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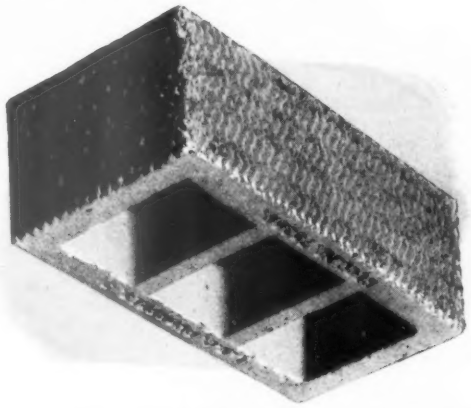

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B

THE ARCHITECTS' JOURNAL

THURSDAY, JANUARY 20, 1938. NUMBER 2244 : VOLUME 87

THE ARCHITECTS' JOURNAL
WITH WHICH IS INCORPORATED THE BUILDERS' JOURNAL AND THE ARCHITECTURAL ENGINEER, IS PUBLISHED EVERY THURSDAY BY THE ARCHITECTURAL PRESS (PUBLISHERS OF THE ARCHITECTS' JOURNAL, THE ARCHITECTURAL REVIEW, SPECIFICATION, AND WHO'S WHO IN ARCHITECTURE) FROM 9 QUEEN ANNE'S GATE, WESTMINSTER, S.W.1

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

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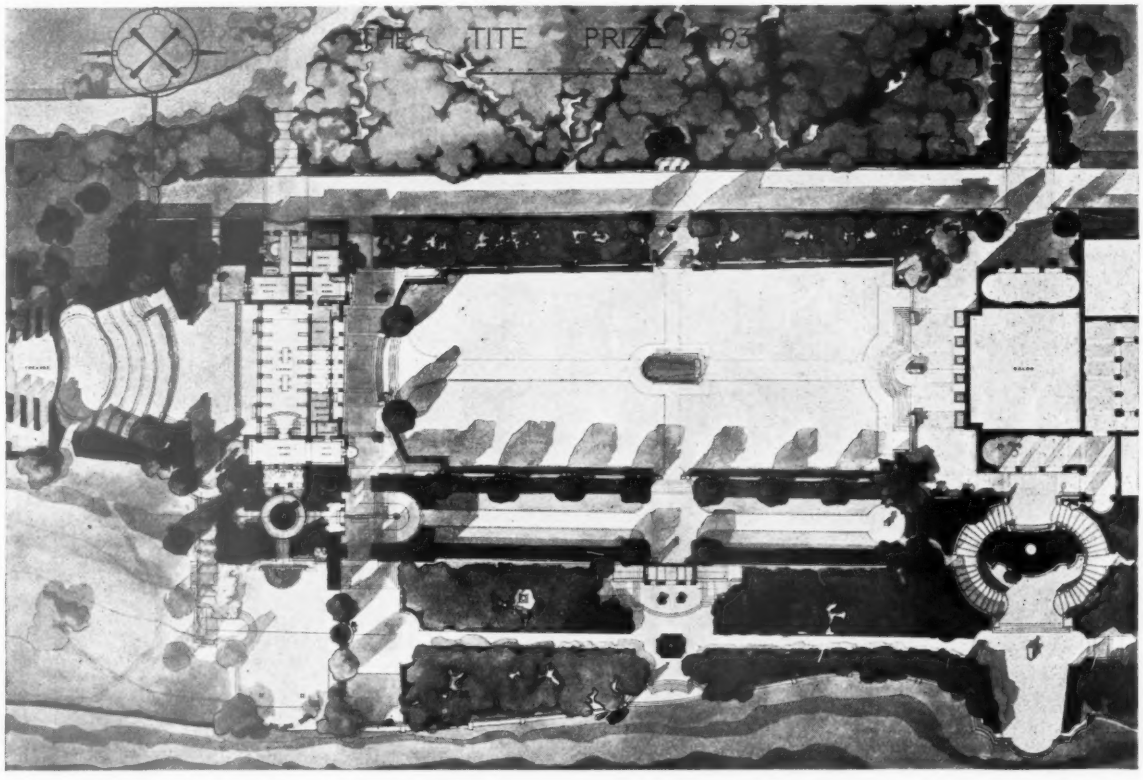
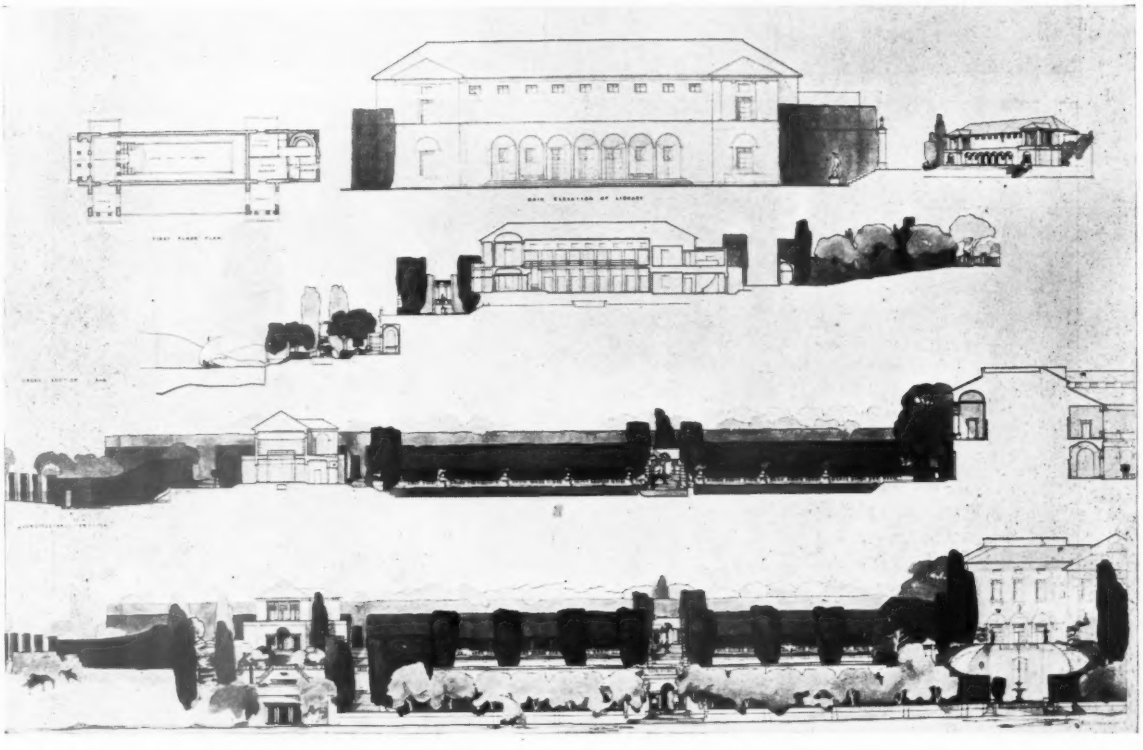
R.I.B.A. PRIZES AND STUDENTSHIPS





The drawings submitted in the competitions for the R.I.B.A. prizes and studentships are now on exhibition at the R.I.B.A., and will remain on view until January 31. On this page we reproduce the winning design, by Mr. Ian F. Warwick (School of Architecture, Polytechnic, Regent Street, W.1), in the competition for the Tite Prize. The subject set was : A library and a formal garden in Northern Italy.

The winning schemes in the competitions for the Soane Medallion, Alfred Bossom Studentship and the Grissell Gold Medal are reproduced elsewhere in this issue.

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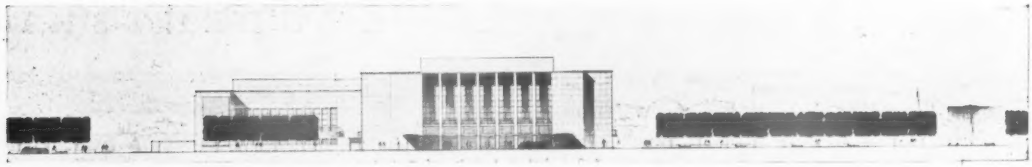
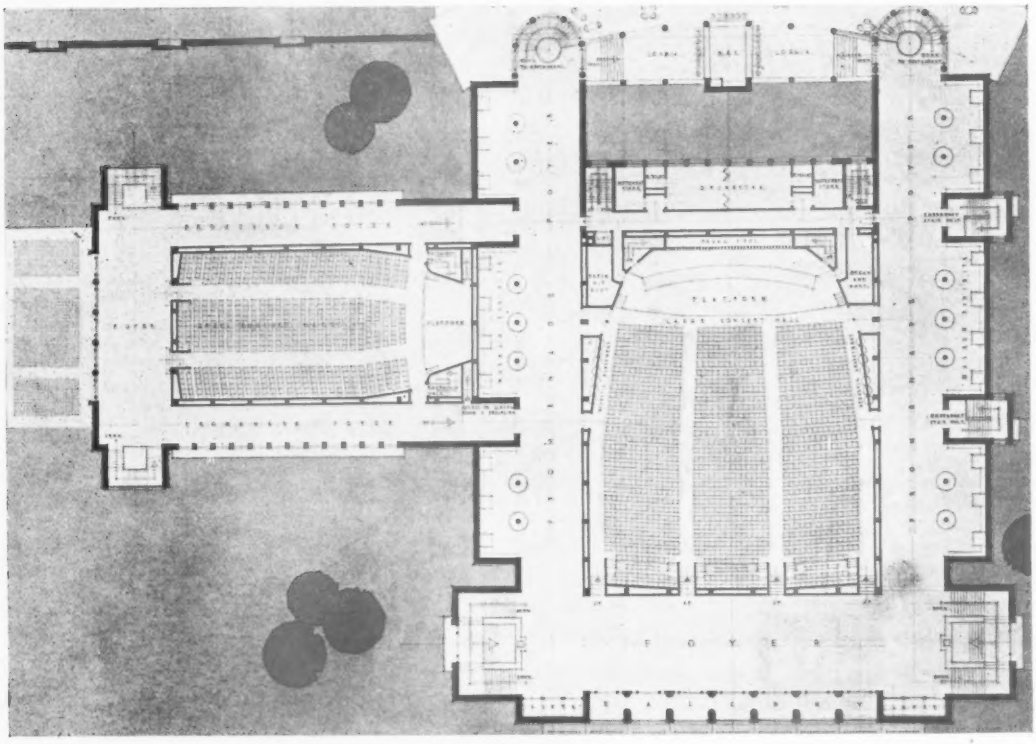
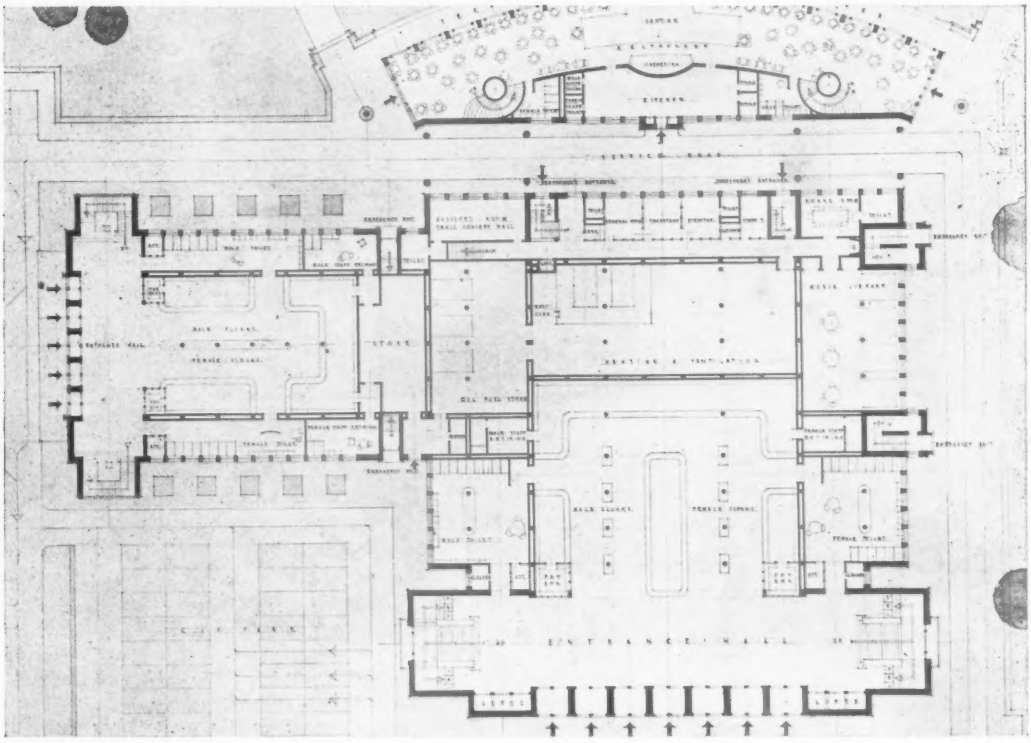
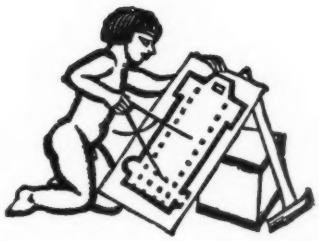






R.I.B.A. PRIZES AND STUDENTSHIPS

The Soane Medallion : East elevation and ground and first floor plan of the winning design, by Mr. John Needham (Leeds School of Architecture). The subject set was : A musical centre in a public park.



APP. EST. *ET CET*

PRICES are so quaint. Those who have been persuaded by a desire to understand something of the economy under which we live are early brought into agreement with the experts on this one point—on the extraordinary quaintness of the prices of goods and services as reckoned in modern monetary systems.

One cannot be mealy-mouthed over prices. In the building industry, just as in the whole national economy, the student of prices at once faces what is called the perpetual centrifugal tendency. This merely means that, while it is in the interest of each person to get as much for as little work as he possibly can, he always is confronted and continually distressed by the realization that everyone else, and every other trade, partnership or what not, is trying to do exactly the same thing ; whereas, to suit him, they ought to be doing the opposite and giving as much for as little as will keep them in business. Only the necessity for everyone to go on living somehow imparts a queasy stability to the prices in which these opposite aims are expressed.

In their capacity of advisers to those who build architects cannot help being tangled up in the building industry's section of the struggle. Some architects, the more fortunate, have their quantity surveyors always with them and, perfectly trained, do not hazard a guess at the price of a bath without expert authority. From those outstanding samples of the division of labour the profession descends pyramid-wise to a broad base consisting of those who, though they may not be able to take off a perfect bill of quantities, can certainly do everything else—can browse happily through day sheets striking out half-crowns, strictly attending to the smallest items of building costs every day of their lives.

To whichever part of the pyramid they belong does not, however, affect one affair in which architects and building costs are concerned—the matter of estimating the cost of proposed new works. Here it is only a rare and lucky man who can escape the necessity of checking the estimates of others. To be £500 too low in estimating the cost of a £3,000 house—well, we all know how this comes about. But to be £500 too high, though more rare and less dismaying, is almost equally a nuisance ; the battles of extra bathrooms, the terrace and the study—all must be fought over again.

The dominant matter in which prices affect the architect is therefore his struggle to estimate within 5 per cent. of the lowest genuine tender. Among pressure of external events on the industry, struggles, groupings, price rings, competition and eyes to the main chance within, this is never easy.

So it was with humility that, a year ago, the JOURNAL decided to try to help architects, quantity surveyors and builders by compiling a new series of prices which would not suffer from the limitations of those already published. No one will be surprised to hear that difficulties were encountered. Since the first of the four weekly sections (which together make up the complete list) appears next week some of the solutions adopted may be usefully mentioned.

First, as to form. The first two sections each month will contain the current market prices of materials—a list often used by the architect for checking items, but perhaps generally of more use to the rest of the industry. The next two weeks will contain the list of measured rates which will be greatly used by architects.

The fourth week will also, however, contain a list of Approximate Estimates—of the same type which have appeared from time to time in Information Sheets —which enable architects to calculate far more accurately than by cubing the cost of a complete structural unit, such as a wood floor and ceiling under. The usefulness of these in calculating alteration or variation costs is obvious.

Labour rates, which only alter at long intervals, will be published when the changes occur.

Finally, to help those who use the lists regularly, items which have altered in price since the previous month will be marked to show whether they have risen or fallen. This method may also be used for quarterly or half-yearly comparisons if changes are sufficient to justify it.

Second, as to content. It is obvious that no list of prices or measured rates can now be complete when published in a weekly journal, and it has therefore been necessary to make arbitrary selections. The JOURNAL has attempted to include a thoroughly representative selection of materials and labours which are at present widely used. Often it has been compelled to exclude perfectly sound products for lack of space. Sometimes it has included materials which may be no better than other products in their own class merely because, being better known, they more accurately indicate price movements. In one or two cases desirable products will not be included because their makers are unwilling to have them placed cheek by jowl with products lower in price without some indication of superior qualities. The JOURNAL believes this attitude to be understandable, but mistaken; for those who will consult these lists are, it hopes, possessed of some ability in appraisal.

These lists are in general, however, as impartial and representative as the efforts of their compilers can make them. In the belief that editorial supervision is not enough, we have invited Messrs. Davis and Belfield, the well-known firm of quantity surveyors, to conduct the whole section under their own name, so that the user may be satisfied not merely that the prices are impartial, but that their accuracy and usefulness are guaranteed by the reputation of a firm of standing in the building trade.

Any questions or suggestions should be sent to this office addressed to Messrs. Davis and Belfield, to whom they will be sent.

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NOTES & TOPICS

PRICES

LIKE the rest of our trade I cannot escape spending time over building prices. Enthusiasm may regrettably be wanting; necessity continues to drive. And I like to think that by now I can spot builders coming round the bush over extras and omissions as well as other men.

*

The JOURNAL now says that from next week things are to be much easier for all of us. Next week it will begin to publish a Prices Supplement in four weekly sections, which is to be very good indeed.

*

Some of it has been shown to me. The prices of materials are awe-inspiring and the measured rates—more useful to most architects—had everything, apparently, except that which I first looked up.

*

Messrs. Davis and Belfield, inventors of Approximate Estimating, are responsible for the supplement and are including in it, once a month, further examples of their ready reckoner.

*

As I am told the prices are the result of a year's thought and work they ought to be looked at.

ST. GEORGE'S

The Conditions for this competition have been available only for a week. In that time study of them cannot be complete; but enough has been grasped of them by possible competitors to cause surprise.

*

St. George's, right in London's eye, is perhaps the most widely known of all hospitals. It is expected to do things in a big way, and the appeal so prominently displayed during the last year or so: "We Want a Million" showed a boldness, and attracted a sympathy, which made most people feel that the million would be got.

*

Architects expected the same boldness in the competition. If St. George's had to rebuild where it was, with more beds, more everything and all of the best—then it seemed essential that competitors should be invited to build high and to pay extraordinary attention to sound-proofing and ventilation.

*

The study of the Conditions which has so far been possible appears to show that the Governors of St. George's think otherwise. Height is 85 feet, sound-proofing and ventilation are left to the imagination of the architect and a hospital for 150 patients has to be kept going throughout the entire re-building.

*

Patients in London hospitals have always to put up with a lot—but this beats Coronation stands.

TUDORING NOTES

A project to "Tudorise" St. John's Square, Cardiff, has been approved by the local Town-planning Committee.

*

The scheme has been strongly criticized by Mr. Alwyn Lloyd, but Mr. Percy Thomas, with the caution sometimes acquired by Presidents, says: "It all depends on the quality of the work."

*

I am surprised to see it reported that the Marquess of Bute, who has done such good work in Edinburgh, has given the scheme his personal support, as well as the impersonal support of the ground he owns.

*

In this he sees eye to eye with the young Lord Bracket (or was it Brocket?) to whom the JOURNAL awarded its laurel-wreath last year for the most extraordinary string of remarks made by any official of the C.P.R.E.

*

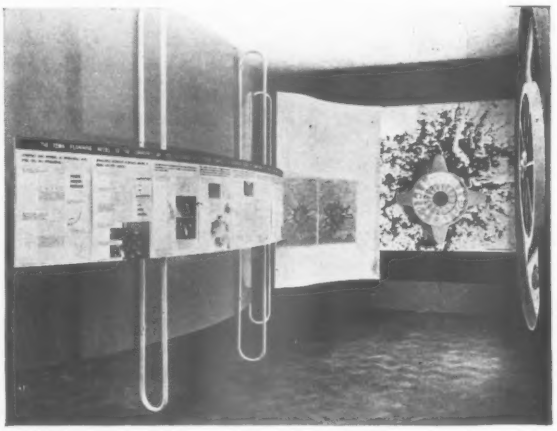
With great regret (remembering Edinburgh) the JOURNAL must now place the Marquess of Bute on its reserve list of peers who want watching.

*

The Lord Mayor of Cardiff also likes the idea. He, ignoring Liverpool, Edinburgh and Bristol, says: "We have in Cardiff the principal school of architecture outside London, and the value to students of this proposed set of buildings in such close proximity to the school cannot be over-estimated."

*

It would be stark tragedy if it were.



The town planning and transport section of the MARS Exhibition, now being held at the New Burlington Galleries, Burlington Gardens, W.1. The Exhibition is reviewed on pages 121-126 of this issue and the photograph above is taken from viewpoint 5 on the layout plan on page 122.

Mr. John Needham, of the Leeds School of Architecture, winner of the Soane Medallion and the Alfred Bossom Studentship.

RISING STANDARDS

The " hall-marked " house is a new idea introduced by the Master Builders' Association, who propose that the prospective purchaser shall have his house inspected during erection and after completion by their surveyor.

*

If the survey is satisfactory, " the builder inserts in a prominent position an air-brick of special design, as evidence that the house has been well and truly built."

*

So far one house has been marked in this way. The scheme is a rival one to that proposed by the National Builders' Registration Council.

*

After a satisfactory inspection by the latter's surveyors, the purchaser is given, instead of an airbrick, a certificate signed by Sir Raymond Unwin and Mr. G. F. Armitage, the Secretary to the Registration Council.

QUALIFICATIONS

A magnificent article in *John Bull* dealing with the Registration Bill described the hair-raising results of employing quack-architects—" men," it said, " who could not even draw a line with a ruler."

*

I must admit to failing at this test myself. I have always found the assistance of a pencil necessary, and I haven't seen a ruler—the shiny, yellow, chewed sort—for many years. The very word brings back memories of pivot-hinged double-decker pencil boxes, and the little black water-colour boxes, the colour and consistency of whose stony little paints gave them the appearance of linoleum samples.

ON THE AIR

There was an informative little talk on the wireless the other day by Mrs. Ray Strachey, on " How to Build Your House."

*

The first thing was to consider the plans. " You take the number of rooms you want, and fit them within four walls. The essential things to remember are that fireplaces should lead into the same stack, and that all the drains must easily come out of the house."

*

Then come the foundations. " Concrete is very dull. You make it by mixing cement and rubble and slopping it with water." (So dull that the speaker admitted taking two years to get in her foundations for a small bungalow.) Other invaluable tips were not to forget the dampcourse, nor, when bricklaying, " to leave places for the doors and windows. This is surprisingly easy to overlook."

*

" Any odd holes," Mrs. Strachey reassuringly concluded, " should be filled up with mortar."

MOK

The daily papers have taken adequate notice of the regrettable death of Mok, the Zoo's male gorilla. But I feel that the architectural papers should pay a word of tribute to him too. The modern buildings that Tecton have designed for the Zoo have made much architectural news during the past few years ; and the first of them was built on the occasion of the arrival of the two gorillas.

*

In fact, Mok may be said to have been one of the first patrons of the modern house in this country.

*

One of his newspaper obituaries, by the way, contained a piece of unconscious humour that is perhaps worth quoting. The *Daily Express* concluded its paragraph by saying : " The loss of Mok will be keenly felt, not only by Zoo officials, but by the public at large "—the operative words of course, being the last two.

B.I.F. FORECAST

" Our stand, which is designed along the modernistic lines introduced some twelve months or so ago, will carry a full range of fixing devices as covered by the ' Fixing Devices ' brochure enclosed."

*

The technical handbook " ' Modern Fixing Practive,' will be an offer at the Stand to those interested in fixing problems and, as is our practice, we make no charge for a copy, providing there request is covered by an official heading or business card."

*

Now what could be fairer than that ? It should remind us all to polish up the official heading and lay in a good stock of cards and then off for the opening of the Sample and Literature season.

MARS

My faith in the British public is confirmed ; for the MARS Exhibition at the New Burlington Galleries is having the success it deserves. The attendance figures for the first week, I learn from a member of the Group, are 2,448, an average of 408 people for each of the six days it has been open. And the beautifully produced catalogue has already sold well over eleven hundred copies.

*

But, what is more important, the public is taking it seriously ; studying the exhibition thoroughly as it goes round, according to a number of observers who have mentioned it to me as most noticeable—which shows that there does exist a large public willing to take the intelligent man's interest in the architecture of his own day.

*

The other thing observers have noticed is the surprising preponderance of men over women among the visitors ; in most exhibitions it is the other way about. What this is a sign of I have no idea.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

First and second premiated designs in the Keighley Competition SUPPLEMENT

The first section of a new pricing supplement compiled for the JOURNAL *by Messrs. Davis and Belfield will appear next week* 115

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Professor Reilly on official architecture 119

A NEW COMPETITION

The Corporation of Yeovil invites architects to submit designs for proposed new town hall, municipal offices, public library and museum. Mr. C. Cowles-Voysey, F.R.I.B.A., has been appointed assessor; and the following four premiums are offered: £200, £150, £100 and £50. Conditions, etc., are obtainable from Mr. H. H. C. Batten, Town Clerk, Municipal Offices, King George Street, Yeovil (Deposit £1 1s.). The latest date for submission of designs is June 30.

NATIONAL JOINT COUNCIL FOR THE BUILDING INDUSTRY

At the statutory meeting of the National Joint Council for the Building Industry, under the chairmanship of Mr. G. H. Parker, held at the R.I.B.A. last week, the Council resolved: "That, having reviewed the wages payments in force under the National Joint Agreement, and finding that a variation amendment of the current standard rates is due to be made under Rule 11 (*b*) (i), this Council decides that on and from the first day of February, 1938, the current standard rates of wages shall be adjusted by an increase of one halfpenny per hour, the corresponding labourers' rates being adjusted proportionately as provided in the Rules. That accordingly the rates set out hereinunder (subject to any regrading decisions of the Council) shall be applicable until further constitutional review under the Rule."

Resulting from the application of this decision, the authorized grade rates payable on and from February 1 next will be as under:

	London District Within 12 miles radius	London District From 12-15 miles radius	Grade Classifications A	A1	A2	A3	B	B1	B2	B3	C
Craftsmen..	1/9	1/8½	1/7½	1/7	1/6½	1/6	1/5½	1/5	1/4½	1/4	1/3½
Labourers..	1/3¾	1/3⅜	1/2¾	1/2¼	1/2	1/1½	1/1¼	1/0¾	1/0½	1/0	11¾d.

THE ARCHITECTS' DIARY

Thursday, January 20

R.I.B.A., 66 *Portland Place, W.1. Exhibition of the drawings submitted for the prizes and studentships. Until January* 31. 10 *a.m. to* 8 *p.m. Saturday* 5 *p.m.*

EXHIBITION OF MODERN ARCHITECTURE, *arranged by the MARS Group. At the New Burlington Galleries, Burlington Gardens, W.1. Until January* 29. 10 *a.m. to* 8 *p.m.*

HOUSING CENTRE, 13 *Suffolk Street, S.W.1. Exhibition: "Rural Housing." Until the end of January.*

INSTITUTION OF CIVIL ENGINEERS (Yorkshire Association). *Annual Dinner, at the Queen's Hotel, Leeds.* 7 *p.m.*

INSTITUTION OF ELECTRICAL ENGINEERS, *Savoy Place, W.C. "The Design of Domestic Electric Cookers." By O. W. Humphreys.* 6 *p.m.*

ARCHITECTURAL ASSOCIATION, 36 *Bedford Square, W.1. Exhibition of works by Hector Whistler, including decorative schemes for mural paintings, glass decorations, and others. Until January* 31. *Also, talk to assistants and young architects by Sir Edwin Lutyens, R.A.* 8 *p.m.*

Friday, January 21

INSTITUTION OF STRUCTURAL ENGINEERS, *Yorkshire Branch. At the Hotel Metropole, Leeds. "The Legal Position of the Engineer in Structural Engineering Contracts." By W. T. Creswell. Lancashire and Cheshire Branch. At the College of Technology, Liverpool. "Reconstruction of Temple Meads Station, Bristol." By J. F. Bickerton.* 7 *p.m.*

LONDON SOCIETY. *"Housing Workers in the London Area." By Elizabeth Denby.* 5 *p.m.*

REIMANN SCHOOL, 4 *Regency Street, S.W.1. "Painter, Sculptor and Designer." By Dr. Nikolaus Pevsner.* 8 *p.m.*

Saturday, January 22

ST. PAUL'S ECCLESIOLOGICAL SOCIETY. *Visit to St. Anselm, Davies Street, W.* 2.30 *p.m. Also, St. George, Hanover Square, W.* 3.30 *p.m.*

Monday, January 24

LONDON SOCIETY. *Visit to the Building Centre, New Bond Street, W.1.* 3 *p.m.*

R.I.B.A., 66 *Portland Place, W.1. President's address to students and presentation of medals and prizes.* 8.30 *p.m.*

"IDEAL HOME" EXHIBITION: GLASS HOUSE COMPETITION

The first three premiated designs submitted in the above competition, together with a selection of about 40 sets of other competitors' drawings, are now on exhibition at the Building Centre, 158 New Bond Street, W.1. The exhibition will remain open until January 29.

Winner of the Owen Jones Studentship, Mr. J. R. Tolson, A.R.I.B.A.

R.I.B.A.

NEWS BULLETIN

General Meeting.—On Monday next, January 24, at 8.30 p.m., the President's address to students and the presentation of prizes and studentships. The Prize Drawings will be on exhibition until January 31, 10 a.m. to 8 p.m., Saturdays 5 p.m.

Health, Sport and Fitness Exhibition.—Lord Aberdare, Chairman of the National Fitness Council, is to open this Exhibition at the R.I.B.A. on Wednesday, March 2, at 3.30 p.m. The Exhibition is now well advanced, and promises to be one of the best that the R.I.B.A. Exhibition Committee has yet produced.

