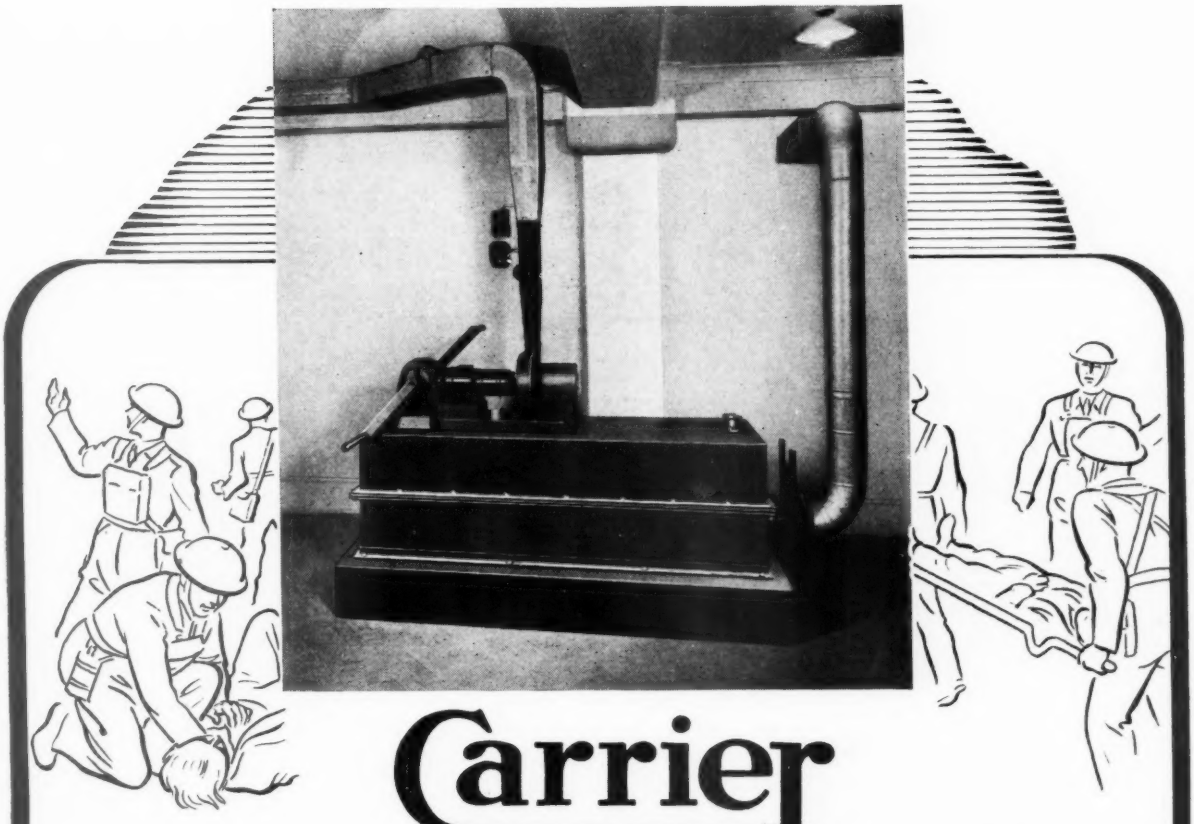

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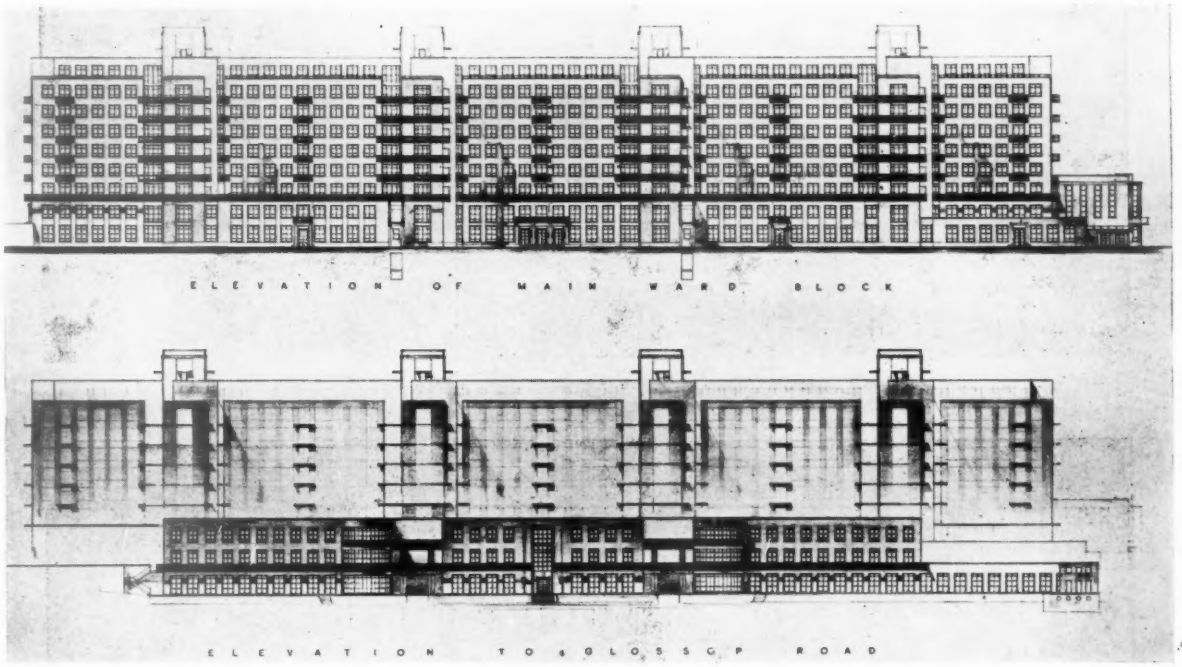
The Editor will be glad to receive MS. articles and also illustrations of current architecture in this country and abroad with a view to publication. Though every care will be taken, the Editor cannot hold himself responsible for material sent him.

THURSDAY, AUGUST 15, 1940. NUMBER 2378 : VOLUME 92

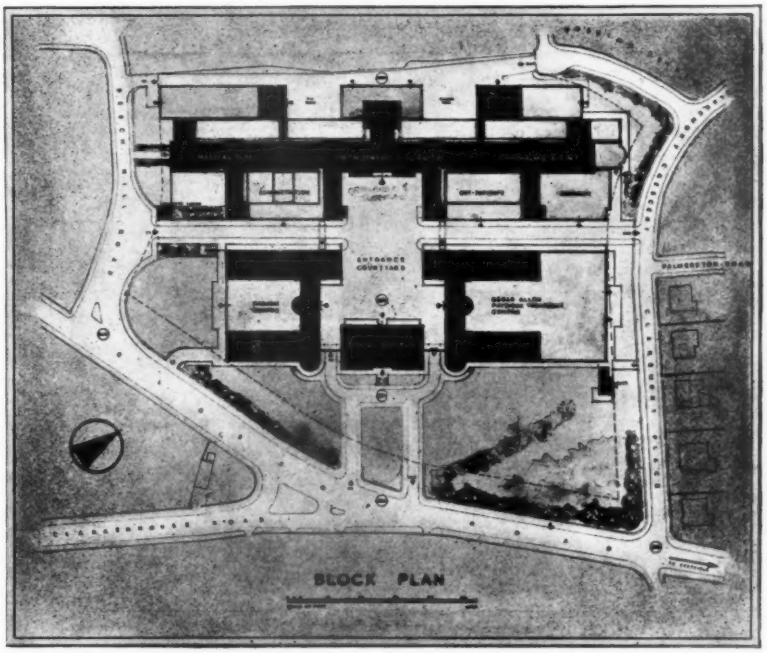
PRINCIPAL CONTENTS

THE SHEFFIELD COMPETITION

NEW BUILDINGS, ROYAL SHEFFIELD INFIRMARY AND HOSPITAL



DESIGN PLACED FIRST: BY ADAMS, HOLDEN AND PEARSON



As announced in last week's issue, Mr. J. Mansell Jenkinson, F.R.I.B.A., the assessor of the limited competition for new buildings for the new Royal Sheffield Infirmary and Hospital, has made his award as follows :

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

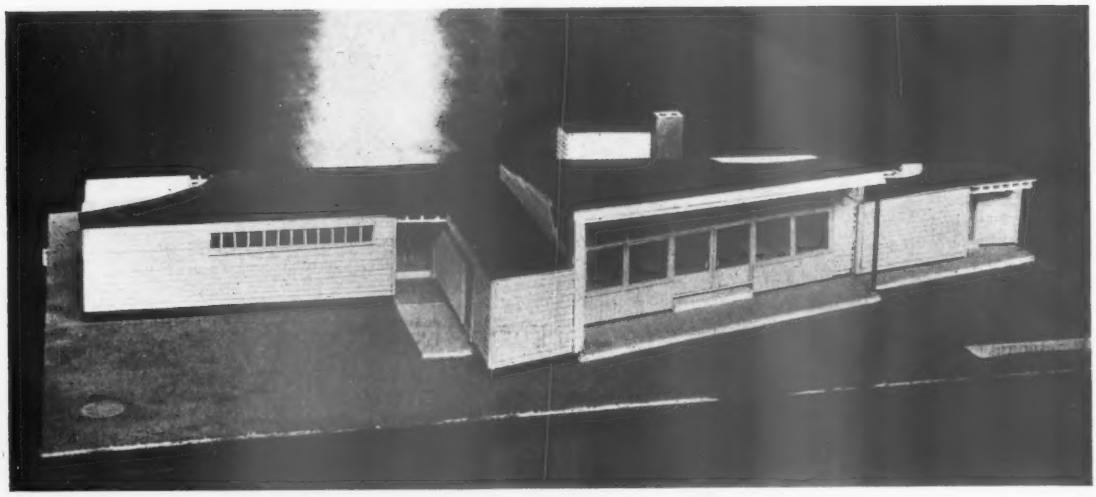
Design placed second : Messrs. Sir John Burnet, Tait and Lorne, 1 Montague Place, Bedford Square, London, W.C.1.

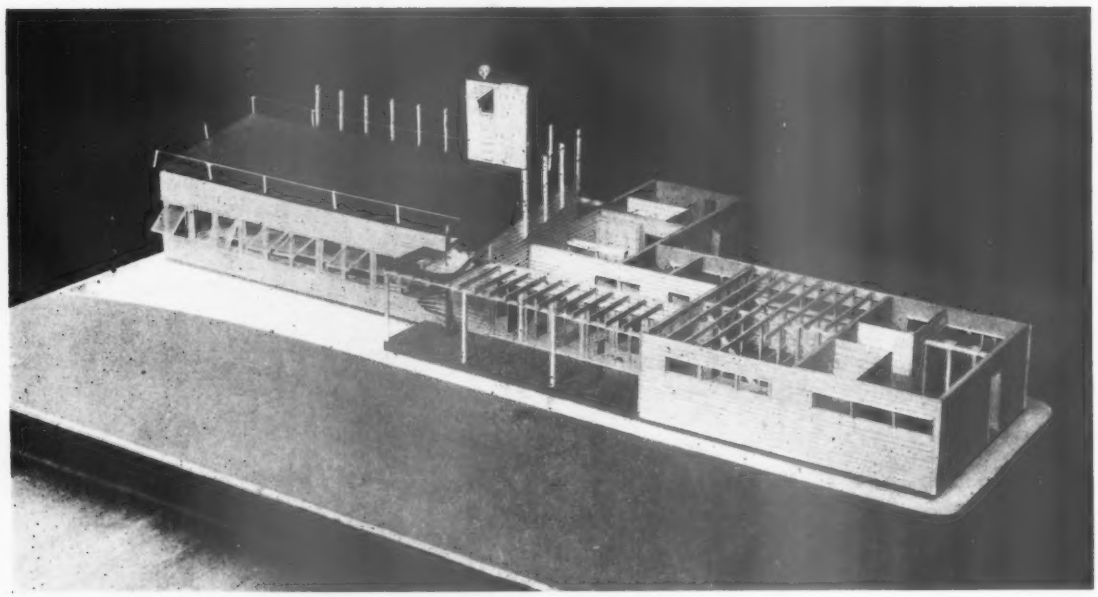
Design placed third : Messrs. Stanley Hall and Easton and Robertson, 54 Bedford Square, London, W.C.1.

Elevations and site plan of the winning scheme are reproduced on this page and the plans and assessor's report appear on pages 135–139. Winners, in their report, state :

SITE—*After visiting the site we consider the arrangement of buildings suggested in the conditions is undoubtedly the best, i.e. the higher ward blocks situated on the upper part, the treatment centres at a lower level, and an open space planted with trees and grass on the frontage facing Glossop Road.*

TRAFFIC CIRCULATION—*With the object of keeping all entrances off the public roads, we have arranged a roadway for motor traffic at the level of 440·00, which would give access to all buildings except kitchen, boiler-house and p.m. block. There is ample space for a car-park in the central space between the buildings, and we have arranged a covered space under the central court at the lower level where ambulances and staff cars could deliver to entrances under cover giving access to all parts of the hospital.*

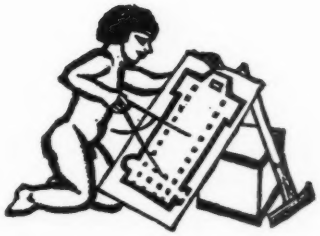




A.A. EXHIBITION OF STUDENTS' WORK

The annual exhibition of work by students of the Architectural Association is now being held at 36 Bedford Square, W.C.1. The list of prize-winners is printed on page 135.

