ARCHITECT



tandard

contents

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

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

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Langham 5721

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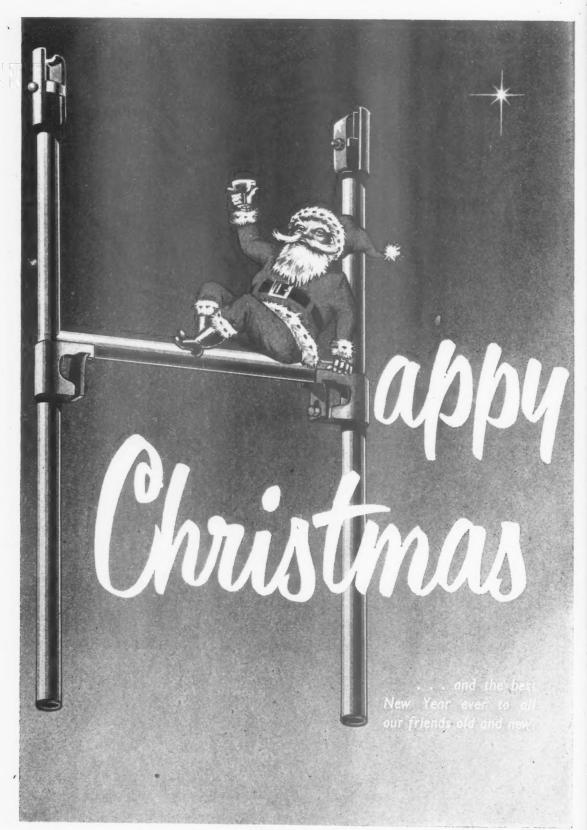
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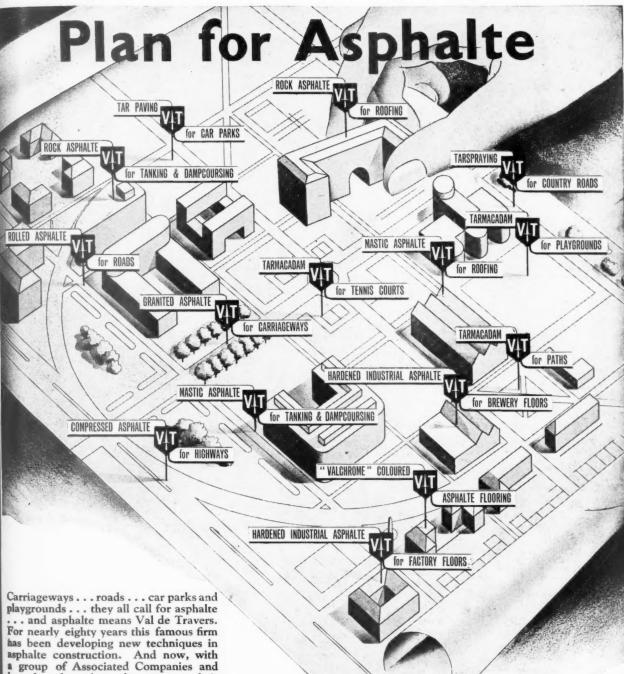
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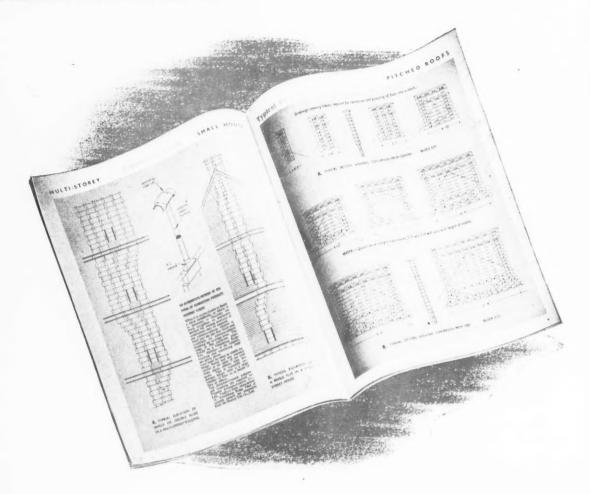
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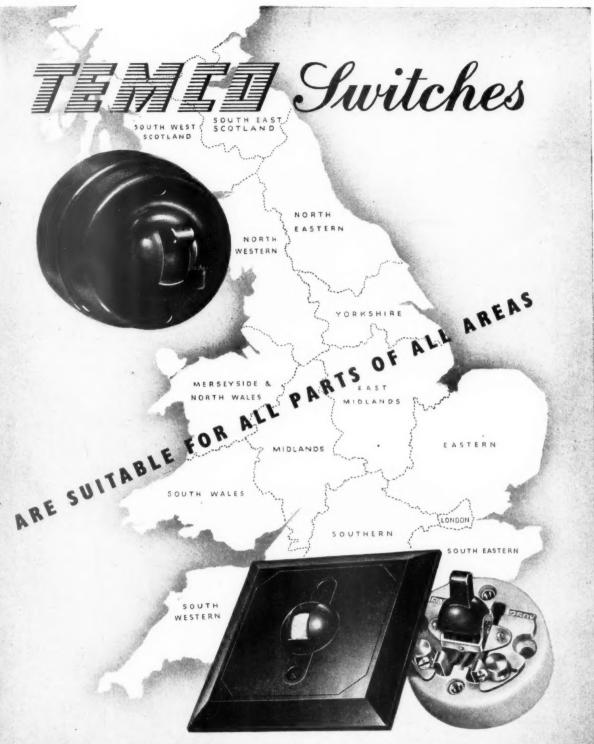
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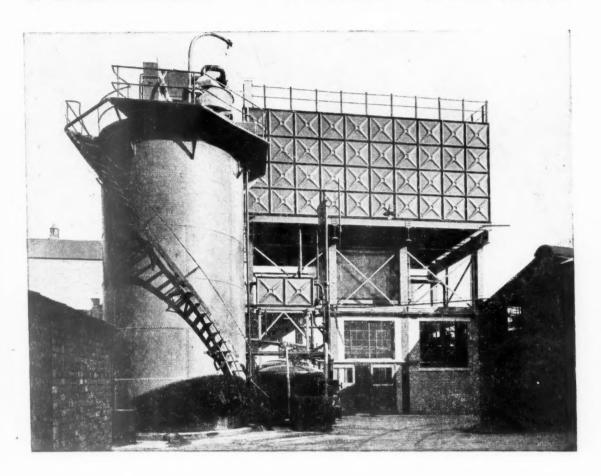
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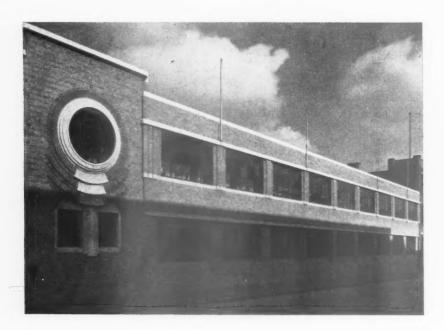
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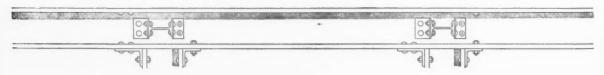


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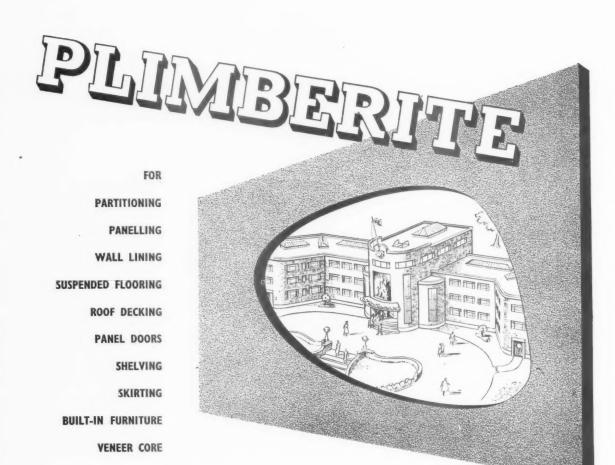


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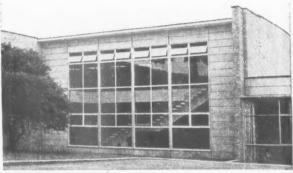
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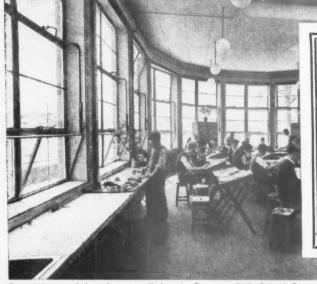
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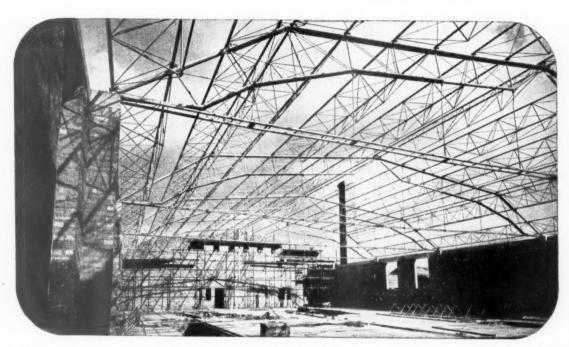
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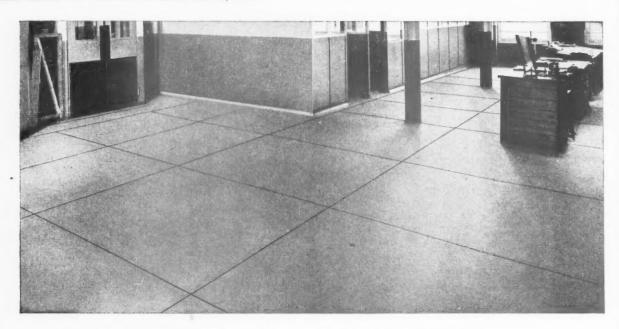
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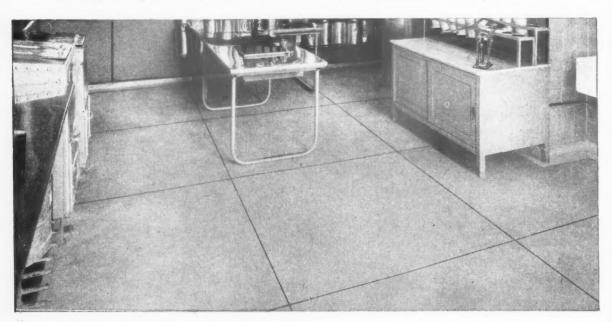
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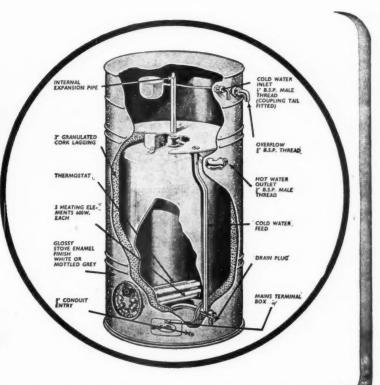


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ELECTRICAL PROPERTIES

ALTHOUGH primarily a structural material, aluminium has for many years been of some importance in electrical engineering, and in one branch at least, that of overhead transmission, it is almost exclusively used. Recently, large changes in the relative costs of aluminium and copper have admitted aluminium to other functions that copper has traditionally performed, and it can be assumed that the role of aluminium in the electrical industry is by no means fully developed.

Electrical Conductivity

The aluminium normally used for electrical purposes is of 99.5° purity, which at 20 C. has a specific resistance (volume resistivity) of about 2.7 microhm/cm. cube in the annealed state. This value may be compared with 1.7 for copper, 7.2 for brass, 11 for iron, and 19 for steel.

As in other metals, electrical conductivity is highest in the pure form and is reduced by the presence of alloying ele-ments. Work-hardening and solution treatment also tend to reduce conductivity, while annealing and precipitation treatment (artificial ageing) have the opposite effect.

These effects have to be considered should it be necessary, from strength requirements, to employ a heat treatable alloy as a conductor. More relevant, however, is the effect on resistivity when the metal is converted from soft to hard temper by drawing into wire: in aluminium of electrical purity the change is from 2.7 to 2.85 microhm/cm. cube.

The conductivity of aluminium is thus about 60% of that of copper, the principal conductor material. In comparing conductors made of these two metals, there are several factors to be considered. If both are to have the same resistance, the aluminium conductor must have 70% more sectional area than the copper one and will then weigh about half as much.

As the aluminium conductor has a larger surface through which to lose heat to the air, its temperature rise will be less. It may be convenient to accept a larger voltage drop and to reduce the section until it carries the same current as the copper at the same temperature; in this case, the aluminium will have about 50% more sectional area than the copper and will weigh 0.45 times as much.

Aluminium Conductors

One of the earliest uses of aluminium in-the electrical industry was in the form of bus bars, uninsulated conductors carrying heavy currents for short distances, and to-day aluminium is the economic

This is one of a series of articles on the characteristics of aluminium and its alloys, written for the interest of students and others.

choice for this task. By adopting rect-angular, channel, or tubular sections, a high strength/weight ratio and large cooling surfaces are obtained. Relatively few supports are needed, the bars are easily formed, and are joined by bolting or

welding.

By far the largest single use of aluminium as a conductor is in overhead transmission lines, where a lightweight conductor means less sag and fewer towers. For many years it has been the usual practice to employ lines comprising aluminium wires stranded over a reinforcing steel core. Current-carrying fittings are of electrical-purity aluminium, usually cast, while corrosion-resistant alloys are used for those subject to high mechanical loads. Advantages other than strength and low weight include freedom from deterioration, and low inductive and corona losses. Steel-cored aluminium conductor is employed for high-voltage transmission systems throughout the world, including the British Grid. Some world, including the British Grid. Some recent European overhead transmission lines use cables consisting entirely of a heat treated aluminium alloy, which has sufficient strength to make a steel core unnecessary and yet has a conductivity equal to 54% of that of annealed conterts. copper.

Considering insulated conductors, aluminium is more economical than tin-ned copper despite the additional insulating material needed to cover its larger bulk. Covered aluminium wire has been introduced for the wiring of buildings and should eventually be widely adopted.

The oxide film that forms on aluminium in air has dielectric properties, and it is often thought that this makes the conductivity of mechanical joints uncertain. In practice, however, the film is easily removed by abrasion when the joint is being prepared and, with a coating of grease to exclude air and moisture from any areas where contact is imperfect, the film cannot reform, so the joint remains satisfactory

Anodically thickened, the oxide film can stand pressures of the order of several hundred volts, and this form of insulation, which has negligible bulk and does not deteriorate when heated, is adopted for some special applications, as in electro-lytic condensers, and in the windings of

large lifting magnets, where reduced bulk permits a lighter iron casting and increased payload.

Non-Magnetic Property

Aluminium and its alloys are very slightly paramagnetic, the susceptibility (magnetization / magnetizing force) of For practical purposes they are regarded as non-magnetic, and this characteristic is of value in ships, where aluminium alloy is now frequently used for wheelhouses and other structures surrounding magnetic compasses or electronic equipment. It has the advantages of lightness and lower cost over other non-magnetic metals.

In radio and other electronic work, aluminium is very suitable for electro-static screening purposes and for condensers of all types.

Other Applications

Properties other than conductivity re-commend aluminium for various minor but important duties in the electrical industr

Flexible cables, both for mining equip-ment and arc-welding sets, which have constantly to be dragged and lifted by the

operator, can profitably be lightened by the use of aluminium.

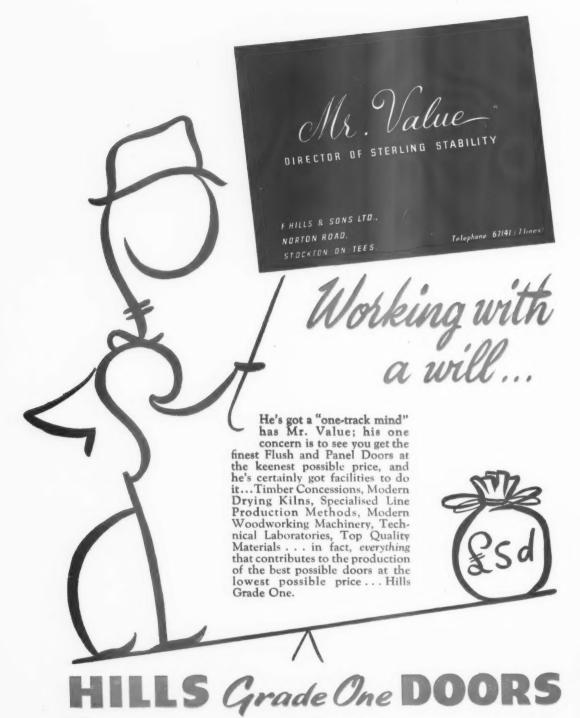
Aluminium is also used for armouring tape in place of steel when weight is objectionable, as in mines, or when corrosion conditions are severe. For wiring conduit, extruded aluminium tubing offers many advantages, being easy to manipulate and install, and requiring painting only in severe conditions. Aluminium is also coming into use for sheathing of paperinsulated, oil-filled, and gas-filled cables, being drawn or extruded directly over the cable. Being lighter, stronger, and cheaper, aluminium may largely take the place of

Light alloys are often employed to reduce inertia forces in moving components of high-speed switchgear, a high-strength alloy being used for the mechanical parts and, in the most modern practice, braided aluminium wire for the conducting "tail. Equipment fitted with aluminium windings for the sake of their low mass includes certain rotary machines designed for high speed or rapid acceleration, and movingcoil instruments. When mobility is important in electrical machinery, as it is in mines, it is worthwhile to use aluminium for motor-casings and other static parts that are normally of cast iron.

After completion, this series of ten articles will be reprinted in collected form, and will be available on request.