University Extension Lectures.—The University of London is continuing its Extension Lectures at the R.I.B.A. during the spring. The lecturer is Mr. E. R. Jarrett, A.R.I.B.A., and the subject "The Ideas Behind Good Building." There are to be ten lectures, every Thursday evening, at 6.30 p.m., beginning on January 27. They will be delivered in the Henry Jarvis Hall. Mr. Jarrett's first lecture will be a survey of his subject; the next three, a study of the historic background; the fourth will cover the nineteenth century; the last five will be entitled, respectively, "Modern Problems," "Rural Requirements," "The Town," "The Needs of Home Life," "Looking to the Future." The lectures are intended for the general public, and architects are asked to bring them to the notice of their friends. The fee for the course is 10s. (teachers, 6s.), single lectures being 1s. 6d.

St. Andrew's Cathedral, Sydney, Exhibition.—The thirty designs submitted in the recent competition for St. Andrew's Cathedral, Sydney, are to be on view at the R.I.B.A. from Wednesday, June 1, to Wednesday, June 15, inclusive. They are at present on exhibition in Sydney. The design by Mr. Roger A. P. Pinckney, F.R.I.B.A., and Mr. A. F. E. Gott, Student R.I.B.A., was placed first.

Touring Exhibitions.—"Modern Schools" is at Reading Museum and Art Gallery. "Civic Centres" is at Blackpool Art Gallery. "Airports and Airways" is at Leicester Museum and Art Gallery.

LETTERS *FROM* READERS

Registration

SIR,—The Committee of the Croydon Chapter of the South-Eastern Society of Architects would like to thank you for the extremely helpful articles that you published in your paper with regard to the above matter.

There is no doubt that these articles were of very great assistance and put the case of registration in a clear manner.

I. F. ROBERTS,
Hon. Secretary, Croydon Chapter,
South-Eastern Society of Architects.

SIR,—My Council have read witn great interest your most illuminating article on the above subject contained in your JOURNAL of December 9, and wish to thank you for the work, which all appreciate.

SIR,—At a recent meeting of the Council of this Society reference was made to the brilliant and helpful leading article on Registration which appeared in THE ARCHITECTS' JOURNAL of December 9, and also the editorial notes. It was felt by the members of Council that the help which undoubtedly was given to the Bill by you should not go unacknowledged and I was requested to convey to you the thanks of this Society.

WM. ELDER LEVIE,
Secretary,
The Aberdeen Society
of Architects.

SIR,—The President and Council of the Birmingham and Five Counties Architectural Association wish me to express their appreciation of the excellent and most helpful leading article on the subject of Registration of December 9, also for the two pages of editorial notes on the same date.

R. M. BARKER,
Secretary,
The Birmingham and Five Counties
Architectural Association.

We are much gratified by these unexpected, and we need hardly say, unsolicited testimonials which make it clear that readers of this JOURNAL *did indeed respond in quite a remarkable way to our suggestion that they should make themselves a nuisance to their M.P.s — hence, no doubt, Mr. Beverley Baxter's statement in the House, that "3 million Architects can't be wrong." The real credit for the Bill's passing, however, belongs to the societies supporting the Bill and their members—all of whom we hope read the* JOURNAL. —ED. A.J.

SIR,—In common with other writers you appear to have misrepresented the policy of the I.A.A.S. towards Registration. A reader would be led to assume from a perusal of your recent leading and other articles that this Association was opposed to Registration *per se*, whereas nothing is further from the truth, as its work and the work of its representatives on the Registration Council and the various committees, including the Statutory Admission Committee, of that body clearly prove.

In its communications to Members of Parliament and the general press, the I.A.A.S has made it clear that it supports the principle of Registration, but that it opposes, not that principle, but the Bill "in its present form."

For the past six years, i.e. since the establishment of the Registration Council, the I.A.A.S. representatives have contributed their share in the administration of the 1931 Act; they have been regular attendants at all the meetings of committees on which they have served. Without egoism I can personally claim that I have attended more meetings and devoted more time to the legitimate business of Registration than any other member of the Council.

The I.A.A.S. was the first body to press for an amendment of the 1931 Act, it was the instigator of the proposal to admit the Press to meetings of the Registration Council, and it put forward the proposal (defeated in Council largely by the vote of R.I.B.A. representatives) that negotiations should be put in train, and every effort made, to make it compulsory for all plans of new buildings deposited for approval with local authorities to be prepared by Registered Architects.

In the early days of Registration the I.A.A.S. lent money to the Registration Council and also lent its Council Chamber for the holding of committee meetings.

It is, therefore, unfair to suggest (*see* your leading article of December 23)—assuming such a suggestion is directed against the I.A.A.S.—that "it may be assumed that those opposing it (the Bill) will do all they can to introduce modifications which will damage its effectiveness."

I can bear witness to the earnest efforts of my Council to negotiate with the promoters in order that an Amending Bill might be brought before Parliament backed by complete unity in the architectural profession.

All which the I.A.A.S. seeks is a really effective measure which will be of real value to the architectural profession as a whole and equitable and just to all bodies genuinely concerned in the welfare of that profession.

Members of Parliament and architects have been grossly misled in regard to the purpose of the new Bill. They have been told that the passing of the Bill will prevent any but a qualified person from using the title "Architect." The truth is that, although the measure would prevent, say, a borough engineer from using the title "architect" if he were not a registered person, it would permit anyone, even the butcher, the baker and the candlestick-maker (or the legendary undertaker) setting up in practice as an architect AND USING THE TITLE ARCHITECT (although he might not have the remotest right to it) by the simple subterfuge of employing an assistant who had obtained registration. Furthermore, a registered architect struck off the Register for "disgraceful conduct" could snap his fingers at the Registration Council and could continue to practise by a like subterfuge.

Let enthusiasts of the new Bill read section 17 of the 1931 Act, which it is not proposed to repeal, in proof of my contention.

G. B. J. ATHOE,
Secretary,
The Incorporated Association
of Architects and Surveyors.

Professor Really Speaking

CLEARLY the question of the hour is the position of the official and salaried architects in relation to the governing of the profession, that is to say, in relation to the Institute. Indirectly is also implied their status with the general public. I am told these two classes added together form 60 per cent. of the members of the R.I.B.A. Yet at present, except for one official architect who happens to be president of an allied society, Mr. Leonard Roberts, of the Hampshire Society, a rare and honourable exception and one which I hope will soon be repeated at Liverpool with Mr. Keay, there is only one such architect who sits on the Council in order definitely to represent these great salaried classes as such. It is Mr. Fisher who represents the association of architects' assistants with the long and cumbersome name. When the amended by-laws come into force in July there will, I believe, be two more, the chairman of the Official Architects' Committee and that of the Salaried Architects' Committee, that is to say, there will be three members of a council of some seventy odd officially representing the special and very different interests of more than half the profession.

It is, of course, open theoretically to this 60 per cent. to win, if they can, their right proportion or even more of the Council seats at the annual general election for the thirty odd places allotted to Fellows, Associates and Licentiates at large. It is further possible for them theoretically to win representation on the Council, as Mr. Roberts has done, through the local elections for the presidencies of the local societies. It is theoretically open to them, but not practically. "The oppressed," one might almost say in Karl Marx's words when describing an English Parliamentary election of his day, "are permitted to decide which particular members of the oppressing class should misrepresent them." The reason for this is a very interesting and I venture to think on the whole a very honourable one. It is that the work of official architects, with few exceptions, is anonymous work as regards the profession as a whole. No one outside their immediate circle knows who really does it. Yet "in the interests of good architecture" the Unwin report of the R.I.B.A. says "it is important that

the architect responsible for any design should be known and his work recognized." We know sometimes, of course, when we see an excellent building attributed to a borough surveyor or a borough engineer that he has not done it, but we do not know who has. Steps must be taken to stop misrepresentations of this kind.

Borough engineers and surveyors may still go on signing architectural drawings as if they had made them. There is nothing in the Registration Bill to prevent that. Only the local councils and their committees, now that they will have had the word "architect" brought so prominently to their notice, can alter that, but they may need a lot of educating yet before they reach that stage of intelligence even about their own building work. At Brighton the other day I was asked to get a well-known literary man to open a new public library and had to make it a condition with the chairman of the corporation committee concerned that the official architect who designed the building should be mentioned at the ceremony and not only the borough surveyor who had signed the plans.

How is this anonymity, honourable enough in itself, but blocking the way to a more rational organization of the profession, to be overcome? First I suggest it should be overcome as far as the Council voting paper is concerned, by putting after an official architect's name, when such is a candidate, the name of the public body to which he is attached. I notice the name of the town from which a candidate comes is given if some daring provincial person attempts to represent the general body of voters. I have had both Liverpool and Brighton put after mine. It would therefore be but a small step to add "in the employ of the Corporation of such and such a place." That anyhow would help to identify the unknown Mr. Smith, who has no doubt led a fairly laborious life, but on the whole a very safe and comfortable one, with the Mr. Smith whose schools and tenements one has noticed and thought rather decent. One might then venture to give him a vote even if one is only a private architect and with no special inside sources of information.

The anonymity of the official architect, however, must be broken in more general ways as well. Honour and dishonour must be given him where and when it is due. The superintending architect of a county or a borough council must not be allowed to follow any more the bad old ways of the borough engineers and surveyors. When he has anything over a dozen assistants he must no longer be allowed to pretend he does all the work himself. He must be taught, like His Majesty's Office of Works, to give the name of the assistant architect responsible for each particular job. It was Sir Richard Allison, the late chief architect to that important Department of State, who first, I believe, introduced that excellent practice. His name appeared together with that of his responsible assistant in each case. Now his successor, Sir James West, has gone one better and the name of the assistant architect appears alone. Mr. Forshaw, who has collected such a brilliant crowd under him designing pithead baths, has done the same thing. Thinking of the work of these two Government departments, so far ahead of the average work of the profession as a whole and in the case of the pithead baths producing perhaps the best series of buildings of one type in the country, one might almost say the better and more generous the recognition given to the actual designers the better the work done.

I should like to see the architectural papers, beginning with the R.I.B.A. Journal, when they publish a photograph or drawing asking for the name of the chief assistant in each case where it is known that there are more than a dozen such in the office. Indeed, it might be made the subject of a clause in the Code of Professional Conduct. Harvey Corbett once said to me that after one's assistants reached fifteen in number they began to run the practice and to give one ideas instead of *vice versa*. I once told this to Sir Giles Scott and he said he agreed, only he would put the number at seven. Twelve then would appear to be a good compromise. If an architect, whether an official one or a private one, has then twelve or more assistants excluding his partners the name of the chief assistant on each job should go out to the world with his own. That I think would help to preserve intact the soul of the salaried man whether he is called an official or merely an assistant. I have a dread lest architecture becomes again too impersonal. The pendulum is swinging so far in that direction. For the first fifty years of my life it went the other way. Buildings then were far too full of the tricks and the mannerisms of their authors. Now any bee or ant might have designed a large proportion of them.

Of course, organizing and executive ability must also get its due credit. But for the owners of that sort of ability I have little fear. They will always secure their 60 per cent. of the seats on the R.I.B.A. Council or anywhere else. It is the sensitive artist when he is a shy underdog, either as an official or as an assistant, that I want to see protected. The Pecksniffs, whether borough engineers or surveyors or merely plain architects, must not for ever live upon him. The other danger to the soul of the salaried man is clearly sloth. I saw it at Liverpool where a life appointment with a safe salary did not always bring out the best in all my professorial colleagues. It requires a certain strength of character to be a good official. But apart from these two dangers to his soul what a lovely life the official architect has! One fine job after another and no indecent scrambling to get them! Only oneself to please and a committee of laymen who, like all committees, should very soon be eating out of the hands of the expert. When one thinks of the serenity and beauty of such a life and of the noble results in fine buildings it should have and compares it to the competitive rush of private practice one is inclined to say only the official architect can possess his soul in peace. He at least need not toady to wealth nor cultivate anti-social scoundrels. He need not even join a golf club if he does not want to do so. Such as he should clearly be the gentlemen, if not the leaders, of the profession. Perhaps they would be the latter if they were not so anonymous, but I do not think that is all. I fancy before they can become the leaders they must as a body show more initiative and invention in their work. At present it must be admitted most of that comes from the other 40 per cent., the poor folk in private practice who have such a much more difficult life to live even with 90 per cent. of the seats on the Council to help them. No wonder, indeed, with the rising tide of happily placed official architects around them these latter are becoming diehard Tories. Like everyone else they should be reading Aldous Huxley's new book "Ends and Means." Then perhaps they would think differently on this and many subjects.

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Scottish Housing Advisory Committee

Mr. Walter Elliot, Secretary of State for Scotland, has appointed the following persons to fill vacancies in the membership of the Scottish Housing Advisory Committee: Miss Grace Drysdale, Edinburgh; Bailie William Elger, Glasgow; Bailie Rutherford Fortune, Edinburgh; Mr. G. P. Laidlaw, Paisley; Major John Stirling, of Fairburn; and Mr. William C. Davidson, Stirling.

Miss Drysdale, Bailie Elger, Bailie Rutherford Fortune and Mr. Laidlow were appointed as original members of the Committee in 1935, and on the completion of their first term of office have now been re-appointed for a further term of three years. Major Stirling and Mr. Davidson are new members of the Committee.

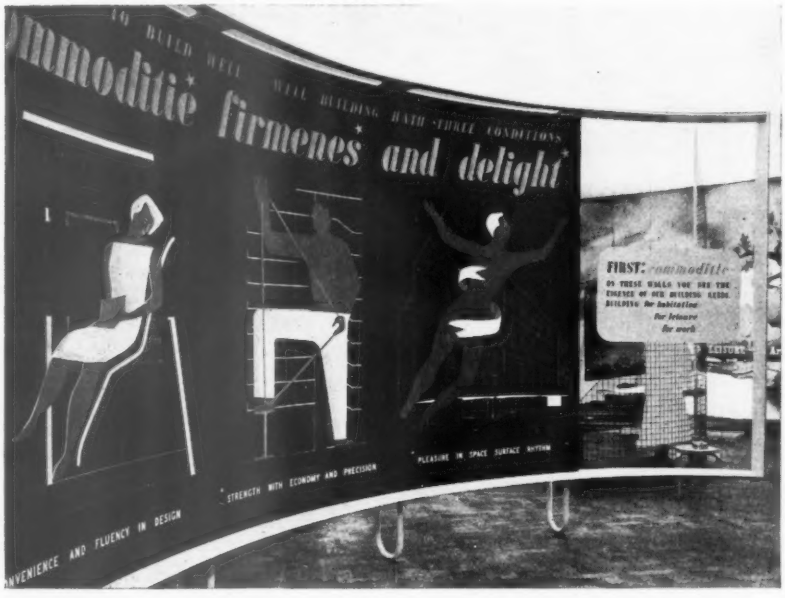
The Committee was appointed under the Housing (Scotland) Act, 1935, for the purpose, among other things, of advising the Department of Health for Scotland on matters arising in connection with the execution of the Housing (Scotland) Acts.

After investigating housing conditions in the rural areas of Scotland the Committee submitted a report in February last which is the basis of many of the proposals contained in the Housing (Agricultural Population) (Scotland) Bill now being considered by Parliament.

The Committee has at present under consideration remits dealing with the management of local authorities' houses and the rehousing of aged persons from insanitary or overcrowded houses.

THE MARS EXHIBITION

NEW BURLINGTON GALLERIES: UNTIL JANUARY 29



Sir Henry Wotton, paraphrasing Vitruvius, wrote in 1624: "Well building has three conditions, Commoditie, firmenes and delight." The exhibition has been designed as a modern interpretation of these three conditions. In the first room "commoditie" is interpreted in an outline of our building needs. The screen shown above is taken from viewpoint 1 on the plan overleaf.

FOREWORD TO THE EXHIBITION CATALOGUE

"WE have called this exhibition New Architecture, but the promotion of novelty is not our aim. We have called it New for two very innocent reasons. First, because the architecture you see exhibited here has been built in very recent years, and secondly because, collectively, it represents an approach to building problems which is still unfamiliar to the majority of the English public. Whether there is anything intrinsically new in the kind of architecture which (by one of those tyrannous verdicts of usage) has become known as 'modern,' depends from which side you argue the question. It does not really matter. The point is this: here is an attitude of mind upon whose contemporaneous validity a number of architects and thinkers all over the world are agreed—an attitude which is revolutionary in a scientific and not an arbitrary or sensational meaning and which, we believe, has an invaluable contribution to offer to the life we are living today.

"The exhibition is sponsored by the MARS (Modern Architectural Research) Group. Consisting at present of about sixty members—architects, engineers, writers—the Group has existed for five years. It is affiliated to an international organization, the Congrès Internationaux d'Architecture Moderne, and constitutes a nucleus of practice and criticism in this country which has parallels in many parts of the world. The existence of such an international framework of opinion has only become possible as the result of a long tradition of clear thinking and experiment by pioneers, working, often in comparative isolation, at different aspects of the general problem. To identify the origins of our point of view we should have to go back about eighty years: on the one hand to John Ruskin's revolt against the pedantry of the antique, and on the other to the clarifying achievements of engineers like Telford and Paxton. We should have to record successive developments in metallurgy and applied mathematics, and at the same time to give due credit to those later Victorian architects who discovered the appropriate simplicity of the vernacular. Then we should have to cross the Channel and take up the story, in the years before the war, in Holland, Germany and Austria. We should witness the gradual broadening of the architect's vision towards the ultimate realization that structural science and an exact analysis of social needs can supply a sufficient basis for the creation of an architecture of universal applicability. Finally, we should return to England and trace, through a welter of academic mediocrity, the gradual recognition of the achievements which the war and its aftermath had blotted out from our insular vision. Such names as Mackintosh, Wagner, Loos, Lloyd Wright, Behrens, Gropius and Le Corbusier are conspicuous landmarks in this last half-century of development. To these masters is due the liberation of architecture from those purely artificial considerations of style which had dominated it since the Renaissance.

"Today, a singular degree of unanimity has been reached among architects whose outlook is independent of academic tradition and prejudice. We seem to have attained one of those periodic *plateaux* which occur in the historical ascent of every intellectual movement and which facilitate the permeation of newly-formed concepts into the main body of professional and public opinion. Among English architects this process is proceeding rapidly—so rapidly, indeed, that the concepts themselves are in danger of becoming distorted in a too avid pursuit of the novel and attractive forms to which they have given rise. It is one of the purposes of this exhibition to emphasize that the modern movement is essentially a method of approach and not a crystallized 'style.'

"What exactly is this method of approach? It is simple enough. Consider, for a moment, what happens when an architect sets out to design a building? From the very beginning he has in his mind a vague idea what it is going to look like. How definite that idea is and what sort of an idea it is depends on many things. It depends on the architect's training, on his general philosophy of architecture, his receptivity to outside influences and his faculty for objective criticism. The architect who is committed, at the outset, to thinking in terms of a *style*—that is, of an idiom which is already crystallized and inflexible—is hopelessly shackled. Every step he takes must be either an ineffective compromise or a deviation from stylistic convention. He is the perpetual victim of the preconceived idea. That such a method can produce competent and respectable architecture, we do not deny for one moment; but it is a method without vision, a method which turns its back on the future. If, on the other hand, an architect's sympathies draw him into line with the modern movement, the passage of the idea from its first adumbration to the final design becomes a creative process, not one of mere intellectual compromise. With each successive step he widens his own experience of form and enlarges the boundaries of the movement to which he belongs.

"Modern architecture is not based on the crude assumption that whatever functions best is right. Such an assumption is, in any case, meaningless. Architectural design cannot, except in the very simplest cases, be mathematically controlled; it is an affair of infinite adjustment, and unity can only be achieved by sure intuitive judgment on the part of the architect. Calculated structure—*i.e.* engineering—is only one component in the synthesis which we call Architecture.

"In this exhibition we have tried to put modern architecture before you in the form of a consistent, self-explanatory statement, in a setting sympathetic to the spirit of the movement. We have tried to indicate the main relationships of modern architecture—its relation to everyday life, to scientific knowledge and to the world of æsthetic experience. The exhibition is, if you like, propaganda. But we do not seek converts. All we hope to do is to win the loyalty of those who have not already made up their minds."

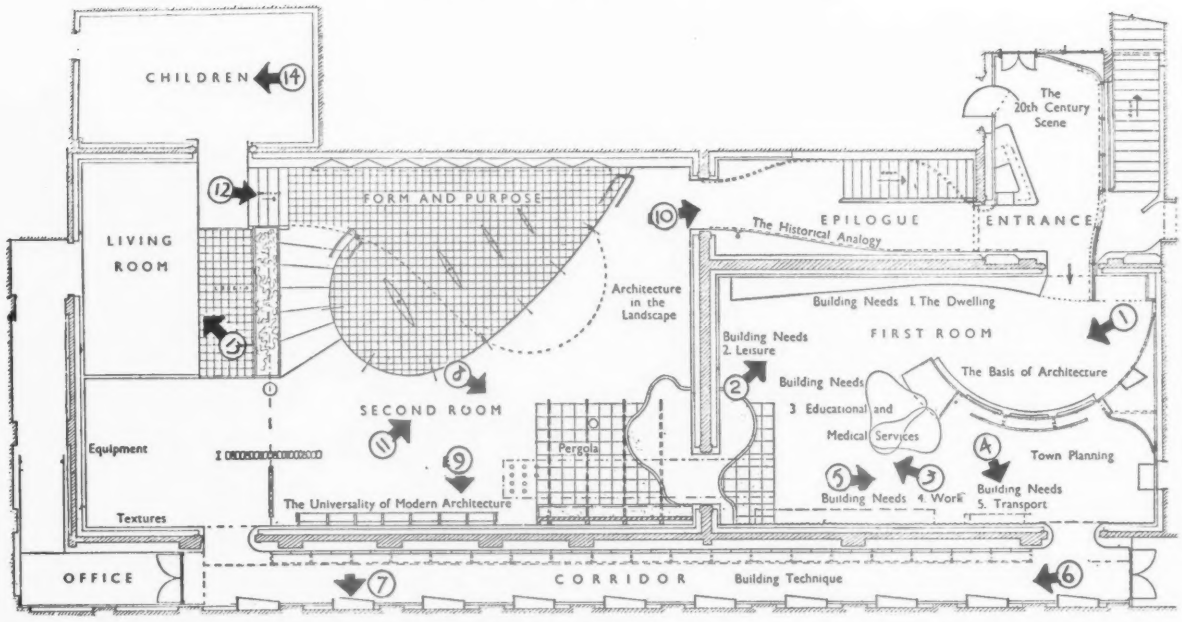
REVIEW OF

THE EXHIBITION

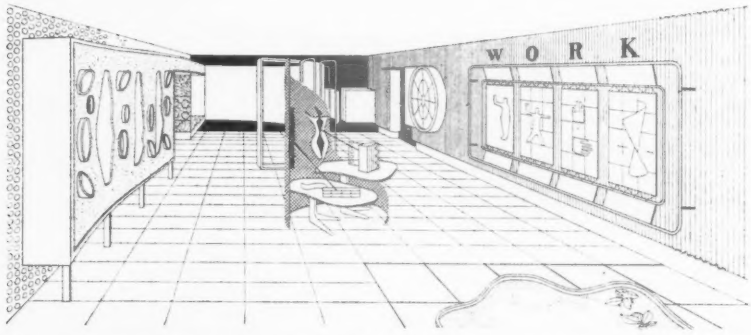
[BY E. MAXWELL FRY]

THE principles from which modern architecture draws its strength are those which underlie the architecture of every strongly creative period. The purpose of our exhibition is to disentangle these principles from the mass of interests, opinions, actions and happenings that are our daily portion in this contemporary world; so that not only we, but larger and still larger sections of the community may direct their building with a clear knowledge of what they are about.

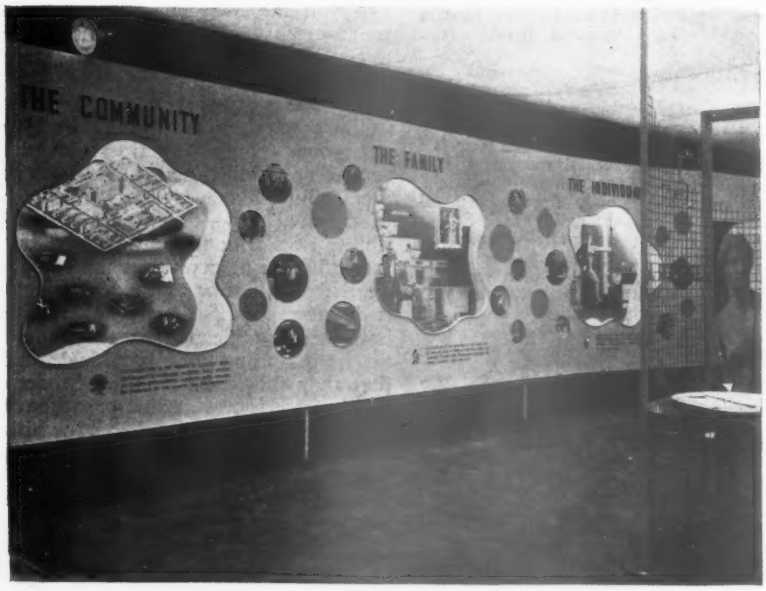
The Mars Group came together initially to confirm, to test and to strengthen architectural principles arrived at by individuals. Inasmuch as architecture, like every art, is a matter of personal experience, final responsibility rests with the individual; but the influence of new ideas passes outward from the few to the many, and it is necessary if these ideas are to have social significance that they should not be the property of individuals, but that they should be shared. Modern architecture is not a trick or a knack that may bring prominence and wealth to a lucky few but leave undisturbed a mass of anonymous building unworthy of the name of architecture. That is a Victorian idea. If the principles upon which our Exhibition is based have validity in life today, then



Layout plan of the exhibition. The arrows (1 to 14) indicate the viewpoints from which the photographs were taken.



Above, outline perspective showing the layout of the first room. The wall on the left displays "building needs for habitation"; that on the right "building needs for work." In the centre is an exhibit showing "architecture in the service of the community," while beyond are the transport and town-planning sections. The photograph (viewpoint 2 on plan) shows the wall displaying "building needs for habitation."



they must permeate every strata of that life and bring back into the province of architecture the ordering of all things made for the service of society. Hence, that modern architects should work as a group has a strong bearing upon the growth of the idea, which from being the personal opinion of this or that individual, becomes central, social, vital and prominent witness to the truth.

This truth is contained within the compass of those few words written by Sir Henry Wootton in the seventeenth century, and derived from Vitrivius :

"The end of architecture is to build well.
Well building hath three conditions—
Commoditie, firmenes, and delight."

And the Exhibition is hung about these three words.

It is tri-partite.

In the first large room we ask you what it is that people require of architecture. What are their needs? What are your needs as an individual, as a member of a family, as a member of the larger social groupings? In what way could you work happily, relax fully, be refreshed and renewed? For this is the first part of architecture, to satisfy human needs. And how can we hope to satisfy needs unless by the exercise of imagination they may be presented to us as vital contributions to the creation of our architecture: the real substance of our programme, without which nothing is clear.

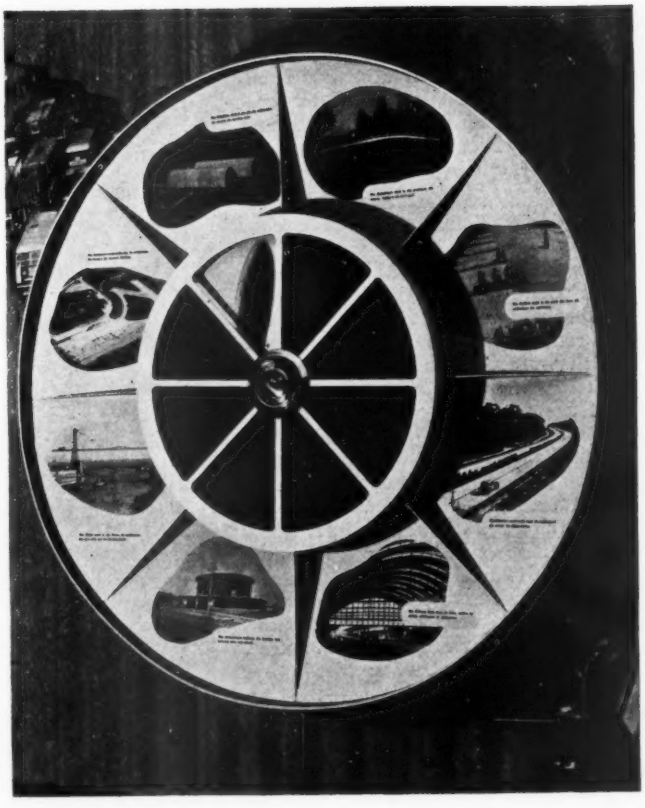
And having these needs before us, how may they be satisfied? What means have we at our disposal? The answer to this question you will find in the next part of the Exhibition, which is a review of building material and industrial method and technique. It is not a catalogue, for if it were it would leave out of reckoning the limitations of

material, and be no guide to its possibilities. For exactly as it is our job to interpret clearly human needs, so, too, we must be sensitive to the inherent properties in all material and structure. It is our great responsibility to decide the purposes for which materials are best suited, to discover the very nature of their vital economics so that each perform their tasks with a freedom which can come only from perfectly adjusted service to that task. In this we may perform our service to industry even as we strengthen our art. It should be a collaboration at every point, industrialist and architect each understanding the other's needs. There exists the nucleus of such understanding in this exhibition itself, the financial backing for which comes entirely from industrialists and builders who were prepared to sacrifice their immediate commercial interests to the furtherance of an idea which they felt to be valid and to have permanent value for society. It is important that architects should know this, because there be before us many problems which can be solved only by a collaboration between these two parties.

So, having traversed the rather long corridor of industry and building, and having asked with us these many questions of NEEDS and MEANS, you will be brought into the largest part of the exhibition in which these first two parts are merged, in which *commoditie* and *firmenes* lead to *delight*, to architecture itself.

In this big room architecture is presented in the inside and the outside of building, in small equipment and in the large project, in photograph, in model and at full scale in the material itself. The very room, adjusted to the task it has to perform and to its brief period of life in the gallery, is a work of modern architecture not without its bearing on the story we have to tell you.