Above, two models of a proposed sports pavilion for the A.A. Top, scheme awarded the Howard Colls Travelling Studentship. By A. J. P. Powell. Bottom, scheme given an honourable mention : by J. J. F. Ashton.



ONE MORE CHANCE

THE defeat of France put this country's building industry into the front line of defence in just the way its members had foretold. There was a scramble to execute a multitude of defence works and there was, and is, a shortage of those basic materials whose manufacturers were forced to close down, or drastically reduce output, during the first ten months of war. Soon afterwards, a Circular from the Ministry of Health urged local authorities to keep local stocks of materials as high as possible.

After the past eight weeks no Minister or M.P. is likely to deny that the skilled manipulation of building resources may matter almost as much in this war as the skilled control of food supplies or A.R.P. Services.

It seems probable that it is at last realized how disastrous an unplanned and uncontrolled building industry might prove in one or two eventualities. If, for instance, a large number of essential buildings and services needed repair in an area where communications were seriously interrupted ; or if German effort were concentrated on making the Port of London unusable, and a large programme of makeshift building became necessary in the west. These possibilities are no doubt responsible for renewed hints that plans for a central and regional system of building organization are again under consideration.

It therefore seems possible that if the building industry made one more effort to bring about unified control of war building, it would find the House of Commons ready to listen and be convinced. What is more, the most convincing argument for a *wartime* Ministry of Building is the Minister of Labour's own statement that such a Ministry will be unavoidable in the *post-war* period.

There is no doubt he is right. Post-war repair, reconstruction, replanning, new housing and the building works that will be needed to reabsorb ex-servicemen into industry and agriculture cannot be controlled by a sub-department of a Ministry loaded with other work. So huge a programme will have to be planned and controlled by a new and independent Ministry of Building and Territorial Planning.

But if the Government accepts this contention, the building industry can ask why it does not also realize the much greater need for a Ministry of Building in wartime. Failure to set up a Ministry of Building after the war may result in acute unemployment, more ruin to the British landscape and a huge boom in building followed by a slump; but failure to set up a wartime Ministry of Building may result in chaos.

Surely it should be possible to convince M.P.s that, with Britain in a state of siege, it is not possible for twenty Government departments to continue to make demands upon the building industry, or to organize reserves of materials, with only a few joint committees as points of contact. At the present moment, the Admiralty, Ministries of Supply, Air, Home Security and Health, the Home Office and Office of Works, a multitude of Controllers, an army of local authorities, all Regional Commissioners and Building Research organizations are all making demands on building resources or attempting to organize building resources with the Ministry of Labour hovering in the background. And no doubt the Ministries of Agriculture, Mines and Transport all have programmes of works in hand and are trying to accumulate reserves of materials and labour.

Among all these semi-independent authorities not one is charged with looking after the industry from which all demand much and may demand more ; not one has the duty of seeing that every part of the building industry is well used and its resources and labour power well distributed and replenished. The most potent of these authorities do nothing except raid the store-cupboard, and the few small authorities charged with dealing out the stores and finding substitutes for those that are lacking serve different masters and have no real power.

The building industry should make one more effort to convince the House of Commons that, when Britain is besieged, such a state of affairs in building is as suicidal as it would be with Food or Shipping. A Ministry of Building is now needed, just as Ministries of Food and Shipping are needed, to see that all building resources are well used, kept in good repair and made ready for any emergency. It need not be a big Ministry, but it must be an able Ministry staffed by experts in building. It must have exact knowledge of all building resources and of how and for whom they are being used in every part of the country ; it must have power to demand programmes of future work from every authority which intends to build during the war ; it must have power to keep manufacturers working against unknown requirements and to accumulate reserves of materials and labour where it deems necessary ; and it must be empowered to decide what firms, materials and methods shall be used to carry out future works for all Government departments.

Only a Ministry of Building of this kind can enable the building industry to do what will be asked of it if mass air raids or attempted invasion takes place. And the Minister of Building must enter office with the words attributed to Lord Beaverbrook before he became Minister for Aircraft Production : "—So it's understood, Winston, that I will have a free hand to sack anyone who isn't actually in the Cabinet."

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

NOTES & TOPICS

THE BUILDING TUSSLE

THE building situation grows no clearer as the war goes on. Every now and then a glimpse is given to the public of some plan for improvement or a guarded reference is thrown out about some committee for improving the earmarking of materials, the accumulation of stocks, or the distribution of contracts. But on the whole a mystified industry is left guessing—and accurate guessing is not made more easy by the fact that each time it is a different Minister who throws out the hint of better times to come.

*

In the last two months the Minister of Labour has made most references to building—including a prophecy of a post-war Ministry of Building and the probable wartime establishment of local building councils. Last Wednesday, Mr. Greenwood, Minister without Portfolio, made the following announcements about war building :

1 : All Government building contracts must be approved by the Production Council before they are let. 2 : The whole of the Government's building programme is to be reviewed in order to decide which works are more, and which less, urgent. 3 : A licensing system for all private building is to be introduced. 4 : Area Boards are to prepare a system for dealing with factories destroyed by bombardment and plans have been made for rebuilding and moving industrial plant.

*

These developments are encouraging in that they are obviously necessary, but to the building industry they are discouraging in that building resources are obviously still being scrambled for by various departments, while no authority—still less an expert authority—is charged with distributing *all* building resources. As things are now, the promised review of the whole building programme will have no good result if after its completion each Government Department—backed by its own team of building experts—starts to fight for its own hand once more.

*

Mr. Greenwood says that the Area Boards (Regional War Production Boards) are to make plans for repairing or rebuilding factories. This is necessary ; but if the plans are to be of any use the Boards must try to earmark building materials and labour for carrying them out. And in each region local authorities, A.R.P. services, and probably the Air Ministry and War Office are also earmarking building resources and accumulating stocks for their essential requirements. No system of co-ordinating committees will convince an experienced architect or builder that all these bodies who are playing fast and loose with a highly complex industry will either avoid a muddle on the day or will refrain from trying to do each other down in the meantime.

*

The building resources of the country can only be used with maximum efficiency if they are under the control of one authority which exists for that purpose alone. The standardization of building types, constant survey of materials production and distribution of stocks, availability of labour, local building methods and standardization of equipment are all matters which cannot be dealt with in snippets by the Ministries of Home Security, Supply and Labour. They all bear on each other and are all part of building, and can only be carried out by a Ministry of Building.

FIRST STEPS IN STANDARDIZATION

Its refusal to establish a Ministry of Building—in fact if not in name—has not relieved the Government of the need to have some of the most obvious functions of such a Ministry discharged by other bodies.

*

For instance, the Works and Building Priority Committee of the Production Council (which represents the contract sections of Government Departments) has issued a revised schedule of the items of building equipment which all Government Departments use in large quantities—such as hinges, urinals, rain-water goods, and so on. The schedule gives the greatest possible latitude to contractors in order to ensure that all present stocks which are in any way suitable can be used and encourages the production of asbestos-cement castings and other ways of avoiding the use of materials which are specially needed for other purposes.

*

And this step in the right direction by an inter-departmental committee emphasizes how much more could be done by an authority which was able to compare the building needs of departments in their largest as well as smallest aspects.

MR. FRANK PICK'S NEW JOB

Mr. Pick's period of retirement has been very short. When I announced in April that he was leaving London Transport, I expressed the hope of all architects that it would not be long before his health had recovered, and that he would then be given war work commensurate with his abilities.

*

As might have been expected, Mr. Pick was ready for action again in a very short time, and he had already been working on special war problems for some weeks when his appointment as Director-General of the Ministry of Information was announced last Thursday.

*

It is an immensely encouraging appointment. As Vice-Chairman of London Transport, Mr. Pick showed himself to be a master of organization, a hard-bitten realist, a passionate believer in the importance of high standards

of design—in architecture, vehicles, street furnishings, posters and advertisements, a progressive who was a deadly debunker of woolly Utopias, and a man who realized the need for a big organization to obtain and hold the goodwill of the public. All these qualities will find an outlet at the Ministry of Information.

*

That Ministry is at present resisting heavy attacks. This is not the place to discuss whether the attacks are entirely justified: but few people, except diehard members of Service Departments and the more touchy section of the press, will deny the potential war contribution of a first-rate Ministry of Information.

*

Mr. Pick can be relied on to create the right organization for such a Ministry or know the reason why.

A.A. EXHIBITION

The A.A. School Exhibition at Bedford Square has wonderful tonic properties for anyone who is battling with wartime building. The school, very rightly, has paid no attention to the shortages and substitutions of the moment: and the visitor, to whom at first the abundant use of timber and steel seems unreal, remembers after a moment that it is the scarcity of these materials which is artificial and temporary and feels all the better for it.

*

The most impressive and most valuable scheme on exhibition is a redevelopment study of 30,000 acres of rural land round Wantage in Berkshire. The survey itself was a pre-thesis work by ten students and some of the individual buildings included in it have been worked out fully as thesis designs.

*

The method used in the preparation of this scheme—detailed study of existing factors followed by cautious insertions and alterations over a long period—is now generally agreed to be the only way in which town-planning can become realistic. What makes the Wantage scheme specially significant is the clarity with which the drawings display the various factors affecting the scheme, and the probability that when this war is over some of the largest obstructions to constructive planning may have disappeared.

*

The series of survey plans showing the geology, land utilization, farm areas, land ownership, drainage, communications and building types in the area—taken in conjunction with the sketch schemes for redevelopment where needed—showed that Preservation and Progress can mean the same thing, and will do so directly the public decides that they must mean the same thing.

EARLY YEARS

In looking at the work of the First Year at the same Exhibition, I acknowledged once more the superiority of modern teaching methods over those to which I was subjected.

*

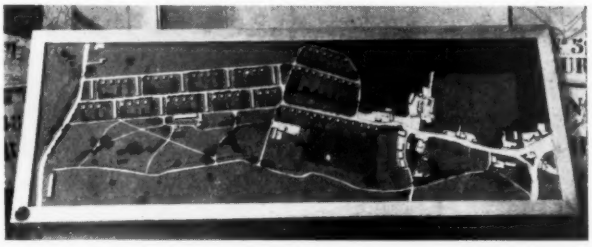
No sheets of the Orders or Doric porches raised resentful memories. Instead there were working drawings of a drawing table or tool shed and several models in which timber roof or wall construction was reproduced *in* timber. There are complaints nowadays that models are too much used in schools: but as regards constructional models this view seems wrong. I am sure that a student who has once made a model of a common roof type in wood, and made it right, will never afterwards wonder how it works in the place not shown in Jaggard and Drury.

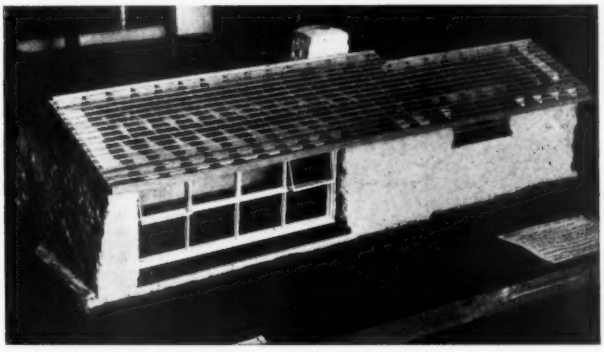
*

But they should be models of *common* types. Young students should not spend much time in modelling "one-slope," low pitch, or other fashionable constructions of the moment whose use in practice raises many, many problems.

*

The photographs below are a model of a rural housing development in the Wantage scheme, and a design for an author's study in Westmorland, by J. C. Whitmore and M. Ventris.





SUBTLETY

An architect acquaintance of mine was recently appointed to a confidential position, and with suitable diffidence reported for his first day's work. A businesslike superior had a few words with him, then led him through several corridors and opened the door of a room.

*

The room had no one in it, and was lightly furnished with a large plain desk, two large wastepaper baskets and one chair—on which my friend was invited to sit. The superior then vanished.

*

After a quarter of an hour the architect's eye wandered to the nearer wastepaper basket, which appeared to have a label attached to it on one side. A prod with his foot turned it round and displayed the legend: CONFIDENTIAL RUBBISH.

*

After a few minutes more, the other wastepaper basket seemed due for examination: it also was discovered to bear a label and was revolved for inspection. The second inscription read: SECRET WASTE.

ASTRAGAL

NEWS

MAINTENANCE SCHOLARSHIPS IN ARCHITECTURE

The Architects' Registration Council of the United Kingdom announces that Maintenance Scholarships have been awarded for the year 1940–1941 to the following to attend Schools of Architecture as stated :

J. Baird, School of Architecture, Edinburgh College of Art; W. T. Bebb, Welsh School of Architecture, The Technical College, Cardiff; P. F. Bennett, School of Architecture, The Polytechnic, Regent Street; J. E. Cowper, Birmingham School of Architecture, College of Arts and Crafts, Birmingham; K. C. Evans, Birmingham School of Architecture, College of Arts and Crafts, Birmingham; R. M. Maxwell, Liverpool School of Architecture, University of Liverpool; H. A. Walton, Liverpool School of Architecture, University of Liverpool.