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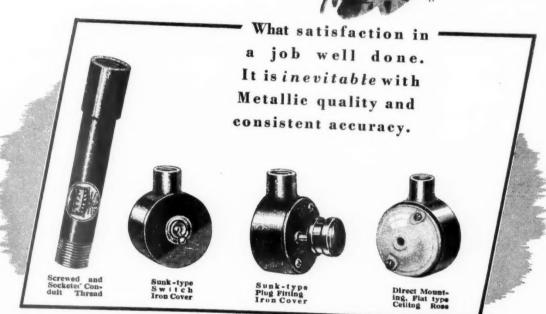


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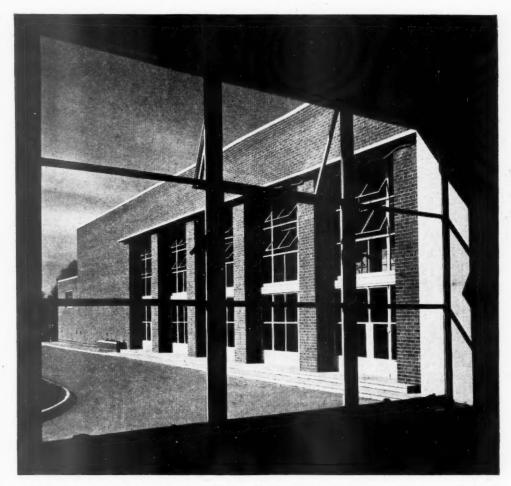
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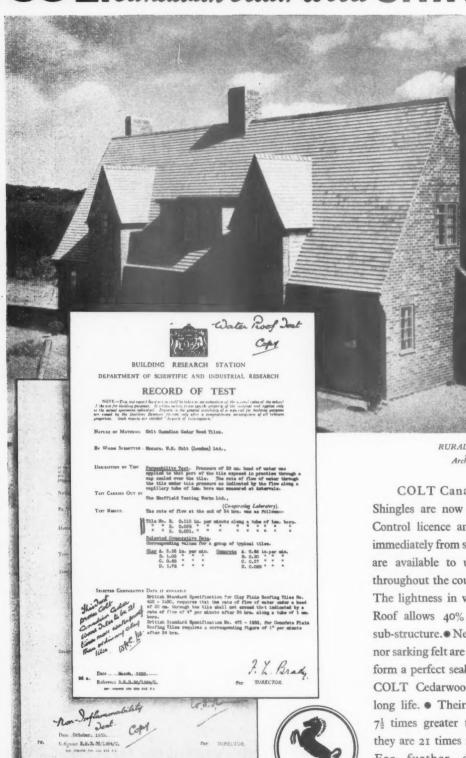
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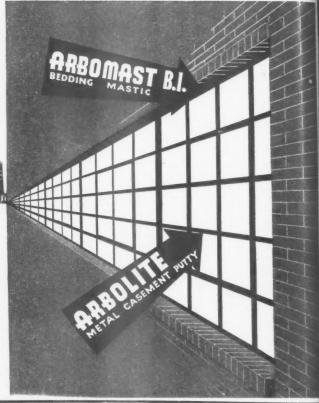
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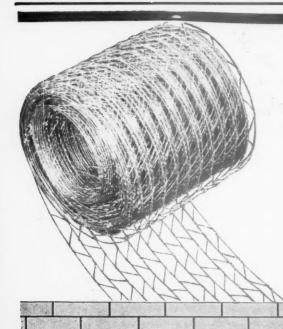


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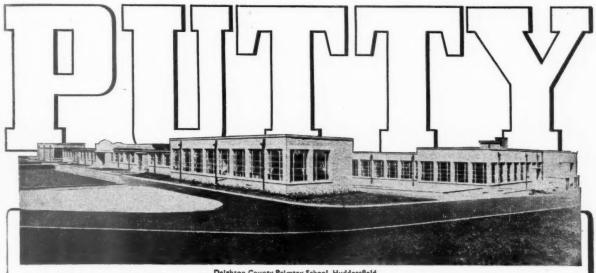




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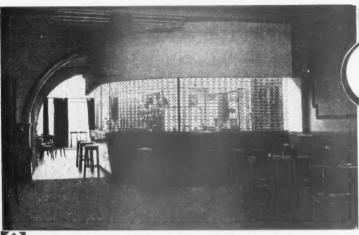
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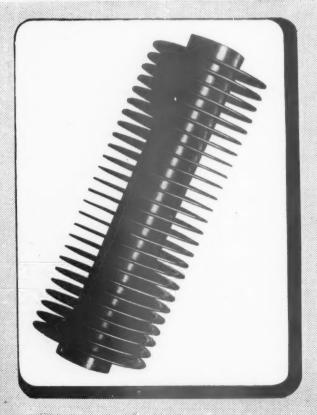
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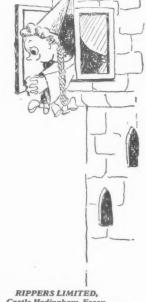
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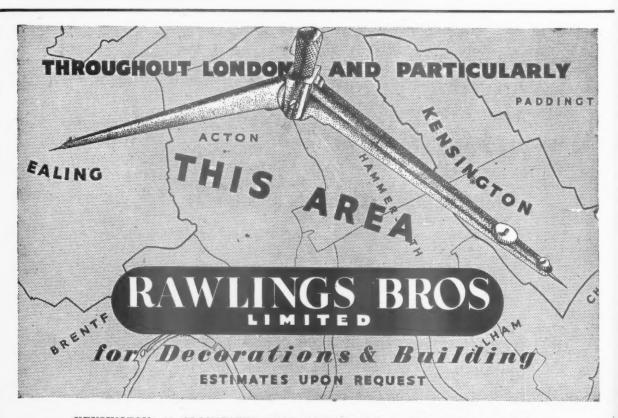
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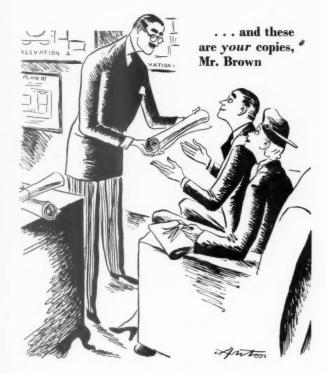
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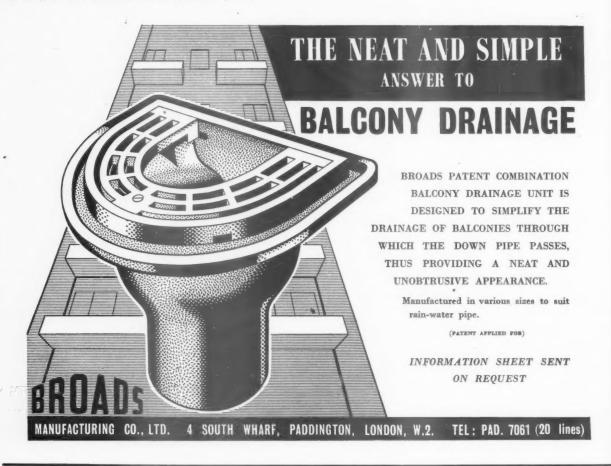
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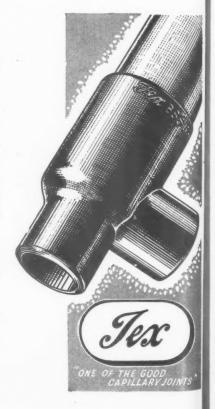
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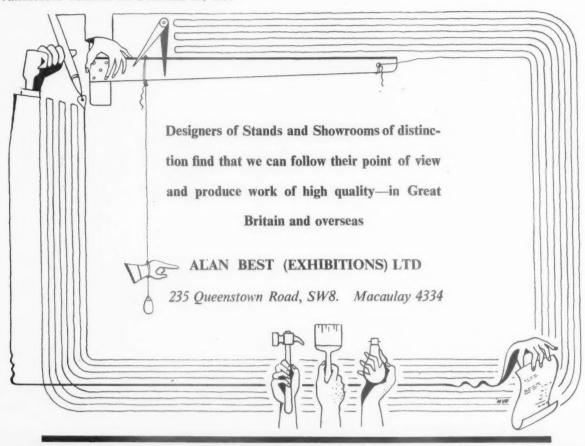
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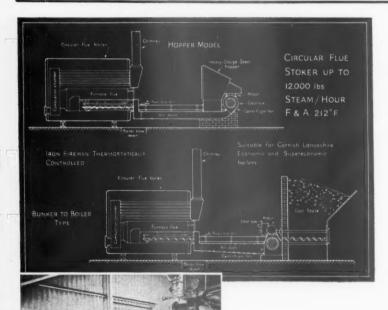
1952, for although the new Government is, I know, determined to do all it can to create the right conditions for an expanding industrial programme, it will be the plain duty of us all to conserve materials wherever possible and to operate with the utmost efficiency.

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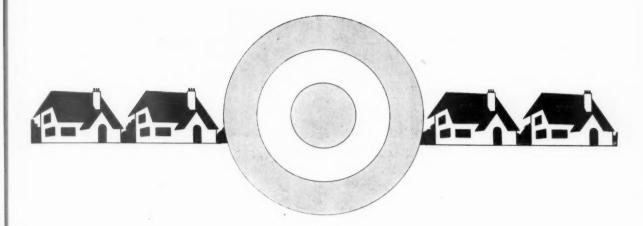
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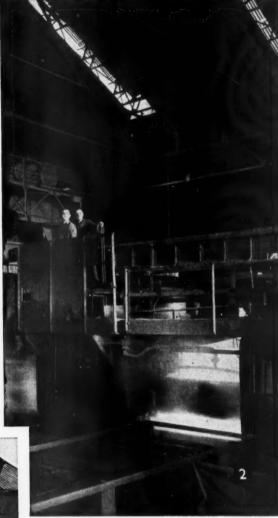


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No. 2964 20 DECEMBER, 1951 VOL 114

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THE LONDON PLANNERS' TRIUMPH

Confronted by two plans of the County of London, each about eight feet long, and almost as high, covered with a fine pattern of hair lines, hatching, cross-hatching, and red, yellow and blue blobs, the ordinary architect, interested in the future of his capital, may well be a little nonplussed, particularly if he has a couple of town planners standing beside him, breathing down his neck and saying "Well?" The first response, the muttered "Ah, St. Paul's," as with intense relief one at last recognizes the odd landmark, hardly does one justice. The subject is too vast for superficial study, and, at the time of writing, that is all I have been able to do.

Nevertheless, a few minutes with survey, proposal, and programme maps, and not even a glance at the three hundred page report of the survey and

analysis or at the two hundred page statement of proposals, brought home vividly just how far we have progressed in the science and art of town planning. There has been, and will be, controversy over different proposals, but no one can deny architect Robert Matthew and planner Arthur Ling their truly great triumph of having achieved a magnificent piece of work. Not, of course, that they have reached the end of their task, but rather merely the beginning, for the process of planning is a continuous one—a vital point, for I fear many may now think: "London has now been planned." To give a small indication of the extent of the responsibilities in the planner's hands, I am told that approximately one-tenth of the county will be rebuilt over the next twenty years by public authorities, not including any redevelopment by private property owners. A tidy programme.

A LOSS

The Times, on Tuesday of last week, reported the destruction by fire of Plas Brondanw, the sixteenth-century Merioneth home of Mr. and Mrs. Clough Williams-Ellis. In spite of the efforts of the local people and five fire brigades, almost nothing, it seems, was saved. To Mr. and Mrs. Ellis I offer my very deep sympathy, especially because they are the kind of people who have a deep "love of place," that sensitive feeling which lacks, but deserves, a special word to itself, and because their home must have contained many personal treasures which can never be replaced.

JOB-LOTTERY AGAIN

Those of us who have our being in what Billy Budd would call "this great rough world" of the Metropolis are not always sufficiently conscious of how high-or is it deep?-feelings can

run elsewhere. I have, therefore, been making a few sorties to meetings of the more distant but, nevertheless, still more or less allied Societies.

At the Nottingham, Lincoln and Derby Chapter I was made to feel at home. If the RIBA thinks that this JOURNAL'S recent leader on Institute job allocation is now a dead letter, it should have been with me. Before and after the meeting the subject waswithout any encouragement from mea main topic of conversation.

Possibly Nottingham, Lincoln and Derby think may today what England thinks tomorrow. any case, far be it from me to suggest that Nottingham should have any more reason than, say, Cardiff to feel bitter about the matter. The ball is still in the RIBA court, and may I remind the man with the racquet—no cracks now! -that I am not criticizing any particular system, nor the good faith of the men who operate it. On the contrary, the Institute is, if I may say so, without impertinence, most fortunate today in its President. Nobody, I am sure, could have worked harder in trying to see that work is distributed as widely as possible, and that the younger and less well-known members of the profession are not overlooked. I am merely reporting that there is evidence of discontent on this subject-particularly in the provinces—and I feel that the RIBA would be wise to try and set as many minds as possible at rest.

THE PROFESSOR AGAIN

Another of my sorties took me to the Wilts and Dorset Society's dinner, where I heard Professor Richardson. I may not always have agreed with the Professor but I have, in my time, split my sides at his wit. This time my sides



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mer equ Enr Pro remained whole: puns about "Groping House" and "Is Lloyd Wright" are neither new nor fearfully funny . . . and I expect many of my readers will agree that there can be few better judges of a bad pun than ASTRAGAL.

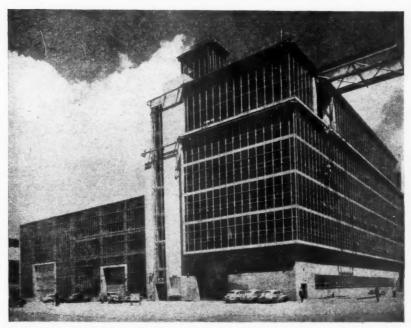
When it comes to pure vituperation, however, the Professor's powers are less dimmed. If he is not, as I suspect he himself imagines, in the Johnson-Swift class, he is capable of very fair pastiche. His target was Basil Spence. Spence can take it. So far, however, he has had only cannons to right of him; the artillery on the left is only training its sights. Any minute I may find myself shoulder to shoulder with Prof. Richardson and Gillie Potter. Odd bedfellows.

COVENTRY CONVERSATION

My third sortie took me to Coventry itself where I found my colleagues concerned about something other than the cathedral. (They have got past that by now.) The permanent memorial for the victims of the blitz might well —I thought—be part of the cathedral itself: at least it should be a matter of But somehow, national interest. unnoticed by the country as a whole, a typical piece of vintage "parks committee" design is being slipped past us-a perfect setting for the "cheap small Garden Temple" for which, I see, a Sir G. Young of Sonning has been advertising in Country Life. (Perhaps he would settle for Temple Bar.)

PEVSNER ON SCHINKEL

Last week's lecture by Professor Pevsner at the RIBA was the masterly performance which we all expected. For a fascinating hour, and with only an occasional glance at his notes, the newest Hon. Associate strode about the platform raining dates and facts and names upon a packed audience until, our eyes glazed with admiration and repletion, we begged for mercy. How unusual and how eye-opening it is to listen to a speaker whose range of knowledge seems to cover simultaneously the whole of Europe, its monuments and its architects, and who is equally happy in Potsdam, Penzance or Ennismore Gardens. No wonder the Professor has "Standing Room Only" notices always outside his lecture room at Cambridge.



Ordnance and Optical Shop Buildings, San Francisco, USA by Ernest J. Kump. From the book "The Modern Factory," by Edward D. Mills, reviewed on this page.

GOOD NEWS FOR LECTURE SEASON

ASTRAGAL, on the other hand, believing that the pen is mightier than the pointer (at least as wielded by himself), rarely consents to appear on the lecture platform. But those of his readers who are less quick in thinking up excuses than practice has made him, will be glad to hear that the Victoria and Albert Museum has reorganized its collection of lantern slides of architecture, and got out a new catalogue which should prove most helpful to prospective borrowers.

This catalogue is bound in five sections: pre-classical, classical, postclassical, twentieth century, and index of architects. The post-classical section, C, is further divided by countries. In addition there is a visual index in the form of albums of contact prints which may be consulted at the museum. What more could you ask?

FACTORY BUILDING

Books are such a useful stand-by for Christmas presents that even the most unseasonable-sounding titles prove just the answer. (Though I must say I was a little surprised to see last week in a window a holly-decorated copy of Bernard Spilsbury's biography bearing the label "Ideal Yuletide gift.") Here's a suggestion then for an architect friend-or better still for yourselfEdward Mills' new book on factory planning.

In the past I've seen so many picture books which are supposed to tell me all about factory planning and do nothing but talk æsthetics that I was glad to see a book* by someone who has actually built some factories himself. Even at a cursory glance it is obvious that Mr. Mills has "been there before," and he has some remarkably useful check lists for the basic information which every designer must extract from the manufacturer before he even looks at his drawing board. As well as considering the layout and construction of the factory proper, he deals with storage and office buildings and the numerous subsidiaries which come under the general heading of welfare. The illustrations are good, but would. I think, be more useful if some idea of cost could have been given, for the real problem of building a handsome factory seems to me to lie in persuading the manufacturer that he really does get something for what he spends over and above the cost of straightforward steel frame and sheeting.

POST-GRADUATE EXPERIENCE

And now a word about post-graduate office experience. For students in recognized schools this has been a

*The Modern Factory. By Edward D. Mills. (Architectural Press, 30s.)