And in looking at what is here presented we hope you will not forget what has gone before. The qualities of fine architecture are by their nature eternal. But these qualities are not to be found by those who seek high art as a primary consideration. It is the curse of art and architectural education that it sets the wrong premium upon the artistic achievements of the past, saying to those who come to learn : "This and this and this are art. Copy these and be at rest." The result of this system has been to separate art from life, to set nothing better than a commercial valuation upon the works of accredited masters, and to inculcate a fear of lively beauty that has made barbarians of us. No art is valid that does not spring from human need, or that flouts the vital economics of the social and economic fabric. In the service of the first two considerations is freedom enough. And what is to be lasting and what is to bring delight when the needs of this time are nearly



Viewpoint 3 (above) shows the wall in the first room illustrating "building needs for leisure." Viewpoint 4 (right) shows the revolving wheel in the transport section in the first room. The surface of the wheel is in two parts, each of which contains eight sections. The outer part depicts the eight methods of transport and the inner illustrates the architecture of each method.

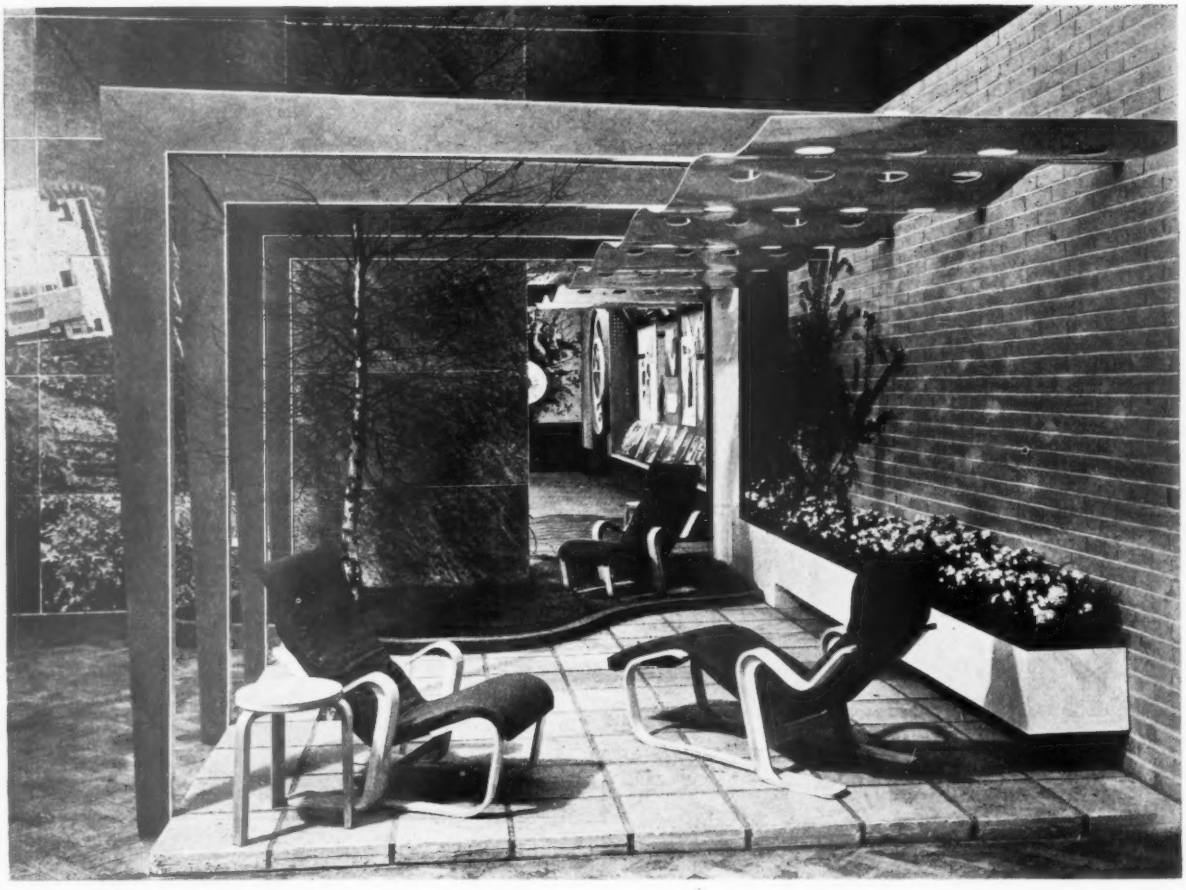
forgotten and the methods of making have changed will be added without the asking. Take not too great a care for the glory that may come, but for the task in hand.

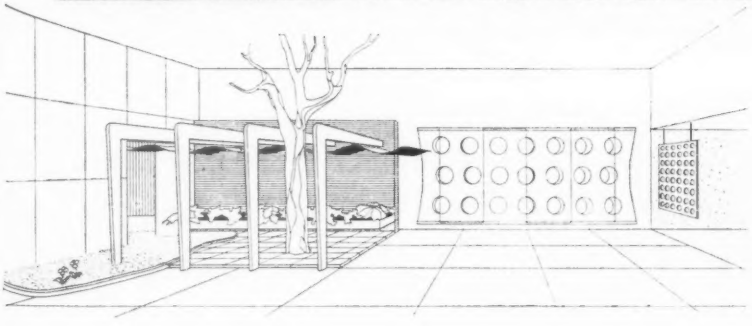
Not before in this country have we been able to see assembled so wide a review of modern architectural achievement. The examples are drawn from all over the world and we have not overstressed either the work of the Group or of Englishmen. But you will notice in how many different fields we have been able to show the works of our own countrymen strengthening the contribution made by modern architecture over the world to the problems that beset humanity in need of a new background for life.

In this room you may see modern architecture in urban and in a rural setting, and we have stressed advisedly its universality. Architecture is indivisible. It is only to a disjointed and maladjusted society that architects could purvey a shopman's assembly of styles—Gothic for church and college, Egyptian for the factory (though God knows why), Tudor for the residence, and Renaissance for the banker. It is not a new style to add to this ridiculous stock in trade that we seek, but an architecture fitted for all the purposes of building and making, arising gracefully but fully armed from the central processes of our life and work. The same though it should reside in a wireless cabinet or in an Atlantic liner, a hospital or a town hall. As it was when we built a chain of cathedrals across medieval England; as it was when we knew how to build real towns like Bath and the London of Nash; so it will be again when we understand as architects what we are about, and we in our turn are understood by those we serve. From such understanding is born a confidence that enriches our work and fills it with delight.

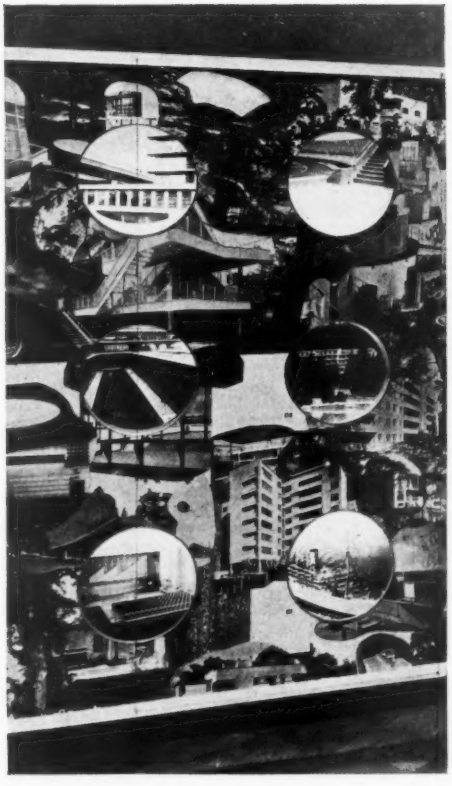
The exhibition started with a great photograph of the chaos of Oxford Street, and the opening words: "So it has come to this." This is what we have done for England. And in leaving you will be brought past this one reminder of the confusion through which we architects have got, not to pick *our* way, but to clear a way, so that as we rebuild we recreate. We are only at the beginning of a new architecture. What will be its final forms we do not know. What is important is to search for and having found to cleave to the principles which are to guide us in building its foundations. It is for that that the Group was founded and to extend a knowledge of these principles that it took courage to launch the exhibition and to draw into the work not only architects but our collaborators in building—the contractor and the industrialist.

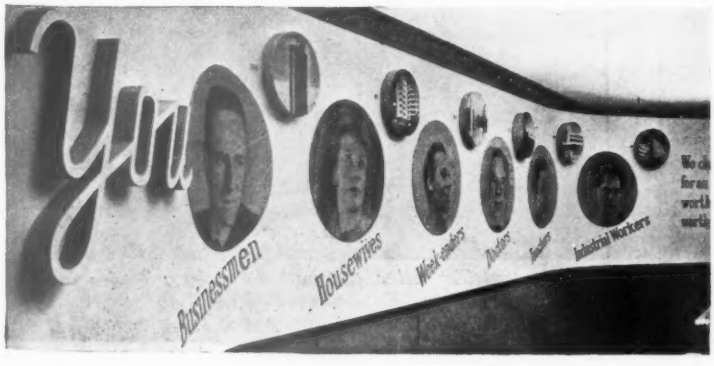
Above, the corridor (viewpoint 6) connecting the first and second rooms, in which "firmenes" is interpreted in a survey of the contributions of the scientist, the engineer and the manufacturer to structural technique. Left (viewpoint 7) is a detail of one of the exhibits in the corridor.

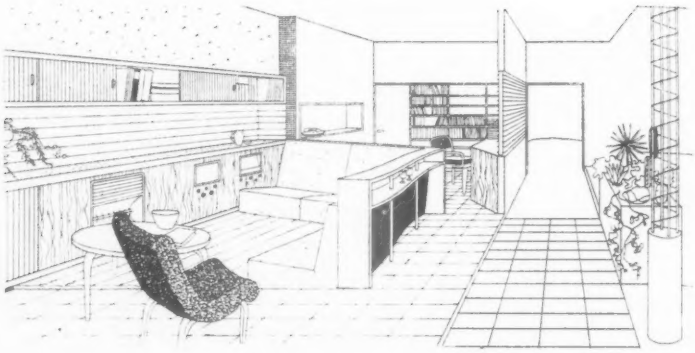


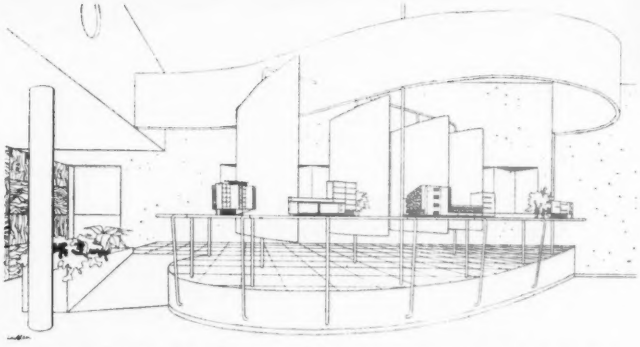


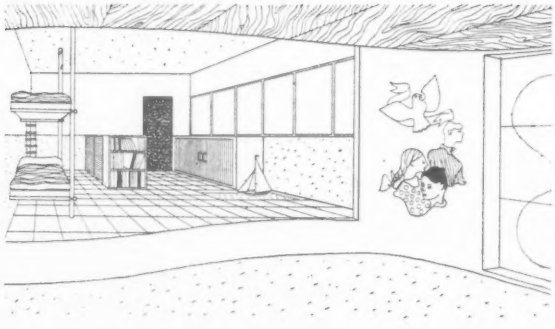
Top: Viewpoint 8, showing the pergola in the second room, through which is seen part of the first room. In the second room, "delight" is intcrereted in the work of the architect, set forth in a review of the achievements of the modern movement. The perspective is of the pergola and the wall devoted to photographs showing the universality of modern architecture. Part of this wall is shown in the photograph (viewpoint 9) on the right. Below (viewpoint 10), the "Epilogue."



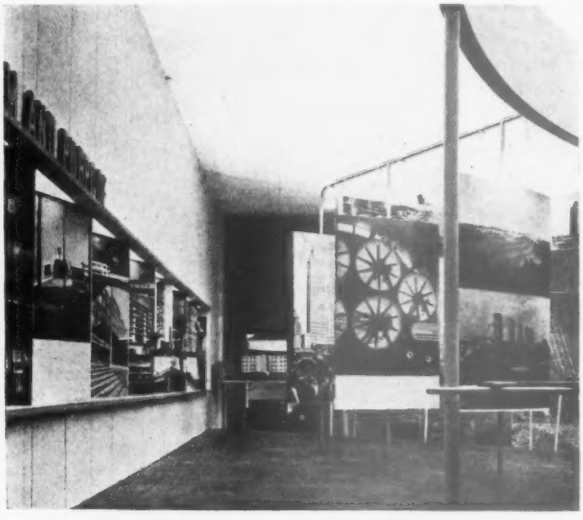








Above, perspective showing part of the second room, including the raised platform and the stand for the display of models. This is designed so that from the lower floor the models appear approximately at eye-level, while from the platform they appear as seen from the air. Viewpoints 11 and 12, above and below, are of this room.
Top, right, perspective and photograph (viewpoint 13) of the living-room.



Above, a perspective and a photograph (viewpoint 14) taken in the children's section. The model nursery is displayed on a platform approximately 3 ft. high in order that adults may see it from the eye-level of a child of about 6 years of age.

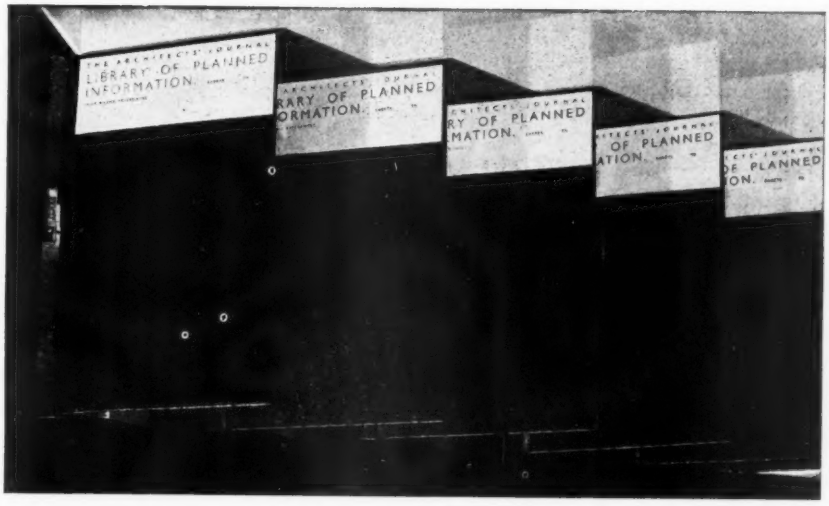
The Architects' Journal Library of Planned Information

INFORMATION SHEET
SUPPLEMENT

SHEETS IN THIS ISSUE

593 Electric Lighting

594 Sheet Leadwork



In order that readers may preserve their Information Sheets, specially designed loose-leaf binders are available similar to those here illustrated. The covers are of stiff board bound in "Rexine" with patent binding clip. Price 2s. 6d. each post free.

Sheets Issued since Index :

501 : Aluminium
502 : Fixing Blocks
503 : Approximate Estimating—XII
504 : Aluminium
505 : Aluminium
506 : Approximate Estimating—XIII
507 : Plumbing : Jointing of Copper Pipe
508 : Roofing—Valley Flashings
509 : The Equipment of Buildings
510 : Aluminium
511 : Elementary Schools—II
512 : School Lighting
513 : Approximate Estimating—XIV
514 : Air Conditioning
515 : Insulation of Buildings
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522 : Reinforced Asbestos-Cement Roofing Tiles
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558 : A.B.M. Rainwater Pipes
559 : Flashing
560 : Kitchen Equipment
561 : Asbestos-Cement Roofing
562 : A.B.M. Rainwater Gutters and Fittings
563 : Asbestos-Cement Roofing
564 : The Equipment of Buildings
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566 : A.B.M. Rainwater Gutters and Fittings
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580 : Condensation in Industrial Buildings
581 : The Equipment of Buildings
582 : Heating Stoves Burning Solid Fuel—II
583 : Plumbing
584 : Free Standing Gas Panel Heaters
585 : Leadwork
586 : Brickwork
587 : Flush Doors
588 : Roof, Floor and Wall Tiling
589 : Automatic Stokers
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592 : The Equipment of Buildings

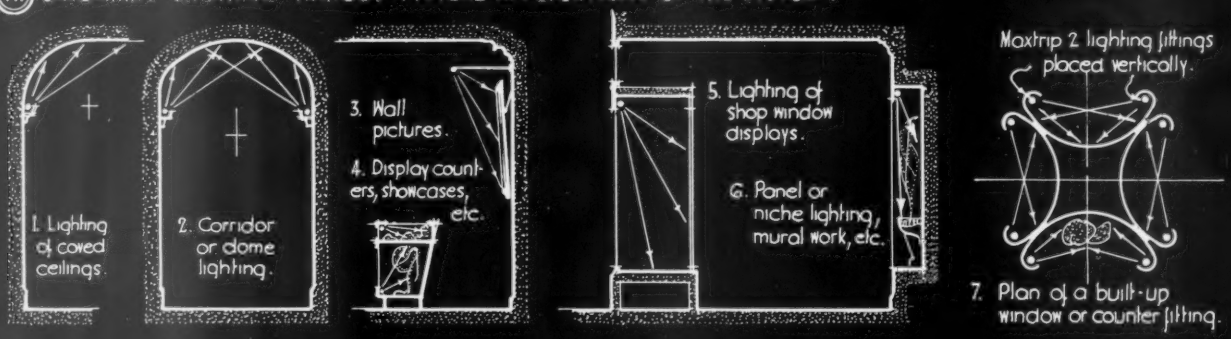
739.

739.

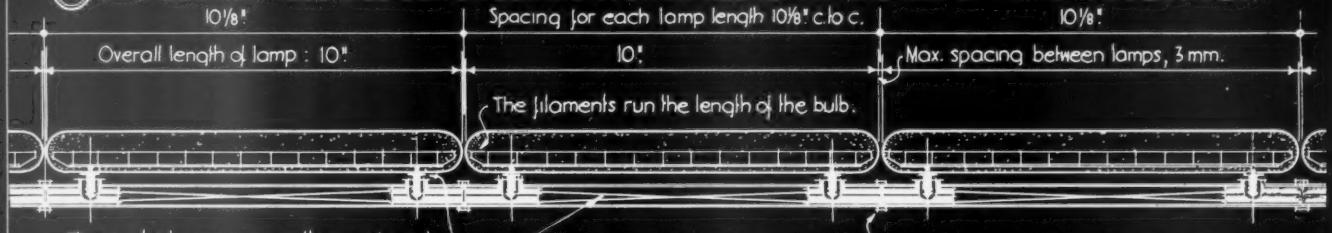
THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

THE "MAXTRIP 2" CORNICE OR CONCEALED LIGHTING SYSTEM:

(A.) DIAGRAMS SHOWING VARIOUS TYPICAL APPLICATIONS OF THE SYSTEM:



(B.) ONE-QUARTER FULL SIZE LONGITUDINAL SECTION ALONG TYPICAL RUN OF LAMPS & MOUNTINGS:

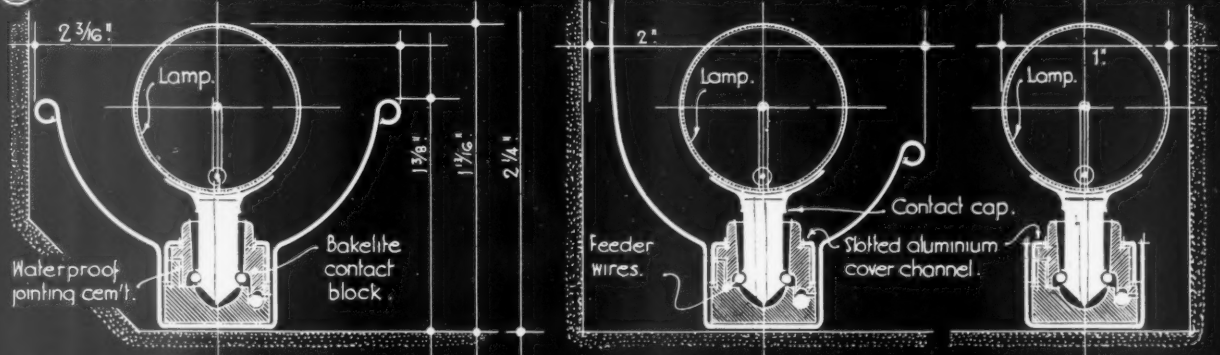


The contact caps are on the underside of the lamps, and are indented to engage with the two special alloy feeder wires serving the dual purpose of mechanical grip and electrical contact.

The floating feeder wires between the moulded bakelite contact blocks are insulated with non-inflammable, heat and damp resisting sleeving.

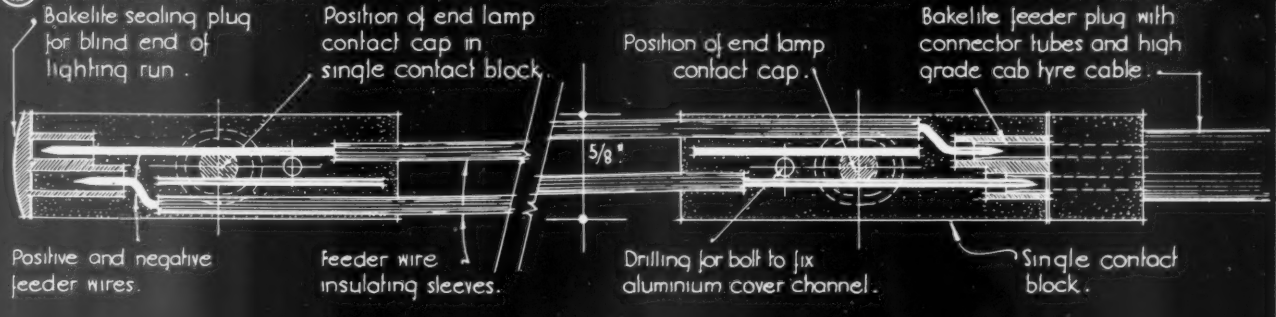
The upper aluminium channel mounting is slotted for the blocks and bolted together through the centre of each double contact block as shown.

(C.) FULL SIZE CROSS SECTIONS SHOWING ALTERNATIVE MOUNTING BY REFLECTOR FITTINGS & CHANNELS:



SYMMETRICAL ALUMINIUM REFLECTOR, TYPE L. ECCENTRIC ALUMINIUM REFLECTOR, TYPE S. ALUMINIUM CHANNEL MOUNTING.

(D.) FULL SIZE SECTIONAL PLANS OF BAKELITE CONTACT BLOCKS SHOWING TREATMENT AT ENDS OF RUNS:



Information from British Electric Lamps, Limited.

INFORMATION SHEET: SHADOWLESS TUBULAR LAMP ELECTRIC LIGHTING.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1 • Grace E. Bayne

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 593 •

ELECTRIC LIGHTING

Product : Maxtrip—2—Cornice Lighting System

Design :

The strip lamp fittings shown on this Sheet are designed to eliminate the interlamp shadows associated with this form of lighting, while at the same time retaining the advantages accruing from a line source of comparatively small diameter.

The usual caps at the ends of the lamps have been removed, thus permitting a continuity of light over the full length of the run. The necessary contact caps are provided at the side of the lamps in the shape of indented metal plugs, for a directly downward engagement with the feeder wires in the base of the fitting. A 24-oz. grip is obtained on the lamp caps, without contact screws, springs or metal plungers, which ensures complete freedom from loose or badly fitting lamps at any time during the life of the fittings. Furthermore, the fittings are so constructed that flex or rubber-covered internal wires are unnecessary and thus, not only will the fittings last a lifetime without any maintenance but the risk of fire or electric shock is eliminated.

Lamps :

These are made in only one standard length and diameter, namely 10 ins. by 1 in., and only two wattages, namely 30 watts and 60 watts, thus giving absolute simplicity for installing or replacing.

Lamps can be obtained clear or colour sprayed as desired, and when installed require a length of $10\frac{1}{8}$ ins. centre to centre, the width with standard fitting being only $2\frac{3}{16}$ ins.

Contact Blocks :

The lamp contact blocks are of moulded bakelite, and constructed with an upper and lower rebated section cemented together with water and heat-proof cement. The blocks are of two types to suit their position along the run : single contact blocks being for the start and finish and for joining up a run of over 6 ft. to another run, double contact blocks being used for all intermediate positions. All blocks are slotted and bossed for the reception of lamp caps and drilled for a single 6 B.A. screw head bolt and nut, the bosses preventing contact with the lamp caps when lamps are in position.

Connections :

The plans at " d " indicate the feeder and end sealing plugs used for connecting up a run of Maxtrip-2-fittings. The feeder plug may be connected to either end of the run and is cemented in with special waterproof cement provided, the end plug being sealed in the other end unless a run of more than 6 ft. is required. For runs of over 6 ft. connector plugs are used to join up the two runs in such a manner that the line of light is uninterrupted throughout its length. There is a limit, however, to the number of runs that may be connected to one feeder block (see paragraph on loading) and it is then necessary to introduce feeder plugs at appropriate points, again without breaking up the line of light. The feeder plugs are " stepped " for two reasons, one being to increase the leakage path between conductors at point of entry, and the second to ensure all fittings being connected one way in each run. They cannot be cross-connected. All feeder plugs are fitted with a length of cab tyre cable and sealed.

Insulation :

All wires between blocks float free from possible contact with the aluminium channel, and each is covered with a moisture-proof insulating sleeve capable of withstanding 500° F., the sleeves being carried into the contact blocks and sealed. It will be seen that all joints are sealed with a special cement and the fitting is therefore completely water and atmosphere proof. For outdoor use rubber sleeves can be obtained for fitting over the lamp caps where they project from the mounting.

Fittings :

There are three standard forms of fittings for cornice lighting, but others may easily be designed to meet unusual circumstances. The full cross-sections are shown at " C " overleaf. The reflectors should be used wherever possible as they are designed to concentrate and reflect the light so that maximum intensity is thrown on to the reflecting medium. Various forms of fixing devices are obtainable. Normally feeder wires are set in the ends but a further fitting is obtainable where the cable entry is at the back of the fitting. All fittings are completely wired up. All that is necessary is to join up the lengths by means of the connecting plugs, then plug in the feeder plug and connect to the nearest main.

Loading :

The feeder wires are designed to carry 6 amperes, This means, in lamps : 40—200/260 v. 30 w., 20—200/260 v. 60 w., 20—100/130 v. 30 w., or 10—100/130 v. 60 w.

Assuming 30 w. high voltage lamps are used, then a separate feeder plug is required every 40 lamps or every 34 feet of lamps.

Installing :

The length of the available cornice is divided by $10\frac{1}{8}$ ins., and this gives at once the number of lamps required. Lamp-lengths are obtainable from 1 lamp-length to a 6 lamp-length. It is then a simple matter to calculate the number of lamp-lengths, allowing 1 in. for each feeder plug.

Prices :

Reflector fittings, per lamp length 6s. 6d. either type, for 1 lamp length, 2 and upwards 5s. 6d.

Mounting only, 5s. 6d. for 1 lamp length or 4s. 6d. for 2 lamp lengths or more.

30 watt lamps 5s. each clear, or 5s. 9d. sprayed for standard voltages of 100, 105, 110, 115, 120, 125, 130, 200, 210, 220, 230, 240, 250, 260.

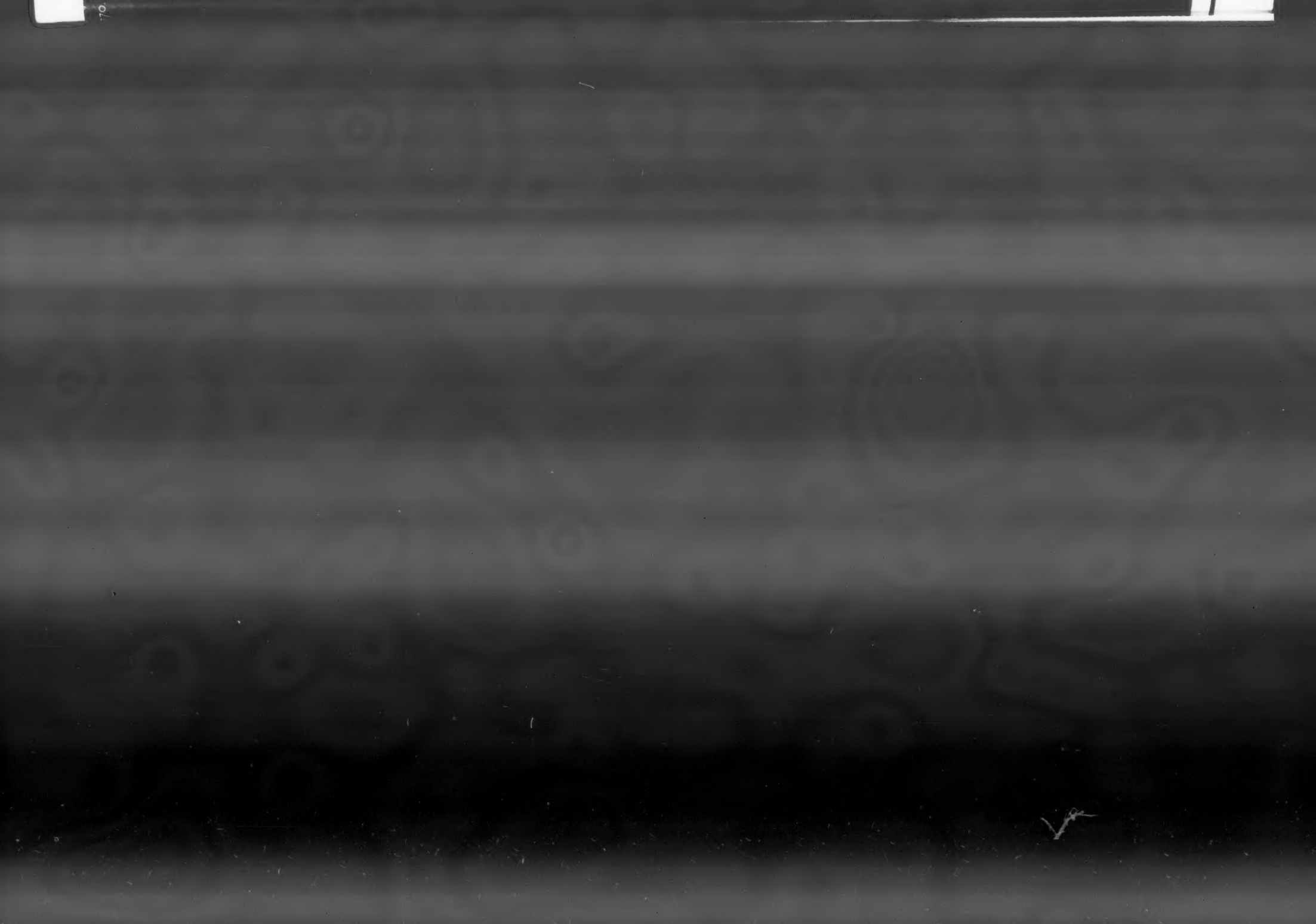
60 watt lamps 5s. 9d. each clear, or 6s. 9d. sprayed for standard voltages as above.