The Maintenance Scholarships awarded in previous years to the following candidates have been renewed for a further period of one year :

R. B. Turner, School of Architecture, University of Manchester; (Miss) B. Reeves-Palmer, School of Architecture, The Polytechnic, Regent Street, London; H. G. Arnold, Liverpool School of Architecture, University of Liverpool; D. Cathels, School of Architecture, Edinburgh College of Art; S. L. Harris, School of Architecture, Edinburgh College of Art; W. D. Pritchard, Liverpool School of Architecture, University of Liverpool; L. E. Sykes, School of Architecture, University of Manchester; J. H. Wright, School of Architecture, The Polytechnic, Regent Street, London; H. S. Page, School of Architecture, The Polytechnic, Regent Street, London; G. B. Oddie, School of Architecture, King's College, Newcastle-on-Tyne; A. Halliday, Liverpool School of Architecture, University of Liverpool; W. H. Davies, Welsh School of Architecture, The Technical College, Cardiff; R. S. Campbell, Liverpool School of Architecture, University of Liverpool; G. F. Bateman, Liverpool School of Architecture, University of Liverpool; G. Bardsley, School of Architecture, University of Manchester.

The Maintenance Scholarships awarded to the following students have been placed in suspense for the duration of their military service :

W. E. Hiner, Bartlett School of Architecture, University of London; R. Brown, School of Architecture, King's College, Newcastle-on-Tyne; T. W. Gregory, Birmingham School of Architecture, College of Arts and Crafts, Birmingham; I. A. Munro, School of Architecture, Edinburgh College of Art; I. W. Paterson, Aberdeen School of Architecture, Robert Gordon's Technical College, Aberdeen; N. W. Tolson, Bartlett School of Architecture, University of London; A. McWilliam, School of Architecture, Edinburgh College of Art; A. J. McCowan, Aberdeen School of Architecture, Robert Gordon's Technical College, Aberdeen.

APPOINTMENTS

The Birmingham Education Committee has appointed Mr. William T. Benslyn, F.R.I.B.A., as part-time architect to the Committee for a further period of five years.

Mr. J. L. Denman, F.R.I.B.A., has been appointed a Justice of the Peace for East Sussex.

Mr. Percy Thomas has been appointed Area Officer representing the Ministry of Supply for Wales. In Mr. Thomas's absence his office is being carried on by his two senior assistants, Mr. W. Marsden and Mr. A. V. J. Kirkham. Mr. Thomas's services are available in a consultative capacity.

METALS

The Secretary to the Ministry of Health has issued the following Circular (2114) to local authorities :

I am directed by the Minister of Health to remind you that, owing to the pressing demands for copper, zinc and brass for war purposes, there is urgent need for economy in other uses of these metals.

In this connection the Minister is advised that it is the practice of some local authorities and some statutory water undertakers to require that water fittings shall comply with one of two standards, known as "J.C.S.W.R." and "M.O.H."

It is understood that, by agreement with those concerned, Government Supply Departments have now decided generally to adopt the lower of these two standards—the M.O.H. standard—for use in buildings which are of permanent character and to use any suitable stock pattern for temporary buildings.

I am to express the hope that local authorities and water undertakers will see their way, wherever practicable, similarly to adopt these reduced standards for their own works and to accept these reduced standards for use in private buildings.

POST-WAR PLANNING

The following letter by Sir Edwin Lutyens, P.R.A., appeared in *The Times* for August 9 :

Your leading article on "Planning for War and Peace" demands a sympathetic response from every section of the community and particularly from those to whom is entrusted the shaping of our lives when the war is won. This is the moment, as you say, when we should begin to think in concrete terms how to rebuild the good life, and we must address ourselves now to the task if we are to be ready with constructive proposals when they are needed.

Reconstruction of our towns is inevitable whether the war damage is great or not. Large schemes are already afoot in London for improved highways and other means of transport, and the cessation of building work has intensified the problem of housing and other civil developments. After the last war there was very great building activity, and all our towns bear witness to this in their suburban development, much of it now a heritage of ugliness for which we have only ourselves to blame. The lack of foresight which has ruined so much native beauty must not be allowed to occur again.

With this object in view I have already called a committee together to study the question of post-war planning in London, in order to prepare and plan the development that will take place, and to ensure that there will follow a more enlightened policy in the future. Members of this committee include architects both inside and outside the Royal Academy, as well as town planning officers and others of recognized authority and experience. We are addressing ourselves now to the task you so ably commend. I should like to see every section of the community engage themselves in a similar manner in their own spheres of usefulness.

CHANGES OF ADDRESS

Messrs. North and Partners have removed their offices to 119 Park Street, Mayfair, W.1. Telephone No. : Mayfair 6514.

Messrs. Dyson and Hebeler have closed their office at 23 South Molton Lane, W.1, and all communications should be addressed to them at their office at 1 Scroope Terrace, Cambridge.

ABELL HOUSE

Messrs. Joseph Freeman, Sons & Co., Ltd., point out that the soffits and balconies at Abell House, Westminster, illustrated in last week's issue, were treated with Cementone No. 9 Stoneface Composition.

IRON AND STEEL CONTROL

The Controller of Iron and Steel for the Ministry of Supply has issued the following notice concerning Control of Iron and Steel (No. 8) Order, 1940, and Control of Iron and Steel (No. 11) Order, 1940 :

Direction (No. 1) to the No. 8 Order, paragraph 5 (b), allows any material mentioned in the First Schedule to be acquired without licence from the stock actually held at the time of purchase by a stockholding merchant, *but only in the form in which it is in stock.*

The No. 11 Order prevents the treatment, use or consumption of material for building. Article 3 of that Order, however, allows acquisition of material for a building from a stockholding merchant under paragraph 5 (b) of the No. 8 Order in quantities not exceeding one ton in any period of one calendar month, but still only in the form in which it is in stock at the time of purchase.

It is necessary that suppliers and customers should appreciate immediately that there is a distinction between :

(1) An authority to acquire material and

(2) An authority to treat, use or consume material.

In the case of the exemption of orders of not exceeding one ton of material for one specific building, suppliers and consumers should bring this within the Order by :

(i) Selling and acquiring the material in the form in which it is in stock; and

(ii) Obtaining and giving orders (within the exempted quantity of one ton) for the fabrication of that material.

Suppliers should obtain a certificate from the purchaser that the total steel acquired for the specific building by the purchaser during that calendar month up to the date of purchase (including the material then purchased) does not exceed one ton.

Stockholders and others under the No. 11 Order must ascertain in supplying more than one ton of material, if they are asked to fabricate it, whether it is for treatment, use or consumption in a building before they can carry out any order for fabrication.

At the moment in accordance with the No. 11 Order, only the treatment, use or consumption of steel for building is prohibited, but it is intended in an early Order to take power to prevent the unnecessary use of steel for certain unessential purposes other than buildings.

Suppliers and consumers are warned, therefore, that steps will be taken to stop the treatment, use and consumption of steel for unessential purposes, and they are asked to co-operate with this Control to that end.

It has always been the desire of the Control to avoid unnecessary restriction on the Iron and Steel Industry, and in fact to avoid the necessity of general licensing of the use of steel, whether by stockholders, composite firms, or in any other direction, but experience has disclosed a lack of co-operation in certain quarters in stopping the use of steel for unessential purposes which has necessitated reconsideration of this whole question.

LETTERS

Irish Architecture and its Preservation

SIR,—In recent years many buildings of historic and architectural importance in Ireland have been damaged or destroyed. Some of them have fortunately been described and pictured in the volumes of the Georgian Society of Ireland and elsewhere, but of some no graphic or photographic records remain.

The need for making records of Irish buildings and ensuring their preservation will be generally admitted, and with a view to this an Advisory Committee has now been formed under the auspices of the Civics Institute of Ireland, on which the following have consented to serve :

Dr. R. I. Best, Director, the National Library of Ireland; Professor R. M. Butler, Professor of Architecture, University College, Dublin; Mr. W. H. Howard Cooke, President, the Royal Institute of the Architects of Ireland; Mr. C. P. Curran; Dr. George Furlong, Director, the National Gallery of Ireland; and Messrs. John L. Griffith; Henry H. Hill; H. Leask, Inspector of National Monuments; M. J. McDermott; Dermod O'Brien, President, Royal Hibernian Academy; Manning Robertson, and J. H. Stevenson, President, Royal Society of Ulster Architects.

The ambition of this committee is to form gradually a complete collection of records of all notable buildings in Ireland, both past and present, to be deposited in the National Library of Ireland for the permanent information and guidance of architects and scholars of the future. The first step is to discover what records already exist, and to this end we venture to appeal for information as to the whereabouts of measured drawings, photographs and inventories of such buildings.

Professor R. M. Butler, with the consent of the authorities of the National University,

is very kindly proposing to allow the architectural students to collaborate in respect of buildings which are as yet unrecorded.

It is proposed to compile a comprehensive list of existing records with a view to making photo-stat copies for inclusion in the collection. We do not anticipate any heavy expense at the outset, but any financial assistance will be welcome and acknowledged by the Hon. Treasurer, Mr. M. J. McDermott, School of Architecture, University College, Earlsfort Terrace, Dublin, to whom any information as to existing records should be sent.

ROSSE, Chairman
THOS. U. SADLEIR, Vice-Chairman

Journals for Troops

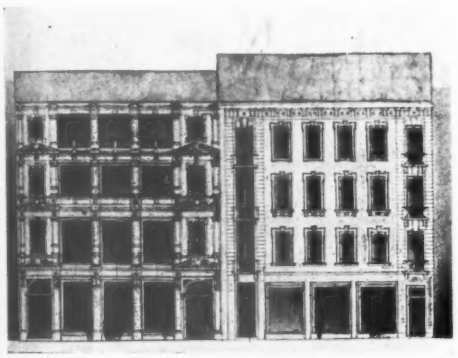
SIR,—May I again thank those of your readers who are regularly sending us their copies of THE ARCHITECTS' JOURNAL for distribution to former assistants now serving in H.M. Forces? That the scheme is much appreciated is shown both by the letters we receive and by the growing demand, as it becomes more widely known. In fact, the demand is beginning to overtake the supply, and we must appeal for many new contributions if a steady flow is to be maintained.

It is possible that some may like to post their copies direct to an individual; and, in this case, I should be glad to supply names from the register of the scheme.

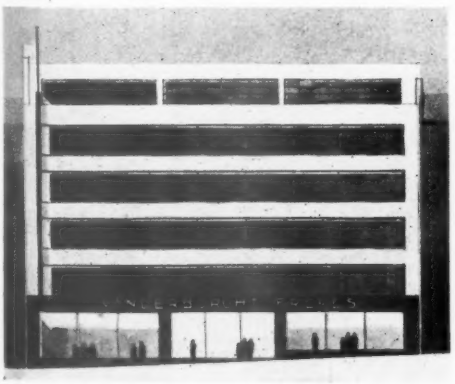
E. V. PENN
Acting Secretary, A.A.S.T.A.
113 High Holborn, W.C.1

VANDERBORGHT STORES, BRUSSELS

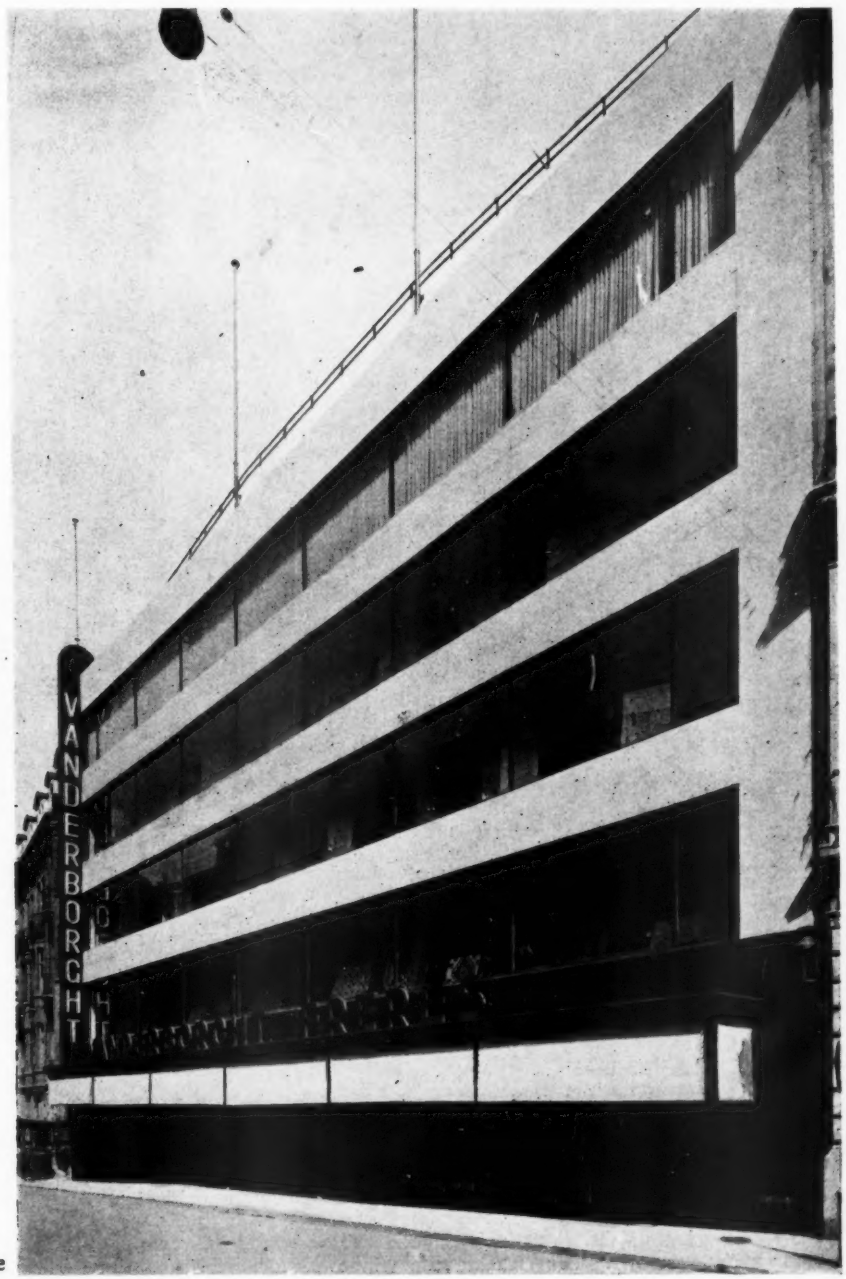
DESIGNED BY GOVAERTS AND VAN VAFRENBERGH