Turner's Centenary

This water-colour of the north transept of Salisbury Cathedral has a double topicality: the artist was J. M. W. Turner, the centenary of whose death came round yesterday, and it is now on show in the exhibition called "The First Hundred Years of the Royal Academy" at Burlington House. Journal readers will feel a stirring of their professional pride when they recall that Turner first entered Thomas Hardwick's office intending to be an architect, and that Hardwick advised him to be a painter—a notable example of collaboration between the arts. their post alth abro The year exte to s arch ente

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ou Ch vexed business far too long. No one in their senses objects to the compulsory post-graduate experience in itself—although some might like to get it abroad (which is I believe forbidden). The point is that to delay the granting of the Associateship for a further year, as is now suggested, is to extend the training from five years to six for those who, when they took up architecture as a profession, were told by the RIBA and by the school they entered, that it would be five. This does not seem fair, to say the least.

The new regulation could easily have been brought in progressively over a five year period and the betrayal avoided. Now I am very glad to see from Anthony Chitty's letter in *The Builder*, therefore, that the matter is still under discussion and that a tribunal may be considered. If this tribunal deals with hard cases it may avoid alienating many future Associates.

WINNING THE RACE

Although the sale of the South Bank garden chairs was scheduled to last for the whole week, the Race turned out to be to the swift, and almost the whole lot went on the first day, while only a few of the doves were left by the afternoon. ASTRAGAL arrived after 9 a.m. and found a milling crowd of architects in cars, duffle coated students with roundnosed Morris's and sundry other veterans, all queueing up at windows labelled "Antelope" or "Springbok." ASTRAGAL bought two Springboks, in astonishingly good condition after six months in the open. Memorable sights: one man trying to grab a taxi and not drop two doves and two chairs; the cloakroom at Waterloo Station, which filled almost as rapidly as the South Bank emptied; Mr. Casson walking very delicately with one dove only. The latter phenomenon observed, according to ASTRAGAL'S spies, at so many different times that one may suspect a propaganda move to give doves some sort of cultural O.K.

Very different was the crowd of buyers which assembled later for the auction. Owing to Christmas and the consequent early going-to-press disorder, you will have to wait until next week for the rest of the story—if story there turns out to be. Meanwhile a very Merry Christmas to all of you.

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POINTS FROM THIS ISSUE

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Coventry cathedral: modified plan approved
Land development: greater freedom for local authoritiespage 732
Illustration and description of Trinity Church, Poplar

The Editors

THE PEOPLE'S HOUSES

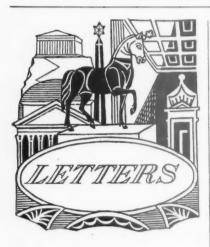
WE publish in this issue (see pages 734-738) the twenty specimen plans issued this month to the local authorities by the Minister of Housing and Local Government. New features of the plans are the strong encouragement given to terrace housing and to increasing the number of two-bedroom houses (see last week's editorial). In the terrace houses a brave attempt has been made to abolish "tunnel" access or back-access paths, and to bring the store into the house so that it can serve also as a way through. This has led to certain disadvantages which are discussed on page 735 of this issue. One type of house is suggested with whole house heating and another with a high efficiency down-burning type of grate, the open plan for the latter being much more successful than for the former.

As was to be expected, something of value has had to be sacrificed to obtain economies in overall area, and it would be idle to pretend that with the issue of these plans the Minister has merely waved a magic wand which will leave local authorities with more and cheaper houses, smaller houses and yet no worse houses. What have been sacrificed are both architectural form, particularly inside the house, and amenity for the housewife. The entrance hall has been virtually eliminated and the staircase so compressed that many bedrooms have bulkheads rising out of the floor. Treads are splayed off at top and bottom of stairs, doors and walls are splayed at corners of rooms, and bedrooms are often L-shaped, with awkwardly recessed door openings. Room shapes compare unfavourably with the neat, tidy and generally square shapes of the Housing Manual, 1949, or even the diagrammatic plans of the 1944 Manual with which the new plans are comparable in overall area.

If the architect is going to be hard pressed to produce clean shapes and square rooms out of the new designs, the housewife is going to feel the pinch too. The pram space, which was clearly indicated on all plans in both Housing Manuals, and the hat and coat space have disappeared. The pram is relegated to the store, now brought into the house, but the store, intended for cycles, boxes, tools and the like, serves

also as a passage for coalman and dustman to pass through. The choice between keeping a pram and a bike is a hard one to have to make. Room sizes, it is claimed, are maintained fully up to present Manual standards, but the usefulness of room space, surely, depends on its shape. Awkwardly shaped corners, bulkheads, and the use of rooms as access corridors to other parts of the house, do, in fact, reduce effective living space. It has obviously proved more than difficult, in many cases, to reduce circulation area without upsetting effective room areas too.

If these plans are frequently rather depressing, it should be said that we have not yet seen elsewhere either from local authorities or from private builders any which, within the same terms of reference, are generally better. If they are taken as a guide and a basis for further work (and not built direct from the Ministry drawings, as is unfortunately bound to happen in many instances), they show fairly clearly the advantages and disadvantages of some half dozen basically different types of terrace houses. The Minister states that the new plans are intended to conform to the standards of the Dudley Committee Report, 1944, a claim which is examined in more detail on pages 734 to 738. This excellent report, which was the basis of the Housing Manual, certainly still repays study. We commend it seriously, particularly from the point of view of detailed planning, to all engaged in the business of translating these plans into practice today.



G. P. Youngman, F.I.L.A., A.M.T.P.I.

Poole College: Comments on Landscaping

SIR,—May I take advantage of your recent and welcome pleading for fuller and more open comment on current activities to make some observations occasioned by to make some observations occasioned by the publication in your issue of December 6 of the results of the Poole College competition, where my eye was cought by the assessors' comment on the winning design that "the site layout and landscaping are competently contrived and will enhance the prospect of the school when completed."

I wondered first what the assessors meant

by the distinction between site layout and landscaping; as I have always assumed that the site layout is only one element which the art of landscaping has to bring into satisfactory relationship with the building and the vegetation. It seemed therefore that by landscaping the assessors must have had in mind mainly the planting; which is in-teresting because, though most architects claim that landscaping is part of their proper sphere, scarcely any ever pretend to know anything about plants. Nevertheless, the winner of the competition has sensitively considered the general effect he wants the considered the general effect he wants the planting to achieve; and doubtless is aware that the translation of his elegantly drawn symbols into the reality of living growth will require action by someone who not merely knows what plants will flourish but who also has sufficiently visual judgment to select the plants which, as they mature, will

select the plants which, as they mature, will give the right effect.

My next two comments I make with some diffidence, as I have not seen the site and its surroundings. The architect has considered carefully the immediate prospect of his buildings; but I wondered whether he had considered equally carefully the larger prospect—that of his site and buildings seen against their surroundings and equally improved the site of t prospect—that of his site and buildings seen against their surroundings and, equally important, the prospect from his buildings. What, for instance, is the background against which his garden detail will be seen; and what will be the potentially dramatic view as people come from his inner quadrangle through the open arcade? And how is his planting related to outer views such as these? I wondered also how he would deal with what is a most important and usually complicated element in landscaping, the adjustment of the artificial levels created by his buildings, road and car park to the natural levels of the site. One of the other sets of drawings shows that the level of the site is very varied, with a slope which seems in places to be as much as 1 in 16. But from his plan most of the site would

appear to be as flat as the board on which his drawings were made; and his cross-sec-tions, stopping short at the base of his buildings, give no indication of the rest of the ground.

At such an early stage of a competitive At such an early stage of a competitive project there is no reason to expect the architect to have given much thought to these matters; but the remarks of the assessors may well lead the promoters and their public, together with the readers of your journal, to think that the landscaping has been dealt with more thoroughly than would appear. In the absence of evidence one must, in fairness, suspend judgment; but my wonderings hardened towards doubt when I realized that the architect had made an elementary factual blunder and that the assessors appeared to have overlooked it. assessors appeared to have overlooked it. assessors appeared to have overlooked it. They comment approvingly on the way he has left the "maximum residual area for recreation." Whereas in fact the areas he has labelled for football, hockey and cricket are

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labelled for football, hockey and cricket are useless for these purposes. Judging from the dimensions of the tennis courts, his football area is about a quarter the size of an adult pitch; the others equally are far too small.*

Now, I am not getting at the architect and assessors personally; and, should they condescend to take any notice of my remarks, I beg their indulgence. In any case my remarks are no reflection on their skill in what, after all, is their main task, the design of buildings. But I have taken this as an example of what I feel is a superficiality of approach to landscaping only too common among architects, though, man fested in other forms, by no means confined to them. Neither am I getting at architects in general. This is not captious or envious general. This is not captious or envious criticism. There are some who jump to the facile conclusion that architects have no facile conclusion that architects have no concern with landscaping. I have learnt, and am still learning, so much from architects with whom I have been fortunate enough to work, as well as from avid perusal of the pages of the Architectural Review that I am far from holding so partial a view. Moreover, cobbles, bollards, hard landscape (as we called it on the South Bank) and trim generally are obviously part, though not necessarily exclusively, of the architects' special sphere, but there is much more also than having an eye for the Pic-more also than having an eye for the Picmore also than having an eye for the Pic-

turesque (as Repton, with his practical experience, knew so well).

Nor would I suggest that those of us who are simply landscape designers are beyond reproach, doubtless we are prone to faults in design which most architects would avoid. The last thing I want to encourage is interprofessional bickering. I have noted too great an undertone of that already; and my main object in trespassing on your space at such length is to try to raise the issues of land-scaping, which I feel strongly are so im-portant, above the personal level. What portant, above the personal level, What matters is that contemporary landscaping should be done well; our various individual and professional shares in the doing of it are unimportant. But, only too obviously, it seldom is being done well; largely, I believe, because it is a much bigger thing than most people are aware, and much more than any individual at present is competent to cope with in every aspect.

than any individual at present is competent to cope with in every aspect.

There are many who have a concern in landscaping, each tends to seek dominance, if not to exclude others as interlopers. Such an attitude will achieve us nothing. How can these various interests be reconciled? Sir, I believe that you, and your colleagues of the Architectural Review, could give a lead; and, with your great influence in one important sphere, could help fluence in one important sphere, could help make clear the confusion and inadequacies of current ideas.

G. P. YOUNGMAN

*[The football, hockey and cricket areas shown on the Poole college plans are only for practice purposes.-ED.]



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COUNTY OF LONDON DEVELOPMENT PLAN

Report by Derek Childs

The Administrative County of London—which includes the City of London—Development Plan, 1951, and the accompanying Report of the Survey and Analysis have now been approved by the London County Council for transmission to the planning minister, or as he is now known, the Minister

of Housing and Local Government. This London plan and survey is, I understand, about the fortieth plan and survey to reach the Ministry. The London County Council, although it has had to prepare its plan for its enormously complex area, has therefore managed to reach the submission stage well to the fore of many other planning authorities.

authorities.

The 1951 Plan and Survey is the most significant document which has been published on the planning of London since the Abercrombie and Forshaw plan was published in 1943. It will be remembered that the Abercrombie and Forshaw plan was a long-term scheme put forward as a basis on which the Council and all concerned with the development of London could formulate their concerted policies for short-term action.

The new plan is best considered as a statement of the Council's proposals for the comprehensive co-ordination of London's development for the next twenty years. The implications of the plan are far reaching and it is certain that some of the decisions that must be taken even within the next two to three years will vitally affect the course of London's growth and redevelopment for

of London's growth and redevelopment for a long time ahead.

The preparation of the development plan has followed the lines of the diagnosis by Abercrombie and Forshaw. The four major defects of London were described in the 1943 County of London plan as (1) congestion of traffic, (2) depressed housing, (3) intermingling of housing and industry, and (4) lack of and mal-distribution of open spaces.

Roads.—The failure to relieve traffic congestion through the hold up of capital expenditure on new road construction has been one of the great disappointments of the post-

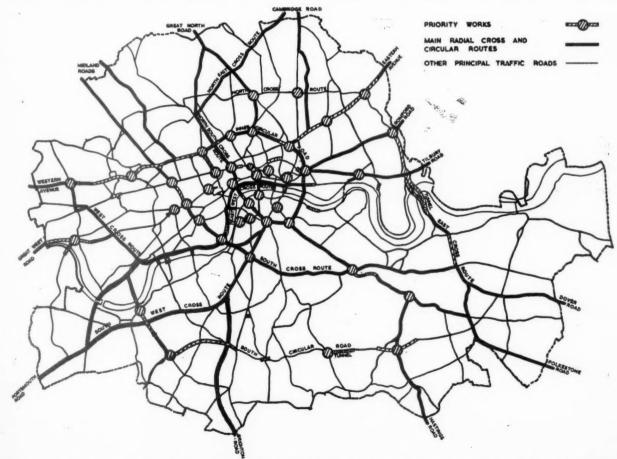
war reconstruction period. Although traffic congestion is getting worse the London County Council has had to plan on the assumption, as put forward last October by the Minister of Transport, that in today's circumstances it is impossible to forecast when a modest expenditure on major road improvements can be made. The amount of construction which the Council hopes to achieve within the twenty-year period includes six new intersections on the fly-over principle, thirty-seven intersections on the roundabout principle, eleven miles of new principal traffic roads, seven miles of major widenings, two miles of tunnel, rebuilding of two Thames bridges and a river wall. A number of road improvements are also proposed in the City of London. Provision is also made for the improvement of a large mileage of existing roads as circumstances permit.

permit.

The diagrammatic plan on this page outlines the road proposals. The concept of a fast motorway, known as the "A" ring road, through the Administrative County, was abandoned by the Minister of Transport in May, 1950. In the light of this it is inevitable that the council has had to base its road proposals on existing routes: important radials are linked to the inner circular route and supplemented by inner and outercross routes. The inner circular road can be compared to the A ring and the outer crossroutes in some ways fulfil part of the B ring's functions.

tant radials are linked to the inner circular route and supplemented by inner and outer-cross routes. The inner circular road can be compared to the A ring and the outer cross-routes in some ways fulfil part of the B ring's functions.

Housing.—The council estimate that during the next five years 2,496 acres of net residential area will be redeveloped and that the redevelopment of these areas will entail a displacement of 70,000 persons. About 240,000 persons will be rehoused on the new estates. In the following 6 to 20-year period



A diagram from the County of London Development Plan, discussed above by Derek Childs. planning upon which the priority road works in the twenty year road programme has been based.

This indicates the general basis for road

Another diagram from the County of London Development Plan. The Railway Executive figures are based on special counts or estimates on a broad basis made on various typical days at different periods of the year. Holiday and seasonal peak traffic is excluded.

heavy displacement of people from occupied houses in areas scheduled for redevelopment will also be involved. On sites totalling

will also be involved. On sites totalling 3,168 acres new houses will be provided for about 340,000 people, while about 235,000 persons will have to be rehoused elsewhere. The subject of housing and densities will be described in next week's issue. Industry.—The decentralization of industry is considered by the council to be probably the most difficult of all planning problems and that the problem can be properly assessed only at the national level. In the industrial use zoning the council provides for the re-location of non-conforming industrial uses. The council also makes known its willingness to facilitate the decentralizaits willingness to facilitate the decentralization of industry.

Public open space.—In the first five years it is expected to provide 483 acres of new public open space and in the following fifteen years a further 928 acres. This envisages displacing 52-53,000 people in the first five years and 46,900 in the following fifteen. fifteen. Schools.

Schools.—The extension of school sites and the building of new schools in new housing areas will involve an additional 310 acres of land in the first five years and a further 928 acres in the following fifteen years. Playing fields will, in the main, be sited outside the county in the green belt, supplemented by courts, pitches in parks and open spaces within the county. About 90,000 persons would have to be displaced in pro-

viding school buildings.

Hospitals.—Additional land for the exten-

sion of hospitals will amount to 108 acres of land during the twenty-year period.

University of London.—The University of London during the twenty-year period is scheduled for an additional 29 acres.

Buildings of National Importance.—New

building sites amount in all to 57 acres for the whole period. The sites include for BBC Television Centre, the National Library, Government offices and sites for local civic buildings.

Comprehensive development areas.—Plans for the comprehensive redevelopment during the next twenty years have been prepared for parts of:—(1) The City of London, (2) Stepney and Poplar, (3) Bermondsey, (4) South Bank, (5) Elephant and Castle, (6) Bunhill Fields, Finsbury, (7) Lewisham, (8) Woolywich

Woolwich. A brief description of the plans for each of these areas will also be given in the next issue of this journal.

The full range of maps and plans are now, I understand, available for public inspection at County Hall and will remain on exhibition until the time of the public inquiry, which is not likely to take place for several

I am told that only a limited number of copies of the Report of Survey and Analysis and the Statement on the Development have been printed so far, but that eventually copies will be made available for sale to the public.

MOHLG

New Land Development Procedure

The effect of new regulations laid before Parliament by the Minister of Housing and Local Government, Harold Macmillan, is to give local planning authorities a general planning permission when they themselves wish to carry out development of land in

their own areas. Hitherto they have had to submit a notice of their intention to the

These regulations have been made on the understanding that planning authorities will bring important and controversial proposals to the Minister's attention. A memorandum and a circular on the subject have been sent to local authorities in England and Wales. Existing arrangements for the grant of plan-

ning permission for development by authorities other than the local planning authority of the area concerned and by statutory undertakers have also been revised and simplified. The new procedure is described in the procedure of the control of the in the memorandum.

