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

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Architectural Appointments Wanted Vacant and

No. 3140] [VOL. 121 ARCHITECTURAL 9, 11 and 13, Queen Anne's Gate Westminster, 'Phone: Whitehall 0611 S. W. I.

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★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to 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.

Architectural Association, 34/6, Bedford Square, W.C.1. Museum 0974
Association of Art Institutions. Secy.: W. Marlborough Whitehead, "Dyneley,"
Castle Hill Avenue, Berkhampstead, Herts. AA AAI

Architects' Benevolent Society. 60, Portland S. Ashley Place, S.W.1.

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Reliance 7611, Ext. 1706

Museum 5400

Welbeck 4185 Architects' Benevolent Society. 66, Portland Place, W.1.
Association of Building Technicians. 5, Ashley Place, S.W.1. ABS ABT **ACGB** ADA ArchSA ARCUK

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British Cast Iron Research Association. Alvechurch, Birmingham.
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British Electrical Development Association. 2, Savoy Hill, W.C.2. Temple Bar 9434
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Copper Development Association. Kendals Hall, Radlett, Herts.

Congrès Internationaux d'Architecture Moderne. Doldertal, 7, Zurich, Switzerland.

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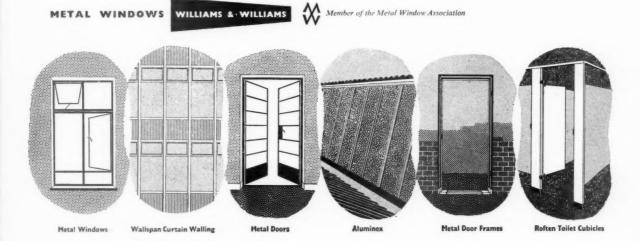




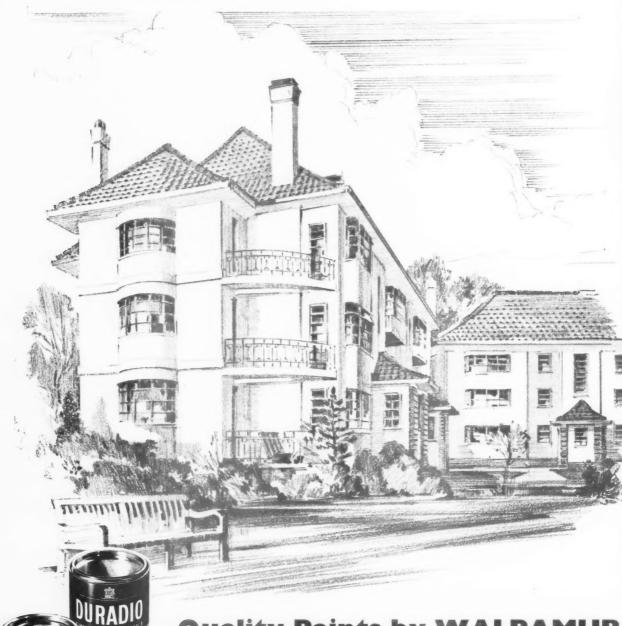


Glasgow (Douglas 0003). Liverpool (Central 0325). discover he was once an art student, and holds an Manchester (Blackfriars 9591). industrial design diploma, and can discuss the work of Modigliani or Corbusier and cultivates chrysanthemums in his garden. Strange mixture. You grumble that Mr. Borthwick is one of those people who just won't keep in character. But then, after all, he is a Williams & Williams Divisional Manager!

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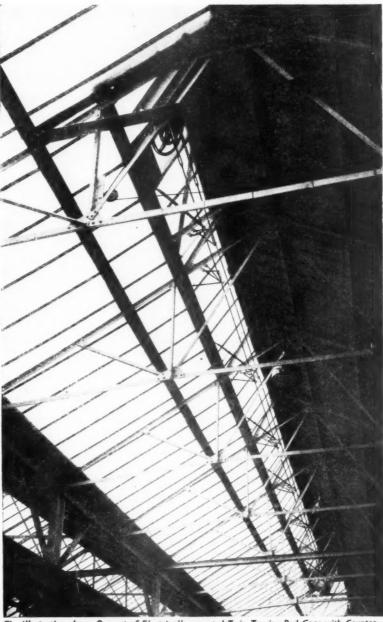
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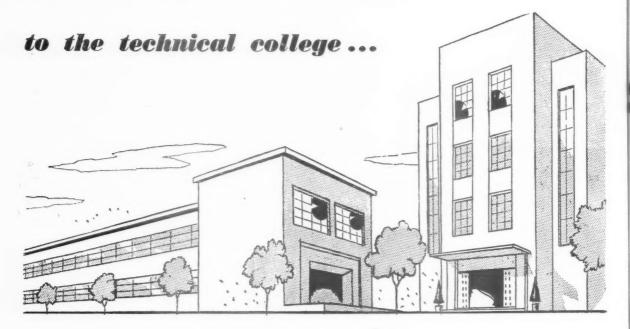
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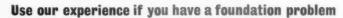








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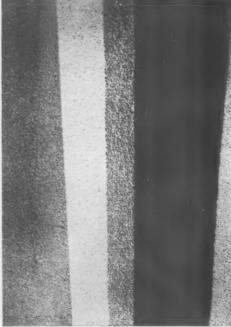
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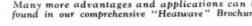


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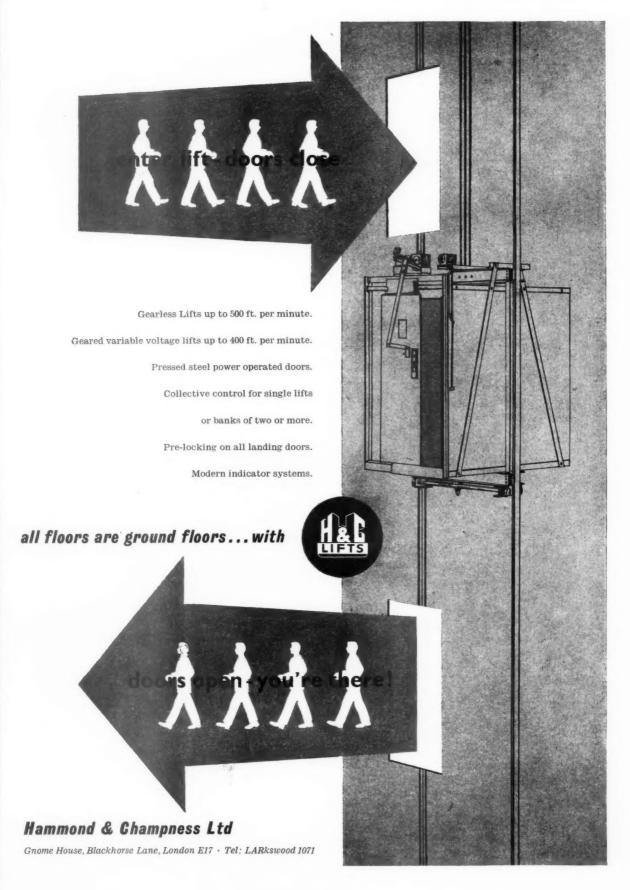




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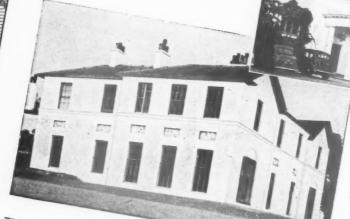
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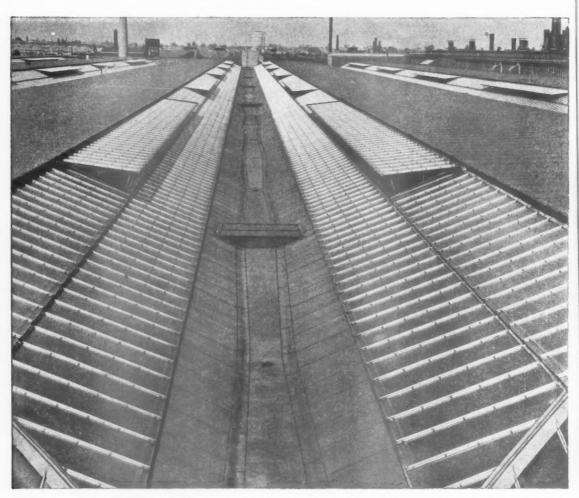
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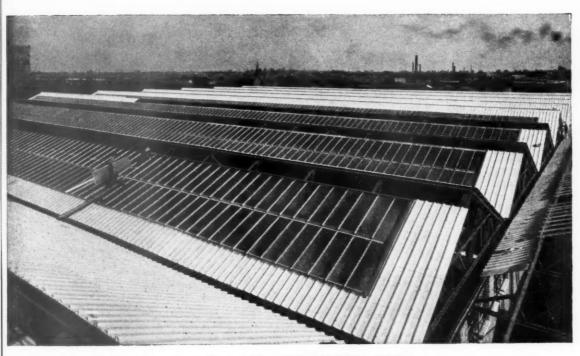
Roof of new assembly shop at Daimler Radford Works. Architects: Wood & Kendrick & Williams, FF.R.I.B.A. Chartered Architects.