Front before rebuilding



Elevation of new building



The principal facade

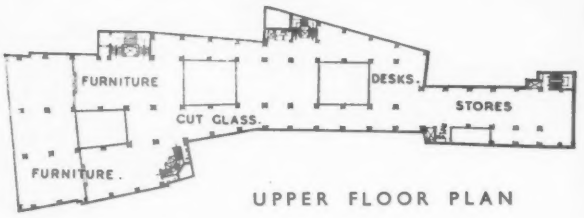
Display space on main front

STORE IN BRUSSELS

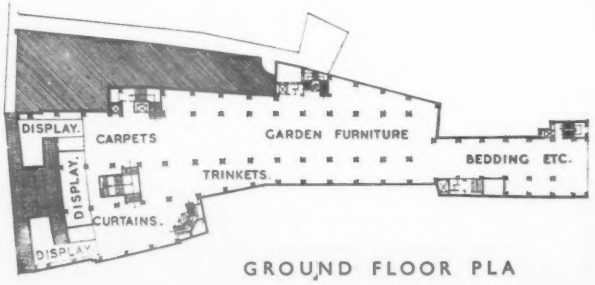
DESIGNED BY GOVAERTS AND VAN VAFRENBERGH

PLAN—The site is deep and narrow, with facilities for natural lighting on the street fronts only. As it was desired to use the whole of the site area, three light wells—glass-roofed at third floor level—have been introduced, while the fronts adjoining streets are glazed for their full width. Site area is 30,700 sq. ft.

CONSTRUCTION AND FINISHES—R.C. framed with R.C. precast channel slab floors. The spacing of the columns was arranged to allow of subdivision in bays or "rooms" for the display of various goods. The roof terrace is of hollow paving on hollow tiles. Elevations are of 1½ in. travertine slabs with expansion joints between. Lower part of fronts is of black Swedish granite slabs. Windows are of steel above and bronze for show windows. For cleaning the windows steel derricks supporting a continuous rail above parapet level can be quickly rigged and a travelling cradle slung from the rail.



UPPER FLOOR PLAN

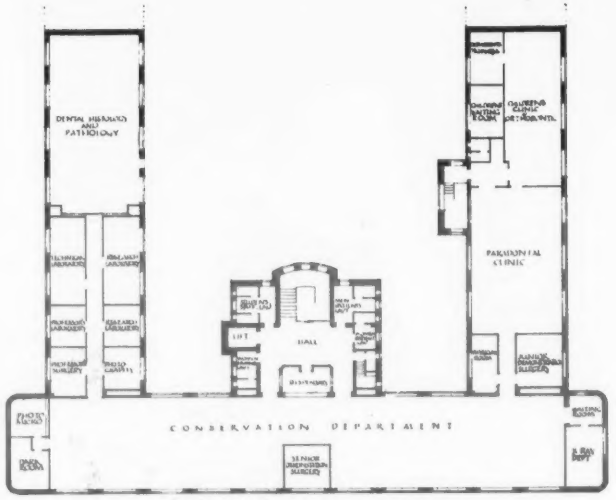


GROUND FLOOR PLA

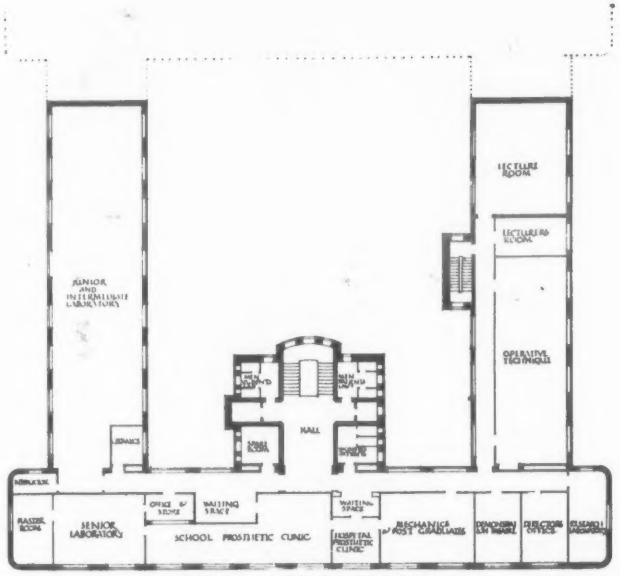
The main front

DENTAL HOSPITAL
MANCHESTER UNIVERSITY

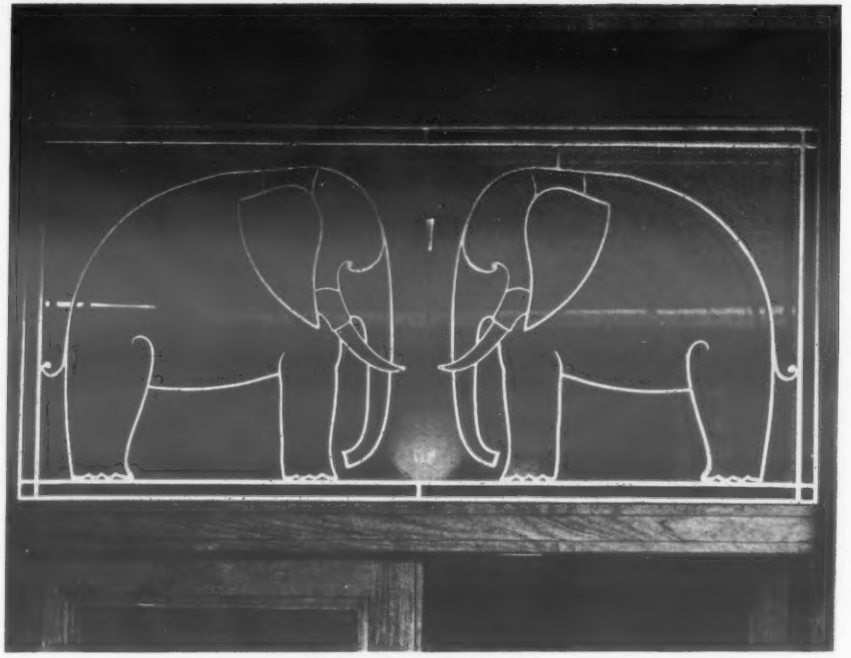
DESIGNED BY THOMAS WORTHINGTON AND SONS



SECOND FLOOR PLAN



FIRST FLOOR PLAN

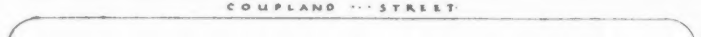


Detail of entrance doors

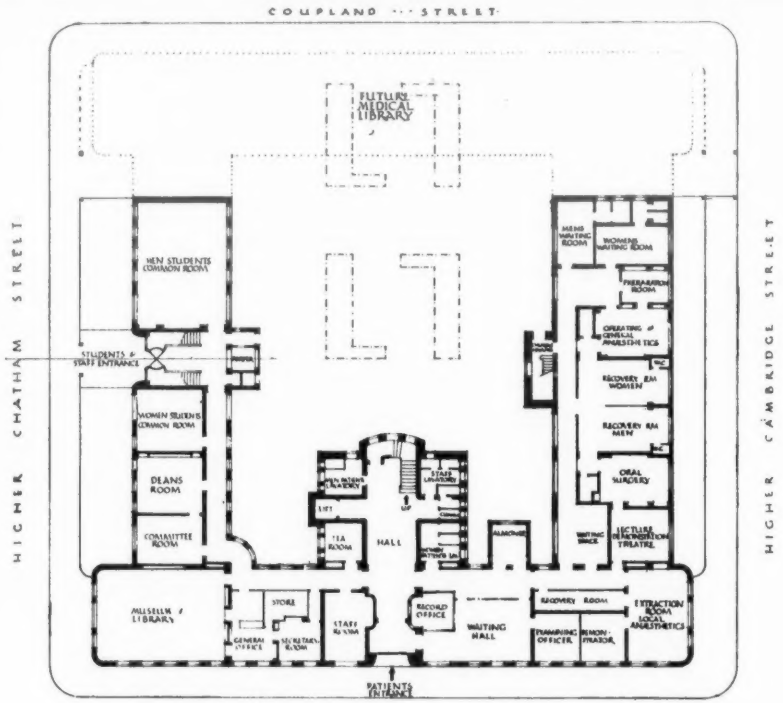
GENERAL AND SITE—A dental hospital and school attached to the University of Manchester. The building occupies an island site adjacent to the University and well set back from the road. The scheme will be completed by the addition of a medical library on the Coupland Street front.

PLAN—The two elements of hospital and school are intimately related and an endeavour has been made to maintain this relationship without disturbing the circulation of patients in the hospital sections, which have been planned to deal with 80,000 attendances per year. Patients pass from the waiting hall through an examiner's room to the east wing for extractions under local and general anæsthetics and on the second floor to a large conservation room, children's clinics and other specialized departments. In the west wing is the students' accommodation; on the ground floor, common room, museum and library; and on the first floor lecture theatres and an operative technique classroom. Accommodation is provided for 180 students.

CONSTRUCTION AND EXTERNAL FINISHES—Steel frame, with brick in-filling and reinforced concrete hollow tile floors. The flat roofs are also of reinforced concrete, asphalted, and designed to resist incendiary bombs. The possible addition of another storey has been allowed for. Partitions are of hollow tile blocks. The building contains 105 dental chairs, each having its own drain and water, electrical, gas and



compressed air supplies. Horizontally these services run in diagonal lines in a filler floor, the base of the chair acting as a manhole cover. Vertically the pipes are run in



GROUND FLOOR PLAN

compressed air supplies. Horizontally these services run in diagonal lines in a filler floor, the base of the chair acting as a manhole cover. Vertically the pipes are run in the internal re-entrant of the stanchions covered with a steel plate removable for access. Externally the building is finished with red facing bricks and the base and string-courses are of Portland stone. There is a 4 ft. high space between roof and ceiling over the whole building.

INTERNAL FINISHES—The entrance hall, main staircase and landings are faced with cream travertine ; the remaining corridors, waiting rooms, theatres and conservation room are finished with granitese, pale green in the conservation room, pale blue in the theatres and children's clinic, and cream elsewhere. Rubber is used for the floors of corridors, waiting halls and theatres on the ground floor, terrazzo for the lavatories, cork in the conservation room and children's clinic, and woodblock in the laboratories and teaching rooms.

Left, landing on the main staircase ; centre, corner of the extraction room, in which glazed screens separate the patients' chairs ; below, the histology and pathology laboratory on the second floor.

Top, the pathology and research laboratory on the second floor in the west wing. The window, which is standard throughout the building, consists of a large plate-glass centre in a wood frame with metal hoppers and casements at the sides. Above, left, mechanical laboratory ; right, a recovery room adjoining the extraction room.

SERVICES—The hospital section is in the main air-conditioned with thermostatic control. The laboratories have a mechanical extraction system, the entering air being warmed by hot water radiators. The heating and hot water supplies are served by calorifiers linked up to the main university boiler-house. In the basement is a fully equipped laundry and compressed-air plant. A projection apparatus is to be installed in the lecture theatre designed to provide students with an enlarged image of the operation being performed in the patient's mouth.

The general contractors were Bovis, Ltd. ; for list of sub-contractors see page xviii.

DENTAL HOSPITAL MANCHESTER UNIVERSITY

BY THOMAS WORTHINGTON AND SONS

BOOKS

SCIENCE IN WAR

[*BY J. K. WINSER*]

Science and War. By Twenty-Five Scientists. Penguin Special. Penguin Books. 140 pages. Price 6d.

MANY architects have been disappointed at Government inability to make use of more than a fraction of the available professional skill and experience in the furtherance of the national war effort. A partial justification has, however, always existed in the argument that there is no need for "architecture" in total war, and that the authorities might be excused for thinking that the profession was mainly concerned in applying embellishments to the solid structure provided by the engineers, forgetting that most of the architect's time is spent in co-ordinating and controlling the work of others, and so could be a vital factor in war organization.

The public, on the other hand, has never shown any division of opinion as to the need for full employment of scientists in war. Almost all weapons have been developed through the employment, or rather misemployment, of scientists, and they alone can devise the antidotes.

This book, written by some 25 eminent scientists who met together so recently as six weeks ago, shows clearly that we are not employing even our available scientific skill to its maximum extent ; that, where it is employed, the application of results and of the scientific approach is thwarted by the very structure of the Government machine ; and that our enemy, despite ruthless liquidation of Jewish and liberal scientists, is making far greater use of science in his warfare than are we.