COVENTRY

Modified Cathedral Plan Approved

The RFAC has approved Basil Spence's modified plan for Coventry Cathedral and has asked to see Mr. Spence's plans "as they develop." It is hoped that a model of the new design will be shown publicly early next

TCPA

Statement on Planning

Following are extracts from a statement on town planning and housing made by the Executive of the Town and Country Planning Association:

The TCPA has consistently appealed for a more energetic and better co-ordinated

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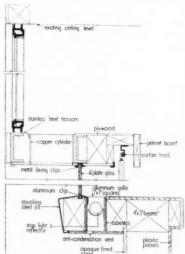
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RESTAURANT IN GOLDERS GREEN, LONDON, N.W.11

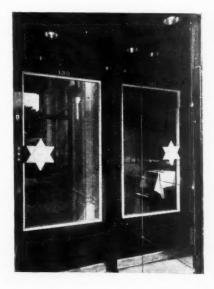


A restaurant facade in the Golders Green Road, which had been wardamaged, has been recently reconstructed to the designs of J. Godfrey-Gilbert. In order to disturb the business of the restaurant as little as possible all the various units were prefabricated and preassembled in order to ensure maximum speed on the site and the site work was completed in two weeks. The main door, on the right in the photograph above and seen close-up below, has a handle in the form of a "Shield of David" to indicate that the restaurant is a kosher one. Satin finish stainless steel was used for the transome unit and cill. The apron wall is set back to form a wide cill for ladies' handbags, etc. Before the present work was carried out bad ventilation caused frequent condensation on the window. This has been cured by using copper gauze the soffit which allows hot escape when the hopper windows are closed. Cold air enters through holes under the set-back cill and is directed through a stainless-steel grille on to the plate-glass window. The contract price was £602. The general contractors were Cees, Ltd.

For sub-contractors, see page 754.



Part section through restaurant front [Scale: 1]



pursuit of the national planning and re-development policy evolved and accepted by successive Governments since 1941. In re-newing this appeal, the association's execu-tive ask for special attention to the following measures:

(a) Blitzed and Blighted Areas. Redevelopment at satisfactory standards of density as rapidly as resources permit and the displaced people and industry can be provided for also where

(b) New Towns. Acceleration of the build-ing of those already started, and selection of further sites for the overspill of crowded areas.

(c) Country Towns. Implementation of the policy already agreed upon for encourag-ing the settlement of industry and population in small towns capable of expansion.

(d) Housing Allocations. A drastic revision of the allocations as between localities, to increase building in reception areas and permit a lowering of density in any imme-

permit a lowering of density in any immediately practicable central redevelopment.

(e) Housing Subsidies. Drastic revision of present scale, which is heavily loaded in favour of flats, of housing on expensive sites, and of small floor areas. (Flats of 600-650 sq. ft. in London have had subsidies up to £2,900 in capital value, as compared with a normal subsidy of £600 on houses of 900-1,000 sq. ft. A one-bedroom house now receives the same subsidy as a four-bedroom house, the proportion of subsidy to rent thus being highest on the smallest houses.) A special subsidy should be given for small houses reserved for old people only. only.

only.

(f) Location of Industry. Policy of the BOT and sponsoring ministries in issuing location certificates and building permits for factories and factory extensions, to pay full regard to the social and economic necessity of dispersal. Steps to be taken, with fair compensation from central funds, to prevent the re-occupation of factories from which firms have been decentralized.

(g) Roads and Transport Services. Capital expenditure on new roads or expansion of services to anticipate and facilitate dispersal and not to promote suburban expansion or wasteful daily journeys.

(h) Development Plans. Policy in ministerial approval of the development plans submitted or in progress in all areas to support expansion of smaller towns, to restrict expansion of overgrown towns, to insist on standards of maximum housing density that will permit of a general provision of home gardens, and to secure a fair

balance between the claims of food production and living space.

(i) Rural Areas and Food Production.
Development policy in rural areas to encourage the settlement of industry in market towns, with corresponding housing there and in adjacent villages. Siting of new developments to avoid waste of farm land, but housing density to be limited to permit gardens large enough for vegetable-growing

(at least 10 rods).

DIARY

How the South Bank Exhibition was Planned and Built. Hugh Casson. Three lectures to children. (Tickets on application.) At 66, Portland Place, W.I. (Sponsor, RIBA.) 3 p.m.
DECEMBER 31, JANUARY 2 AND 4

Expression in Modern Architecture. Frederick Gibberd. At 66, Portland Place, W.I. (Sponsor, RIBA.) Also announcement of award of prizes and studentships. 6 p.m. JANUARY 8

Neighbourhood Planning in the New Towns. S. L. G. Beaufoy. At 13, Suffolk Street, S.W.1. (Sponsor, the Housing Centre.) 6 p.m. JANUARY 15 6 p.m.

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NEW MOHLG HOUSE DESIGNS FOR 1951

ANANALYSIS AND CRITICISM OF THE PLAN

The specimen house plans published below have been issued by the MOHLG to local authorities (with Circular No. 70-51) and will shortly be printed as a supplement to the Housing Manual. The intention is "to help local authorities to build as many good houses as possible with the available resources . . . with rooms and living space fully up to present Manual standards, but with a superficial area of less than 900 sq. ft. for a three-bedroom house for five persons and 750 sq. ft. for a two-bedroom house." The areas are inclusive of stores. The saving in floor area achieved will thus be some 50 sq. ft. per house on the minimum standards of the 1949 Manual, and about 100 sq. ft. on what most local

authorities have actually been building to date. The floor areas permitted return, in effect, to the standards of the Housing Manual, 1944. In the same spirit as the Circular, the JOURNAL publishes below a series of critical comments on the plans, and draws attention by means of symbols to points in which the plans fail, in detailed analysis, to comply with recommendations of the Dudley Committee. If they induce any local authority, private builder or architect to think critically how the plans in these respects can be improved before being translated into practice, these notes will have served a useful purpose. Immediately above each comment are the critical symbols which apply to that plan.

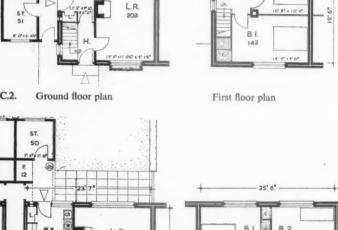


C.1. Ground floor plan

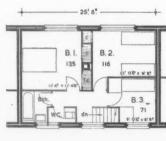


First floor plan





C.3. Ground floor plan



First floor plan



Key to symbols used in analysis of plans: Inadequate space for pram (accepting the idea that the pram should go in the store since the hall is virtually abolished). (Dudley Report par. 156. Housing Manual par. 107.)



Inadequate space for hats and coats. (Dudley Report par. 156.) It is not considered reasonable to hang hats and coats on a short length of wall in a 3 ft. wide passage between doors. Some slight recess, if not a cupboard, should be provided.



Staircase badly placed in relation to door openings, or dangerous due to winders or cut away treads at top or bottom. (Dudley Report par. 156. Housing Manual par. 102.)



Dustbin arrangements involving carrying dustbin through the house, or keeping it inside store. (See Dudley Report par 92 for use of store.)



Coalman has to carry coal through entrance hall, kitchen or other living part of house.



Bulkhead from staircase upstanding in floor of a bedroom (other than in cupboards which is considered permissible). (Dudley Report par. 154.)



Too many doors in kitchen, leading to interruption of, and reduction in, working top space, as well as to draughts.



Inadequate working top space in kitchen. (Dudley Report par. 133 and diagrams. Housing Manual par. 212.)



Bad room shape. (Dudley Report pars. 49 and 154.)



Living room too narrow. (Dudley Report par. 155.)

Types C1. C2. C3. C4.—These four types are characterized by having outside stores and outside access for coalman and dustman to the store and bin at the side or the rear of the house.



B

C1. Areas: store, 62 sq. ft.; house, 855 sq. ft.—3 bedroom, 5 persons. Semi-detached. One of the simplest and best plans, apart from the bulkhead in third bed-

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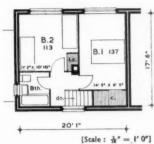
room. This might be removed by increasing house depth and shortening frontage. Kitchen has inadequate worktop space which could be improved by making dining space and kitchen into one room. Dining space will need heating. Suitable aspects: east and west.



C2. Areas: store, 63 sq. ft.; house, 679 sq. ft.—2 bedroom, 4 persons. Similar straightforward simple plan with economic spans. Replacing door to dining space by hatch would greatly improve cooker position and avoid draughts across the living room fireplace. Suitable for all aspects.



C.4. Ground floor plan



First floor plan

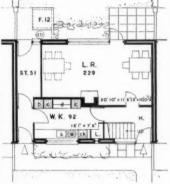
D3. Areas: store, 63 sq. ft.; house, 863 sq. ft.—3 bedroom, 5 persons. Terrace house. Tunnel access. Exelent kitchen dining arrangement. Cramped hall. Stairs too close to door. Bad bulkhead under window in third bedroom. Entrance should face east or north.



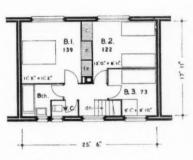


D4. Areas: store, 62 sq. ft.; house, 852 sq. ft.—3 bed-room, 4 persons. Semi-detached. Very cramped enroom, 4 persons. Entrance should face east or north.

Types D3. D4. D5.—All terrace house types, with internal stores, and access through the house via the store. A bad feature of this type is that coalman and dustman have to pass through the store (alternatively the housewife has to carry the dustbin through the store for collection). This robs the store of half its value for storage, particularly since it is only 3 ft. wide for half storage, particularly since it is only 3 ft. wide for half its length in D3 and D4, and the space left is quite in-adequate for pram, cycles, tools, boxes, etc. If secondary access through the back garden were provided (with the additional cost, of course, of making up and lighting a back access path) the space represented by the quite useless passage part of the store at the front of these houses could be included in the kitchen or living space.



Ground floor plan D.3.



First floor plan



D3. Areas: store, 63 sq. ft.; house, 863 sq. ft.—3 bedroom, 5 persons. Good living room, especially if dining area is served through hatch in dresser (shown dotted). Stair very cramped. Bad bulkhead under window in bedroom 3. Store has 4 doors, external ones of which would need weatherstripping to avoid draughts through kitchen. Entrance should face east or north Entrance should face east or north.



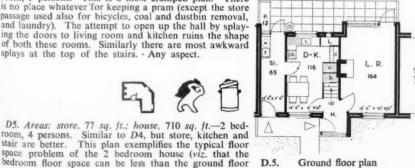
D.4. Ground floor plan



First floor plan



D4. Areas: store, 62 sq. ft.; house, 852 sq. ft.—3 bedroom, 5 persons. This is a most cramped plan. There is no place whatever for keeping a pram (except the store passage used also for bicycles, coal and dustbin removal, and laundry). The attempt to open up the hall by splaying the doors to living room and kitchen ruins the shape of both these rooms. Similarly there are most awkward splays at the top of the stairs. · Any aspect.



D.5. Ground floor plan



First floor plan

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space). In this plan the first bedroom is 156 sq. ft. (21 sq. ft. over area) and yet it is still necessary to push out a bay window in the living room and the porch to achieve minimum areas on the ground floor. Any aspect,

Types A3, A4. A5.—All terrace house types with whole house heating. Open plans with staircase off living room. Internal stores with access to back garden (and also fuel and dustbin) through the store. The general criticism concerning access, fuel and dustbin made of the D types applies also to this group, only more so, since dustbin and fuel have to be brought not only through the store but through the front hall as well. These three types have no fireplace, but are heated by radiators in the living room only from an independent boiler in the kitchen. The efficiency of this implies stopping the staircase from acting as a flue and whistling all the warm air up into the cold regions. This requires an efficient heating appliance, considerably better thermal insulation in roof and walls than is normal in "low-cost" housing, well-fitting windows on the upper floor and training the tenant to keep windows closed and air-bricks (required by bylaws in all rooms without a flue) well stopped up.*



A3. Areas: store, 77 sq. ft.; house, 847 sq. ft.—3 bedrooms, 5 persons. Better hall and store from point of view of pram and hats and coats but cycle storage will be difficult. Second w.c., since living room is not part of circulation area, is wise provision. Dining space too cramped, involving sliding door and five people at table having to sit facing wall. Living room is poor shape and would be better shape if stair were enclosed with partition. Space lost thereby is at present useless except for circulation. Bedroom 2 is poor shape with bad bulkhead in floor just inside door. Aspect: avoid north entrance.



A4. Areas: store, 69 sq. ft.; house, 825 sq. ft.—3 bedroom, 5 persons. Similar to A3 but no second w.c. downstairs. Door between store and kitchen could be omitted since it wastes valuable space in both. Bedroom 3—bulkhead again under window. Aspect: entrance preferably east.



A5. Areas: store, 64 sq. ft.; house, 720 sq. ft.—2 bedroom, 4 persons. Similar comments as A4 but bulkhead in room space avoided. This plan also shows the uneconomic use of space frequently inherent in the two-bedroom house due to the bedroom floor areas having to be blown up to equal the larger ground floor. The bedrooms here are 23 sq. ft. over minima (for which tenants will be profoundly grateful). Aspect: entrance preferably east.

Types B1, B2.—Terrace house types with semi-open plans, i.e. fireplace (down-burning type grate) in living room, with radiator in dining space from which stairs open off. These are two basically good plans which are

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^{*} The following footnote is appended to the Ministry Circular: "Whole house heating is an innovation in houses of this size in this country. Experimental houses incorporating these facilities have been erected for the Ministry of Fuel and Power and have proved popular with their occupants. New examples based on the type plans mentioned herein are being built by the Coventry City Council. The heating installation is higher in initial, but not in running, costs. The availability of boiler fuel in the area is a factor to be taken into account in considering the adoption of these designs."

likely to prove much more popular with most tenants likely to prove much more popular with most tenants than the A type. The through living room, making the most of all aspects is self-contained and can be certain of adequate heating. The kitchen-dining arrangement is convenient, and the 3 bedroom type, especially, has a good stichen plan. It is possible to find space in the hall and store for hats and coats, pram, cycle, etc., but the basic disadvantage of through access for coalman and dustman remains.

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B1. Areas: store, 71 sq. ft.; house, 826 sq. ft.—3 bedrooms, 5 persons. Good ground floor plan. Is the partition between kitchen and dining room really necessary? If it were sliding doors (as B2) they could be kept open or closed at tenant's discretion. Bedroom one is a bad shape (in spite of 153 sq. ft. area) and it is not easy to see how this can be overcome. The Ministry, by showing two sing'e beds in it, accept it as the second bedroom. Aspect: preferably east-west. Aspect: preferably east-west.



B2. Areas: store, 62 sq. ft.; house, 784 sq. ft.—2 bedroom, 4 persons. Good plan, marred only by narrowness of living room (9 ft. 4 in. for most of its length) and dustbin-fuel arrangement. Extra area of ground floor as compared with first floor obtained by bay window. Aspect: preferably east-west.

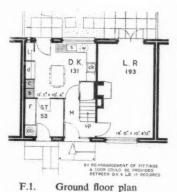
Types F1. F2. F3. F4.—Terrace house plans with internal store at front of house, and access through the house via store and kitchen. Space for fuel, pram and dustbin inside the store. Obviously no local authority (we hope) would build these with the intention that the dustbin should be stood just inside the store (as shown), the kitchen opening off the same store. In practice tenants would keep the dustbin outside, but the store door is right next to the front door. Two solutions offer themselves—a dwarf wall in front of the house (not very nleakant) screening the dustbin. or some means of removpleasant) screening the dustbin, or some means of removing the dustbin and ventilating the compartment from the outside while providing sealed access to the lid from inside the store.



F1. Areas: store, 53 sq. ft.; house, 829 sq. ft.—3 bedrooms, 5 persons. A straightforward plan with reasonably well-shaped rooms (apart from the flue projection in bedroom. The dining-kitchen, which has three doors, could be much improved by putting the door to the store out of the hall instead of out of the kitchen (reducing also distance from fuel to fire), and by handing the kitchen plan so that the cooker and work-top change position with the dresser, larder and cupboards. This would bring the external door to the kitchen to the other side of the sink, and leave a reasonably large working area free of doors. The stair is very cramped at the bottom. Suitable for all aspects. of doors. The stair is Suitable for all aspects.



F2. Areas: store, 51 sq. ft.; house, 706 sq. ft.—2 bedrooms, 4 persons. Similar to F1. The same comments concerning the kitchen apply. As this is a working-kitchen only, a hatch should surely be provided to the living-room, possibly by moving over the fireplace and flue. Here again is a two-bedroom house with the minimum ground floor area only obtained by sticking out a bay window, while the bedroom over is up to 151 sq. ft. Suitable for all aspects.



B. 2. 135 10', 8'/2" x 9' 8" 24. 6.

First floor plan



Ground floor plan



First floor plan

F.3. Ground floor plan



B. 2. 110 B. 3. B.I. 141

F.4. Ground floor plan

First floor plan

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H.1. Ground floor plan



First floor plan



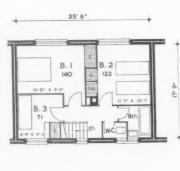
H.2. Ground floor plan



First floor plan



H.3. Ground floor plan



First floor plan



H.4. Ground floor plan



First floor plan



F3. Areas: store, 66 sq. ft.; house, 852 sq. ft.—3 bedrooms, 5 persons. This has a good upstairs plan, with well-shaped rooms, and a good living room, but the staircase, with four small flights, two quarter landings and a set of winders in the middle is rank bad. The position of the winders and the lack of any rhythm in the short flights is dangerous, while furniture moving would be formidable. Suitable for all aspects.



F4. Areas: store, 61 sq. ft.; house, 828 sq. ft.—3 bedrooms, 5 persons. In this plan the external door to the store is omitted, except for a hatch to remove the dustin, and coal therefore has to come through the front hall, which is cramped beyond reason. There is nowhere to put hats and coats except in the living-room or store. Furniture moving would again be very difficult. Suitable for all aspects.

Types H1. H2. H3. H4.—Terrace house plans intended to be used only where secondary access is provided. Internal store at rear of house, with access through the house via hall and store. Fuel and dustbin in back garden. Given access from back and front of the house it should be possible to make better use of the internal space, and in general in these plans this is the case. Kitchen-lining arrangements are better and kitchen working space suffers fewer interruptions from doors.



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H1. Areas: store, 62 sq. ft.; house, 845 sq. ft.—3 bed rooms, 5 persons. Aspect: preferably east-west.