Other standard voltages, 30 watts 6s. 9d. and 60 watts 7s. 3d. each.

Special Uses :

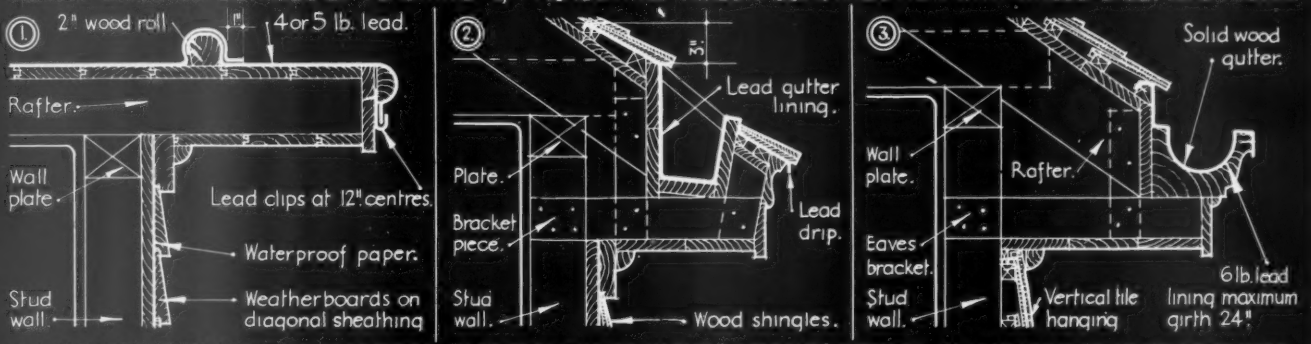
Apart from their use as normal cornice lighting, these lamps may be readily fitted in decorative casings illuminating mural work, halls, bathrooms, etc.

Manufacturers : British Electric Lamps, Ltd.
Addresses : Spencer Hill Road, London, S.W.19
Telephone : WIMbledon 5441
Bell House, 2 Berners Place, London, W.1
Telephone : MUSeum 8902
Branches : Birmingham, Manchester, Newcastle

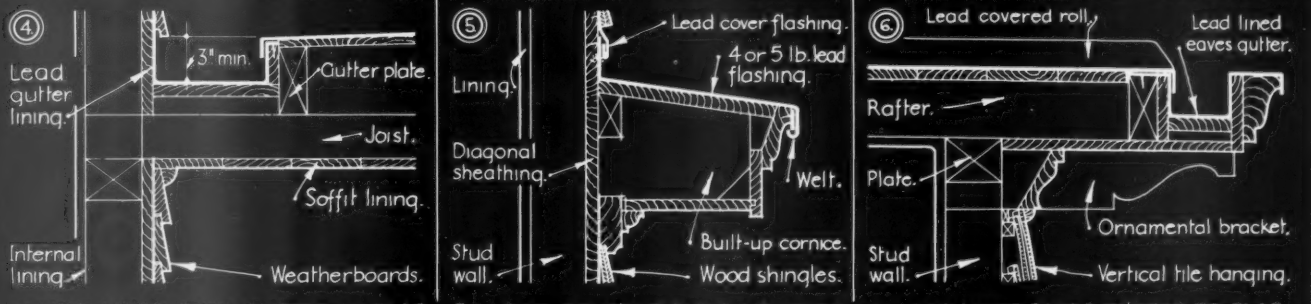


70. THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

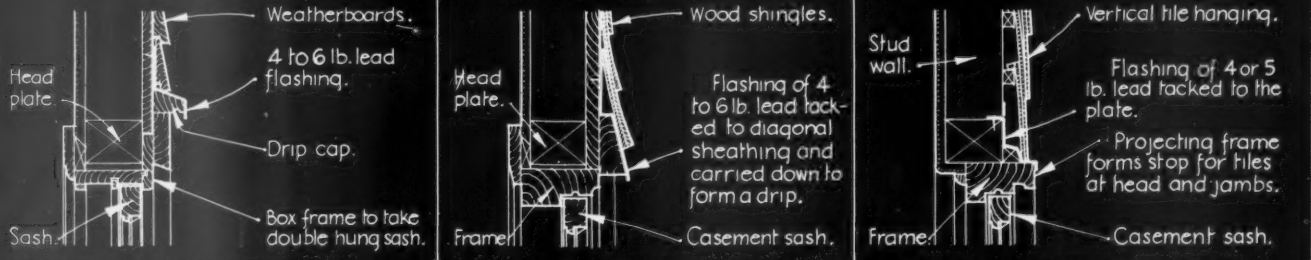
DETAILS SHOWING METHODS OF FLASHING & PROTECTING TIMBER CONSTRUCTION WITH MILLED SHEET LEAD: 1" Scale.



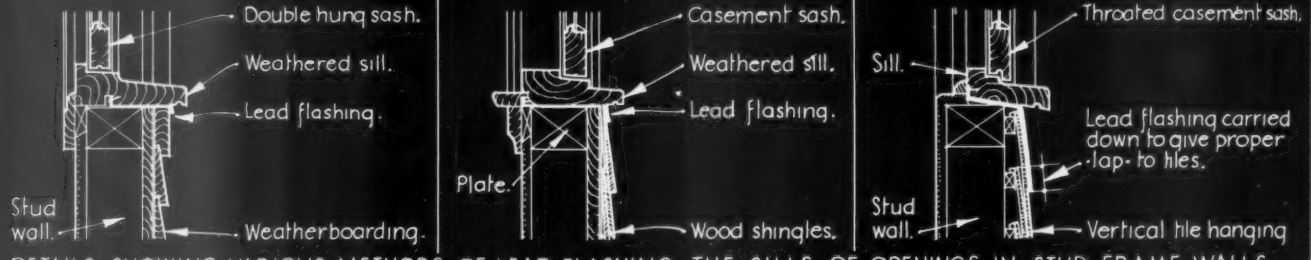
1: LEAD COVERED VERGE & FLAT ROOF. 2: SECRET GUTTER IN BUILT-UP EAVES CORNICE. 3: LEAD LINED SOLID WOOD GUTTER.



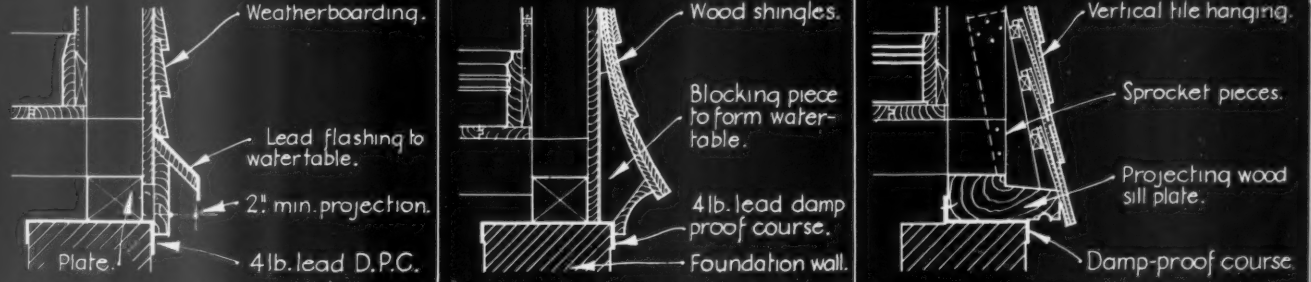
4: LEAD LINED BACK GUTTER TO FLAT. 5: LEAD COVERED BUILT-UP HOOD. 6: LEAD LINED EAVES GUTTER TO FLAT.



DETAILS SHOWING VARIOUS METHODS OF LEAD FLASHING THE HEADS OF OPENINGS IN STUD FRAME WALLS.



DETAILS SHOWING VARIOUS METHODS OF LEAD FLASHING THE SILLS OF OPENINGS IN STUD FRAME WALLS.



DETAILS SHOWING VARIOUS METHODS OF WATERPROOFING AT FLOOR PLATE LEVEL BY MEANS OF WATERTABLES.

Information from the Lead Industries Development Council.

INFORMATION SHEET: LEAD FLASHINGS & PROTECTION TO TIMBER CONSTRUCTION: No. 44.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1 • Oscar A. Bayne

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 594 •

SHEET LEADWORK

Subject : Lead Flashings and Protection to Timber Construction

General :

This Sheet sets out various details in timber frame construction in which milled sheet lead is required for waterproofing or protection purposes.

Lead is generally used for this work and is particularly suitable for it owing to its flexibility, long life and non-staining character. It can be worked to shape, bent or drawn over curved or angular details in a way which would be impossible with a more rigid material.

Lead for such purposes should be milled sheet lead and the weight used varies according to the position in which it is placed, for example, in positions where there is no free edge to the lead likely to be lifted by the wind, and in places where there is no traffic or where no extensive dressing of the lead is required, the weight of sheet lead can be as low as 3 or 4 lbs.

Where, as in the third detail on window sills shown on this Sheet, the lead is extended downwards some 6 ins. or 7 ins., the weight of the metal should be heavy enough to prevent it being readily lifted by the wind or otherwise damaged.

Lead linings to gutters should be made in 5 or 6 lb. sheet since the lead may be subjected to traffic and abrasion during cleaning, and in the case of gutter work, a considerable amount of dressing and working to shape is usually required.

Flat Roofs and Gutters :

Detail No. 1 shows a lead covered flat roof built up in timber. Wood rolls out of 2-in. material run with the fall of the roof. The roof and the roll are lead covered, only one side of each sheet being fixed to the roll as shown. This permits the lead to expand and contract freely over the whole of the roof area.

At the verge the lead is dressed round a wood verge roll and fixed by 2 ins. wide lead clips placed at approximately 12 in. centres, which prevent the wind lifting the covering. Where an asphalt or built-up bitumen roof is used, lead may be used as a finishing weathering to the verge, 3 or 4 lb. metal being sufficient.

Details Nos. 4 and 6 show a back gutter and eaves gutter respectively, on which lead of from 4 to 6 lbs. is used.

The depth of the gutters should never be less than 3 ins. and the "over" lead should be turned down as a cover at least 1½ ins.

Expansion joints or drips with 2 ins. fall at approximately 10 ft. intervals should be placed along the length of the gutter, giving falls to cesspool outlets.

Eaves Gutters to Pitched Roofs :

Details Nos. 2 and 3 show two types of gutters at the eaves of pitched roofs.

No. 2 is a secret built-up gutter, lined in 5 or 6 lb. lead. The lead is copper-tacked to the tiling batten, dressed to conform to the shape of the gutter, and carried out over the fascia to form a drip. No cover flashing is used but the lead should be carried up the slope of the roof at least 3 ins. in vertical height above the top of the gutter before being tacked.

Expansion joints, which may take the form of outlets to cesspits or stackheads or stop ends at every high point of the gutter must be provided at not more than 15 ft. intervals, which, in practice, means a distance of not more than about 30 ft. between outlets.

Detail No. 3 shows a solid wood gutter lined in 5 or 6 lb. lead. As in Detail No. 2, the lead should be copper tacked to battens and the gutter provided with expansion joints in the form of free-moving outlets or stopped ends at not more than 15 ft. centre to centre. All seams and joints in lead should be lead burned.

In all cases it is desirable to see that the girth of the lead to such gutters does not exceed about 24 ins.

Covered Hood or Cornice :

Lead of 4 lb. weight may be used for covering small hoods or ornamental cornices over doorways or porches, etc., care being taken that a fall sufficient to throw off water is obtained.

The lead should be carried up the vertical face of the diagonal sheathing and copper nailed. Where the bottom edge of the wall facing (in this case wood shingles) finishes well above the top of the hood a cover flashing should be inserted as shown, but in cases where the wall facing is carried down to 1 in. or 2 ins. above the top of the hood, the cover flashing may be dispensed with. This is shown more clearly at the top of the drip cap in the first details on "Heads of openings." A strip of lead tacked to the fascia and a welt in the lead covering formed around its lower edge prevents wind from lifting the flashing.

Treatment at Heads of Openings :

The first two details of this group show how a drip cap or tilting fillet may be built into position and covered with 4 to 6 lb. lead to throw any water clear of the head and frame of the opening.

In both cases it is essential that the lead should be tacked at the top and carried down to form a free drip at least ½ in. below the drip cap or fillet.

The third detail shows how the frame may be extended out beyond the face of the wall to form a stop, both at the jambs as well as at the head, for vertical tile hanging or any other facing material. The frame should be weathered and cut to act as a drip to throw water clear of the sash.

The vulnerable point for damp penetration in this construction would occur where the tiles rest on the frame, but this junction can be waterproofed by placing a 4 lb. lead flashing in a position as shown, tacked to the top of the head plate in between the vertical studs and carried down over the edge of the frame.

Where the lead is carried down to form its own drip and hence needs considerable rigidity, as in the first two details, it is desirable to use a heavier weight of lead.

Treatment at Sill of Opening :

The first two details of this group show the usual methods of waterproofing the joints between the underside of the sill and the top of the stud wall, in which the lighter-weight lead (3 or 4 lbs.) may be used. The lead should be turned up slightly and copper tacked to the sill as shown.

In the third detail, where the lead flashing is carried down over the face of the tile hanging to give a proper "lap" to the tiles, a heavier lead should be used—4 or 5 lbs. per sq. ft.

This method can be used where it is found undesirable to lay a "top" tile in position (which presents difficulties in fixing) or where it is desired to show a deep face of lead with possibly an ornamental edge.

Watertable at Floor Plate Level :

The group of three details at the bottom of the Sheet show how watertables are constructed to throw water clear of the junction between the floor plate and the foundation wall.

The first detail shows a watertable built with a projecting raking cast off. This member affords a suitable stop for the weatherboard wall facing and is covered with 4 or 5 lb. lead. A d.p.c. of 4 lb. lead prevents moisture from travelling from the foundation wall to the floor plate. The lead should be carried over the top of the walling and turned down to prevent any fungoid growth ultimately creeping to the wooden structure.

The second detail shows a type of watertable which is constructed with blocking pieces. No flashing is necessary in this instance if the shingle or the facing material extends below the top edge of the fascia and forms an adequate drip.

The third detail shows another method of waterproofing at floor plate level by the use of a damp-proof course, and a projecting sill plate. The lead is copper nailed to the back face of the sill and carried slightly down the face of the foundation walling. This method, with the use of sprocket pieces, forms an adequate watertable for the tile hanging.

Care should be taken to see that the lowest tiles extend below the bottom of the sill plate and that a drip is provided on the underside of this sill.

Further information on the subject of lead lining to gutters and coverings to flat roofs may be obtained from previous Information Sheets Nos. 148, 149 and 496; reference should also be made to the full list of Sheets issued by the Council.

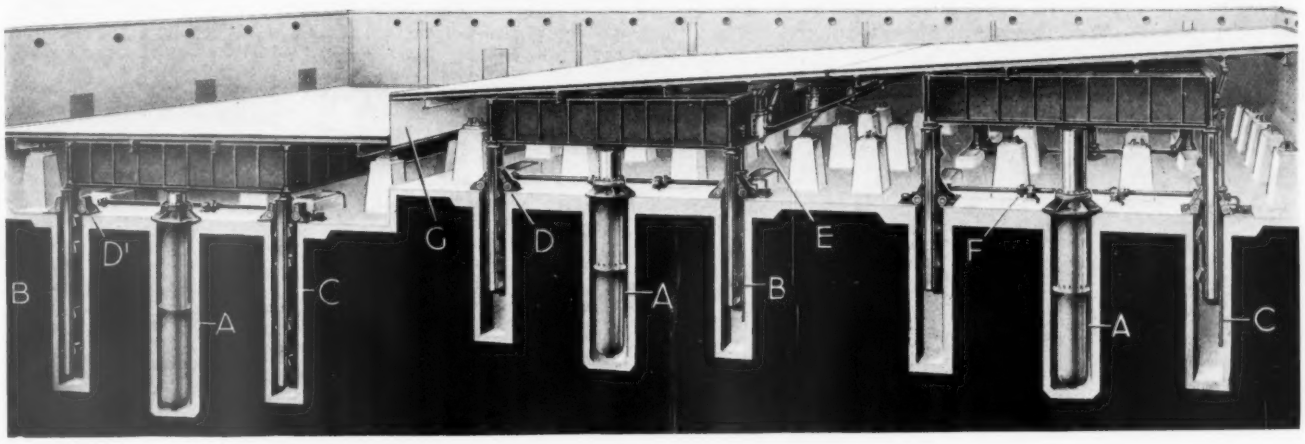
Information from : The Lead Industries Development Council

Address : Rex House, 38 King William Street, E.C.4

Telephone : Mansion House 2855

WORKING DETAILS : 621

SWIMMING POOL • EARLS COURT EXHIBITION • C. HOWARD CRANE



KEY TO DIAGRAM:

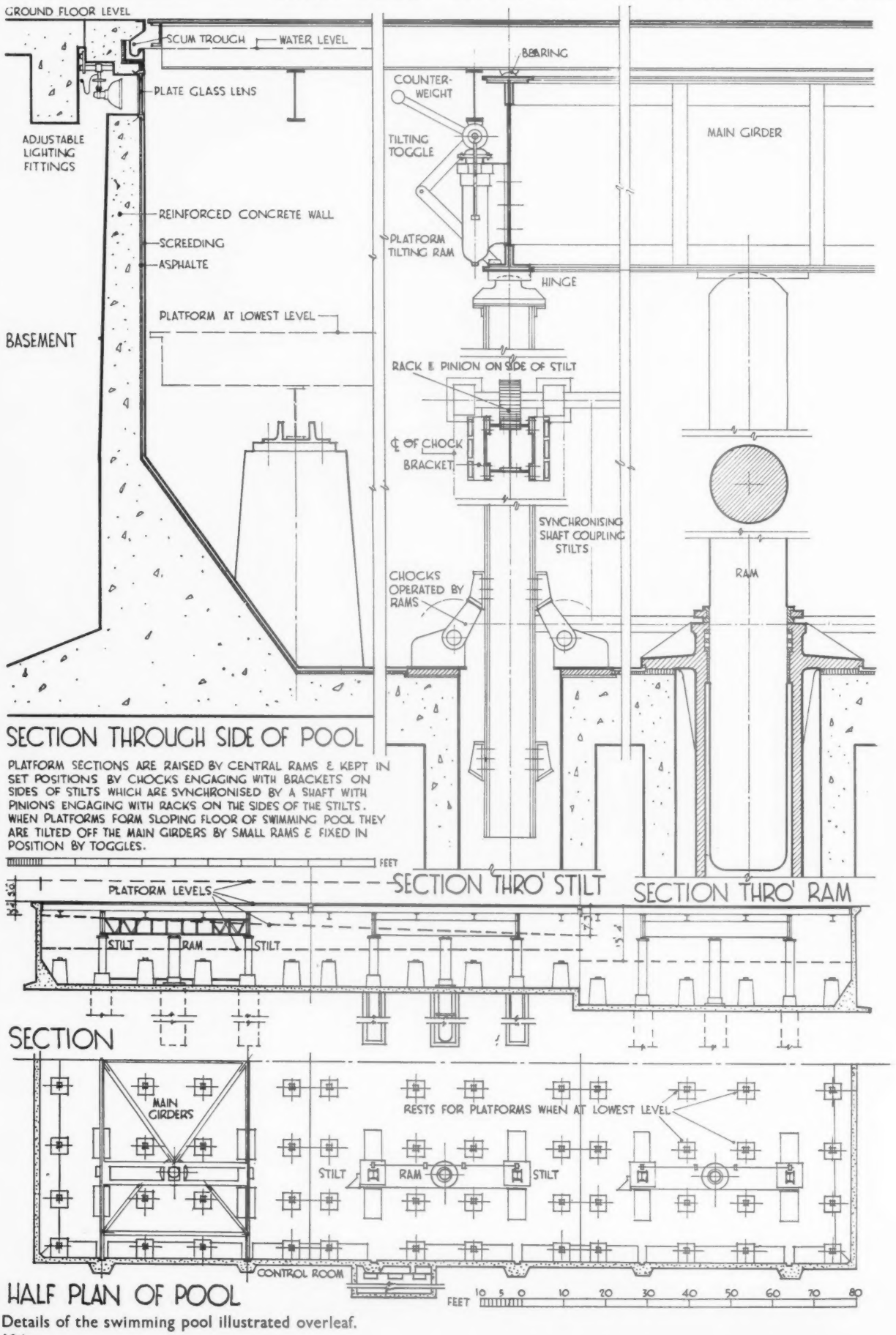
A : Main Lifting Rams
B : Stilts
C : Indicator Ram
D : Stilt Chocks
E : Platform Lifting Rams
F : Synchronizing Shaft
G : Protection Apron

In order that the swimming pool area should be made available for other purposes in the winter, the provision of suitable flooring had to be considered, and it was established that it would take eight days to remove, and eight days to re-install a temporary floor, and that a storage space of 200,000 cubic feet would be required for the flooring. It was decided to install a rising platform comprising three hydraulically operated sections, which together would cover the whole of the pool. It was further arranged that the platform could be raised 5 ft. above floor level so as to form an elevated stage, and by providing independent operation for each section the area could then be adapted as a sunken arena with varying depths below the main floor; by fitting tilting devices to the centre and one of the end sections a sloping bottom could be made available, leaving the other end section in the lowest position and thus providing for deep diving. The three sections of the floor are controlled independently by means of hydraulic rams and the pool is normally not emptied, for the floor sinks through the water when it forms the bottom of the pool.

Above is shown a diagrammatic section through the pool and a view of the pool with the platform lowered. Overleaf are shown detailed sections, key plan and section.

WORKING DETAILS : 622

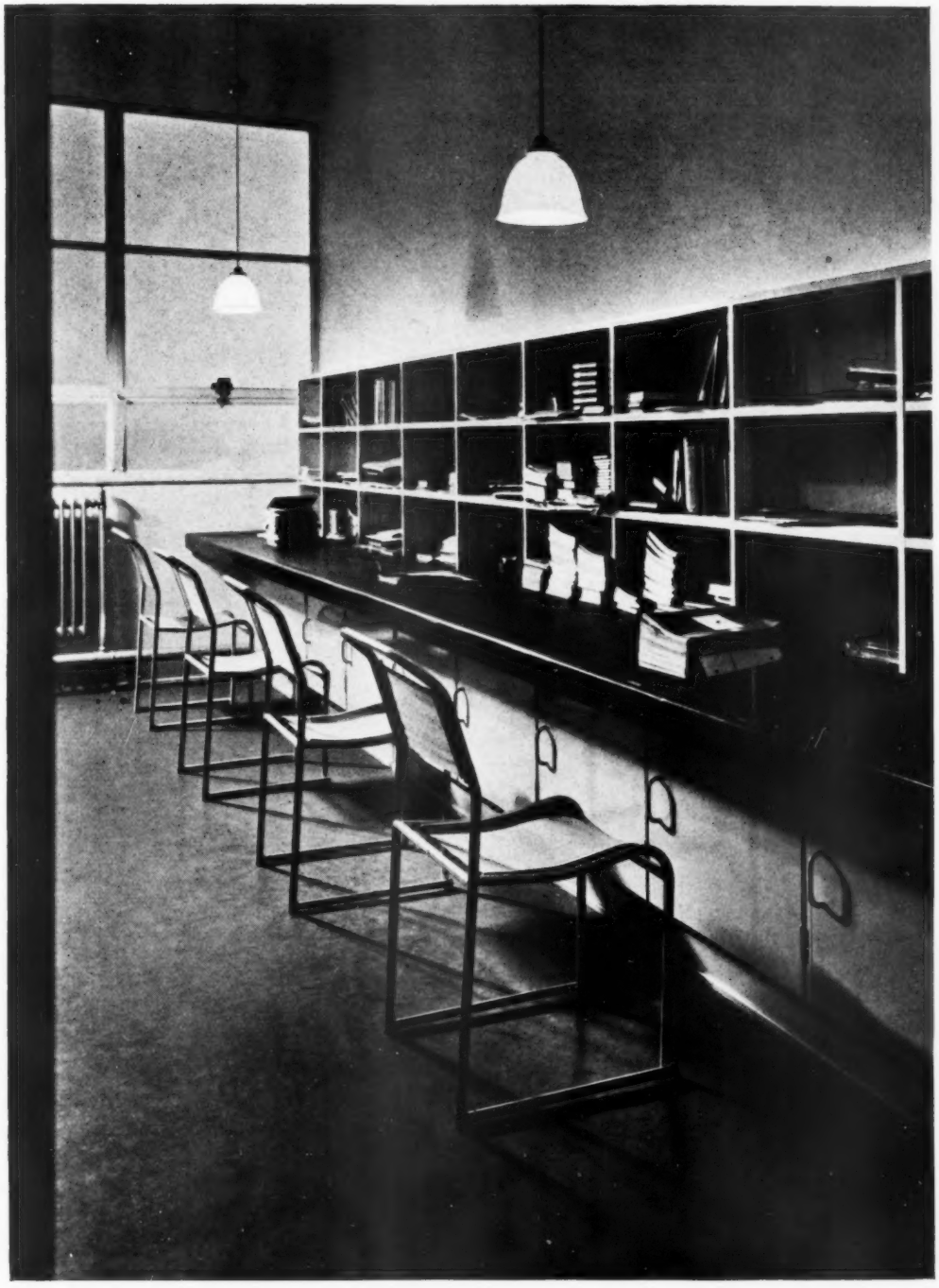
SWIMMING POOL • EARLS COURT EXHIBITION • C. HOWARD CRANE



Details of the swimming pool illustrated overleaf.

WORKING DETAILS : 623

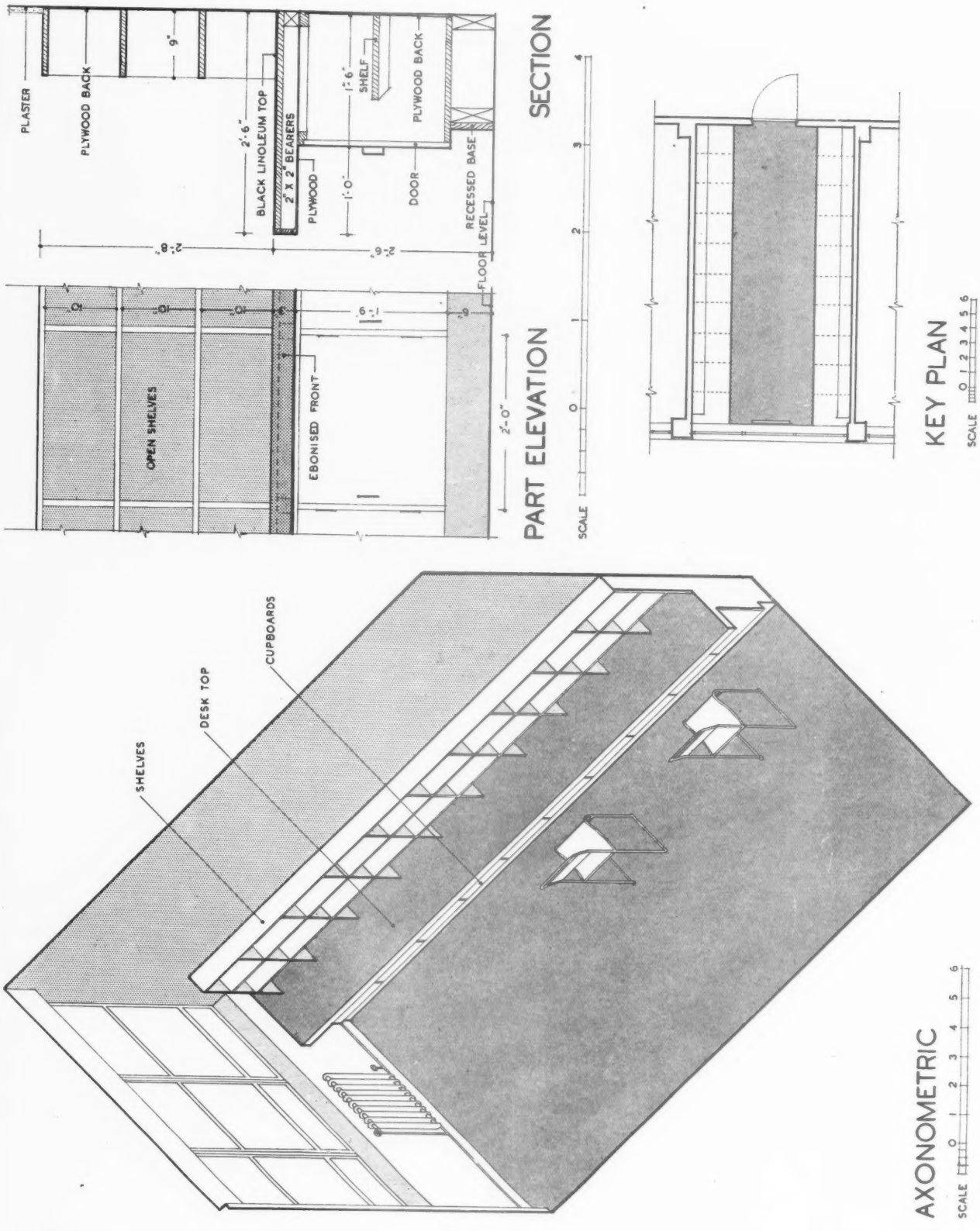
STAFF STUDY • BURLINGTON SCHOOL FOR GIRLS, HAMMERSMITH • SIR JOHN BURNET, TAIT AND LORNE



The details overleaf show the layout of the staff study, which is provided as a quiet room for the use of teachers correcting work, etc., the staff common room being used for recreation only. Each teacher has her own place with cupboard and pigeon holes. The desk top is covered with black linoleum, the front being ebonised. Cupboards are in plywood, painted, with recessed base.