To provide the large amount of daylight essential to these two workshops was a major problem of design and construction. In both cases, however, difficulties were overcome by the effective use of patent glazing.

For the assembly shop at the Radford Works, 120,000 feet super of aluminium patent glazing was used to provide the roof lighting, and ventilation was provided by 50 continuous opening lights operated by electrically controlled double tension gearing; while 50,000 feet super of aluminium patent glazing was used for the roof of the assembly shop at the Waverly Works. Both workshops are fine examples of the use of patent glazing in the construction of large industrial buildings.

# GSPECIFICATIONS

LARGE RUNS OF PATENT GLAZING IN THE ASSEMBLY SHOPS AT THE DAIMLER RADFORD WORKS AND THE B.S.A. WAVERLY WORKS



Roof of new assembly shop at B.S.A. Waverly Works. Architect: Holland W. Hobbies, F.R.I.B.A.

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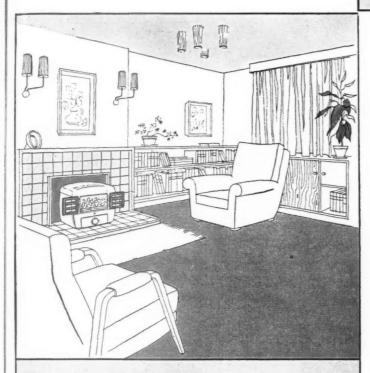
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SPECIFICATION Vitreous enamel cast iron outer casing. Two side hinged fire doors with mica panels. Cast iron lining to firebox. Externally operated shaking bottom grate and removable front bar. Spinwheel air control. Mild steel ashpan. Operating tool.

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Beige mottle, fawn mottle or black, Alisheen black, bramble, copper, bronze or green.

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Height to top of flue outlet .. 15% ins. Outside diameter ... .. 4<sup>3</sup> ins.

The design and construction of the Panda are to a very high standard. Accurate control over the rate of combustion is a feature which ensures fuel economy.

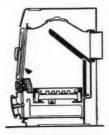
### NOTES

Unusual and very attractive 'longways' shape is valuable in long, low fireplaces where a stove of conventional upright design would appear awkward.

Side hinged fire doors fold back to give a good view of the fire.

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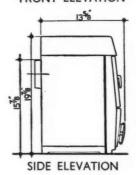
Burns continuously-for 10 hours without attention-on all domestic fuels including coke.



**CROSS SECTION** 



FRONT ELEVATION



**DIMENSIONS** Width

.. 213 ins.

Height

.. 197 ins.

Depth overall

..  $13\frac{5}{8}$  ins.

Depth at hearth level ..  $11\frac{1}{2}$  ins.

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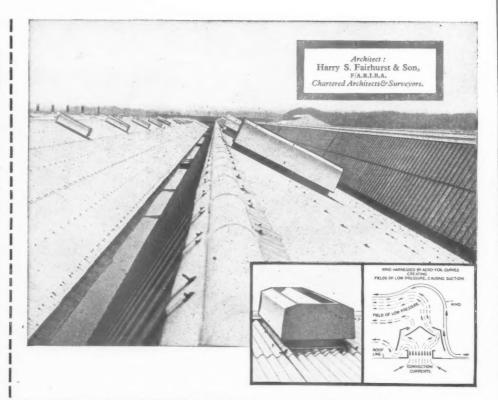
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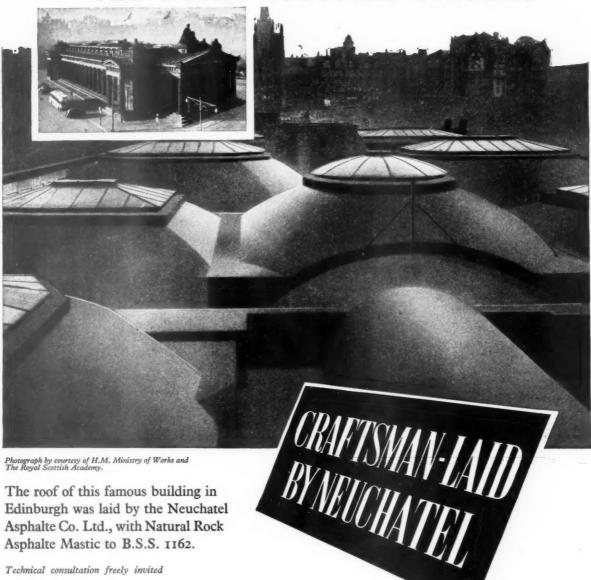
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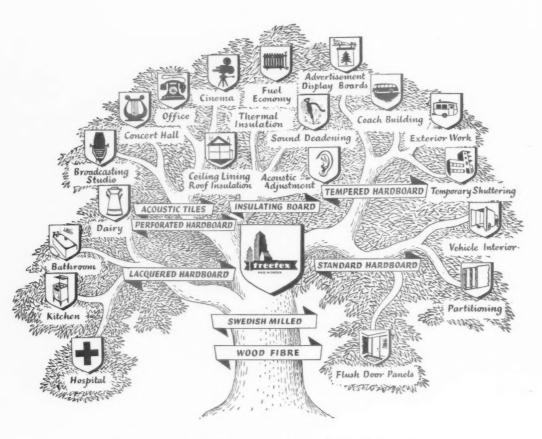
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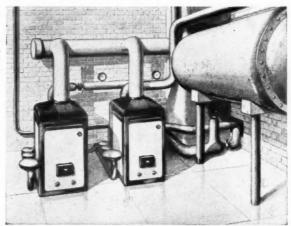


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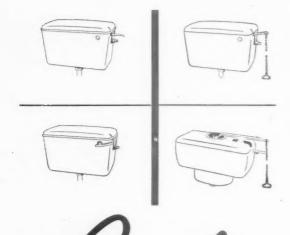
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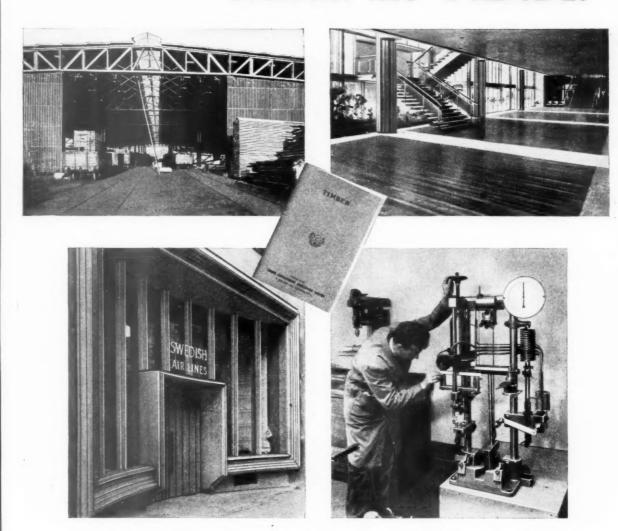
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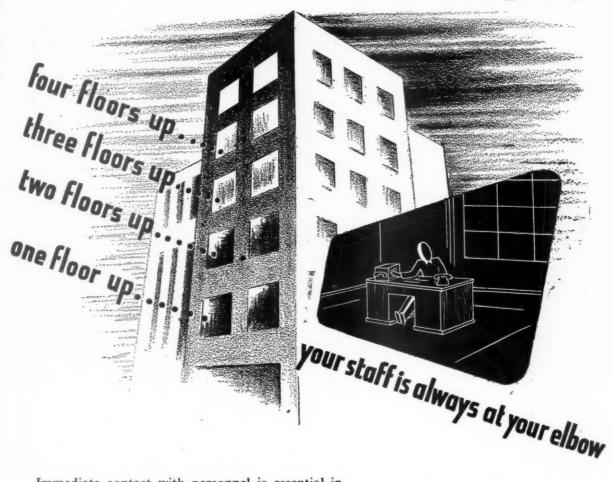
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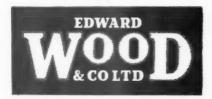