H2. Areas: store, 62 sq. ft.; house, 832 sq. ft.—3 bedrooms, 5 persons. The hall is unpleasantly long and narrow, the stairs splayed at bottom, causing in turn a bite to be taken out of the living-room shape, and the store, owing to door swings, could accommodate neither pram nor cycle. The pram in fact could only go in the living-room. The suggested pairing of recessed front doors is bad from the point of view of privacy. It is done presumably to get the flues back-to-back on the party wall, but this rarely occurs in other plans. Aspect: entrance facing south or west.



H3. Areas: store, 63 sq. ft.; house, 854 sq. ft.—3 bedrooms, 5 persons. One of the best plans, particularly with the suggestion (shown dotted) for a serving hatch through the dresser. Room for pram and cycle in store, and for hats and coats under stair. Working kitchen efficient and tidy without waste space. Living-room well-shaped and well-lit. Bulkhead in third bedroom should be possible to squeeze into cupboard. Aspect: entrance east or north facing.



H4. Areas: store, 61 sq. ft.; house, 737 sq. ft.—3 bedrooms, 4 persons. Basically good plan, similar to H3. This is the only one of the twenty plans showing a house with two small bedrooms. The overall area is only 30 sq. ft. above the average for 2-bedroom houses. It would be a much more suitable house for a family with two children of opposite sex than the 2-bedroom house, and it achieves almost the same economy. Aspect: east or north entrance.

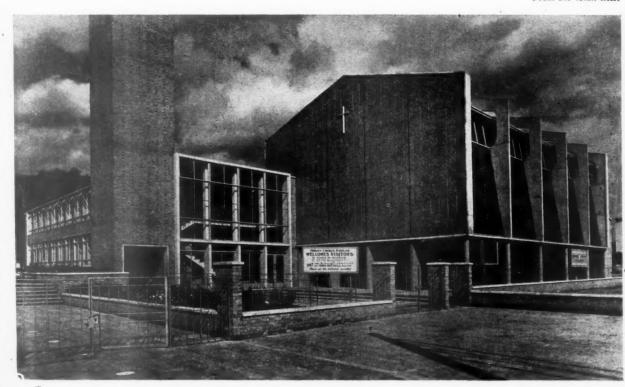
TRINITY CONGREGATIONAL CHURCH

at LANSBURY, POPLAR

designed by CECIL C. HANDISYDE and D. ROGERS STARK assistant architect, R. V. WARD: consulting structural engineer, FELIX SAMUELY: consulting heating engineer, JOHN PORGES

This Church, first illustrated in a partially completed state in the JOURNAL for September 6, is shown in greater detail this week and forms the subject for a discussion between designers and editors on pages 742–746. The Church, on the north side of East India Dock Road, was part of the "Live Architecture Exhibition" of the Festival of Britain and forms part of the Lansbury neighbourhood. The architects were asked to provide, first, a light and airy church to seat a total of about 400, but so arranged that the normal smaller congregation would feel comfortable. Second, an assembly hall, with a stage, to seat about 400. Third, a group of clubrooms and offices. Fourth, a caretaker's flat.

From the south-west.



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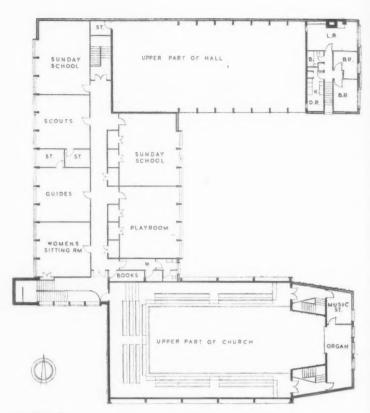
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SITE.-To allow for future road widening the frontage line of the site had to be set back. On the west of the site is a small permanent open space. CHURCH.-Plan. To meet the requirements of both small and large congregations the church has been planned with a gallery round three sides. This gallery has been projected outwards from the lower walls of the church. This gives a feeling of compactness for normal small congregations. Lighting. In the daylighting of the church a light and airy feeling was asked for. As the site is rather noisy it was therefore decided to provide most of the lighting through small dome lights in the roof. Completely unobstructed clerestory windows run along at the top of each of the side walls. The object of these is to reduce any possible effect of glare from the dome lights. The choir area of the church is lighted by deeply louvred windows of amber-coloured glass at high level, which throw light down into the choir and on the Cross and organ grille which dominate the east end. These windows are not visible from the congregation. Small side windows, double glazed on the street side, are used in the ground floor of the church to avoid any feeling of being "shut in." Finishes. Walls in the lower part are of fair faced buff-coloured sand-lime bricks. Gallery walls are panelled in 2-ft. squares of hardboard. At the west end the hardboard is perforated for sound absorption. Choir floor: Hopton Wood stone. Gallery floor: linoleum. CONSTRUCTION .- In situ concrete piles with

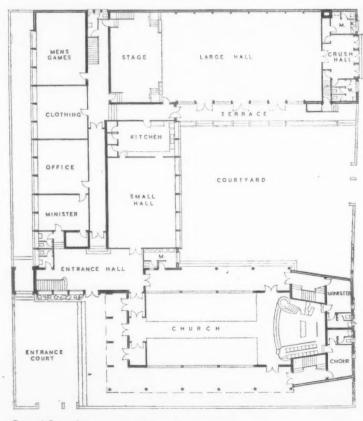
a grid of reinforced-concrete beams on top. The hall and church have external two-hinged concrete frames. Tower: concrete frame and London stock brick. Gable walls of church: precast concrete slabs with textured surface of crushed stock brick. Colonnade: concrete with blue-grey terrazzo facing. Precast panels between ground and first floor windows of the club room block: blue-grey terrazzo. Church roof: sheet copper. Elsewhere roofs are flat, with three-layer roofing felt and stone chippings. Floors: kitchen, buff quarry tile; entrance halls, terrazzo tiles of Hopton Wood aggregate; elesewhere, asphalte composition tiles.

HEATING: There is a boiler house under the assembly hall entrance with two automatically-stoked coal boilers. Church: under-floor panels on ground floor, radiators in gallery. Clubrooms: under-floor panels. Assembly hall: combination of convector radiators with warm air heating.

CONTRACT.—Building time: 16 months. Contract for £61,955, excluding organ, pews, furnishings and curtains. Cost, including piling, is 3s. 9d. per ft. cube. For contractors, etc. see p.754.



First floor plan



Groun i floor plan [Scale: 32" = 1'0"]

WORKING DETAILS

STAIRCASE. STORE IN LONDON, W 1

Architects and Technicians of the John Lewis Partnership, designers: R. H. Pearson, architect-in-charge

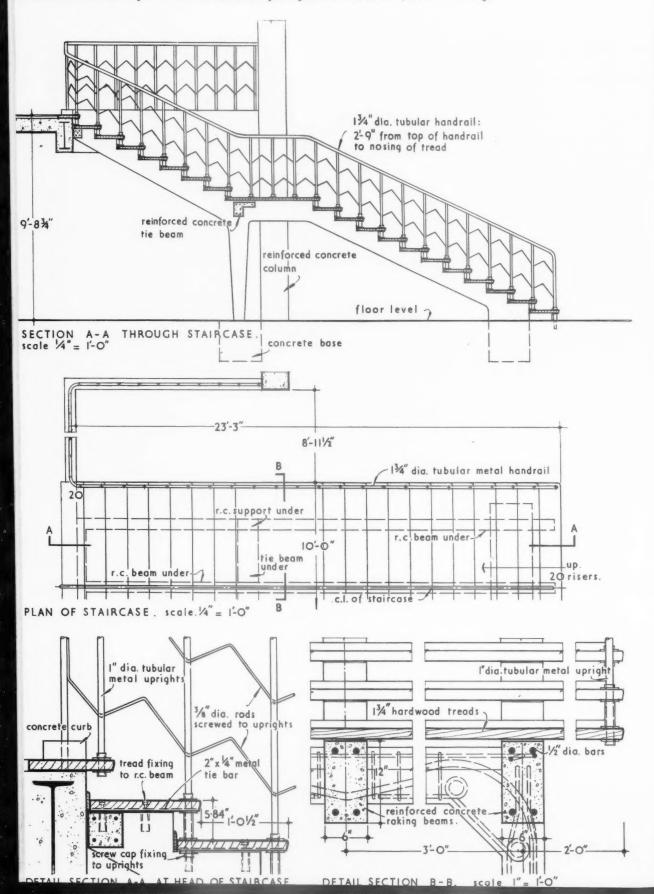
STAIRCASES :



The hardwood treads are carried on three reinforced concrete beams: the balustrade is of tubular steel.

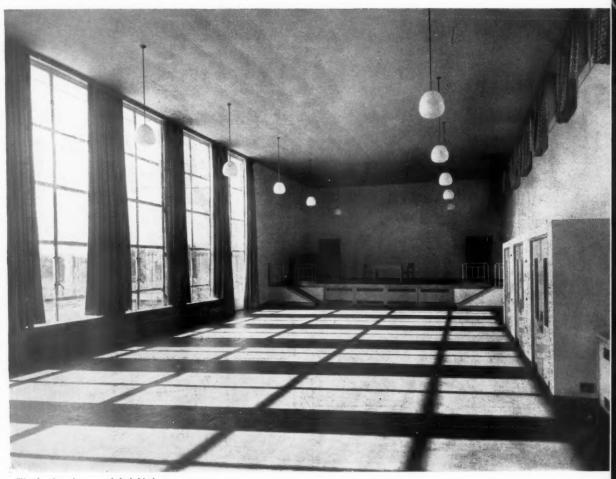
CAIRCASE: STORE IN LONDON, W.I.

rchitects and Technicians of the John Lewis Partnership, designers: R. H. Pearson, architect-in-charge



WORKING DETAILS

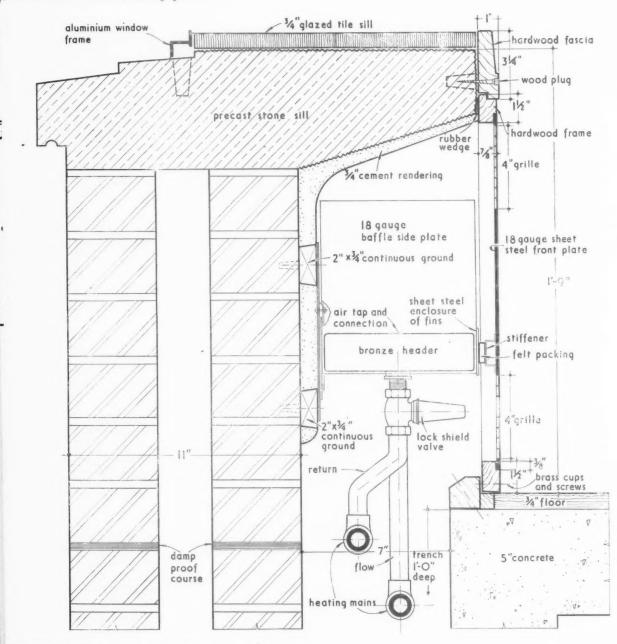
HEATING PANELS: SCHOOL AT LEEDS R. A. H. Livett, Architect to the City of Leeds



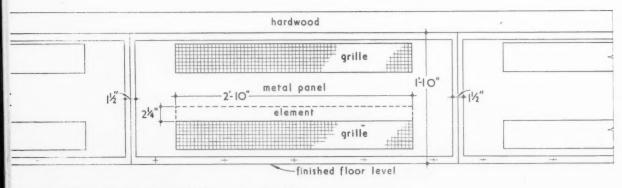
The heating is concealed behind sheet steel panels with narrow horizontal grilles top and bottom.

TEATING PANELS: SCHOOL AT LEEDS

7. A. H. Livett, Architect to the City of Leeds

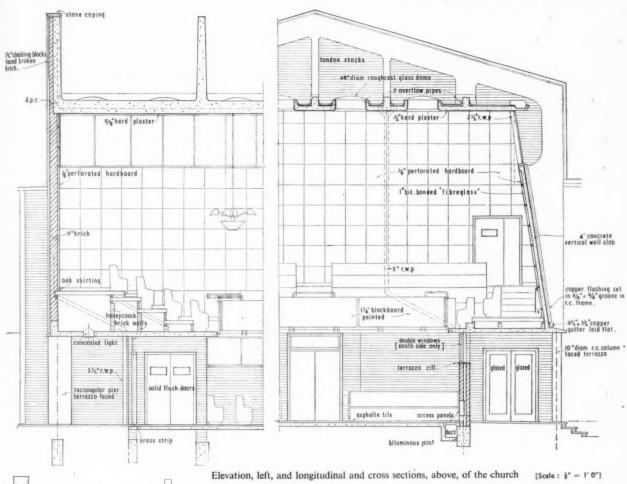


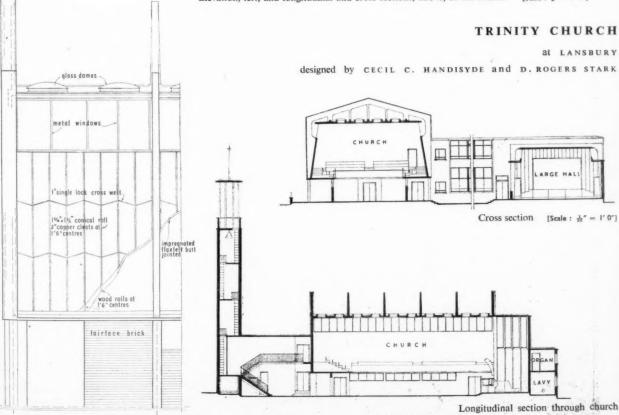
ECTION THROUGH HEATING PANEL. scale 4 full size

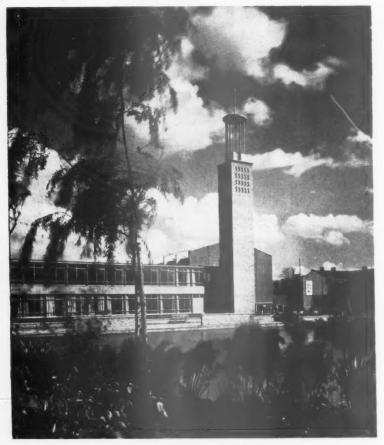


ART ELEVATION OF HEATING PANEL. scale I"=1'-O"

DETAIL SECTION A-A AL MEALL US STATES BUS







Above, the tower and the office and clubroom block from the west. Below, the church from



TRINITY CHURCH. LANSBURY

A discussion between the Editors of the JOURNAL and the Architects, Cecil C. Handisyde, D. Rogers Stark and the Consulting Engineer, Felix Samuely.

EIGHT: I was fascinated, when I first walked round this building by the way in which the tower acts as a focal point to the composition. When one walks past the group of buildings from east to west the simple tower steadily increases in dominance over the intricate outline of the church and eventually, acting as a pivot on which the group revolves, compels the eye to follow round to the club room block. In addition, its solidity emphasizes the glazed wall of the entrance hall which runs between its brick base and the heavily textured west end of the church. It is this combination of dominant vertical and large glazed area which provides me with my first critical point. I felt, when I eventually entered the hall, a slight sense of disappointment. There is the dramatic build-up outside, which stimulates one as one approaches the entrance but once inside there is nothing to support the build-up-it is not an entrance to anything in particular.

ARCHITECT: On the contrary, this is the main entrance to the club rooms which are in use all through the week and are perhaps the hub of the social work undertaken by the church. In addition, it provides a means of entry to the church at first floor level as well as acting as a crush hall for the small hall which opens directly from it.

EIGHT: But couldn't it have been arranged so that this hall became the focal point internally-the core of the group of buildings, as the tower is externally?

ARCHITECT: Don't forget this is a very confined site, due to the road widening scheme. In addition, there would be no point in having the one entrance hall acting for both church and large hall because it should be possible to use the latter independently of the remainder of the building. As the buildings are placed at the moment this is quite practicable. Grouping them round a courtyard, instead of in the cruciform shape you seem to be recommending. means that the maximum amount of unbuilt-on ground is concentrated where it is most wanted-in the courtyard-which acts as service yard and as a car park as well.

EIGHT: I appreciate your point. All that I can reply is that, if this layout is the best, it is a pity that the facade of the entrance hall should be of such a dominant quality-it is very much more impressive than the three doors into the church which are just to the right of it.

ARCHITECT: So it should be. It serves two separate parts of the building-church and clubrooms -on two levels.

EIGHT: Perhaps my sense of disappointment-I hope I'm not exaggerating it by repetitionbecause it is not so very great really-is due to the fact tha long c not thi not car north i space 1 entrane ARCH native. betwee of clu flexibil allow f future ELEVI that th

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fact that right opposite the entrance doors is a rather long corridor lit only by borrowed light. Could not this have been shortened by about one-fifth by not carrying the passage straight through to the north facade and turning the end rooms, to allow space for your second stair opposite the courtyard entrance?

ARCHITECT: I don't think this is a good alternative. The passage acts as an acoustic buffer between stage and clubrooms. To cut into the run of clubrooms with a staircase would limit their flexibility. The structural system adopted does allow for considerable alteration in room sizes at a future date by moving the partition walls.

ELEVEN: I noticed when I last visited the building that there were a few fine cracks in the partition walls. Do you know what is the cause? In one instance the plaster had cracked away slightly from the soffit of a beam and in one of the playrooms there were cracks just beginning to show running from the corner of door frames to the nearest point of the soffit of the beams above. I know this is every architect's nightmare—should one just accept them as inevitable and assume that a certain amount of patching-up will always take place, or can one detail so as to avoid them?

ARCHITECT: You will have noticed that no cracks have appeared downstairs, where the partition walls are of brick. Upstairs, to save money and weight, we used clinker blocks. It is well known that these have a fair amount of moisture movement. During building, when the structure is unheated—open to the winds—and the moisture content of the air high, it is unfortunately true that the blocks can absorb damp and reach a higher moisture content than they will have a few months after the building is finished—when it is weather-tight, fully glazed and heated. It is then that a certain shrinkage takes place causing the cracks which you saw.