WORKING DETAILS : 624

STAFF STUDY • BURLINGTON SCHOOL FOR GIRLS, HAMMERSMITH • SIR JOHN BURNET, TAIT AND LORNE

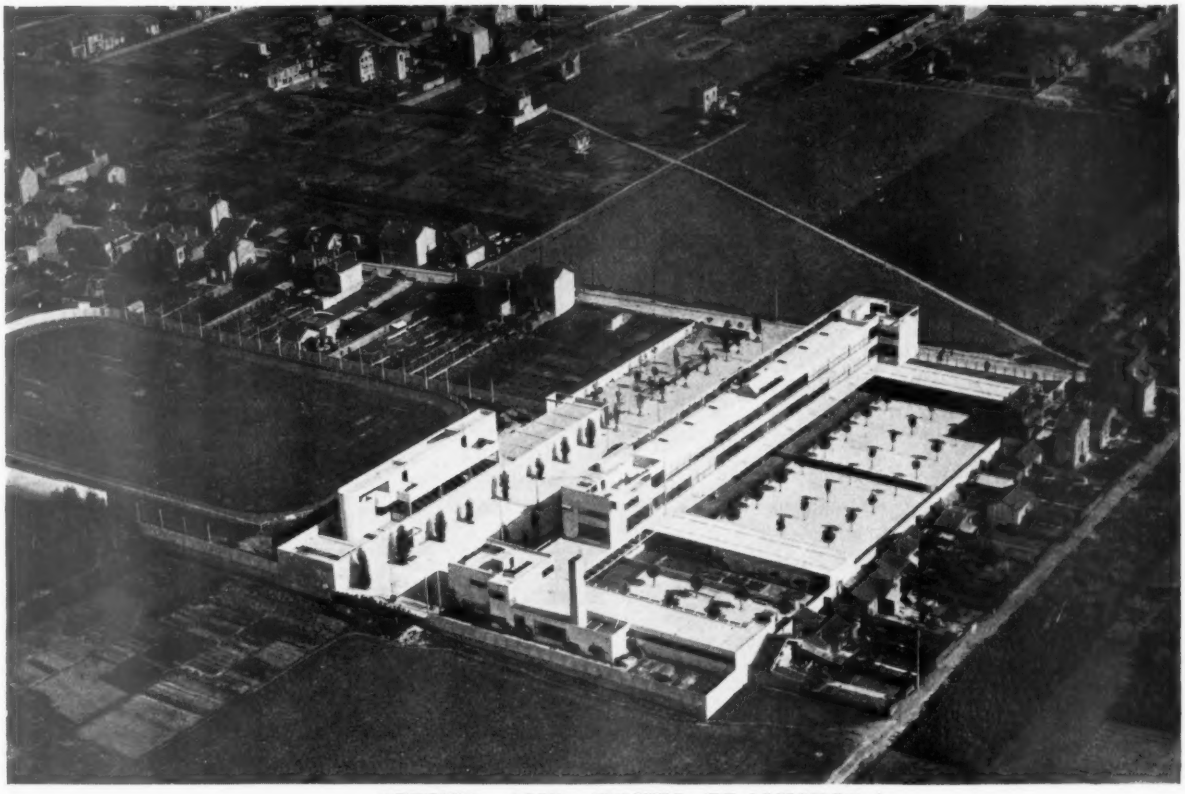


Axonometric and details of the staff study illustrated overleaf.

SCHOOLS

The Architects' Journal Library of Planning

Senior Schools



Spacious and orderly site planning in haphazard suburban development : André Lurçat's famous school at Villejuif. · Plans are shown on page 54.

SITING AND TOWN PLANNING *

"That it is necessary to contemplate for the future the purchases of sites considerably larger than those of the past will be apparent when the plan and layout of the modern School are thoroughly appreciated, since they are conceived on altogether more open lines than was formerly the case . . . The School . . . should be afforded a measure of quiet and privacy from the outside world, and, inside, should have ample space for its activities."—THE BOARD OF EDUCATION.

The Neighbourhood Unit

TOO often the siting of schools is an afterthought in growing residential districts. Houses spring up haphazard, false land values are created and only expensive, unsuitable sites remain for new schools which must serve suddenly increased populations.

Siting should be decided upon simultaneously with the Zoning Plan—in the rare cases where this rudimentary form of Town Planning is thought necessary. From the start there should be co-operation between Planner, Education Authority and Parks Authority.

Siting of the Senior School has special significance in a new community. It should be the nucleus of what American planners neatly define as a "Neighbourhood Unit"—that is, a community with a limited population (usually between 5,000 and 15,000) housed in a defined area within the boundaries of main traffic arteries, equipped with all necessary community buildings and having as its basic element an efficiently organized school system. This definition applies equally to independent communities and those which are attached or satellite to towns.

Child population rather than total population should be the determining factor in gauging the desirable expansion limit of a Neighbourhood Unit. For instance, it must be determined from the start whether the community is to be a single Unit served by one 3-stream Senior School (420–480 children) or whether it is to be a multiple Unit served by two or more schools.

A Unit based on one 3-stream Senior School and the corresponding Junior, Infant and Nursery Schools, would have a population of approximately 7,000.

Child Population

Census figures show that 1.6 to 1.8 per cent. of the total population enter and leave school each year, or that the school-going population (children between 5 and 14) is between 16 and 18 per cent. of the total.

Raising the school age to 15 will bring the

* These notes are partly based on data in two articles by C. Wesley Dougill in the *Town Planning Review* of 1934, on the Siting of Elementary Schools.

percentage between 17·5 and 20. The numbers of Nursery School children are likely to vary considerably in different districts for some time.

In estimating tendencies in child population many movable factors have to be taken into account: proportionate numbers of children vary considerably according to occupation and locality; in re-housed slum areas child population is abnormally high; a new community may be excessively young and have few children of Senior School age for the first few years; the leaving age may shortly be raised to 15; in some districts the estimated decline in school population may not apply.

Many governing factors are at first indeterminable. Sites for school buildings must therefore be spacious and easily adaptable. Increases in sizes of playing fields, for instance, can often be allowed for by zoning land which adjoins the school for intermediate use, so that high prices for acquisition will be avoided when expansion becomes necessary.

Distribution Diagram

The diagram on the next page shows the ideal distribution, with regard to sizes and walking distances, of Senior, Junior and Nursery-Infant Schools in a typical Neighbourhood Unit.

There are 3 satellite groups composed of 1 Junior and 2 Nursery-Infant Schools, each group dependent on the Senior School which forms the nucleus.

The following figures explain the diagram:

Neighbourhood is confined within circle of $\frac{3}{4}$ mile diameter. Intermediate circles are drawn at $\frac{1}{2}$ and $\frac{1}{4}$ mile diameters.

Gross acreage	280 acres
Open spaces, civic centre, business and community buildings ..	100 acres
Schools and playfields	30 acres
Houses and flats	150 acres
	280 acres

Number of children between 2 and 15 ..	1,500
Total population approximately	7,000
Number of families	1,500
Number of houses to the acre	10

Schools distributed as follows:

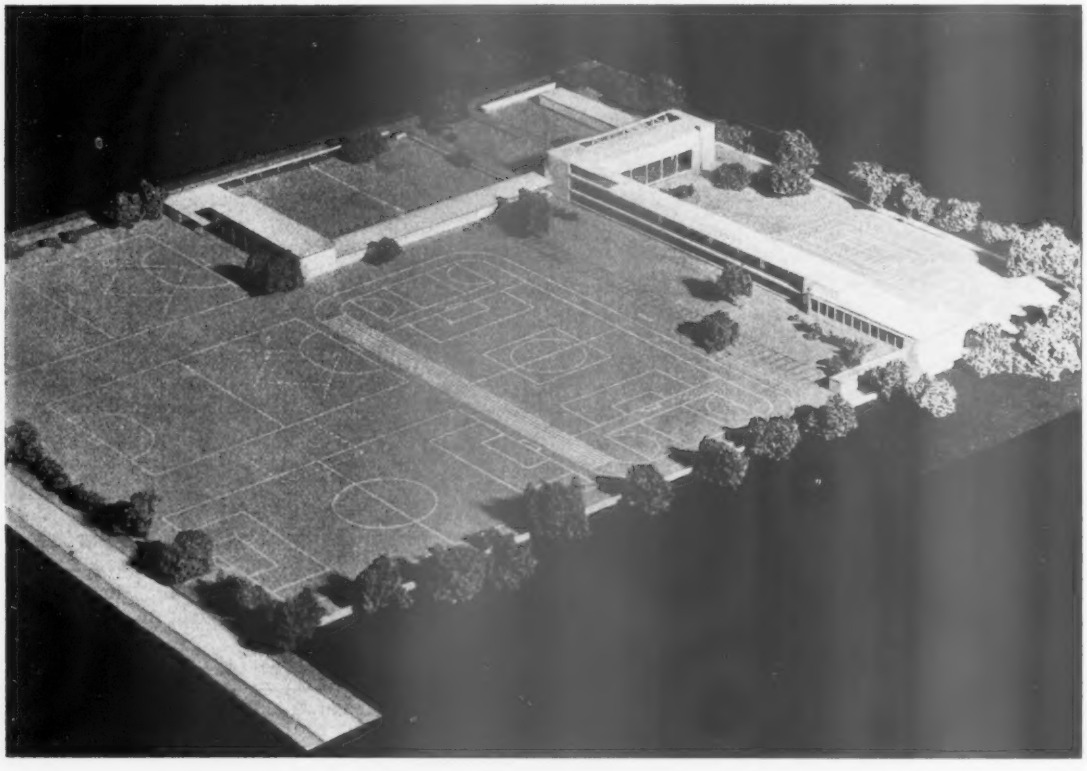
1 Senior School (11–15) for 420 (12 classes of 35)
3 Junior Schools (7–11+) for 140 (4 classes of 35)
6 Nursery-Infant Schools (2–7+) for 110 (4 classes of 25–30)

Maximum (bee-line) distances:

Senior School	3 furlongs
Junior Schools	2½ furlongs
Nursery-Infant Schools* ..	2 furlongs

Wythenshawe, a satellite residential town financed by the Manchester Corporation, is probably the best example we have in England of the Neighbourhood Unit system of planning. Schools are sited within well-defined areas which are not crossed by any main traffic arteries. The projected plan for the new satellite town of

* It has been assumed that 50–75 per cent. of children from 2 to 5 will go to Nursery School.



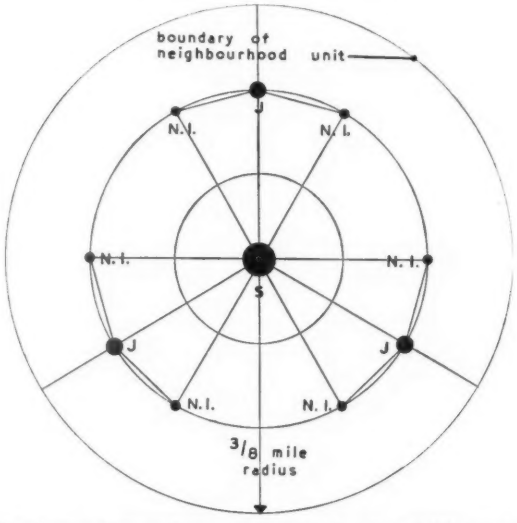
Playing fields as integral part of school plan: example of a well arranged 10-acre site. Second premiated design in the *News Chronicle* competition for a mixed senior school for 480. Architect, Birkin Haward.

SCHOOLS

Kincorth, Aberdeen, has also been worked out on this principle.

The School as Cultural Centre

The Senior School, when it is likely to be used as the cultural centre for adults as well as for children, should be directly related to the Civic Centre, though it need not be the dominant feature.



Distribution diagram for a neighbourhood unit of 7,000 population. S=Senior School (420 children). J=Junior Schools (140 children). N-I=Nursery-Infant Schools (110 children)

Play spaces should not abut the Civic Centre and should be screened by the school building itself or by some other means, but they may with advantage adjoin a park or green belt connection.

Sometimes, particularly in dispersed districts, the school hall will become the only community hall; gymnasium and playing fields will be used by both adults and children. These considerations influence siting and disposition.

Sizes of Senior School Sites and Playingfields

Where playing fields adjoin the school the total area of the site should be approximately 10 acres for a fully-equipped 3-stream school.

When playing fields do not adjoin, there should be a minimum of 4 acres.

As in Junior Schools, land should not have a slope exceeding 6 per cent., and should be approximately rectangular if fullest use is to be made of it.

When detached central playing fields are provided, they should be 10–15 acres in extent, and time taken in travel should not exceed 20 minutes.

Walking Distances and Bus Services

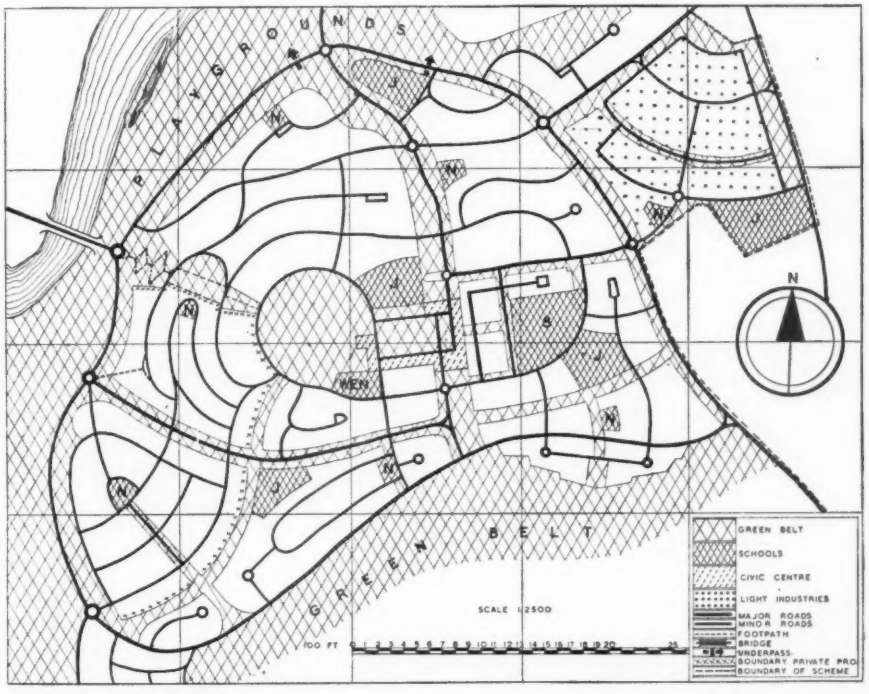
Large concentrations of children result in greater walking distances in the case of Senior Schools. The absolute maximum should be 1 mile, the desirable maximum is ¾ mile.

A comparative schedule of distances for different types of schools is given here. It must be taken as a rough guide only, for obviously traffic and topography affect siting.

Maximum Distances

	Desirable maximum	Absolute maximum
Senior	¾ mile	Walking: 1 mile Cycling: 3 miles By private bus: 5 miles (rural districts)
Junior	½ mile	Walking: ¾ mile By bus: 5 miles
Nursery-Infant ..	¼ mile	*Walking: ½ mile *By bus: 3 miles

* It is not reasonable to expect children under 7 to travel to school by bus or to walk more than ¼ mile unless they remain at school for a midday meal.



Diagrammatic plan of the new satellite town for 20,000 at Kincorth, Aberdeen. (Holliday, Gardner - Medwin & Winston, architects and town-planning consultants.) The site is hilly and lies between river playgrounds to the north and moorland reservation to the south. Sites for Senior, Junior and Nursery - Infant Schools are shown in relation to through-traffic roads, parkways, and open spaces. Most of the site is to be developed as municipal housing in 3-storey flats and 2-storey cottages, but part of the area to the west is zoned for private estate development, served by private schools outside the town boundary. Squares on the plan are ¼-mile squares.

In very dispersed districts schools should be planned for *special* bus services, with bus shelters attached to the school site.

The bus system might also be applied effectively to densely built-up city areas. Congested sites could then be scrapped and schools, complete with playing fields and gardens, transplanted near a green belt outside the built-up area.

Richard J. Neutra's well-known ideal city is planned with all schools at intervals on the green belt surrounding the city's limits, school buses taking children from housing centres to schools by way of radial speedways. This system, however, seems more suited to old, overgrown cities than to new-planned ones where space enough should be provided for schools within easy walking distance of every home.

SIZES AND GROUPS

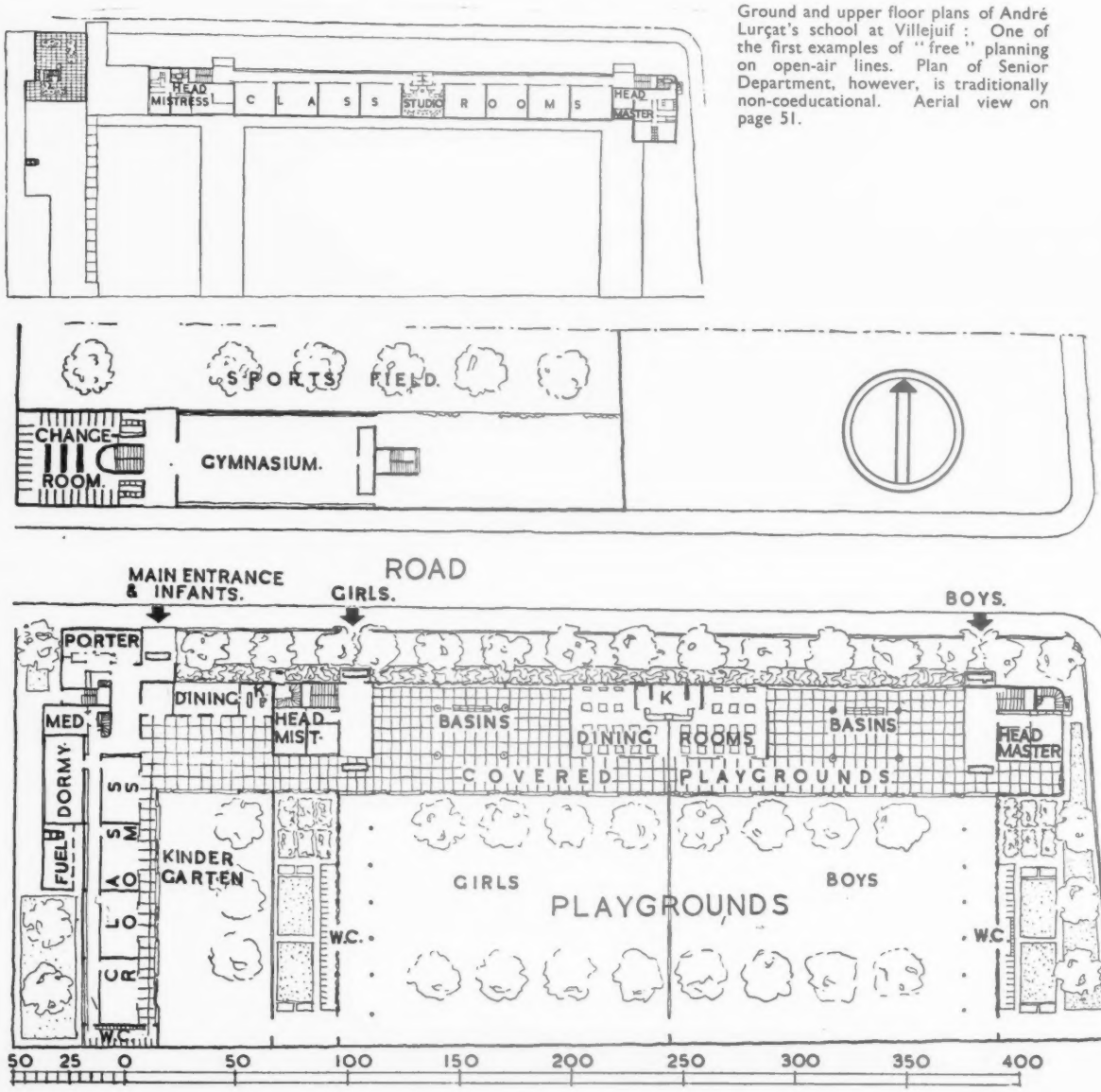
A 3-stream school (3 parallel forms) is considered the most satisfactory for Senior Schools, whether "mixed"* or for boys and girls separately. When separate boys' and girls' schools are grouped together in one building, each half of the school may have 3-streams, though such a very large concentration of children is not ideal.

35 is the recommended maximum for each class, but it is sometimes necessary to cater for 40 children or more.

In a 3-stream school the numbers of children will therefore be from 420 to 480, and in a 2-stream school, from 280 to 320. Single-stream Senior Schools are definitely to be avoided whenever possible, and in rural districts it is considered well worth while to have a 2-stream school at a distance, with special bus facilities, rather than 2 single-stream schools more conveniently placed. The grading of children according to ability is very important in Senior Schools.

When small schools are inevitable special provision may have to be made in the form of separate small classrooms for very forward and very backward children.

* A "mixed" school is ordinarily co-educational.



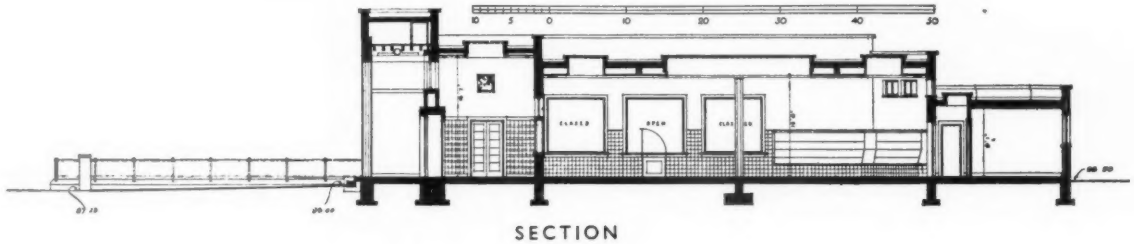
Ground and upper floor plans of André Lurçat's school at Villejuif : One of the first examples of "free" planning on open-air lines. Plan of Senior Department, however, is traditionally non-coeducational. Aerial view on page 51.

LIBRARY AT NORRIS GREEN, LIVERPOOL

DESIGNED BY L. H. KEAY

GENERAL AND SITE—*The Norris Green Branch (called the Harry A. Cole Library) of the Liverpool Public Libraries occupies a corner site covering 3,200 square yards at the junction of Townsend Avenue and Utting Avenue East.*

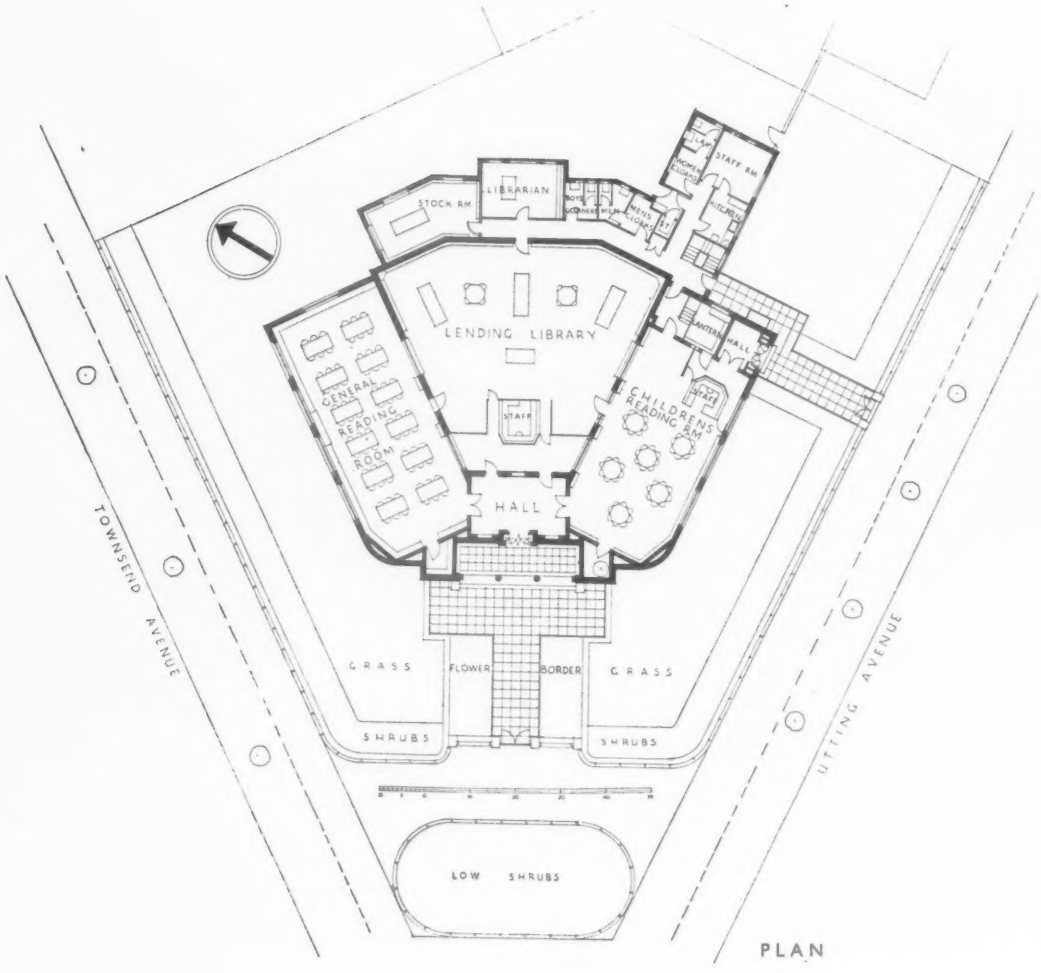
CONSTRUCTION AND EXTERNAL FINISHES—*13½ in. solid brick construction external walls, Jacobean sand-faced with ivory-coloured cement joints. The metal casement windows have Portland stone surrounds. The portico, which is flood-lit at night, measures 27 ft. by 7 ft. and has two Portland stone columns.*
Above is a detail of the main entrance.



SECTION

LIBRARY AT NORRIS GREEN,

Above, a general view; on the facing page is a view of the lending library.



LIVERPOOL: DESIGNED BY L. H. KEAY

LIBRARY AT NORRIS GREEN, LIVERPOOL

DESIGNED BY L. H. KEAY

INTERNAL FINISHES AND EQUIPMENT—*The main entrance hall has walls of Swedish green and black marble and biscuit-coloured tiles; the floor is of light green terrazzo tiles. The door is of the double-folding type made of oak and when folded back into a recess exposes two glass doors with horizontal dividing bars. All inside doors are similarly panelled.*

The three main rooms, which are separated by large plate-glass partitions, are fitted with bookcases, newspaper stands, counters, tables, etc., of oak, without mouldings and polished to just-off-natural. The floors are of oak blocks, tongued and grooved.

The general reading room is provided with wallstands for 25 newspapers, together with an adequate supply of reference books and periodicals, the latter being displayed in special cases. The room contains seating accommodation for 72 persons.

Natural lighting is supplied in the adult lending library by 14 concave roof lights.

The wall cases rest on the brick and tile plinth 18 ins. from the floor. All walls not covered with bookcases have 6-in. square biscuit-coloured tiles, with joints of white cement, up to a height of 6 ft., the wall space above being in distempered light stone. The ceilings are in cream.

The young people's department, with a separate entrance, contains books and magazines suitable for boys and girls between the ages of eight and 14 years. A projection room is provided for the operation of a cinematograph, for use in connection with lectures and story hour talks to children, and is wired for a loud speaker which is situated at the opposite end of the department. Provision has also been made for a microphone unit. Under the projection room provision is made for the storage of the collapsible forms which will be used during the young people's lectures and story hour talks.

The Librarian's room and various staff rooms, etc., are on the ground floor at the rear of the building. The Library contains over 20,000 books, representative of all classes of literature.

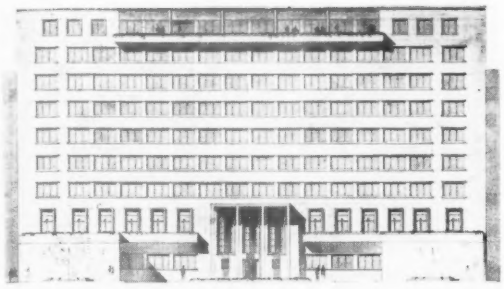
LIGHTING—*The electric fittings are of the spherical type. There are 17 in the adults' lending library, 10 in the general reading room and eight in the young people's department.*

COST—*The cost of the building, including land, furniture and fittings, was £12,750.*

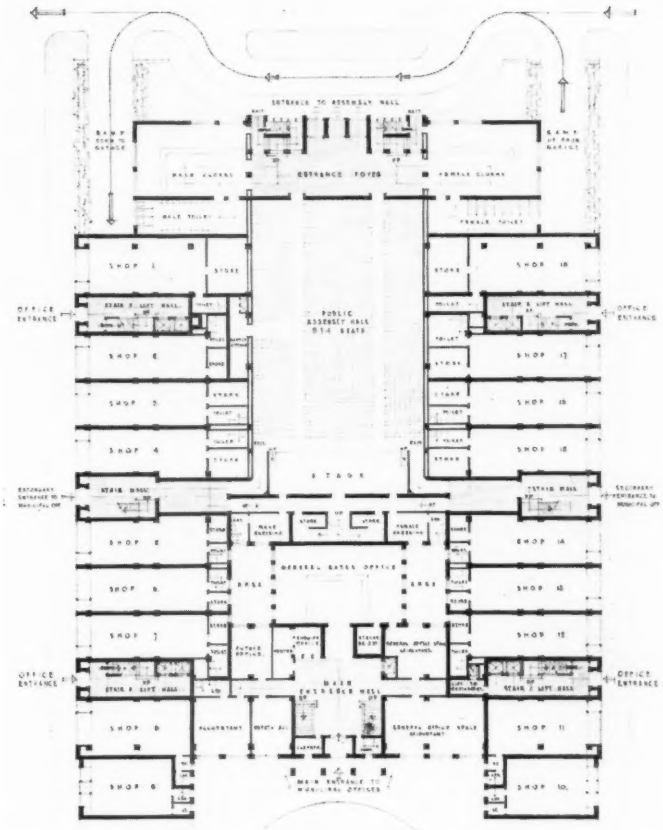
The photographs show: Top, left, the children's reading room; top, right, the general reading room; and the lending library.

For list of the general and sub-contractors, see page 148.