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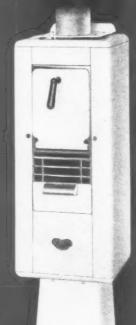
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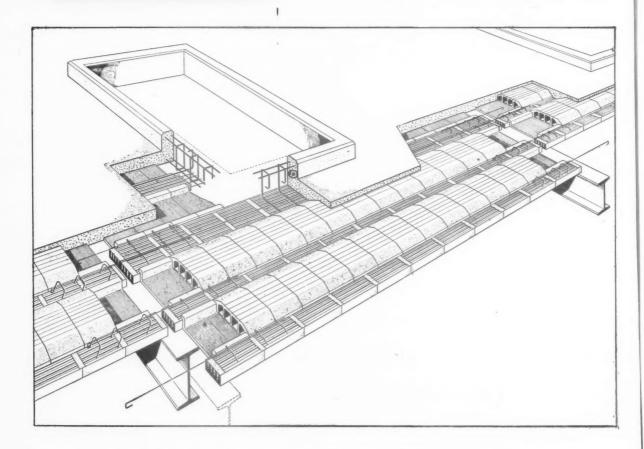
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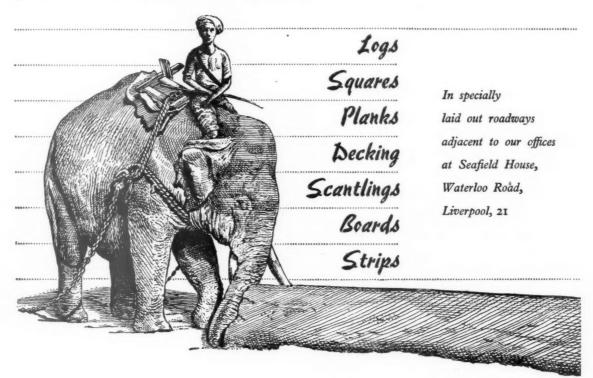
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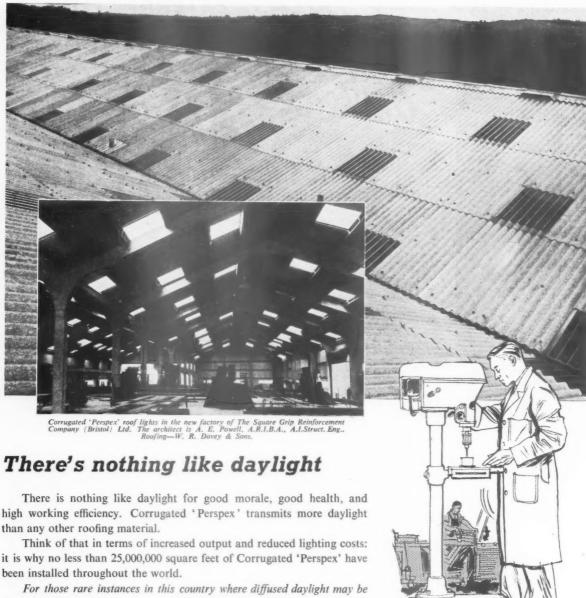
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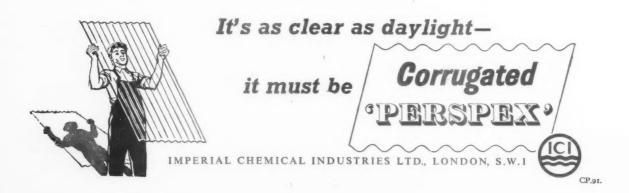
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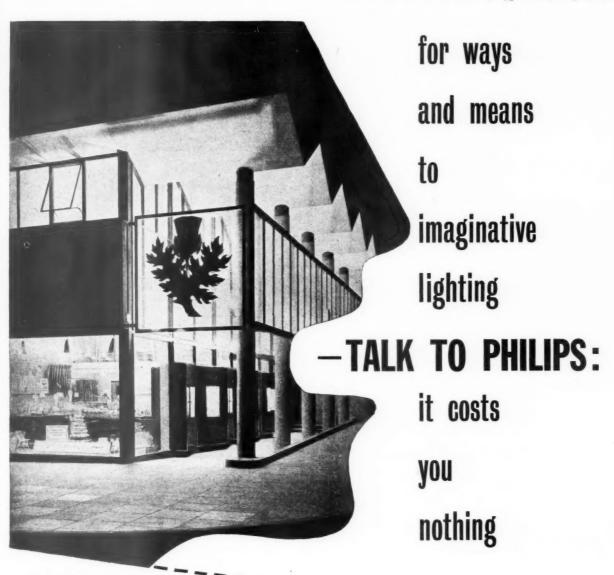


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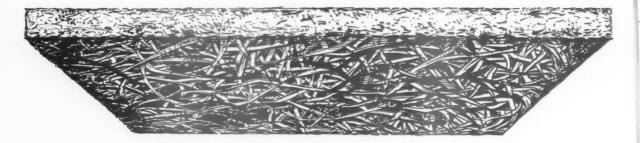
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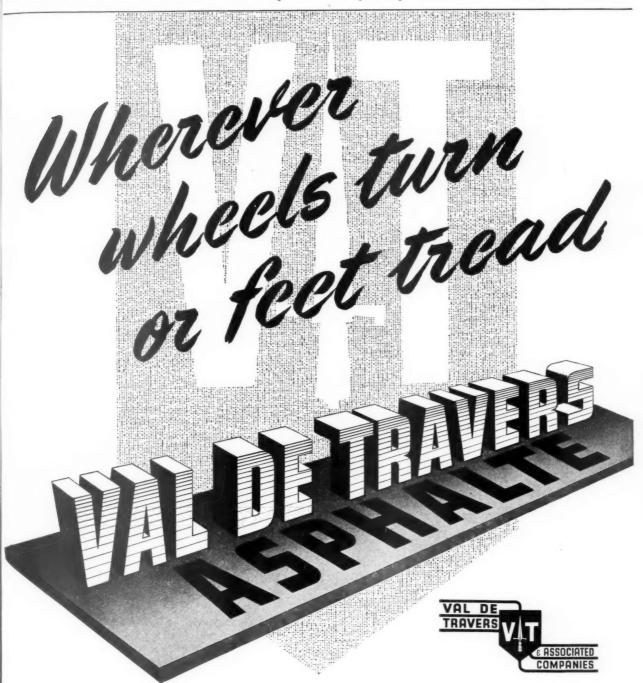
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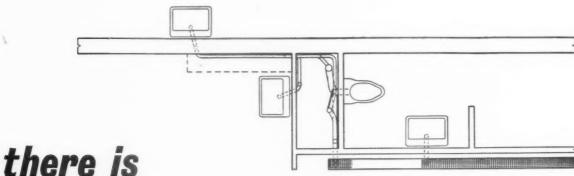
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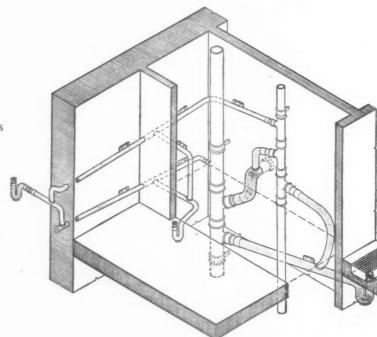
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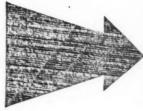
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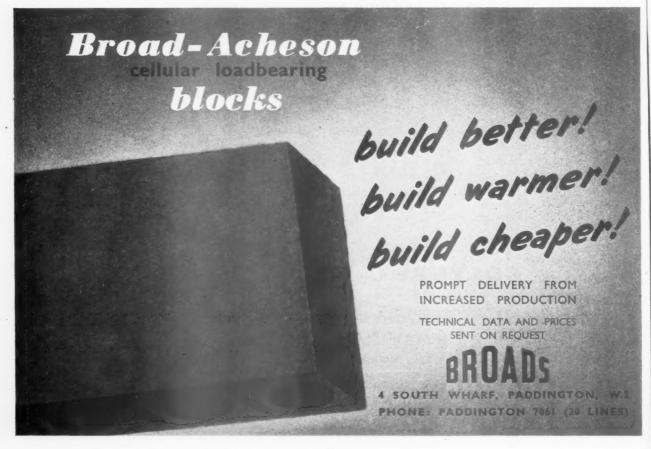
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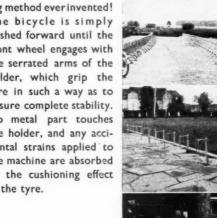


