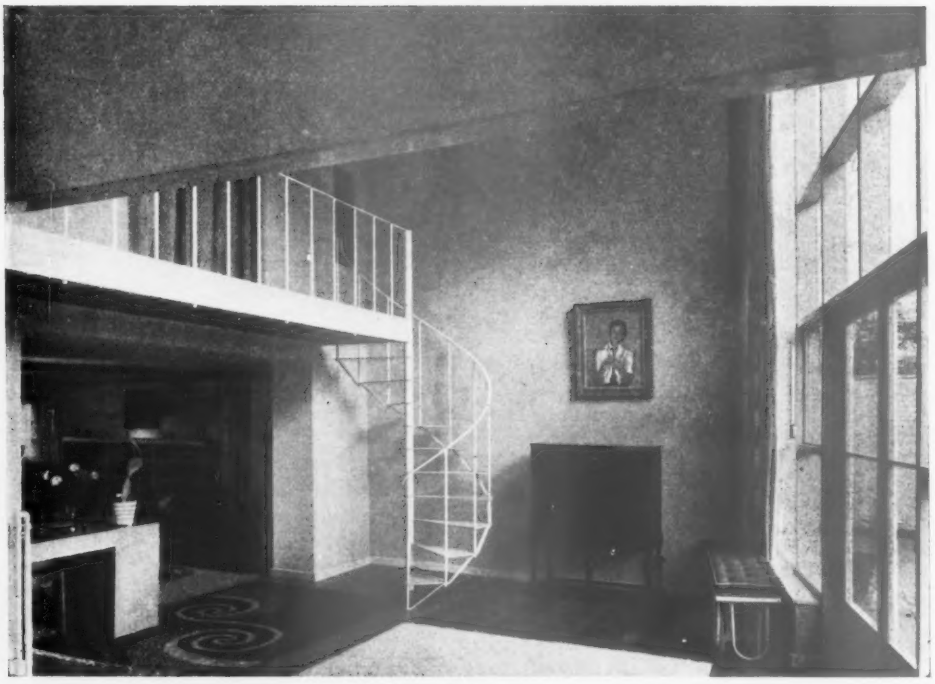
BEFORE ALTERATION : —GROUND AND FIRST FLOOR PLANS

AFTER ALTERATION : GROUND AND FIRST FLOOR PLANS

GENERAL—These two cottages were required to be converted into one, and the living space extended by the addition of a sun room facing south overlooking the sloping garden. This room has been added in the corner formed by the different depths of the two cottages and the rear wall of one has been partly removed so that the living-room and sun room become one. Only additions to the street front, which is typical of the locality, are a new door painted a pale turquoise blue and a small covered porch, neither in any way disturbing the street. On the left, set well back from the road, a garage has been added ; also a paved terrace outside the house running partly round the semi-circular end.

PLAN—The street entrance to the cottage leads into a square hall and thence into the living-room, both part of the original structure. The far end of the living-room opens out into the added sun room. By linking the living-room with the sun room more light and air and a better view over the garden has been obtained. Access to the main bedroom on the first floor is also obtained from the sun room by a specially designed wrought-iron spiral staircase with triangular cantilevered sections. The bedroom door is off the gallery, which leads along through a door to the sun terrace.

Left, looking across the sun room to the semi-circular end with a lower ceiling level.



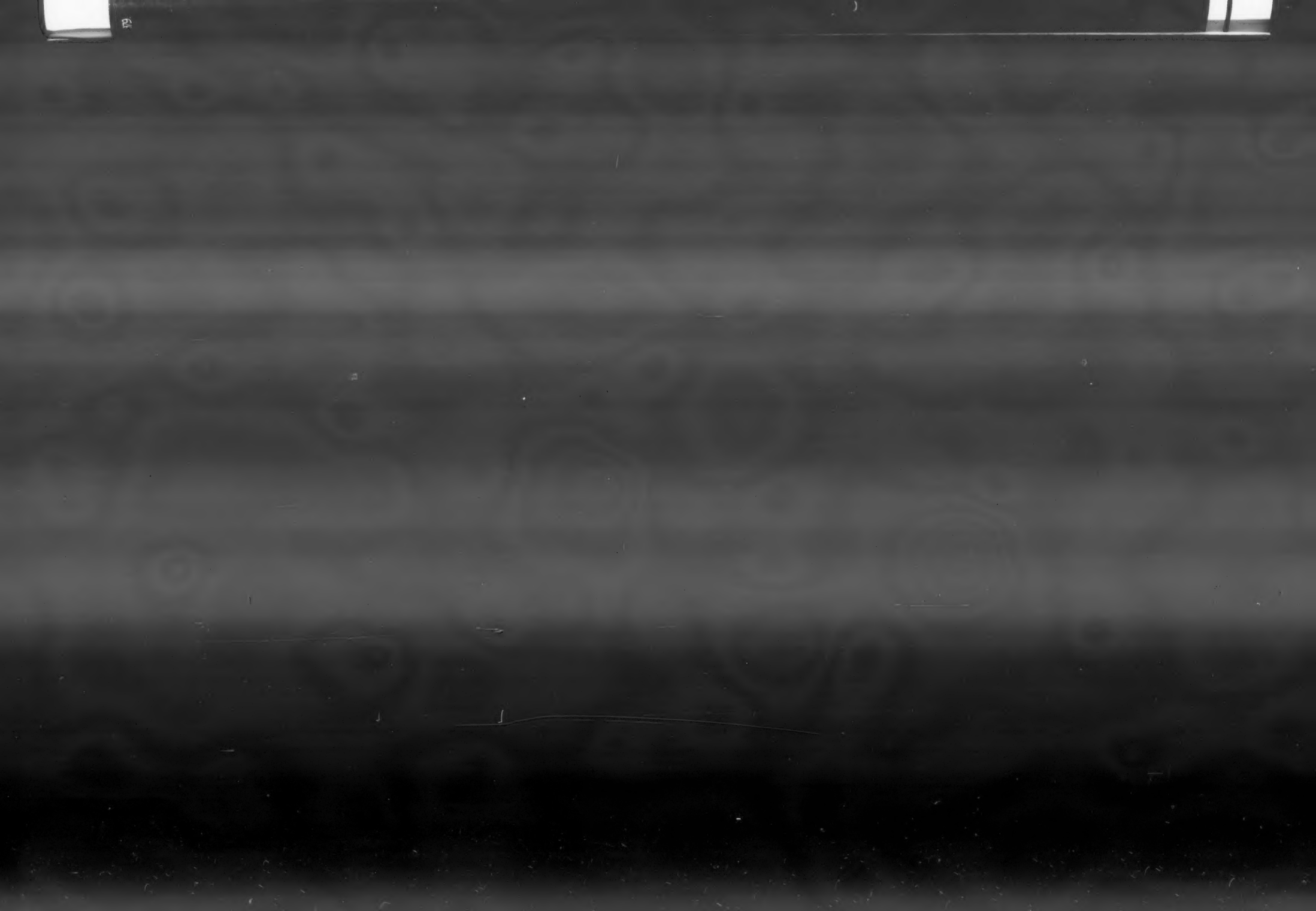
Top, sun room, showing spiral staircase leading to the gallery. Left, looking from the garden entrance across the sun room. Right, the gallery leading to the bedrooms and sun terrace.