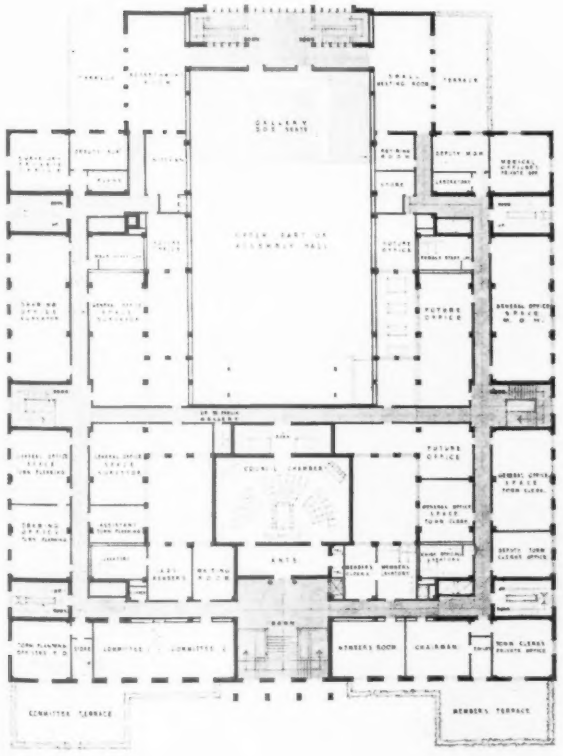
R. I. B. A. PRIZES AND STUDENTSHIPS

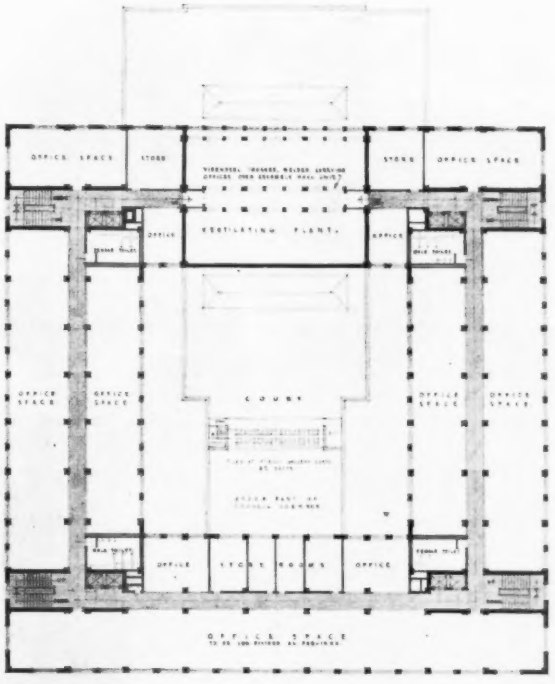


ALFRED BOSSOM TRAVELLING STUDENTSHIP. SUBJECT: MUNICIPAL OFFICES AND ASSEMBLY HALL: WINNING DESIGN: BY JOHN NEEDHAM (Leeds School of Architecture)

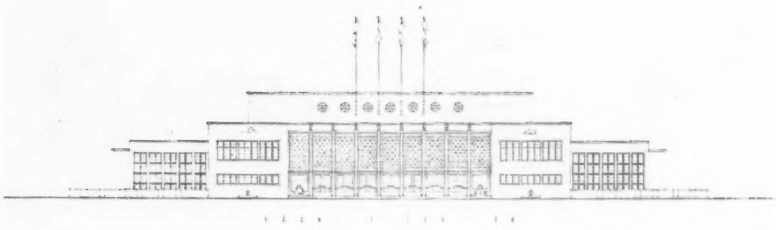


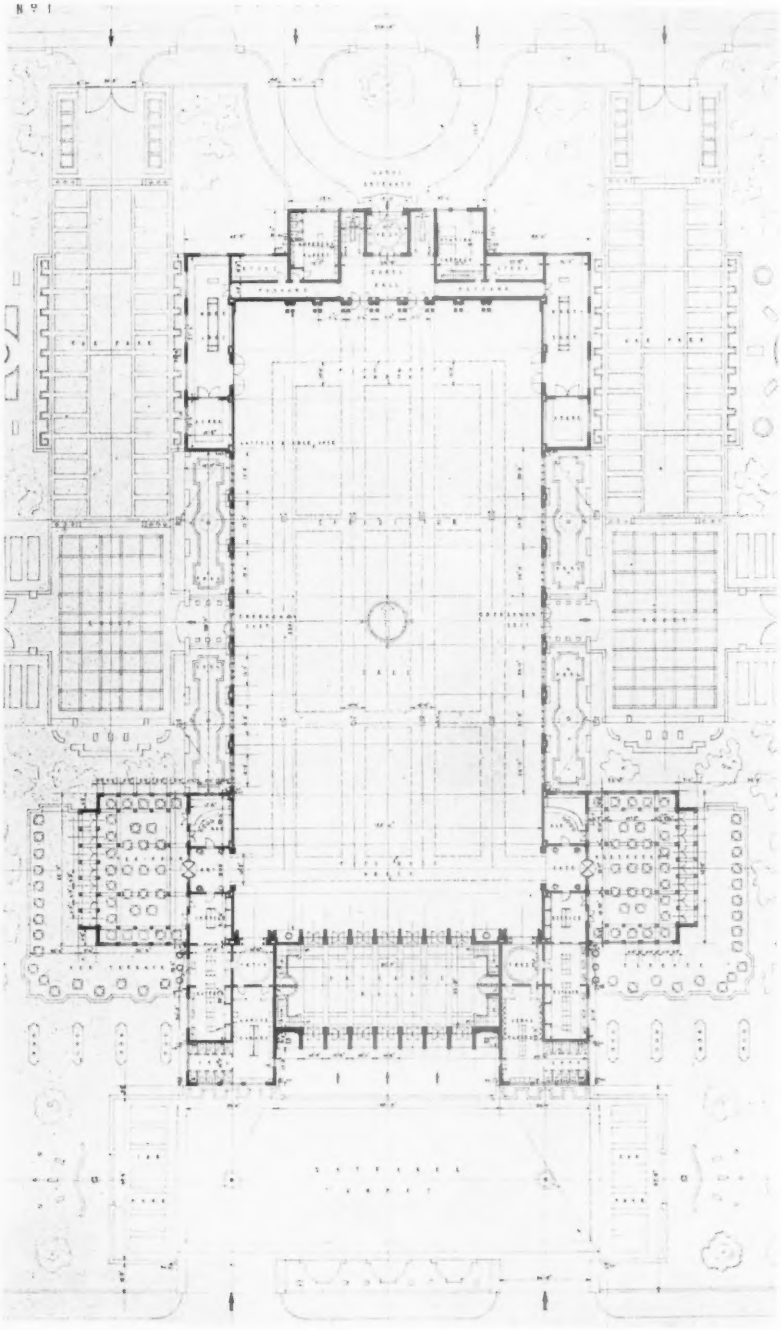
Above: main front; right, ground floor plan; below, first and second floor plans





R.I.B.A. PRIZES AND STUDENTSHIPS





THE GRISSELL GOLD MEDAL SUBJECT: AN EXHIBITION HALL

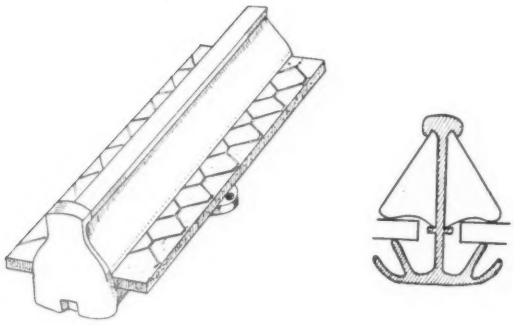
WINNING DESIGN

BY

WILLIAM A. B. ROBERTSON

(Edinburgh College of Art)

On this page we reproduce the main elevation and ground floor plan of this scheme.



TRADE NOTES

[EDITED BY PHILIP SCHOLBERG]

Fireproof Partitions

THE H.M.V. fire in Oxford Street gives one an opportunity to see the value of mineral anhydrite blocks as fireproof partition materials, and Imperial Chemical Industries are very pleased with themselves because their Pioneer blocks have come out of it rather well. For in spite of the fact that the interior of the building was practically gutted, it has since been estimated that as much as 80 per cent. of the anhydrite partitioning is in such a condition that it could easily be replastered if necessary. The fire was apparently fiercest on the ground floor, where there were 14 audition rooms with 3-in. Pioneer partitions. Judging from the fact that the wired glass in the roof had been melted it may be assumed that the temperature of the fire was something over 1,000° C., and although the light false ceilings of the smaller cubicles had collapsed and all the door frames and general woodwork had been burned away, none of the partitions had collapsed and the blocks were only superficially discoloured by smoke in those places where the plaster work had fallen away under direct contact with the fire and subsequent pressure of water.

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The photograph on this page shows a fairly typical view of the debris with the wired glass looking not good for very much and the stud partitions rather worse. Judging from the state of the chair just visible through the door on the right it would seem that these Pioneer blocks really do help quite a lot to prevent a fire from spreading, and I have seen further photographs showing gramophone and wireless cabinets with not much more than the varnish singed. The things on the floor that look like petrified custard pies I take to be gramophone records ; I had always thought that these were particularly inflammable, almost as bad as cinema film, but there is a rack on the left of the photograph where not a great deal of damage seems to have been done, though I do not imagine that any of the records are fit to play.—(*Imperial Chemical Industries, Ltd., Imperial Chemical House, Millbank, London, S.W.1.*)

Aluminium Glazing Bars

A few moments' thought should be enough to convince anyone that protective coatings on corrodible materials are not always quite so good as they seem. Galvanizing, for example ; a perfectly satisfactory method as long as all fabrication can be done in the shop, for once you start drilling on site there is a break in the protective skin where corrosion will start if it gets half a chance. Hence partly the vogue of metal spraying after the job is done, so that everything, rivets, bolts and all, has a protective coat of its own. On the same grounds the lead sheathing of metal glazing bars is a source of weakness, or may be considered so by the purists. Admittedly it usually works well enough in practice, but the covering is liable to be damaged during erection, though once it is up the hazards, apart from window cleaners, are almost negligible.

I am not trying to suggest that the normal forms of protective coat are not perfectly satisfactory in general use, but on theoretical grounds, at least, there is a good deal to be said in favour of a new aluminium glazing bar which has recently been introduced by Williams and Williams. There is a section of it at the head of these notes, and the glass is held by a continuous self-locking aluminium spring cover strip which gives a cushioned support to absorb vibration and shock and which also allows for expansion and contraction, holding the glass firmly without any special storm clips. Owing to the use of aluminium there is a saving in weight of anything up to 1¾ lb. per sq. ft. of glazing, and, since the method of fixing gives a high degree of weather-proofing, pitches can be as low as 10 degrees. Price is about the same as the more usual methods.

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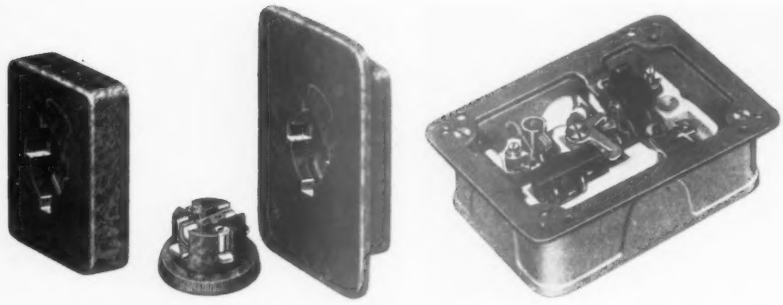
From the point of view of resistance to corrosion nearly everyone is prepared to trust aluminium in ordinary atmospheres, for it readily forms a skin of protective oxide and there is then nothing much to worry about. At the seaside, however, the corrosion of aluminium is generally pretty severe (ask any sailing man what happens to aluminium saucepans) and for this reason Williams and Williams use an alloy which undergoes a treatment rather like anodizing and is filled with a hard lacquer. In actual practice I gather that these bars were used on the Post Office in Miami, a job near enough to the sea for the windows to get splashed by waves, and what with the temperature and the humidity I should imagine that conditions there are about as

After the fire at the Gramophone Company's building in Oxford Street, W.1: the photograph shows an undamaged anhydrite partition among the debris of one of the audition rooms on the ground floor.



New D.P. Shutterlocked switch, right, and fused clock connector by Sanders (see note below)

bad for corrosion as anywhere. They still survive after eight years, so it may be assumed that they will be safe almost anywhere in this country.—(*Williams and Williams, Ltd., Reliance Works, Chester.*)

Switchgear Developments

It is now a year or more since a note appeared in these columns about Sanders' Shutterlocked sockets, and this firm has now produced a double pole type with all the safety features of the original model, which, of course, is still being made. The photograph on this page illustrates the sunk type, but the ordinary surface type is available as well. The mechanism is the same in both types, the most interesting feature being the sliding action of the switch blades, this giving a different position on the blades for making and breaking the contact, so that the life of the switch should be increased. Prices, in the 5-amp. size, are 5s. 8d. and 6s. for surface and sunk types in walnut finish; white finish being extra. The cover plates give a reasonable amount of protection to the dolly, so that lazy people are discouraged from kicking the switch on and off with their toes, a vice which has often been the death of the mechanically interlocked type of switch, but which does not really matter very much with this kind.

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The same firm has also recently introduced a fused clock connector which is marketed in both surface and sunk models. The total projection from the wall is about as small as it could well be, the sunk unit being a bare ¼ in., the surface about ¾ in.; prices are 26s. 4d. and 29s. 4d. a dozen. The 2-amp. fuse is held in the plug by spring clips and is easily accessible, the plug needing only a slight twist to free it from the socket—a simpler method perhaps than the thumbscrew type, but removal should be necessary so seldom that it probably does not matter either way.—(*William Sanders & Co., Ltd., Falcon Electrical Works, Wednesbury, Staffs.*)

LAW REPORT

ROAD-MAKING CHARGES

Smith v. *The Corporation of Birkenhead.—King's Bench Divisional Court.—Before the Lord Chief Justice and Justices du Parcq and Atkinson.*

THIS appeal raised a question as to whether in a notice of apportionment, the Birkenhead Corporation had complied with their Improvement Act of 1884 and included sufficient particulars of the considerations on which their provisional apportionment was based.

The appeal was by Mrs. M. S. Smith, as owner of the property, The Homestead, Upland Road, Upton, Birkenhead, from a decision of the Justices of Birkenhead holding that the provisional apportionment complied with the Act.

Mrs. Smith's case was that the particulars given were insufficient to enable her to challenge the figures set out against various items of work done.

For the Corporation it was argued that the particulars given clearly laid down the principles on which they had acted.

The court held that there had not been complete disclosure and that there was a vagueness which left the appellant to speculate how the amount was made up, and that therefore the Act had not been complied with. The appeal was dismissed with costs. The Court further ordered the case to go back to the magistrates to either amend the apportionment or adjourn the case so that further notices could be given and the apportionment amended.

The Lord Chief Justice, in the course of his judgment, said in his view it was clear that the apportionment should state the amount charged against the premises, and further whether it was made according to the frontage or not and any other matter on which the apportionment was based. In the present case, the apportionment said "other considerations," but did not say what they were. He could not see in the apportionment any of that particularity which the Act said must be given. There was no information for the frontager, but only a vagueness, which did not comply with the Act.

Manufacturers Items

Mr. Cyril C. Maudslay, chairman of Birmid Industries, Ltd., speaking at a general meeting of the firm in London, made special reference to the firm's aluminium alloy, "Birmabright." He said: "'Birmabright,' developed for its corrosion-resisting properties, is now making good progress. The application of this material to the construction of ships' lifeboats, which I touched upon last year, and in which we are pioneers, has made extensive progress, so much so that at the moment approximately sixty boats have been or are being constructed in various parts of the world from material supplied by us, and further orders are pending. Incidentally, you will be interested to hear also that we built the body of Captain Eyston's record-breaking car for him in this material."

He continued: "You would no doubt be interested to hear the position as regards Birmetals, Limited. We indicated in our last report that it would take approximately twelve months to complete building in December last, and, while we were hopeful of having a small portion of the plant running by this meeting, in common with other concerns, we have experienced difficulties owing to late delivery of plant. However, I am glad to say that practically the whole of the plant is now delivered and the major portion erected, and we are hopeful of commencing production early in the new year.

"When the mills are in full work, they will be producing sheets, strip, rods, tubes, extruded sections of all kinds, both in high strength aluminium alloys, and in the magnesium elektron alloys, as used by the aircraft, shipbuilding, transport and other trades. In addition they will, of course, produce our own special alloy 'Birmabright' referred to previously. The demand for the products of a works of this kind is so great at the moment that the question of securing orders is certainly not one of the major problems connected therewith."

THE BUILDINGS ILLUSTRATED

NORRIS GREEN LIBRARY, LIVERPOOL (pages 141-144). Architect: L. H. Keav. The general contractors were Tysons (Contractors), Ltd., and the sub-contractors and suppliers included: Waring and Gillow (1932), Ltd., fittings and furniture; Buckley Junction Brick Co., facing bricks; R. W. Brooke & Co., Ltd., oak and pine block floors; Richard Crittall & Co., Ltd., invisible ceiling panel warming system; Crittall Manufacturing Co., Ltd., metal windows; Ferroconcrete (Lancashire), Ltd., boundary wall coping; General Electric Co., Ltd., electrical fittings; T. Jones & Co., electrical installation; Lenscrete, Ltd., roof lights; Liverpool Gas Co., domestic hot-water system; G. Lowe and Sons, Ltd., iron railings, gates and spiral staircase; Quiggin Bros., Ltd., door furniture and lettering over portico; William Rowlands & Co., Ltd., turf and shrubs; Troughton and Young, Ltd., electrical fittings; Trussed Concrete Steel Co., Ltd., reinforced concrete work; H. Tyson Smith, external carving and lettering in stone, and plaster models in entrance hall; John Stubbs and Sons, marble, tiles and terrazzo work; Synchromatic Time Recording Co., Ltd., electric clocks; Williams and Watson, Ltd., bronze display windows.

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The National Federation of Specialists and Sub-Contractors

At a recent meeting of the council of the National Federation of Specialists and Sub-contractors, many questions of interest to sub-contractors were considered, and advice given to members on various points.

The Federation has had under consideration the question of holidays with pay. Many sub-contractors are at the present moment providing their employees with holidays with pay, but the aspect considered was the method of allocating the holidays among employees, should legislation render them obligatory. Opinions of all the sub-contracting interests are being sought and the question will be further considered at the next council meeting.

Support has been given by the Federation to the Arbitration Bill and the council were consequently pleased to hear that opposition to the Bill would probably be withdrawn after certain modifications had been made as regards its scope.

The council expressed satisfaction at the issue of a special form of the 1931 Form of Main

Contract for use by Public Authorities, and hoped that its use would be widespread. Certain local authorities have consulted the Federation regarding the form of contract they should use and it was agreed that the above form be recommended.

From time to time members report difficulties they are experiencing with certain firms of contractors who endeavour to secure their agreement to a form of sub-contract which contains a "pro rata" payment clause. It is generally recognized that such a clause is unfair to the sub-contractor, as among other disadvantages, it imposes upon him the responsibility for making enquiries regarding the financial standing of both the main contractor and the building owner. The form generally used—the 1936 Form of Sub-contract—contains clauses which are recognized as being fair to both the main and sub-contractors.

The Federation has made a number of comments on clauses 15 and 24 of the 1931 Form of Main Contract based on the experience of sub-contractors in working with this form, and it is understood that when the final new draft of the 1931 form is under discussion the Federation will be invited to confer with the Contracts Tribunal.

THE WEEK'S BUILDING NEWS

LONDON AND DISTRICT

BARKING. *Swimming Pool.* The Barking Corporation has approved a scheme for the construction of a swimming pool in Mayesbrook Park.

BARKING. *Flats.* The Barking Corporation has approved a scheme for the erection of 120 flats in Longbridge Road.

BARKING. *Houses.* Messrs. Leftley Bros., Ltd., are to construct 121 houses on the northern portion of the Manor Estate, Barking.

BARKING. *Out-patient's Department, etc.* The Barking Corporation has approved plans for the erection of an out-patients' department and babies' ward on the hospital site in Upney Lane, at a cost of £38,800.

BARKING. *Clinic.* The Barking Corporation is to erect a clinic in Porters Avenue, at a cost of £10,280.

BARKING. *Houses.* Plans passed by the Barking Corporation: 75 houses, Cavendish Gardens, Leftley Bros., Ltd.

BATTERSEA. *Electricity Premises.* The Battersea B.C. has approved plans for extensions at the electricity premises at a cost of £22,815.

BERMONDSEY. *Tenements.* The Bermondsey B.C. is to erect tenements on the Neckinger Estate at a cost of £12,840.

CARSHALTON. *Laundry.* The Surrey C.C. has selected a site at Carshalton for the erection of the central laundry, at a cost of £185,750.

FRIERN BARNET. *Flats, etc.* Plans passed by the Friern Barnet U.D.C.: Eight shops and seven maisonettes, "The Grange," High Road, Whetstone, Mr. S. Messer; six blocks of four flats, Oakleigh Crescent, Mr. J. Hutchinson.

HAMMERSMITH. *Flats, etc.* Plans passed by the Hammersmith B.C.: Seven shops with flats over, Old Oak Common Lane, Marshall and Tweedy; block of flats, Goldhawk Road, Mr. D. E. Harrington; flats, Hazlitt Road, The Builders and Decorators Co-operative Society, Ltd.

HAMMERSMITH. *Tenements.* The Hammersmith B.C. has approved by the Borough Engineer for the erection of 109 tenements at Becklow Place.

ILFORD. *Houses, etc.* Plans passed by the Ilford Corporation: 28 houses, Sydney Road and 27 houses, Havering Gardens, South Essex Property Co.; 10 flats, Abbey Road, Mr. C. W. D. Walden; 111 houses, Ilfracombe Gardens, Mr. G. F. Siegerts; 46 houses, Somerville Road, Mr. J. H. Mason; 18 houses, Applegarth Drive, and 14 flats, High Road, Chadwell Heath, Mr. W. M. Edwards; 56 flats, Mossford Lane, etc., and 540 flats and 520 houses, Mossford Park Estate, New Ideal Homesteads, Ltd.; 27 houses, Werneth Hall Road, Clayhall Park Estates, Ltd.; 16 shops and houses, Woodford Avenue, Mr. J. R. Crewes; nine flats, Green Lane, Mr. R. J. L. Slater; eight houses, Wanstead Park Road, Mr. A. P. Griggs.

MARYLEBONE. *Cinema, etc.* Plans passed by the Marylebone B.C.: New cinema, Approach Road, Baker Street Station; Block of flats with basement garage, Park Road, Mr. W. E. Masters; shops and flats, Frampton Street, Snell & Co.

ROMFORD. *Hospital Extensions.* The Essex C.C. is to extend Oldechurch County Hospital, Romford, at a cost of £98,245.

SOUTHWARK. *Factory.* Plans passed by the Southwark B.C.: Factory, Loman Street, E. Bates and W. G. Sinning.

ST. PANCRAS. *Refuse Destructor.* The St. Pancras B.C. is to construct a refuse destructor in James Street at an estimated capital cost of £137,000 for building and plant.

ST. PANCRAS. *Nurse's Home.* Plans passed by the St. Pancras B.C.: Nurses' home, Elizabeth Garrett Anderson Hospital, Euston Road.

STOKE NEWINGTON. *Flats.* Plans passed by the Stoke Newington B.C.: Block of flats, Seven Sisters Road, Evans and Lynde.

TOTTENHAM. *Houses.* The Tottenham Corporation is to erect 42 houses on the Scotland Green site.

TOTTENHAM. *Public Baths.* The Tottenham Corporation has obtained sanction to appropriate a portion of the Rowland Hill recreation ground for the purpose of public baths.

PROVINCES

BARNSLEY. *School of Art, etc.* The Barnsley Education Committee is to erect a school of art, at a cost of £4,900 and extend the girls' high school at a cost of £10,895.

BIRMINGHAM. *School.* The Birmingham Education Committee is to erect an elementary school in Lea Hill Road, Yardley, at a cost of £69,500.

BIRMINGHAM. *Police Station.* The Birmingham Corporation has approved a revised estimate of £12,117 for the erection of a police station in Bridge Street West.

BIRMINGHAM. *Welfare Centres.* The Birmingham Corporation is to erect maternity and child welfare centres in Kingston Road, at a cost of £14,316; at Tower Hill, Perry Barr, at £7,196; in Treaford Lane, Ward End, at £7,510; and in King's Road, Kettlehouse estate, at £6,380.

BIRMINGHAM. *Operating Theatre.* The Birmingham Corporation is to erect a new operating theatre at Little Bromwich Hospital, at a cost of £3,227.

BOURNEMOUTH. *Hospitals.* The Bournemouth Corporation has asked the Health Committee to proceed immediately with the proposals approved by the council for the provision of a new isolation hospital and a municipal hospital.

BOURNEMOUTH. *Extension to Arts Gallery.* The Bournemouth Corporation has approved a scheme for the extension of the art gallery, at a cost of £15,000.

BOURNEMOUTH. *Schools.* The Bournemouth Education Committee has acquired land in Oswald Road, Moordown, for the erection of new senior boys' and girls' schools.

BOURNEMOUTH. *Houses, etc.* Plans passed by the Bournemouth Corporation: 29 houses, Wimborne Road, A. C. Barnes & Co.; seven houses, Newstead Road, Mr. A. Bedford; hotel and flats, "Steyne" and Manor Road, Mrs. L. Rowley.

CHELMSFORD. *Cinema, etc.* Plans passed by the Chelmsford Corporation: Six houses, Fifth Avenue, Mr. S. Smith; block of seven shops, Wood Street, Mr. C. H. Hodgins; eight houses, Moulsham Drive, Mr. W. J. Aldred; new cinema, Tindal Square, Mr. H. Weston.

CHELMSFORD. *School.* The Chelmsford Education Committee is to purchase land in Waterhouse Lane, for an infants' school.

DUDLEY. *Houses.* Plans passed by the Dudley Corporation: Six houses, St. Peter's Road, Netherton, Devonport and Timmington; 20 houses, Hall Street, Woodside, A. W. Heathcock, Ltd.

ESSEX. *Hospital, etc.* The Essex C.C. has approved an amended layout plan prepared by the County Architect for the development to its full extent of the Crowlands site, Chadwell Heath, to provide for the erection thereon of a hospital with accommodation for approximately 500 children, 500 adults and a separate maternity block with accommodation for approximately 120 cases, and for the erection of a children's hospital, at a cost of £540,000.

HAGLEY. *School.* The Worcestershire Education Committee has approved plans for the erection of a junior school at Hagley.

HOPWOOD. *School.* The Worcestershire Education Committee is to obtain a site for a new school in the Hopwood district.

KIDDERMINSTER. *Houses.* Plans passed by the Kidderminster Corporation: 34 houses, Habberley Lane, Nicholls and Ivens; 117 houses, Summerhill estate, Cattell and Young.

PLYMOUTH. *Laboratory.* The Plymouth Education Committee is to erect a heat engines laboratory at a cost of £5,000.

PLYMOUTH. *Boat Lake, etc.* The Plymouth Corporation is to construct a motor boat lake, paddling pool and shelter at Mutton Cove, at a cost of £7,750.

PLYMOUTH. *Houses.* Plans passed by the Plymouth Corporation: Six houses, Great Hill Road, Mr. F. A. Westcott; 16 houses, Ashburnham Road, Thos. H. Mitchell, Ltd.

RUBERY. *School.* The Worcestershire Education Committee is to obtain a site at Rubery for the erection of a junior school.

TENBURY. *School.* The Worcestershire Education Committee is to erect a senior school for 320 at Tenbury.

TURNER VILLAGE. *Villas.* The Joint Committee of the County Councils of Cambridgeshire, Essex, East Suffolk and West Suffolk are to arrange with the Royal Eastern Counties Institution, Ltd., for erecting and equipping three additional patients' villas at Turner Village at an estimated cost of £34,687.

TYNEMOUTH. *Houses.* The Tynemouth Corporation has approved plans for the erection of 214 houses on land to the west of Minton Lane.

TYNEMOUTH. *Sports Stadium.* The Tynemouth Corporation has leased 15 acres on the Chirton Hill Estate for the erection of a sports stadium, estimated to cost £130,000.

TYNEMOUTH. *Houses, etc.* Plans passed by the Tynemouth Corporation: 20 houses in flats, Pineapple Estate, H.D. Burton, Ltd.; 12 houses, Sunlea Avenue, J. R. Wallace.

WARRINGTON. *School.* The Warrington Education Committee is to erect new premises for the Botelier Grammar School, at a cost of £67,204.

WORCESTERSHIRE. *Schools.* The Worcestershire Education Committee is seeking sanction to borrow £28,281 for the erection of a senior school at Catshill, £22,960 for a senior school at Blackminster, and £31,206 for a senior school at Halesowen.

WORTHING. *Houses.* Plans passed by the Worthing Corporation: 19 houses, Barnard Road, Novean Homes (Worthing), Ltd.

YARMOUTH. *Houses.* The Yarmouth Corporation has approved plans for the erection of 114 houses on the North Denes Estate.

