THE ARCHITECTS' JOURNAL

standard contents

every issue does not necessarily contain all these contents, but they are the regular features which continually recur.

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★ **A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to H one week, I to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.**

AA	Architectural Association, 34/6, Bedford Square, W.C.1. Museum 0974
AAI	Association of Art Institutions. Secy.: W. Marlborough Whitehead, "Dyneley," Castle Hill Avenue, Berkhampstead, Herts.
ABS	Architects' Benevolent Society. 66, Portland Place, W.1. Welbeck 5721
ABT	Association of Building Technicians. 5, Ashley Place, S.W.1. Victoria 0447-8
ACGB	Arts Council of Great Britain. 4, St. James' Square, S.W.1. Whitehall 9737
ADA	Aluminium Development Association. 33, Grosvenor Street, W.1. Mayfair 7501/8
APRR	Association for Planning and Regional Reconstruction. 34, Gordon Square, W.C.1. Euston 2158-9
ArchSA	Architectural Students' Association. School of Architecture, Manchester Municipal School of Art, All Saints, Manchester, 15. Ardwick 3480
ARCUK	Architects' Registration Council. 68, Portland Place, W.1. Welbeck 9738
ASB	Architectural Science Board of the Royal Institute of British Architects. 66, Portland Place, W.1. Welbeck 5721
AScW	Association of Scientific Workers. 15, Half Moon Street, Piccadilly, W.1. Grosvenor 4761
BAE	Board of Architectural Education. 66, Portland Place, W.1. Welbeck 5721
BATC	Building Apprenticeship and Training Council. Lambeth Bridge House, S.E.1. Reliance 7611, Ext. 1706
BC	Building Centre. 9, Conduit Street, W.1. Mayfair 8641/6
BCC	British Colour Council. 28, Sackville Street, W.1. Regent 3613
BCCF	British Cast Concrete Federation. 17, Amherst Road, Ealing, W.13. Perivale 6869
BCIRA	British Cast Iron Research Association. Alvechurch, Birmingham. Redditch 716
BDA	British Door Association. 25, Victoria Street, S.W.1. Abbey 5422-3
BEDA	British Electrical Development Association. 2, Savoy Hill, W.C.2. Temple Bar 9434
BGC	British Gas Council. 1, Grosvenor Place, S.W.1. Sloane 4554
BGF	British Gas Federation. 1, Grosvenor Place, S.W.1. Sloane 8266
BIA	British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2. Glasgow Central 2891
BIAE	British Institute of Adult Education. 29, Tavistock Square, W.C.1. Euston 5385
BID	Building Industries Distributors. 52, High Holborn, W.C.1. Chancery 7772
BINC	Building Industries National Council. 11, Weymouth Street, W.1. Langham 2785
BOT	Board of Trade. Millbank, S.W.1. Whitehall 5140
BRS	Building Research Station. Bucknalls Lane, Watford Garston 2246
BSA	British Steelwork Association. Eggington House, Buckingham Gate, S.W.1. Victoria 7301-2-3
BSA	Building Societies Association. 14, Park Street, W.1. Mayfair 0515
BSI	British Standards Institution. 28, Victoria Street, S.W.1. Abbey 3333
CAS	County Architects Society. C/o A. Guy Chant, F.R.I.B.A. Salop County Council, 5, Belmont, Shrewsbury. Shrewsbury 3031
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1. Sloane 5255
CDA	Copper Development Association. Kendals Hall, Radlett Herts. Radlett 5616
CIAD	Central Institute of Art and Design. 41, 42, Dover Street, W.1. Regent 3074
CIAM	Congrès Internationaux d'Architecture Moderne. Doldertal, 7. Zurich, Switzerland
CID	Council of Industrial Design. Tilbury House, Petty France, S.W.1. Whitehall 6322
CPC	Codes of Practice Committee. MOW, 42, Onslow Gardens, S.W.7. Kensington 8161
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W. Sloane 4280
CUJC	Coal Utilization Joint Council. 54, Victoria Street, S.W.1. Victoria 9851
DIA	Design and Industries Association. 9, Conduit Street, W.1. Mayfair 5432
DOT	Department of Overseas Trade. 35, Old Queen Street, S.W.1. Victoria 9040
EC	Electricity Commission. Savoy Court, Strand, W.C.2. Temple Bar 7565
EJMA	English Joinery Manufacturers Association (Incorporated). Sackville House, 40, Piccadilly, W.1. Regent 4448
EPNS	English Place-Name Society. 7, Selwyn Gardens, Cambridge.
FAS	Faculty of Architects and Surveyors. 8, Buckingham Palace Gdns., S.W.1. Sloane 2837
FASSC	Federation of Association of Specialists and Sub Contractors. 21, Tothill Street, S.W.1. Whitehall 9606
FBI	Federation of British Industries. 21, Tothill Street, S.W.1. Whitehall 6711
FC	Forestry Commission. 25, Savile Row, W.1.
FCMI	Federation of Coated Macadam Industries. 37, Chester Square, S.W.1. Sloane 1002
FDMA	Flush Door Manufacturers Association. Stapleford Road, Trowell, Nottingham. Ilkeston 623/4/5
FLD	Friends of the Lake District. Pennington House, Nr. Ulverston, Lancs. Ulverston 201
FMB	Federation of Master Builders. 26, Great Ormond Street, Holborn, W.C.1. Chancery 7583
FRHB	Federation of Registered House Builders. 82, New Cavendish Street, W.1. Langham 4041
FS (Eng.)	Faculty of Surveyors of England. 8, Buckingham Palace Gdns., S.W.1. Sloane 2837
GG	Georgian Group. 27, Grosvenor Place, S.W.1. Sloane 2844
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1. Whitehall 2881

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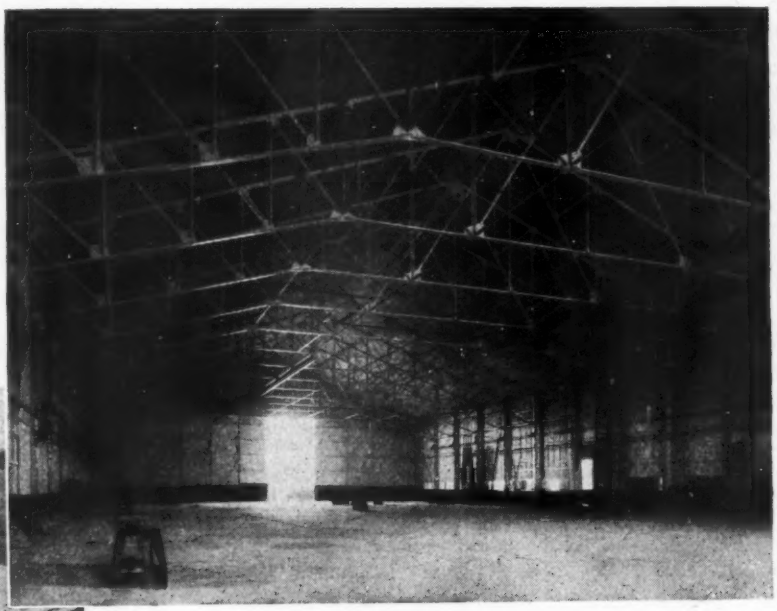
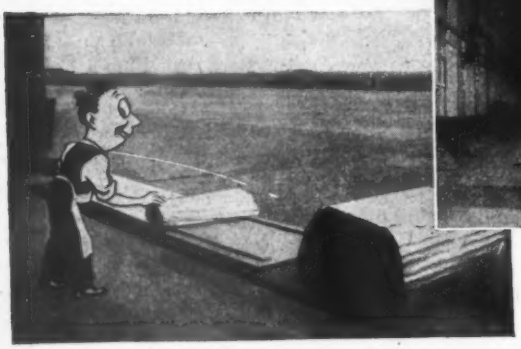
This question is being discussed more and more with our technical staff and, at to-day's cost of fuel, the answer is nearly always "Yes." Before the war we regularly fixed TenTesT in greater thicknesses than half-inch, but under present conditions it is sometimes simpler to achieve better fuel saving by combining with insulating board some non-constructional form of insulation such as quilts, blankets or foils.





"Let's save all the fuel we can," says George.

TABLE OF THERMAL TRANSMITTANCES	
Corrugated steel roofing, unlined ..	U = 1·50
Corrugated steel roofing, lined half-inch insulating board	U = 0·32
Do. do. plus double aluminium foil insulation	U = 0·16

★ See *Fuel Efficiency Bulletin No. 12.*

We illustrate one of several large aeroplane sheds and workshops at the London Airport of the Ministry of Civil Aviation, where we supplied and fixed, to the order of the Ministry, half-inch insulating board backed with double aluminium foil reflective insulation (one sheet plain and one sheet corrugated) stapled to half-inch fibre-board battens fixed to the back of the lining sheets. Owing to the extreme lightness of the foil insulation, no appreciable extra load had to be carried, and standard fixing strips were used. But the insulation efficiency was approximately doubled.

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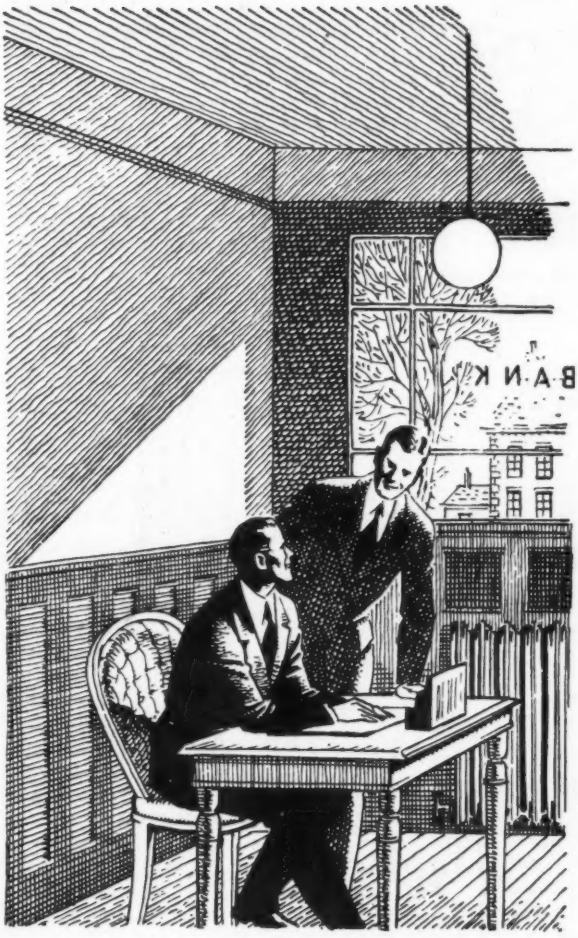

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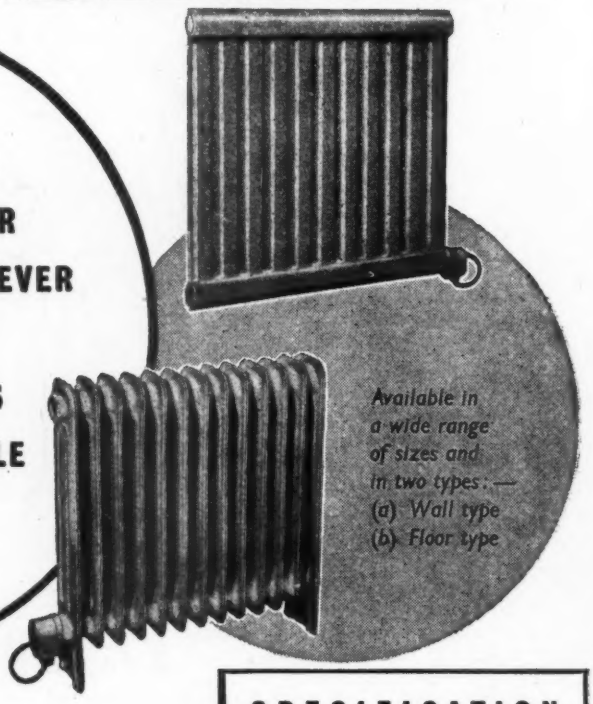

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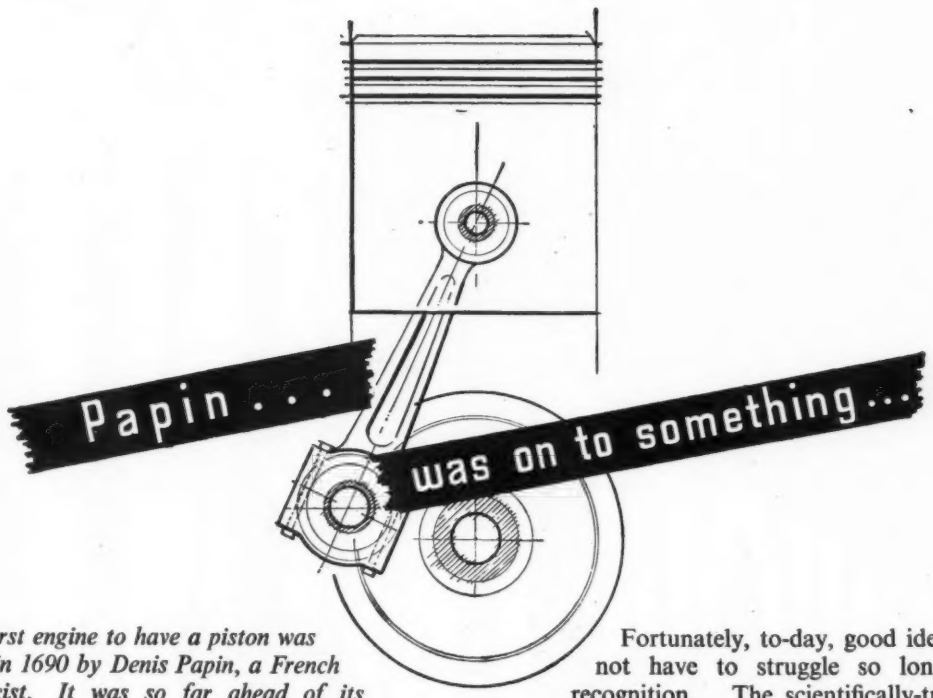

The first engine to have a piston was built in 1690 by Denis Papin, a French physicist. It was so far ahead of its time in fact, that 100 years later Napoleon considered steam-engines, based on Papin's designs, too revolutionary to be of military value.

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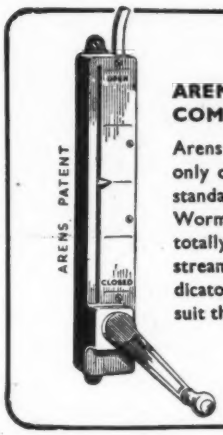

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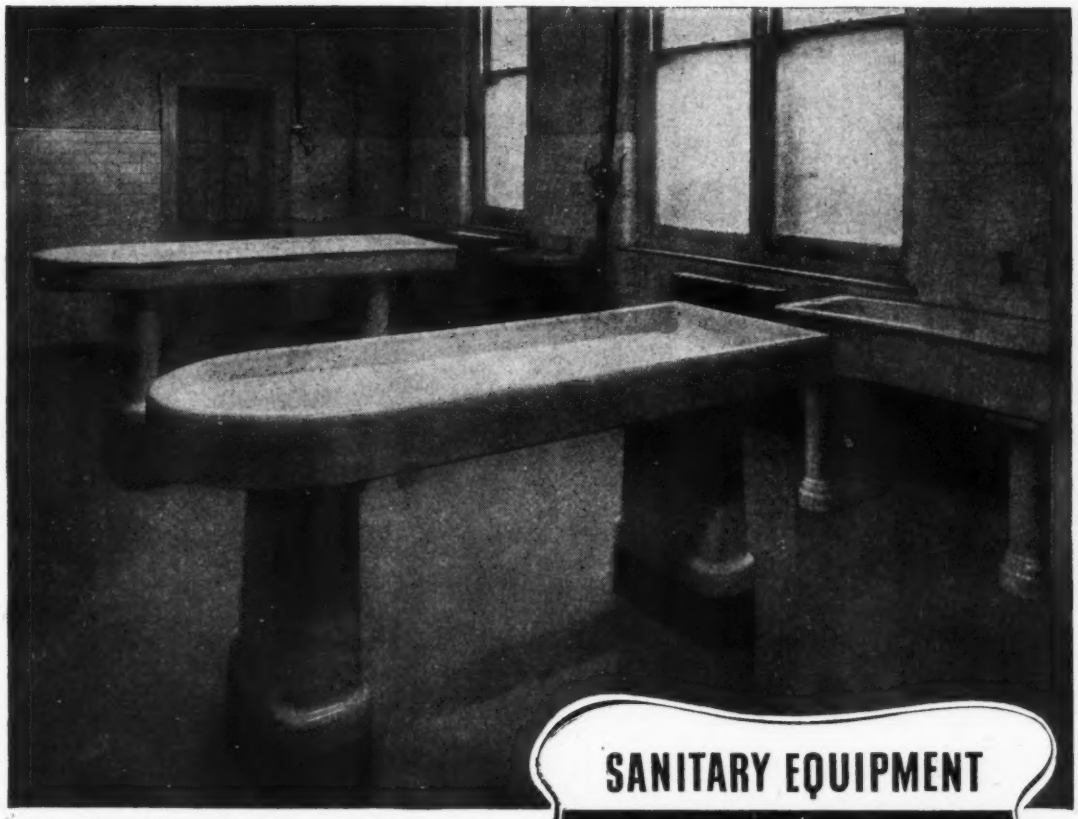
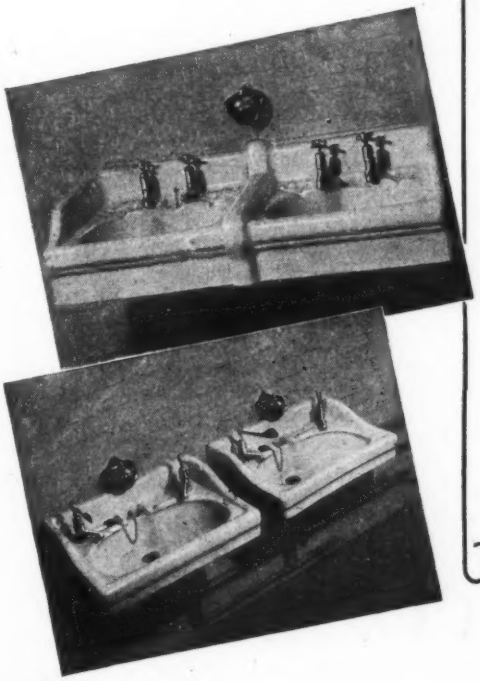


Architects: Messrs. Adams, Holden & Pearson, FF.R.I.B.A.

SANITARY EQUIPMENT

at

CHARING CROSS HOSPITAL MEDICAL SCHOOL



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POTTERY THROUGH THE AGES · NO. 12

Specially drawn by Gordon Nicoll, R.I.

HISPANO-MORESQUE POTTERS

Islamic pottery and tiles brought to Europe by traders and Crusaders influenced early Italian tin-enamelled earthenware and mediaeval English tile-work. The conquest of Southern Spain by the Moors about 710 A.D., however, was destined to have a much more direct influence upon European ceramics. Their supremacy endured for nearly eight centuries, especially in Granada, where the hand-painted and lustred tiles of the Alhambra Palace are a brilliant testimony to the craftsmanship and artistry of Moorish and Persian Potters.

Tile-work was used on a considerable scale for the embellishment of buildings such as mosques, palaces and, later, churches. Green, yellow, purple, white and blue were the colours most generally employed and the tiles were pieced together in complicated geometrical patterns. Arabic script was often used with delightful effectiveness as a decorative feature.

The art of lustre-painting, especially in golden-brown, yellow and blue lustres derived from metallic oxides, was developed in Valencia, Malaga, Majorca and other centres. The lustre pigments were painted over-glaze on an opaque smooth tin-enamel which masked the earthenware body.

The Moors were expelled at the end of the 15th century, but many of their potters were allowed to remain to teach the Spaniards. Roman inscriptions, hand-painted themes inspired by the Christian religion, and heraldic designs began to supersede Islamic motifs. The range of shapes included deep serving dishes, flat "chargers," bowls, plates and other domestic wares, apothecaries' drug jars, wine bottles and large storage vessels. The whole surface was often covered with decoration; yet, despite this, harmonious and balanced designs were achieved without any feeling of overcrowding.

Manises, Mislata and Paterna lustre wares, made near Valencia in the 15th century, became especially famous; by the 17th century, Talavera had become the chief centre. Orders came from all over Europe from kings, princes and cardinals, and the imported Hispano-Moresque wares unquestionably had a profound influence on the work of Italian, Dutch and English potters. From Spain, potters went to Mexico to teach Indian craftsmen and their influence has endured there to this day.

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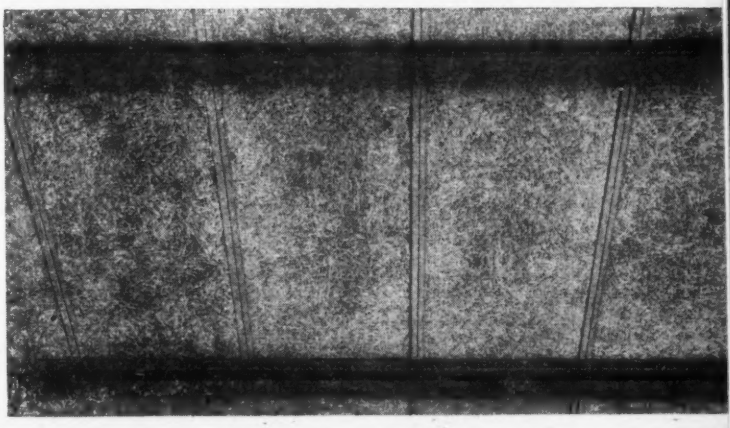

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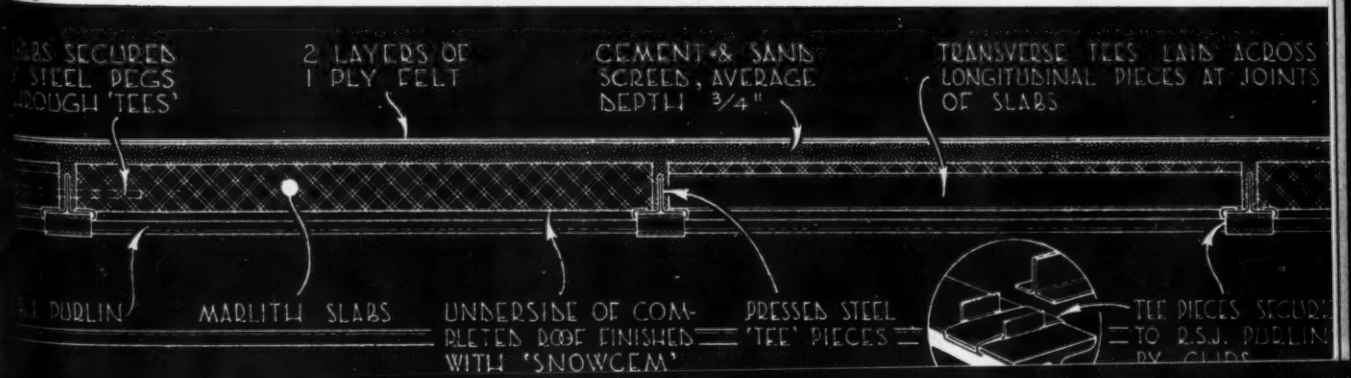

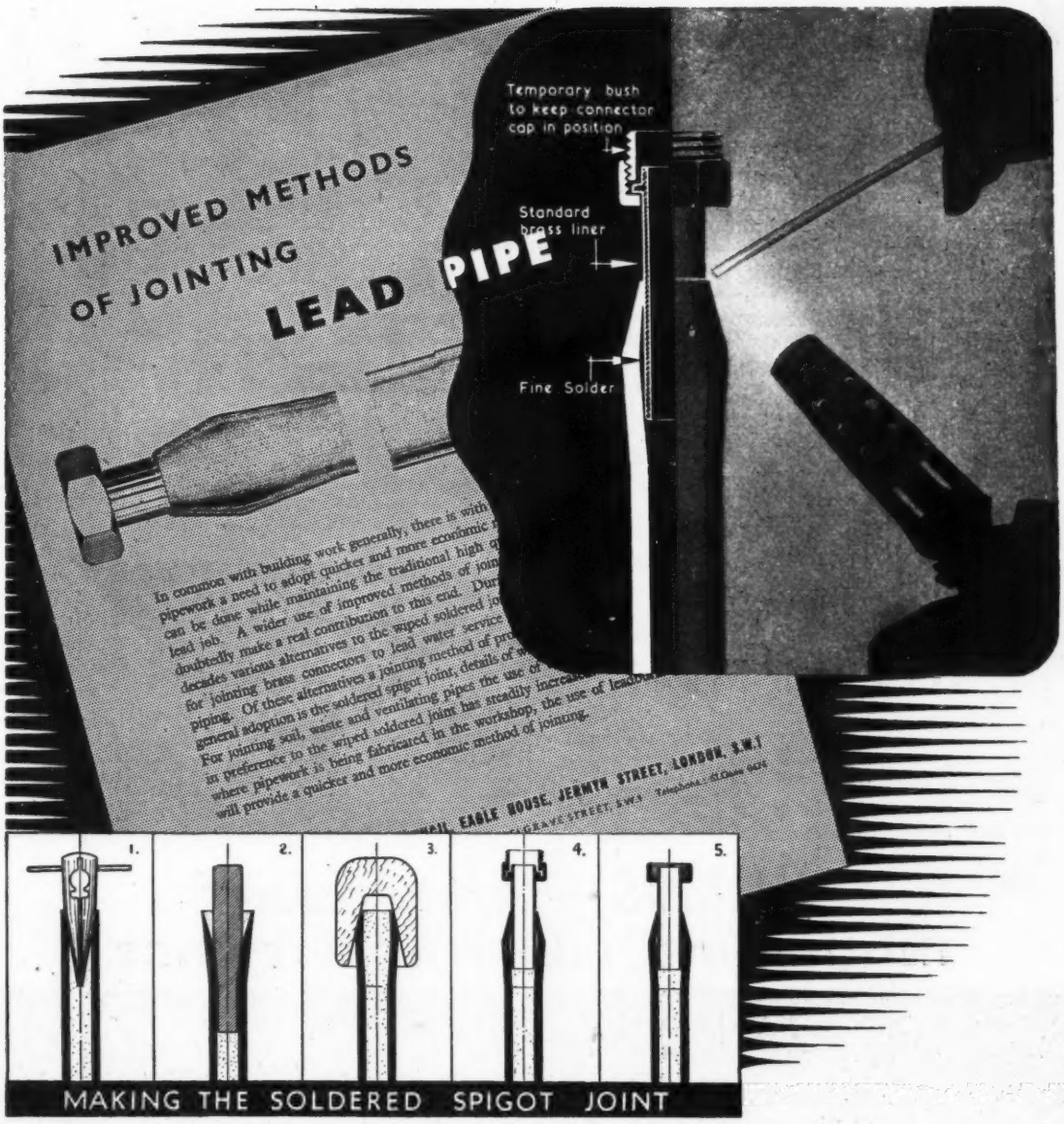

JOINTING LEAD PIPE

The Economy Memorandum Lead (No. 3) (issued by the Ministry of Health) imposes a restriction on the use of ordinary wiped joints for jointing lead pipe to brass connections or lead pipe. A recommended alternative jointing method is the soldered spigot joint which is well proven in use, is quickly made and is very economic in solder. The making of the joint is a craftsman's operation. It is fully described in a leaflet available on application to Lead Industries Development Council.