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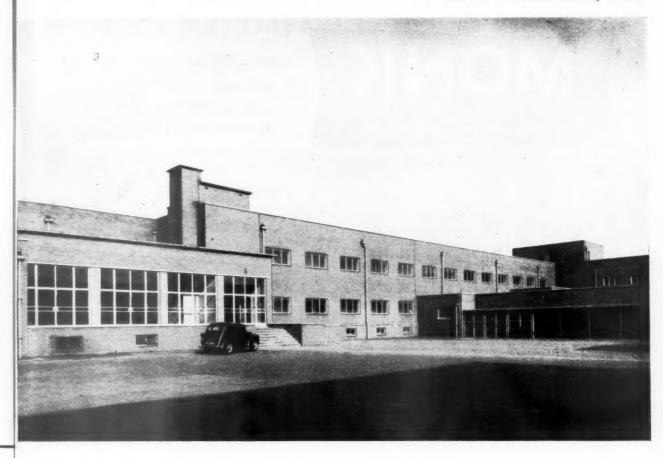
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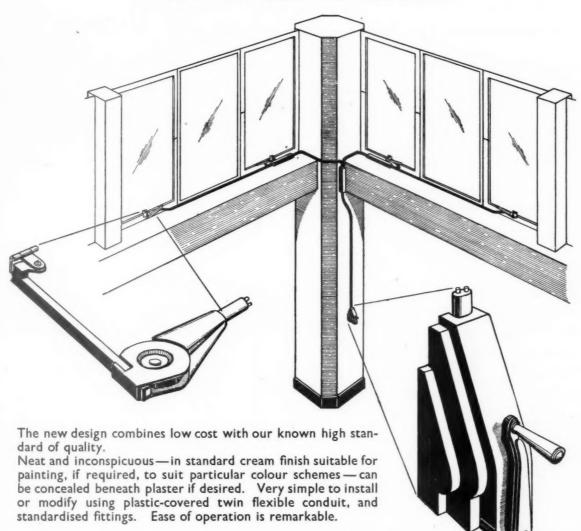
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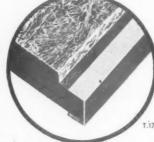


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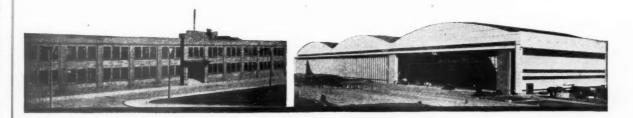
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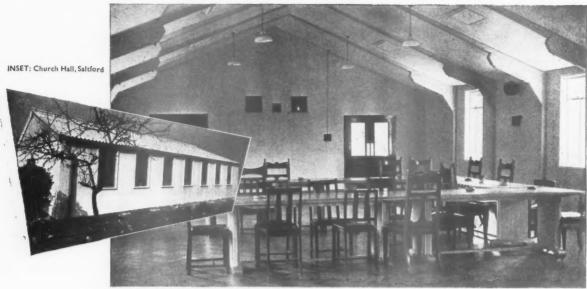


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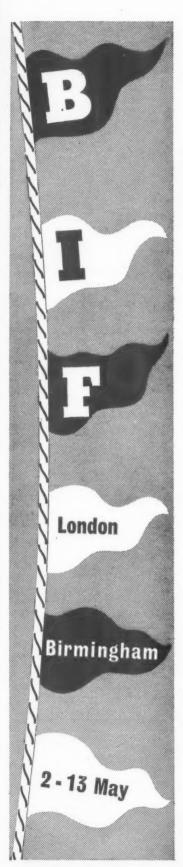
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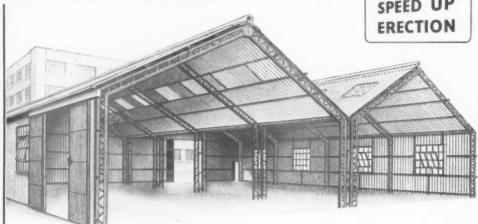
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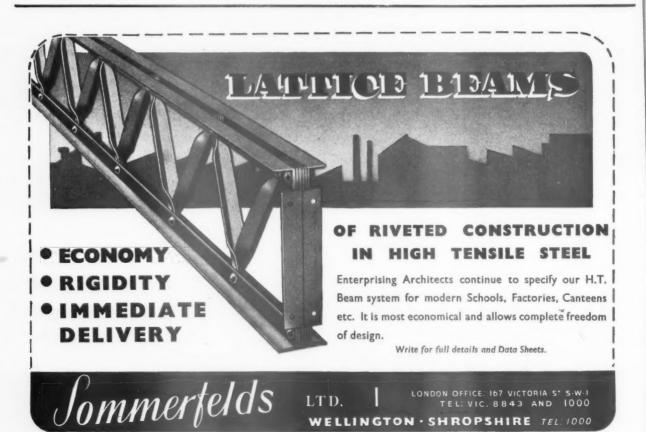
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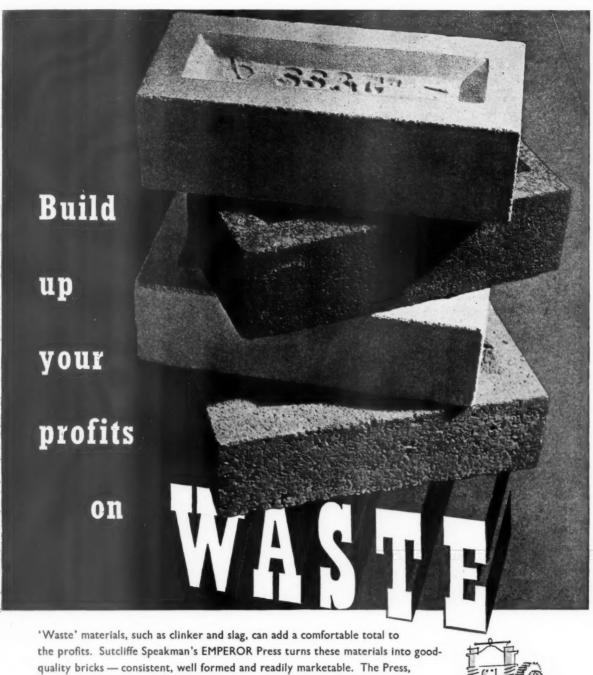
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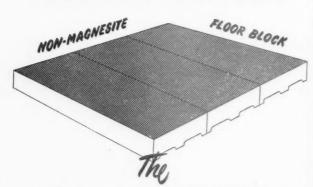
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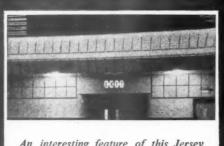
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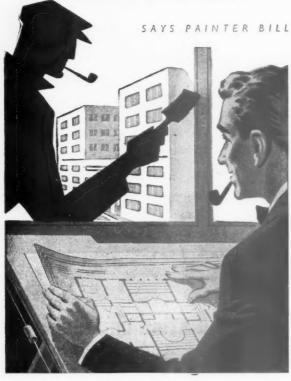
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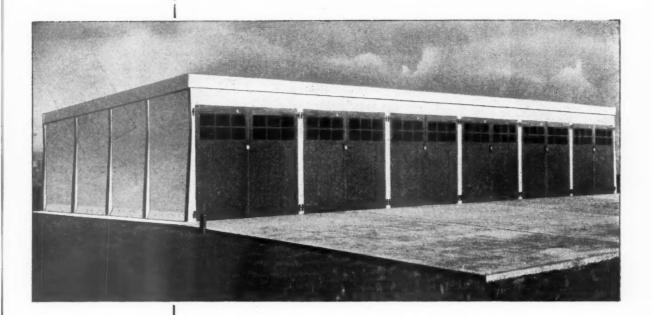
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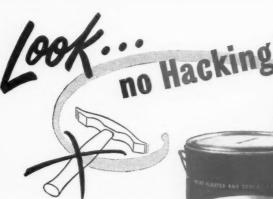
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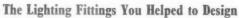
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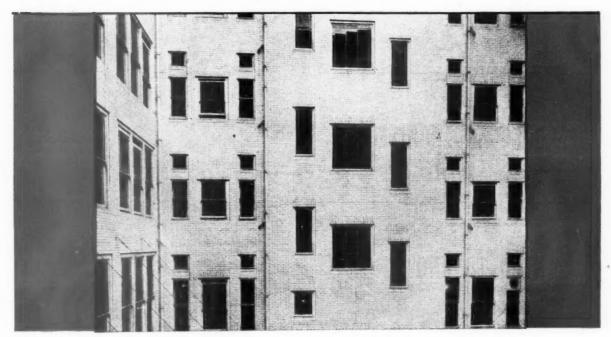