YORK. *Cinema, etc.* Plans passed by the York Corporation: 10 houses, Anson Drive, Mr. T. Gledhill; 66 houses, Holly Bank estate, Holly Bank Estate Co.; hotel, Victoria Vaults, Nunnery Lane, John Smith's Tadcaster Brewery Co., Ltd.; cinema, Clifton, Clifton Picture House (York), Ltd.; eight houses, Green Lane estate, Mr. J. Greenwood.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I. s. d.	II. s. d.
A	ABERDARE ...	S. Wales & M.	1 7	1 2½
A	Aberdeen ...	Scotland	1 7	1 2½
A_1	Abergavenny ...	S. Wales & M.	1 6½	1 2
A_2	Abingdon ...	S. Counties	1 5½	1 1½
A	Accrington ...	N.W. Counties	1 7	1 2½
A_2	Addlestone ...	S. Counties	1 6	1 1½
A	Adlington ...	N.W. Counties	1 7	1 2½
A	Airdrie ...	Scotland	*1 7	1 2½
C	Aldeburgh ...	E. Counties	1 3	0 11½
A	Altrincham ...	N.W. Counties	1 7	1 2½
B_2	Appleby ...	N.W. Counties	1 3½	0 11½
A	Ashton-under-Lyne	N.W. Counties	1 7	1 2½
B	Aylesbury ...	S. Counties	1 5	1 0½
B	BANBURY ...	S. Counties	1 5	1 0½
B_1	Bangor ...	N.W. Counties	1 4½	1 0½
A_2	Barnard Castle	N.E. Coast	1 5½	1 1½
A	Barnsley ...	Yorkshire	1 7	1 2½
B	Barnstaple ...	S.W. Counties	1 5	1 0½
A	Barrow ...	N.W. Counties	1 7	1 2½
A	Barry	S. Wales & M.	1 7	1 2½
B	Basingstoke ...	S.W. Counties	1 5	1 0½
A_2	Bath	S.W. Counties	1 6	1 1½
A	Batley ...	Yorkshire	1 7	1 2½
A_2	Bedford ...	E. Counties	1 6	1 1½
A_2	Berwick-on-Tweed	N.E. Coast	1 6	1 1½
A_2	Bewdley ...	Mid. Counties	1 6	1 1½
B	Bicester ...	S. Counties	1 5	1 0½
	Birkenhead ...	N.W. Counties	*1 8	1 3
A	Birmingham ...	Mid. Counties	1 7	1 2½
A_1	Bishop Auckland	N.E. Coast	1 6½	1 2
A	Blackburn ...	N.W. Counties	1 7	1 2½
A	Blackpool ...	N.W. Counties	1 7	1 2½
A	Blyth	N.E. Coast	1 7	1 2½
B	Bognor ...	S. Counties	1 5	1 0½
A	Bolton... ...	N.W. Counties	1 7	1 2½
A_2	Boston ...	Mid. Counties	1 5½	1 1½
A_2	Bournemouth...	S. Counties	1 6	1 1½
B_2	Bovey Tracey	S.W. Counties	1 4	1 0
A	Bradford ...	Yorkshire	1 7	1 2½
A_1	Brentwood ...	E. Counties	1 6½	1 2
A	Bridgend ...	S. Wales & M.	1 7	1 2½
B	Bridgwater ...	S.W. Counties	1 5	1 0½
A_1	Bridlington ...	Yorkshire	1 6½	1 2
A	Brighouse ...	Yorkshire	1 7	1 2½
A	Brighton ...	S. Counties	1 6	1 1½
A	Bristol... ...	S.W. Counties	1 7	1 2½
B	Brixham ...	S.W. Counties	1 5	1 0½
A	Bromsgrove ...	Mid. Counties	1 7	1 2½
B	Bromyard ...	Mid. Counties	1 5	1 0½
A	Burnley ...	N.W. Counties	1 7	1 2½
A	Burslem ...	Mid. Counties	1 7	1 2½
A	Burton-on-Trent	Mid. Counties	1 7	1 2½
A	Bury	N.W. Counties	1 7	1 2½
A_1	Buxton ...	N.W. Counties	1 6½	1 ‖
A_1	CAMBRIDGE	E. Counties	1 6½	1 2
B_1	Canterbury ...	S. Counties	1 4½	1 0½
A	Cardiff... ...	S. Wales & M.	1 7	1 2½
A	Carlisle ...	N.W. Counties	1 7	1 2½
B	Carmarthen ...	S. Wales & M.	1 5	1 0½
B	Carnarvon ...	N.W. Counties	1 5	1 0½
A_1	Carnforth ...	N.W. Counties	1 7	1 2½
A	Castleford ...	Yorkshire	1 7	1 2½
A_2	Chatham ...	S. Counties	1 5½	1 1½
A_2	Chelmsford ...	E. Counties	1 5½	1 1½
A_2	Cheltenham ...	S.W. Counties	1 5½	1 1½
A	Chester ...	N.W. Counties	1 7	1 2½
A	Chesterfield ...	Mid. Counties	1 7	1 2½
B	Chichester ...	S. Counties	1 5	1 0½
A	Chorley ...	N.W. Counties	1 7	1 ‖
B_1	Cirencester ...	S. Counties	1 4½	1 0½
A	Clitheroe ...	N.W. Counties	1 7	1 2½
A	Clydebank ...	Scotland	1 7	1 2½
A	Coalville ...	Mid. Counties	1 7	1 2½
A_2	Colchester ...	E. Counties	1 6	1 1½
A_1	Colne	N.W. Counties	1 6½	1 2
A_2	Colwyn Bay ...	N.W. Counties	1 6	1 1½
A_1	Consett ...	N.E. Coast	1 6½	1 2
A_2	Conway ...	N.W. Counties	1 6	1 1½
A	Coventry ...	Mid. Counties	1 7	1 2½
A_2	Crewe	N.W. Counties	1 6	1 1½
A_2	Cumberland ...	N.W. Counties	1 5½	1 1½
A	DARLINGTON	N.E. Coast	1 7	1 2½
A	Darwen ...	N.W. Counties	1 7	1 2½
B_1	Deal	S. Counties	1 4½	1 0½
A_2	Denbigh ...	N.W. Counties	1 5½	1 1½
A	Derby	Mid. Counties	1 7	1 2½
A	Dewsbury ...	Yorkshire	1 7	1 2½
B	Didcot... ...	S. Counties	1 5	1 0½
A	Doncaster ...	Yorkshire	1 7	1 2½
B_1	Dorchester ...	S.W. Counties	1 4½	1 0½
A_2	Driffield ...	Yorkshire	1 5½	1 1½
A_2	Droitwich ...	Mid. Counties	1 6	1 1½
A	Dudley ...	Mid. Counties	1 7	1 2½
A_2	Dumfries ...	Scotland	1 6	1 1½
A	Dundee ...	Scotland	1 7	1 2½
A	Durham ...	N.E. Coast	1 7	1 2½
A_2	EASTBOURNE	S. Counties	1 6	1 1½
A_1	Ebbw Vale ...	S. Wales & M.	1 6½	1 2
A	Edinburgh ...	Scotland	1 7	1 2½
A_2	Exeter... ...	S.W. Counties	*1 6	1 1½
B	Exmouth ...	S.W. Counties	1 5	1 0½
A_2	FELIXSTOWE	E. Counties	1 5½	1 1½
A_2	Filey	Yorkshire	1 5½	1 1½
A	Fleetwood ...	N.W. Counties	1 7	1 2½
B_1	Folkestone ...	S. Counties	1 4½	1 0½
A	Frodsham ...	N.W. Counties	1 7	1 2½
B_2	Frome	S.W. Counties	1 4	1 0
A	GATESHEAD	N.E. Coast	1 7	1 2½
B	Gillingham ...	S. Counties	1 5	1 0½
A_1	Glamorgan-shire, Rhondda Valley District	S. Wales & M.	1 6½	1 2
A	Glasgow ...	Scotland	1 7	1 2½
A_2	Gloucester ...	S.W. Counties	1 6	1 1½
A_2	Goole	Yorkshire	1 6	1 1½
A_2	Gosport ...	S. Counties	1 6	1 1½
A_2	Grantham ...	Mid. Counties	1 5½	1 1½
A_1	Gravesend ...	S. Counties	1 6½	1 2
A	Greenock ...	Scotland	*1 7	1 2½
A	Grimsby ...	Mid. Counties	1 7	1 2½
B	Guildford ...	S. Counties	1 5	1 0½
A	HALIFAX ...	Yorkshire	1 7	1 2½
A	Hanley ...	Mid. Counties	1 7	1 2½
A	Harrogate ...	Yorkshire	1 7	1 2½
A	Hartlepools ...	N.E. Coast	1 7	1 2½
B	Harwich ...	E. Counties	1 5	1 0½
B	Hastings ...	S. Counties	1 5	1 0½
A_2	Hatfield ...	S. Counties	1 6	1 1½
B	Hereford ...	S.W. Counties	1 5	1 0½
A_2	Hertford ...	E. Counties	1 6	1 1½
A	Heysham ...	N.W. Counties	1 7	1 2½
A	Howden ...	N.E. Coast	1 7	1 2½
A	Huddersfield ...	Yorkshire	1 7	1 2½
A	Hull	Yorkshire	1 7	1 2½
A	ILKLEY ...	Yorkshire	1 7	1 2½
A	Immingham ...	Mid. Counties	1 7	1 2½
A_2	Ipswich ...	E. Counties	1 6	1 1½
B_2	Isle of Wight ...	S. Counties	1 4	1 0
A	JARROW ...	N.E. Coast	1 7	1 2½
A	KEIGHLEY ...	Yorkshire	1 7	1 2½
A_2	Kendal ...	N.W. Counties	1 5½	1 1½
A_2	Keswick ...	N.W. Counties	1 5½	1 1½
A_1	Kettering ...	Mid. Counties	1 6½	1 2
A_2	Kidderminster	Mid. Counties	1 6	1 1½
B_1	King's Lynn ...	E. Counties	1 4½	1 0½
A	LANCASTER ...	N.W. Counties	1 7	1 2½
A_1	Leamington ...	Mid. Counties	1 6½	1 2
A	Leeds	Yorkshire	1 7	1 2½
A	Leek	Mid. Counties	1 7	1 2½
A	Leicester ...	Mid. Counties	1 7	1 2½
A	Leigh	N.W. Counties	1 7	1 2½
‖	Lewes	S. Counties	1 5	1 0½
A_2	Lichfield ...	Mid. Counties	1 6	1 1½
A	Lincoln ...	Mid. Counties	1 7	1 2½
	Liverpool ...	N.W. Counties	*1 8½	1 3½
A_2	Llandudno ...	N.W. Counties	1 6	1 1½
A	Llanelly ...	S. Wales & M.	1 7	1 2½
	London (12-mile radius)		1 8½	1 3½
	Do. (12-15 miles radius)		1 8	1 3
A	Long Eaton ...	Mid. Counties	1 7	1 2½
A	Loughborough	Mid. Counties	1 7	1 2½
A_1	Luton	E. Counties	1 6½	1 2
A	Lytham ...	N.W. Counties	1 7	1 ‖
A_1	MACCLESFIELD	N.W. Counties	1 6½	1 2
A_2	Maidstone ...	S. Counties	1 5½	1 1½
A_2	Malvern ...	Mid. Counties	1 5½	1 1½
A	Manchester ...	N.W. Counties	1 7	1 2½
A	Mansfield ...	Mid. Counties	1 7	1 2½
B_1	Margate ...	S. Counties	1 4½	1 0½
A_2	Matlock ...	Mid. Counties	1 5½	1 1½
A_1	Merthyr ...	S. Wales & M.	1 6½	1 2
A	Middlesbrough	N.E. Coast	1 7	1 2½
A_2	Middlewich ...	N.W. Counties	1 6	1 1½
B_2	Minehead ...	S.W. Counties	1 4	1 0
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 4	1 0
A	Morecambe ...	N.W. Counties	1 7	1 2½
A_2	NANTWICH ...	N.W. Counties	1 6	1 1½
A	Neath	S. Wales & M.	1 7	1 2½
A	Nelson... ...	N.W. Counties	1 7	1 2½
A	Newcastle ...	N.E. Coast	1 7	1 2½
A	Newport ...	S. Wales & M.	1 7	1 2½
A	Normanton ...	Yorkshire	1 7	1 2½
A	Northampton...	Mid. Counties	1 7	1 2½
A	North Shields	N.E. Coast	1 7	1 2½
A	North Staffs ...	Mid. Counties	1 7	1 2½
A_1	Norwich ...	E. Counties	1 6½	1 2
A	Nottingham ...	Mid. Counties	1 7	1 2½
A	Nuneaton ...	Mid. Counties	1 7	1 2½
A_2	OAKHAM ...	Mid. Counties	1 5½	1 1½
A	Oldham ...	N.W. Counties	1 7	1 2½
A_2	Oswestry ...	N.W. Counties	1 5½	1 1½
A_1	Oxford	S. Counties	1 6½	1 2
A	PAISLEY ...	Scotland	*1 7	1 2½
B_2	Pembroke ...	S. Wales & M.	1 3½	0 11½
A	Perth	Scotland	*1 7	1 2½
A_1	Peterborough	E. Counties	1 6½	1 2
A	Plymouth ...	S.W. Counties	*1 7	1 2½
A	Pontefract ...	Yorkshire	1 7	1 2½
A_1	Pontypridd ...	S. Wales & M.	1 6½	1 2
A_2	Portsmouth ...	S. Counties	1 6	1 1½
A	Preston ...	N.W. Counties	1 7	1 2½
A	QUEENSFERRY	N.W. Counties	1 7	1 2½
A_2	READING ...	S. Counties	1 6½	1 2
B	Reigate ...	S. Counties	1 5½	1 1½
A_2	Retford ...	Mid. Counties	1 5½	1 1½
A_1	Rhondda Valley	S. Wales & M.	1 6½	1 2
A_2	Ripon	Yorkshire	1 5½	1 1½
A	Rochdale ...	N.W. Counties	1 7	1 2½
B	Rochester ...	S. Counties	1 5	1 0½
A_1	Ruabon ...	N.W. Counties	1 6½	1 2
A	Rugby ...	Mid. Counties	1 7	1 2½
A_2	Rugeley ...	Mid. Counties	1 6	1 1½
A	Runcorn ...	N.W. Counties	1 7	1 2½
A_1	ST. ALBANS ...	E. Counties	1 6½	1 2
A	St. Helens ...	N.W. Counties	1 7	1 2½
B_2	Salisbury ...	S.W. Counties	1 3½	0 11½
A_1	Scarborough ...	Yorkshire	1 6½	1 2
A	Scunthorpe ...	Mid. Counties	1 7	1 2½
A	Sheffield ...	Yorkshire	1 7	1 2½
A	Shipley ...	Yorkshire	1 7	1 2½
A_2	Shrewsbury ...	Mid. Counties	1 6	1 1½
A_2	Skipton ...	Yorkshire	1 6	1 1½
A_2	Slough ...	S. Counties	1 6	1 1½
A_1	Solihull ...	Mid. Counties	1 6½	1 2
A_2	Southampton ...	S. Counties	1 6	1 1½
A_1	Southend-on-Sea	E. Counties	1 6½	1 2
A	Southport ...	N.W. Counties	1 7	1 2½
A	S. Shields ...	N.E. Coast	1 7	1 2½
A_1	Stafford ...	Mid. Counties	1 6½	1 2
A	Stirling ...	Scotland	1 7½	1 2½
A	Stockport ...	N.W. Counties	1 7	1 2½
A	Stockton-on-Tees	N.E. Coast	1 7	1 2½
A	Stoke-on-Trent	Mid. Counties	1 7	1 2½
B	Stroud ...	S.W. Counties	1 5	1 0½
A	Sunderland ...	N.E. Coast	1 7	1 2½
A	Swansea ...	S. Wales & M.	1 7	1 2½
A_2	Swindon ...	S.W. Counties	1 5½	1 1½
A_1	TAMWORTH ...	N.W. Counties	1 6½	1 2
B	Taunton ...	S.W. Counties	1 5	1 0½
A	Teeside Dist. ...	N.E. Coast	1 7	1 2½
A_2	Teignmouth ...	S.W. Counties	1 6	1 1½
A	Todmorden ...	Yorkshire	1 7	1 2½
A_1	Torquay ...	S.W. Counties	1 6½	1 2
B_2	Truro	S.W. Counties	1 4	1 0
A_2	Tunbridge Wells	S. Counties	1 5½	1 1½
A	Tunstall ...	Mid. Counties	1 7	1 2½
A	Tyne District...	N.E. Coast	1 7	1 2½
A	WAKEFIELD	Yorkshire	1 7	1 2½
A	Walsall ...	Mid. Counties	1 7	1 2½
A	Warrington ...	N.W. Counties	1 7	1 2½
A_1	Warwick ...	Mid. Counties	1 6½	1 2
A_1	Wellingborough	Mid. Counties	1 6½	1 2
A	West Bromwich	Mid. Counties	1 7	1 2½
A_2	Weston-s.-Mare	S.W. Counties	1 6	1 1½
A_2	Whitby ...	Yorkshire	1 6	1 1½
A	Widnes ...	N.W. Counties	1 7	1 2½
A	Wigan ...	N.W. Counties	1 7	1 2½
B	Winchester ...	S. Counties	1 5	1 0½
A_2	Windsor ...	S. Counties	1 6	1 1½
A	Wolverhampton	Mid. Counties	1 7	1 2½
A_2	Worcester ...	Mid. Counties	1 6	1 1½
A_2	Worksop ...	Yorkshire	1 5½	1 1½
A_1	Wrexham ...	N.W. Counties	1 6½	1 2
A_2	Wycombe ...	S. Counties	1 5½	1 1½
B	YARMOUTH ...	E. Counties	1 5	1 0½
B	Yeovil ...	S.W. Counties	1 5	1 0½
A	York ...	Yorkshire	1 7	1 2½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request. The rates of wages have been revised consequent upon the increase in wages which came into operation on February 1, 1937, together with all revisions following authorised annual regradings.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

		£	s.	d.
Bricklayer	per hour		1	8½
Carpenter	,,		1	8½
Joiner	,,		1	8½
Machinist	,,		1	9½
Mason (Banker)	,,		1	8½
,, (Fixer)	,,		1	9½
Plumber	,,		1	8½
Painter	,,		1	7½
Paperhanger	,,		1	7½
Glazier	,,		1	8½
Slater	,,		1	8½
Scaffolder	,,		1	4½
Timberman	,,		1	4½
Navvy	,,		1	3½
General Labourer	,,		1	3½
Lorryman	,,		1	6½
Crane Driver	,,		1	7½
Watchman	per week	2	10	0

MATERIALS

EXCAVATOR AND CONCRETOR

		£	s.	d.
Grey Stone Lime	per ton	2	2	0
Blue Lias Lime	,,	1	18	6
Hydrated Lime	,,	2	6	0
Portland Cement, in 4-ton lots (d/d site, including Paper Bags)	,,	2	2	0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags)	,,	2	8	0
White Portland Cement, in 1-ton lots	,,	8	15	0
Thames Ballast	per Y.C.		6	6
¾" Crushed Ballast	,,		7	0
Building Sand	,,		7	6
Washed Sand	,,		8	6
2" Broken Brick	,,		8	0
¾" ,, ,,	,,		10	3
Pan Breeze	,,		6	6
Coke Breeze	,,		8	9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

		4" s.	4" d.	6" s.	6" d.
Straight Pipes	per F.R.	0	9	1	1
Bends	each	1	9	2	6
Taper Bends	,,	3	6	5	3
Rest Bends	,,	4	3	6	3
Single Junctions	,,	3	6	5	3
Double	,,	4	9	6	6
Straight channels	per F.R.	1	6	2	6
¾" Channel bends	each	2	9	4	0
Channel junctions	,,	4	6	6	6
Channel tapers	,,	2	9	4	0
Yard gullies	,,	6	9	8	9
Interceptors	,,	16	0	19	6
IRON DRAINS:					
Iron drain pipe	per F.R.	2	3	3	8
Bends	each	6	4	13	1
Inspection bends	,,	11	5	14	4
Single junctions	,,	11	2	22	10
Double junctions	,,	17	2	30	9
Lead Wool	lb.		6		—
Gaskin	,,		5		—

BRICKLAYER

		£	s.	d.
Flettons	per M.	2	12	0
Grooved do.	,,	2	14	0
Phorpres bricks	,,	2	15	0
,, Cellular bricks	,,	2	15	0
Stocks, 1st quality	,,	4	11	0
,, 2nd ,,	,,	4	2	6
Blue Bricks, Pressed	,,	8	14	0
,, Wirecuts	,,	7	12	6
,, Brindles	,,	7	0	0
,, Bullnose	,,	9	0	0
Red Sand-faced Facings	,,	6	18	6
Red Rubbers for Arches	,,	12	0	0
Multicoloured Facings	,,	7	10	0
Luton Facings	,,	7	10	0
Phorpres White Facings	,,	3	17	3
,, Rustic Facings	,,	3	12	3
Midhurst White Facings	,,	4	0	0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:				
Stretchers	,,	21	0	0
Headers	,,	20	10	0
Bullnose	,,	27	10	0
Double Stretchers	,,	29	10	0
Double Headers	,,	26	10	0
Glazed Second Quality, *Less*	,,	1	0	0
,, Buffs and Creams, *Add*	,,	2	0	0
,, Other Colours	,,	5	10	0
2" Breeze Partition Blocks	per Y.S.		1	7
2½" ,, ,, ,,	,,		1	10
3" ,, ,, ,,	,,		2	1
4" ,, ,, ,,	,,		2	6

MASON

The following d/d F.O.R. at Nine Elms:

		s.	d.
Portland stone, Whitbed	F.C.	4	4½
,, ,, Basebed	,,	4	7½
Bath stone	,,	2	10
York stone	,,	6	6
,, ,, Sawn templates	,,	7	6
,, ,, Paving, 2"	F.S.	1	8
,, ,, 3"	,,	2	6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station:

		£	s.	d.
24" × 12" Duchesses	per M.	28	17	6
22" × 12" Marchionesses	,,	24	10	0
20" × 10" Countesses	,,	19	5	0
18" × 10" Viscountesses	,,	15	10	0
18" × 9" Ladies	,,	13	17	6
Westmorland green (random sizes)	per ton	8	10	0
Old Delabole slates d/d in full truck loads to Nine Elms Station:				
20" × 10" medium grey	per 1,000 (actual)	21	11	6
,, ,, green	,, ,,	24	7	4
Best machine roofing tiles	,, ,,	4	5	0
Best hand-made do.	,, ,,	4	17	6
Hips and valleys	each			9
,, hand-made	,,			9½
Nails, compo	per lb.		1	4
,, copper	,,		1	6

CARPENTER AND JOINER

		£	s.	d.
Good carcassing timber	F.C. 2s. 7d.–2			10
Birch	as 1" F.S.			9
Deal, Joiner's	,, ,,			5
,, ,, 2nds	,, ,,			4
Mahogany, Honduras	,, ,,		1	3
,, African	,, ,,		1	1
,, Cuban	,, ,,		2	6
Oak, plain American	,, ,,		1	0
,, Figured ,,	,, ,,		1	3
,, plain Japanese	,, ,,		1	2
,, Figured ,,	,, ,,		1	5
,, Austrian wainscot	,, ,,		1	6
,, English	,, ,,		1	11
Pine, Yellow	,, ,,		1	0
,, Oregon	,, ,,			4
,, British Columbian	,, ,,			4
Teak, Moulmein	,, ,,		1	3
,, Burma	,, ,,		1	2
Walnut, American	,, ,,		2	3
,, French	,, ,,		2	3
Whitewood, American	,, ,,		1	1
Deal floorings, ¾"	Sq.		18	6
,, ⅞"	,,	1	1	6
,, 1"	,,	1	2	0
,, 1¼"	,,	1	5	0
,, 1½"	,,	1	10	0
Deal matchings, ⅝"	,,		14	0
,, ¾"	,,		15	6
,, 1"	,,	1	4	0
Rough boarding, ¾"	,,		16	0
,, 1"	,,		18	0
,, 1¼"	,,	1	6	0

Plywood per ft. sup.:

Thickness	3/16"			¼"			⅜"			½"		
Qualities	A	B	BB	A	B	BB	A	B	BB	A	B	BB
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch 60 × 48	4	2½	2	5	3	2¾	7	5	4	8	6	5
Cheap Alder	–	2	1½	–	3½	2	–	–	–	–	–	–
Oregon Pine	–	2½	–	3	2¾	–	4	3½	–	5	4½	–
Gaboon Mahogany	4	3½	–	5	4½	–	7	6½	–	8	7	–
Figured Oak	6½	5	–	7½	5¾	–	10	8	–	1/-	9	–

		d.
Scotch glue	lb.	8

SMITH AND FOUNDER

Tubes and Fittings:
(The following are the standard list prices from which should be deducted the various percentages as set forth below.)

		½"	¾"	1"	1¼"	2"
Tubes 2'–14' long	per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"–23" long	each	10	1/1	1/11	2/8	4/9
,, 3"–11½" long	,,	7	9	1/3	1/8	3/–
Long screws, 12"–23½" long	,,	11	1/3	2/2	2/10	5/3
,, ,, 3" M–½" long	,,	8	10	1/5	1/11	3/6
Bends	,,	8	11	1/7½	2/7½	5/2
Springs not socketed	,,	5	7	1/1½	1/11½	3/11
Socket unions	,,	2/–	3/–	5/6	6/9	10/–
Elbows, square	,,	10	1/1	1/6	2/2	4/3
Tees	,,	1/–	1/3	1/10	2/6	5/1
Crosses	,,	2/2	2/9	4/1	5/6	10/6
Plain sockets and nipples	,,	3	4	6	8	1/3
Diminished sockets	,,	4	6	9	1/–	2/–
Flanges	,,	9	1/–	1/4	1/9	2/9
Caps	,,	3½	5	8	1/–	2/–
Backnuts	,,	2	3	5	6	1/1
Iron main cocks	,,	1/6	2/3	4/2	5/4	11/6
,, with brass plugs	,,	—	4/–	7/6	10/–	21/–

Discounts

TUBES	Per cent.		Per cent.
Gas	66¼	Galvanised gas	56¼
Water	61¼	,, water	51¼
Steam	58¾	,, steam	46¼

FITTINGS			
Gas	57½	Galvanised gas	48¾
Water	53¾	,, water	46¼
Steam	48¾	,, steam	41¼

		s.	d.
Rolled steel joists cut to length	cwt.	15	6
Mild steel reinforcing rods, ¼"	,,	18	0
,, ,, ,, ⅜"	,,	17	9
,, ,, ,, ½"	,,	17	6

SMITH AND FOUNDER—*continued*

		s.	d.
Mild steel reinforcing rods, ⅝"	cwt.	17	6
,, ,, ,, ¾"	,,	17	6
,, ,, ,, 1"	,,	17	6
,, ,, ,, 1¼"	,,	17	6
,, ,, ,, 1½"	,,	17	6

		3" s.	3" d.	4" s.	4" d.
Cast-iron rain-water pipes of ordinary thickness metal	F.R.	1	0	1	3½
Shoes	each	2	0	3	0
Anti-splash shoes	,,	4	6	8	0
Boots	,,	3	0	4	0
Bends	,,	2	7	3	9
,, with access door	,,	—		6	3
Heads	,,	4	0	5	0
Swan-necks up to 9" offsets	,,	3	9	6	0
Plinth bends, 4½" to 6"	,,	3	9	5	3
Half-round rain-water gutters of ordinary thickness metal	F.R.		5		6
Stop ends	each		6		6
Angles	,,	1	7	1	11
Obtuse angles	,,	2	0	2	6
Outlets	,,	1	9	2	3

PLUMBER

		£	s.	d.
Lead, milled sheets	Cwt.	1	7	3
,, drawn pipes	,,	1	6	9
,, soil pipes	,,	1	9	9
,, scrap	,,		18	0
Solder, plumbers'	lb.		1	1½
,, fine do.	,,		1	4
Copper, sheet	,,		1	0½
,, tubes	,,		1	2½

L.C.C. soil and waste pipes:		3" s.	3" d.	4" s.	4" d.	6" s.	6" d.
Plain cast	F.R.	1	0	1	2	2	6
Coated	,,	1	1	1	3	2	8
Galvanized	,,	2	0	2	6	4	6
Holderbats	each	3	10	4	0	4	9
Bends	,,	3	9	5	3	10	3
Shoes	,,	2	10	4	4	9	6
Heads	,,	4	8	8	5	12	9

PLASTERER

		£	s.	d.
Lime, chalk	per ton	2	0	0
Plaster, coarse	,,	2	15	0
,, fine	,,	4	7	6
Hydrated lime	,,	3	0	9
Sirapite	,,	3	6	0
Keene's cement	,,	5	0	0
Gothite plaster	,,	3	6	0
Pioneer plaster	,,	3	6	0
Thistle plaster	,,	3	6	0
Sand, washed	Y.C.		11	6
Hair	lb.			6
Laths, sawn	bundle		2	4
,, rent	,,		3	9
Lath nails	lb.			3

GLAZIER

		s.	d.	s.	d.
Sheet glass, 24 oz., squares n/e 2 ft. s.	F.S.				2¾
,, ,, 26 oz. ,, ,, ,,	,,				3¾
Flemish, Arctic, figured (white)*	,,				7½
Blazoned glasses	,,			2	6
Reeded: Cross Reeded	,,				11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite	,,				6½
Crown sheet glass (n/e 12" × 10")	,,			2	0
Flashed opals (white and coloured)	,,	1	0 and	2	0
⅛" rolled plate	,,				6
¼" wired cast; wired rolled	,,				10½
¼" Georgian wired cast	,,				11½
¼" Polished plate, n/e 1 ft.	,,	†1	0 to	‡1	3
,, ,, 2	,,	†1	4 ,,	‡1	6
,, ,, 4	,,	†2	6 ,,	‡2	9
,, ,, 8	,,	†2	11 ,,	‡3	4
,, ,, 20	,,	†3	1 ,,	‡3	9
,, ,, 45	,,	†3	3 ,,	‡4	0
,, ,, 100	,,	†4	0 ,,	‡4	10
Vita glass, sheet, n/e 1 ft.	,,			1	0
,, ,, ,, 2 ft.	,,			1	3
,, ,, ,, over 2 ft.	,,			1	9
,, ,, plate, n/e 1 ft.	,,			1	6
,, ,, ,, 2 ft.	,,			3	0
,, ,, ,, 5 ft.	,,			4	0
,, ,, ,, 7 ft.	,,			5	0
,, ,, ,, 15 ft.	,,			6	0
,, ,, ,, over 15 ft.	,,			7	6
"Calorex" sheet 21 oz., and 32 oz.	,,	2	6 and	3	6
,, rough cast ⅛" and ¼"	,,		8½ ,,	1	0
Putty, linseed oil	lb.				3

* *Colours, 1d. F.S. extra. The current price for Tinted Figured Rolled Glass is not less than 3d. per ft. super. extra to the cost of White Glass.*

† *Ordinary glazing quality.* ‡ *Selected glazing quality.*

PAINTER

		£	s.	d.
White lead in 1-cwt. casks	cwt.	2	17	9
Linseed oil	gall.		3	2
Boiled oil	,,		3	5
Turpentine	,,		3	9
Patent knotting	,,		14	0
Distemper, washable	cwt.	2	6	0
,, ordinary	,,	2	0	0
Whitening	,,		4	0
Size, double	firkin		3	0
Copal varnish	gall.		13	0
Flat varnish	,,		14	0
Outside varnish	,,		16	0
White enamel	,,	1	15	0
Ready mixed paint	,,		13	6
Brunswick black	,,		7	6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