The Technical Information Bureau of the Lead Industries Development Council, which exists to give assistance on problems relating to the use of lead sheet and pipe in building work, will be pleased to give advice on any questions relating to the present restricted uses of the materials.

h
LEAD

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LEAD TECHNICAL INFORMATION BUREAU, 25 LOWER BELGRAVE STREET, S.W.1 Telephone: SLOane 0474

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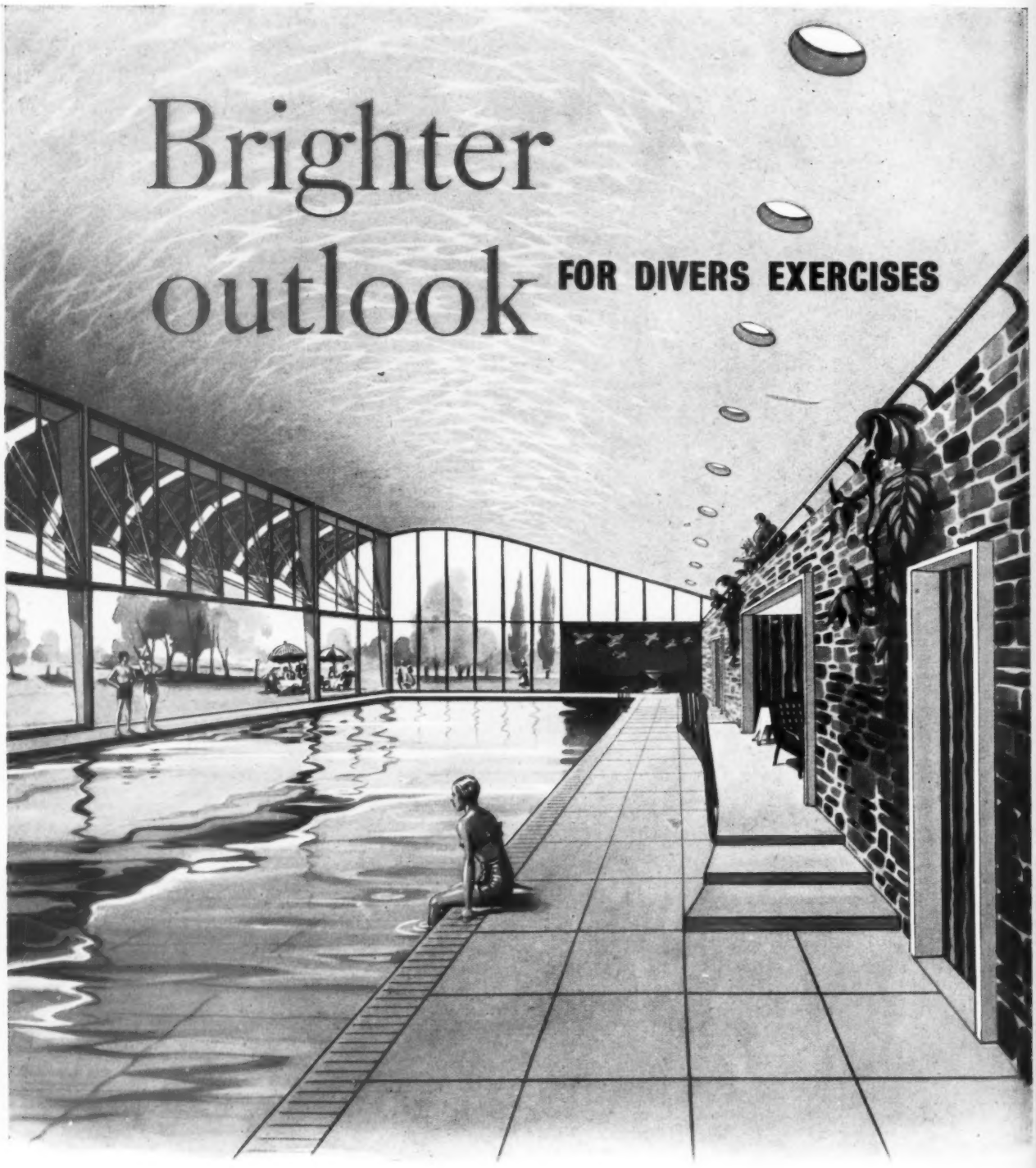

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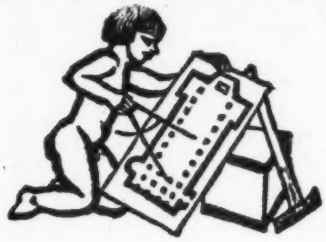
In common with every other periodical, this JOURNAL *is rationed to a small part of its pre-war consumption of paper. Circulation is therefore temporarily restricted but would-be subscribers are advised to have their names put on the waiting-list. Their names will then be added to the subscription list as soon as possible. Subscription rates: by post in the U.K. or abroad, £1 15s. 0d. per annum. Single copies 9d.; post free 11d. Special numbers are included in subscription; single copies, 1s. 6d.; post free, 1s. 9d. Back numbers more than 12 months old (when available), double price. Volumes can be bound complete with index, in cloth cases, for 15s. each; carriage 1s. extra.*



DIARY FOR MARCH APRIL AND MAY

Titles of exhibitions, lectures and papers are printed in italics. In the case of papers and lectures the authors' names come first. Sponsors are represented by the initials as given in the glossary of abbreviations on the front cover.

CANTERBURY. *The Manufacture of Glass.* At the Canterbury College of Art. (Sponsor, SE Society of Architects.) MAR. 23

LONDON. *Exhibition of Soviet Architecture.* At the RIBA, 66, Portland Place, W.1. (Sponsor, the Society for Cultural Relations with the USSR.) UNTIL MAR. 20

Exhibition of Photographs by Members. At the AA, 34/6, Bedford Square, W.C.1. (Sponsor, AA.) UNTIL MAR. 19

Engineering and Industrial Equipment (Home and Export) Exhibition. At the Royal Horticultural Hall, Vincent Square, S.W.1. (Sponsor, British Bulletin of Commerce.) UNTIL MAR. 24

Ideal Home Exhibition. At Olympia. (Sponsor, *The Daily Mail.*) UNTIL MAR. 25

Westminster Regained Exhibition. At the Tate Gallery, Millbank. (Sponsor, *The Architectural Review.*) UNTIL APR. 6

B. J. Collins. *The Staff Work of a Planning Authority.* At the Livingstone Hall, Broadway, Westminster, S.W.1. (Sponsor, TPI.) 5.30 p.m. MAR. 18

F. J. Osborn. *New Towns in the United States of America.* At the Planning Centre, 28, King Street, Covent Garden, W.C.2. (Sponsor, TCPA.) Lunchtime meeting. MAR. 18

Dr. T. Bedford. *Air Hygiene.* At the RIBA, 66, Portland Place, W.1. (Sponsor, RIBA.) 6 p.m. MAR. 23

Town and Country Planning Act, 1947. Repeat series of lectures. R. L. Reiss. W. A. Wood. *Land Purchase.* March 24. W. A. Wood. *Compensation and Development Charges.* March 31. Symposium. *The Act—Questions and Answers.* April 7. At the Planning Centre, 28, King Street, Covent Garden, W.C.2. (Sponsor, TCPA.) Lectures begin at 6.15. MAR. 24

Anthony Cox. *Public and Private Architecture.* At the AA, 24/6, Bedford Square, W.C.1. (Sponsor, AA.) 7.45 p.m. MAR. 24

Prof. W. Fisher Cassie. *The Torsional Constants of Structural Steel Sections.* At the ISE, 11, Upper Belgrave Street, S.W.1. (Sponsor, ISE.) 6 p.m. MAR. 25

J. M. K. Mead. *Recent Developments in Heating and Ventilating.* (Sponsor, SE Society of Architects.) MAR. 27

Village Planning Exhibition. Exhibition of designs submitted to the Central Land Owners' Association Village Planning Competition. At the RICS, 12, Great George Street, S.W.1. (Sponsor, Central Landowners' Association.) APRIL 2-16

RIBA Presentation of the Royal Gold Medal. At the RIBA, 66, Portland Place, W.1. (Sponsor, RIBA.) 6 p.m. APRIL 6

J. Seymour Lindsay. *Craftsmanship: Metalwork.* At the RSA, John Adam Street, Adelphi, W.C.2. (Sponsor, RSA.) 2.30 p.m. APRIL 7

W. A. Thorpe. *Codes of Work in Glass History.* At the RSA, John Adam Street, W.C.2. (Sponsor, RSA.) 2.30 p.m. APRIL 7

Exhibition: The Industrial Revolution in Art, 1760-1851. Arranged by Dr. F. D. Klingender in collaboration with the Newcomen Society. At Heal's Mansard Gallery, 196, Tottenham Court Road, W.1. UNTIL APR. 13

Thomas Ritchie. *The Sanitation of Buildings.* Bossom Gift Lecture. At the Architectural Theatre, University College, Gower Street, W.C.1. (Sponsor, the Chadwick Trust.) 2.30 p.m. APRIL 15

R. W. Symonds. *Craftsmanship in Furniture—Traditional and Modern.* At the RSA, John Adam Street, Adelphi, W.C.2. (Sponsor, RSA.) 2.30 p.m. APRIL 28

MANCHESTER. *RSI Manchester Sessional Meeting.* A. Topping. *Public Health Planning.* R. Nicholas. *Reconstruction Planning.* Afternoon visits to the works of the English Steel Corporation, Messrs. W. J. Brookes Biscuit Bakery, and various types of housing development in Manchester. In the Lord Mayor's Parlour, Town Hall, Manchester. (Sponsor, RSI.) 10 a.m. MAR. 19

Brighter Homes Exhibition. At the City Hall, Manchester. (Sponsor, *Manchester Daily Dispatch.*) 11-9.30 weekdays. UNTIL MAR. 20

COMPETITIONS.—

Osterleden Competition, Stockholm. The Town Planning Board of Stockholm invites entries to an international competition in connection with a new main artery between the districts of Södermalm and Ostermalm (Norra Djurgarden) via Södra Djurgarden. This artery, and the necessary approaches will be referred to as *Osterleden.* Full information from the Swedish Embassy. Deposit, £6 18s. 10d. required for complete competition documents. First prize, 20,000 Sw. cr. Entries by April 1, 1949.

NEWS

THURSDAY, March 18, 1948
No. 2771 VOL. 107

Though no feature in the JOURNAL *is without value for someone, there are often good reasons why certain news calls for special emphasis.*

★ *means spare a second for this, it will probably be worth it.*

★★ *means important news, for reasons which may or may not be obvious.*

★

MR. A. N. HARRIS has been appointed COUNTY ARCHITECT OF NORTHAMPTONSHIRE from April 1 following the retirement of Mr. J. Perkins, F.R.I.B.A.

After serving his articles with a Preston firm of architects, Mr. A. N. Harris was for a period in the Lancashire County Architect's department. He had held senior architectural appointments with the Cheshire and Shropshire County Councils before going to Northamptonshire. His father, the late Mr. John Oliver Harris, was chief assistant in the Lancashire County Architect's department at Preston, and was a Soane medallist and holder of an RIBA silver medal awarded for a country house design in 1895. A brother of Mr. Arthur Harris—Mr. Oliver Harris—is at present the Somerset County Architect.

From AN ARCHITECT'S *Commonplace Book*

GOTHIC ORGANISM. [*From* Stuart and Georgian Churches, *by Marcus Whiffen* (*B. T. Batsford Ltd.*).] One of the words in the vocabulary of art criticism most often debased by inexact use is organic. However, to say that a Gothic church is organic is to make a statement which is susceptible of explanation. It is not so much that many of the *motifs* of Gothic architecture are reminiscent of natural forms, as that the relationship of the different parts of a great Gothic church is such as one finds in organic nature, so that it seems to be, like a tree, the result of a process of growth, and not of the laborious piling of stone upon stone. Then there is no one point of view from which such a building in its intricacy can be comprehended as a whole ; it has, as it were, no outline—and in this it is like a tree again. But if a Gothic church may thus be described as organic, a classical one is something quite different. However complex, it is not intricate, and each of its parts, instead of seeming connected to its neighbours by the principle of growth, is in a direct relationship to the design as a whole. Ideally, a classical building has the lucidity and completeness of a mathematical equation.

REINFORCED CONCRETE JOISTS are being produced by a new continuous process by a small factory at Westhoughton which is supplying them to the Lancaster Corporation and the Rural District Council. The joists are heavy and not easily jointed, but have passed tests satisfactorily, and are as cheap as timber joists at the present time. Their use releases enough timber to floor living rooms with wood. The new mould has been invented by one of the firm's two partners and is described as an application of foundry technique. The reinforcing steel is clipped into place in the mould to hold it central and a semi-dry mixture poured in. A dual vibrator ensures a steady vertical vibration of the mould which settles the mixture firmly into place and presses the moisture evenly through it, preventing the formation of voids. In about seven minutes the mould is tipped over and the joist turned out on to the floor. It dries there for 24 hours and is then stored to mature for two weeks.

★

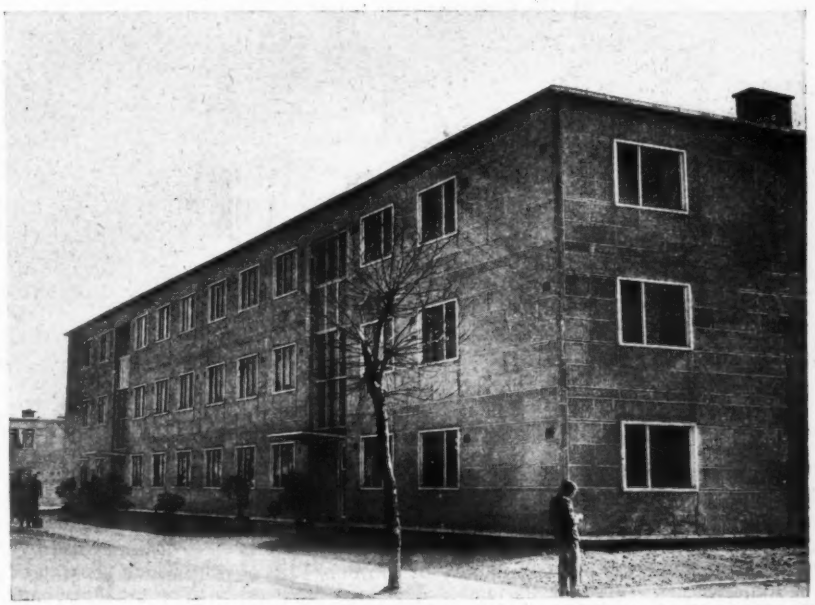
The RIBA has accepted responsibility for the BRITISH SECTION AT THE FIRST CONGRESS OF THE INTERNATIONAL UNION OF ARCHITECTS to be held at Lausanne from June 28 to July 1. As accommodation in Lausanne is extremely limited, architects wishing to attend should first apply in writing to the Secretary of the RIBA, when further details will be sent. Subjects dealt with at the three working sessions will be "The Architect and Planning," "The Architect and the Industrialization of Building," and "The Architect, State and Society." The Congress will be followed by a series of excursions in Switzerland, covering Geneva, Berne, Zurich and Basle, from July 2 to July 10 inclusive.

THE WESTMINSTER HOUSE SITE, Parliament Square, is being bought from the Middlesex County Council by the Minister of Works on behalf of the King. Middlesex County Council bought the freehold of the site in 1935 for £375,000 to prevent the building of a block of offices. The Chancellor of the Exchequer announced in Parliament in February last year that the council had offered the site to the Ministry of Works for the permanent enlargement of Parliament Square. This enlargement, he said, would make possible a great improvement in the layout of the roads in Parliament Square, and would notably increase the square's beauty and dignity.

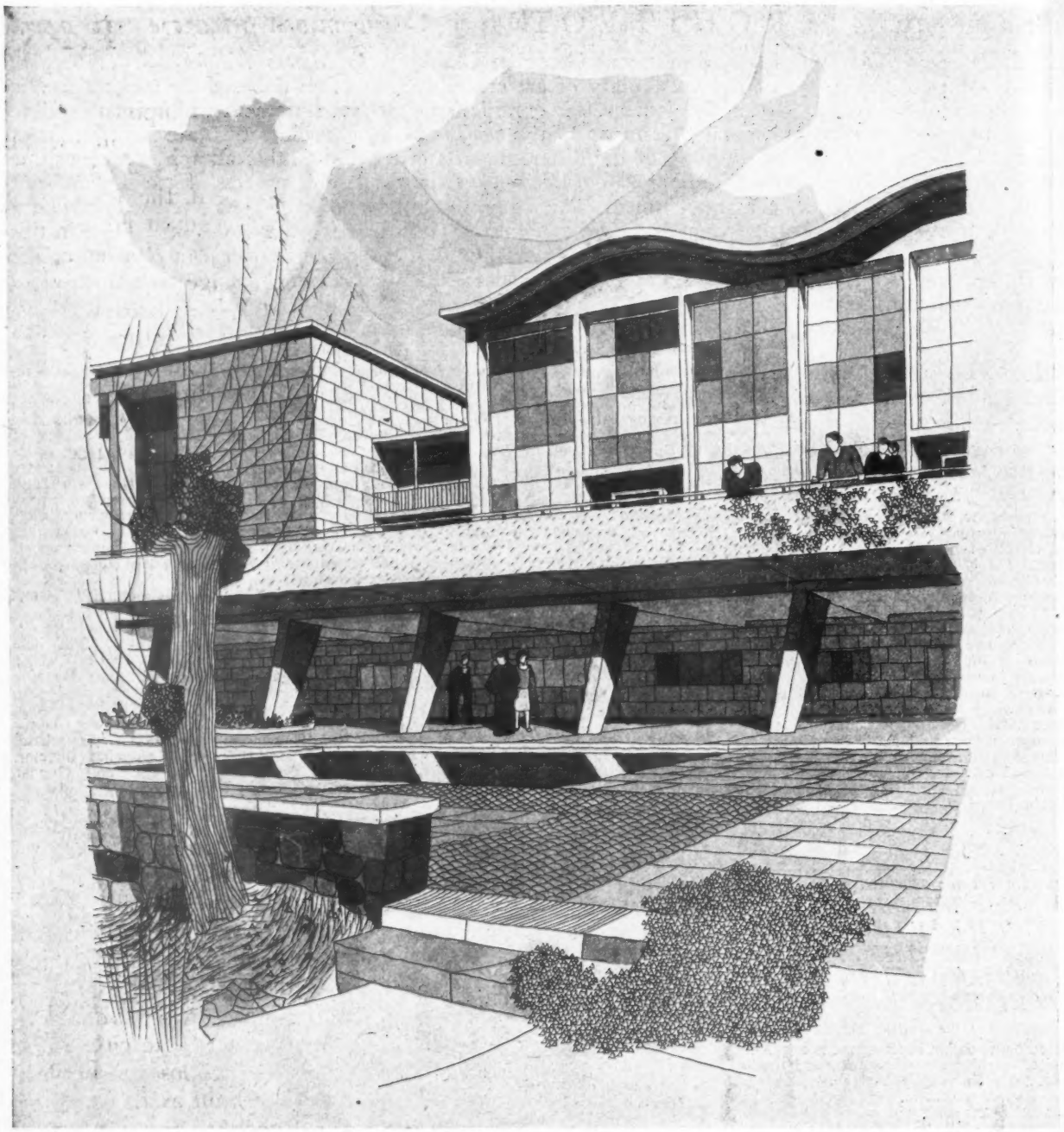
The sale was stated to be in consideration of the sum of £375,000, of which £50,000 was being contributed by the Pilgrim Trust, £50,000 by the LCC, £45,000 by Westminster City Council, and £10,000 by the Royal Institute of Chartered Surveyors, making £155,000. The Minister is paying £145,000, and the balance of £75,000 is to be regarded as the council's contribution towards the cost of acquiring public open spaces.

★

An INTERNATIONAL COMPETITION is being held for proposals for a new ROADWAY to solve traffic problems in Stockholm. Stockholm's rapid growth in recent years has put a great strain on existing communications. A new connecting link between the north and south of the city is urgently required, and the form this link should take is the subject of the competition announced by Stockholm Town Planning Board. The traffic artery is to connect the districts of Södermalm and Ostermalm, *via* Södra Djurgarden. This artery and the necessary approaches is referred to as Osterleden, and it will have to carry all forms of traffic, including trams. A brochure giving information can be obtained free of charge from the Swedish Embassy. Complete competition documents can also be obtained through the Legation, but a deposit of £6 18s. 10d. will be required. 60,000 Swedish crowns, including a first prize of 20,000 crowns will be awarded. Entries must be submitted by April 1, 1949. The competition jury includes the following: The commissioner for the town planning department, Helge Bergland, chairman; Professor Abercrombie, Hakon Ahlberg, architect, Anders Ahlén, engineer, David Anger, engineer, Professor Anker Engeland, Sven Markelius, city planning director, Ernst Sundström, engineer, and Gunnar Wetterling, city architect.



The Minister of Works, Mr. Charles Key, inspected on March 10 the first block of pre-cast concrete-frame flats built in this country. The three-storey block, shown above, is a development of a system of construction that has previously been used for two-storey houses. The constructional units are factory made. Wall cladding consists of precast concrete slabs externally, and foamed-slag blocks internally with a 4 in. cavity. The inner wall is insulated from the frame by felt strips. Living room floors are boards laid on bituminous-bonded fibreglass. Accommodation consists of two double bedrooms, one single bedroom, bathroom, separate lavatory, fitted kitchen and living room. A utility room is provided on first and second floor flats. Balconies are provided on the south side. The flats were desi gned by the Engineers Department of Poplar Borough Council.



Recreation for Industry

The pressing need to relieve industrial employment of drabness and ugliness and to provide proper recreational facilities for workers, is now fully appreciated. The drawing above, by Gordon Cullen, is part of a proposed cafeteria and concert hall for a Scottish factory by Gordon Tait, of Sir John Burnet, Tait and Partners. The long, covered way serves the purpose of giving shelter to employees while queuing for meals and of providing an upper terrace It gives continuity to the two parts of the scheme, which are distinguished by their different roof lines, and faces a river which separates the recreational buildings from the factory on the other bank. See pages 262-264 of this issue.

The HERBERT BAKER SCHOLARSHIP for 1948 will be awarded to an ARCHITECT.

The object of the Foundation is to enable advanced students and young practitioners to travel abroad for the study of the interdependence of the arts. The scholar will be expected to proceed on a course of study within a period of six months from the date of election, and to submit for the approval of the assessors definite proposals for the course. Within six months of the conclusion of the study, the scholar will be required to show to the Royal Academy testimonies of study, including a written and illustrated thesis on some special subject on the interdependence of the arts. The amount available from the fund will be 200 guineas. Candidates applying for election are required to send to the Secretary, Royal Academy of Arts, Piccadilly, London, by May 6, 1948, a letter of formal application accompanied by a letter of recommendation from a responsible person who has personal knowledge of the candidate and his career.