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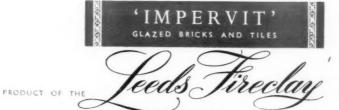
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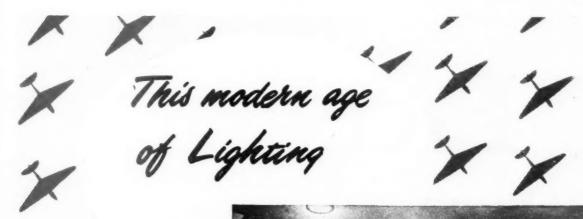
Let's admit it . . . no architect needs to know every detail of a wiring installation. He leaves that, very often, to the electrical contractor.

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# Facts between an Ascot plus open fire

A comparison of installation costs... between an Ascot plus open fire and open fire plus back boiler

An analysis of the actual costs of installing these two popular water heating systems shows that Ascot multipoint heaters are cheaper than back fire boilers in every case but one.

The figures in the chart were not specially prepared. They are from bills of quantities of schemes which had already been completed by an eminent architect before the analysis was contemplated.

Examination of the plans shows that because the Ascots

could be sited nearer to bathroom and kitchen draw-off points than the back fire boilers and do not require a flow and return draw-off system, pipe runs were considerably shorter and

simpler. This is quite usual.

	BUNGALOW	HOUSE	4 STOREY FLATS	8/10 STOREY FLAT
ASCOT 769  Cost of Water Heater, Coke Grate, tile surround and curb — equipment and installation.	£63 · 9 · 10	£72 · 5 · 1	£67 · 11 · 11 (A)	£65 · I · I (B)
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BACK FIRE BOILER  Cost of Back Fire Boiler, Coke Grate, tile surround and curb— equipment and installation.	£73 · 15 · 4	£87 · 19 · 5	£82 · 4 · 9	£101 · 5 · 8
BACK FIRE BOILER  Cost of Back Fire Boiler, Coke Grate, tile surround and curb, electric immersion heater and lagging of pipes and cylinder—equipment and installation.	£97 · 19 · 3	£118 · 11 · 10	£114 · 18 · 2	£140 · 10 · 9



Cost of (A) is higher than (B) due to longer pipe runs.

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May 5, 1955 No. 3140

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VOL. 121

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A BIGGER AND BETTER ACADEMY

So you architects couldn't even fill two galleries at the Royal Academy show when you had the chance. Long before work was submitted this year the new president, Professor Richardson, asked for extra space for architecture -and the hanging committee had quite a job to fill three-quarters of the space allocated to them. But at least the exhibition bulged out of its usual gallery, where it can so easily be missed by a public in search of "Goldfish-Baiting at Chorlton-cum-Hardy," and there is a good chance that more people than usual will look at the architecture.

By a piece of good luck they will see

an exhibition that is more worthy of the profession than the Academy has shown for many a year. As the JOURNAL editors point out in a leading article on page 595, there seems no reason why this improvement should not continue in other years, however reactionary the hanging committee may be. ASTRAGAL joins them in urging you all-both private and public architects-to follow the lead set by the LCC and by several distinguished designers in private practice, and to overwhelm the Academy with good entries next year, so that the profession gets itself a really first-class annual show of its best work.

PROFESSOR RICHARDSON, HE SAY . . .

We have Professor Richardson to thank for the size of this year's exhibition, but we cannot thank him for his contribution at last week's Academy Banquet, where he let the profession down badly. Fortunately he let us down not so much by making forthright and sweeping statements about the contemporary idiom, which he detests, but by making what was surely the most incoherent speech the Royal Academicians have ever heard at their banquet.

It is true that somewhere amid the wild promises (" I intend to give you a message that will ring through London tomorrow"), the discovery of a New Realism in this year's paintings and the contention that the New Spirit on the walls of the Academy " might be symptomatic of a new spirit of unity among all nations," the president accused modern designers of lack of imagination, put out his tongue at some of the architectural schools and asked for a suppression of high buildings, which London "does not need." But to ASTRAGAL'S delight these remarks were well lost in a muddle of rhetoric. When Professor Richardson took office at the Academy, many architects must have felt alarmed at the things he might say in that position. It is something of a relief that he has allowed his biggest opportunity of the year to slip by without justifying that alarm.

Apart from Professor Richardson's speech the Academy Banquet was a very civilized affair. The Prime Minister neatly compared art with diplomacy. and let us know that he had learned to recognize a painting when he saw one: and Mr. Justice Pearce convulsed the assembly of goodly men by telling them about the dance partner who claimed to be a little stiff from Badminton-a joke which is as new as the New Spirit which Professor Richardson has permitted himself to find on the Academy walls.

#### RIBA POLICY STATEMENT

As the Journal goes to press ASTRA-GAL has received a copy of a letter the RIBA Council has sent to all members. It is a welcome official confirmation of the suggestions made by the JOURNAL editors, in a leading article of April 17, that the RIBA is the proper organization for discussing different points of view on practice and the profession, rather than that controversial matters be put forward through the creation, or support of, other professional bodies. One can only emphasize the argument in the JOURNAL leader: such splinter groups are encouraged while the RIBA remains so silent and secretive. Perhaps the newlyformed public relations officers in the Allied Societies could also act as private relations officers and tell members



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tal bei Li Al th wi fo what the RIBA committees are doing, and perhaps Secretary Spragg could write yet further letters on behalf of the Council, describing its activities. Though, on second thoughts, one rather wonders what The RIBA Journal is for.

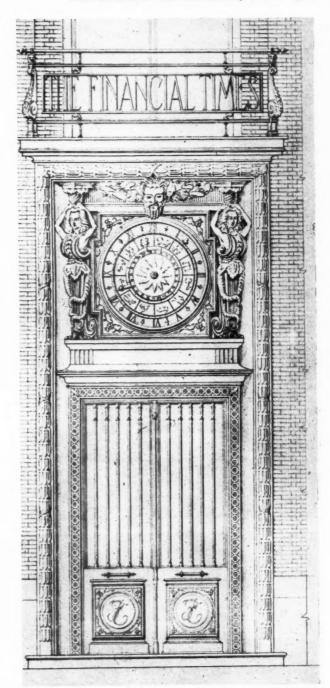
#### INAUGURAL ADDRESS

The new professor of Civic Design at Liverpool, Myles Wright, is not a member of the TPI. Nevertheless, his inaugural address is a first-rate reappraisal of the planning situation which confronts the country today. He points out that in the past ten years planning has been stultified by the need for short-term answers to get the country back on to a balanced peacetime economy. Now, he appears to imply, we need a much more positive planning lead, at a national level, particularly on such subjects as decentralization; traffic congestion and the rehabilitation of central areas. address will be published very fully in next week's Journal.

#### TUDOR BOY

There is a lot of hopeful rubbish talked by pseudo swashbucklers of this being the new Elizabethan era. One of Liverpool's architectural firms, Sir Alfred Shennan & Partners, is taking this phrase too literally, to judge by the way it has redesigned a '39 proposal for a neo-Georgian Cheshire pub into what The Liverpool Echo calls "characteristic half-timber" and what its clients' advocate called "neo-Tudor." "The lower half of the building would be in rustic brick with stone facings to the windows . . . " says The Echo, " and leaded panes of glass. The upper part would be in light and dark woodwork. . . . The layout was not very dissimilar from the original plans."