ELEVEN: So, short of waiting for the drying-out process to be completed before plastering, you think there is no solution? Cannot the junction of cross walls and frames be detailed so as to allow for movement—behind scenes, so to speak, as takes place in timber panel and frame construction?

ARCHITECT: I believe that if the seriousness of this problem is appreciated in advance something can be done and I am sure it is a thing to which architects ought to give more attention, In this building, the problem was accentuated by the fact that the partition blocks were delivered and fixed during very bad, wet weather, conditions.

TWELVE: While on the question of finishes I noticed that when two different coloured planes of plastered wall met at right angles the painter seemed to have experienced difficulty in keeping a dead straight line at the junction of the contrasting colours. At one point, however—where concrete frame meets wall surface in the entrance hall—you have detailed a V-joint. Doesn't this meet the painter's difficulty? ARCHITECT: That's the trouble with "cleanlined architecture" there are no picture rails for the painter to paint up to. A special detail can be a good idea but it increases cost.

TWELVE: As it makes the painter's job easier, isn't there a case for saying it reduces cost?

ARCHITECT: It makes the plasterer's job more difficult perhaps—or the concrete form-maker's. It

is always easier to find a reason for increasing charges ^than for reducing them.

NINETEEN: The colours of the interior of the church are largely derived from the natural colour of the materials—oak, buff-coloured sand-lime bricks and hardboard. There is only one strongly contrasting colour: the turquoise blue of the ceiling. After spending some time in the church I felt the need for another contrasting colour—a red or a green to contrast with the greys and yellow-browns.



Above, the large hall from the courtyard. Below, the window and staircase in the entrance hall.



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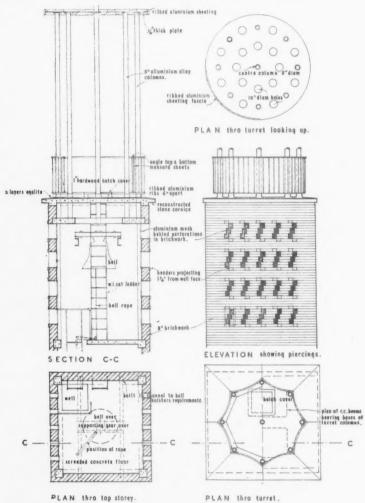
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TRINITY CHURCH

at LANSBURY

designed by CECIL C. HANDISYDE and D. ROGERS STARK



Details of the tower [Scale: \\ \frac{1}{2} = 1' 0"]



Left, the west end and right, the east end of the church.

ARCHITECT: This does not seem to be a general view. In fact the are also bright yellows in the leather chairs to the Communion Table and in the light fittings. Also there are blue ends to the pews and a maroon panel on the east wall.

NINETEEN: All three sides of the church gallery are covered with hardboard. On the south wal^l there is a pattern of different coloured boards. Is there a reason for this ?

ARCHITECT: This was due to variation of colour in the boards over a period of time as they were applied. If we had known at the beginning that there would have been this variation we would have mixed the boards deliberately.

NINETEEN: The variety of texture and pattern on the exterior is fascinating. Particularly good for liveliness of surface is the brickwork pattern of three stretchers to one header of a darker brick. I would



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like your views on one small point of detail. Your window cills do not turn up at the outside edges. Will not the lack of this turn-up cause staining at the junction of cill and wall?

ARCHITECT: Fundamentally I agree, but that type of staining is not got with concrete and stock bricks. But Portland stone and red brick will, in conjunction, do just what you mention.

TWELVE: In conclusion, I would like to know your reasons for the structural system you adopted. If you were trying to get continuous clerestory lighting, the structural frames would have to be external and well clear of the window. But why did you not carry your frame straight to the ground? Why did you introduce round columns below the gallery level? Are the brick walls used to ensure lateral stability? I note that you describe the

concrete frames as two-hinged. Are these, in fact, hinges? Putting the frames externally enables you to obtain a wonderfully simple and clear interior shape to the church—but are the sloping walls essential structurally, or has the slope been selected on æsthetic grounds alone?

ARCHITECT: The sloping side walls of the church were not essential and were included in the original sketch designs because we liked them. The frames were not carried to the ground because the most sensible arrangement seemed to be to transfer thrusts through the gallery floor slab to the end walls. Changing to the circular pre-cast columns at low level justified a change in material from the rough texture of the upper concrete frames, seen at a distance, to the smooth texture of the terrazzo faced columns seen at close quarters.







The large hall, top, looking towards the stage. Left, the same view with the blinds and curtains drawn. Extreme left, looking towards the rear of the hall showing the fibreboard sheets at varying angles to avoid cross sound reverberation.

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Section through large hall [Scale: $\xi'' = 1'0''$]

ENGINEER: On the question of the two-hinged frame. There are no actual hinges, but the fact that the structure is relatively weak at one point—where the frames join the gallery slab—causes, in effect, a hinge. If the frames had been carried down to the ground they would have been of a considerable size. As the architect did not want large columns in the colonnade it seemed reasonable to tie the frames to the gallery floor slab and allow the columns below the floor slab to carry the dead load only. This

allowed them to have a slender section.

NINETEEN: It is not easy to appreciate from the photographs alone the quiet, spiritual quality which the interior of this church has. Church, or rather, cathedral design has been very much in the news recently. I'm sure all of us agree that in a gentle but effective way this design contributes a great deal to the little we know about contemporary ecclesiastical design and all architects would benefit from a study of it.

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INFORMATION CENTRE : INFORMATION SHEETS
QUESTIONS AND ANSWERS : CURRENT TECHNIQUE
THE INDUSTRY : PRICES : TECHNICAL ARTICLES

TECHNICAL SECTION

The experimental building in Poland, described below, was designed to test a number of constructional elements (mainly of pre-cast concrete), heating and ventilation systems and sound insulation properties. The buildings are now completed and it is hoped that early next year we shall be able to report the results of some of the tests.

EXPERIMENTAL BUILDING IN POLAND*

Poland's present 6-year plan, due to terminate in 1955, provides for the construction of 723,000 dwellings. Moreover, the quality of dwellings and the equipment in them is to be improved. This output will be achieved only if productivity is increased. The plan provides for an increase in productivity from 1949 to 1955 of 86 per cent. This can be achieved only if the maximum use is made of mechanization, new materials and new systems of construction.

The Institute of Structural Technique was,

The Institute of Structural Technique was, therefore, called upon by the government to build experimental buildings. This was done in collaboration with the Association for Workers' Settlements (ZOR), which is the main investor in domestic building in Poland. A site in Mlynow was selected and a settlement is now under construction. A joint commission was appointed to outline the programme of experiments, and it was decided to carry out:

(a) Experiments with prefabricated

elements.

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(b) Experiments with elements made of gruzobeton. (This is a form of rough concrete, composed of broken rubble from demolished houses and cement—trans.)

(c) Experiments concerning the thermal conductivity of outside walls and the use, in this connection, of various types of hollow blocks.

(d) Experiments concerning the acoustic properties of floors and party-walls.

(e) Experiments concerning new systems of central heating and variables.

of central heating and ventilation.

(f) Observation of costs of the application of various constructional systems for walls, floors, party-walls, stairs, etc.

It was decided to test the various methods

walls, floors, party-walls, stairs, etc.

It was decided to test the various methods of construction twice—first, during construction and, secondly, after completion. The tests which are taking place during construction consist mainly of test-loading the elements and structural systems used. These

tests are not carried out on the experimental buildings themselves but they do take place on the same site, so as to ensure similar conditions. The various assembly processes, and the different systems of prefabricated floors, walls, etc., are all timed. During the construction, the acoustical properties of the various insulating materials being used are tested.

The investigation, which will take place about one year after completion, is intended to ascertain the behaviour of walls, floors, roofs, etc. It will be confined mainly to the study of drying out, thermal insulation, and climatic conditions. During further periods of study, special attention will be paid to the appearance of cracks, to movement produced by thermal expansion, and to other phenomena which usually make their appearance after a lapse of time.

ance after a lapse of time.
Further long-term experiments will be carried out to test the efficiency of the central-heating installations. The Institute of Structural Technique, with the co-operation of the Institute of Electro-Acoustics, will be responsible for this work. The results obtained will be published as the work proceeds, and when it has been completed a monograph will be written.

The building on which the experiments are being carried out is a normal ZOR block of flats four storeys tall with a cubic content.

The building on which the experiments are being carried out is a normal ZOR block of flats, four storeys tall, with a cubic content of 9,600 cu. m. It contains 43 flats, of which 24 are three-roomed, the remaining 19 having two rooms. The length of the block is 55 m. Below is a description of the various types of walls, floors, stairs and central-heating systems which have been introduced into the experimental building.

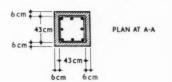
EXPERIMENTS WITH STRUCTURAL ELEMENTS

(i) Foundations. The site on which the building is constructed was occupied previously by a building containing a great deal of acid. During the demolition (by bombardment), this acid penetrated deeply into the soil, within a radius of about 10 m. and to a great depth. The reinforced concrete piles and footings of the new building are lined on all sides, therefore, with engineering bricks, set in bituminous mortar, in order to protect them from the action of the acid (see Fig. 1). In addition, broken lime was mixed with the in-filling earth, to form a protective layer. During the construction, laboratory tests were carried out, in addition to timing the work.

(ii) Basement walls. These were built as beams, 55 cm. wide and 150 cm. high, spanning from one concrete pile to another; thus forming lintels on which the brickwork of the superstructure is supported. These lintels are built of reinforced gruzobeton. They have no expansion joints in the whole length of the building. The experiment is intended to show the effects of thermal expansion on a monolithic reinforced gruzoconcrete wall. In order to study the shrinkage-cracks, the inside is rendered and whitewashed. A new system of shuttering for concrete walls was investigated during this part of the work, in addition to timing the various operations.

(iii) Damp-proof course. This consists of a layer, 2 mm. thick, of broken window glass, sandwiched between two layers of 1:3

(iv) Outside walls. The ground-floor walls, 55 cm. thick, consist of hollow blocks made of gruzo-concrete, of the "Muranow" type. (See Fig. 2.) These hollow blocks are of two sizes—27 × 27 × 13 cm., and 27 ×



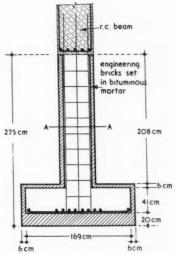
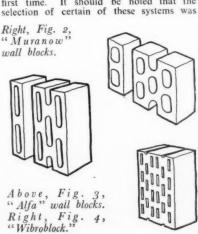


Fig. 1, Foundations encased in engineering bricks in bituminous mortar.

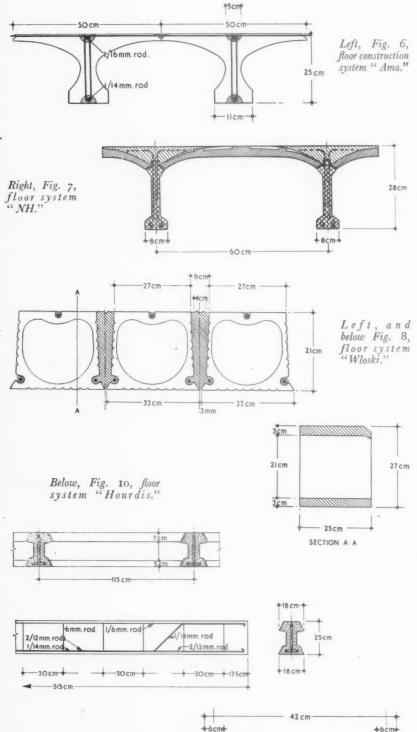
13 × 13 cm. These walls have no cavity, but are of solid construction. The walls of the first floor are 45 cm. thick, with a 6 cm. cavity. "Muranow" blocks have been used in Warsaw, but exact timing, laboratory tests on resistance and thermal study are being made here for the first time. The walls of the second floor are of hollow blocks of the "Alfa" type, with a wall thickness of 39 cm.; these blocks being 49 × 25 × 24 cm. (See Fig. 3.) In this case, the cavity is 4 cm. The weight of each block is 41 kg. The third-floor walls are 39 cm. thick, with a 6 cm. cavity, and are built of hollow gruzo-concrete blocks of the "Wibroblock" type, 30 × 20 × 16 cm. (see Fig. 4) with an inner skin half a block thick. All these blocks are to be tested for stability, cost, and thermal conductivity; the aim of the tests being to ascertain the most suitable type of construction for external walls.

most suitable type of construction for external walls.

(v) Floor slabs.—Each floor of the building consists of several types of prefabricated floor, of which "D.M.S." and "N.H." have been used before, although several systems, such as "Wloski," "Mixed Hourdis" and "Z.P.I." are being used for the first time. It should be noted that the



"This article is an abridged translation of an article in the Polish journal Inzyniera I Budownictwo by W. Srokowski, entitled "Experimental Construction at Mijnow." We are indebted to the British Polish Friendship Society for the translation. N.B. dimensions throughout are given in the metric system; to convert approximately: 1 m. = 3 ft. 4 in., 1 cm. = \(\frac{2}{5} \) in., 1 mm. = \(\frac{2}{5} \) in.



Right, Fig. 11, floor system "Z.P.I."

25 cm

39 cm

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10cm 5mm

motivated by the desire to experiment with motivated by the desire to experiment win ceiling heating. All these floors are repeated one above the other through the whole height of the building. The "Ama" type slab (Figs. 5 and 6) was built over the basement. It consists of small prefabricated



elements of gruzo-concrete, $25 \times 50 \times 25$ cm. built in the shape of a "T"; four such elements added to each other constitute 1-m, run of beam. The preparation of such beams to the required length is carried out on the site, the blocks having channels formed in them into which reinforcements can be grouted with cement to form rigid beams. The beams are then transported in one piece to the place of erection. They are reinforced, in this case, with one 14-mm. rod at the bottom, a 16-mm. rod at the top centre, and a 12-mm. bar at the joint with the next block. Costing, timing, and testloading is being carried out.

loading is being carried out.

Another portion of the slab over the basement is carried out on the "N.H." system (Fig. 7), where beams of prefabricated reinforced concrete are brought from the factory, together with shells which span between them and form permanent shuttering for the floor. In this case, only the timing is being studied, since other factors are already known.

In the superstructure, several types of

In the superstructure, several types of slab were experimented with—firstly, the "Wloski" system, (Fig. 8). This is similar to the "Ama" system described above, in that small elements (Fig. 9), composed of





gruzo-concrete, are added end-to-end to form a beam, with reinforcement grouted into prepared channels (the grout being of 1:2 cement). It is important that this should be done on a wooden base, to avoid unevenness, This system has the great advantage that no shuttering is required.
In the "Ackermann" system, the hollow

In the "Ackermann" system, the hollow blocks are made in gruzo-concrete on vibrating tables in the factory, their size being 30 × 18 cm., and their weight, 18 kg. The slab of the "Mixed Hourdis" type consists of reinforced-concrete prefabricated beams of double "T" section, spaced at 1-m. 15-m centers with an infilling of lower and cm. centres, with an infilling of lower and upper slabs; the lower of concrete, and the upper of ceramic (Fig. 10). This type of slab was used in connection with ceiling heating experiments of the Italian type—"Rischeldimenti." The heating coil is placed inside the air-space resting on the lower slab, which is 5 cm. thick, and is pre-fabricated. The assembly of the heating coil is undertaken after the erection of the lower slabs, but before the ceramic slabs are

placed into position.

The "Z.P.I." slab, designed by the State Institute of Prefabrication, is composed of

Institute of Prefabrication, is composed of prefabricated concrete beams and hollow gruzo-concrete blocks, fixed between the beams (Fig. 11), the spaces being filled with concrete poured from above.

The "Z.P.I. Special" type of slab is similar to that described above, but the prefabricated beams have a built-in pipe of steel at the bottom as part of their reinforcement.

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This pipe is used for central heating. Be-tween the beams hollow blocks are fixed as above, but where one pipe and another have to cross, a smaller block is used, and the cross pipe is then concreted in. This type of construction requires very precise work-manship, since the functioning of the central heating depends on levels being exactly as

The use of all these slabs, as well as the "D.M.S." type, which "D.M.S." type, which was introduced specially to test its acoustic properties, have been investigated for two reasons—first, to observe the transport and assembly of prefabricated materials; second, to test the stability of separate beams as well as entire floor-slabs,

(vi) Roofs.-Roofing is of prefabricated reinforced concrete beams with an infilling of "Hourdi" ceramic slabs (Fig. 12). The roofs are being tested in the same way as the floors. Originally it was decided to test also various types of waterproof covering, but due to some delay, this idea has been postponed for this winter and the roof has been covered temporarily with one layer of bitu-

minous felt.

(vii) Stairs.—Two types of staircase are being investigated; the first, a "Hadjo" prefabricated concrete staircase. This is composed of three elements—landing beams, landing slabs, and narrow elements consisting of treads and risers in one piece, which can be assembled to the desired width (see Fig. 13). The "Z.O.R." staircase (see Fig. 14) consists of "L"-shaped concrete stringer beams, individual steps spanning between them, and prefabricated landing beams. The landings are designed as normal "D.M.S." slabs.

(viii) Party-walls.—The majority of party walls are built in ordinary bricks and minous felt.

walls are built in ordinary bricks and trocinowka (this appears to be a brick containing wood-shavings—trans.). To a height of 1 m. 20 cm, above the floor, the partywalls are in ordinary brickwork; above this the trocinowka bricks are used. The wood-shavings in the bricks facilitate the The making of chases, nailing, etc. Eight party walls are being studied; they are each con-structed differently.

(g) As above, but quarter-brick thick.
(h) Ordinary bricks, lined both sides with

soft insulating board.