FINISHES—The whole of the garden front, including the sun room, has been whitewashed. One new window has been added and the old ones replaced by metal windows set in wooden frames. The interior walls have been plastered and covered with a textured off-white paper, but no attempt has been made to hide the structural oak beams which now maintain the character of the original cottage. Built on a brick base the sun room is composed entirely of glass panels set in deal framing. On the far side deal boarding screens the first-floor sun terrace from the village street. The floor of the room is of beech boards, and the walls are painted pale grey and the woodwork white. The long patterned curtains are plum coloured on a neutral ground.

General contractors were Hoad and Taylor, Ltd. ; for list of sub-contractors, see page xvi.

RECONSTRUCTION AND ADDITION, TWO COTTAGES AT SUTTON, SUSSEX

ARCHITECT: F. R. S. YORKE



COLUMNS FORMED FROM TWO OR MORE JOISTS TO WITHSTAND BENDING MOMENTS AS WELL AS DIRECT LOAD.

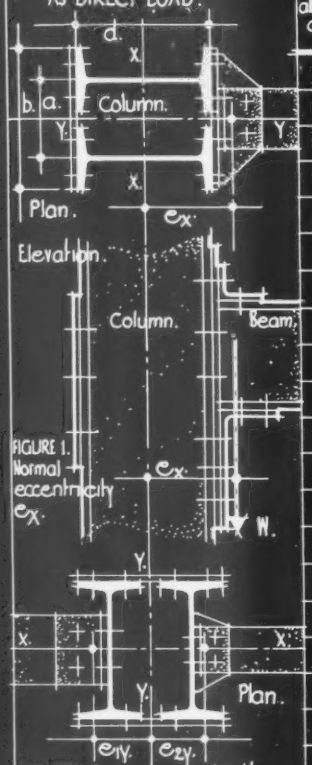


FIGURE 1. Normal eccentricity ex.

FIGURE 2. eccentricity My.

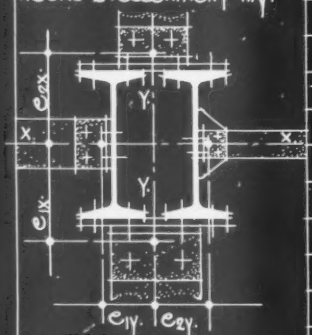


FIGURE 3. combined moments Mx & My.

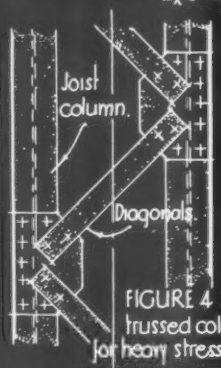


FIGURE 4: trussed column for heavy stresses.

TABLE GIVING REDUCTION COEFFICIENTS (β) FOR TWO EQUAL B.S.S. SPACED JOIST SECTIONS, AS ECCENTRICALLY LOADED COLUMNS (STRUTS).