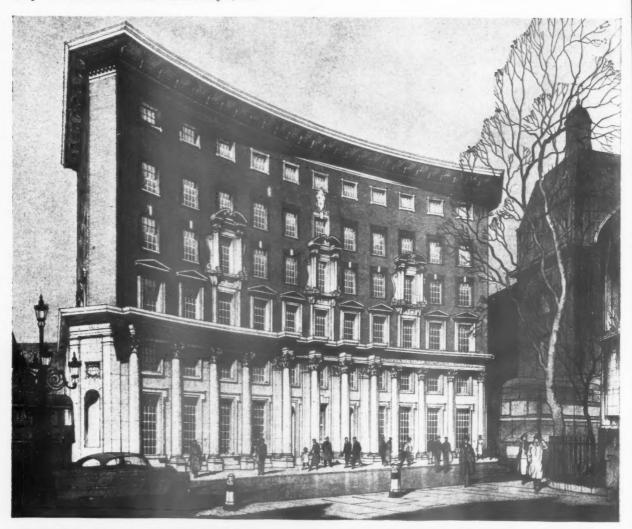
ASTRAGAL had received several cuttings on this story about an application put before the Wirral Justices for a pub at Bebbington, but paid no attention (so used is he to the facility with which architects can design in a variety of styles) until friend ABNER, of The Architect and Building News, reminded him of his duties. So back to the correspondence file. One reader writes to say that he has sent a cutting to the Ministry of Town and Country Planning. (Perhaps that's half the trouble—there isn't one?) Another

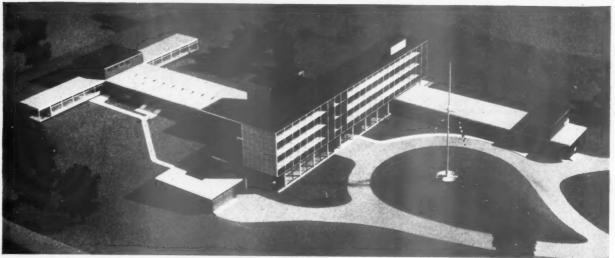


In the architecture rooms at this year's Royal Academy show there is, in the opinion of the Academy's president, Professor A. E. Richardson, a "lack of civic embellishment." The president is too modest: this detail from his design for The Financial Times building in London surely makes up for any "abridgements both in form and costume" (the president's words) which are found elsewhere in the exhibition.

points out that there is no old half-timbering within ten miles of the proposed pub's site. A third writes that the JOURNAL'S campaign against poorly designed spec. housing and "abominations such as neo-Tudor" will never succeed while architects continue to

design in this way themselves. How right reader Allan, of Liverpool, is. Could not the RIBA divide its members into two, and issue little labels to distinguish those builder-designers-who-will-design-in-any-style from those architects-who-are-contemporary-





# Academy Paradox

Both ASTRAGAL and the writer of this week's editorial (opposite) comment on the increased number of good designs to be found in the architectural section of the Royal Academy show, and much of the better work is illustrated between pages 598 and 602. But one thing about this exhibition remains a mystery: by what standards do the hanging committee make their choice. How is it

possible for the top drawing here to be included in the same exhibition as the model beneath it? Perhaps such a drawing would be squeezed out of the exhibition if the hanging committee was swamped by contemporary designs. is a way of finding out. Send yours in next year. Top: offices, Strand; W. Braxton Sinclair & Ptns. Bottom: merchant seamen's home, Kent; Gollins, Melvin Ward & Ptns.

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as-a-matter-of-principle. The client would then at least know what type of architect he was picking and ASTRAGAL would know who was responsible for eclectic design: the client, the architect, or, in this case, the Licensing Justices.

#### NEWS FROM COVENTRY

Readers will remember that Donald Gibson resigned from the post of Coventry's City Architect last October. The issue which led to this was the refusal of the City Corporation to pay four-figure salaries to the holders of the four new senior architectural posts which Gibson had agreed, with the Treasury's O and M team, should be created. Since then the Coventry architects' department has been having a thin time. About sixteen architects have found jobs elsewhere—a sizeable proportion even in an office the size of Coventry's. ASTRAGAL now learns that the new City Architect and Planning Officer, Arthur Ling, has finally wound up his affairs with the LCC and from last Monday has been "in residence" at Coventry. The four new posts of Principal Architect have been filled too -at improved salaries, £1,310 to £1,520. About ninety architects applied for the posts, but the architects in the Coventry office held their own.

The four new positions were filled by John Barker (schools), Douglas Beaton (central area), Gwyn Morris (housing and neighbourhood planning) and George Sealey (general). Good luck to them, and to Arthur Ling too, in their new posts. The pace of rebuilding is to be stepped up, it is understood, so no doubt there will soon be eager applicants for any future vacancies. And Coventry, it is to be hoped, will be back in top gear and out in the van as the country's leading example of intelligent reconstruction.

Last week there was another event at Coventry which pleased ASTRAGAL: the opening of the new hotel Leofric. This fully came up to the standards suggested by the sketches published in this column a few weeks ago. The opening was preceded by a full-scale fire-fighting exercise, made so realistic by the use of dummy casualties that an onlooker fainted—thereby providing a full-scale amateur first-aid exercise too.

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**ASTRAGAL** 

#### POINTS FROM THIS ISSUE

Royal Academy: A better architecture exhibition ... pages 591, 593, 594, 598 and below RIBA statement about private societies ... pages 591 and 597

Review of MOE Building Bulletin on school kitchens .. . . page 615

#### The Editors

#### A BETTER ACADEMY

THE architecture exhibition at this year's Royal Academy show is bigger and better than usual. It is bigger because the Academy's new president, Professor A. E. Richardson, wanted it to be bigger. He asked for two galleries instead of one; and because an architect-president is something rare, the artists gave way gracefully. But why is the exhibition so much better than usual? Why are there enough good contemporary designs to displease the president, who grumbled, at the Academy banquet, about the "lack of civic embellishment worthy of a great period of reconstruction"?

It is not, we understand, because this year's hanging committee (two far-from-contemporary-minded gentlemen) has turned away a great deal of familiar Academy stodge in favour of contemporary buildings. Somehow the work submitted this year contained a much larger proportion of good design than usual, and the committee—which had instructions to accept more than usual—was not so reckless as to reject any of it.

It is a happy coincidence that the first enlarged exhibition should also be a better one. There was a time when we were glad that the public circulating through the main galleries could easily miss the architecture room. But we are now glad that the improved exhibition has invaded a gallery of painting, where such schemes as the Rangoon Engineering College's assembly hall (in model form), and competition designs for the "Gaiety" office block site, may seduce the laymen from the more familiar delights of girls getting carelessly out of four-posters, or peaches squatting prettily on willow pattern. If the public is to be lured into the architectural section at the Burlington House show, we do not want it to see acres of Georgian office blocks and Gothic churches.

There are several new names in this year's catalogue—names of architects who have decided to stop looking on the Royal Academy as merely a joke. But if the profession is to take advantage of this year's improvements in the architecture exhibition, many more entries must be submitted next time. It is unlikely that when Professor Richardson's term of office has expired, the architectural room will be allowed to burst its seams—as it has done this year. The profession's only hope of filling two galleries—and they could not fill more than one and a half this year, when they had the chance of more space—will be to overwhelm the hanging committee with a large choice of good designs.

No doubt some of you will still say that you'll be hanged if you'll be hung anywhere near that old reactionary you-know-

who. But have a look at this year's catalogue and you will see that you would also be in good company. And what about you local authority architect's departments? You have been given a lead this year by the LCC, whose Crystal Palace model is on view. It is time that you all-private and public architects-stopped laughing at the Royal Academy and helped to change its reputation—at least in one department. There is little doubt that whether you bother to join in or not, the architecture room is going to improve steadily year by year. Why not go all out next year to make the exhibition the first of a first-class series of annual displays of the best of contemporary architecture?



J. C. Pritchard, Director and Secretary Furniture Development Council

C. R. Whittaker, A.R.I.B.A.

N. MacFadyen

7. D. Tetlow, A.R.I.B.A.

M. W. Savill

## Don't Give All The Praise To Svenska Slojdforeningen

SIR.—So occupied with the merits of foreign furniture is that highbrow, ASTRAGAL, that he omits to read the technical literature that is published in this country about the British Furniture Industry, and seeks only for news of furniture developments in Scandinavia. (See AJ for April 14)

Performance tests for furniture were developed in this country years before they were done in Sweden. Indeed the work on endurance tests which ASTRAGAL refers to as having been done first in Sweden is based on the research work carried out by the Research Department of the Furniture Development Council. The particular endurance tests mentioned were a direct result of a visit paid to our research laboratory in October, 1953, when a member of the staff of the Svenska Slojdforeningen spent some time studying with our research workers. workers.