★ *Mr. R. S. Lawrie, Dip. Arch. Abdn., A.R.I.B.A., A.M.T.P.I., has been appointed COUNTY ARCHITECT to the Fife County Council.*

Mr. Lawrie entered the Aberdeen School of Architecture in 1919, obtaining the Diploma of Architecture in 1924, and became an A.R.I.B.A. in 1925. He was appointed Assistant Architect to the Corporation of Dublin in 1926, being responsible for carrying out housing work, a municipal gallery of modern art, branch public libraries, and additions to fever hospitals. He was appointed Housing Architect to the Fife County Council in 1945, and is at present carrying out a large temporary and permanent housing programme.

NEWS IN BRIEF

A Gardens Committee of the National Trust was announced by the president of the Royal Horticultural Society, Lord Aberconway, at the annual meeting of the society. The committee is to be set up with the object of maintaining gardens of historical or horticultural value which come under the care of the Trust.

Talks at the Planning Centre on the Town and Country Planning Act of 1947 have been so well attended that owing to lack of space many people were turned away. As it has not been possible to find a larger hall, the series of talks is to be repeated from March 17.

Two Doncaster Housing schemes at a total cost of £300,000 have been approved by the Ministry of Health; one scheme is the erection of 200 Easiform houses, and the other the erection of 50 Howard houses.

Conversion work at Hurstmonceux Castle is well in hand, and the removal of the Royal Observatory will begin in the first half of the financial year. The future of the present Royal Observatory buildings at Greenwich is still under consideration.

A civil airport at Singapore will be constructed within two years at a cost of two million pounds. This will make the Chiangi airport capable of handling the largest aircraft.

Mr. R. S. Lawrie, appointed County Architect of Fife.

COVENTRY SETS THE PACE

THE breathing space which has been forced upon architects and town planners in the form of cuts in capital expenditure, materials and building programmes, makes it specially necessary to ensure that the public are kept fully informed of the progress achieved so far, so that their interest and sympathy with the projects contemplated are not lost. Past experience over Stevenage has shown how essential it is that the public should be in accord with the ideas of the architects who are designing their future environment. Never before in England has the architectural profession had so many heavy, direct responsibilities towards the public. It would be tragic if some of the projects envisaged came to nought because public opinion was at variance with the architect, through lack of information about what is being attempted, the method by which it will be realised and the progress made.

A good example of an attempt to achieve these ends is to be seen at Coventry where an exhibition is being held in marquees erected in the bombed centre of the city. This exhibition shows how money is being spent, the rate of progress and the proportion of the rates to be used for rebuilding. There are also two models, one of the future layout of the bombed area, the other of an unorthodox idea for a shopping centre, the erection of which should prove an instructive experiment in urban layout. In the area surrounding the marquees, where the last of the bombed buildings is being dismantled, the new road layout is already being completed and a recently erected aluminium mast, bearing the city's crest and made by local craftsmen, marks the axis of the new shopping centre. The effect of this industry and foresight on the morale of the citizens can be easily imagined and the City Authorities and the MOTCP are to be congratulated on the way they have captured public interest and on the start they have made, in the face of all the difficulties, in rebuilding the city. The exhibition is a temporary affair, but it is proposed to replace it by a permanent display window, to be built as an extension of the temporary shops already in existence.

Coventry has set an inspiring example, and Stevenage, which has a great responsibility in fostering public interest in the New Towns, is also planning a permanent show window in a shop in the main street. But it is not only the major blitzed cities and the New Towns that should become exhibition-conscious : every urban or rural district council could well afford to exhibit a model of their proposals and a progress chart to show the public the developments envisaged, whether by private or public enterprise. A small permanent exhibition, whether in the town hall, village hall or even the porch of the parish church would do much to make the citizen aware of his local environment and jealous for his responsibilities. Not only should the new proposals be indicated, but, to avoid the despoiling that so frequently happens, historic

buildings, ancient monuments, views and beauty spots should be recorded.

Local authorities and their architects carry nowadays many of the responsibilities of the eighteenth century patron, with the added duty of taking the public into their confidence. For the civilized standard of design we associate with those days can be recaptured in a way fully consonant with the working of our democratic system if the aspirations of the planners and designers have the full support of the public. To this end real achievement, on however small a scale, as well as the larger picture of which it is a part, must be displayed constantly before the eyes of the public.

The Architects' Journal

9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1

Phone: Whitehall 0611

NOTES & TOPICS

THE WHITE PAPER

The latest Government reports on the economic state of the nation* merely serve to intensify the gloomy negative of the future of the building industry developed in the "Cripps Cuts." We now learn that it is expected that 138,000 workers in the industry and 15,000 workers in the buildings materials industry will be out of work in the next twelve months. The effect of this on urgent building requirements are already well known. Mr. Coppock has, however, given some interesting figures on its effect on operatives. On the basis of the earlier figures, he estimates that every building worker will have an average of five weeks' unemployment a year.

*

In the "short" review, illustrated in diagrams in black and red, it is shown that some ex-building workers may find jobs in other industries, but many workers are in the category of non-mobile, and the textile industry, requiring the greatest influx, is not likely to appeal to carpenters and bricklayers. Architects may also have to look for jobs in other less depressed industries. It was recently estimated, perhaps exaggeratedly, that three-quarters of the private practices in the country will have been extinguished or seriously reduced in efficiency by the time prosperity returns.

*

Formerly the assistant architect, usually in an official job, would complain through the ABT that the RIBA was concerned overmuch with the interests of the larger private architect. Now it is the independent members who are in need of the Institute's attention But in any campaign to save the principle of private practice for the good of the rosy-red future, strategy and tactics must be clear and well planned. For instance, any representation made to Parliament must show exactly how the services of PPs can be usefully employed during this austere period. My own suggestion is that they should be given work by the authorities in preparing schemes for the future mainly connected with town planning—satellite towns, housing estates, civic centres *inter al.*—particularly from that aspect of planning with which the architect should be largely concerned: the visual aspect.

*

Dynamic planning activity has begun to stagnate after a pretty energetic start. If we have any faith at all in our destiny, *now*, surely, is the time boldly to conceive its physical aspect in the mind and on the drawing board. But if the conceptions are to be imaginative and creative the individual *qua* individual must be given his head.

*

HOME PLANNERS, INC.

Attacked by *Architectural Forum* readers as "unethical"—(shades of Miss Thanatogenos!) — "cheap, and abominable" is the practice of an American outfit called Home Planners, Inc., which retails stock house plans to all comers at 5 dollars a set. A similar business has now, it appears, been set up in Australia, where a group of young Melbourne architects has established "A Small Homes Advisory Bureau." Here the prospective house-building couple — clutching their "dreamplan" drawn with an 8H pencil on wrapping paper—can consult a plan library, choose a set of plans and specification, and get as much architectural advice as they want all for the sum of £5 (Australian).

*

Like the editors of *Forum* — who mildly endorsed Home Planners, Inc.— the organizers of the Australian venture believe that this method of bouncing in on a field which is at present largely untrodden by architects may not be ideal, but is a good stop-gap device for raising the general standard of small house design, and the architect, they say, needn't grumble either. He doesn't lose in the short run (because he would normally never have been consulted anyway for this sort of job), and in the long run he gains because the more widely the advantages of good design are appreciated the better for all concerned, and particularly for him. The question as to whether a similar scheme would find success or approval in this country is, of course, an academic one, since in a sense it has already been thought up by MOW and MOH, who between them are likely to corner the market for the next few years.

NEW WINE IN NEW BOTTLES

The preview of "New Town" and "Your Very Good Health"—the first of the new COI coloured cartoons designed to put over current problems in a quickly comprehensible way—left me impressed but slightly bewildered. The

* White Paper: Economic Survey for 1948 Cmd. 7344, 1s.; and A Short Economic Survey, 1948, 3d.

This model of a proposed shopping precinct for Coventry has been on view at an exhibition held on a bombed site in the city's centre (see this week's leading article). The shops are planned on two floors with a spacious gallery access above and an arcade below. Large car parks surround the shopping centre, and service roads lead to the rear of the buildings. The central court includes public lavatories, a children's playground and, in the foreground of the picture above, a fountain and cascade.

technique and execution of these cartoon shorts, which have been invented, directed and designed by John Halas and Joy Batchelor, are excellent, but they suffer from their inevitable compression, and in " New Town " the exposition of planning problems, amenities and construction within ten minutes, although ingenious, was wearing. Having once worked on a planning film script, I know how complex and overburdened with detail such a film can become—" don't forget, old man," they said, " never show a woman hanging up nappies if she hasn't got a wedding ring on; it'll kill the home market."

*

But there are limits to what can be absorbed within a certain period, and since these films are intended essentially for the untutored public (they are to be distributed free to 3,500 cinemas), I was left wondering what the U.P.'s reaction was going to be. However, the proof of the celluloid is in the flicking, and though the problem of daylight standards isn't so full of movement as a duel of whips between a couple of *demi-mondaines*, it is at least no further from reality. COI and all concerned should be congratulated on the light and imaginative way they have handled their first two stars.

ARRIVAL AND DEPARTURE

As most readers may have heard, Enthoven is resigning his post as RIBA Librarian in June next in order to return to private practice. To leave the snugness of a book-lined room for the rigours of a White Papered world may seem a harsh exchange, but the move shows commendable optimism for the future as well as nostalgia for the smell of bricks and mortar. He will have the satisfaction of knowing that, after two difficult years of transition, he leaves the library for his successor back in its old home and restored to its pre-war efficiency.

*

To my farewell to Enthoven I would like to add my welcome to Paul Reilly, who is to be the new Public Relations Officer to CID. This is much more than an ordinary PRO job, since the CID is in part itself a public relations concern. Reilly will be in charge of everything that directly concerns the public (as distinct from the CID's work inside industry) — exhibitions, education in design, and so on—and is obviously a first-rate appointment. He will have a hard test when the 1951 exhibition gets going.

ASTRAGAL

LETTERS

G. Metcalf

John Swarbrick, F.R.I.B.A.

Horace H. Laws, A.R.I.B.A.

The State of Architecture

SIR,—May I have leave to comment on Astragal's observations anent the Ministry of Agriculture's development of building components?

First, it appears to me that the RIBA, *via* those of its members distributed through the ministerial departments concerned, has, in reality, exerted considerable influence on the Ministry's programme.

Secondly, it would not be idle to contemplate the kind of experience essential in planning for the farmer. My experience during a total of fifteen years has always been against the background of all-round neglect and inadequacy. One's ideas, therefore, have developed from what can only be regarded as hard and unpleasant experience: from working holdings which, because of neglect over a long period and impractical physical planning, are examples of how *not* to plan.

Some of the conditions under which our livestock live at present, and under which we have to live and work in order to farm for them, can only be described as primitive, extremely trying and very costly. Eleven-hundred feet altitude on the eastern bastion of the Cambrian Mountains is no picnic in this weather.

Nothing in one's more orthodox and academic professional experience prepared one for the trials one has endured in farming. The result, however, if I may say so, has been a real insight into the problems of the farmer. One now realises that ideas, however well and competent they appear on the drawing-board, will not necessarily answer the requirements of the farmer. The element of nature in all her moods (and most of them are trying, rather than helpful) has to be experienced to be understood. Only thus can one hope to plan well for the man whose whole life is spent wrestling for a livelihood against the diverse trials with which Dame Nature visits him.

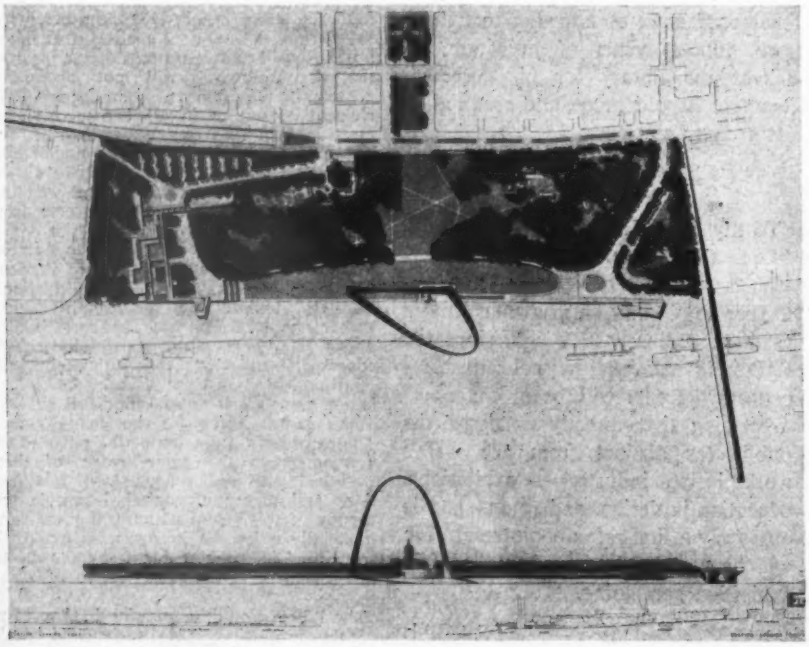
In all humility I would suggest to Astragal that it is possible the Ministry of Agriculture, Milk Marketing Board, National Farmers' Union and the Central Landowners' Association are the very bodies, above all others, which should have been concerned—and that, very intimately.

Farming is a job very much on its own; it is not, as so many non-farming folk think, a mug's game: a job for the mentally dull. The record of failure among the ranks of the newcomers to the game, many of them equipped with sound educational qualifications and plenty of capital, is ample testimony of this. And planning for the farm is equally a job on its own: an extremely specialised job, calling for a sound working knowledge of farming as well as of architecture.

The RIBA should be grateful that the name of the profession is in such good hands,

AN AMERICAN MEMORIAL: WINNING DESIGN

A competition has been held in America for a monument to commemorate the westward expansion of the nation. A prize of $40,000 was awarded to Eero Saarinen and Associates for the winning design illustrated here. The design has, as a principal feature, a stainless steel parabolic arch 590 ft. high. This arch, called the Gateway to the West, stands on the levee and frames the old courthouse when seen from the east. A funicular inside the arch ascends to an observation corridor at the top. An 80-acre park is to be laid out along the Mississipi River, with a restaurant, an architectural and historic museum, and a replica of a frontier village. The design also includes seven sculptural features commemorating such events as the Louisiana Purchase of 1803, the Lewis and Clark expedition, the pioneer movement and the early fur trading industry. Plans for the memorial were started in 1936 as a joint project of the city of St. Louis and the United States Department of the Interior. Work has already started with the clearing of existing low-standard housing, and it is expected the cost will run to more than $21,000,000. Above, perspective of the park lay-out looking towards the Mississipi. Below, plan and elevation from the east.



rather than complaining that such exclusive, highly specialised knowledge has been employed.

Thirdly, why, in questions so vitally affecting the economic life and survival of the community, has the RIBA allowed itself to be forestalled? Surely everyone concerned would have been overjoyed to acclaim the initiative of the Institute, if it had been expressed? The Ministry of Agriculture, *e.g.*, has demonstrated beyond all question its desire and ability to co-operate with a wide cross-section of interested parties. It is inconceivable that, if asked, it would have refused the RIBA the assistance of all its resources.

Dare one suggest that, if it is true, as Astragal says, " . . . the architect's real place in the community seems to be little better appreciated than it used to be," it is not entirely the fault of the community at large?

Llandrindod Wells G. METCALF

National Amenities Council

SIR,—In *The Times* of May 13, 1946, there appeared a letter from the late Prof. Sir Charles Reilly, advocating the formation of a society, described as a National Amenities Council. It was explained that one of the objects of the new organisation was to bring together architects, engineers, members of the medical profession and scientists, on equal terms, for the purpose of considering every human need and every form of amenity essential to promote health and mental efficiency in connection with building development. Further particulars subsequently appeared in THE ARCHITECTS' JOURNAL. Although circumstances entirely beyond human control prevented Sir Charles from initiating an active campaign, as he would have wished, a very considerable amount of useful work was done by developing the original ideas and by considering the application of the principles involved to a variety of practical problems. To the last, Sir Charles expressed his earnest hope that the National Amenities Council would be organised, on such lines as he conceived it should be, in order that it might render important public service in the immediate future. The work of the National Amenities Council is, I am assured, to be resumed, and I am desired to invite all who are interested to communicate with me, in order that some steps may be taken, without delay, with a view to carrying on the work that he so courageously initiated.

JOHN SWARBRICK,
Hon. Secretary (pro tem.).
34, Gt. Ormond Street, W.C.1.

A Reader's Query

SIR,—I expect you will be snowed under with replies to Mr. John E. Collins's query in respect of his " ivory disc about 2 in. in diameter." It is, in fact, the " ivory " which is given to every student of the Royal Academy schools and by whom it is much prized. During a student's term of attendance at the school its presentation at the turnstile gains him free admission to any show at the Royal Academy and a free copy of the catalogue.

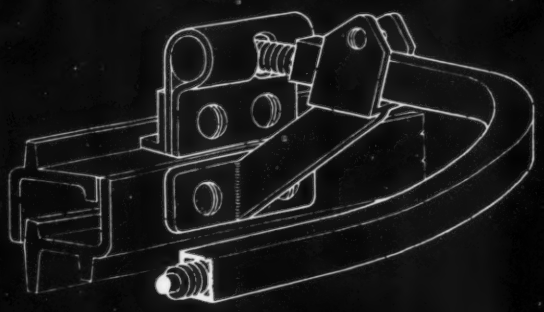
It is engraved, first, on the student's admission to the school for the first period of three years and again for the second period of two years, making a five years' studentship.

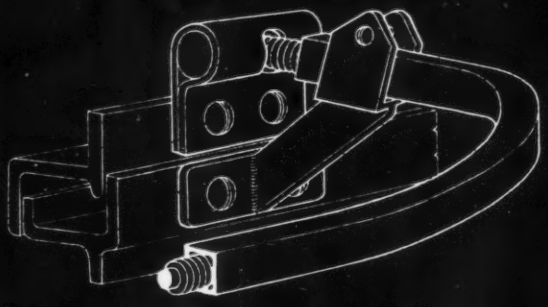
I speak from experience, as my " ivory " is engraved:—

Admitted, 1911.
Admitted second period, 1914.

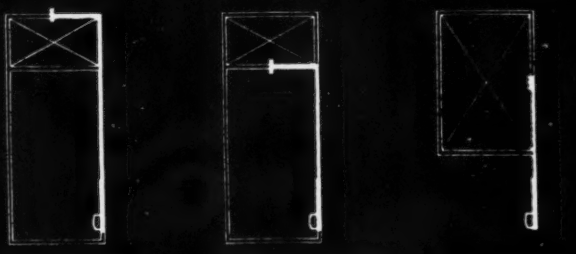
War service from 1915-1919, unfortunately, prevented me from taking full advantage of my second chance.

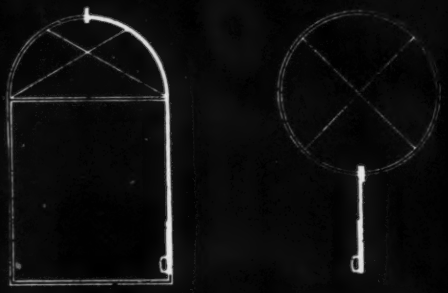
Maidstone HORACE H. LAWS



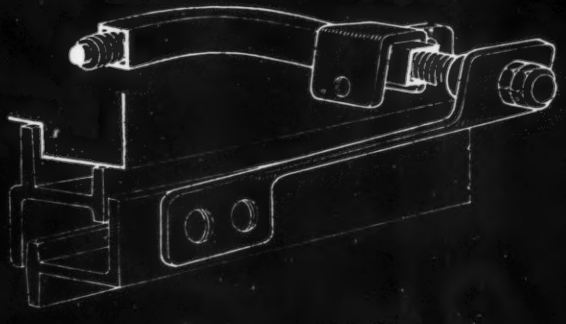


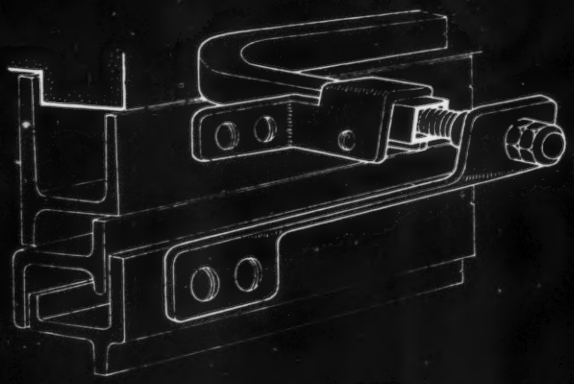
PUSH-OUT TYPE GEAR FOR TOP HUNG, HORIZONTAL CENTRE HUNG, SIDE HUNG AND VERTICAL PIVOT HUNG VENTS.



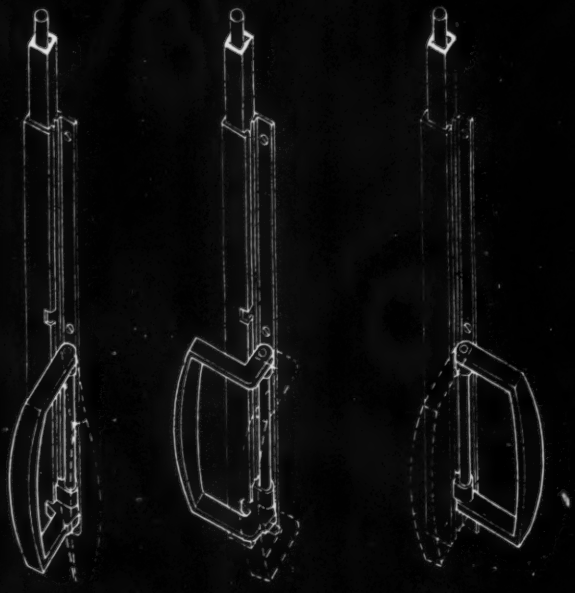


DIAGRAMS SHOWING ARRANGEMENT OF CONTROLS.





PUSH-IN TYPE GEAR FOR BOTTOM HUNG AND HORIZONTAL CENTRE HUNG VENTS.



TYPES OF OPERATING HANDLES AND SLIDES. (shown in locked positions)

·ARENS· WINDOW CONTROLS: SINGLE UNIT TYPE.

Manufacturer: Arens Controls Limited.

24.S1 ·ARENS· SYSTEM OF WINDOW CONTROL

This Sheet describes the single unit type Arens system of window control. The control is designed to transmit a push or pull effort to fanlights and ventilators from a distant point of operation without the use of cords or levers. Special brackets are used at the ventilator to suit the method of hanging and glazing. Subsequent Sheets will describe units for controlling two or more ventilators, and for the operation of dampers and louvres in air-conditioning and boiler plants, etc.

Construction

Control unit : The control unit consists of a tightly compressed galvanised inner spring coiled round a tinned steel cable. This moving inner member is housed in a $\frac{7}{16}$-in. square outer casing which may be bent to any profile (minimum radius $1\frac{3}{8}$ in.) and is connected to the ventilator bracket by means of a cadmium-plated steel trunnion, allowing the projecting semi-rigid inner member to follow the arc described by the ventilator as it opens.

Operating gear : The method of operation is by means of a bronzed bow handle running in a notched slide fixed to the window frame or surround. Three types of handle are available—standard, flush and self-locking.

Application

The diagrams show typical applications of the controls to single ventilators.

Fixing

The control tubing is fixed either to the metal window frame, sub-frame or surround by clips and guides and the brackets and tube supports are screwed to the ventilator frame. The slide is screwed on to any surface at the point of operation. A special slide is available for fixing to narrow frames. The whole of the control tubing and operating slide may be concealed behind panelling or plaster work, or the window frame itself may be used to conceal the mechanism.

Finish

The standard finish for the outer casing is unpolished brass or aluminium alloy ; the operating handle and slide is bronzed brass or light alloy. Other finishes are also available.

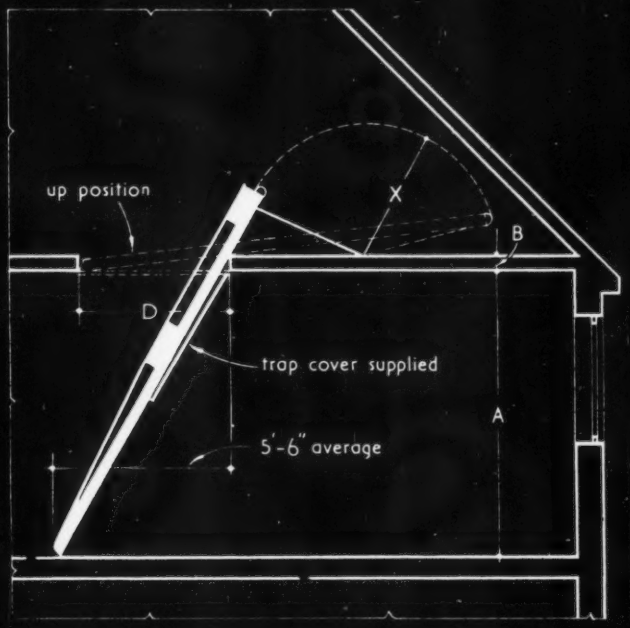
Orders

The following information should accompany orders for Arens Controls :—

Method of hanging, *i.e.*, top hung, bottom hung, horizontal centre hung, side hung or vertical pivot hung.
Elevations, stating whether external or internal.
Relevant large-scale sections through window and surrounding work showing depth of reveal.
Height from floor or operating level to sill or any other stated datum.
Position and details of all obstructions such as cockspur fasteners and casement stays—where these occur possible alternative runs to avoid them.
Check quantity—total number of ventilators to be operated.