Approx. overall size of col. d x b ins.	Size of each joist. d x b ins.	Min. distance c/c a. ins.	ECCENTRICITY e_x ins.	ECCENTRICITY e_y ins.	LENGTH OF COLUMN OR STRUT IN FEET. 6.	7.	8.	9.	10.	11.	12.	13.	14.	16.	18.	20.	22.	24.
3 x 4	3x1½	2·30	2·0	1·78	1·34	1·27	1·17	1·05	0·95	0·85	0·76	0·70	0·64	0·55	0·48	0·40	·	·
3 x 6	3x3	3·00	2·8	1·80	1·35	1·27	1·17	1·08	0·98	0·86	0·79	0·72	0·66	0·55	0·48	0·44	·	·
4 x 5¼	4x1¾	3·06	2·5	2·50	1·42	1·39	1·34	1·26	1·23	1·13	1·05	0·95	0·89	0·75	0·64	0·56	0·50	0·45
4 x 6	4x3	3·00	2·5	1·74	1·42	1·39	1·34	1·27	1·23	1·13	1·08	0·98	0·91	0·76	0·64	0·59	0·54	0·48
4¾x5¾	4¾x1¾	3·68	2·87	2·75	1·44	1·41	1·40	1·35	1·31	1·27	1·23	1·13	1·05	0·94	0·80	0·72	0·64	0·56
5 x 7	5x3	3·86	3·0	1·49	1·46	1·43	1·41	1·39	1·34	1·31	1·27	1·22	1·13	0·99	0·89	0·79	0·70	0·69
5 x 9	5x4½	4·50	3·0	2·42	1·46	1·43	1·42	1·39	1·34	1·31	1·26	1·22	1·13	0·99	0·89	0·79	0·70	0·69
6 x 8	6x3	4·70	3·5	2·93	1·47	1·46	1·43	1·42	1·41	1·39	1·34	1·31	1·26	1·17	1·08	0·96	0·86	0·83
6 x 9	6x4½	4·50	3·5	2·35	1·47	1·46	1·43	1·42	1·41	1·39	1·34	1·31	1·26	1·17	1·08	0·96	0·86	0·83
6 x 10	6x5	5·00	3·5	2·64	1·47	1·46	1·43	1·42	1·41	1·39	1·34	1·31	1·26	1·17	1·08	0·96	0·86	0·83
7 x 10	7x4	5·52	4·0	3·48	1·48	1·47	1·46	1·44	1·43	1·42	1·41	1·39	1·35	1·31	1·26	1·22	1·15	1·12
8 x 10½	8x4	6·26	4·5	3·66	1·49	1·47	1·47	1·46	1·44	1·43	1·42	1·40	1·39	1·35	1·31	1·26	1·17	1·08
8 x 11½	8x4	6·25	4·5	3·40	1·49	1·47	1·47	1·46	1·44	1·43	1·42	1·40	1·39	1·35	1·31	1·26	1·17	1·08
8 x 13	8x6	6·75	4·5	3·08	1·49	1·47	1·47	1·46	1·44	1·43	1·42	1·40	1·39	1·35	1·31	1·26	1·17	1·08
9 x 11½	9x4	7·04	5·0	4·38	1·50	1·49	1·48	1·46	1·46	1·43	1·42	1·41	1·41	1·39	1·34	1·28	1·23	1·17
9 x 14	9x7	7·00	5·0	3·40	1·50	1·49	1·49	1·47	1·47	1·46	1·44	1·43	1·42	1·40	1·35	1·32	1·26	1·22
10 x 12½	10x4½	7·92	5·5	4·40	1·50	1·50	1·49	1·48	1·47	1·46	1·46	1·44	1·43	1·41	1·39	1·35	1·31	1·26
10 x 13	10x5	7·84	5·5	4·36	1·50	1·50	1·49	1·48	1·47	1·46	1·46	1·44	1·43	1·41	1·39	1·35	1·31	1·26
10 x 14	10x6	7·88	5·5	4·02	1·50	1·50	1·49	1·48	1·48	1·47	1·46	1·44	1·43	1·41	1·39	1·35	1·31	1·26
10 x 16	10x8	8·00	5·5	3·74	1·50	1·50	1·49	1·49	1·48	1·47	1·46	1·44	1·43	1·41	1·39	1·35	1·31	1·26
12 x 14½	12x5	9·46	6·5	5·41	1·50	1·50	1·50	1·49	1·49	1·48	1·47	1·46	1·46	1·43	1·42	1·41	1·38	1·34
12 x 16	12x6 L	9·52	6·5	5·20	1·50	1·50	1·50	1·49	1·49	1·48	1·47	1·46	1·46	1·43	1·42	1·41	1·38	1·34
12 x 16	12x6 H	9·54	6·5	5·55	1·50	1·50	1·50	1·49	1·49	1·48	1·47	1·46	1·46	1·43	1·42	1·41	1·38	1·34
12 x 17½	12x8	9·40	6·5	4·52	1·50	1·50	1·50	1·50	1·49	1·49	1·48	1·47	1·47	1·44	1·43	1·41	1·39	1·34
13 x 15½	13x5	10·30	7·0	6·10	1·50	1·50	1·50	1·50	1·50	1·49	1·49	1·47	1·47	1·46	1·43	1·42	1·40	1·38
14 x 17½	14x6 L	11·12	7·5	6·30	1·50	1·50	1·50	1·50	1·50	1·50	1·49	1·49	1·48	1·46	1·44	1·43	1·41	1·38
14 x 17	14x6 H	10·98	7·5	6·21	1·50	1·50	1·50	1·50	1·50	1·50	1·49	1·49	1·48	1·46	1·44	1·43	1·41	1·40
14 x 19½	14x8	11·12	7·5	5·68	1·50	1·50	1·50	1·50	1·50	1·50	1·49	1·49	1·48	1·46	1·44	1·43	1·41	1·40
15 x 17	15x5	11·64	8·0	7·49	1·50	1·50	1·50	1·50	1·50	1·50	1·49	1·49	1·48	1·47	1·44	1·43	1·41	1·40
15 x 18	15x6	11·94	8·0	6·72	1·50	1·50	1·50	1·50	1·50	1·50	1·50	1·49	1·49	1·47	1·44	1·43	1·41	1·40
16 x 19	16x6 L	12·72	8·5	7·45	1·50	1·50	1·50	1·50	1·50	1·50	1·50	1·49	1·49	1·47	1·44	1·43	1·41	1·41
16 x 18½	16x6 H	12·36	8·5	7·45	1·50	1·50	1·50	1·50	1·50	1·50	1·50	1·49	1·49	1·47	1·44	1·43	1·41	1·41
16 x 21	16x8	12·86	8·5	6·60	1·50	1·50	1·50	1·50	1·50	1·50	1·50	1·49	1·49	1·47	1·44	1·43	1·41	1·42
18 x 20½	18x6	14·18	9·5	8·69	1·50	1·50	1·50	1·50	1·50	1·50	1·50	1·49	1·49	1·47	1·44	1·43	1·42	1·42
18 x 21½	18x7	14·14	9·5	8·69	1·50	1·50	1·50	1·50	1·50	1·50	1·50	1·49	1·49	1·47	1·44	1·43	1·42	1·42
18 x 22½	18x8	14·44	9·5	7·71	1·50	1·50	1·50	1·50	1·50	1·50	1·50	1·49	1·49	1·47	1·44	1·43	1·42	1·43
20 x 22½	20x6½	15·80	10·5	9·58	1·50	1·50	1·50	1·50	1·50	1·50	1·50	1·50	1·50	1·49	1·46	1·44	1·44	1·44
20 x 23½	20x7½	15·66	10·5	9·31	1·50	1·50	1·50	1·50	1·50	1·50	1·50	1·50	1·50	1·49	1·46	1·44	1·44	1·44
22 x 24½	22x7	17·24	11·5	10·78	1·50	1·50	1·50	1·50	1·50	1·50	1·50	1·50	1·50	1·50	1·49	1·48	1·47	1·47
24 x 26½	24x7½	18·80	12·5	11·50	1·50	1·50	1·50	1·50	1·50	1·50	1·50	1·50	1·50	1·50	1·49	1·49	1·48	1·48

The values given to the right of or above the zig-zag line may be applied to secondary compressive members; they should not be applied to main structural columns or struts, for which the values lie to the left. The criterion is a slenderness ratio of 150.

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THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 801 •

STRUCTURAL STEELWORK

Subject : Economical Column Sections to Withstand Bending Moments as well as Direct Load : 4, Two or more Joists.

General :

This series of Sheets on steel construction is not intended to cover the whole field of engineering design in steel, but to deal with those general principles governing economical design which affect or are affected by the general planning of the building. It also deals with a number of details of steel construction which have an important effect upon the design of the steelwork.