4-92 m 5-22 m in situ screed 2/6mm rods 22cm 6mm. stirrups 1./22 mm. rod 102 - 104cm

Where the party-walls meet the floors, they are insulated at top and bottom with bitu-minous jute. These experiments are being carried out mainly to test the acoustics, but the rate of construction and the walls' sta-

bility is also considered.
(ix) Windows.—In the basement, a prefabricated reinforced concrete window is used. This is composed of a frame and a sash, opening outwards to an angle of 50° or removable from the inside. The operation of these windows is to be observed for a considerable length of time, and if they prove to be a success, all basement windows will be made of concrete in future, in order to economize in timber.

HEATING AND VENTILATION

Central heating is by means of accelerated hot-water systems, but, in parts of the build-

ring, ceiling heating is installed.

Four principal systems have been used. In the first, a coil of pipe is suspended from the ceiling, covered with expanded metal and plastered to provide a flush ceiling. In this case, the height of the room is decreased by about 6 cm.

In the second system, the pipes are used as reinforcement and it will be necessary to

Fig. 12, roof system using "Hourdi" ceramic slabs.

test the efficiency of this arrangement. it proves to be successful, a considerable economy in the use of steel is to be expected.

The third system is similar to the first, except that the pattern of the pipe-coils is

different. In the "Rischeldimenti," the Italian system, the pipe coils lie within the thickness of the floor slab, between the beams; the coils are closely spaced, at about 15-cm. centres, and, when the "Hourdi" floor system is used, they lie on the top of the lower slabs.
The new Polish building regulations no

longer insist that each room should have a ventilation flue carried to a stack. In most rooms of the experimental flats a ventilator is placed above the window, with air intake under it. These ventilators are made

intake under it. These ventilators are made of galvanized steel in the shape of a drawer. The rate of air intake is hand-regulated. Experiments have been carried out also with sinks and baths made of reinforced concrete covered with a glaze; if these prove successful, it is proposed to produce them on a large scale.

and measurements consist of investigations and measurements being carried out on party-walls, slabs, and plumbing installations. The following materials are being investigated from the point of view of their acoustic properties: glass-wool, peat as an infilling, slabs of compressed peat 3 cm. thick, slabs of wood shavings and plaster cm. thick, slabs of wood shavings and plaster 3 cm. thick, proprietary slabs of various thicknesses, soft building-board slabs, 1 cm. and 1.2 cm. thick, slabs of glass-wool, 1 cm. thick, ordinary tarred felt, bituminous jute, 0.3 cm, thick, and slabs of wood-shavings and cement, 3 cm. thick. With the exception of one of the proprietary slabs, all these materials are produced in Poland materials are produced in Poland.

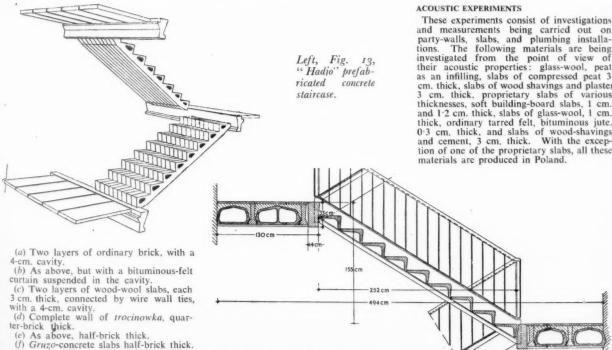
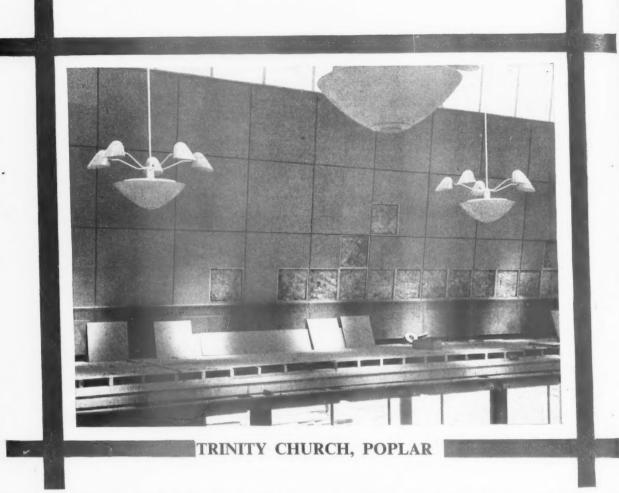


Fig. 14, "Z.O.R." staircase, with landings of "D.M.S." slabs.



Bitumen-bonded 'Fibreglass' 1 in. thick was used on the side and end walls of the gallery of the Church. Its primary purpose was to provide adequate heat insulation. In addition a certain amount of sound absorption was required inside the Church and the 'Fibreglass' assists in giving this. The walls are divided up by wooden battens into 2 ft. squares and faced internally with untreated hardboard. The hardboard on the side walls is the normal type but on the west wall of the Church alternate 2 ft. squares are of the perforated type. The hardboard itself in these panels gives a

certain degree of sound absorption. The addition of 'Fibreglass' behind increases the absorption.

The 'Fibreglass' was cut into squares and fixed in position by stringing small builders' laths between the wood battening. Later it was found quicker and easier to fix the 'Fibreglass' by sticking it on to three or four dabs of bitumen on the concrete wall.

'Fibreglass' was also used in the Assembly Hall on the rear wall. In this case it was used only for acoustical purposes and here it was covered throughout with perforated hardboard.

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The carried floor is joists—strips (will be or sla Where dernea a 2-c-t slabs v. In two as a fl tion.

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The acoustic insulation of slabs will be floor is provided (ordinary boarded floor on joists—trans.), the joists will be laid on strips of insulation. Between the joist there will be an infilling of glass-wool or peat, or slabs of wood-shavings and plaster. Wherever the finish is terra cotta tiles, un-derneath this finish will be a peat slab, with a 2-cm. cement screed. In other cases, wood-shavings, plaster slabs or proprietary slabs will be used, with a layer of tarred felt. In two flats proprietary slabs will be used as a floor finish as well as providing insulation. They will be laid directly on the concrete, on a screed. To reduce resonance 2-cm. cement screed. In other cases,

and vibrations, the bottom of the hollow spaces in some floors is to be covered with glass-wool to a thickness of 3 cm.

Acoustic insulation of party walls has been described above; the importance of this experiment need hardly be stressed in view of the fact that the sound conductivity of party walls is universally recognized as one of the principal objections to life in flats.

As far as the insulation of the plumbing is

concerned, experiments will test the effects of surrounding the pipes in walls and floors with bituminous jute and the insulation, by means of the same material, of w.c. cisterns and their brackets. All the acoustic tests will be carried out in two stages; first, immediately on completion of the construction, without plaster or flooring; secondly, after the occupation of the building.

In determining the programme of experiments, concerning building elements, as well as installations and acoustics, it was necessary to adhere firmly to the principle of avoiding experiments which could cause discomfort or inconvenience to the future tenants. This led to the rejection of certain experiments, which were originally proposed. Care for the future tenants also led to the installation of ordinary central heating in those flats where ceiling heating is installed, in case the latter should not prove satisfac-

A digest of current information prepared by independent specialists; printed so that readers may cut out items for filing and paste them up in classified order.

INFORMATION CENTRE

2.119 planning: general ORDNANCE SURVEY MAPS

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The Projection for Ordnance Survey Maps and Plans and the National Reference Sys-tem. (HMSO, 1951. 1s. 3d.)

In this pamphlet two slight changes which have recently been made in the method of giving grid references are described. changes have been made in order to bring the civil and military methods of giving grid references into exact accord.

Hitherto, according to the national reference system 100 km. squares have been referred to by numbers, e.g., square 51 (the well-known standard example). In the new method, letters are substituted for numbers, and square 51 becomes square TO. For e.g., square 51 becomes square TQ. For some years, the Ordnance Survey will publish maps showing both the numbers and the letters, but, in due course, the numbers, which are now obsolete, will be omitted.

The other change is the omission of the oblique stroke used in the full grid references to isolate self-contained groups of easting and northing figures. In the system now to be adopted the oblique stroke is omitted and the figures are restrated as that all certifies. the figures are rearranged so that all easting figures are given first, followed by an equal number of northing figures.

Thus, the Full Ten Metre reference, which was formerly 51/3877/9306 now becomes

TQ 38937706.

The text of the pamphlet is accompanied by explanatory diagrams, showing examples of references to different scales, and a diagram showing the letters for the full range of 100 kilometre squares.

A short explanation is also given of the

method of national map projection now in

9.21 design : general

BUILDING ENCYCLOPÆDIA

A Concise Building Encyclopaedia. T. Corkhill. (Pitman, 3rd Edition, 1951. 20s.) The usefulness of any technical dictionary or encyclopædia depends on its complete-This publication covers a mass of building terms, including many which are

little known, and the explanations in it of newly-introduced words are fairly good. However, it is not by any means complete, for a trial shot of six unlikely words resulted in finding only three. It is doubtful whether it is wise to try to cover trade names. Some words are given rather curious explanations, e.g., Orlit is defined as "a prefabricated concrete house." However, this is followed by explanations of Oro, Orodo, Oroide, Orpiment and Orthoclase, which most people would find difficult to define without the aid of a dictionary. 365 pages, some illustrations.

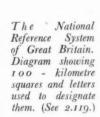
9.22 design: general

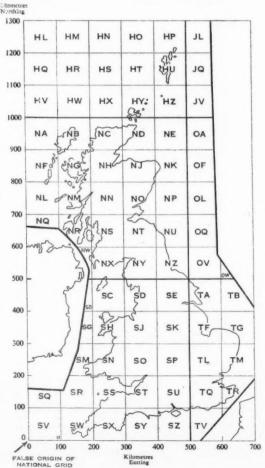
GENERAL INFORMATION

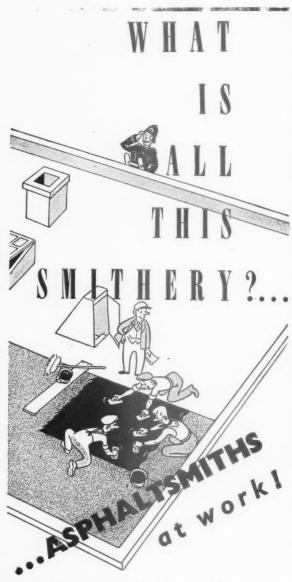
Architectural Graphic Standards. C. G. Ramsey and Harold R. Sleeper. (man & Hall, 4th Edition, 1951. 80s.) Charles (Chap-

Fourth edition of well-known information book. Many plates revised and 368 new ones added; total now 566. Good indexing system

This American collection of information sheets is too well known to need much description. Its use in a British office must, inevitably, be limited because a good deal of the information is not applicable. It is also questionable whether a mixture of funalso questionable whether a mixture of fundamental information, semi-constructional details and sheets giving standard sizes of manufactured components is really the easiest form of providing good reference data, for a book of this size becomes heavy and cumbersome to use. On the other hand, a bound volume certainly has some advantages over a loose leaf collection of information sheets which are ant to be detached tion sheets which are apt to be detached for use and then lost, Four pounds seems too high a price to make it an attractive buy in this country however indespensable it may be to American architects.







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9.23 design: general PREFABRICATION

The Prefabrication of Houses. (Chapman & Hall. 1951. 60s.) B. Kelly.

460 pp. History and review of American house prefabrication. Some illustrations.

This lengthy book gives a good picture of the history of the prefabrication of houses and the methods used in the USA. As director of the Albert Farwell Bemis Foundation, the author had the advantage of access to the early information collected by Bemis. The book is divided into three parts; the first gives a fairly brief history of the house prefabrication movement, a summary of its present state and some views as to its future. The bulk of the book is in part II, which deals factually with management, design, procurement, production and marketing, while part III consists of appendices.

This is a book which will be of interest

only to the serious student of prefabrication and, even then, it will be of somewhat limited value outside the USA, for it does not cover certain interesting European developments. Within its limits, it appears to be a thorough and careful study, though there are too many illustrations of completed houses and too few details showing construction methods.

12.53 materials : metal

STEEL TUBES

Steel Tubes for Mechanical, Structural and General Engineering Purposes. BS 1775: 1951. (British Standards Institution. 3s.)

This standard is the third of a series for steel tubes for general engineering purposes, previous publications being BS 980 and BS 1717, covering steel tubes for automobile, cycle and motor cycle purposes. The standard does not cover the use of tubes for purposes involving high pressure.

Six types of plain carbon steel tubes not exceeding 16 in. outside diameter are specified and code letters are used for ease of

reference as follows:
Hot finished welded (H F W). Hot finished seamless (HFS). Cold drawn seamless (CDS).

Electric resistance butt-welded (E R W). Cold drawn electric resistance butt-welded

Oxy-acetylene butt-welded (O A W).

Types HFW, HFS, CDS and O A W
are specified in four grades—11, 13, 15 and
20, the numbers indicating the minimum
yield strength. Types ER W are specified in
grades 11, 15 and 20 and types CEW are
specified in grades 11, 15, 24 and 28.
Included in part I of the standard is a
number of general clauses amplicable to all

Included in part I of the standard is a number of general clauses applicable to all types of tubes, dealing with such matters as material, straightness, lengths, galvanizing, methods of test and inspection. Six sections follow, each covering a different type of tube and specifying tolerances and mechanical properties. Two tables of standard sizes for HFW and HFS tubes are included and a table of design properties applicable to both. table of design properties applicable to both.

12.54 materials: metal ALUMINIUM

Wrought Aluminium and Aluminium Alloys
—Plate. BS 1477:1951. (British Standards Institution, 5s.)

This completes the series of British Standards for wrought aluminium and aluminium alloys. It covers three purities of aluminium and six alloys used for general engineering purposes in plate form. In each case, chemical composition, condition and mechanical properties are specified. General clauses cover freedom from defects,

tolerances, provision of test pieces and mechanical tests. An appendix gives information on heat treatment. In view of the rapid development of the use of aluminium, this, and other standards of the series, will be reviewed in two years time.

13.79 materials: timber MATCHBOARDED DOORS

Matchboarded Doors. BS 459: Part 4:1951. (British Standards Institution. 4s.)

Standard sizes of doors and components. Construction, etc. Diagrams of ledged and braced, and framed and braced doors.

It is difficult to see why anyone should need a standard for doors of this type, but, presumably, there is a demand, and for those who need it this BS gives, for 2s., all that is required.

16.78 materials: miscellaneous PLASTICS

Plastics and Building. E. F. MacTaggart and H. H. Chambers. (Pitman. 1951. 60s.) General account of chemistry and manu-

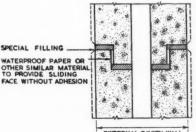
facture of plastics, including adhesives. This is a book which will appeal only to members of the architectural profession who are particularly interested in plastics. Though excellent in many respects and notably so in its explanation of the chemistry of plastics, it is much too long and much too expensive to be of use to architects in general and a great deal could have been omitted without loss to most architects and builders.

17.81 construction: general

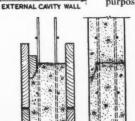
FIRE RESEARCH

Fire Research, 1950. Report of the Fire Research Board. (HMSO, 1951. 2s. 6d.) General report on fire research. Short section on fire risks in domestic buildings is of chief interest.

This report contains some statistical information on the number of fires which occurred, their incidence in various types of buildings and their causes. Apart from these figures, most of the report deals with matters which are not of direct interest to architects, but there is one short section on the



Dense concrete walls. Above, typical detail of expansion joint. Right, construction (Use of fillet joints. secured to formwork to obtain a straight joint in wall.) See 19.137.



FLUSH JOINT FILLET REMOVED WHEN UPPER LIFT IS POURED

structural aspect of fires in buildings which is very important. Most of this section is very important. consists of a description of full-scale tests which were carried out on two houses of non-traditional construction. The high fire risk involved by the use of unprotected fibre board is demonstrated clearly. There is also a reference to a test on wood shingle roofing and some useful data are given on the effect of the size of wood joists on their resistance

17.82 construction: general CARPENTRY AND JOINERY

Carpentry and Joinery (Intermediate). Bridgwood. (George Newnes Ltd. 1951

Practical work intended for the craftsman rather than the designer. Contains some details not found easily elsewhere. illustrated by diagrams and photographs.

19.137 construction: details

CONCRETE WALLS

Dense Concrete Walls. BS C of P. 123.101. (British Standards Institution, 1951. 4s.)

General information but does not describe method of design for specific loadings. Moderately useful.

This Code contains a large number of references to other Codes which make it difficult to use on its own. Much of the information in it appears to apply to the use of concrete for the walls of small domestic buildings and there are some useful details for damp-proof courses, window heads, chimney stacks in party walls, expansion joints, etc. There is also a great deal of extremely

elementary text.

Some useful notes on surface finishes are included, but it is doubtful whether these go into sufficient detail; moreover, without illustrations, these are of little practical

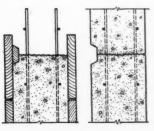
The emphasis placed on the need to supply contractors with detail drawings of form-work will come as a shock to many in whose offices such information is seldom given at

20.209 construction: complete structures

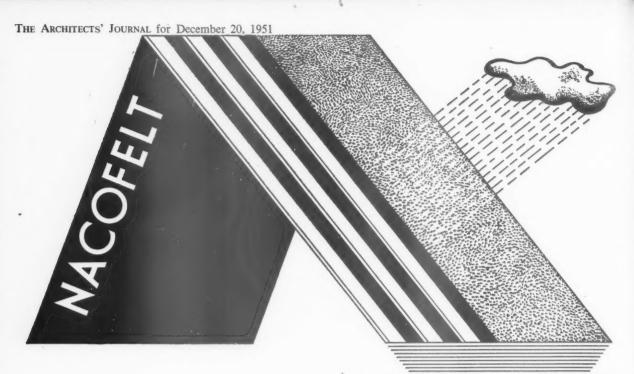
CONCRETE, REINFORCED CONCRETE AND PRESTRESSED CONCRETE

Concrete Structures of the 1951 Exhibition. (Festival Concrete Quarterly Aug.-Oct., 1951. Cement & Concrete Association.)