Compiled from information supplied by :

Arens Controls, Limited.
Address : Tunstall Road, East Croydon, Surrey.
Telephone : Addiscombe 3051-4.
Telegrams : Unicontrol, Phone, London.

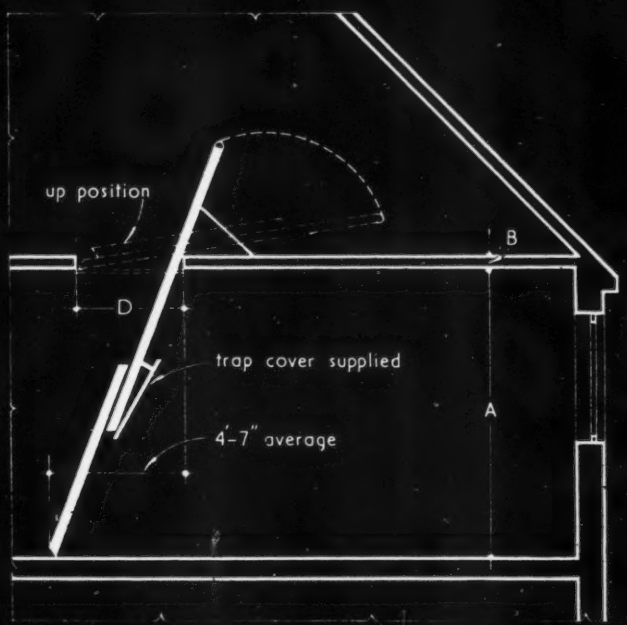


MODEL 3S4RS SINGLE SECTION SPRING BALANCED TYPE.
width of this model 1'-6" (min. width of opening 2'-0")

A	B	D	X
8'-0"	5"	4'-5"	4'-0"
	6"	4'-6¼"	4'-0"
	7"	4'-7½"	4'-0"
	8"	4'-8¾"	4'-0"
8'-3"	5"	4'-8½"	4'-0"
	6"	4'-9¾"	4'-0"
	7"	4'-11"	4'-0"
	8"	5'-0¼"	4'-0"
8'-6"	5"	4'-8"	4'-3"
	6"	4'-9¼"	4'-3"
	7"	4'-10½"	4'-3"
	8"	4'-11¾"	4'-3"

A	B	D	X
8'-9"	5"	4'-11½"	4'-3"
	6"	5'-0¾"	4'-3"
	7"	5'-2"	4'-3"
	8"	5'-3¼"	4'-3"
9'-0"	5"	4'-9¼"	4'-6"
	6"	4'-10½"	4'-6"
	7"	4'-11¾"	4'-6"
	8"	5'-1"	4'-6"
9'-3"	5"	5'-1"	4'-6"
	6"	5'-2¼"	4'-6"
	7"	5'-3½"	4'-6"
	8"	5'-4¾"	4'-6"

TABLES GIVING LENGTH OF TRAP OPENING REQUIRED FOR VARYING DIMENSIONS OF A AND B.



MODEL SD4RS DOUBLE SECTION SPRING BALANCED TYPE.
lower section is released by catch to slide over upper section

A	B	D	
8'-0"	5"	3'-0"	2'-4"
	6"	3'-1"	2'-5"
	7"	3'-2"	2'-6"
	8"	3'-3"	2'-7"
8'-3"	5"	3'-3"	2'-7"
	6"	3'-4"	2'-8"
	7"	3'-5"	2'-9"
	8"	3'-6"	2'-10"
8'-6"	5"	3'-6"	2'-10"
	6"	3'-7"	2'-11"
	7"	3'-8"	3'-0"
	8"	3'-9"	3'-1"

A	B	D	
8'-9"	5"	3'-9"	3'-1"
	6"	3'-10"	3'-2"
	7"	3'-11"	3'-3"
	8"	4'-0"	3'-4"
9'-0"	5"	4'-0"	3'-4"
	6"	4'-1"	3'-5"
	7"	4'-2"	3'-6"
	8"	4'-3"	3'-7"
9'-3"	5"	4'-3"	3'-7"
	6"	4'-4"	3'-8"
	7"	4'-5"	3'-9"
	8"	4'-6"	3'-10"

TABLES GIVING LENGTH OF TRAP OPENING REQUIRED FOR VARYING DIMENSIONS OF A AND B.

DISAPPEARING LOFT LADDERS: 2. SPRING BALANCED TYPE. Manufacturer: Loft Ladders Ltd.

26.F2 LOFT LADDERS: 2. SPRING-BALANCED TYPE

This Sheet is the second of a series dealing with loft ladders. The drawings give details of model 3S4RS, single section spring-balanced type and model SD4RS, double section spring-balanced type. Sheet 26.F1 describes model 2S4RS, single section spring-balanced type and model DLA4RS, double section spring-balanced type.
Further Sheets in this series will deal with other types of loft ladders. These include patent fire-exit ladders—to give direct access either to roof or to the floor below ; disappearing loft staircases with solid treads, risers and balusters ; trellis ladders ; single section or extending general purpose ladders ; rigid and folding ladders and steps of various types. All types are purpose made, *i.e.*, suitable for individual positions only.

Operation

Model 3S4RS : The ladder is closed by lifting it in the direction of its long axis. It is not necessary to swing the ladder as the radius rods automatically do this. When the foot of the ladder is just past the lower edge of the trap door a detachable rod, which is supplied, is inserted into the slot at the bottom of the door. This is pushed gently upwards and the door eased into position. The ladder is lowered by reversing the operation.

Model SD4RS : The ladder is closed by sliding the lower section upwards until it engages in the locking device on the upper section. The whole is then pushed into the closed position as described above. The ladder is lowered by reversing the operation—the weight of the lower section being taken by one hand while the locking device is released.

Standard Sizes

The ladders illustrated on the face of this Sheet are constructed to conform to the following standard units :

Model 3S4RS : Width 1 ft. 6 in., treads 4 in., rise 8 in., inclination 60°, trap width variable—2 ft. to 2 ft. 9 in.

Model SD4RS : Width 1 ft. 4 in., treads 4 in., rise 8 in., inclination 68½°, trap width variable—1 ft. 9 in. to 2 ft. 9 in.

Construction

Ladder : The types described on this Sheet are constructed mainly of aluminium alloy and are made on the lattice principle. Other types may also be supplied in steel or timber.

At the time of publication of this Sheet a Certificate of Essentiality signed by the District Medical Officer of Health or the Borough Engineer is required before timber ladders can be supplied.

Trap cover : This is constructed with aluminium alloy panel in timber frame or it may be prepared for glazing, perspex, or flush panelling.

Balancing unit : The unit consists of a series of helical springs in compression contained within a tube.

Trap Opening

This should be provided with timber linings with 2 in. by ½ in. stops 1 in. up from the ceiling face, unless rebated. Where the trap opening exceeds 2 ft. 9 in. in width, it is advisable to form a separate side panel, framed and finished as above, hinged to the side of the trap opening and held in position by two barrel bolts. This makes it unnecessary to bring down a trap cover the full width of the opening on the back of the ladder which would obstruct the landing below when the ladder is in use. The hinged panel need be opened only to allow passage of bulky articles into the loft.

Fixing

The ladders are fixed by the makers where possible, or if not, fixing diagrams are supplied.

Finish

The aluminium alloy is left in its natural state.

Orders

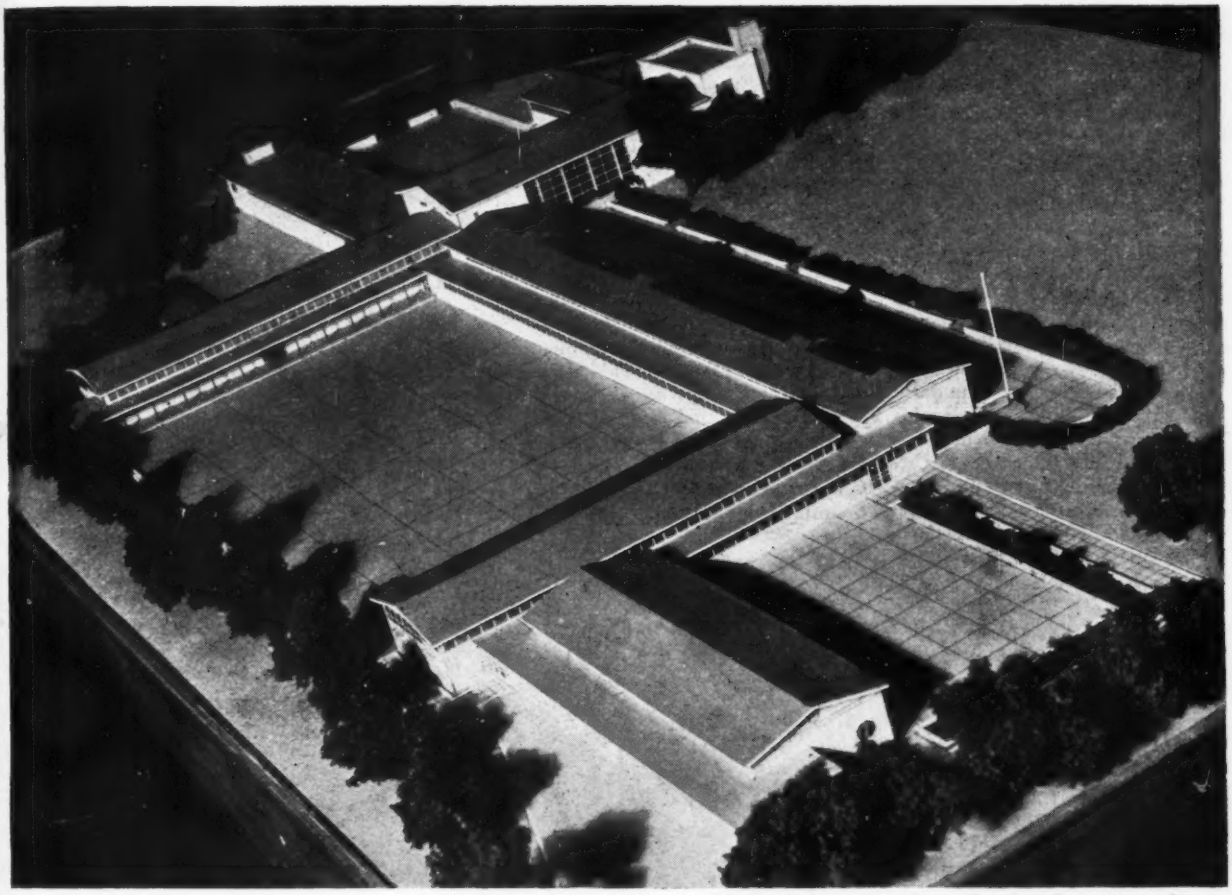
The following dimensions should be sent with an order and preferably be accompanied by a dimensioned drawing giving information of adjacent struts, bearers, pipes, etc.
Floor to ceiling height below trap.
Overall thickness of ceiling.
Floor to ridge height in loft.
Length of trap opening between linings or rebated surfaces.
Width of trap opening between linings or rebated surfaces.
Unobstructed floor space available for ladder when in " up " position.
Minimum headroom over opening.

Prices

Typical installations at present cost from £13 10s. 0d. upwards, excluding fitting and fixing.

Compiled from information supplied by :

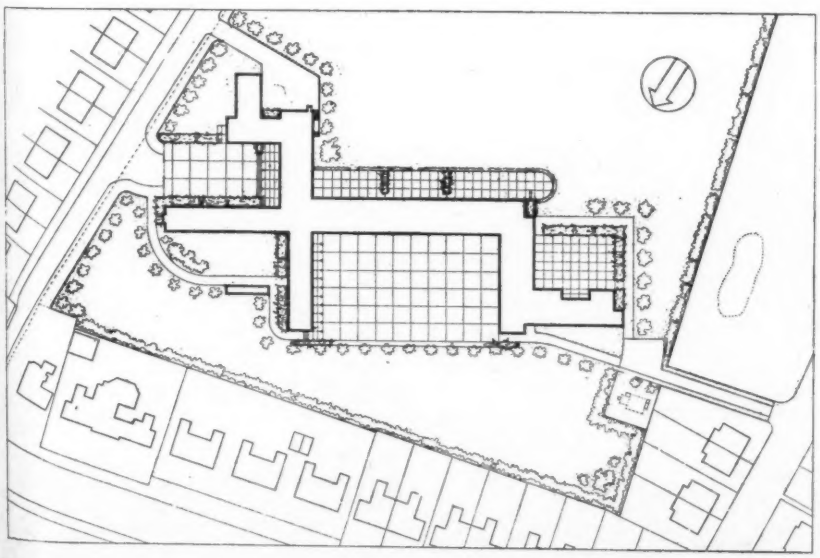
Loft Ladders Limited.
Address : Broadway Works, Bromley, Kent.
Telephone : Ravensbourne 2624.



Model of the proposed school, taken from the north-west.

SCHOOL AT LEA, LANCS.

DESIGNED BY T. S. TAIT, OF SIR JOHN BURNET, TAIT AND PARTNERS



SITE PLAN

GENERAL.—Proposed infants' and junior school for 300 pupils at Lea, near Preston, for the Lancashire County Council. The central axis of the building consists of six junior classrooms running east to west, giving a southern exposure to the classrooms, the access corridor being on the north side. The administration block is an extension of the main axis, the two lavatory blocks being sited at right angles and at opposite ends of the north side of the main block. The assembly hall, dining room and kitchen blocks are positioned on the southern side of the main axis. This gives easy access from the

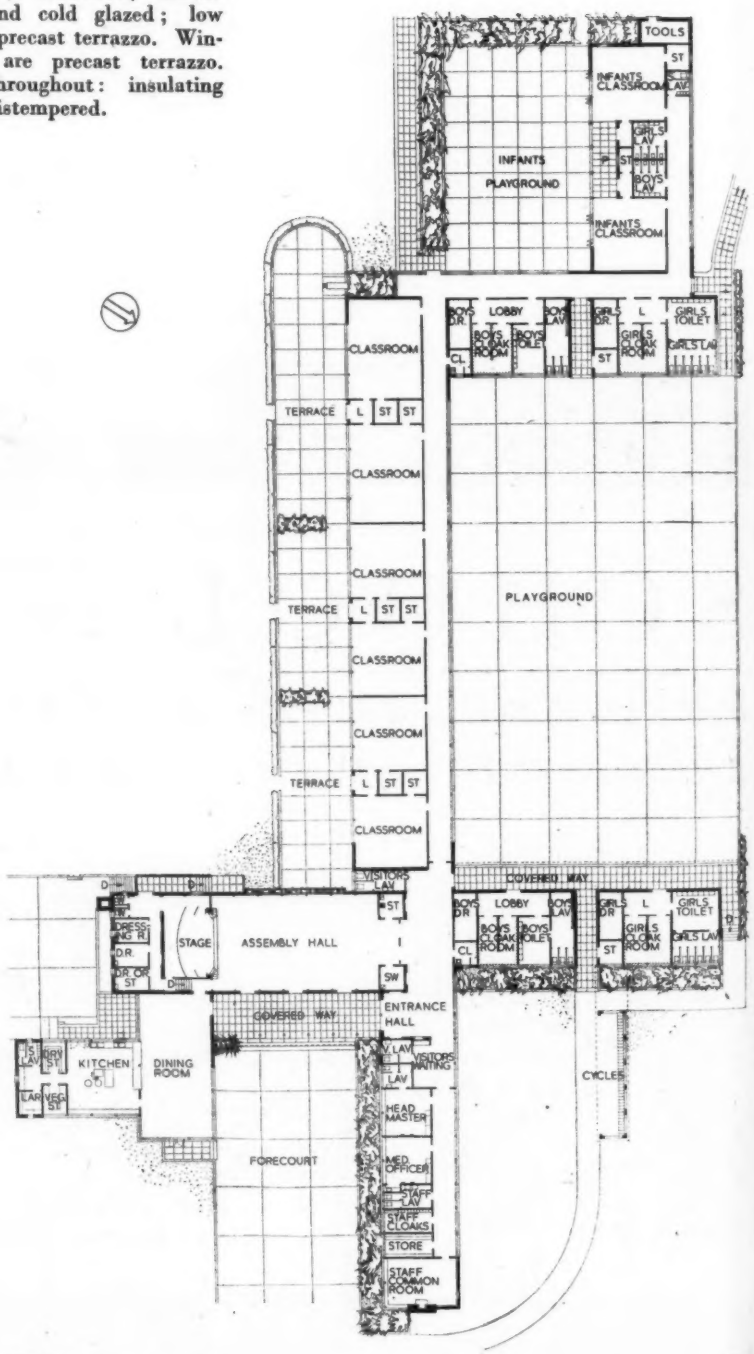
SCHOOL AT LEA, LANCASHIRE

road. The remaining two infants' classrooms being slightly recessed from the main axis give more seclusion to this section.

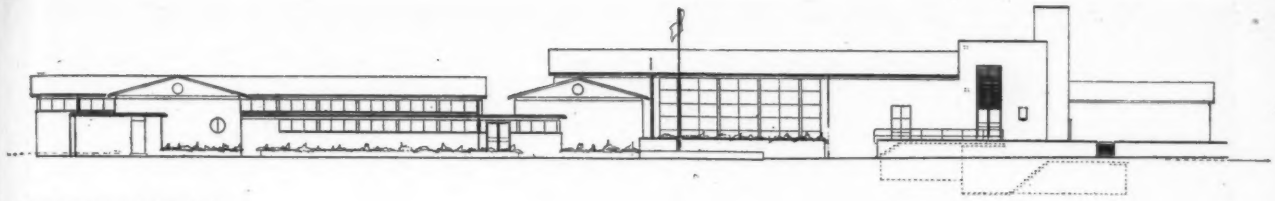
SITE.—Approximately six acres and for building purposes flat. The north and west boundaries are adjacent to domestic property; the east boundary is the main access road and the south boundary open meadowland. There is a secondary access to the site through the western boundary. Daylight factors for the classrooms have been carefully studied and it has been decided to have top lighting with a laylight at ceiling level designed to diffuse the light. This top light is in addition to the clerestory windows which will ensure good cross ventilation.

CONSTRUCTION.—Light rolled steel stanchions and roof trusses on an 8 ft. 3 in. grid are proposed for the main fabric. Particular care has been taken in detailing the steelwork as it is intended to obtain the maximum expression to the construction by frankly exposing the steel and all exposed joints are welded to ensure a neat appearance. The roof is asbestos troughing spanning between the trusses. Pitched roofs are finished with insulation boarding and copper sheeting, flat roofs with built-up bitumen roofing. External cladding is metal windows and cavity brick walls, and internal partitions are brick of concrete type, polished to a smooth surface to give a finish. Floors and foundations are reinforced concrete and include a duct system under floors for services.

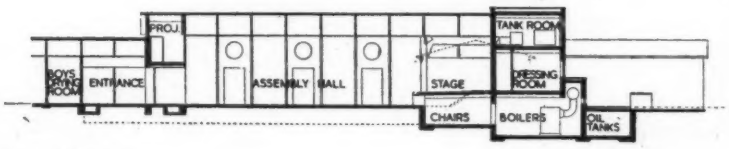
INTERNAL FINISH.—Floors: classroom and corridors asphalt tile and korkoid; assembly hall and dining room, wood block; lavatories and cloakrooms, terrazzo tiles; kitchen and staff lavatories, concrete tiles; administration block, korkoid. Walls: generally polished bricks except dining room and administration block, which are plaster; lavatories, cement screeded and cold glazed; low partitions, precast terrazzo. Window cills are precast terrazzo. Ceilings throughout: insulating boarding distempered.



PLAN [Scale: $\frac{1}{16}$" = 1' 0"]



WEST ELEVATION

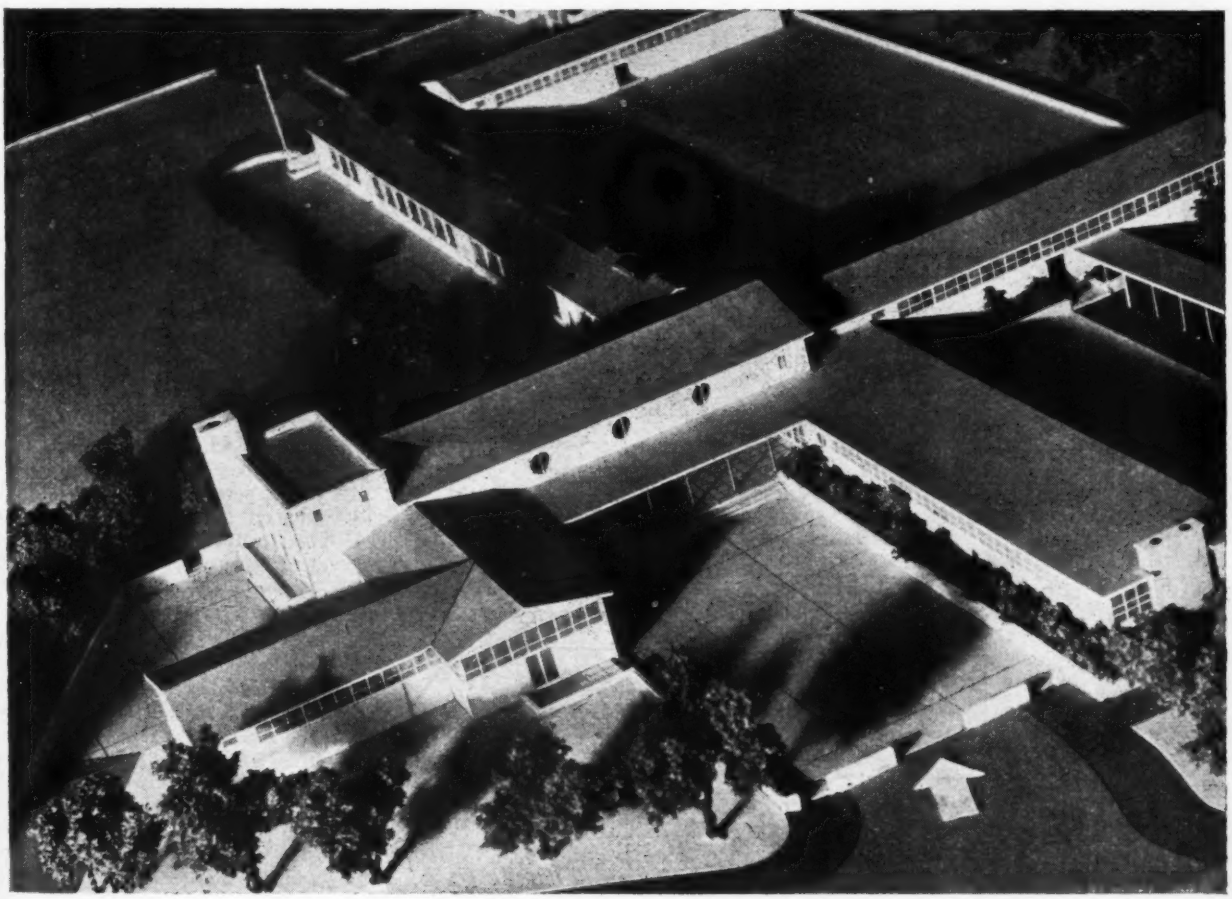


[Scale : $\frac{1}{16}$" = 1' 0"]

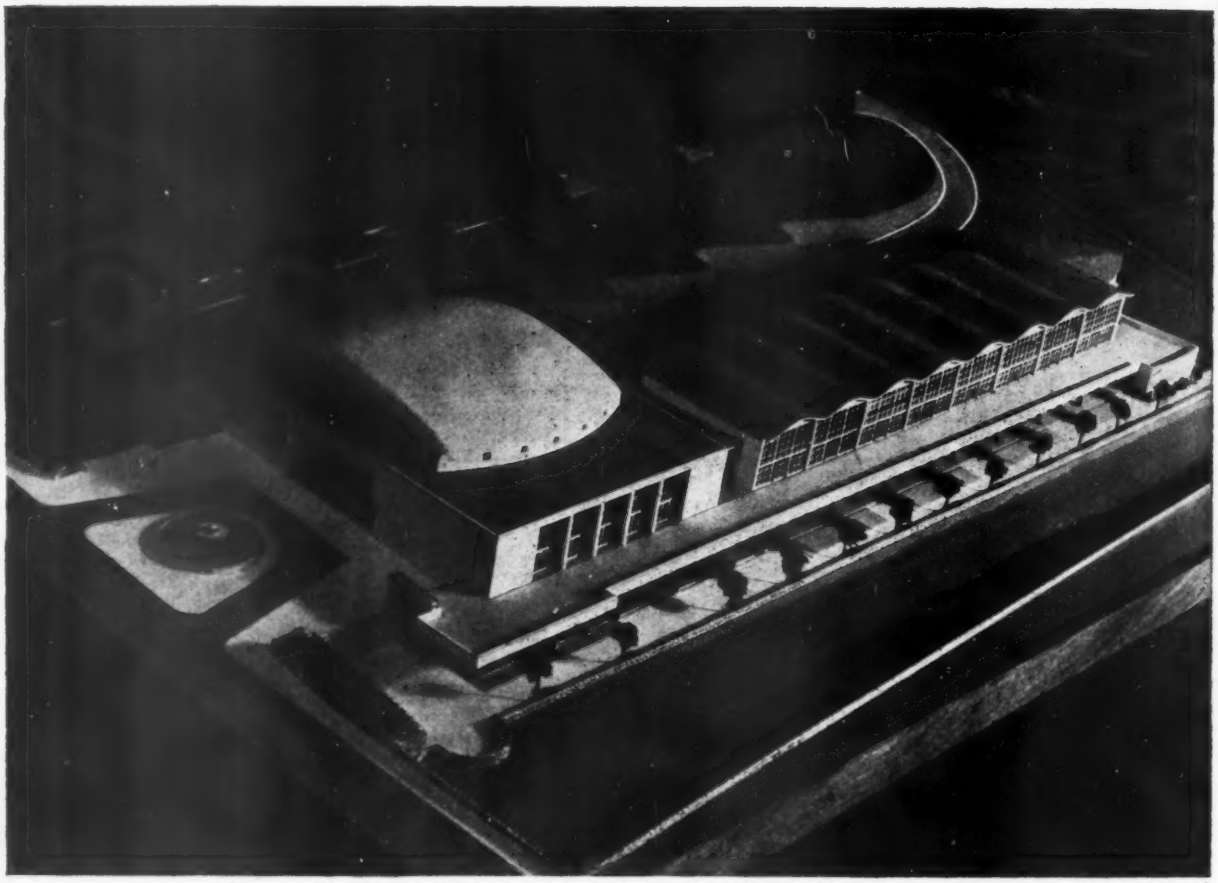
SECTION THROUGH ASSEMBLY HALL

SECTION THROUGH CLASSROOM

The model from the east.