Both principles and details are considered in relation to the surrounding masonry or concrete construction, and are intended to serve in the preliminary design of a building so that a maximum economy may be obtained in the design of the steel framing.

This Sheet is the thirtieth of the series, and sets out in tabular form the reduction coefficients by which may be calculated the comparative economic efficiencies of eccentrically loaded columns, composed of two or more joist sections.

Column Type :

Owing to their great variety, columns constructed from two joists are suitable for practically any combination of loads and bending moments.

Axes :

In Figure 1 the eccentric load is shown causing a bending moment about the *x*-axis. In Figure 2 a case is given where bending moments occur about the *y*-axis only, and in Figure 3 a case where both bending moments are combined.

Eccentricity :

The coefficient e_x given in the table on the front of this Sheet signifies the usual eccentricity in *x* direction, as explained on Sheets Nos. 28 and 29, while e_y refers to that eccentricity in *y* direction which has the same effect as e_x.

Efficiency Coefficients :

If α is the proportion of the load which acts eccentrically, the following formula for the eccentricity coefficient obtains :—

$$C=\frac{C_2}{1+\alpha\beta}$$

where β is found from the table on the front of this Sheet, and C_2 from the table on Sheet No. 13 (given on that Sheet as *e*). For the applications of this formula, and examples, see Sheets Nos. 28 and 29.

Shear Due to Horizontal Loading :

Where bending moments occur about the *x*-axis only, or where bending moments about the *y*-axis are caused by eccentric loads, the construction of the column is the same as that indicated on Sheet No. 13. Only where substantial horizontal forces occur in *x* direction, producing shear in this direction (a case which frequently occurs in columns for workshops in which cranes run) is it advisable to add diagonals.

In the case of important and heavily stressed columns, they may be considered and constructed properly, as trusses with gusset plates and horizontal and diagonal members. (See Figure 4.)

Previous Sheets :

Previous Sheets of this series dealing with 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 and 800.

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Address : Horseferry House, Horseferry Road, Westminster, London, S.W.1

Telephone : Victoria 8571

SOME QUESTIONS ANSWERED THIS WEEK:

★ *WHICH firms supply reinforced non-inflammable felt for use in the event of damage to roof or window glazing?* - - - - - Q450

★ *ARE there any restrictions at the moment on the sale of cement? What quantity of cement is required to build a rod of brickwork using a 1:5 mortar?* - - - - - Q452

★ *CAN you give us the name and address of the makers of "Rollashade" blackout material for factory windows?* - - - - - Q455

★ *I HAVE the windows of a large factory to coat with a splinter-proof paint. Can you recommend a good splinter-proof paint suitable for the outside of the glass?* - - - Q456

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Enquirers do not have to wait for an answer until their question is published in the JOURNAL. Answers are sent direct to enquirers by post or telephone 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. Samples and descriptive literature sent to the Information Centre by manufacturers for the use of a particular enquirer are forwarded whenever the Director of the Centre considers them likely to be of use.

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REGENT 6888

Q449 HOSPITAL AUTHORITY, LANCS.—*I am writing to inquire whether you would give me your advice in the following matter, advice and experiments having all failed: TERRAZZO FLOORING, Pathological Laboratory and Corridor. This flooring was put down in 1923. During the past six months only, white powder has been coming off. Three coats of silicate of soda have recently been put on the floor AND all the cracks filled with cement, but still the WHITE POWDER covers the floor. We have thoroughly cleaned a patch of the terrazzo and rubbed it, but no powder comes off, but it will re-appear the next day.*

There are three possible solutions. That the powder should start to form after some sixteen years of useful service may indicate some change in the cleaning operations, particularly in the use of cleaning agents containing an increased soda content. Concentrated forms of soda will disintegrate the cement in the surface of terrazzo, and tend to leave a white deposit and roughened surface. Secondly, there is the application of the sodium silicate solution. While admirable for filling in the roughened surface of terrazzo, it will be appreciated that only the silicate part of the solution will interact with the lime

content of the cement in the terrazzo and the soda is released and will for a period form a scum on the surface of the work. Here then is a possible explanation for the continuance of the nuisance. Thirdly, it may be that the new surface formed by the sodium silicate treatment is being broken down by cleaning agents, and it is suggested that some of the white powder be gathered together and analysed in an attempt to locate and identify the cause of the trouble.

Q450 FACTORY ARCHITECT, SOMERSET.—*My firm has asked me to purchase for stock a quantity of REINFORCED NON-INFLAMMABLE FELT for use in the event of damage to roof or window glazing. Which firms supply this material?*

Two firms are marketing forms of wire reinforced bitumen-impregnated felt for use in circumstances such as outlined in your inquiry. These are: Messrs. Bennie Lifts, Ltd., 2 Tinworth Street, London, S.E.11 and Messrs. Langley London, Ltd., 161 Borough High Street, London, S.E.1. There is also a fabric reinforced bitumen-impregnated felt marketed by Messrs. D. Anderson and Son, Ltd., Roach Road Works, Old Ford, London, E.3, and the Ruberoid Co., 296 High Holborn, London, W.C.1. None of these manufacturers, however, claim that their material is non-inflammable, and we have no knowledge of any material of this type for which such claims are made.

Q451 ARCHITECT, LONDON.—*I wonder if you could assist in connection with the COST OF a SMALL BRICK built domestic SHELTER? Some old clients of mine approached a local builder direct for an estimate for an all-brick shelter some 4 ft. by 5 ft. 3 in. on plan and corbelled in at the top and built on concrete laid direct on the ground, all in accordance with the small domestic shelter advocated by the A.R.P. authorities. Apparently from their readings they expected an estimate of about £14–£18 and were surprised to learn that the builder's price was £30. Now they consult me and ask if this £30 is a fair charge, and while I myself think that if anything it errs on the high side I would appreciate your opinion on the matter.*

Taking into consideration present material and labour charges and difficulties of organization, and also that the work is for one shelter only, the price does not appear unreasonably high. Also the estimate may include better finishings, such as flush pointing of the brickwork or possibly rough cutting of the projecting brick corbels internally, or even for the provision of a screen wall at the door opening should the placing of the shelter make this necessary.