Obviously there are difficulties during wartime in publishing full details of scientific achievement or frustrated effort, neither can your reviewer claim experience of all the sciences covered ; but much is known publicly, and the general case seems incontrovertible. The antidote for the magnetic mine was worked out in an incredibly short space of time by scientists ; on the other hand, the Select Committee on National Expenditure has given details of some quarter of a million pounds spent in trying to erect a large building for the Air Ministry on a peat bog, when any competent soil mechanics scientist would have seen at once that it was impossible, as indeed it finally proved. The tragedy in this case is that most of the present research on soil mechanics is actually carried out by civil servants at the Building Research Station, so that there was no

difficulty in finding a suitable man for the work.

The authors quote endless examples in connection with agriculture and food supply, perhaps because it is a subject not greatly overshadowed by "official secrets." Far too few examples are given of wasteful design and specification. Only occasionally do engineering products designed by Government departments seem to be designed round the production technique and plant available, with the result that far more skilled labour is required, and costs are far higher than is necessary. If we are to win the war before the world is overtaken by universal exhaustion, which will destroy us as well as the enemy, greater heed will have had to be given to the scientists.

The book is of particular interest to architects, for it is one of the first written by scientists of repute and dealing with scientific achievement and failure which has deigned to notice building. (Architecture is hardly noticed even in this enlightened book.) If we are to accept the views of the authors that an increase in the application of scientific method is an essential prerequisite to victory, it must follow that the post-war activity of the building industry will be initiated and controlled by scientific research and investigation, for the scientists will be in virtual control of the technical aspects of government. If they are not, whatever the outcome of the war, there will be little building in the ensuing chaos. Is the architectural profession in a position to pick up the threads, or will the scientist and administrator, unable to obtain intelligent response from the architect, turn even more than during the war to the engineer as the only man trained to approach problems from a scientific standpoint?

The authors trace much of the inability of the Government machine to make reasonable use of the scientific knowledge available to the methods of training and recruitment of the civil servant in the administrative grades. Such men derived mainly from the public schools and universities, where education is based largely on the mediæval conception of the Platonic philosophy that absolute truth exists and can be found by discussion. They have little education in the scientific approach, and no experience of the technical day-to-day problems of a highly complex technological society which in days of total war they must control in detail. The point is of some importance to architects, for many of our senior posts and most of our older men who control the profession are drawn from the same sources. Those who are interested solely in the drift of building from a dying craft to an industry on modern scale based on applied science, or in the wider aspect of organizing to the maximum the national effort for victory, will find that this is an important book well worth reading.

L. G. A.

The Municipal Year Book and Encyclopædia of Local Government Administration. London: Municipal Journal, Ltd. Price 35s. net.

THE 1940 edition of this work—the forty-fourth annual issue—has been completely revised and brought up to date. It comprises 51 sections, of which 42 are devoted to all the important branches of the civic administration, and the remaining nine sections to the descriptive records of national and local authorities and names and addresses of members of Councils in Great Britain, Northern Ireland and Eire, and also lists of joint authorities.

ARCHITECTURAL ASSOCIATION

The annual prize day and opening of the exhibition of school work by the President, Captain Joseph Hill, F.R.I.B.A., took place on Wednesday of last week, at Bedford Square. Scholarship and prize awards are as follows:

Leverhulme Scholarship (value £1,000): William Taylor (Rutherford College, Newcastle).

Minter Open Entrance Scholarship (value £75 12s.): Miss J. MacArthur (Bedales School).

Sir Walter Lawrence Open Entrance Scholarship (value £75 12s.): R. R. Lockyer (Weymouth College).

Royal West of England Academy School of Architecture (affiliated to the A.A.) Prize in Design (value £5 5s.): B. W. B. Ball.

Stanhope Forbes Prize for Best Colour Work (value £5): G. L. Sarjeon.

First Year Prizes.—Howard Colls Travelling Studentship (value £26 5s.): A. J. P. Powell; Second Prize (value £1 1s.): R. H. Potter; Hon. Mentions: J. J. M. Ashton, T. O'Toole and J. H. Moye.

Second Year Prizes.—A.A. Travelling Studentship (value £26 5s.): J. R. Weeks; Second Prize (value £1 1s.): Miss A. K. Scott; Hon. Mentions: H. J. Ellern, P. B. Horsbrugh and R. C. N. Paul.

Third Year Prizes.—Holloway Scholarship, tenable for two years (value £250): J. Bloxham; Certificate of Honour for Third Year A.A. Travelling Studentship (nominal value, £1 1s.): L. B. G. Greenfield; Third Prize (value £1 1s.): Mrs. M. R. Taylor.

Fourth Year Prizes.—Certificate of Honour for Year Prize (nominal value, £10 10s.): D. L. Medd; Hon. Mentions: Miss M. J. Griffiths, D. S. Craig, T. W. Atkinson and G. Kallman.

Fifth Year Prizes.—Henry Florence Travelling Studentship (value £50): G. Robson; Certificate of Honour for Fifth Year A. A. Travelling Studentship (nominal value, £1 1s.): P. H. Braddock; Hon. Mentions: O. F. C. Carey, J. W. A. Cubitt and Miss A. Radford.

COMPETITION

FOR NEW BUILDINGS, ROYAL SHEFFIELD INFIRMARY AND HOSPITAL

The assessor's award in this limited competition is printed on page 123; below is the assessor's report and, on the following four pages, are reproduced the plans of the winning scheme, by Adams, Holden and Pearson, together with their report.

The five competitors who have submitted designs have all prepared detailed schemes for the whole of the hospital and have provided interesting solutions of a complicated planning problem. Each design reasonably complies with the conditions, and the reports accompanying the designs are models of clearness.

After very careful consideration I have decided that the design marked "A" [Adams, Holden and Pearson] provides the best scheme, and I award the author the first premium.

This design is well set back from the main road, the buildings are compactly arranged, and communication between the various departments has been well thought out. The problem of dealing with the fall in the ground from back to front has been carefully considered, and ample accommodation for cars has been provided. The large open space in the centre giving access to the various departments is a good feature of the design.

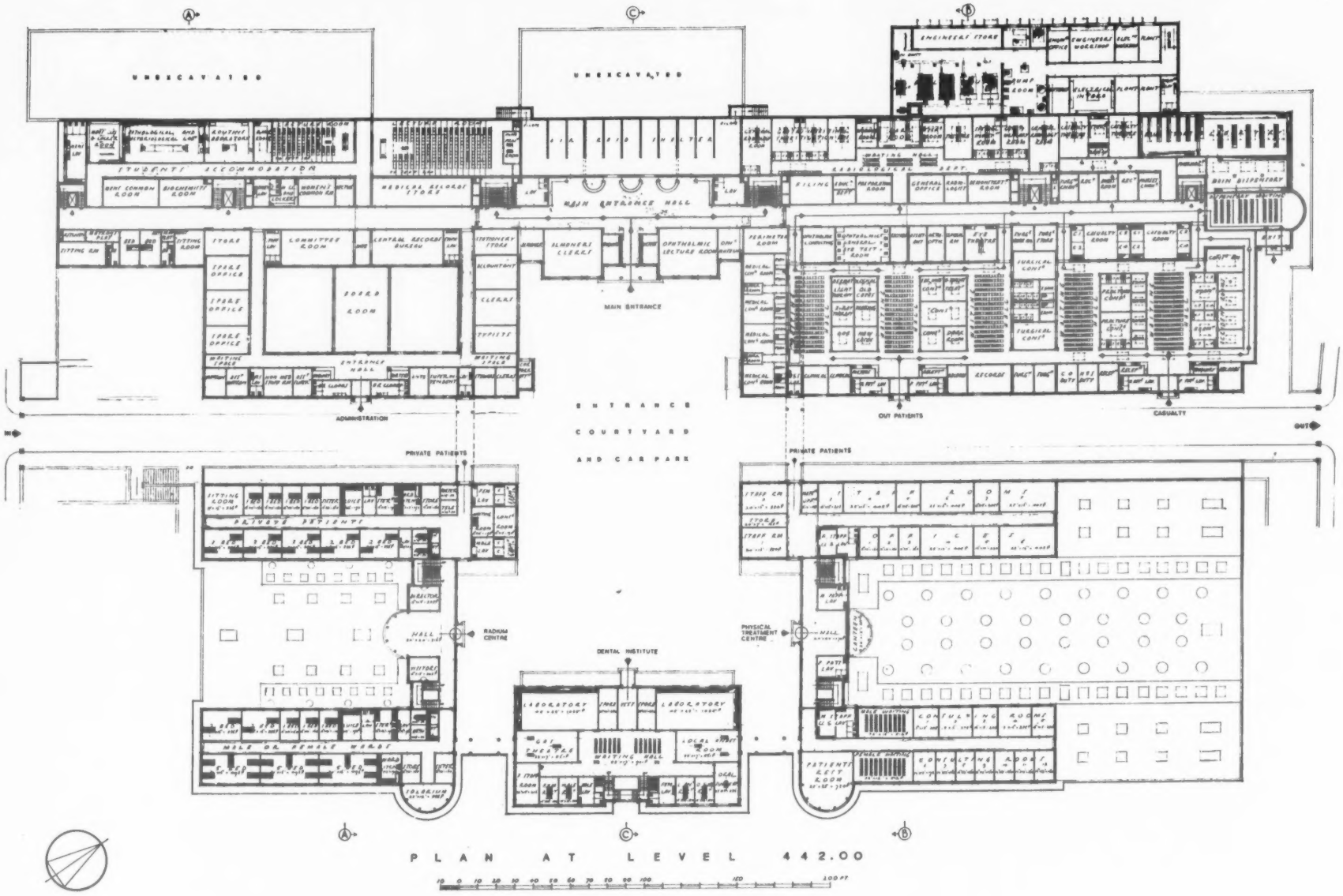
It would appear desirable that the light areas serving the covered car-park on the lower ground floor should be increased in size, and the lighting of some of the rooms with windows placed at a high level over corridors appears to be too restricted. These are matters, however, that are capable of revision when the working drawings are prepared.

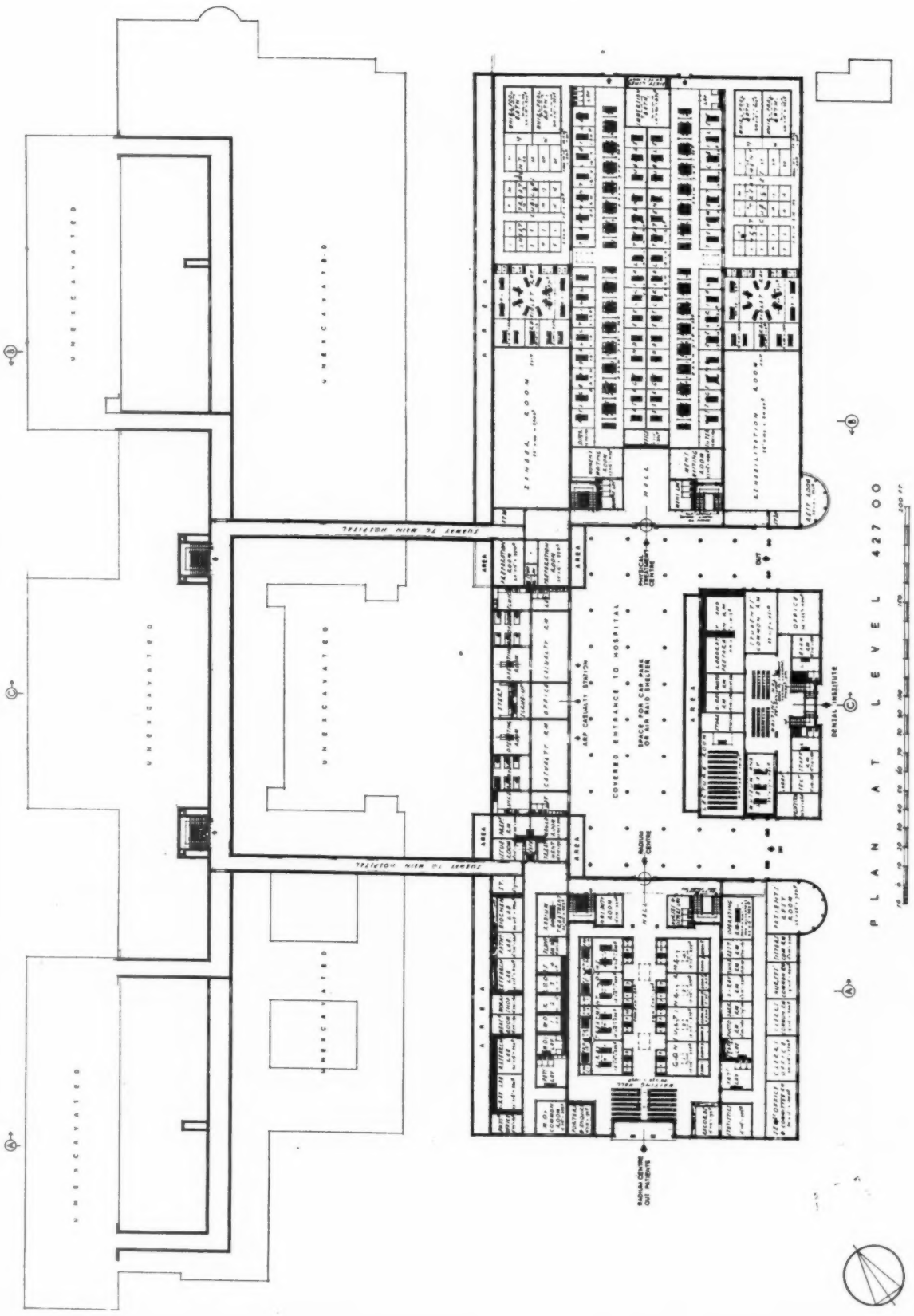
The cubing of the orthopædic block in this design apparently does not include for the two floors shown under same, and a note appears on the design stating that if desired this block could be a one-storey building until the main ward blocks are erected. It is doubtful, however, whether the levels would allow this suggestion to be satisfactorily adopted, and as it would probably be necessary to provide some administrative and nurses' accommodation, I think that, if funds will allow, the two lower floors should be built when the orthopædic block is erected. This would add about £50,000 to the cost stated by this competitor, making his total about £344,000 for the four blocks that it is proposed to build first.