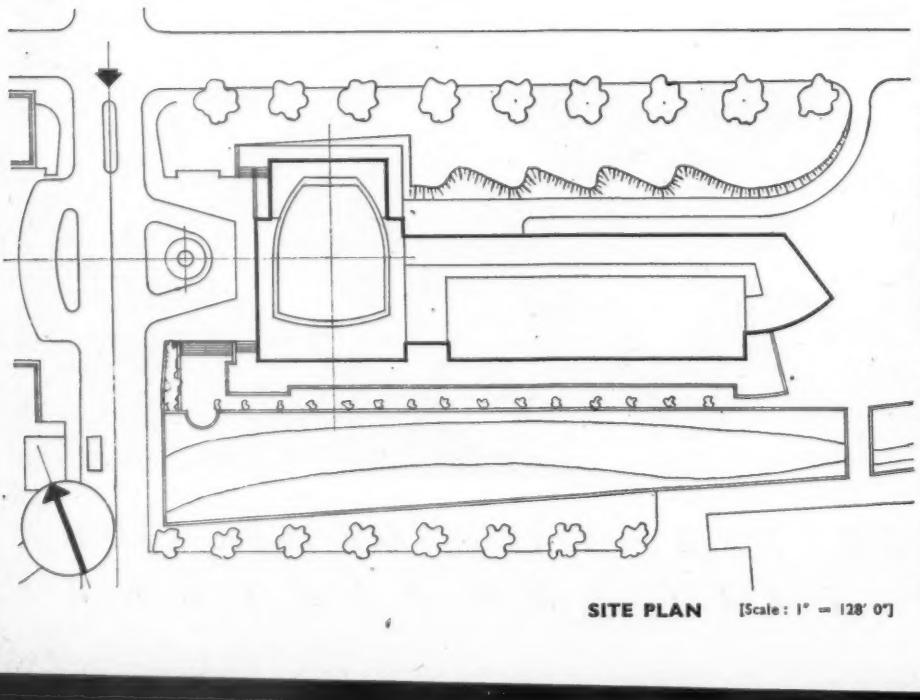
DESIGNED BY T. S. TAIT, OF SIR JOHN BURNET, TAIT AND PARTNERS



The model from the west.

CAFETERIA FOR A SCOTTISH FACTORY

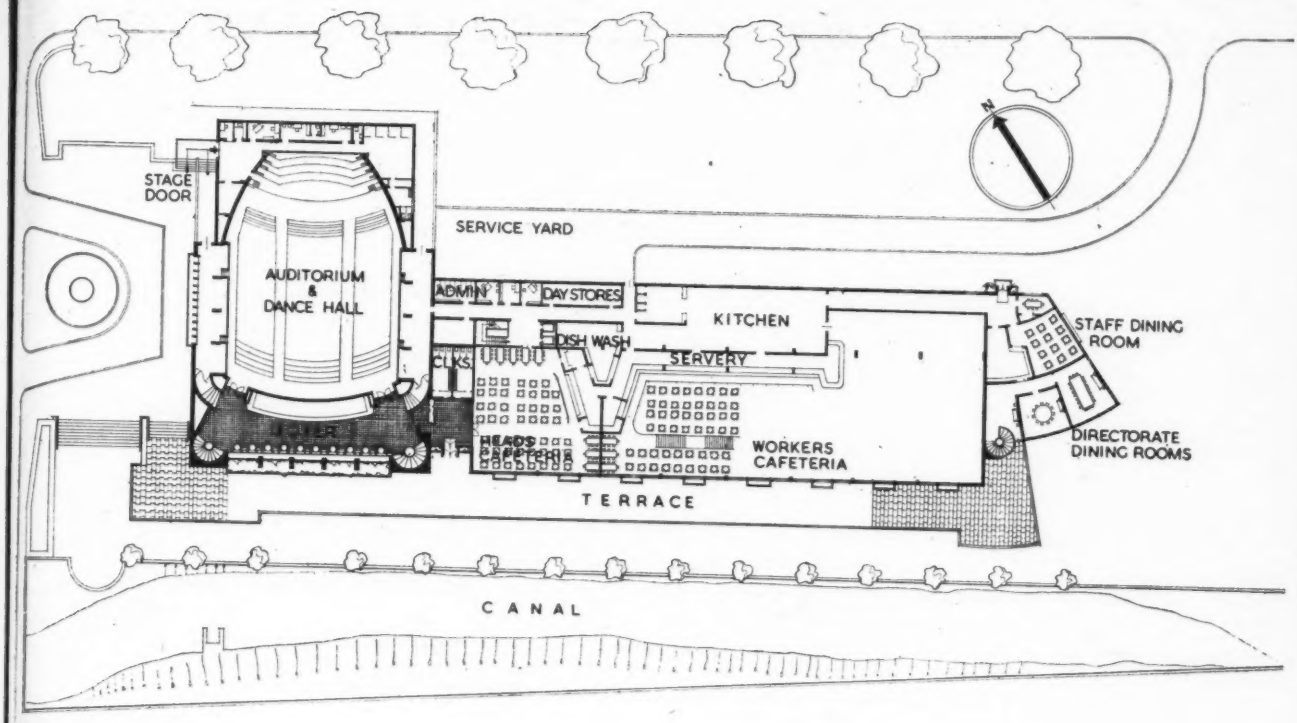
BY GORDON TAIT, OF SIR JOHN BURNET, TAIT & PARTNERS



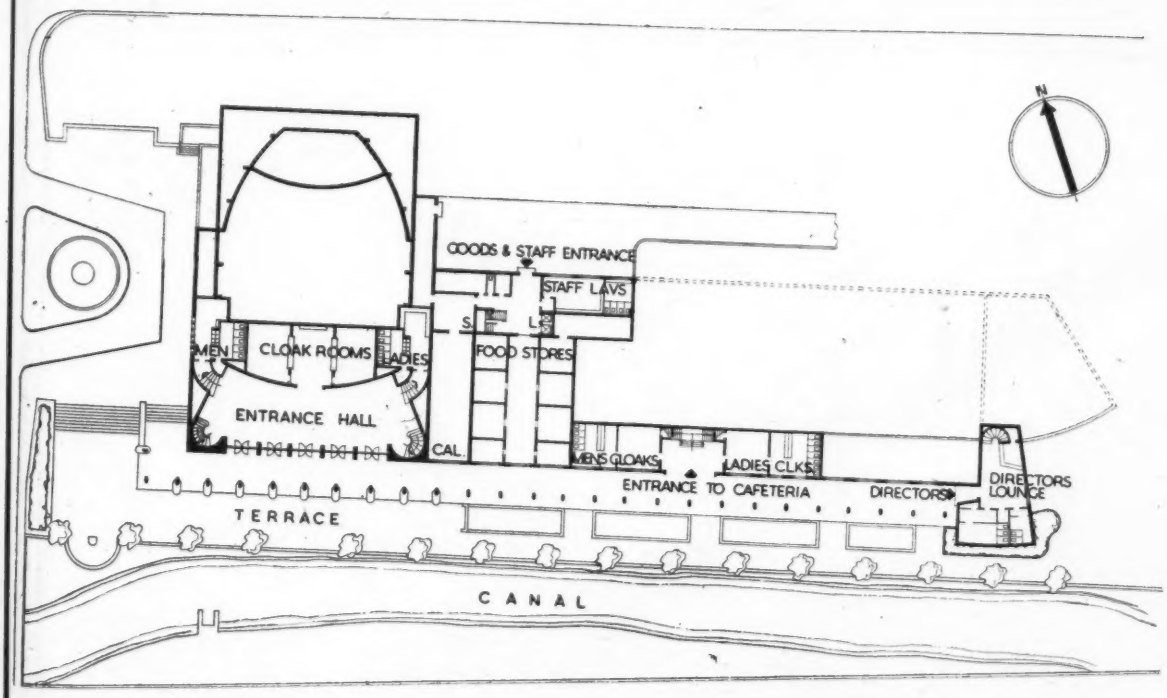
SITE PLAN [Scale: 1" = 128' 0"]

GENERAL.—The cafeteria is required to seat a total number of 1,250 persons at one sitting. The concert hall is to be used for concerts, cinema shows and dancing and is to accommodate 1,200 persons. Other recreational facilities will be available elsewhere.

SITE.—The cafeteria faces south and is planned for maximum frontage to the river. The entrance to the concert hall is governed by the necessity of retaining for some time a store building to the west and its extent to the north of the site is limited by the staff cottages which must remain until alternative accommodation can be provided. Another determining factor is easy access from the entrance gates so that people (other than employees) attending evening performances can reach the concert hall without passing through the works.



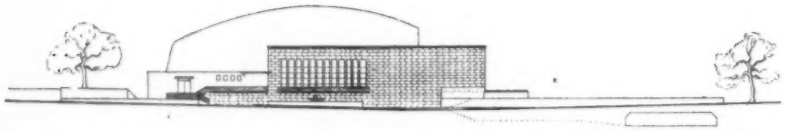
GROUND FLOOR PLAN



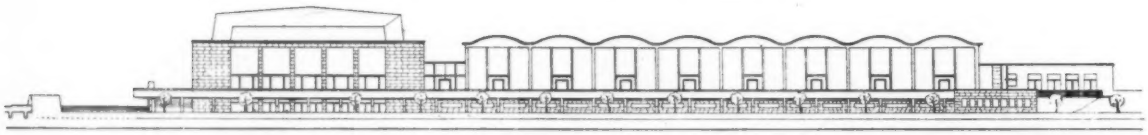
LOWER GROUND FLOOR PLAN [Scale : $\frac{1}{16}$" = 1' 0"]

PLAN.—The factory buildings lie across the river to the south of the cafeteria and it was desired that employees should be under cover while queuing for meals during inclement weather. To this end the circulation is restricted so that employees can approach from one direction only and are directed under the upper terrace to the cafeteria entrance. From here the main cafeteria is approached past the cloakrooms and up the staircase which leads to the interior of the workers' cafeteria, and thence employees are routed past the self service counters to the cash desk. The heads' cafeteria is approached direct from the upper terrace as it was thought that the smaller number would not necessitate outside queuing. This cafeteria is also available for serving refreshments during dances.

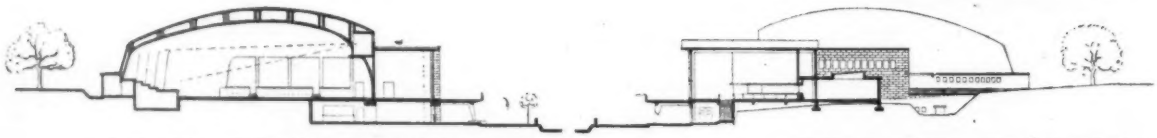
CAFETERIA FOR A SCOTTISH FACTORY



WEST ELEVATION



SOUTH ELEVATION



SECTION THROUGH CONCERT HALL

SECTION THROUGH CAFETERIA

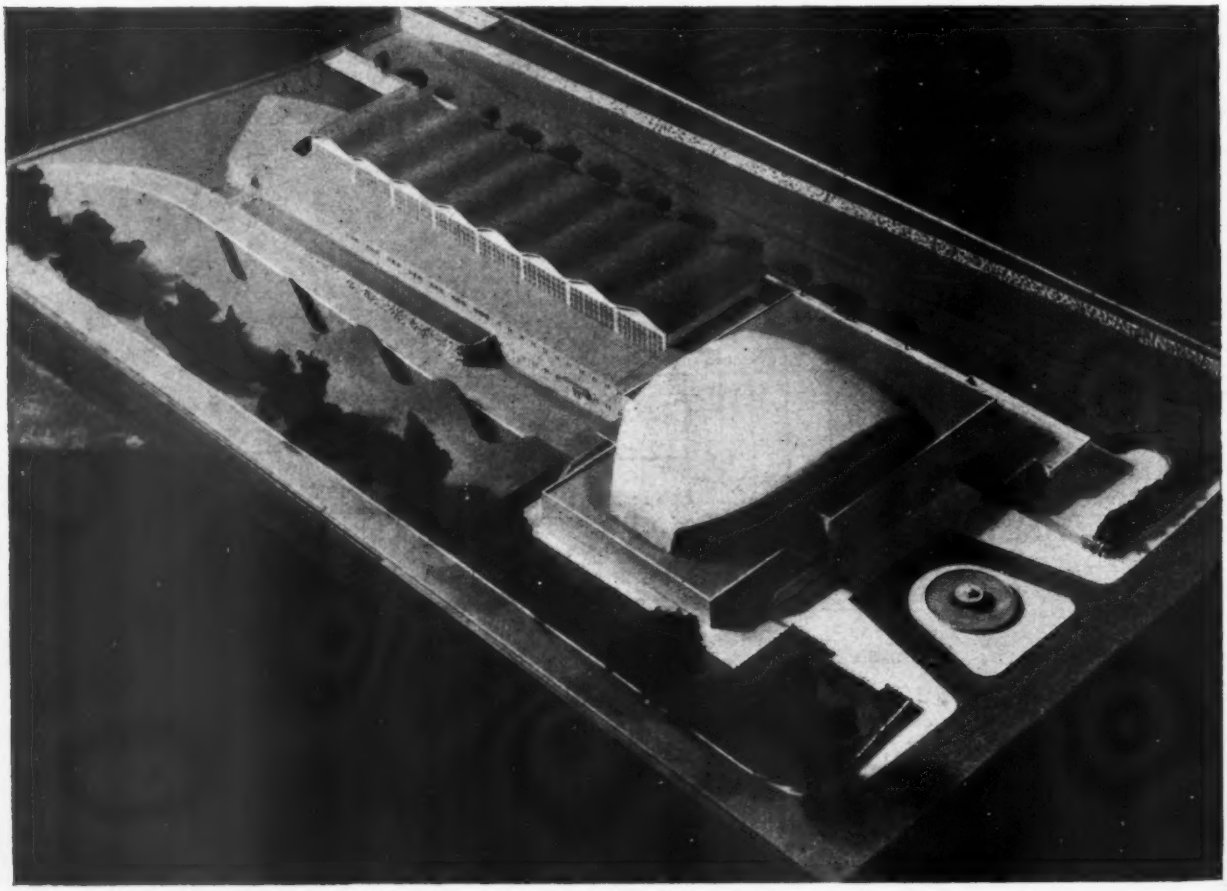
[Scale : $\frac{1}{50}$" = 1' 0"]

For dancing, boxing, etc., and to avoid the inconvenience of removable staging, part of the floor is level and the remainder rises in steps wide enough to accommodate a table or two rows of seats.

All stores are at the lower level reached by the service road on the north of the building.

The dish washing area is accessible to both the workers' and the heads' cafeteria.

Model from the north



DESIGNED BY GORDON TAIT, OF SIR JOHN BURNET, TAIT AND PARTNERS

SOCIETIES AND INSTITUTIONS

Speeches and lectures delivered before societies as well as reports of their activities, are dealt with under this title, which includes professional societies, trade associations and government departments. To save space they are represented by their initials—see front cover. Lectures cannot usually be reported in full, but the extracts given are in the speaker's own words.

IT

J. W. S. Brancker

February 16. In the Lecture Theatre of the IEE, Savoy Place, W.C.2. Brancker Memorial Lecture: AIRPORT BUILDINGS. The President of the Institute of Transport, Mr. T. W. Royal, was in the chair.

J. W. S. Brancker: I would like to make it clear that this paper deals only with a part of the very broad subject of Airport Buildings. The complicated questions of technical accommodation, such as hangars, control towers, and such like, have been omitted, and I have concentrated on the very prosaic problems involved in the design of buildings used for handling passengers and cargo. Although this may appear a somewhat dull subject, it is one which is, fundamentally, tremendously important, and one which has received rather less than its fair share of practical study. It would be wise to deal with it vigorously for the following reasons. The whole object of air transport is the carriage of load, and it is obviously essential, therefore, that this load should receive primary consideration. High block to block speeds will be completely nullified if delays occur in terminal handling. The load carried by air is not essentially interested in the speed at which the aircraft flies, but rather in the speed at which it can be moved from its point of origin to its ultimate destination.

EARLY SOLUTIONS

While there were certain exceptions, the tendency was always to model such buildings either on their external appearance, or on the technical requirements; the traffic itself was a secondary consideration. The majority in fact clustered round a central control tower, which was really about as logical as trying to construct a London railway terminal round the main signal box. Some notable examples of pre-war efforts, however, come to mind. Perhaps the most impressive from the point of view of pure size was Templehof, which, however, was not only intended as a departure station, but also as the main offices for DLH and a monument to German aviation. Apart from the immense size of the buildings, they were interesting chiefly for the idea of protecting passengers from the weather while embarking and disembarking, by means of a vast overhanging cantilever roof; a very expensive solution to this problem. A new terminal building for Le Bourget was also completed in 1938. This again was a very large building with a most impressive external appearance, but very little attempt was made to provide for an adequate flow of traffic. Other examples of pre-war terminal buildings include the Indian series. I say series because the buildings at Karachi, Delhi and Calcutta were all designed on much the same principle, but varying in size. They were based on the principle of segregating internal and external traffic, so that internal traffic could be handled without passing through the customs and immigration formalities required for foreign traffic. The idea was sound, but the design permitted no steady flow of traffic, and, being circular, expansion was difficult. One of the most notable examples of terminal planning was the airport at Washington. This was probably the best designed and most intelligently devised terminal block in existence at the beginning of the war. While it made full use of separate entrances and exits (or ramps) for different services, it was specifically built to cope with domestic routes only, and did not therefore incorporate any facilities for customs and immigration. It did, however, make very intelligent use of different levels, which made it possible for passengers and baggage to be segregated and dealt with on different floors. Even in this building, however, there were many points where a slight overload of traffic caused congestion, and it was freely admitted that by the time it was completed, it was already inadequate in size for the volume of traffic which it was required to handle.

GATWICK

One of the most intelligent examples of terminal building design in this country was Gatwick, which never really received its full share of use or praise because of troubles with the drainage of the airport on which it was situated. Here a sensible attempt was made to protect embarking and disembarking passengers by means of extensible covered gangways, and it was also realised that services might arrive and depart almost simultaneously, but the layout suffered from the defect of being built on an island site which made no provision for expansion; although traffic for different services could be embarked and disembarked separately, it was necessary for all services to be handled through the same central customs and immigration offices.

REQUIREMENTS

I hope I will not offend too many of my architect friends if I say that, from a passenger's point of view, the external appearance of the building is of no importance whatever. Theoretically, with a well organised flow of traffic, the passenger himself should only be able to catch a very fleeting glimpse of the outside. He is interested entirely in the facilities and comforts which he finds inside it. If indeed the building or buildings can be made to look pleasing externally, so much the better, but our first consideration must be their suitability from the point of view of handling the traffic.

Very high in the list come speed and ease of use. It is perhaps worth enlarging on these particular points. First, the layout must be such that there is little or no congestion on the loading apron. There must in fact be space for the aircraft themselves. Secondly, in order to meet the requirements of speed, it must not be necessary for passengers or dead load to be moved for long distances to reach or leave the aircraft. The time effect of such distances may be partly overcome by using vehicles, but only at the expense of increased cost, and time itself is invariably wasted when it is necessary for passengers to be loaded on to or unloaded from an additional conveyance. The same factors apply equally to dead load. To meet these requirements, therefore, it must be possible for aircraft to be loaded and unloaded very close to the buildings which serve them.

Closely allied to the requirement of speed and ease is the need for overall efficiency. While it is possible, with a large and skilled staff, to handle traffic through an extremely complicated building, by providing guides at every point where a passenger can stray, and by using an unwarranted amount of manpower to handle dead load in the same way, the result is expensive. In any new design we must make the passenger flow almost entirely automatic, so that very few controlling staff are necessary.

A very valuable asset is elasticity. Air transport is by no means the only form of transport which suffers acutely from peak loads; but we should still do our best to mitigate the evil. To my knowledge, no airport and no building yet constructed for civil aviation has ever been found to be big enough, even after four or five years' use. Everything possible must be done to avoid congestion and consequential delays. By no means unimportant is the question of comfort. Any normal facilities which the passenger requires must be easily available.

SIZE AND LAY-OUT

The capacity of any airport terminal building must in fact be a function of the runway capacity of the airport itself; if this rule is not observed, then it may be impossible to use the full run-way capacity because the buildings are too small or vice versa. The number of run-way movements will, of course, depend to a great extent on the development of technical aids controlling the frequency at which aircraft can land and take off on single and multiple run-way systems. It would probably be sensible, however, to consider the average capacity aircraft, instead of the maximum for the airport in question, and to make allowance for the probable spacing of services. In considering building capacity allowance must also be made for a build-up of static traffic due to individual service delays and also collective weather delays. It will be seen that the answer to size will probably be different in the case of each airport, and this is extremely natural. It will be seen also, however, that one of the most critical figures in the calculation of building capacity is the time taken to handle the traffic itself. Not only, therefore, is speed essential from the purely practical point of view, but it is equally important from the aspect of the cost of the building.

In choosing a lay-out which is conducive to quick handling, however, we must bear in mind the formalities which are required, as these in themselves are probably the greatest impediment. Freight and mail may be forgotten for the moment. Passengers on international services must at some time or other pass through the following:—

(*a*) Ticket check; (*b*) baggage check and weighing; (*c*) passport control; (*d*) customs; (*e*) medical; (*f*) loading or unloading of baggage; (*g*) embarkation or disembarkation from the aircraft.

Passengers on internal services can omit passport control, customs and health.

We must also consider briefly the means by which traffic will be carried to and from the airport. In this connection I think we must provide for all eventualities; the answer will certainly vary for each airport.

Freight traffic will be handled either by lorry or by train, and these methods will probably remain static for some time to come. Passengers will arrive at the airport by practically every known means of transport, and must be left free to take their choice.

THE UNIT PRINCIPLE

Experience has shown that the best method of achieving speed in handling international traffic is to keep each service entirely separate—so that its movements are entirely unaffected by other services arriving or leaving at approximately the same time.

It is difficult to decide immediately on the proper size for each unit and I see no reason why this should be essentially the same for every airport, depending as it must on the average number of passenger per service and therefore on the average size of aircraft using the airport. I suggest that for buildings being designed today for a main international terminal, it would be wise to employ units capable of handling some 35 passengers. This number gives a good result as far as manpower is concerned and will probably be able to handle the average single passenger load for some time to come, taking into account normal load factors. For an airport handling exclusively larger aircraft, it is obvious that a slightly larger unit may be desirable, and there is nothing to prevent units of different sizes being used in the same terminal.

Each unit must be capable of handling either inward or outward traffic, and must therefore contain room for the execution of all formalities. It must provide sufficient waiting room accommodation for passengers who have either completed their formalities, or are waiting to do so. There must be available on the spot facilities such as lavatories, telephones, newspapers, etc., which may be required by passengers immediately on arrival or before departure. Other more elaborate formalities must be accessible, but need not be contained in the unit.

Each unit must be so positioned that it is easily accessible to the aircraft on the apron, and surface transport behind it. It is suggested that its frontage on the apron must therefore be so calculated as to permit the average size of aircraft for which the unit is designed to be parked immediately in front of it. In the case of very large aircraft requiring two units to handle its load, there will naturally be a double frontage available.

It would obviously be impossible for all amenities or general waiting room space to be incorporated in each unit, and it is suggested therefore that units should be arranged in a wide "U" formation with a group of general buildings at the centre of the bend. Such buildings should comprise a general concourse, where the inquiry and booking offices of individual operators would be situated; a general waiting room, bar, restaurant, post office and other normal facilities required by the travelling public—and this part of the building would also be open to the general public.

It would be desirable for the handling units adjacent to the central buildings to be reserved for transit services, and for a special "bonded" restaurant, bar and waiting room, to be provided to which they had access. In the central buildings provision would also be necessary for such technical services as were required by transit crews, *i.e.*, briefing rooms, meteorological office, etc.