Q452 ARCHITECT, LONDON.—*Are there any restrictions at the moment on the SALE OF CEMENT? On visiting a private shelter job the contractor has given as a reason for the delay in progress his inability to obtain cement. Is this general at the moment? Also what quantity of cement is required to build a rod of brickwork using a 1 : 5 mortar?*

There are temporary difficulties of supply, not because of restrictions of output so much as demands for works of first priority having caused delay in delivery for works of less importance. The phase, however, should be temporary: and in any mass brickwork the amount of cement required could be reduced by the use of cement gauged lime mortars. In a 1 : 5 cement sand mortar approximately half a ton of cement would be required per rod of brickwork.

Q453 BUILDERS, LONDON, S.E.—*Can you give us the names of firms producing CONCRETE SEAT UNITS FOR public SHELTERS; also the dovetailed angled concrete slab supports for the roofs of domestic shelters?*

Seat units in concrete and the dovetailed roof slabs for domestic shelters are available from the firms given below.* Seat units in asbestos cement are marketed by Turners Asbestos Cement Co., Ltd., Asbestos House, Southwark Street, S.E.1.

Q454 CONTRACTORS, LONDON.—*With some shelter work we are pricing, the MORTAR FOR BRICKWORK is specified as being in accordance with BS/ARP. 25. Could you tell us the proportions of the mix covered by this Specification?*

The reference is to the British Standards Institution A.R.P. Specification No. 25 entitled "Lime-Cement Mortar" (copies obtainable from the British Standards Institution, 28 Victoria Street, S.W.1, price 3d. post free). The proportions given are for one volume of lime to be mixed with three volumes of sand and for the resultant coarse stuff to be gauged with cement in the proportions of one volume of Portland cement to nine volumes of coarse stuff.

* *Messrs. Trianco, Ltd., Imber Court, East Molesey, Surrey; The Girlings Ferro Concrete Co., Ltd., Great West Road, Feltham, Middlesex; Messrs. J. A. King & Co., Ltd., 184 Queen Victoria Street, E.C.3.*

Q455 BUILDING CONTRACTORS, CUMBERLAND.—*Can you give us name and address of makers of "Rollashade" BLACKOUT MATERIAL for factory windows?*

This material is manufactured by the Rollashade Manufacturing Co., 85 Regency Street, S.W.1.

Q456 PAINTER AND DECORATOR, ABERDEEN.—*I have the windows of a large factory to coat with a splinter-proof paint. The inside of these windows was done last October with a black water-paint, and I cannot put splinter-proof paint on top of the water paint. Can you recommend a good SPLINTER-PROOF PAINT suitable FOR the OUTSIDE OF the GLASS?*

The various forms of anti-shatter solutions fall into distinct types and the type most suited for external application is the liquified plastic. The anti-shatter solutions produced by Messrs. Manifold Developments, Ltd., Victoria Street, S.W.1, or Messrs. Slick Brands, Ltd., Stafford Road, Croydon, Surrey, are of this class. It is, of course, always advisable that the material should have been submitted to the Building Research Station for test. Materials so submitted are reported upon by the Station, and ordinarily copies of the test reports are available from the manufacturers. In applying these coatings externally it is very necessary that the glass should be clean and that application is made during dry weather.

Q457 ARCHITECTS, SHEFFIELD.—*We are at present considering the protection from possible damage by air raid attacks of a Convalescent Home which may have to be used as a military hospital in case of necessity. The usual forms of PROTECTION AGAINST BLAST, such as 14-in. walls or sandbag revetments in front of windows, are not possible without completely spoiling the amenities of the building for its present use. It appears to us, therefore, that the best form of protection which can be arranged is to provide for the protection*

of the window glass of all the important rooms against splintering. We have considered various ways of doing this by :—

1. Liquid coatings which to some extent impair visibility.
2. Hardwood or fibre board shutters which would have to be put up and taken down daily—a distinct drawback.
3. Transparent wrapping films.
4. Strong wire netting, 19 or 20 gauge, not more than ½-in. mesh.

We are of the opinion that the netting is more capable of resisting the impact of splinters on the glass coming at considerable speed than the films above mentioned and that this form of protection hinged to light frames provides the best form of defence, and the wire frame can be opened at will to allow access to the window for cleaning or working of blinds. We shall be glad to have your view on the question.

On this subject there is useful information contained in the Home Office A.R.P. Memorandum No. 12 entitled "The Protection of Windows in Commercial and Industrial Buildings" (H.M. Stationery Office, York House, Kingsway, W.C.2, price 4d. net), and also in "Your Home as an Air Raid Shelter" (H.M. Stationery Office, price 9d.).

Wire mesh netting may be expected to give good protection against splinters, but gives no protection against weather once glass is broken. Reasonable protection with maintenance of weather-tight conditions if glass is cracked may be expected to be obtained by the use of one of the following methods :

1. The substitution of wired glass for existing window glass.
2. The use of Windolite, Sunralite or Ferrophane—being forms of thin wire mesh embedded in thin plastic sheeting.
3. The use of clear sheets of the Cellophane or Bexoid type in fairly stout thicknesses.*

* *BEXOID.—Messrs. B.X. Plastics, Ltd., Hale End, London, E.4.*
CELLOPHANE.—Messrs. British Cellophane, Ltd., 17 Stratford Place, London, W.1.
WINDOLITE.—Messrs. Windolite, Ltd., Harlow, Essex.
SUNRALITE.—Messrs. Sunralite Glass Substitute, 84 Chestnut Road, London, N.17.
FERROPHANE.—L. C. H. Athill, Esq., 38 Sneath Avenue, London, N.W.11.

REFERENCE BACK

[*This section deals with previous questions and answers.*]

Q387 *June* 27, 1940.

"Bell" look-out shelters. In this enquiry the request was taken to indicate bell-shaped look-out shelters and information was given accordingly, and mention was made at the same time that the Centre had no record of any shelter unit marketed under the trade name of BELL. It has since been brought to the Centre's notice that there exists a BELL design precast reinforced concrete air raid shelter unit made and marketed by the firm of Messrs. A. Bell & Co., Ltd., 1 & 3 Gold Street, Northampton, who are known in the industry as the makers of the BELL fireplaces.

TRADE NOTES

Obscuration for Factories

Helliwell and Company have sent the JOURNAL particulars of their system of obscuration shutters for factories which has received the approval of H.M.O.W. and the Ministry of Supply.

The usual practice is followed of permanently blacking out part of the roof lights, and having a series of moving shutters which complete the black-out when required but roll back behind the obscured portions during daylight hours. The shutters also, of course, are closed during air raids to give protection against splinters and flying glass. Provision is made for the fitting of the shutters either inside or outside the glass as desired. Where possible, the former is the better practice because the shutters are protected from extremes of climate, and a heavy fall of snow, for instance, will not prevent their operation. At the same time, they give real protection against flying glass.