If ASTRAGAL will get copies of the Domestic Furniture Standards in the BSI series he will find in them technical information about these tests that we have developed, which are now incorporated in the Standard Specifications.

somewhat scathingly "how many British furniture manufacturers would be prepared to risk their products and their reputation in such a manner." Had he asked BSI or someone in the industry, he would have been told that firms representing something like 50 per cent. of the production of this country have applied to BSI for licences.

J. C. PRITCHARD.

Bang Goes Another Idea

Sir,-While not wishing to clutter your Sir.—While not wishing to clutter your columns with matters rather more political than architectural, I feel I must protest at the notice of "The Bomb, Survival and You" by Severud and Merrill, in the JOURNAL for April 21.

The bland tenor of the review accepts un-

questioningly that atomic warfare is now the questioningly that atomic warfare is now the order of the day. But the H-bomb can do 600 times "better" than those that the book discusses, and our (whose? not mine!) top strategists say they will use it first regardless of an enemy's opening moves. These Gadarene strategists know that equal retaliation is also equally possible. From this there is only one conclusion, that if there were another war, it would be announced by the explosion of a hydrogen bomb, with its inescapable and unknown train of genetic its inescapable and unknown train of genetic

effects for those who survive.

The book is technically out-of-date, as your reviewer says, yet he applauds its "sense of realism." In fact, its head is in the sand. It would be better to deplore its implications than to summarize its contents. As architects we could ensure a widening future of creative work by taking what steps we each think best to outlaw atomic war, rather than distort our present work by try-ing to make our buildings proof against attacks. Such work would be stultifying, the buildings almost uninhabitable and the moral blindness, criminal. We are architects and civilized human beings. We try to make the future more attractive in our work -let no tacit acceptance of atomic warfare make that future untenable for us and our C. R. WHITTAKER.

London.

SIR,—Like ASTRAGAL I was unable to attend the AA reception this year (AJ: April 21), but unlike ASTRAGAL I was privileged to see the admirable work of Miss Gibson

The thesis was prepared in book form, the written matter being on the reverse of each page. Hence the lack of analytical description which so distressed ASTRAGAL'S informant. I wonder if Miss Gibson was given the opportunity of helping to exhibit the thesis.

London.

Education: The Hard Way

SIR,-Your leading article of April 21 seems to confuse two quite separate issues, those of the articled pupil and of the unqualified junior assistant or draughtsman.

qualified jumor assistant or draughtsman.

Every practice, large or small, needs draughtsmen or unqualified assistants, and has difficulty in getting them. I doubt, however, if many architects find that articled pupils fill this need. It is, of course, an advantage to an employer to know that the pupil will remain with him for three or five years and that he intends to study. The other side of the contract is that the employer allows time off for attendance of classes and undertakes to guide and direct the pupil's studies. The extent to which he does guide is admittedly a variable quantity. But the net value of the pupil to the practice for at least eighteen months is very small and after that no greater than that of an unqualified assistant who lacks the educational background or the ambition necessary to qualify. In other words, if the first consideration is

In other words, if the first consideration is cheap labour, one looks for draughtsmen and refuses to take articled pupils.

The pupilage system exists, I believe, mainly because there are still parents who are unable or unwilling to face the cost of a five-year course. It is not as easy as you suggest to obtain grants for full-time study. Your remark that the articled pupil is "saved the mental strain of full-time study" is surely indefensible. Anyone who has expenditured to the strain of the strain o is surely indefensible. Anyone who has experience of both methods will, I am certain, agree that the full-time school course is by far the easier as well as the more satisfactory way to become an architect. One has to work quite hard, but in the right atmos-phere, and there is at least time for recrea-The pupil, working for five days in his office and studying on the sixth and in the evenings does it the hard way!

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J. D. TETLOW.

. . Is Not The Casual Way

SIR,—On reading your article on Educa-tion in the JOURNAL for April 21, I was surprised to find on turning over a page of sensible statements, and a record of praiseworthy efforts of certain counties to benefit the articled pupil, such a phrase as "Should this loose and casual method . . . continue?

An articled pupil receives instruction by day at the office in which he is employed (thus gaining valuable practical experience which the University student does not get until after qualifying) and during the evenings and weekends supplements this know-

ings and weekends supplements this know-ledge with additional tuition through the post, and at evening classes if possible. Before he is allowed to take the inter-mediate examination he has to pass the appropriate sets of testimonies of study as laid down by the RIBA. To do this may take three, four, or even five years of hard work, during which much, if not all, his spare time is devoted to study, whilst dur-ing the day he is being schooled in the ing the day he is being schooled in the general work carried out in an architect's

When his testimonies have been approved the articled pupil is eligible to take the intermediate examination set by the RIBA. mediate examination set by the RIBA. The RIBA are the governing architectural body in this country and it is, I believe, one of their duties to protect the status of the architectural profession, and to ensure that only those persons who possess architec-tural capabilities sufficient to satisfy their examiners are allowed to enter the profession

Therefore, with these facts in mind, if an articled pupil studies for any length of time, and by any source convenient to him, and satisfies the requirements of the RIBA, how can his entry into the profession possibly be described as "loose and casual"?

Essex.

M. W. SAVILL.

Please Turn Over

on Byzantine mosaics, as presented to the British School.

N. MACFADYEN

#### AA

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#### New President

Bryan Westwood is to be president of the AA for its 109th session, beginning on June 1. Mr. Westwood, who was born in 1909, was educated at Hall School, Weybridge, Sidcot School, Somerset, and the AA School (1927-1932). He was an assistant with Searle & Searle before he joined his father's firm. In 1935 he became a partner in P. J. Westwood & Sons. Mr. Westwood has worked mainly on shop.

Mr. Westwood has worked mainly on shop designs and houses. He won, with Edmund Ward, a competition for Godalming Town Hall and Civic Centre and, with his brother, Hall and Civic Centre and, with his brother, a competition for a new front to the Building Centre in Bond Street. He has written articles and a book on shops for the Architectural Press. In the war he joined the RNVR, served in Atlantic escorts for one year, went for a time to HM Signal School, and was later with the RAF (photographic interpretation) as head of Naval Technical Section.

He has served for the past two years as AA representative on the RIBA Council, and both before and after the war on the AA Council and the Registration Councils. His hobbies are photography and sailing.

His hobbies are photography and sailing.

#### COID

## Showroom for Britain

Britain is to have a permanent exhibition in London, where well-designed products from many British industries will be displayed as a stimulus to her home and export trade. The CoID is to have a Design Centre for British Industries at 28, Haymarket, S.W.I. Arrangements are being made to open the Centre as a permanent-but-changing exhibition early in 1956. The Design Centre will show a wide

permanent-but-changing exhibition early in 1956. The Design Centre will show a wide range of products, selected by the COID for their high standard of design. Exhibits will mainly be durable consumer goods of various price levels, such as textiles, furniture, carpets, pottery, glass, cutlery, kitchen equipment, hardware, travel and sports goods, office machinery, lighting and heating appliances, outdoor furniture, garden tools, etc.

#### SALTIRE SOCIETY

# Award for Housing

The Saltire Society, which for nearly twenty years has sponsored annual awards for the design of local authority housing in Scotland, is now to make awards for the

layout and design of groups of speculative housing. The society is doing this in the hope of improving the standard of commercially sponsored housing, some of which—it notes with horror in a press hand-out—is as badly designed as similar prewar housing.

Illustrated scrolls will be given to winning contractors and designers, and a plaque will be placed on one of the houses in each successful scheme.

#### IUA

### Congress in Holland

The main theme of the fourth IUA Congress, which will be held at The Hague from July 11 to 16, will be "Housing From 1945 to 1955." Peter Shepheard, G. Anthony Atkinson and Gontran Goulden have been nominated to attend the sessions on housing as representatives of the United Kingdom. Anthony Chitty will be chairman at working sessions on "Equipment" ment.

ment."