METHOD OF OPERATION

The system I am proposing has been tried in an elementary fashion at Northolt, where the results have been remarkably successful. The fundamental principle of using individual units is that they should not be leased permanently to any one operator. The system would, in fact, be very similar to that under which a railway station master allocates platforms to particular trains. Large indicator boards would be used to guide the public.

It would be necessary for the operator to provide a handling gang to man the unit while in use by one of his own services, and in the same way gangs would be provided by the authorities carrying out customs, immigration and health formalities.

It would not be permissible for aircraft to remain outside handling units for more than a fixed maximum time. In the event of delays, aircraft would be removed and passengers dispersed to the central concourse, until a fresh departure time could be fixed, thus leaving the unit free for other service movements. The airport authority would, in fact, keep a running check on the use of units and would issue the necessary instructions.

In order to avoid the expense of maintaining equipment and staff in each unit to provide passenger amenities, it is thought that this could be best met by using an enlarged version of a refreshment trolley, with an attendant in charge who would be equally ready to sell coffee and newspapers, despatch cables, and post letters.

ADVANTAGES

Let us examine this scheme in the light of the requirements which we have laid down. It deals very adequately with the needs of speed and ease. To provide a single unit to meet peak traffic requirements would involve very large buildings with correspondingly large distances—which would affect all traffic at all times. The question of distance has been covered; the unit would be close to the aircraft and would be easily accessible to surface transport in the rear. It would not be necessary for departing passengers to go to the central concourse—they could proceed direct to the unit handling their particular service. For passengers who joined the service at the airport, using their own transport, large indicator boards could be provided close to the main entrance.

A minimum of staff would be needed; as each unit would be self-contained, passengers would be unable to stray and would proceed automatically through the building.

A very high degree of elasticity would be available, and it would be impossible for one service to interfere with others. Permanent expansion would be simple—additional units could be added to the ends of the "U" without interfering with the regular use of the building.

Very adequate comfort would be available. It would be very much easier to make smaller units cheerful and inviting than to give the same impression with large unbroken halls. As the unit would be close to the aircraft, protection against weather could be provided to a very great extent by extensible passage ways on the "Gatwick" model and without going to the great expense of an overhanging canopy or the trouble and delay of mechanised vehicles. I will deal more completely with the type of construction later, but the unit system lends itself to cheap methods of construction, in that it avoids large spans or peculiar shaped buildings. Maintenance should be cheap, and each unit can be redecorated in turn without interfering with the general flow of traffic at the airport. During periods of low traffic activity, in fact, certain units might be closed down entirely, thus saving light and heat—both things which seem to be in very inadequate supply at present.

Assuming formalities as they are today, it should be possible to pass loads through a building planned on these lines in something less than 15 minutes. This would mean that each service would occupy a unit for a little under half an hour.

INTERNAL PLANNING

Quite apart from the economic difficulties in which this country finds itself today, I think it would be unwise to erect any permanent passenger buildings at the present moment. During the next four or five years we shall learn a great deal from experience, and we may know more accurately the probable lines of development as regards aircraft, size, frequency and the capacity of multiple runway systems. During the same period, there may also be radical alterations in the regulations governing the carriage of international traffic, all of which will have a bearing on the type of building required.

Although in due course freight traffic will make special buildings and, indeed, special airports necessary, for a very long time to come mail and certain quantities of freight will be carried on passenger services and provision must be made to handle it. In permanent buildings, the ideal arrangement would be to provide a full length basement under the line of handling units. Access to this basement from the apron would be provided by ramps corresponding to the handling units above. Access in the rear of the building would be by means of a wide low-level road running below the road serving the passenger units, and emerging to ground level at the end of the arms of the "U." In this basement could be provided all the accommodation necessary for the storage, clearance and handling of both mail and freight. It would not be divided into separate sections in the same way as the passenger units, but the front would be kept clear to form a wide passageway connecting one end of the airport building to the other. By this means, freight and mail could be transferred quickly from one service to another. Baggage lifts would give access to each handling unit above, so that baggage also could be stored or transhipped without congesting the main passenger floor. In the case of permanent buildings, the first floor could be devoted entirely to office accommodation for operators and the airport authorities. The centre portion could be used for additional passenger and public amenities, and the roof could be provided with a canopy and could be open to the general public.

In both a permanent and a temporary building, handling units would be connected one with the other, and also to the central building, by covered passages running down the front and the back of the structure; the passage on the apron side would be retained for the use of officials and staff, while the passage at the back would be used by passengers. In the case of temporary buildings, a cargo basement would prove impractical, and it is suggested that the centre of the "U" should be used for construction for this purpose. Access to it could be gained from the apron by providing wide passages between each group of two handling units. This would unfortunately produce a flow of freight trucks across the road serving the handling units, and if money and circumstances permit, it would be preferable to excavate these passageways and to bridge them in order to allow an unhampered flow of vehicles.

When permanent construction takes place, the centre of the "U" might well be used for a covered car-park, the roof in turn being used as an alighting area for helicopters, and the railway, if one is then in being, having its airport station below ground level, passenger access to it being obtained by bridges over the roadway and leading to the back of each handling unit.

FUTURE DEVELOPMENT

Heaven forbid that we should design all our airports on exactly the same lines—local considerations should always be taken into account, but a certain similarity in layout should prove of assistance to both passengers and staff. Moreover, if even the smallest airports are started on these lines, any expansion required in the future should prove a relatively simple problem. Many refinements can, of course, be devised and added, and considerable attention must be devoted to the telephone and signal system between each handling unit and the central control. Considering all aspects, however, it does appear to be the only system which will provide proper facilities for the users of air transport without too great a penalty in cost to the operators and the authorities.

Above, the entrance; right, the bungalow from the south.

BUNGALOW AT SUTTON

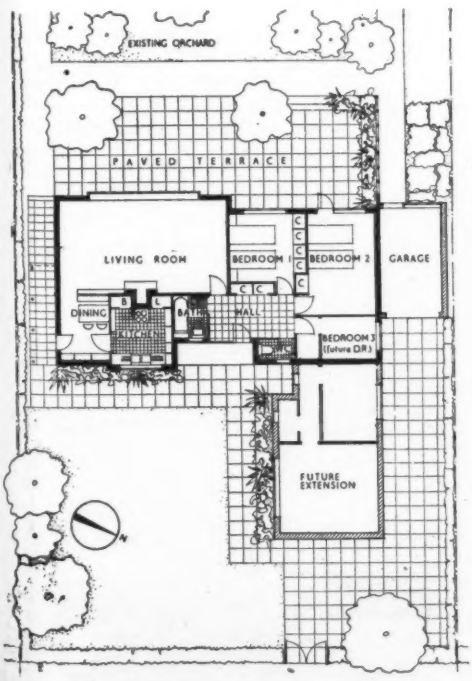
DESIGNED BY KATZ & VAUGHAN

GENERAL.—This bungalow has been designed to present-day building restrictions. The total floor area is 930 sq. ft. On the plan is shown the extension which will be built when regulations allow. An existing timber garage will have to be removed to allow space for this, and a new garage will be built on the north side.

CONSTRUCTION. — External walls are 9in. brick, rendered with white spar rough cast. Floors: wood block in living room, tiles in kitchen, bathroom and hall, wood block and cork tiles in bedrooms.

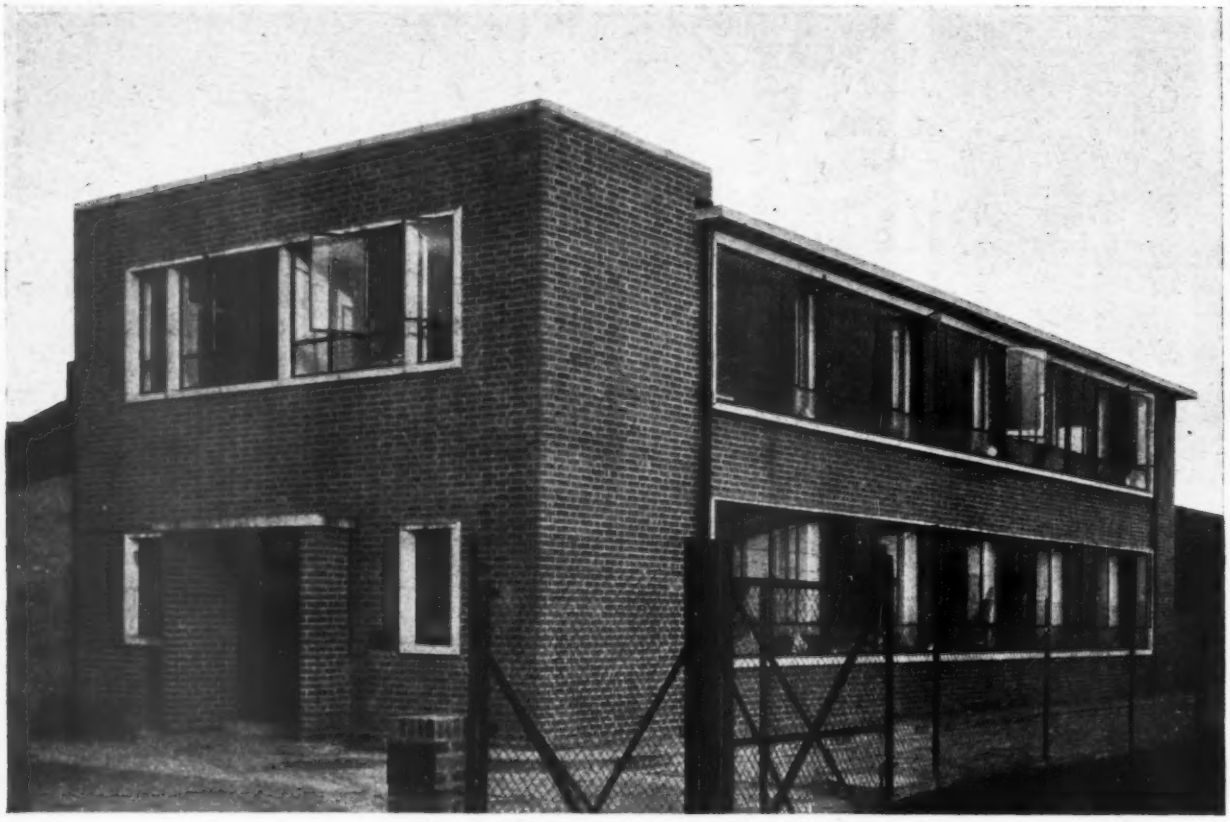
SERVICES.—Heating is by a combination stove and boiler in the living room, supplying hot water and two radiators.

CONTRACT PRICE.—£1,300.



PLAN [Scale $\frac{1}{8}$" = 1'0]

The living room.



DRAWING OFFICE AT BIRMINGHAM

DESIGNED BY

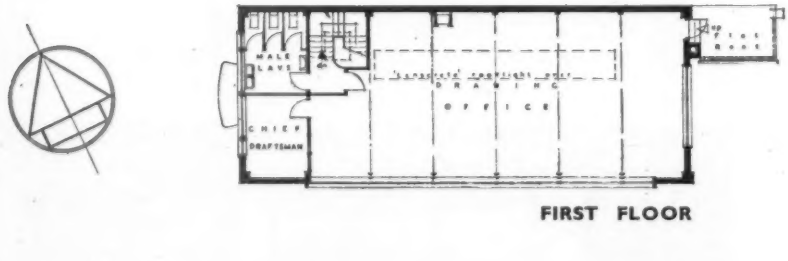
H. W. WEEDON & PARTNERS

GENERAL.—To provide a design office as well as a plant and tackle yard in the Midland area, Messrs. Bannister Walton & Co., Ltd., acquired a site running from Western Road to the Birmingham Canal.

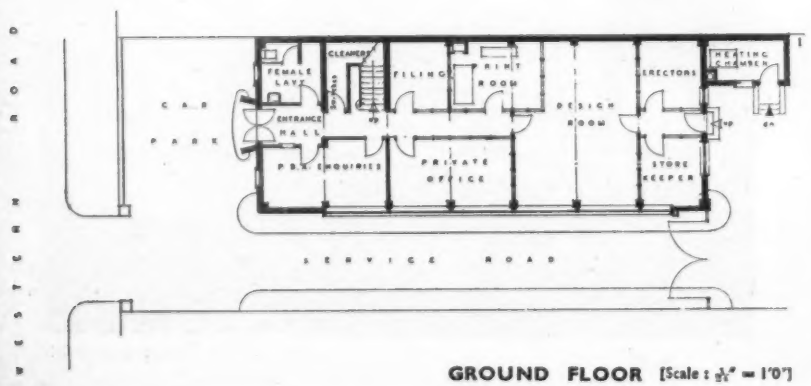
SITE.—The site has a narrow frontage. In order to ensure maximum space between the proposed office and a factory to the south, the service road runs on the south side.

PLAN.—The ground floor has been planned so that filing room and print room, with little need for daylight, are in the darkest part of the building. The daylight factor of the main drawing office has been increased by the insertion of a roof light down the inner side of the room.

CONSTRUCTION.—Steel frame with precast concrete first floor and roof. Walls 13½ in. brick.



FIRST FLOOR



GROUND FLOOR [Scale : 1/8" = 1'0"]

The drawing office.

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An early nineteenth century stage coach, still in daily use at Chessington Zoo.

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TECHNICAL SECTION

A digest of current information prepared by independent specialists; printed on one side of the paper only, to allow readers to cut out the items for filing and paste them up in classified order. Headings below.

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1 SOCIOLOGY. 2 PLANNING: General. 3 PLANNING: Regional and National. 4 PLANNING: Urban and Rural. 5 PLANNING: Public Utilities. 6 PLANNING: Social and Recreational. 7 PRACTICE. 8 SURVEYING, SPECIFICATION. 9 DESIGN: General. 10 DESIGN: Building Types. 11 MATERIALS: General. 12 MATERIALS: Metal. 13 MATERIALS: Timber. 14 MATERIALS: Concrete. 15 MATERIALS: Applied Finishes, Treatments. 16 MATERIALS: Miscellaneous. 17 CONSTRUCTION: General. 18 CONSTRUCTION: Theory. 19 CONSTRUCTION: Details. 20 CONSTRUCTION: Complete Structures. 21 CONSTRUCTION: Miscellaneous. 22 SOUND INSULATION, ACOUSTICS. 23 HEATING, VENTILATION. 24 LIGHTING. 25 WATER SUPPLY, SANITATION 26 SERVICES, EQUIPMENT: Miscellaneous. 27 FURNITURE, FITTINGS. 28 MISCELLANEOUS.

4.31 planning: urban and rural
PLAN FOR OXFORD

Oxford Replanned. Thomas Sharp. (Architectural Press, Ltd. 1948. 15s.)

Report and outline plan for redevelopment of Oxford. Survey of existing conditions covering physical and architectural character and social structure and functions. Analysis of basis for planning proposals. Transport and communications. Redevelopment of inner city. Neighbourhood planning, open spaces and work places in outer city. Architectural treatment, setting and landscaping. Appendices. Important contribution to progressive planning technique, admirably presented and beautifully illustrated, intelligible to general reader as well as specialist. (See also *Physical Planning Supplement, Architects' Journal,* February 26, 1948.)

In a prefatory note the author states that the plan should be considered as an outline plan only, and that he is well aware of controversial issues contained in his suggestions which are based on his sense of responsibility as a planner as opposed to an attempt *to play for safety.*

A survey of the existing conditions discusses the growth of the town, the population of which increased from 49,000 in 1901 to 100,000 at the present time. Housing conditions, workplaces, institutional equipment, shopping facilities and tourist provisions are statistically examined, the results serving as a guide to the formulation of basic plan requirements. It is stated that the planning of the city must have regard to its place in the national economy and not be based merely on considerations of internal needs or on the desires of the majority of its inhabitants.

The plan aims at crystallising the main functions of the future city. Oxford should be a university city as well as a county and regional capital. Its industrial structure should be revised and some of its over-dominant industries removed to other parts of the country. The town should be provided with a more balanced and diversified industry based on comparatively small units in the interest of social health and material well-being. The city should not grow bigger than its present population of 100,000. No further building should take place except for rural purposes in the immediately surrounding countryside.

Much detailed consideration is given to the problem of communications and more especially to the relief of traffic congestion on the major axes of the city centre. Appendix 4 gives particulars of a traffic census undertaken. Among the transportation recommendations put forward are additions to existing by-pass roads, improvements in the system of radial roads, the development of a middle ring road to take cross town traffic, and new inner city roads for the relief of congestion. Other suggestions made discuss bus services, the rebuilding of the present railway stations as one, and car parking facilities.

Under the redevelopment proposals for the inner city the following aspects are covered:—The main zone of university expansion; the preservation of the architectural foil between collegiate and domestic buildings; the siting of civic buildings; shopping facilities and the provision of pedestrian promenades; the doubling of the city's hotel capacity; the development of a workshop area; the removal of the gas and electricity works to new sites in Cowley; the erection of three-storey flats; and adequate provisions for open spaces.

The planning of the city outside the centre provides for the establishment of fourteen neighbourhoods varying in size from 3,000 to 8,500 inhabitants with an average density of 30 persons per acre over the whole neighbourhood excepting those parts taken up by major open spaces. Many new playing fields should be provided, together with a system of connected open spaces between neighbourhoods, running from the city centre out into the open country. The town's main industrial area should remain at Cowley.

In a final chapter on architecture and landscape, which stresses the importance of the visual aspects of replanning, advice is given regarding the treatment of new buildings in the historical city, on building heights in the central area, on new tree planting in the suburbs, and finally on the treatment of riverside areas.

The appendices to the report discuss suggested stages in the building of new central streets, and provide statistical information on a census of retail trade in addition to the traffic census already referred to.

16.21 materials: miscellaneous
GLUES

Modern Adhesives. Dr. D. A. Hubbard. (Wood, Jan., 1948, pp. 19-23.)

Survey of glues for bonding wood and metal.

The article is a survey of the main types of adhesive; stress is laid on the fact that there is as yet no glue suitable for universal application, the characteristics of the various adhesives should be classified in order that the most appropriate types may be applied to suit different conditions. The adhesives have been classified into two main groups: (*a*) Those that are reversible, that is to say that after setting, the glue will once more revert to the viscous state by heating or by prolonged immersion in water; and (*b*) those that are irreversible. The latter group contains, among others, the synthetic glues.

The characteristic of each type of glue, such as durability under different conditions, and in particular, resistance to bacterial attack, are described concisely together with descriptions of methods of manufacture, and the form in which they reach the user and their application.

The article, which is illustrated with photographs of examples of veneered aluminium furniture, is to be followed by another on the same subject.

27.7 furniture and fittings
SWEDISH FITTINGS

Swedish Joinery To-day—2. Doors and Fitments. E. S. de Maré. (The House-Builder, Jan., 1948, pp. 274-277.)

Describes several types of flush door and typical standard cupboard fitments. Well illustrated by diagrams.

This feature answers any question connected with building confidentially and free of charge. Questions to the Technical Editor, The Architects' Journal, 9, 11 and 13, Queen Anne's Gate, S.W.1.

QUESTIONS AND ANSWERS

2935 COST OF RUBBLE WALLING

Q *I am trying to collect some information on rubble walling, and am finding it extremely difficult to do so. The construction I have in mind is for domestic houses and is this:—An outer skin of a brown or golden brown limestone of random rubble built to courses with a 2-in. air space and an inner skin of 4-in. clinker concrete blocks. The outer skin would be non-load bearing except for the load transmitted by the wall ties. I am uncertain about the following:—(1) The minimum economical thickness of the stone skin, taking into account the cost of stone and transportation and cost of laying. (2) The cost of such a wall as compared with a similar wall with an outer skin of facing bricks.*

A Without making very extensive inquiries it is not possible to say what is the minimum thickness that has been used anywhere in the country for random rubble walling, and if the information were obtained, it would only be of very limited value, as local practices (which result from the particular stone used) vary considerably.

In any case, the thickness is not of such importance as would appear at first sight, as the care involved in building a thin wall of stone increases the labour value. No accurate guidance can be given to the comparative costs of stone and brickwork without taking into consideration local factors. The distance of the job from the quarry and brickyard is one important item, the availability of masons is another. As a generalization, it is undoubtedly true to say that a random rubble wall of limestone, even if reduced to the minimum thickness practicable, is more expensive than a half-brick wall of facing bricks, but this may not be true in isolated districts where stone is available, and each case must be decided on its merits.

The following tables summarise the official statistics on housing progress, the production of building materials and the labour position.

HOUSING, MATERIALS AND LABOUR

[by Ian Bowen]

HOUSING

TABLE I PERMANENT HOUSES IN GREAT BRITAIN: Cumulative Totals

	Begun			Finished		
	Local Authorities	Private Builders	Total	Local Authorities	Private Builders	Total
To Dec., 1945	20,409	—	—	1,657	1,031	2,688
1947: Feb.	198,138	64,459	262,597	30,607	33,278	63,885
March	205,159	65,864	271,023	34,436	35,430	69,866
April	218,815	67,826	286,641	40,425	38,184	78,609
May	234,395	70,684	305,079	47,726	41,465	89,191
June	250,292	73,181	323,473	55,642	44,356	99,998
July	265,689	75,741	341,430	63,975	47,316	111,291
Aug.	280,197	78,582	358,779	71,646	49,813	121,459
Sept.	295,469	80,208	375,677	81,983	52,323	134,306
Oct.	308,655	82,303	390,958	92,924	55,362	148,286
Nov.	320,773	83,353	404,126	104,419	57,872	162,291
Dec.	329,886	84,104	413,990	117,951	60,566	178,517
1948: Jan.	337,227	84,657	421,884	129,617	62,634	192,251
Increase of Jan. over Dec.	7,341	553	7,894	11,666	2,068	13,734

Total at Jan. 31, 1948	Under Construction	Finished
Local Authorities	207,610	129,617
Private Builders	22,023	62,634
War-destroyed rebuilt	14,478	19,883
Government Departments	2,813	716
Aluminium	3,172	501
Total	250,096	213,351

TABLE II TEMPORARY HOUSES IN GREAT BRITAIN: Cumulative Totals

	Slabbing Begun	Slabbing Completed	Erection Begun	Erection Completed
To Dec., 1945	61,008	39,998	22,932	9,376
1947: Feb.	136,238	118,734	109,033	99,461
March	137,992	119,759	111,002	101,717
April	140,333	123,757	115,166	106,664
May	141,786	127,270	118,653	111,029
June	143,769	130,735	122,353	115,086
July	147,661	134,956	126,375	119,960
Aug.	151,036	138,352	129,535	122,992
Sept.	152,730	142,359	133,328	126,279
Oct.	154,042	146,720	138,367	131,643
Nov.	154,769	149,212	141,877	134,879
Dec.	155,084	151,702	145,320	138,398
1948: Jan.	155,224	153,335	148,162	140,411
Increase of Jan. over Dec.	140	1,633	2,842	2,013

Temporary Houses Under Construction at Jan. 31: 7,751.

TABLE III NON-TRADITIONAL PERMANENT HOUSES (ALREADY INCLUDED IN TABLE I) GREAT BRITAIN: Cumulative Totals

	Begun	Completed
To end Aug. 1947	63,293	14,161
Sept.	69 183	17,582
Oct.	74,480	20,657
Nov.	80,009	23,902
Dec.	83,904	28,602
Jan. 1948	86,857	31,557

Non-traditional Houses Under Construction at Jan. 31: 55,300
(In addition to the above, construction has begun on 3,673 aluminium houses, of hich 501 have been completed.)

TABLE IV * HOUSING ACCOMMODATION PROVIDED OTHERWISE THAN BY NEW BUILDING: Cumulative Totals

	Unoccupied War-Damaged Houses Repaired	Conversions and Adaptations
To end June 1947	120,245	49,616
Sept.	124,517	55,685
Oct.	125,889	58,214
Nov.	127,661	60,302
Dec.	129,317	62,652
Jan. 1948	131,465	64,657
Increase of Jan. over Dec.	2,148	2,005

* Emergency huts (programme finished August, 1946) provided for a further 3,480 families.

BUILDING MATERIALS

TABLE V PRODUCTION AND STOCK‡

Material	Unit	Jan.-March 1947 Production	Jan.-March 1947 Stocks‡	Jan. 1948 Production	Jan. 1948 Stocks‡
		(monthly average)			
Cement	th. tons	369	253	693*	273
Bricks	millions	301	379	386	427
Roofing materials					
Clay tiles	th. squares	51.4	40.8	71.1	62.5
Concrete tiles	"	34.4	56.5	76.3	64·9
Slates	"	12.1	27.2	—	—
Asbestos Cement Slates	"	—	—	2.9*	—
Asbestos cement sheeting	th. tons	24.1	—	32.5	—
Roofing felt	th. rolls of 24 sq. yds.	181	104	277	237
Ceilings, Wall Linings and Floorings					
Plaster gypseous	th. tons	12.8	—	20.8*	—
Plasterboard	th. sq. yds.	2,601	430	4,052*	427
Tiles					
Glazed	th. sq. yds.	428	—	614	—
Floor (Clay)	"	136	—	210	—
Pipes (Water, Gas, etc.)					
Lead	th. tons	3.12	—	4.45	—
Copper	"	2.47	—	3 35	—
Soil Pipes (cast iron)	"	2.05	—	2.14*	—
(Asbestos Cement)	"	0.35	—	0·53*	—
Drain Pipes, Salt Glazed	"	36.0	—	—	—
Rainwater Goods, Rainwater Pipes, Gutters and Fittings					
Cast Iron and Pressed Steel	th. of equiv. tons of cast iron	4.14	—	8.0	—
Asbestos Cement Goods	th. tons	1.4	—	2.21*	—
Manhole Covers and Frames	th. of equiv. tons of cast iron	2.82	—	3.08	—
Metal Windows	Mn. ft. sup.	3.62	3.38	3·53	3.42
Sanitary Fittings					
Baths	thousands	25.4	—	35·5	—
Lavatory Basins	"	75.5	—	94.1	—
Sinks	"	51.3	—	65.6	—
W.C. Pans	"	86.7	—	110.5	—
Cookers					
Solid Fuel	"	14.7	—	18.1	—
Electric	"	14.4	—	23.0	—
Gas	"	28.0	—	38.8	—
Fires, Solid Fuel	"	66.3	—	103.1	—
Wash Boilers					
Electric	"	18.4	—	13.3	—
Gas	"	32.8	—	37.2	—
Furnace Pans (Solid Fuel)		4 5	—	6·9	—
Solid Fuel	thousands	1 43	—	3.3	—
Softwood Timber (Imports and Home Produced)	th. stds.	44.9	117.0	83.8§	614.9†

* 5 week period. ‡ At end of period.
§ Imports only. † December figure.