Item	Unit	£	s.	d.
Digging over surface n/e 12" deep and cart away	Y.S.		2	9
,, to reduce levels n/e 5' 0" deep and cart away	Y.C.		8	6
,, to form basement n/e 5' 0" and cart away	,,		9	0
,, ,, 10' 0" deep and cart away	,,		9	6
,, 15' 0" deep and cart away	,,		10	0
If in stiff clay . . . add	,,			6
If in underpinning . . . ,,	,,		4	0
Planking and strutting to sides of excavation	F.S.		1	0
,, ,, to pier holes	,,			5
,, ,, to trenches	,,			5
,, ,, extra, only if left in	,,			3
Hardcore, filled in and rammed	Y.C.		10	0
Portland cement concrete in foundations (6–1)	,,	1	6	0
,, ,, (4–2–1)	,,	1	12	6
,, ,, underpinning	,,	1	16	0
Finishing surface of concrete, spade face	Y.S.			7

DRAINLAYER

Item	Unit	4" s.	4" d.	6" s.	6" d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1	6	2	3
Extra, only for bends	Each	2	8	3	9
,, junctions	,,	3	9	4	6
Gullies and gratings	,,	16	6	18	0
Cast iron drains, and laying and jointing	F.R.	5	9	8	3
Extra, only for bends (cast iron)	Each	12	3	18	4

BRICKLAYER

Item	Unit	£	s.	d.
Brickwork, Flettons in lime mortar	Per Rod	26	10	0
,, ,, in cement	,,	27	12	6
,, Stocks in cement	,,	34	0	0
,, Blues in cement	,,	50	0	0
Extra only for circular on plan	,,	2	0	0
,, backing to masonry	,,	1	10	0
,, rising on old walls	,,	2	0	0
,, underpinning	,,	5	10	0
Fair Face and pointing internally	F.S.			1¼
Extra over fletton brickwork for picked stock facings and pointing	,,			8
,, ,, ,, red brick facings and pointing	,,			11
,, ,, ,, blue brick facings and pointing	,,		1	4
,, ,, ,, glazed brick facings and pointing	,,		3	6
Tuck pointing	,,			7½
Weather pointing in cement	,,			3
Slate dampcourse	,,			10
Vertical dampcourse	,,		1	1

ASPHALTER

Item	Unit	s.	d.
½" Horizontal dampcourse	Y.S.	4	9
¾" Vertical dampcourse	,,	7	9
¾" paving or flat	,,	6	3
1" paving or flat	,,	7	6
1" × 6" skirting	F.R.	1	0
Angle fillet	,,		2½
Rounded angle	,,		2½
Cesspools	Each	5	6

MASON

Item	Unit	£	s.	d.
Portland stone, including all labour, hoisting, fixing and cleaning down, complete	F.C.		17	9
Bath stone and do., all as last	,,		13	6
Artificial stone and do.	,,		13	0
York stone templates, fixed complete	,,		10	6
,, thresholds	,,		13	6
,, sills	,,	1	0	6

SLATER AND TILER

Item	Unit	£	s.	d.
Slating, Bangor or equal to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3	10	0
Do., 18" × 9"	,,	3	7	0
Do., 24" × 12"	,,	3	17	0
Westmorland slating, laid with diminished courses	,,	6	0	0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	,,	3	0	0
Do., all as last, but of machine-made tiles	,,	2	16	0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	,,	2	16	0
,, ,, ,, ,, ,, ,, ,, (green)	,,	4	15	0

CARPENTER AND JOINER

Item	Unit	£	s.	d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2	2	6
Shuttering to sides and soffits of beams	F.S.			7
,, to stanchions	,,			7
,, to staircases	,,		1	6
Fir and fixing in wall plates, lintols, etc.	F.C.		3	9
Fir framed in floors	,,		4	6
,, ,, roofs	,,		6	6
,, ,, trusses	,,		7	6
,, ,, partitions	,,		8	6
¾" deal sawn boarding and fixing to joists	Sqr.	1	14	6
1" ,, ,, ,, ,, ,,	,,	1	17	6
1¼" ,, ,, ,, ,, ,,	,,	2	3	0
¾" × 2" fir battening for Countess slating	,,		9	6
Do., for 4" gauge tiling	,,		12	0
Stout feather-edged tilting fillet	F.R.			4½
Patent inodorous felt, 1 ply	Y.S.		2	3
,, ,, ,, 2 ,,	,,		2	9
,, ,, ,, 3 ,,	,,		3	3
Stout herringbone strutting to 9" joists	F.R.			10½
1" deal gutter boards and bearers	F.S.		1	2
1¼" ,, ,, ,, ,,	,,		1	6
2" deal wrought rounded roll	F.R.			8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2	1	0
1¼" do.	,,	2	10	0
1½" do.	,,	2	17	0
1" deal moulded skirting fixed on, and including grounds plugged to wall	F.S.		1	6
1½" do.	,,		1	9

CARPENTER AND JOINER—*continued*

Item	Unit	s.	d.
1½" deal moulded sashes of average size	F.S.	1	9½
2" ,, ,, ,, ,, ,,	,,	1	11½
1½" deal cased frames, double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅜" parting beads, and with brass faced axle pulleys, etc., fixed complete	,,	3	7
2" ,, ,, ,, ,, ,,	,,	3	10
Extra only for moulded horns	Each		6
1½" deal four-panel square, both sides, door	,,	2	0
2" ,, ,, ,, ,, ,,	,,	2	8
1½" ,, but moulded both sides	,,	2	4
2" ,, ,, ,, ,, ,,	,,	3	0
4" × 3" deal, rebated and moulded frames	F.R.	1	[illegible]
4½" × 3½" ,, ,, ,, ,,	,,	1	4
1¼" deal tongued and moulded window board, on and including deal bearers	F.S.	1	9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	,,	2	6
1½" deal moulded wall strings	,,	2	1
1½" ,, ,, outer strings	,,	2	4
Ends of treads and risers housed to string	Each	1	9
3" × 2" deal moulded handrail	F.R.	1	3
1" × 1" deal balusters and housing each end	Each	2	0
1½" × 1½" ,, ,, ,, ,,	,,	2	9
3" × 3" deal wrought framed newels	F.R.	1	3
Extra only for newel caps	Each	6	0
Do., pendants	,,	6	0

SMITH AND FOUNDER

Item	Unit	£	s.	d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.		18	6
Riveted plate or compound girders, and hoisting and fixing in position	,,	1	6	6
Do. stanchions with riveted caps and bases and do.	,,	1	2	0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	,,	1	4	6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g	F.S.			11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1	10	0

PLUMBER

Item	Unit	£	s.	d.
Milled lead and labour in flats	cwt.	1	18	0
Do. in flashings	,,	2	1	6
Do. in covering to turrets	,,	2	7	0
Do. in soakers	,,	1	12	9
Labour to welted edge	F.R.			3½
Open copper nailing	,,			3
Close ,, ,,	,,			4

Item	Unit	½" s. d.	¾" s. d.	1" s. d.	1¼" s. d.	2" s. d.	4" s. d.
Lead service pipe and fixing with pipe hooks	F.R.	1 2	1 4	1 8½	2 7	3 6	—
Do. soil pipe and fixing with cast lead tacks	,,	—	—	—	—	—	7 3
Extra, only to bends	Each	—	—	—	—	2 3	7 6
Do. to stop ends	,,	6½	8	9	11	1 0	—
Boiler screws and unions	,,	3 3	3 9	5 0	8 0	—	—
Lead traps	,,	—	—	—	8 0	11 6	—
Screw down bib valves	,,	6 9	9 6	11 0	—	—	—
Do. stop cocks	,,	7 0	9 6	12 6	—	—	—

Item	Unit	s.	d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1	0
Extra, only stop ends	Each	1	[illegible]
Do. angles	,,	1	6
Do. outlets	,,	2	9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1	7
Extra, only for shoes	Each	1	3
Do. for plain heads	,,	5	6

PLASTERER AND TILING

Item	Unit	£	s.	d.
Expanded metal lathing, small mesh	Y.S.		2	0
Do. in n/w to beams, stanchions, etc.	,,		2	9
Lathing with sawn laths to ceilings	,,		1	3
½" screeding in Portland cement and sand or tiling, wood block floor, etc.	,,		1	5
Do. vertical	,,		1	7
Rough under on walls	,,		1	2½
Render, refloat and set in lime and hair	,,		1	9
Render and set in Sirapite	,,		1	11
Render backing in cement and sand, and set in Keene's cement	,,		2	9
Extra, only if on lathing	,,			4
Keene's cement angle and arris	F.R.			6
Arris	,,			1½
Rounded angle, small	,,			3
Plain cornices in plaster, including dubbing out, per 1" girth	,,			1½
1" granolithic pavings	Y.S.		3	6
1½" ,, ,,	,,		4	6
6" × 6" white glazed wall tiling and fixing on prepared screed	,,		7	6
9" × 3" ,, ,, ,, ,,	,,		2	6
Extra, only for small quadrant angle	F.R.			8

GLAZIER

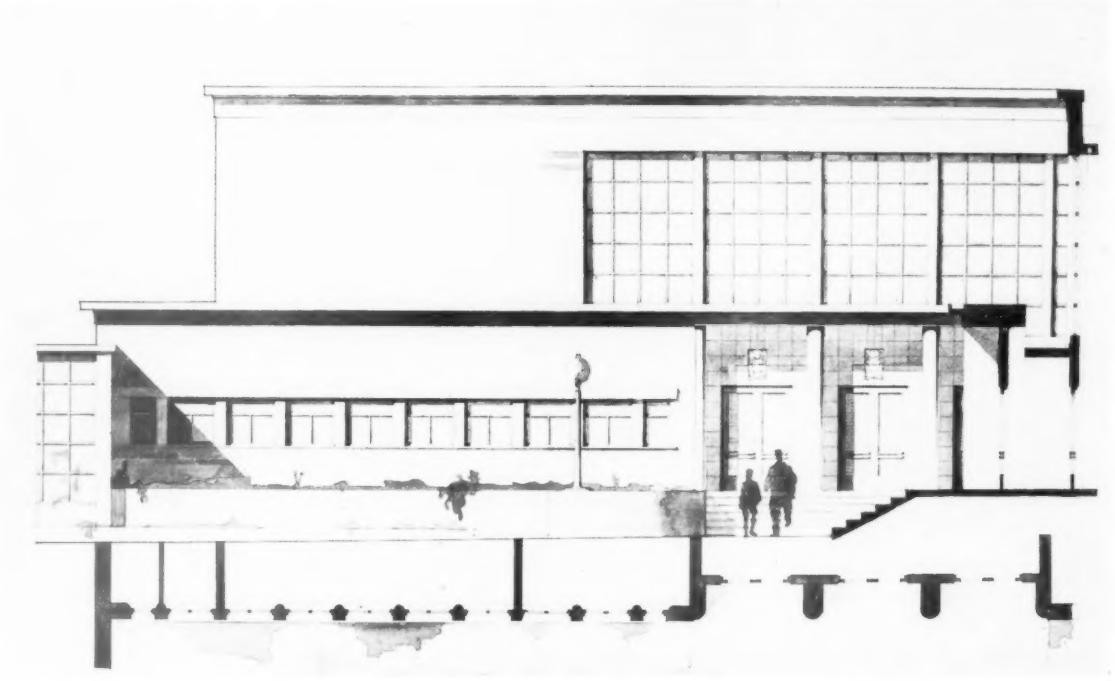
Item	Unit	s.	d.
24 oz. sheet glass and glazing with putty	F.S.		7½
26 oz. do. and do.	,,		8
Flemish, Arctic Figured (white) and glazing with putty	,,		10
Cathedral glass and do.	,,	1	9½
Glazing only, British polished plate	,,		7
Extra, only if in beds	,,		2
Washleather	F.R.		4

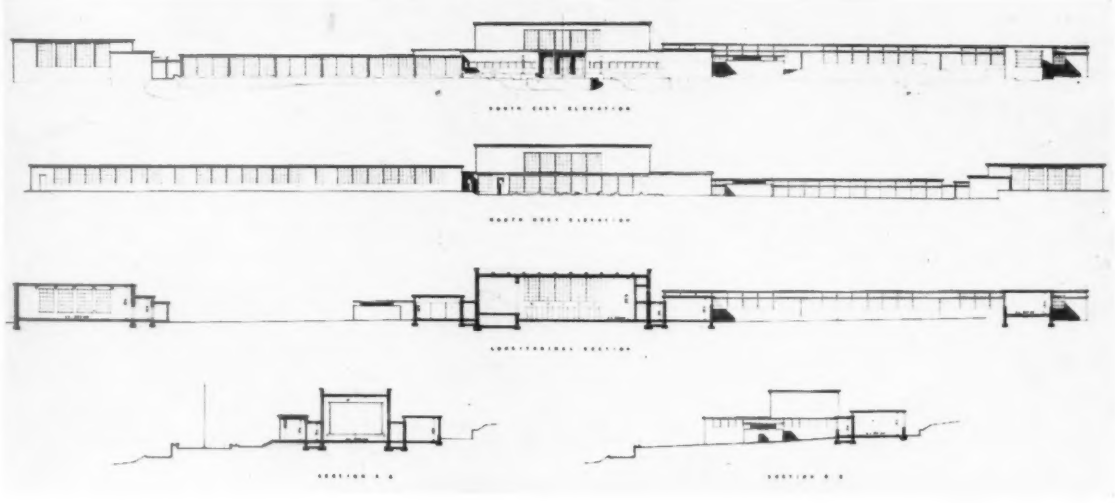
PAINTER

Item	Unit	s.	d.
Clearcolle and whiten ceilings	Y.S.		6
Do. and distemper walls	,,		9
Do. with washable distemper	,,	1	1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	,,	3	3
Do. on woodwork	,,	3	6
Do. on steelwork	,,	3	0
Do. and brush grain and twice varnish	,,	5	6
Stain and twice varnish woodwork	,,	1	11
Stain and wax polish woodwork	,,	4	6
French polishing	F.S.	1	2
Stripping off old paper	Piece	2	0
Hanging ordinary paper . . . from	,,	2	9

KEIGHLEY SCHOOL COMPETITION

DESIGN PLACED FIRST: BY EVANS AND CROSSLEY





MR. HAROLD A. DOD, F.R.I.B.A., the assessor of the competition for a £30,000 senior elementary school on the new estate at Guard House, Keighley, for the Keighley Education Committee, has made his award as follows:

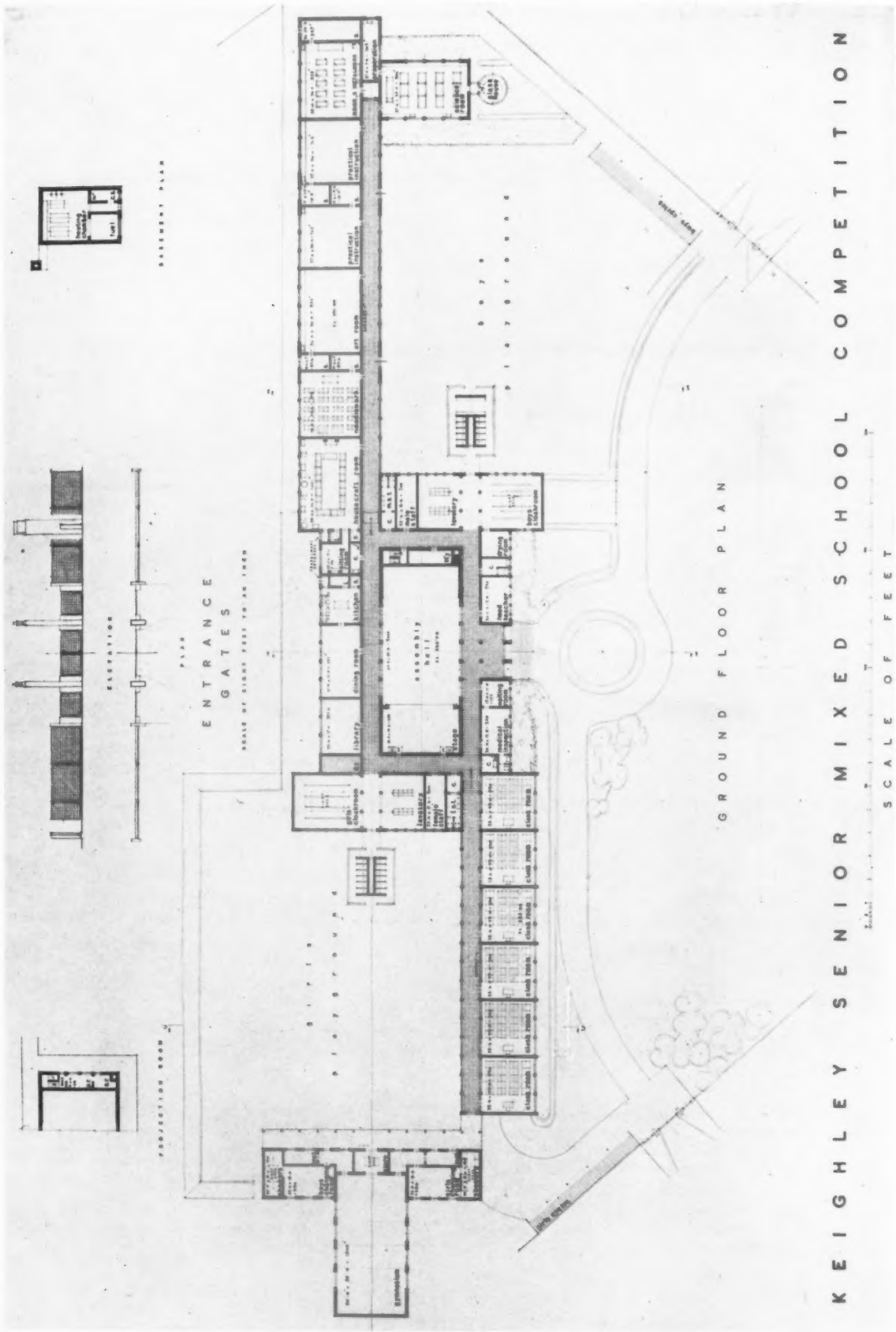
Design placed first (150 guineas): Messrs. Frederick Evans and J. Hamer Crossley, of Gray, Evans and Crossley, of Liverpool.

Design placed second (100 guineas): Messrs. N. S. Dixon and N. D. Quick, of Guildford, Surrey.

Design placed third (50 guineas): Messrs. Marshall and Tweedy, of New Cavendish Street, London.

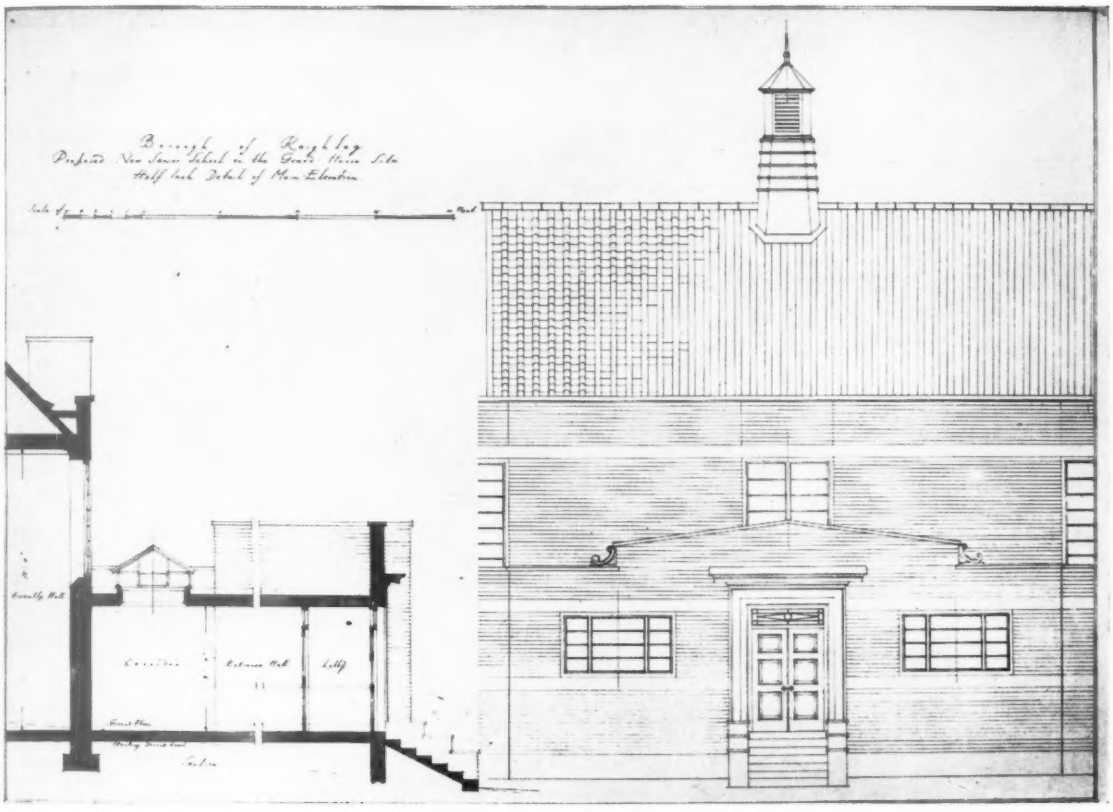
121 designs were submitted. On this and the three pages following we reproduce the designs placed first and second and the winners' report.

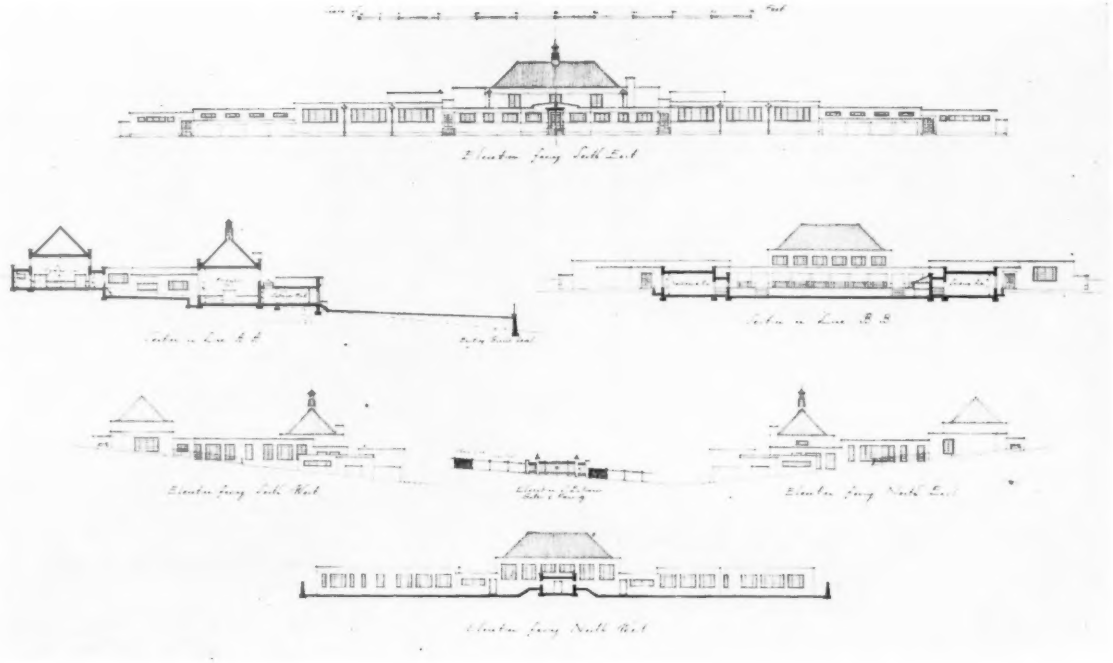
DESIGN PLACED FIRST



BY FREDERICK EVANS AND J. HAMER CROSSLEY

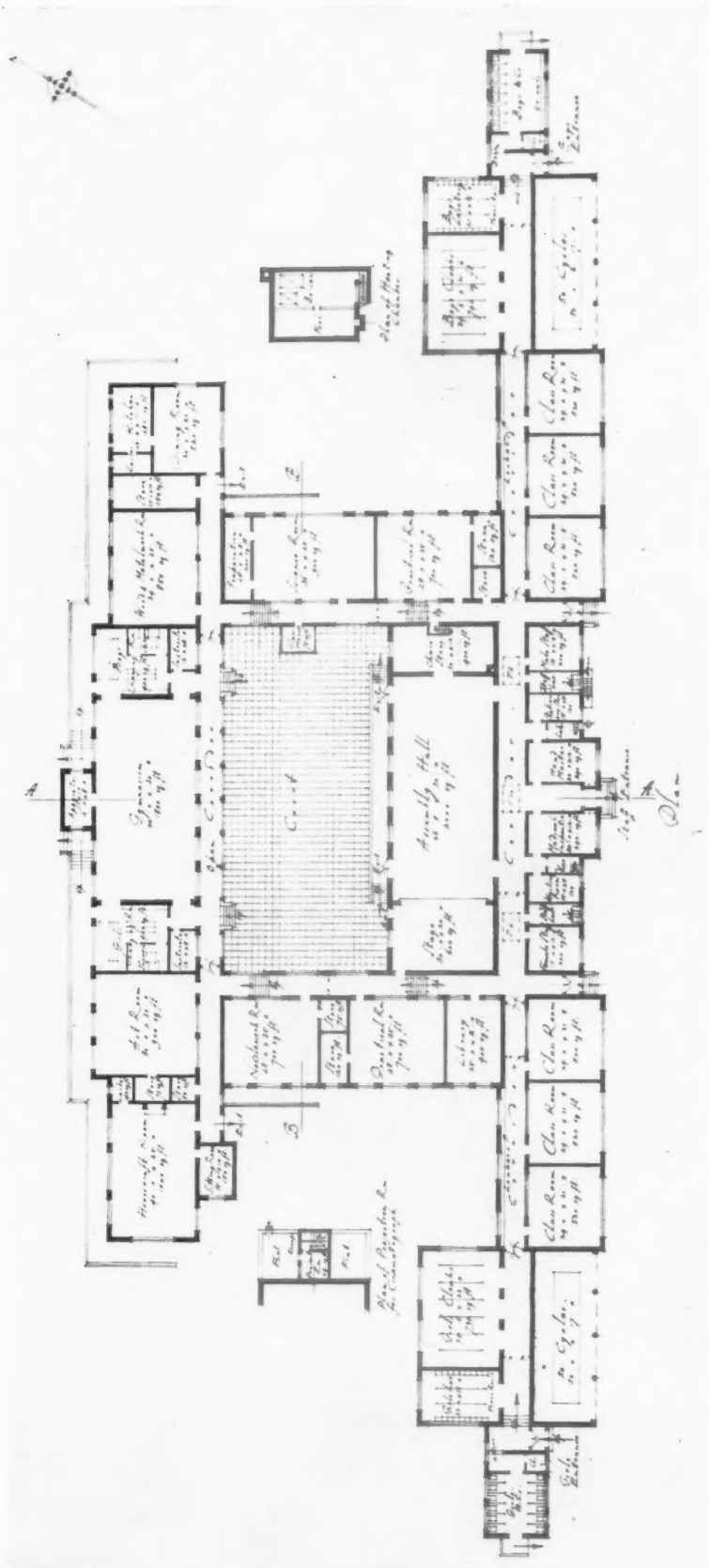
DESIGN PLACED SECOND





BY N. S. DIXON AND N. D. QUICK

DESIGN PLACED SECOND



BY N. S. DIXON AND N. D. QUICK

THE WINNERS' REPORT

Following are some extracts from the report of the authors of the design placed first :

General.—After visiting the site it was considered wisest to place the building as near as possible parallel with the contours. To do so provided the class-rooms with the necessary south-east aspect, and in addition a convenient dual approach from the roads on the southerly and easterly boundaries. Furthermore, a narrow elevation to the prevailing winds automatically results with one unit sheltering the other.

It appeared that an open plan where the whole school is roughly at the same level throughout would be most efficient. This plan provides for an easy access of boys and girls from playgrounds to cloakrooms, cloakrooms to hall, and from the hall to the various departments.

The plan is compact and convenient and has been designed to permit of the maximum amount of sunshine. All teaching rooms would have sunshine, and the long wing accommodating the art room, handicraft room, etc., which are better with a northerly aspect, allows the sunshine to enter by means of windows at a high level.

Another feature of the plan is the manner in which it could lend itself for social functions, in the event of which the teaching rooms could be completely closed off.

Construction.—The method of construction has arisen from consideration of cost and by a desire expressed by the promoters for the use of local stone, which it must be agreed is the most suitable for the purpose.

Economy in planning, construction and maintenance cost have been regarded as of primary importance. The plan has been designed in units of 8 ft., ensuring wherever possible standardization of the various materials.

In the teaching room generally the construction consists of concrete floors and hollow tile roofs not more than 5 ins. deep, spanning on beams. In the class-rooms the intermediate supports are steel columns to ensure as little obstruction as possible.

The roofs elsewhere would be of similar construction; the ribs of the hollow tile form an excellent key for the plaster. The advantages to be gained from this form of construction from the view-point of sound and heat transmission would recommend it.

The external walls would be built in local stone finished with a cut face, built in courses 6 ins. on bed with dressed masonry, the whole being backed with brickwork. The internal partitions would be 4½ in. brickwork.

A small amount of faience would be employed around the main entrance including the panels into which the external doors are inserted. The faience would be in a bright cream colour to contrast with the sombre colour of the local stone. The whole of the windows would be of a heavy section metal.

The flat roofs would be waterproofed with three-ply bituminous sheeting on which 3 ins. of gravel would be placed for insulation.

The whole of the school floors would be covered with Granwood blocks excepting, of course, the lavatories and cloakrooms, which would be in terrazzo tiles. The assembly hall floor would be covered with oak wood blocks and the gymnasium floor would be covered with oak strip flooring.

The walls generally would be plastered and finished in a washable distemper or a flat paint finish.

Ventilation.—Direct cross ventilation is provided to every room in the school.

Heating.—Heating would be by means of low-pressure hot water system as required.

Cost.—Total cost, £26,258. £1,000 extra allowed for gates and fencing ; £2,000 extra for terrace, flower boxes, etc.