External shutters admittedly give additional protection for the glass itself, but if it is shattered fragments will fall into the factory with danger to personnel and risk of damage to machines and work in progress. In both cases the shutters are designed to be fully waterproof, so that shattering of the glass will not prevent the continued use of the factory by day and night whatever the time of the year or the weather.

When steel cannot be obtained, the manufacturers recommend the use of ⅛-in. compressed asbestos sheets both for the shutters themselves and the permanently obscured portions.

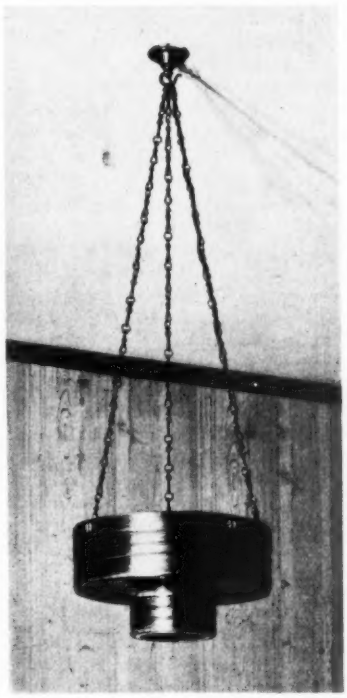
The system of installation and the operating gear appear to be simple and workmanlike, and full particulars are available on request.—(*Helliwell and Company, Limited, Brighouse, Yorks.*) H.M.

Air Sanitation

Anyone acquainted with the elaborate technique practised by doctors and nurses in the operating theatre can scarcely have failed to be impressed by the immense pains taken to secure a sterile field and to reduce, as far as possible, the danger of infection. The success of this technique has been amply demonstrated by the remarkable drop in mortality figures from operations since Dr. Lister first tentatively employed his carbolic spray.

I have sometimes wondered whether these precautions are not almost over-elaborate, in view of the fact that no steps are taken about the air circulating in the theatre, which is known to contain millions of bacteria, a proportion of which are definitely harmful and liable to cause infection. This proportion is naturally higher in hospitals and in doctors' consulting rooms, where patients with infectious diseases congregate.

This problem of air-borne infection, needless to say, has been receiving scientific study, and I have just been reading a booklet issued by Hanovia, Ltd., giving details of an apparatus they have put on the market for air sanitation. Incidentally, the booklet should save me quite a lot of money, because it will be some time before I again have the courage to board a bus during the rush hours, so fearsome are the photographs of sneezes, coughs and horrid streptococci.



The accompanying illustration shows the unit, which looks just like a normal lighting fitting and, in fact, operates off the lighting circuit. It is based on the principle that ultra-violet rays destroy bacteria, and it consists simply of an ultra-violet lamp, together with a fan which steadily passes the air of the room through the rays of the lamp.

Tests conducted by Dr. G. F. Dick in the contagious section of the Billings Hospital, Chicago, showed a reduction of over 85 per cent. in bacteria after 30 minutes' direct irradiation. Other tests at various hospitals have confirmed these figures, which speak for themselves, and I think it is clear that we are here at the beginning of a new development in medical hygiene.

Though I have so far been speaking of operating theatres, the fitting is designed equally for use in doctors' or dentists' consulting rooms, in hospital wards or, in fact, anywhere where there is special risk of infection. Installation is simple, and the cost of the unit as illustrated is 16 guineas, or in standard lamp form 18 guineas. It

operates on A.C. only, the consumption being 45 watts. One unit normally is regarded as sufficient for a room 20 ft. by 20 ft. by 10 ft., and advice is offered on the number required for larger rooms or in special circumstances.—(*Hanovia, Ltd., Slough.*) H.M.

LETTERS

A Ministry of Building

SIR,—We have been promised a Ministry of Building after the war and Mr. J. Marchbank, General Secretary of the N.U.R., announced recently that plans for the setting up of this Ministry were under consideration. Does this foreshadow its formation for an active participation in the war effort? Let us hope so, for it is urgently required and there is every reason for the taking of such steps at once. For some time I have been urging this as the commonsense way of dealing with the huge programme of Government war building which, commencing before the war, is still in hand today, and had the needs of all departments been centralized in this way a year ago there would have been far less likelihood of the maldistribution, indiscriminate use of materials in short supply and general muddle and waste in building which have been so clearly revealed by the Government Select Committee on National Expenditure. The changed aspect of war since the capitulation of France has thrown, if anything, a larger burden than ever on the building resources of the country and many further air-raid shelters, evacuation camps, military camps, canteens, and a host of military works of a smaller and more widespread character than was previously imagined are now required, besides new works for the export industries and for munitions to follow as soon as materials and labour are available for their construction. All this requires the best organization of which we are capable, and in fact there are signs that this has been recognized by the new administration; but still too many of the old haphazard ways prevail and distribution has yet too great a bias toward the favoured few at the expense of the smaller firms which form the bulk of the industry.

Into this at any moment may come the unknown quantity—damage from wholesale bombing attacks—and then it may well be a case of jobs looking for builders rather than builders looking for jobs. If under such circumstances work is to be carried out in the order of its urgency it is obvious that it must be under central control in turn acting through district organizations competent to deal with local needs and with discretionary powers to do so, for we must anticipate damage to communications causing temporary interruption of the central control.

The present restriction on civil building is undoubtedly necessary in many areas, but a first requirement of its enforcement should be that more urgent work in the particular district is available for the building industry of the district, otherwise it is clearly detrimental.

For I maintain that it is essential to keep going at the very least throughout the country nuclei of the industry capable of rapid expansion to meet local emergencies. In addition, to ensure that the industry is kept employed, there should be a definite understanding that civil building may recommence as soon as the more urgent needs have been met, within the limits of the available resources in labour and materials.

If the Government believe, and I think we may assume this, that a Ministry of Building will be necessary after the war, surely it is even more required now, and in any case the present is the time to get it going in preparation for the future, if for no other reason. The essential condition of its success is that it should be recruited, not from civil servants but from the building industry itself and from persons acquainted with the customs and difficulties of the industry. The control so exercised should then be directed to get the best results from the thousands of firms comprising the industry without being irksome to them and being mindful of their interests as well as the general interests, which should rarely prove incompatible.