LABOUR

TABLE VI BUILDING AND CIVIL ENGINEERING LABOUR IN GREAT BRITAIN: Operatives Employed, aged 16 and over†

Type of Work	July, 1945	Jan. 1947	Jan. 1948*
Total	535.0	953.0§	981.0
Housing	343.9	606.9	562.0
Permanent (Construction, and preparation of sites)	17.4	229.9	261.2
Temporary	14·5	27.1	7.8
Other (repairs, etc.)	312.0	349.9	293.0
Other Work	191.1	345.1	419.0

* Provisional. † In Thousands.
§ This total has been revised from 952,000 to 953,000. Revised figures for each type of work in this table have not been published.

The form printed below is to assist readers requiring up-to-date information on building products and services. Complete and post it to The Architects' Journal, 9, 11 and 13, Queen Anne's Gate, S.W.1, and the advertisers listed will be asked to supply information direct.

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Announcements

Mr. Brian Scanlan has recently resigned his Directorship with Esavian Ltd., to take up an appointment with Belco London, Ltd., wholesale electrical distributors, 65, Buckingham Gate, S.W.1 (tel.: Abbey 7644). In his new capacity, Mr. Scanlan is primarily concerned with the supply and sale of electrical accessories, equipment, etc. used in the building industry.

The newly-formed branch of the Arch.S.A. (Architectural Students' Association) at S.E. Essex School of Art, Longbridge Road, Dagenham, Essex, is endeavouring to collect a library of information for the use of student members, and would be glad if manufacturers of building materials would send catalogues and samples.

Messrs. Whitbreads, Ltd. have appointed Richard Lonsdale-Hands and Associates as their Industrial Design Consultants and Industrial Designers.

The Institute of Quantity Surveyors has moved to 98, Gloucester Place, London, W.1. Telephone, Welbeck 1859; telegrams, Quants, Wesdo, London.

On March 15, Messrs. Stoner & Sons, quantity surveyors moved to 115-119, Bank Chambers, 329, High Holborn, London, W.C.1. The telephone number, Holborn 7582, is unchanged.

Buildings Illustrated

Bungalow at Sutton (page 267). Architects, Katz and Vaughan. General Contractors, M. P. Croucher and Croucher, Ltd. Sub-contractors: tiles, Marley, Ltd.; woodblock flooring, Vigers Bros., Ltd.; sanitary fittings, John Bolding and Sons; door furniture, Dryad; casements, Williams and Williams, Ltd.; flush doors, Hitchins Flush Woodwork, Ltd.

Drawing offices at Birmingham (page 268). Architects, H. W. Weedon and Partners. General contractors, Messrs. T. Elvins and Sons, Ltd. Sub-contractors: structural steelwork, Banister Walton and Co., Ltd.; precast concrete floors, Siegwart Fireproof Floor Co., Ltd.; windows and Cantera light, Standard Metal Window Co.; roof light, Lencrete, Ltd.; sanitary fittings, William E. Farrer, Ltd.; heating and hot-water installations, Brightside Foundry and Engineering Co., Ltd.; electrical installation, the Etna Lighting and Heating Co., Ltd.; roof, Asphalto and Pitchmastic; flooring, Ragusa, Ltd.; ironmongery, Mountford Bros. Emalux wall, decorative finishes, John Ellis and Sons, Ltd.; wrought iron stair balustrade, J. R. Pearson, Ltd.; reconstructed stone dressings and Granolithic flooring, the Empire Stone Co., Ltd.; galvanised chain link fencing, Parker, Winder and Achurch, Ltd.

Corrigenda

In the JOURNAL for January 29, 1948, page 111, Rates of Wages were incorrectly stated to have risen on October 20, 1947. In fact, the Settlement of October 20 authorising the revised Rates of Wages, took effect at the beginning of the pay-week next following November 16, 1947.

In the issue of March 4, page 219, the spans of Standard M.A.F. buildings should be 18 ft. and 33 ft., *not* 16 ft. and 33 ft. This error occurs in the caption at the top of the page and in the text.

A variety of finishes to meet all conditions

THIS "SPOTLIGHT ON CONSTRUCTION" *is taken from our forthcoming publication, "Thermal Insulation." It shows a basic insulation of glass silk covered with cotton scrim, a layer of hard board totally enclosed in rot-proof bitumen felt, held securely in position by galvanised wire netting and afterwards painted.*
It provides an impervious waterproof finish suitable for a humid atmosphere and is first-class as an outdoor insulation.

For dry, indoor conditions where a neat inexpensive covering is required, the thermal insulation of piping and fittings can be carried out with VERSIL Rigid Sections. These are made to fit all standard size pipes in varying thicknesses to achieve different degrees of efficiency. Preformed elbows, bends and tees are available for fittings.

Fixing is simple and quick by means of metal clip-on bands: no preparatory work is necessary and it is immaterial whether the piping is hot or cold.

Where the insulation may be subject to rough treatment or under abnormal atmospheric conditions, an external covering may be required to protect the glass silk. A basic covering of VERSIL Flexible sections is then required and one of many finishes can be applied to meet local needs.

The finishes which can be applied are described and illustrated in a new twenty-four page booklet now on the press, which deals comprehensively with the application of Versil Glass silk for Thermal Insulation. A copy can be reserved for you if you apply to Versil Limited, Rayner Mills, Liversedge, Yorks. Phone: Cleckheaton 640

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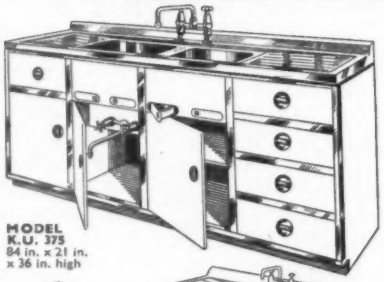
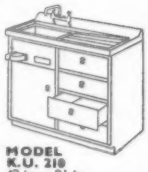
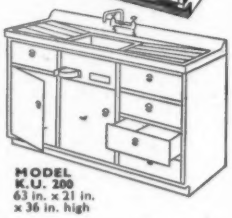


MODEL K.U. 375
84 in. x 21 in. x 36 in. high



MODEL K.U. 210
42 in. x 21 in. x 36 in. high



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The size of the bowl in each case is 21 in. x 15 in. x 8 in. deep.

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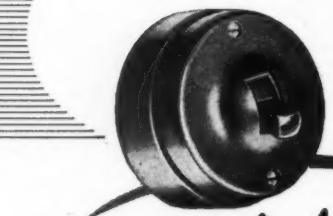

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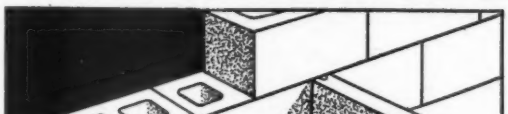

HOLLOW CONCRETE BLOCKS

	LENGTH		WIDTH		DEPTH
STANDARD SIZES	17⅝"	×	8⅝"	×	8⅝" & 5⅛"
	17⅝"	×	6"	×	8⅝" & 5⅛"
	17⅝"	×	4⅛"	×	8⅝" & 5⅛"

The 8⅝" and 6" wide blocks are made in Granite, Breeze and Foamagg aggregates. The 4⅛" wide in Granite and Foamagg only.

SOLID CONCRETE PARTITION BLOCKS

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Made in Granite, Breeze and Foamagg aggregates.
Half blocks for bonding are supplied.

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	8 3/16"	×	8 3/16"	×	⅜"	Green and Black
	11 3/16"	×	11 3/16"	×	1"	

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London: 7, Victoria Street, Westminster, S.W.1. Tel.: ABBey 4802
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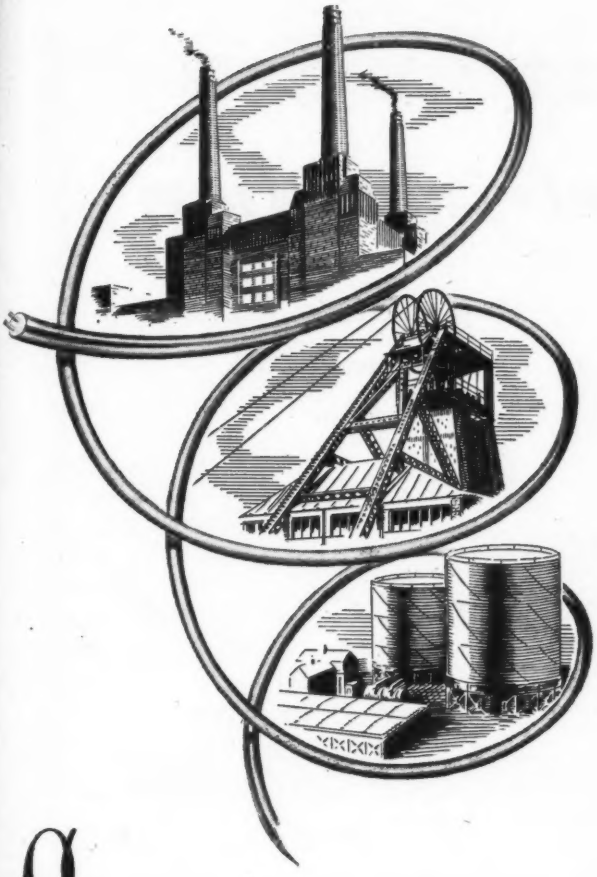

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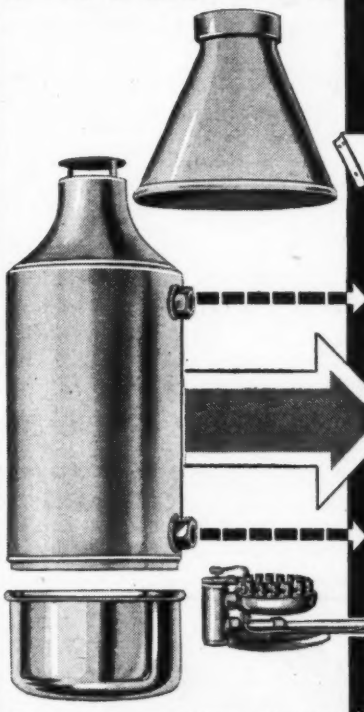

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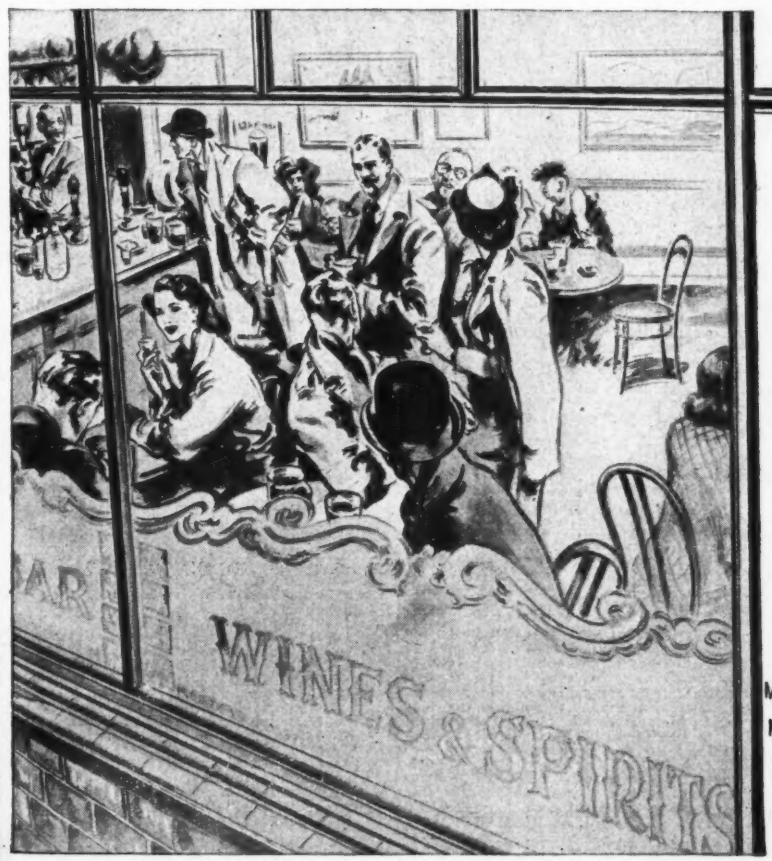

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CLASSIFIED ADVERTISEMENTS

Advertisements should be addressed to the Advt. Manager, "The Architects' Journal," 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1, and should reach there by first post on Friday morning for inclusion in the following Thursday's paper.

Replies to Box Numbers should be addressed care of "The Architects' Journal," at the address given above.

None of the vacancies in these columns relates to a man between the age of 18 and 50, inclusive, or a woman between the age of 18 and 40, inclusive, unless he or she is excepted from the provisions of the Control of Engagement Order, 1947, or the vacancy is for employment excepted from the provisions of that Order.

Public and Official Announcements

6 lines or under, 10s.; each additional line, 1s. 6d.

THE INCORPORATED ASSOCIATION OF ARCHITECTS AND SURVEYORS maintains a register of qualified architects and surveyors (including assistants) requiring posts, and invites applications from public authorities and private practitioners having staff vacancies. ADDRESS: 75, EATON PLACE, LONDON, S.W.1. TEL. SLOANE 5615. 901

LONDON COUNTY COUNCIL.
VACANCIES FOR PLANNING STAFF IN THE ARCHITECT'S DEPARTMENT FOR WORK ON THE COUNTY OF LONDON PLAN.

Applications are invited for a number of positions in the following grades:—

PLANNING OFFICER. Grade III, £550 to £700 a year.

TECHNICAL ASSISTANT. 55s. a week to £580 a year.

Commencing rate of pay will be according to qualifications and experience. There will be opportunities for competing, on merit, in due course for permanent appointment and for positions in the higher grades on the occurrence of vacancies. Successful candidates will be subject to the Council's Superannuation and Provident Fund.

The planning work involved includes assistance in the detailed development of Reconstruction Area schemes and the preparation of revised zoning plans.

A knowledge of current town planning legislation is desirable in all cases, and candidates for Grade III positions should possess architectural, surveying, or town planning qualifications.

Application forms may be obtained from the Architect to the Council (P), County Hall, Westminster Bridge, S.E.1 (enclosing stamped addressed foolscap envelope). Returnable not later than ten days from this date.

Canvassing disqualifies. (340) 868

WEST SUFFOLK COUNTY COUNCIL.

Applications are invited for the under-mentioned appointments in the County Architect's Department. Salaries as indicated in accordance with the National Joint Council Salary Scales, position on scales according to qualification, *viz.*:—

(*a*) QUANTITY SURVEYOR. A.P.T., Grade V-VI (£520-£660).

(*b*) ASSISTANT ARCHITECT. A.P.T., Grade V (£520-£570).

(*c*) ARCHITECTURAL ASSISTANT. A.P.T., Grade I-II (£390-£465).

Travelling allowance in accordance with County Scale.

Candidates in respect of (*a*) should be Associates of the Royal Institute of Chartered Surveyors (Quantities Division), and have experience in the preparation of Bills of Quantities, estimates, valuations and settlement of Accounts.

Candidates in respect of (*b*) must be Registered Architects, preferably Associates of the Royal Institute of British Architects. They must be thoroughly experienced in Architectural Design, and capable of preparing preliminary sketch plans, complete working drawings, and specifications.

With regard to (*c*) preference will be shown to candidates in possession of the Intermediate examination of the Royal Institute of British Architects.

The appointments will be terminable by one month's notice in writing on either side, and will be subject to the provisions of the Local Government Superannuation Act, 1937. The successful candidates will be required to pass a medical examination.

Forms of application may be obtained from the undersigned, by whom applications, accompanied by three recent testimonials, should be received not later than Friday, 2nd April, 1948.

L. G. H. MUNSEY,
Clerk of the County Council.

Shire Hall, Bury St. Edmunds. 1026

FIFE COUNTY COUNCIL.
PLANNING DEPARTMENT.

Applications are invited for appointment as CHIEF PLANNING ASSISTANT. Salary, £575 × £25 to £700, plus war increase of £60 per annum. Applicants must have had experience in the preparation of planning schemes, and hold the qualification A.M.T.P.I. Applications, stating date of birth, qualifications and experience, to be lodged with the undersigned not later than 20th March, 1948. No canvassing.

J. M. MITCHELL,
County Clerk.

County Buildings, Cupar-Fife.
2nd March, 1948. 1033

NORTH RIDING OF YORKSHIRE COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the under-mentioned appointments on the permanent staff. Salaries in accordance with the National Joint Council's Scales.

(*a*) ASSISTANT ARCHITECT. A.P.T., Grade VI (£595-£660).

(*b*) TWO BUILDING INSPECTORS. A.P.T., Grade III (£450-£495).

(*c*) JUNIOR ARCHITECTURAL DRAUGHTSMAN. General Division. Salary according to age, up to £385 (men); £308 (women).

(*d*) GENERAL AND FILING CLERK. General Division. Salary according to age, up to £375 (men); £308 (women).

Candidates in respect of (*a*) must be Associate Members of the Royal Institute of British Architects, and must have had experience in the Architect's Department of a Local Authority.

Candidates in respect of (*b*) should have a practical knowledge of all branches of the building trade, be able to prepare maintenance reports and estimates, and to supervise new building works. The successful applicants will be required to live in a town in one of the following areas:—

Area "A"—Cleveland.

Area "B"—Including Scarborough, Whitby, and outskirts of York.

All the above appointments will be subject to the provisions of the Local Government Superannuation Act, 1937, and to a satisfactory medical examination. Appointments (*a*) and (*b*) will be terminable by two months' notice in writing on either side, and (*c*) and (*d*) by one month's notice.

Forms of application are not being issued, but further information may be obtained from J. Catchpole, A.R.I.B.A., County Architect, County Hall, Northallerton. Applications, stating age, qualifications and experience, together with particulars of present and previous appointments, and the names and addresses of three persons to whom reference can be made, must be delivered to the undersigned not later than the 29th March, 1948.

Canvassing will disqualify, and a candidate who is related to a member of, or a senior officer under, the Council must disclose the fact when applying.

H. G. THORNLEY,
Clerk of the County Council.

County Hall, Northallerton.
3rd March, 1948. 1038

WANDSWORTH BOROUGH COUNCIL.
PRINCIPAL ARCHITECTURAL ASSISTANT.

Applications are invited for the established appointment of Principal Architectural Assistant, in the Borough Architect's Department, at a salary in accordance with Grade A.P.T., VIII, *viz.*, £705-£780 per annum inclusive.

Candidates should have had good professional training, experience with a Local Authority in housing schemes, the layout of estates, general architectural design, and the control of staff.

Forms of application may be obtained from Mr. W. H. Beesley, A.R.I.B.A., F.R.I.C.S., Borough Architect, and must be returned to the undersigned not later than Tuesday, 30th March, 1948.

By Order,
R. H. JERMAN,
Town Clerk.

Municipal Buildings, Wandsworth, S.W.18.
8th March, 1948. 1071

MIDDLESEX COUNTY COUNCIL.
APPOINTMENT OF DEPUTY COUNTY ARCHITECT.

Commencing salary, £1,200 p.a. × £60 to £1,500 p.a., plus current cost-of-living bonus (now £60 p.a.). The appointment will be made to the established and pensionable staff, subject to medical examination. Candidates must have had professional and administrative experience in Local Government. Application forms obtainable from the County Architect, Middlesex House, 20, Vauxhall Bridge Road, S.W.1, to whom completed forms must be returned not later than noon 31st March, 1948. Canvassing will disqualify. (Quoting D.728 A.J.)

C. W. RADCLIFFE,
Clerk of the County Council.

Guildhall, S.W.1. 1023

CITY OF NOTTINGHAM.
CITY ENGINEER'S DEPARTMENT.

Applications are invited for the posts as follows:—

SENIOR ARCHITECTURAL ASSISTANTS: Grade VI, A.P.T., of the National Scale, £596-£660; Grade VII, A.P.T., of the National Scale, £635-£710; Grade VIII, A.P.T., of the National Scale, £685-£760.

Candidates must be Associates of the R.I.B.A. and have a thorough knowledge of School work. The Grade for which the application is intended must be stated when applying for the form.

The appointments are subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidates will be required to pass a medical examination.

Applications are to be made on forms to be obtained from Mr. R. M. Finch, O.B.E., M.I.C.E., City Engineer and Surveyor, Guildhall, Nottingham, and are to be returned to him not later than Wednesday, 7th April, 1948.

R. RICHARDS,
Town Clerk.

The Guildhall, Nottingham.
February, 1948. 1013

BOROUGH OF WALTHAMSTOW.
BOROUGH ARCHITECT'S DEPT.
ASSISTANT ARCHITECT.

Applications are invited for the permanent position of Assistant Architect, at a salary in accordance with Grade V of the A.P.T. Division of the National Scales of Salaries (£520, rising to £570 by annual increments, plus London weighting allowance, according to the scale).

Candidates should be Members of the Royal Institute of British Architects, and have had experience in connection with housing schemes.

The appointment will be subject to the Local Government Superannuation Act, 1937, to the National Joint Council's Conditions of Service, to the successful candidate passing a medical examination, and to termination by one month's notice on either side.

Applications, stating age, qualifications and experience, accompanied by copies of three recent testimonials, must reach the undersigned, endorsed "Assistant Architect," not later than Saturday, 3rd April, 1948.

Canvassing in any form will be deemed a disqualification, and applicants must disclose any relationship to any member of the Council or holder of any senior office under the Council.

G. A. BLAKELEY,
Town Clerk.

Town Hall, Walthamstow, E.17. 1074

FIFE COUNTY COUNCIL.
PLANNING DEPARTMENT, CUPAR.

A vacancy exists for a PLANNING ASSISTANT, preferably holding the Associate Membership of the Town Planning Institute, and having practical experience in the preparation of planning schemes. Salary, £480 × £25—£630, plus £60 war bonus. Medical examination under Superannuation Scheme. Age under 45. Applications in writing, stating age, qualifications, and experience, to undersigned, not later than 22nd March, 1948. No canvassing.

J. M. MITCHELL,
County Clerk.

County Buildings, Cupar-Fife.
5th March, 1948. 1052

NEW TOWNS.
CRAWLEY DEVELOPMENT CORPORATION.

The Crawley Development Corporation invites applications for the following posts:—

(*a*) SENIOR ARCHITECT, within the range £1,000-£1,250 gross.

(*b*) ARCHITECTS, within the range £850-£1,000 gross.

(*c*) ASSISTANT ARCHITECTS, within the range £600-£800 gross.

(*d*) JUNIOR ASSISTANT ARCHITECT, within the range £350-£550 gross.

The commencing salary will be determined by the qualifications and experience of the applicants.

Contributory superannuation (with the choice of entering a fund under the Local Government Superannuation Act, 1937) will be provided.

These appointments are required to fill vacancies in the first planning and design units employed upon developing areas of the town under the direction of the Chief Architect, Mr. A. G. Sheppard Fidler, M.A., B.Arch., Dip.C.D., A.R.I.B.A., A.M.T.P.I., R.S.

Applicants for appointment (*a*) should have had a wide general experience in architecture and planning, supported by organising ability and experience in the management of building contracts. For appointments (*b*) and (*c*) town planning experience is not essential, but applicants should have had first-class experience in design of housing, industrial buildings, public buildings, etc. Applicants for appointment (*d*) should be familiar with details in the above class of work, and should have attained the R.I.B.A. Intermediate examination standard.

The appointments will be to serve the Corporation at Crawley, but officers may have to work at the London office for a short period. Applications should be made in writing by 7th April, 1948, to the Chief Architect, Crawley Development Corporation, 13, Grosvenor Square, W.1.

The letter of application should give the following information:—

(*a*) Name and address, age, place of birth, married or single; (*b*) present post and salary; (*c*) post now applied for and salary required; (*d*) notice required to terminate present appointment; (*e*) education; (*f*) qualifications; (*g*) particulars of experience; (*h*) names and addresses of three persons to whom reference may be made concerning the applicant's professional ability.

C. A. C. TURNER,
Chief Executive Officer.

1064

CITY OF NOTTINGHAM.
HOUSING ARCHITECT'S DEPARTMENT.