I consider that the design marked "E" [Sir John Burnet, Tait and Lorne] is the second best, and I award the author the second premium. This scheme has been worked out very thoroughly and is architecturally very attractive.

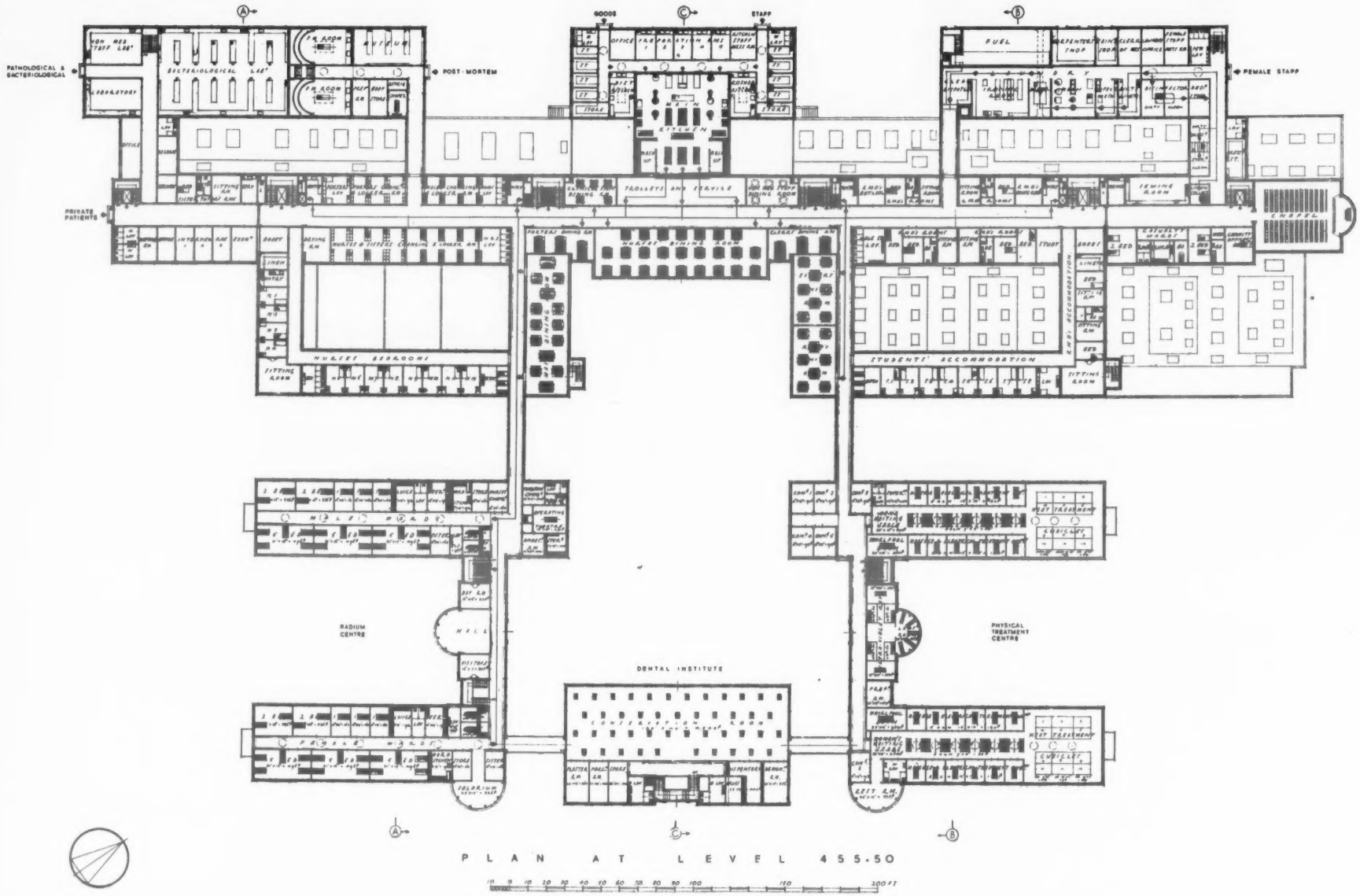
Third premium is awarded to the author of the design marked "C" [Stanley Hall and Easton and Robertson]. This scheme has a well-planned open space in the centre with three of the blocks grouped on the low side. The planning of the ward blocks and the communication between the various departments, however, are not in my opinion so satisfactory as in the winning design.

COMPETITION FOR NEW BUILDINGS, ROYAL SHEFFIELD INFIRMARY AND HOSPITAL





DESIGN PLACED FIRST: BY ADAMS, HOLDEN AND PEARSON


PATHOLOGICAL & BACTERIOLOGICAL
POST-MORTEM
GOODS
STAFF
FEMALE STAFF
PRIVATE PATIENTS
KITCHEN
TROLLEYS AND SERVICE
CHAPEL
NURSES' SITTING ROOM
STUDENTS' ACCOMMODATION
RADIUM CENTRE
DENTAL INSTITUTE
PHYSICAL TREATMENT CENTRE
PLAN AT LEVEL 455·50

WINNERS' REPORT

ARRANGEMENT OF BUILDINGS.—The buildings follow the contour lines as far as possible in order to economize in foundations, etc. The Radium Centre, Dental Hospital, and Edgar Allen Physical Treatment Centre are planned as separate entities, but connected to the rest of the hospital by bridges and subways. The ward blocks are grouped together and approached by a corridor 12 ft. wide on the ground floor and a corridor 9 ft. wide on the upper floors. There is a service corridor on the first floor which gives direct access to every unit for kitchen services.

The buildings are planned vertically rather than horizontally, as this is in accordance with modern practice and gives concentration, avoiding unnecessary corridor space for traffic and engineering services. Each unit is provided with a separate lift and staircase, so that it is not necessary to pass through one unit to reach another. The units are arranged as 30-bed units T-shaped on plan, and these are capable of great variation in plan, i.e. two can be grouped to obtain a unit of 60 beds, as in the Surgical Block with wards of 16 beds, etc., or divided into smaller wards as in the Ophthalmic Block.

The Administration Block, Out-Patients' Department, Casualty Department, Dispensary and Radiological Department are all placed under the Ward Blocks in accordance with the principles of vertical planning stated above. The private patients' rooms are all placed on the top (eighth) floor.

The first four blocks to be erected would be the Orthopædic, the Radium Centre, the Dental Hospital and the Edgar Allen Physical Treatment Centre. Position of the Orthopædic block has been considered in relation to the Surgical block and the Orthopædic clinic. It has been planned ultimately to form a section of the Surgical block.

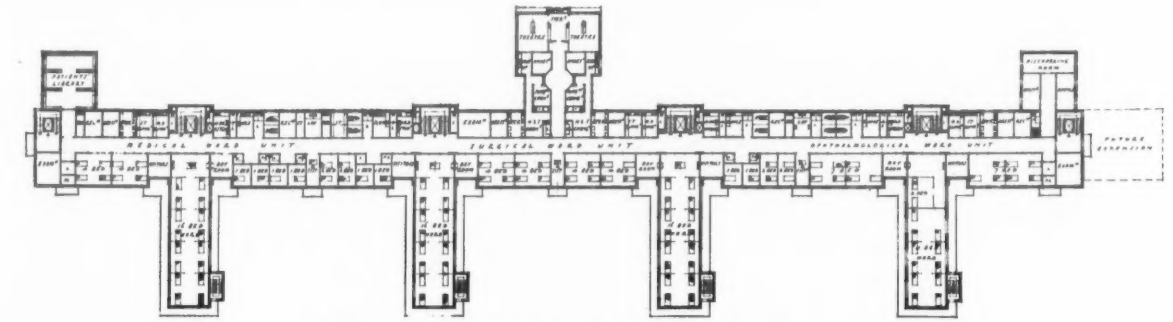
The Radium Centre, facing Glossop Road, is arranged in two wings. One wing on the ground floor contains private patients with direct access from the roadway. The top floor has the operating theatre in a separate wing, but only one theatre is provided, as easy access to surgical and orthopædic theatres is provided by a bridge. On the lower ground floor are all the out-patients' rooms, laboratories, etc.

The Dental Hospital's plan follows generally the lines suggested in the conditions.

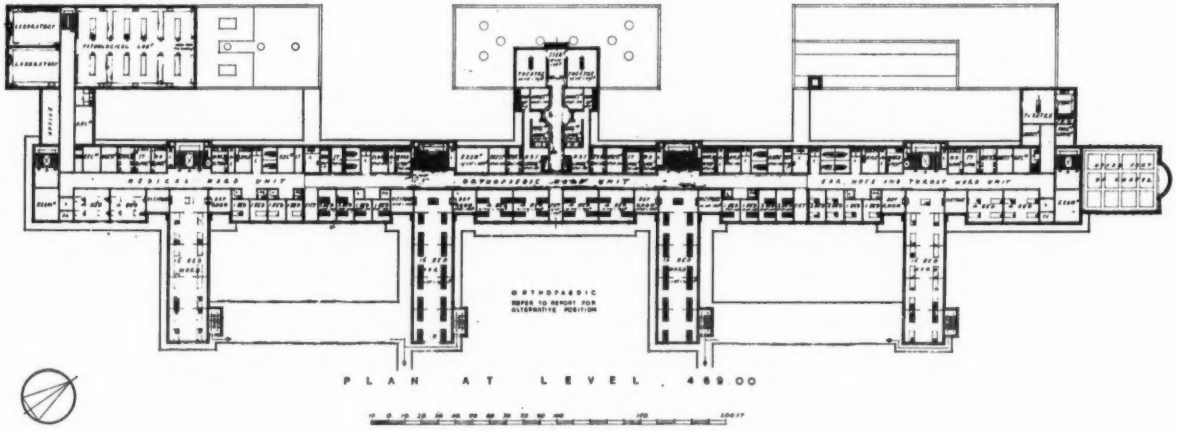
The Treatment Centre is in close proximity to the orthopædic clinic and connected to the orthopædic wards by a bridge. The block is arranged on three floors.

The main ward blocks contain the following beds : Orthopædic, 60 ; surgical block, 270 and 30 for private patients ; medical block, 168 and 16 for private patients ; ophthalmic block, 69 and 12 for private patients ; ear, nose and throat, 60 and 10 for private patients ; dermatological block, 18 ; and radium centre, 83—a total of 796 beds.

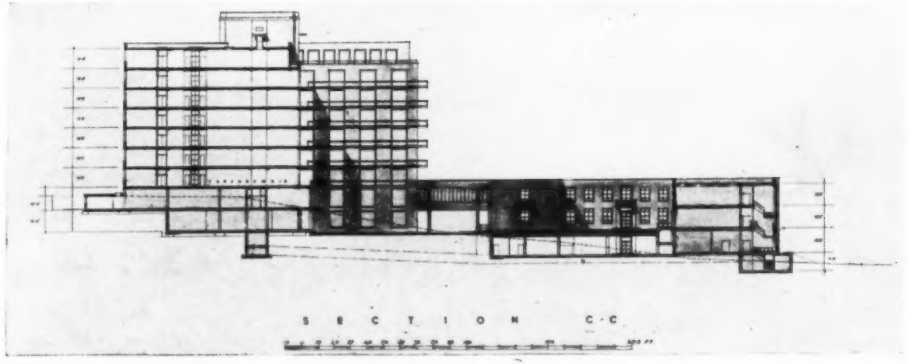
CONSTRUCTION AND FINISHES.—The buildings are designed with a steel frame, the placing of stanchions being worked out at 10 ft. 6 in. centres. The internal walls are independent of the frame to allow of future possible modifications. External walls are 14 in. brick faced with a grey Yorkshire brick. Copings and strings are natural hard sandstone. The floors are of hollow blocks reinforced.



TYPICAL WARD FLOOR PLAN



PLAN AT LEVEL 469.00



SECTION C-C

DESIGN PLACED FIRST: BY ADAMS, HOLDEN AND PEARSON

SOME QUESTIONS ANSWERED THIS WEEK:

★ *I HAVE a mound of brick rubble and intend interesting the local authorities in the possibility of using this rubble for mass concrete shelters. What are the usual aggregate sizes and concrete specification for mass concrete shelter work?* - Q459

★ *I WANT to install a stove to burn wood. Can you suggest firms from whom suitable stoves could be obtained?* - - - - - Q462

★ *WHERE do I obtain a licence to build an addition to my factory premises?* - - - Q463

★ *SOME time ago there was an advertisement for bomb snuffers. Are they still marketed, and, if so, who makes them?* - - - - Q465

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 services are available to any member of the industry.