Review of concrete structures at South Bank and Cambridge, including the river wall and the prestressed footbridge at the South Bank and the farm buildings at Cambridge. Sculpture in concrete is described in detail, together with some comments from the sculptors on the use of concrete for this purpose.



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23.154 heating and ventilation

HEAT LOSSES IN HOUSES

Heat Loss from Dwellings. BRS Digest No. 35. (HMSO, Oct., 1951. 3d.)

Summary of information on heat loss from houses. Useful simplified calculations and examples showing the value of insulation applied in different ways.

In spite of all that has been written and said in recent years on the subject of heat conservation, and in spite, also, of all the recommendations made by high-level committees, there is little doubt that in the construction of new houses insufficient attention is paid to thermal insulation. Moreover, the improvement of existing buildings is seldom attempted. To some extent, this is due, undoubtedly, to economy in first cost being given more consideration than either comfort. or long-term economy. At the same time, it is probably true that in many cases the ways in which heat loss can be prevented most economically have not been understood, and, indeed, some confusion may well have arisen for the very reason that too much has been published on the subject. The basic facts have become obscured by the mass of data. It is for this reason that BRS Digest No. 35

economy in expenditure may already be restricting the amounts used. But, in this case, there will be a valuable increase in heating standards without a corresponding increase in fuel consumption.

This is a valuable document. It should be nailed to the office door of every local authority's housing committee. The principles embodied in it should be part of every architect's basic knowledge.

26.96 services and equipment: miscellaneous GAS FIRED BOILERS

Installation of Gas-fired Boilers for Central Heating by Hot Water. BS C of P 332.303: 1951. General Series. (British Standards Institution. 3s.)

Code dealing with the installation of gasfired boilers for the space heating of buildings by hot water, and the supply of domestic hot water where this is combined with it.

The code commences with a reterence to the other codes which should be studied in connection with it. This is followed by definitions of technical terms used in the code. Then there is a note on the exchange of information, by drawings or otherwise, between all those engaged on the work, and a note on the preparation of time schedules. Subjects covered in the main body of the Subjects covered in the main body of the code are: Selection of a boiler of suitable size for the

The code commences with a reference to

Selection of a boiler of suitable size for the heat requirements of the building; provision of combined supply of domestic hot water with central heating, including provision to secure the continuity of supply and to isolate the heating system when not required; site requirements; venting and ventilation, including the provision of sufficient space to ensure proper accessibility. to ensure proper accessibility; fire precau-tions; gas supply; governors; automatic con-trols, including automatic safety controls, flow temperature control, room temperature control, anticipator control and time control. Further sections deal with work off site, including package and storage, work on site including erection, inspection, testing and maintenance. On the last pages are shown in diagrammatic form typical installations various sizes.

26.97 services and equipment : miscellaneous FIRE EXTINGUISHERS

Portable Fire Extinguishers of the Carbon Tetrachloride Type. BS 1721:1951. (British Standards Institution. 4s.)

Revised specification, formerly included in BS 740.

A useful piece of standardization the details of which will not interest the architect so much as the fact that the existence of a

much as the fact that the existence of a standard should ensure quality. It would be useful if some indication of overall sizes could be given. These would be a great help to the architect when he is arranging for the location of fixings. It seems remarkable that there need be four separate British Standards to cover four types of portable fire extinguisher.

Readers requiring up-to-date information on building products and services may complete and post this form to The Architects' Journal, 9, 11 and 13, Queen Anne's Gate, S.W.1

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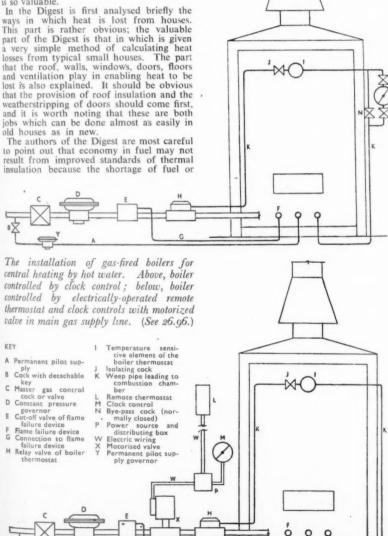
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Building s Illustrated

Trinity Congregational Church, Poplar. (Pages 739-746.) Architects: Cecil C. Handisyde & D. Rogers Stark, A./A.R.I.B.A., A.A.DIP. Assistant architect in charge: R. V. Ward, M.B.E., BARCH. (L'POOL.) A.R.I.B.A. Structural consultant: Felix J. Samuely, B.SC.(ENG.) LOND., A.M.I.C.E., M.I.STRUCT.E., F.I.A.S., M.I.W. Heating consultants: John Porges, M.I.MECH.E., M.INST.F. Quantity surveyor: Davis, Belfield & Everest. General contractor: Tersons Ltd. Sub-contractors: hardboard, C. F. Anderson & Son Ltd.; blinds, J. Avery & Co. Ltd.; glazier, Aygee Ltd.; joinery, P. H. Baker & Son Ltd.; balustrading, The Blatter Engineering Co. Ltd.; pre-cast concrete and grano paving, F. Bradford & Co.; roofing and tanking, Wm. Briggs & Sons; convectors, British Trane Co. Ltd.; glazed tiling, Carter & Sons; cement, The Cement Marketing Co.; steel wall panels, floor access covers, Clark, Hunt & Co. Ltd.; cork insulation, The Cork Insulation and Asbestos Co. Ltd.; metal windows, The Crittall Manufacturing Co. Ltd.; sanitary appliances, Dent & Hellyer Ltd.; plumbing, Engineering Service Installations; general iron work, S. W. Farmer & Son; piling, The Franki Compressed Pile Co. Ltd.; spotlights, The General Electric Co. Ltd.; spotlights, The General Electric Co. Ltd.; clocks, Gent & Co. Ltd.; hand lift, Gibbs Bros. & Lucas: bell, Gillett & Johnston Ltd.; spotlights, The General Electric Co. Ltd.; clocks, Gent & Co. Ltd.; lightning conductor, J. W. Gray & Son, Ltd.; vent grills, Greenwoods & Airvac Ventilating Co. Ltd.; painting, Ferrott Grenville Ltd.; heating and ventilation, G. N. Haden & Sons; louvre air bricks, G. A. Harvey & Co. Ltd.; plasterers, H. J. Hitchins Ltd.; soft furnishings, Gerald Holton; stone flooring,

The Hopton Wood Stone Firms Ltd.; central light fittings, Hume Atkins & Co. Ltd.; dome lights (rectangular), T. & W. Ide Ltd.; precast terrazzo faced columns, The Liverpool Artificial Stone Co.; electrical installations, London Brick Co.; electrical installations, London Electricity Board; floor tiles, Marley Tile Co. Ltd.; "Windsor" flooring, Oneite Flooring Co.; dome lights (circular) Pilkington Bros. Ltd.; fire extinguishers, Read & Campbell Ltd.; ironmongery, Rennis Ltd.; general reinforcement and fixing, Rem River Co. Ltd.; wall tiler, Harradine Rouse & Co.; pews, J. Sandd & Sons Ltd.; "Multigon" doors, J. Sandell & Co. Ltd.; scaffolding, Scaffolding (Gt. Britain) Ltd.; reinforcement, Square Grip Reinforcement Co. Ltd.; aluminium turret, Structural & Mechanical Development Engineers Ltd.; main frame, Super Cement Ltd.; church light fittings, Troughton & Young Ltd.; facing bricks, Uxbridge Flint Brick Co. Ltd.; aggregates, G. Wiggens Ltd.; London stock facing bricks, Wills & Packham Ltd.

The plans, sections and details published in this are by courtesy of The Architect and Building News.

Kosher Restaurant, at 130, Golders Green Road, London, N.W.11. (Page 733.) Architect: Jack Godfrey-Gilbert, A.R.I.B.A. General contractors: Cees Ltd. Sub-contractors: glass, Shepheard Tobias & Co. Ltd.; terrazzo tiles, Ventor Terrazzo & Mosaic Co.; special door handle, Goswell & Co.; signs, Modern Electric (Installations) Ltd.

Portland Training College at Harlow Wood, near Mansfield, Notts. (Dec. 13: pp. 704-705.) Architect: Bromley & Cartwright; consulting engineers: Hoare, Lea & Partners; general contractors: Ford & Weston Ltd.; Contractor's agent, L. G. Milne; general foreman, W. Blurton; sub-contractors: excavation, Fletcher & Co. (Contractors)

Ltd.; road tarmac, Constable, Hart & Co. Ltd.; barrel vault roofs, Twisteel Reinforcement Co. Ltd., Barrel Vault Roofs (Designs) Ltd.; roof slabs & framing, Trussed Concrete Steel Co. Ltd.; facing bricks, Proctor & Lavender Ltd.; fletton common bricks, Eastwoods Ltd.; artificial stone, The Croft Granite Brick & Concrete Co. Ltd.; roofing felt, The Ruberoid Co. Ltd.; metal casements, W.C. partitions & lantern lights, Henry Hope & Sons Ltd.; flush doors, Leaderflush Ltd.; roof lights in barrel vault, Mellows & Co. Ltd.; woodblock flooring, Hollis Brothers Ltd.; woodblock flooring, Hollis Brothers Ltd.; patent flooring, The Marbolith Flooring Co. Ltd.; central heating, Seymour, Sweet & Co. Ltd.; kitchen equipment & ventilation, Benham & Sons Ltd.; automatic stockers, Prior Stokers Ltd.; boilers, The Beeston Boiler Co. Ltd.; electric wiring, Blackburn, Starling & Co. Ltd.; electric light fixtures, Best & Lloyd Ltd.; street lighting standards, The Stanton Ironworks Co. Ltd.; plumbing and joinery, Ford & Weston Ltd.; plumbing fittings, Builderwares (Derby) Ltd.; door furniture, Lewis & Grundy Ltd.; soling door gear, P. C. Henderson Ltd.; boiler house shutters, Mather & Platt Ltd.; service hatches, T. Simmons (Blinds) Ltd.; plaster, W. A. Telling Ltd.; terrazzo flooring, Art Pavements & Decorations Ltd.; tiling, Carter & Co. (London) Ltd.; mirrors, The Arkwright Glass Works; furniture, Wm. Lawrence & Co. Ltd.; fire extinguishers, Minimax Ltd.; shrubs & trees, Wm. Barron & Sons Ltd.; electric fires, Ferranti Ltd.; ash hoist, Herbert Morris Ltd.; lightning conductor, W. J. Furse & Co. Ltd.; electric clocks, Smiths' English Clocks Ltd., Gent & Co. Ltd.; paint, Thomas Parsons & Sons Ltd., Imperial Chemical Industries Ltd.

(The contractors list for the Remedial Bath at Harlow Wood, Notts, illustrated on page 705 of the JOURNAL for December 13 will be published next week.)

Part of the Entrance Hall, The Walker Art Gallery, Liverpool. Architect: Ronald Bradbury, Ph.D., F.R.I.B.A., A.M.T.P.I., City Architect and Director of Housing, showing the furniture and carpet recently supplied by Heal's Contracts Ltd. The specially designed settee and easy chairs are covered in blue hide. The wing chair is in beige hide and the carpet is rust with natural coloured spot design. The flower stand and occasional table are of waxed oak.

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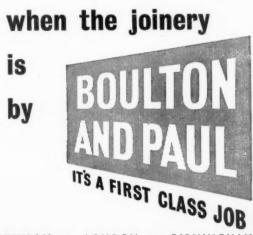
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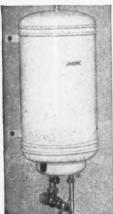
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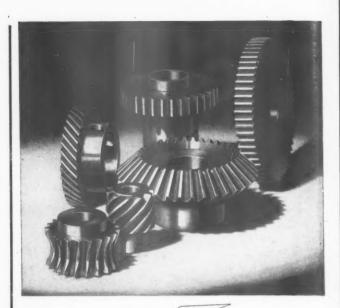
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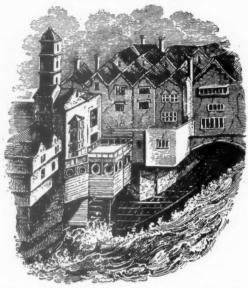
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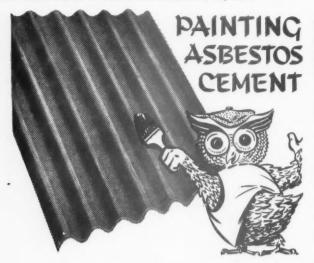
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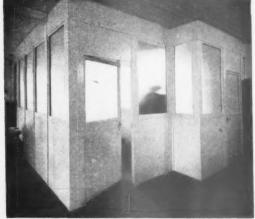


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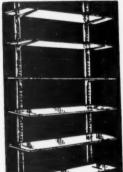
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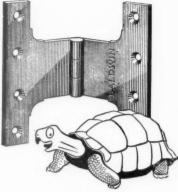


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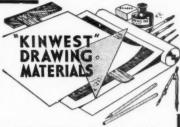
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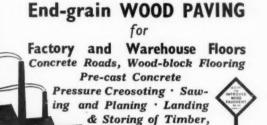
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(b) TRACER / DRAUGHTSMAN (Male of Pemale) (General Division). Salary, National Scales, according to age (Males £180 at 18 years, rising to £230 at 30 years; plus London Weighting of £10 per annum up to age of 20 years, £20 to 25 years and £30 at 26 years or over). Applicants must be neat and expeditious draughtsmen with experience in the tracing and colouring of architectural or civil engineering drawings.

further particulars of these appointments, and application forms which must be submitted by 12 noon on the 1st January, 1952, from the Engineer and Surveyor, Town Hall, Crayford

G. B. HODGSON.

Clerk of the Council.

EAST KILBRIDE DEVELOPMENT CORPORATION.

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The salary scale is £1,000×£50-£1,250 pet annum, with placing according to experience, etc. In the event of a general increase in salary scales the above scale would be subject to adjustment. The appointment is subject to the Corporation Conditions of Service and Superannuation Agreement. The selected candidate will be required to pass a medical examination. A house will be made available if required. Application forms may be obtained from the General Managet. Torrance House, East Kilbride, to whom the should be returned not later than 5th January. 1952.
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Canvassing, directly or indirectly, of Members of the Corporation will constitute absolute disqualification.

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Applications are invited from suitably quanted persons in the Education Section of the Department:

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Salary £790 per annum, rising to £910 per annum (A.P.T., Grade IX).

(b) One SENIOR ASSISTANT ARCHITECT.
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The successful candidate for post (b) will primarily be engaged on the working drawings for the Technical College.

The successful candidate for post (c) will be required to assist with the general work of the Section.

The apnointments will be subject to the National

required to assist with the general work of the Section.

The appointments will be subject to the National Conditions of Service as adopted by the City Council; to the provisions of the Local Government Superannuation Act, 1937, and to one month's notice on either side. The successful candidates will be required to pass a medical examination. Applications, stating position applied for, age, particulars of training, qualifications, experience, present and past appointments, together with copies of two recent testimonials or the names and addresses of two persons to whom reference may be made, should be addressed to George Kenyon, A.R.I.B.A., A.M.T.P.I., City Architect, 18. Cloth Market, Newcastle-upon-Tyne, 1, not later than the 5th January, 1952.

JOHN ATKINSON, Town Clerk.

JOHN ATKINSON,
Town Hall, Newcastle-upon-Tyne, 1.

11th December, 1951.

WAR DEPARTMENT.
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vacancies.

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1952.
The acceptance of a tender will be subject to the Standing Orders of the Council with respect to Contracts (a copy of which may be obtained on application to the Borough Engineer and Surveyor) and to the execution of a formal Contract.
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accept the lowest or any tender and persons tendering must do so at their own expense.

H. BAILLY CHAPMAN,
Town Clerk.

H. BAILEY CHAPMAN.
Town Hall, Burton upon Trent.
15th December, 1951.

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THE ARCHITECTS' JOURNAL for December 20, 1951

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H. E. LAWTON, Clerk of the Council.

Council Offices, Derby Road, Huyton, Nr. Liverpool. 10th December, 1951.

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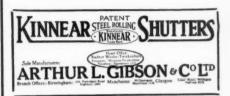
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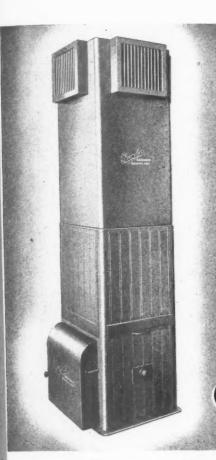
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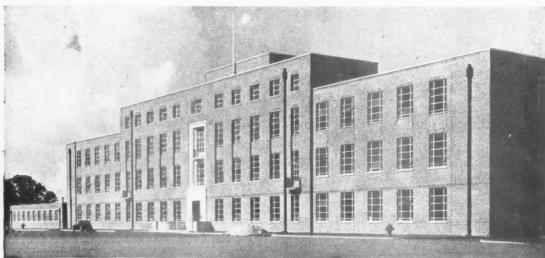


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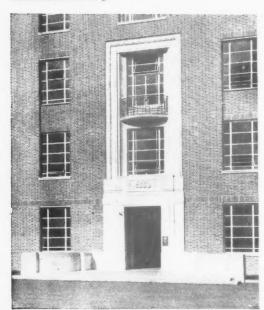
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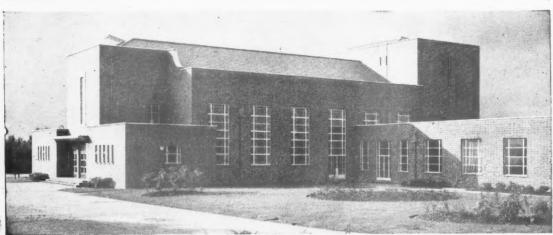
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