Applications are invited for the following appointments:—

(1) ASSISTANT ARCHITECT (Grade IV, A.P.T., £480-£525 per annum). Candidates must be Registered Architects, with experience in the design and planning of large housing estates.

(2) ASSISTANT ARCHITECT (Grade I, A.P.T., £390-£435 per annum).

The above appointments are in accordance with the National Joint Council's Scheme of Conditions of Service, and will be subject to the Local Government Superannuation Act, 1937. The successful candidate will be required to pass a medical examination.

Applications, accompanied by copies of three recent testimonials, should reach me not later than Friday, the 2nd April, 1948.

J. E. RICHARDS,
Town Clerk.

The Guildhall, Nottingham. 1091

GLAMORGAN COUNTY COUNCIL.
COUNTY PLANNING DEPARTMENT.

Applications are invited for the following appointments, in the above Department:—

(*a*) AREA PLANNING OFFICER. Salary of £750, rising by annual increments of £50 to a maximum of £850, plus a cost-of-living bonus amounting to £59 19s. 3d. per annum.

(*b*) PRINCIPAL PLANNING ASSISTANT AT CARDIFF (Development Plan). Salary in accordance with Grade VIII (Administrative, Professional and Technical), of the National Joint Council's scale of salaries, £685 per annum, rising by annual increments of £25 to a maximum of £760 per annum.

(*c*) SENIOR PLANNING ASSISTANT AT CARDIFF. Salary in accordance with Grade VI (Administrative, Professional and Technical) of the National Joint Council's scale of salaries, £595 per annum, rising by annual increments (two of £20 and one of £25) to a maximum of £660 per annum.

(*d*) CHIEF PLANNING ASSISTANTS IN AREA OFFICES. Salary in accordance with Grade V (Administrative, Professional and Technical) of the National Joint Council's scale of salaries, £520 per annum, rising by annual increments (two of £15 and one of £20) to a maximum of £570 per annum.

(*e*) PLANNING ASSISTANTS AT CARDIFF AND IN AREA OFFICES. Salary in accordance with Grade IV (Administrative, Professional and Technical) of the National Joint Council's scale of salaries, £480 per annum, rising by annual increments of £15 to a maximum of £525 per annum.

(*f*) PLANNING ASSISTANTS AT CARDIFF AND IN AREA OFFICES. Salary in accordance with Grade II (Administrative, Professional and Technical) of the National Joint Council's scale of salaries, £420 per annum, rising by annual increments of £15 to a maximum of £465 per annum.

(*g*) PLANNING ASSISTANTS IN AREA OFFICES. Salary in accordance with Grade I (Administrative, Professional and Technical) of the National Joint Council's scale of salaries, £390 per annum, rising by annual increments of £15 to a maximum of £435 per annum.

Area Offices will be situated at Neath, Bridgend and Pontypridd.

The appointments will be subject to the National Scheme of Conditions of Service, the staffing regulations of the County Council from time to time in force; the provisions of the Local Government Superannuation Act, 1937. Appointment (*a*) will be subject to three calendar months' notice on either side, while the remaining appointments will be subject to one calendar month's notice on either side. The successful candidates will be required to pass a medical examination. Applicants must not be over 45 years of age, but this condition may be relaxed in the case of a person already in the service of the County Council, or a specially suitable candidate employed by another local authority. In the case of ex-Service applicants, the age limit will be raised by the number of years served in H.M. Forces during the recent war.

Area Planning Officers will be required to provide and maintain motor cars, for which an allowance will be made on the appropriate scale.

Applicants for appointments (*a*) and (*b*) must be Corporate Members of the Town Planning Institute, and preference will be given to candidates holding in addition other suitable professional qualifications, which must have been obtained by examination.

Applicants for appointments (*c*), (*d*), and (*e*) must be Corporate Members of the Town Planning Institute, or hold other suitable academic or professional qualifications, which must have been obtained by examination.

Applicants for appointments (*f*) and (*g*) must be University Graduates, or have passed the Intermediate examination of suitable professional bodies.

Full particulars of the appointments may be obtained from the County Planning Officer, Mr. E. John Powell, M.Inst.C.E., County Hall, Cardiff, to whom applications should be addressed, stating age, qualifications, experience and present salary, accompanied by a copy of a recent testimonial and the names and addresses of two referees. The latest date for receipt of applications is 6th April, 1948. Envelopes should be endorsed "County Planning Appointments."

A. CLIFFORD WALTER,
Deputy Clerk of the County Council.

Glamorgan County Hall, Cardiff.
8th March, 1948. 1070

METROPOLITAN BOROUGH OF SHOREDITCH.
APPOINTMENT OF ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of a Temporary Architectural Assistant, at a salary in accordance with the National Scale of Salaries, A.P.T. Division, Grade II (£420×£15 to £465), plus £20 per annum London weighting.

Applicants should have good general architectural experience in the design and construction of flats, and preferably have passed the Intermediate examination of the R.I.B.A.

Applications, stating age, qualifications, experience, and copies of three recent testimonials, should be delivered to the Borough Architect, Town Hall, Old Street, E.C.1, in an envelope endorsed "Architectural Assistant," not later than the 31st March, 1948.

R. CYRIL RAY,
Town Clerk.

Town Hall, Old Street, E.C.1.
8th March, 1948. 1072

LANCASHIRE COUNTY COUNCIL.
COUNTY PLANNING DEPARTMENT.

Applications are invited for the appointment at headquarters, Preston, of ASSISTANT PLANNING OFFICER (Urban Planning), at a consolidated salary of £1,060 a year, rising by annual increments of £50 to £1,310 a year.

Candidates should preferably possess one or more of the following qualifications:—University Degree in Civil Engineering or Architecture; A.M.T.P.I.; A.M.I.C.E.; A.R.I.B.A.; A.M.I.Mun.E.; P.A.S.I. In addition they must have wide practical experience in the preparation and administration of planning schemes affecting urban areas, and should have a thorough knowledge of the operation of the various Acts and Orders dealing with town and country planning.

The appointment will be subject to the provisions of the Local Government Superannuation Act, 1937, and the person appointed will be required to pass a medical examination.

Testimonials are not required, but applicants should give the names and addresses of two persons who would be prepared to testify to their character and ability.

Applications, stating age, qualifications and experience, should be received by the undersigned not later than the 3rd April, 1948.

R. H. ADCOCK,
Clerk of the County Council.

County Offices, Preston. 1066

NORFOLK COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the permanent appointment of ASSISTANT ARCHITECT, at a salary in accordance with National Grade, VI (£595-£660 p.a.). Candidates must be registered architects, and must hold a recognised architectural qualification; they must have had a good general architectural experience, and have a sound knowledge of design, construction and specifications. The appointment will be subject to the Local Government Officers' Superannuation Acts, to a satisfactory medical certificate, and to one month's notice on either side. National Scheme of Conditions of Service will apply.

Applications must state clearly age, qualifications, full details of training, experience, and previous appointments, with dates, salaries, and designations; the names and addresses of three persons to whom reference may be made, must be stated. Applications must be delivered to Mr. C. H. Thurston, L.R.I.B.A., F.R.I.C.S., County Architect, 25, Thorpe Road, Norwich, not later than Thursday, 1st April, 1948.

H. OSWALD BROWN,
Clerk of the Council.

County Offices, Thorpe Road, Norwich.
8th March, 1948. 1082

Applications are invited by the Ministry of Supply for the following unestablished posts in the Department of Atomic Energy, at their Windscale Works, Sellafield, Cumberland.

ASSISTANT MANAGER (PRODUCTION).

The candidate selected will be responsible for the technical control of certain plant for the production of Atomic Energy; for obtaining and interpreting technical data and, on the basis of this data, recommending, if necessary, modified operating conditions. It will also be necessary to apply the results of research in nuclear physics to production plants.

Applicants should either be corporate members of one of the Institutions of Civil, Mechanical or Electrical Engineers, or have passed examinations recognized by any of these Institutions as granting exemption from their examination for associate membership. Alternatively, they should either have an honours degree in metallurgy, engineering, chemistry, physics or chemical engineering or have associateship of the Royal Institute of Chemistry, the Institution of Metallurgists or the Institute of Physics, and have at least three years' approved experience in a chemical factory or industrial laboratory; or have corporate membership of the Institution of Chemical Engineers. Preference will be given to candidates who have had engineering or chemical experience in industry.

Salary will be assessed according to qualifications and experience within the range £720-£960 p.a. inclusive.

ASSISTANT MANAGER (BUILDING WORKS).

The candidate selected will be directly responsible to the Chief Factory Engineer for the repair and maintenance of factory buildings containing chemical and allied plant, the maintenance of the estate, and the design and construction of additions and alterations to buildings, roads, railways and drainage works, etc.

Candidates must either have corporate membership of the Institution of Civil Engineers or have passed examinations recognized by this Institution as granting exemption from sections "A" and "B" of their examination for associate membership. They should have been engaged in a managerial capacity for a considerable period on work of the nature indicated above.

Salary will be assessed according to qualifications and experience within the range £720-£960 p.a. inclusive.

Candidates will normally be confined to natural born British subjects, born within the United Kingdom or in one of the self-governing Dominions, of parents also born in the United Kingdom or in one of the self-governing Dominions.

Applications, stating age, experience, and qualifications, should be forwarded to the Staff Section, Ministry of Supply, Department of Atomic Energy, Risley, Warrington, Lancs. 1053

ARCHITECTS.—Applications are invited from qualified Architects for appointment to the Professional staff of the Agricultural Bank, Hobart, Tasmania. Salary range, £546-£598 plus cost of living allowance at present £26 per annum. Applications and enquiries to Agent General for Tasmania, Golden Cross House, Charing Cross, W.C.2. 1093

SURREY COUNTY COUNCIL.
APPOINTMENT OF CHIEF QUANTITY SURVEYOR.

Applications are invited for the appointment of Chief Quantity Surveyor. The salary will be £1,250 per annum, rising by annual increments of £50 to a maximum of £1,400 per annum. The point on the scale at which the successful applicant will commence will depend on qualifications and ability.

Applicants must be Members of the Royal Institution of Chartered Surveyors (Quantities Sub-Division), and should have a wide experience in the preparation of approximate estimates and Bills of Quantities, adjustment of accounts, and other works which are incidental to the position of Chief Quantity Surveyor in a Local Government Department. The successful applicant will be expected to possess tact and initiative, and be experienced in the control of staff.

The appointment will be subject to one month's notice on either side, and to the provisions of the Local Government Superannuation Act, 1937. The successful candidate will be required to pass a medical examination.

Applications, stating age, full details of previous experience, and qualifications, accompanied by copies of three recent testimonials and the names of three referees, should be sent to the County Architect, Surrey County Council, County Hall, Kingston-upon-Thames, not later than Saturday, the 10th April, 1948.

The Council will be unable to provide any housing accommodation, and the successful applicants will be expected to make their own arrangements in this direction.

DUDLEY AUKLAND,
Clerk of the Council.

County Hall, Kingston-upon-Thames. 1079

COUNTY BOROUGH OF STOCKPORT.

Applications are invited for the positions of:—
TOWN PLANNING ASSISTANT. A.P.T., Grade III (£450-£495 per annum).
ARCHITECTURAL ASSISTANT. A.P.T., Grade II (£420-£465 per annum).
ARCHITECTURAL ASSISTANT. A.P.T., Grade I (£390-£435 per annum).

The appointments will be subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidates will be required to pass a medical examination.

Candidates must disclose in their applications whether to their knowledge they are related to any member of the Council or any Senior Official of the Corporation.

Applications, stating age, qualifications and experience, together with copies of two recent testimonials, must be delivered to the undersigned not later than Monday, 12th April, 1948.

Canvassing, directly or indirectly, will be a disqualification.

WM. F. GARDNER, M.I.C.E.,
Borough Surveyor.

Town Hall, Stockport. 1088

DAVENTRY RURAL DISTRICT COUNCIL.
ARCHITECTURAL ASSISTANT.

The above Council invite applications for the appointment of Architectural Assistant in the Surveyor's Department. The appointment is of a temporary nature, but is expected to last several years. Preference will be given to applicants who are Members of the R.I.B.A.

The appointment will be in accordance with the National Scheme of Conditions of Service and graded under the Administrative, Professional and Technical Division, Grade V (Salary, £460-£510 per annum plus bonus). Travelling allowance will be paid according to the scale approved by the National Joint Council.

Applications, on the forms to be provided, should be received by the undersigned not later than 10th April, 1948.

Candidates must disclose in writing whether to their knowledge they are related to any member or Senior Officer of the Council, and canvassing, either directly or indirectly, will disqualify.

G. B. SAINT,
Clerk to the Council.

44, High Street, Daventry.
13th March, 1948. 1095

NORTHERN POLYTECHNIC,
HOLLOWAY, N.7.

The Governing Body invite immediate applications for appointment to the full-time staff of the School of Architecture as Studio Master in Architectural Design and Construction. Applicants should be Associates or Fellows of the R.I.B.A. and should preferably have been trained in one of the Recognised Schools.

Some teaching experience will be an advantage, but it is not essential. Duties will commence as soon as an appointment is made. The salary will be in accordance with the Burnham (Technical) Scale. Members of the staff of the School are afforded reasonable opportunities for private practice, and the hours of teaching duties may be adjusted accordingly.

Forms of application, together with full particulars, will be forwarded on receipt of a stamped, addressed foolscap envelope.

R. H. CURRELL,
Clerk.

1091

COUNTY BOROUGH OF WALSALL.
PUBLIC WORKS DEPARTMENT.

Applications are invited for the following appointments :—

(a) CHIEF ENGINEERING ASSISTANT—GRADE VIII (£685-£760).

(b) SENIOR ARCHITECTURAL ASSISTANT—GRADE VI (£595-£660).

(a) Applicants for the post of Chief Engineering Assistant must have had general civil and municipal engineering experience, and preference will be given to those who hold a university degree and are corporate members of the Institution of Civil Engineers or of the Institution of Municipal Engineers.

(b) Applicants for the post of Senior Architectural Assistant must have had architectural experience in connection with housing and schools, and preference will be given to Associates of the Royal Institute of British Architects.

Both appointments are subject to the provision of the Local Government Act, 1937, and in each case the selected candidate will be required to pass a medical examination.

Applications, giving age, details of qualifications and experience, together with copies of 3 recent testimonials, should be received by the undersigned not later than 5th April, 1948.

In the case of the Chief Engineering Assistant, a flat is available should housing accommodation be required.

M. E. HABERSHON,
Borough Engineer and Surveyor.

Council House, Walsall.
11th March, 1948. 1094

CITY OF OXFORD EDUCATION COMMITTEE.
SCHOOLS OF TECHNOLOGY, ART AND COMMERCE.
SCHOOL OF ARCHITECTURE AND BUILDING.

Applications are invited for the post of FULL-TIME STUDIO INSTRUCTOR AND LECTURER in Architectural Construction and Materials. Applicants must be Members of the R.I.B.A., and should preferably be holders of a degree or diploma of a recognised School of Architecture. Special experience and knowledge of Science applied to Building will be an additional qualification. The successful candidate will be required to take up duty from 1st September, or earlier if possible. Salary will be paid in accordance with the Burnham (Technical) Report.

Forms of application and further particulars may be obtained on receipt of a stamped addressed envelope from the Chief Education Officer, 77, George Street, Oxford, to whom completed forms must be returned as soon as possible, and in any case not later than a fortnight from the date of the appearance of this advertisement. 1085

CAMBRIDGESHIRE COUNTY COUNCIL.
COUNTY PLANNING DEPARTMENT.

Applications are invited for the appointments of TWO JUNIOR PLANNING ASSISTANTS, at a salary in accordance with Grade I of the Miscellaneous Division of the National Joint Council's Scales (£255-£300 per annum), plus cost-of-living bonus (at present £59 16s. per annum).

Applicants should possess a high standard of draughtsmanship, imagination, and colour sense, preferably with experience of map preparation and revision. Opportunities for a variety of interesting work will be afforded.

The appointments are subject to the provisions of the Local Government Superannuation Act, 1937, and the passing of a medical examination.

Applications, giving age and full details of education, experience, general interests, previous and present appointments, together with the names and addresses of two persons to whom reference may be made, should be made in writing and be received by the undersigned not later than 29th March, 1948.

CHARLES PHYTHIAN,
Clerk of the County Council.

Shire Hall, Castle Hill, Cambridge. 1087

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

The Council invite applications for the full-time appointment of LIBRARIAN to the Institute. The primary requirement is a knowledge of architecture. Experience of library administration will also be considered an advantage. Applicants must be aged between 30 and 45. Minimum salary £750, rising by annual increments of £25 to £1,000, less superannuation contributions of 5 per cent.

Forms of application and further particulars may be obtained from the Secretary, R.I.B.A., 66, Portland Place, W.1. Applications must be submitted not later than 10th April, 1948. 1092

Architectural Appointments Vacant

4 lines or under, 5s.; each additional line, 1s. 6d.

ARCHITECTURAL ASSISTANT (Inter. R.I.B.A. standard) required for progressive practice; experience of farms, house conversions and estate work an asset; commencing salary £375. Please write, with full particulars, Edward Narracott, A.R.I.B.A., 48, Torwood Street, Torquay. 1031

SENIOR ARCHITECTURAL ASSISTANT.—First-class, with extensive experience in multi-storey flats, office buildings, factories, also housing, etc., for employment in Eire by large Investment Construction Company. Applicants must be able to control office staff. State age, experience, qualifications, salary required, and enclose copies of references. Irish Estates, Ltd., Mespil House, Mespil Road, Dublin. 1075

ARCHITECTURAL ASSISTANT required in S.E. Kent; working drawings, specifications, and good general knowledge of construction essential; salary £400-£500, according to experience. Box 1065.

SENIOR ARCHITECTURAL ASSISTANT required immediately; salary according to qualifications and experience. Johns and Slater, F./A.R.I.B.A., 8, Lower Brook Street, Ipswich. 1057

T. P. BENNETT & SON have vacancies for ARCHITECTURAL ASSISTANTS, at 43, Bloomsbury Square, W.C.1; salaries, £500-£600, dependent on experience and ability. 1058

SENIOR ARCHITECTURAL ASSISTANT, age not exceeding 45, required for general architectural practice. Reply, giving experience and salary required, to Thomas Worthington & Sons, 178, Oxford Road, Manchester, 13. 1068

ARCHITECTURAL ASSISTANT required; capable of preparing working drawings and details from sketch plans; experience of modern hospital work desirable; 5-day week; Bloomsbury area. Write, stating age, experience, and salary required, Box 437, c/o 7, Coptic Street, W.C.1. 1083

ARCHITECT'S ASSISTANT required in Croydon office; must be experienced in working drawings and details, with sound practical knowledge of construction; experience in hospitals and schools desirable, but not essential. Write, stating age, previous experience, and salary required, to Box 1081.

ARCHITECTURAL or SURVEYING ASSISTANTS required by North-Eastern Brewery; help given with housing accommodation; permanency for right men, with entry into pension scheme. State age, experience, married or single, when free, and salary required, to Architect, Box 1080.

ARCHITECT'S ASSISTANT required in Midlands office; must be quick and accurate draughtsman, with experience in Industrial Buildings. Reply, with full particulars, salary required, etc., to Box 1077.

WANTED, in Architectural Department of Westminster Consulting Engineer, ARCHITECTURAL ASSISTANT, of Intermediate standard, with practical office experience, and capable of carrying out working drawings and details with minimum supervision; mainly brewery and flour milling work; salary, £420-£480 per annum. Box 1078.

ISLE OF MAN.—Associate requires ASSISTANT; Inter. standard; must be very good draughtsman, with practical experience; interviews Liverpool or London. Send full particulars and salary required to Box 1089.

Architectural Appointments Wanted

ARCHITECTURAL ASSISTANT (21), Inter. R.I.B.A. standard, 6 months' practical office experience, requires position immediately in London office. Box 42.

ARCHITECTURAL ASSISTANT requires post, with prospects, country or seaside town; varied experience, and knowledge of farm building requirements and design. Box 53.

ARCHITECTURAL ASSISTANT requires job in Sussex (or N. Border); 5½ years' site and office work and 5½ years in Royal Engineers; experience mainly domestic, but would welcome other work; interested in agricultural design, and has good knowledge of farming; please give details. Box 55.

Other Appointments Vacant

4 lines or under, 5s.; each additional line, 1s. 6d.

DRAUGHTSMAN required immediately in Office in Bedfordshire; able to make surveys and prepare working drawings; salary according to experience. Write particulars to Box 1016.

MANAGER required, capable, after settling down, of taking complete charge of Department; must know building trade practice as affecting Terrazzo, Granolithic and other forms of floor, staircase, and wall finishes and precast work; familiar with principles of site measurement, quantities, preparation of working drawings, and setting out, estimating, invoicing, buying materials, progressive supplies, and work on contracts, correspondence, etc.; works experience advantageous but not essential, but of over-riding importance is proved ability to exercise firm managerial control throughout. Full details of experience, age, salary required, in confidence, to Box 64, Allardyce Palmer, Ltd., 109, Kingsway, W.C.2. 1030

ESTIMATOR/SURVEYOR, capable of estimating Building and Civil Engineering contracts of any magnitude, from quantities or direct from drawings; conversant with current rates and conditions, preparation of progress and materials schedules, and able to work on own initiative subject only to finalization by Chief Surveyor; preference given to a man with continuous contracting experience; give details of experience and state salary required. Box 1073.

DRAUGHTSMAN with Architectural training for Exhibition Designing and Detailing. David Esdaile & Co. Ltd., 30, Stannary Street, Kennington, S.E.11. REL 1666. 1096

Services Offered

4 lines or under, 2s. 6d.; each additional line, 1s.

PART-TIME assistance offered; surveys and levelling for land and buildings, working-up drawings, quantities, drainage, housing schemes, etc. Box 888.

SCHOOL trained ASSISTANT (29), awaiting R.I.B.A. final result in April, requires progressive position. Box 1056.

ARCHITECTURAL STUDENT, age 20, with architecture as hobby, would like position in London architect's office, with increment. Box 1029.

GENTLEMAN, with extensive experience in the Building Industry, and very large personal connection with Architects, Surveyors and Local Authorities, seeks appointment with progressive company desiring experienced representation. Box 54.

ARCHITECT, with wide experience in public buildings, industrial work, hospitals, housing, etc., is free to give part-time assistance in the Midlands; two or three days a week available. Box 1090.

For Sale

4 lines or under, 5s.; each additional line, 1s. 6d.

FOR SALE.—Three Screw Surveyor's Level, by Cooke; fitted studio webs, compass; good condition, little used. Also 14-ft. Staff. Offers to Box 1027.

FOR SALE.—Available for immediate delivery: 200 Cast-iron Cisterns, 2 and 2½ gall., both painted and galvanized; 300 Cast-iron Manhole Covers and Frames, 24 in. by 18 in. by 56 lbs., and heavier. Taylor Bros. & Co., Seaton Street, Hull. 'Phone 36135. 1067

FOR SALE.—Galvanized Twisted Wall Tiles (Fishtail), 8 in. by 2 in. by ⅛ in.; 3 tons available for immediate delivery. Box 1062.

FOR SALE.—Linen and Hessian Scrim available for immediate delivery; also Paper-backed Scrim. Taylor Bros. & Co., Seaton Street, Hull. 'Phone 36135. 1061

FOR SALE.—Secondhand, Ruthurstat, Plan Printing Machine; size of print, 2 ft. 6 in. by 1 ft. 10 in.; good condition. Apply Borough Surveyor, Town Hall, Colwyn Bay. 1086

Miscellaneous

4 lines or under, 5s.; each additional line, 1s. 6d.

A. J. BINNS, LTD., Specialists in the supply and fixing of all types of fencing, guard rail, factory partitions and gates. Harvest Works, 99-107, St. Pauls Road, N.1. Canonbury 3061.

NEWER HEAT DISPLAY, Building Centre, Conduit Street, W.1. New solid-fuel appliances. New heating methods. New standard of home comfort. Open 10-5. Organised by the Coal Utilisation Joint Council. 730

STUDENT, R.I.B.A. final exam., requires personal tuition in Theory of Structures. Box 1076.

PHOTO COPIES IN 24 HOURS.—Hi-speed photo copies of all Documents, Blue Prints, Plans, Illustrations, etc., including extensive repetitions if needed; 10 in. by 8 in. positives, 1s. each. Other sizes at relative rates; generous quantity discounts; 'phone orders promptly fulfilled. Ring Terminus 4431. City Reproduction Centre, Argyle House, 29-41, Euston Road, N.W.1; opposite St. Pancras. 1025

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CENTRAL HEATING OIL BURNERS.—Insist on the British-made Parwinac—no stoking, clean, trouble free; no waiting for coal or coke deliveries; no embargo now. Write at once to Parker, Winder & Achurch, Ltd., Makers, 81, Broad Street, Birmingham, 1.

ISOMETRIC, Logarithmic and Graph Sheets. Write for a "Chartwell" List. W. Heffer & Sons, Ltd., Dept. S.H., Cambridge.

PERSPECTIVES, Wash Drawings, Lettering.—For every kind of activity demanding the expert use of pencil, pen and brush. B. Laverty, 44, Aldershot Road, Guildford, Surrey. 944

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SOUTH AFRICA.—The Builder's paradise, liner and rail, £100; no waiting. Write O.P.S.A. Club, Veryan, Cornwall, stating desired date. 1060

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