Questions may be sent in writing to THE ARCHITECTS' JOURNAL, 45 The Avenue, Cheam, Surrey, or telephoned direct to the Information Centre: Regent 6888.

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.

Finally, if an answer does not provide all the information needed, the Centre is always glad to amplify any point on which the enquirer wants fuller explanation.

Any questions about building or architecture may be sent to:

THE ARCHITECTS' JOURNAL
45 THE AVENUE, CHEAM, SURREY
Telephone: *VIGILANT 0087*

or ring the Architects' Journal Information Centre at

REGENT 6888

Q458 ESTATE SURVEYORS, LONDON. — *We are responsible for the maintenance of a wide variety of premises, including flats, shops and works, and the PREVENTION OF SHATTERING OF GLASS under blast action, and also the provision of means of infilling window openings after removal of damaged glass, are problems which we are called upon to answer daily. A number of materials and devices are known to us, but we feel that there must exist many materials and ideas as yet unknown to us. Could you provide us with a list of the materials and devices known to you, their sizes and prices, and also some indication of their relative efficiencies?*

Useful general information on this subject is contained in Home Office A.R.P. Memorandum No. 12, entitled, "The Protection of Windows in Commercial Industrial Buildings," and "Your Home as an Air Raid Shelter" (H.M. Stationery Office, York House, Kingsway, W.C.2, price 4d. and 3d. net). There exists a wide range of proprietary products, materials and devices designed for the purposes indicated. It is not possible for the Centre to assess their efficiencies or relative efficiencies, but the Home Office Research and Experiments Branch, working in conjunction

with the Building Research Station, are prepared to undertake the necessary tests on behalf of manufacturers and to issue a report on the behaviour of the material under test. Numerous manufacturers have availed themselves of these facilities, and it is to be expected that manufacturers who themselves are pleased with the report received will be pleased also to pass copies to interested enquirers; certainly they are at liberty to do so. The Information Centre advises intending users of these materials to study copies of the test reports before purchase. The materials for application to existing glass divide best into the following types: (1) tapings, transparent and obscure; (2) transparent solutions; (3) resin impregnated net fabric; (4) thin clear plastic sheeting; and (5) devices consisting of damper pads and wire strainers. Self-adhesive transparent tapes are available in widths of 1 in., 1½ in., 2 in. and 4 in., with prices something of the order of 1d. per inch per yard run. Self-adhesive linen tapes are in widths of 1½ in., 2 in. and 3 in., with prices much the same as that given for transparent tapes. Transparent solutions have covering capacities varying between 35 and 50 square yards per gallon, and prices ranging from 20s. to 35s. per gallon. Resin impregnated net fabric is available in a wide range of patterns, and is sold in rolls and in widths varying between 18 in. and 50 in.; prices vary between 1s. and 2s. per square yard. The very thin clear plastic sheetings, those of the order of three thousandths of an inch in thickness, are sold in rolls of varying lengths and in widths about 20 in. and 24 in. The material is available also in sheet sizes. Prices range between 9d. and 1s. 3d. per square yard, and the cost of the adhesive for fixing the sheet to glass is 15s. to 18s. per gallon of a covering capacity of 80 square yards. The damping pad and wire strainer devices are used mostly on plate-glass shop windows, where their neat and non-obscuring appearance are selling features. Prices of the devices fixed range from about £4 and upwards per window side.

The next class of materials are those which take the place of damaged glass. These again can be subdivided into two types: (*a*) translucent and non-light obscuring; and (*b*) definitely light obscuring. The materials of the former type can be grouped as follows: (1) impregnated linen, net or cloth fabric; (2) plastic sheeting, wire or metal reinforced; and (3) clear plastic sheetings. The impregnated linen, net or cloth fabrics for this type of work are of much stouter material than those used for affixing to glass, and also the impregnation forms a continuous raintight and windtight sheeting of the material. The fixing can be carried out by clout nails or adhesive linen tape. The material is sold in rolls and in widths varying between 18 in. and 52 in., standard and super qualities are available, and prices range from 3s. to 5s. 6d. per square yard. The wire reinforced plastic sheetings are in rolls of 36 in. width, and prices vary between 3s. and 4s. 6d. per square yard. A heavier material of somewhat similar character but with the reinforcement consisting of fire-expanded metal is sold in sheets each 4 ft. 6 in. by 2 ft., and is priced about 8s. 6d. per square yard. The clear plastic sheeting used in the replacement of glass is of the same type as used for affixing to glass, but is of heavier material. Materials of fifteen and twenty thousandths of an inch in thickness are marketed for this purpose and in sheet sizes usually around 55 in. by 24 in. Prices are 5s. and 6s. 6d. per square yard for the two thicknesses.

The main type of light obscuring material used for replacement of damaged glass is reinforced bitumen impregnated felt and fabric and wire-reinforced varieties are available. Both varieties are available in rolls and in widths of 36 in. and 72 in. The prices for the fabric reinforced material are from 10d. to 1s. per square yard, and for the wire-reinforced material from 2s. 6d. per square yard.

The names of suppliers of materials of the types mentioned are given at the foot of this column.* The Information Centre has no knowledge of which proprietary materials have proved most satisfactory under Government test.

Q459 BRICKMAKING FIRM.—*The demand for common bricks in this area far exceeds the present available supply, but I have a mound of BRICK RUBBLE at the works and I intend interesting the local authorities in the possibility of using this rubble FOR mass CONCRETE SHELTERS. What are the usual aggregate sizes and concrete specification for mass concrete shelter work?*

There is a British Standard Specification in the A.R.P. series for heavy aggregates for shelters constructed *in situ*; this is BS/ARP. 1 (obtainable from British Standards Institution, 28 Victoria Street, S.W.1, price 3d. post free). Part 3 of this Specification deals with crushed clay brick and tile aggregates and the operative clauses cover cleanliness, strength, sulphate sulphur content and absorption. The specifications for the sizes of coarse and fine aggregates and for the proportioning of cement and aggregate for mass concrete, or "ordinary" concrete as it is called, are contained in Statutory Rules and Orders, 1939, No. 920, entitled "Air Raid Shelters for Persons in Factories, Mines and Commercial Buildings," obtainable from His Majesty's Stationery Office, York House, Kingsway, London, W.C.2, price 6d. net.

Q460 ARCHITECTS, LANCS.—*Last September we constructed a basement SHELTER FOR A PRIVATE SCHOOL (recognized by the Board of Education) to hold 70 children, at a cost of approximately £70. Is it possible for our client to obtain a GRANT TOWARDS this COST, and if not, could this amount be treated as maintenance, and included in the current expenditure? Our client's accountants have declared the amount to be capital expenditure.*

In so far as the shelter provision was for the schoolchildren of a non-grant-aided private school, it is unlikely that a grant towards the cost of the shelter will be available. But your clients could communicate with the Secretary, Board of Education, Alexandra House, Kingsway, London, W.C.2. Nor is it likely that a grant will be available under the Civil Defence Act. In the pamphlet issued from the Lord Privy Seal's office, entitled "A.R.P. in Industry," on page 11 (c), paragraph (1), there is the following:

"Grant is not payable in respect of

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* *TAPINGS (TRANSPARENT).* — *Cellon, Ltd., Richmond Road, Kingston; British Celilynd, Ltd., Burwell Works, Burwell Road, London, E.10; British Cellophane, Ltd., 17 Stratford Place, London, W.1.*

(ADHESIVE LINEN)—Durex Abrasives, Ltd., Thames House, Millbank, London, S.W.1; Messrs. Britton, Malcolm and Waymark, 38 Southwark Bridge Road, London, S.E.1.

TRANSPARENT SOLUTIONS. — *Cellon, Ltd., Richmond Road, Kingston; Manifold Developments, Ltd., 39 Victoria Street, London, S.W.1; Slick Brands, Ltd., Stafford Road, Croydon; Stic B (Paint Sales), Ltd., 14 Palmer Street, London, S.W.1.*

IMPREGNATED NET FABRICS.—Cellofabrics, Ltd., 11 Gillingham Street, London, S.W.1; Keystone Paint and Varnish Co., Ltd., 15 Adeline Place, London, W.C.1; Dobsons and Brown & Co., Ltd., Queens Road, Nottingham; A. and F. H. Parkes, Ltd., Beeston, Notts; Dufay-Chromex, Ltd., 14 Cockspur Street, London, S.W.1.

THIN CLEAR PLASTIC SHEETINGS.—British Celanese, Ltd., 22 Hanover Square, London, W.1; B.X. Plastics, Ltd., Larkshill Road, London, E.4; Cellofabrics, Ltd., 11 Gillingham Street, London, S.W.1.

DAMPER AND STRAINER DEVICES.—Window Brace, Ltd., 11 Buckingham Street, London, W.C.2; Bilateral Anti Crash Co., Broadway Chambers, London, W.6; Dawson, Norton & Co., Walton House, Newman Street, London, W.1.

IMPREGNATED FABRICS (GLASS SUBSTITUTE TYPE).—Cellofabrics, Ltd., 11 Gillingham Street, London, S.W.1; Storey Brothers & Co., Ltd., 23 Lawrence Lane, London, E.C.2; Rowley Gallery, Ltd., 40 Kensington Church Street, London, W 8; M. Barr & Co., Ltd., 51a Miller Street, Glasgow, C.1; Edward MacBean & Co., Ltd., Wellington Mills, Mary Street, Glasgow, C.4.

REINFORCED PLASTIC SHEETING (WIRE).—Windolite, Ltd., Harlow, Essex; Sunralite, Ltd., Chestnut Road, London, N.17. (METAL LATH REINFORCEMENT)—L. C. H. Athill, 38 Sneath Avenue, London, N.W.11.

BITUMEN IMPREGNATED FELT (FABRIC REINFORCED).—Ruberoid Co., Ltd., High Holborn, London, W.C.; D. Anderson and Son, Ltd., Roach Road Works, Old Ford, London, E.3; J. H. Sankey and Son, Ltd., Aldwych House, London, W.C.2. (WIRE NETTING REINFORCED)—Bennie Lifts, Ltd., 2 Tinworth Street, London, S.E.11; Langley (London), Ltd., 161 Borough High Street, London, S.E.1.

shelter provided for persons employed in a building wholly or mainly occupied as a school, college, university, hotel, restaurant, club, place of public entertainment or amusement, hospital or nursing home."

The question of the treatment of costs, viz. whether coming under maintenance or capital, is a matter for the decision of an accountant, and failing that we suggest that you communicate with the Local Inland Revenue Office.

Q461 SUPPLY DEPARTMENT, LONDON.—*Who makes and WHAT IS FERROPHANE, a form of non-splintering glass substitute?*

Ferrophane is available from L. C. H. Athill, 38 Sneath Avenue, London, N.W.11. (Telephone No. Speedwell 1271.) The material essentially is fine expanded metal embedded in a thin plastic sheeting, and available in sizes 4 ft. 6 in. by 2 ft. The price at the moment is of the order of 11d. per ft. super net *ex* Barking works.

Q462 INQUIRER, DEVON.—*I want to install a STOVE TO BURN WOOD (of which there is a plentiful supply) to heat a hall, corridor, staircase and landing of a total cubic capacity of about 11,000 cubic ft. Can you suggest firms from whom suitable stoves could be obtained?*

Special wood-burning stoves are manufactured by Messrs. Jones and Campbell, Ltd., Torwood Foundry, Larbert, Stirlingshire, and Messrs. Smith and Wellstood, Ltd., 11 Ludgate Circus, London, E.C.4.

Q463 FACTORY OWNER, LONDON, W.—*Where do I obtain a LICENCE TO BUILD an addition to my factory premises?*

No licence or permit to build is needed, but licence to purchase certain controlled materials, notably timber and steel, will be required as the work proceeds. All supplies of controlled materials have been allocated to the various Ministries, and for work in which they are interested individual Ministries will grant permits or licences to purchase the amount of steel or timber necessary for the work. The Ministry will also help to obtain supplies of materials which are not controlled but are subject to delay in delivery.

The work which it is proposed to carry on in the new extension can therefore be said to control the nature of the building materials which can be obtained for it and the speed of obtaining them. If the work is for a Government department or of national importance, the matter should be discussed at once with the Priority Officer of the Ministry most likely to be interested.

Q464 BUILDERS' MERCHANTS, LONDON.—*Have there been any increases in the COST of the BASIC BUILDING MATERIALS between the beginning of July and August 3?*

Quoting from the August 1 issue of the JOURNAL—"the only rise of importance since the last prices section appeared in the JOURNAL (July 4 issue) is that of steel; the rise occurred on July 1 but was confirmed too late for publication. Ballast has also risen slightly." For steel and ballast the increases over pre-war prices at end of July, 1940, are given as 30·8 per cent. and 21¾ per cent. respectively; the relative figures for the end of June, 1940, were 19 per cent. and 17½ per cent.

Q465 TRADE INQUIRER, LONDON.—*Some time ago there was an advertisement for BOMB SNUFFERS. The apparatus as I remember it seemed to consist of a domical arrangement hooked on to the end of a long pole. Are they still marketed and, if so, who makes them?*

Bomb snuffers are still available. One type is made by Bells Asbestos and Engineering Supplies, Ltd., Bestobell Works, Slough, Bucks. This is semicircular in shape and formed of compressed asbestos fibre. Another model is by Belling & Co., Bridge Works, Southbury Road, Enfield, Middlesex: this is a conical sheet metal device which covers the bomb and releases sand.