Here the established Building Industries National Council should prove of inestimable value with its years of accumulated knowledge of the industry, as also would the representatives of the trade and professional bodies, who could be formed into local building councils to exercise the necessary district control linked to the central body by affiliation. To ensure the democratic nature of these bodies they could be elective in character with a board of directors and a small permanent paid staff.

It is likely that post-war reconstruction will have to be undertaken by the Government of the day and the problems then facing it can to a certain extent be anticipated. In my opinion research could be carried out and plans prepared, not necessarily in detail, for re-housing, redistribution of industry, new communications, including the Bressey report, peacetime evacuation of city and urban school children to permanent summer camps, rural housing, including sanitation and water supply, to name only a few. The R.I.B.A. research scheme is admirable in conception, but its practical value may be seriously limited without some form of official recognition or authority; nevertheless it would form a sound basis upon which to proceed and this is work particularly suited to architects, of whom there must still be many available who have found so far no alternative to replace depleted practices.

Nor must we forget the contribution which the building industry will be called upon to make toward economic recovery after the war, for it is probable that the building works then undertaken will be an essential factor in helping that recovery. In fact, I do not think it is too much to claim that no other industry will be able to do as much as ours in restoring more normal conditions. Are we to have a repetition of the mistakes after the last war with jerry building, ribbon development and private speculation in land and all their attendant evils? Only competent and authorized central control can prevent these things; let us therefore ask for this control on our own terms now and prepare for it rather than have outside control forced upon us perhaps when it is already too late to function at its best.

To many architects, who, like myself, have had the privilege of running their own practices certain of the ideas which I am here outlining may at first seem distasteful, but I think it is vital for us to realize that we are in no sense a small and remote coterie standing aloof from the industry but rather a part of it, and a very essential one. As such I conceive it to be our duty to plan for the industry not in any narrow sense but in the widest possible one and thus to prove to the Government, and perhaps to the public also, that their apparent estimate of us as an unnecessary luxury is in fact an ill-founded one. It is difficult to imagine the conditions which will obtain after the war, but they may well be against the immediate resumption of normal practice either by reason of the lack of private finance, or because the widespread nature of air damage may require the aid of every available architect. The demand might even be such that a measure of control would be necessary with the possibility of an interim period in which we should all have to work for the Government, putting our office organizations at its disposal for the purpose.

There is no doubt in my mind that such conditions could be most satisfactorily met and dealt with by a Ministry of Building established on the lines I have indicated, to the best interests of the building industry, including the professions engaged in it, and to the general benefit of the community.

GEORGE LEE GREAVES

Hanley.

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A.A.S.T.A.

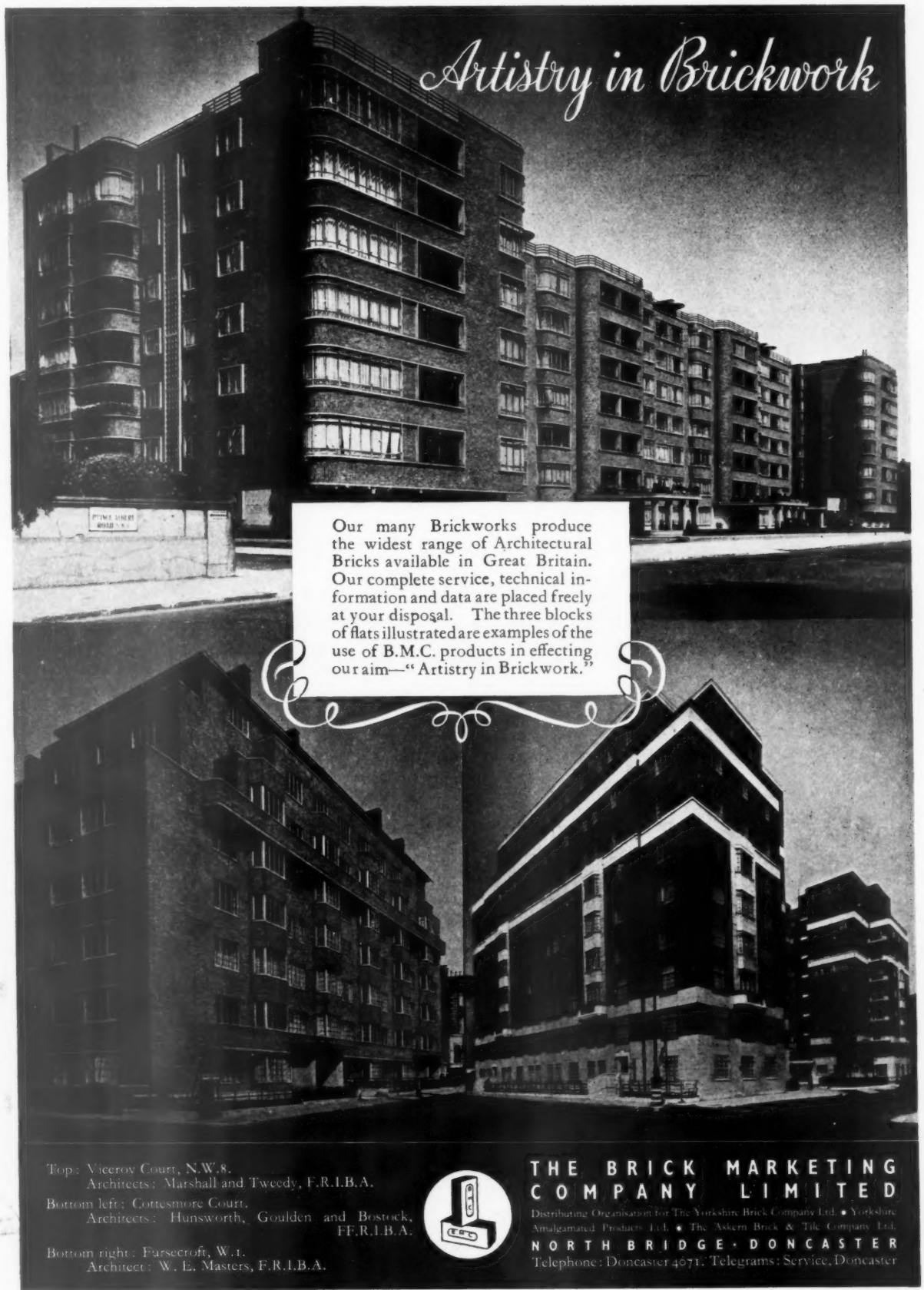
Following statement has been issued by the Council of the A.A.S.T.A. on the Government's shelter policy :—

Committees of the association have been studying the problems of air-raid shelters and of evacuation buildings for over two years. The published results of their research have been placed at the disposal of the Government in order to help it in performing its duty of defending the people of this country, by supplying schemes of air-raid protection and evacuation.