Q466 ENGINEERING FIRM, BIRMINGHAM.—*We have found that our ASPHALT ROOFS have cracked, and this appears to have occurred during the recent hot weather. These roofs have been camouflaged with an oil-bound distemper. Can you suggest any type of CAMOUFLAGE paint which will prevent this action or any precautions we can take to prevent a recurrence of this trouble?*

A.R.P. Handbook No. 11 entitled "Camouflage of Large Installations" (obtainable from His Majesty's Stationery Office, York House, Kingsway, London, W.C.2, price 3d. net) defines the classes of paints which should be used in camouflage work over different surfaces and expressly points out that only a bituminous paint should be used on a bituminous surface. The following notes from an article entitled "Asphalt Mastics for Wartime Purposes," by G. J. Hancock, of the Natural Asphalt Mine-Owners and Manufacturers' Council, 91 Petty France, S.W.1, give useful information on this class of failure:

> Building owners have attempted to camouflage asphalt roofs with paints in which the drying agents and oils are used. As a consequence in more than one important case, not only had the attempted camouflage rendering proved a failure, but the asphalt itself has been seriously affected. This result is due to three causes: (1) Any free oil attacks asphalt, because bitumen will dissolve in oils. (2) On account of this, if oil paints are used, the bitumen will bleed through the paint and merge with the pigment and so destroy the colour. (3) If oil-bound paints are used, the differential expansions of the asphalt surface and the rapidly oxidizing paint film causes crazing, which may assume serious proportions, and is, in any case, unsightly. It cannot, therefore, be too widely made known that it may prove a costly and possibly disastrous mistake to attempt to camouflage an asphalt roof with any form of paint which does not fulfil certain requirements, and the expert advice of an asphalt contractor should always be obtained before embarking on any camouflage project over a bituminous surface.

REFERENCE BACK

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

Q433. *July* 25, 1940.

Asphalt floor in room to be used for the reception of casualties and for dressings. It has been pointed out by the firm mentioned (the Limmer and Trinidad Lake Asphalt Co., Ltd.) that if the casualties concerned are likely to be gas-contaminated the floor should be laid in Antigasphalt, the grade of asphalt resistant to gas and gas decontaminants.

Q440. *August* 1, 1940.

Supplies of translucent varnish. In the reply to this inquiry, the address of Messrs. Rolls & Co., Ltd., was given as 134 North Street, Glasgow, E.3. This address is that of the firm's Scottish Depot, and their Head Offices and Works are situated at Upper Edmonton, London, N.18.

RESPONSIBILITY FOR GLASS

We record below the results of tests recently undertaken and arranged by our Research Department on unprotected glass. The types of glass used ranged from 24 oz. sheet glass to " Armourlight " Toughened Lenses and Insulight Glass Bricks. The reactions of the various types under the tests make interesting reading, and form, we believe, a useful contribution to the technical data available on Glass and A.R.P. (Our last report, published in this journal on July 18, 1940, page xviii, was on *Tests on Protective Measures for Windows*).

RESULTS OF TESTS ON UNPROTECTED GLASS

TYPE OF GLASS AND SIZE OF PANE	Explosion at 50 ft. equivalent to a 500 lb. H.E. bomb at 200-250 yards	Explosion at 40 ft. equivalent to a 500 lb. H.E. bomb at 160-200 yards	Explosion at 30 ft. equivalent to a 500 lb. H.E. bomb at 120-150 yards	Explosion at 20 ft. equivalent to a 500 lb. H.E. bomb at 80-100 yards	Explosion at 10 ft. equivalent to a 500 lb. H.E. bomb at 40-50 yards	REMARKS
24 oz. SHEET GLASS 15″ × 15″	Completely shattered	—	—	—	—	Fragments dislodged & projected towards explosion.
32 oz. SHEET GLASS 22″ × 18″	Undamaged	Undamaged	Undamaged	Undamaged	Glass shattered	Fragments dislodged & projected towards explosion.
¼″ ROUGH CAST DOUBLE ROLLED 15″ × 15″	do.	do.	do.	do.	do.	Some fragments dislodged.
WIRED GLASS 13 panes 22″ × 18″	do.	do.	do.	3 panes cracked	Remaining 10 panes cracked	Although cracked the wire reinforcement held the pieces together as a complete panel which remained rigid in the frame.
WIRED GLASS 19 panes 15″ × 15″	do.	do.	do.	5 panes cracked	Remaining 14 panes cracked	
WIRED GLASS 84″ × 24″	Cracked	No change	No change	No change	Cracked considerably	The panel was badly buckled by the blast : it had forced the lead cover strips and slid down the glazing bars mainly in large pieces.
¼″ " ARMOURPLATE " 15″ × 15″	Undamaged	Undamaged	Undamaged	Undamaged	Undamaged	No damage at all.

TYPE OF GLASS AND SIZE OF PANE	Explosion at 70 ft. equivalent to a 500 lb. H.E. bomb at 280-350 yards	Explosion at 60 ft. equivalent to a 500 lb. H.E. bomb at 240-300 yards	Explosion at 50 ft. equivalent to a 500 lb. H.E. bomb at 200-250 yards	Explosion at 40 ft. equivalent to a 500 lb. H.E. bomb at 160-200 yards	Explosion at 30 ft. equivalent to a 500 lb. H.E. bomb at 120-150 yards	REMARKS
¼″ POLISHED PLATE GLASS 84″ × 84″	Undamaged	Undamaged	Glass shattered	—	—	Fairly large fragments. They were only projected a few feet and fell both in front and in rear of window opening.
¼″ POLISHED PLATE GLASS 84″ × 84″	do.	do.	Undamaged	Undamaged	Completely shattered	Some fragments were projected 12 feet in front and others to a distance of 6 feet behind window opening.

"ARMOURLIGHT" TOUGHENED LENSES

THERMAL SHOCK	Type T.401, T.601, T.702 were tested and found to provide complete protection against incendiary bombs either of the kilo-electron or thermite type burning on the surface of the lens.
IMPACT	A double glazed unit of " ARMOURLIGHT " Toughened Lenses provides protection against a ·45 revolver bullet fired at a distance of 5 yds. The top lens was pierced by the bullet but the lower lens was undamaged.
BLAST	A panel 4′ 6″ × 3′ of T.702 " ARMOURLIGHT " Toughened Lenses withstood the effects of blast from a 500 lb. H.E. bomb detonated at a distance of 50 ft.

INSULIGHT GLASS BRICKS

FIRE RESISTANCE	Tested at the Building Research Station, Elstree, and certified as having a Grade D fire resistance.
BLAST	A panel 4′ 6″ × 3′ of Insulight Glass Bricks withstood the effects of blast from a 500 lb. H.E. bomb detonated at a distance of 50 ft.

★Film records of various tests can be seen by appointment at our London showrooms, 63 Piccadilly, W.1 ('phone Regent 4281). Our Technical Department, at St. Helens, Lancashire, is always available for consultation on the use of glass in A.R.P. and in any form of structural work.

Issued by
PILKINGTON BROTHERS LIMITED
ST. HELENS, LANCASHIRE

TIMBER CONTROL

Three Timber Control Orders, the No. 14 Order, the No. 15 Order and the No. 16 Order, have been made by the Minister of Supply. The No. 14 Order came into force on August 8, and the Nos. 15 and 16 Orders came into force on August 13.

The Control of Timber (No. 14) Order provides that any person becoming liable under the Timber (Charges) (No. 1) Order to pay a National (General) Timber Charge in respect of the delivery or treatment, use or consumption of imported timber must render monthly to the appropriate Timber Control Office a return, in the form scheduled to the new Order, of all charges payable.

The Control of Timber (No. 15) Order contains a definition of secondhand timber. Timber or plywood obtained from the destruction, demolition or breaking up of any structure or article; timber or plywood which having been used for any purpose has thereby deteriorated; and slabs or off-cuts produced in any sawmills in the U.K. may be certified by the Timber Control as "recovered—unclassified." The price payable for such timber or plywood may either be fixed by agreement between the buyer and seller subject to the approval of the Timber Control; or alternatively a maximum price may be determined by the Timber Control on application to the Control. "Recovered—unclassified" timber is subject to the full licensing procedure laid down in the Control of Timber (No. 13) Order.

The certification of timber as "recovered—unclassified" does not, of course, affect its liability to the charge imposed by the Charges Order. In practice, however, such timber would not be liable to the charge unless it was private opening stock of imported timber; secondhand timber which was in a building, for example, on July 1 and was subsequently recovered would not be chargeable. On the other hand timber which was held as private opening stock on July 1 in the form of secondhand timber and which falls into one of the classes of imported timber mentioned in the Schedule to the Charges Order, is, as the law stands at present, liable to the charge on delivery or consumption. It is not considered desirable that this should be so and it is proposed to amend the Charges Order at an early date so as to provide that if timber is certified as "recovered—unclassified" it should not be chargeable. It will be appreciated that the fact that any timber is secondhand does not necessarily imply that such timber will be certified by the Control as "recovered—unclassified." For example, secondhand timber which is almost "as good as new" would not be so certified.

The No. 15 Order also provides for the fixing of special prices for imported hardwoods which have been converted and are selected to exceptional dimensions or quality. Article 4 (2) of the No. 13 Order already contains provision for the fixing of special prices for imported logs of exceptionally large dimensions or exceptional quality.

Finally the No. 15 Order contains certain amendments to the No. 13 Order consequential on the definition of "recovered—unclassified" timber.

The Control of Timber (No. 16) Order brings into operation the increased prices for plywood which were foreshadowed at the time of issuing the No. 13 Order. The new fixed prices came into force as from August 13, but the Order provides that the existing maximum prices will apply to plywood covered by acquisition licences issued between July 1 and the coming into force of the new Order and in respect of which an order has been given and accepted in writing also during that period. Provision already exists in the No. 13 Order for the existing prices to apply to plywood covered by licences issued before July 1 where orders have been given and accepted in writing before that date.

Copies of the new Orders are obtainable at the published sale prices either directly or through any bookseller from H.M. Stationery Office. The three Orders have been made separately for the sake of simplicity and in order not to involve persons only interested in one, or two, of the Orders in unnecessary expense.

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Persons or firms having in their possession gaboon mahogany veneers of whatsoever description and of a quantity exceeding 5,000 square feet, are required to render to local Timber Control Area Officers, returns of such holdings stating stowage, thicknesses, quality and average lengths and widths. The first return is required to be made as at August 15, to be in the hands of local Timber Control Area Officers within four days from that date and thereafter at monthly intervals until further notice.

THE BUILDINGS ILLUSTRATED

DENTAL HOSPITAL, MANCHESTER UNIVERSITY (pages 131-134). Architects: Thomas Worthington and Sons. General contractors were Bovis, Ltd. Sub-contractors and suppliers included: C. S. Allott and Son, structural engineers; Cramp and Frith, electrical engineers; Thomas Maiden, Ltd., demolition; Caxton Floors, Ltd., reinforced concrete retaining walls, floors; Sika-François, Ltd., waterproofing processes; Edward Wood & Co., Ltd., structural steelwork; Trussed Concrete Steel Co., Ltd., suspended ceilings; William Bailey & Co., Ltd., drains, plumbing; Buckley Junction Metallic Brick Co., Ltd., facing bricks; William Higgins and Son, brickwork, partition; Limmer and Trinidad Lake Asphalt Co., Ltd., damp-proofing, roofing; F. M. and H. Nuttall, Ltd., stone; J. Whitehead and Sons, Ltd., marble; Conways (Tiles and Terrazzo), Ltd., terrazzo; Scott, Morton & Co., Ltd., decorative woodwork; Heal and Son, Ltd., furniture; Laidlaw and Thompson, ironmongery and window and door furniture; Shanks & Co., Ltd., fittings—baths, basins, w.c. taps, anti-siphonage traps; Birmingham Guild Ltd., bronze staircase, balustrades, etc.; Robert Walker and Son (Manchester), Ltd., gates and railings; E. M. Evans and Son, Ltd., lighting, electrical installation; Etchells, Congdon and Muir, Ltd., lifts; Saunders and Taylor, Ltd., heating and ventilating; Ideal Boilers and Radiators, Ltd., radiators; Standard and Pochin Bros., Ltd., air conditioning; James Clark and Eaton, Ltd., glazing; Henry Hope and Sons, Ltd., metal windows; J. B. Johnson and Sons, plaster; Kendal Milne & Co., Ltd., painting and decorating; Walpamur, Ltd., paint and distemper; Newalls Insulation Co., Ltd., acoustic and insulating materials; Irving & Co., light-tight blinds; Roneo, Ltd., steel equipment; Henshaw Blind Institution, door mats; Thackery, steam sterilizers; A. M. MacDougall & Co., Ltd., floor finishings, wood block; Cork Insulation Co., Ltd., floor finishings, cork; Leyland and Birmingham Rubber Co., Ltd., floor finishings, rubber; Thos. Bradford, Ltd., laundry machinery; Granitese (Gt. Britain), Ltd., wall finishes; Turners Asbestos Cement Co., Ltd., bench top and vulcanizing benches; J. P. White and Sons, Ltd., flush doors; Empire Stone Co., Ltd., precast stairs.