The association's various reports have been well received by the press and by the public generally. It must frankly be said, however, that both on the question of air-raid shelters and of accommodation for evacuees the association has met, until recently, with nothing but negative replies from the Government Departments concerned.

The association's pamphlet "Better Shelters" was therefore published as a direct appeal to the public. It is in their hands to influence Government action, and we are confident that an informed public opinion will do so. We do not believe that Sir John Anderson's rejection of centralized, communal shelters—the only form of shelter which makes heavy protection an economic possibility—should be taken to mean that the Government's A.R.P. scheme will remain unchanged. The impact of events, the immediate danger of intensive bombardment of this country, and the rising demands of the people for "something better" may well force the Government to improve the present low standard of protection.

Sir John, in fact, speaking in Parliament on June 12 last said: "There has recently come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Architects: Marshall and Tweedy, F.R.I.B.A.
Bottom left: Cottesmore Court.
Architects: Hunsworth, Goulden and Bostock, FF.R.I.B.A.
Bottom right: Fursecroft, W.1.
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72.27

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.*

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into prominence an idea that, without going to the length of providing deep or heavily-protected shelters, we might have provided a type of splinter- and blast-proof shelter which would serve its purpose well in the first instance, and could be converted later into something intermediate between the splinter- and blast-proof type, and what is called a deep shelter. I do not dismiss that idea at all. In fact, I believe I thought of it first. A long time ago, I put it to my technical advisers, and they said then that it looked a good idea, but that they believed it was impracticable. . . . I tell the committee frankly that further examination of the problem has led us to the conclusion that that was an erroneous view, and we now consider that a 50-unit communal shelter of the splinter- and blast-proof type can be built which could, without great difficulty, be adapted later to afford substantially increased protection, and I have made arrangements to ensure that where local authorities provide splinter- and blast-proof shelters, according to designs to be modified on the lines I have indicated, the Government will pay the full grant."

In the light of this eleventh-hour recognition of "error" in Government policy, the Council of the A.A.S.T.A. urges the public to redouble their efforts, through the organizations to which they belong, to influence their local authorities and M.P.'s in order to ensure that such shelters are built without further delay, and to see that proper technical assistance is available for carrying out the work.

The type of shelter to which Sir John refers is precisely that advocated in "Better Shelters," and in "What is Wrong with Official Shelter Policy," published by the A.A.S.T.A.

R.S.A.

The following are the successful candidates in the Royal Society of Arts Competition of Industrial Designs for 1940 :—

Furnishing Textiles.—Miss Reeva Ronder (student of Edinburgh College of Art) and Miss Aileen Nora Attwater (student of the L.C.C. Central School of Arts and Crafts) were bracketed for first place. The Sir Frank Warner Memorial Medal for the best textile design in the competition was awarded to Miss Aileen Nora Attwater (student of the L.C.C. Central School of Arts and Crafts) for a design which she submitted in the furnishing textiles group.

THE BUILDINGS ILLUSTRATED

SHOP, BATH (pages 109-112). Architects : P. J. Westwood and Sons. Shopfitting : George Parnall & Co., Ltd. Building contractor: Axford and Smith, Ltd. Fenning & Co., travertine, etc. ; John Healey, pavement lights ; The Artistic Blind Co., external blinds ; Accordo Blinds Co., internal blinds ; Eric Munday, lettering, etc. ; Kendalls, Ltd., electrical work ; George Williamson, chairs and curtains.

ABELL HOUSE, WESTMINSTER (pages 113-115). Architects : T. P. Bennett and Sons. Specialists : Lift consulting engineers, Messrs. H. Barker and Son ; quantity surveyors, Messrs. Gardiner and Theobald ; reinforced concrete designers, Messrs. Mouchel and Partners. General contractors : Sir Robert McAlpine and Sons, Ltd. Sub-contractors and suppliers included : Empire Stone Co., Ltd., cast stone ; Express Lift Co., lifts ; Norris Warming Co., heating, hot water and ventilation ; Troughton and Young, electrical installation ; Matthew Hall & Co., plumbing ; Art Pavements, Ltd., terrazzo ; Hollis Bros., wood block floors ; Stitson White & Co., sanitary fittings ; J. W. Gray and Sons, Ltd., lightning conductor.

RECONSTRUCTION AND ADDITIONS TO TWO COTTAGES, SUTTON, SUSSEX (pages 116–118). Architect : F. R. S. Yorke. General contractors were Hoad and Taylor, Ltd. Sub-contractors and suppliers included : Noelite, Ltd., paving ; Adamsez, Ltd., sanitary fittings ; Parker, Winder and Achurch, Ltd., private water supply ; Best and Lloyd, Ltd., and Troughton and Young, Ltd., lighting fittings ; Ideal Boilers and Radiators, Ltd., radiators ; Ferranti, Ltd., electric fires ; C. E. Welstead, Ltd., metal windows ; James Clark and Son, Ltd., decorative glass and glass wall coverings ; Screeton, Paintmaker, paint ; Cole and Sons (Wallpapers), Ltd., wallpapers ; Gordon Russell, Ltd., furniture ; Marion Dorn, Ltd., curtains ; Dryad Metal Works, Ltd., door furniture, etc. ; Arens Controls, Ltd., window control gear.

"CELEBRATED DOORS"

No. 1 "Porta Del Paradiso"

IN the year 1400, the Guild of Merchants and the Signoria of Florence (then the richest and most splendid city in Europe) decided on a competition to be held among the artists and craftsmen who in the opinion of the city fathers were most worthy to participate, for the design of some new doors for the church of San Giovanni. Of the seven eminent men who entered the lists, success fell to the youngest, one Lorenzo Ghiberti, then in his twenty-first year. How successful young Lorenzo was, and how remarkable his design, may best be judged by the opinion of the great Michelangelo, who declared they were so beautiful that they were worthy to be the gates of Paradise.

(*Illustration on right*)

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