The United Kingdom will be represented at sessions on "Architectural Education" by Professor R. J. Gardner-Medwin, and at sessions on "The Place of the Architect in the Community" by J. M. Austin-Smith. Sir Patrick Abercrombie will attend the congress as Président d'Honneur of the IUA, and Professor Robert Matthew will be there as the United Kingdom's repre-

be there as the United Kingdom's representative on the IUA executive committee.

#### RESEARCH

#### A New Centre

Organization is more difficult in the building industry than in any other industry. That is why the architect is not an integral part of the building team.

That is what the Minister of Works, Nigel Birch, told guests at the opening of John Laing's new Research and Development Centre, at Boreham Wood, Herts., last week. The Centre will be used for the sort of research which the firm has been doing for many years—research which includes, apart from routine testing, investigation into the uses both of pulverized fuel ash and of mechanical equipment. mechanical equipment.

A photograph of the building appears

#### PRIVATE SOCIETIES

## The RIBA Speaks

The RIBA secretary, C. D. Spragg, has warned members of the danger of their profession being weakened in the eyes of the nation.

the nation.

He has given this warning in a letter sent to members of the Institute, on behalf of his Council: a letter which frowns on the recent formation of societies of private practising architects in London, the Midlands, and the west of England.

Members are told in this letter that the Council does not disapprove of their discussing individual interests, but that such interests should be discussed "within the existing framework of the RIBA and its Allied Societies."

"Different points of view," says Mr. Spragg, "should be discussed and resolved within the body of the profession."

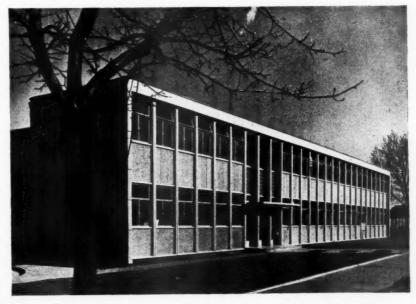
"Adequate machinery," he adds, "is available through the committees of the Royal Institute and the Allied Societies' Conference."

In addition to advising members to carry out discussions with adequate machinery out discussions with adequate machinery through the committees within the framework of the RIBA and the body of the profession, Mr. Spragg has asked them to "very seriously consider the inadvisability of bodies outside the framework of the Royal Institute." The prestige and influence of the profession can only be maintained with sextended local covernment and other with central and local government and other authorities, he writes, if the profession re-mains completely united and allows no con-flict or internal division of opinion to appear publicly.

# DIARY

Visit to Prendergast Secondary School. Leave the AA, 34, Bedford Square, W.C.1, by coach at 9.30 a.m. Tickets 4s. each.

Stone in Architecture. Two Cantor Lectures to be delivered by R. J. Schaffer and W. F. Haskop. May 9: The Weathering, Preservation and Restoration of Stone Buildings. May 16: The Stonemason's Craft. At the RSA, John Adam Street, W.C.2. 6 p.m.



Research Centre, Boreham Wood. Architects: S. Greenwood and H. N. Michell.

#### ARCHITECTURE AT THE ROYAL ACADEMY: FLATS

By a paradoxical coincidence this year's show at the Royal Academy, now presided over by that voluble anti-contemporary architect, Professor A. E. Richardson, contains many more good contemporary designs than usual. Some are included here. Elsewhere the Editors ask readers to go all out to make the Academy's architectural exhibition a worthwhile annual event.









Top left: Flats at Hove, Sussex. By Eric Lyons. Drawn by E. J. Thring. Top right: Metropolitan Police Housing, Ladbroke Road, Kensington. By J. Innes Elliott. Drawn by Ceri Griffiths. Above left: City of Birmingham: police station and flats, Bradford Street. By A. G. Sheppard Fidler. Drawn by D. Jackson. Above right: "High flats in twin towers." By J. H. Forshaw, M. B. Blackshaw and A. A. Bellamy. Drawn by A. A.

Bellamy. Below left: Bungalow at Corbiere, Jersey, Channel Islands. By Walter H. Marmorek. Drawn by Lionel Weanor. Below right: Flats at West Hill, Highgate. By Eric Lyons. Drawn by John Barton. Bottom left: Leigham Court Road housing, S.W.16. By William F. Howard. Drawn by F. A. Evans. Bottom right: Metropolitan police housing, Barking. By Charles R. Fowkes, Drawn by S.Kuczmarczyk.









Left: Draw

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#### AND OFFICES

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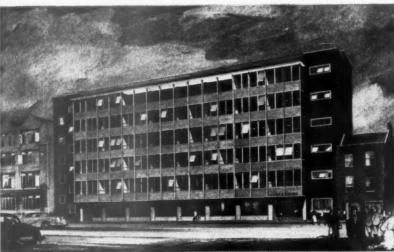
lats at om left: Drawn arking.





Left: Administration Building, Crawley, Sussex. By Edward D. Mills, Drawn by G. C. Bodgener. Right: Offices and flats for St. John's College,

24-29 St. Giles, Oxford. By Lionel Brett. Drawn by Newton Watson.











Top left: Ofrex House. By Wornum and Playne (in collaboration with D. & J. D. Wood), Drawn by B. R. Williams. Above left: State House, London, W.C.I. By Trehearne & Norman, Preston & Partners. Drawn by E. J. Thring. Top right: Proposed office block, London. By Horace G. Huckle. Drawn by Frank A. Weemys. Centre right: New Office

building for United Kingdom Atomic Energy Authority Industrial Group, at Risley. By T. L. Viney and R. S. Brocklesby. Drawn by R. Myerscough Walker. Above right: New Colonial Office, Westminster. By Sir John Burnet, Tait & Partners. Drawn by E. J. Thring.

600] THE ARCHITECTS' JOURNAL for May 5, 1955

ARCHITECTURE AT THE ROYAL ACADEMY



#### OFFICES (continued)

Clements House, London, E.C.2. By Trehearne & Norman, Preston & Partners. Drawn by E. J. Thring.

#### CHURCHES



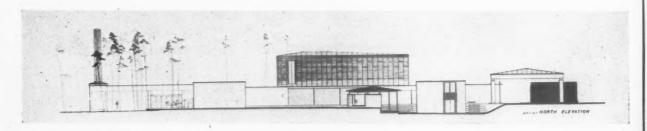
Left: Punshon memorial Methodist church, Bournemouth. By Ronald H. new Presbyterian church of St. Columba, Poplar. By Felix Goldsmith. Drawn by T. A. Greeves. Centre right: Church at Crawley New Town.

By Braddock & Martin-Smith. Drawn by D. F. Martin-Smith. Above Sims and Patrick J. Coles. Drawn by Ronald Sims. Top right: Proposed right: St. Andrew's Church and Parish Centre, Roxbourne, Harrow. By M. A.J. Farey and J. J. Adams. Drawn by Cyril Farey.

Opp

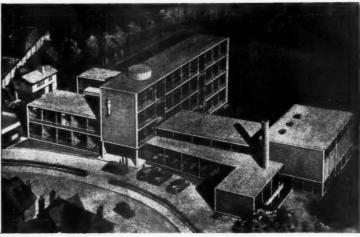
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#### MISCELLANEOUS BUILDINGS









Opposite page, bottom: Design for Crematorium at Kirkcaldy by Neville Conder. Top left: Preliminary scheme for proposed government buildings at Kingston, Jamaica. By Graham Dawbarn (Norman & Dawbarn). Drawn by J. D. M. Harvey. Top right: Proposed development of the Sidgwick Avenue site, Cambridge. By Sir Hugh Casson and Neville Conder. Drawn by Sir Hugh Casson. Centre left: Roderic Hill Building; Imperial College of Science and Technology. By Graham Dawbarn (Norman & Dawbarn). Drawn by Frank A. Weemys. Above right: Convent

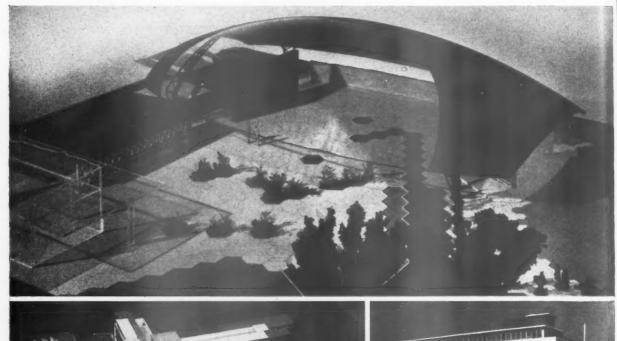
School extension, Abbey Wood. By Archard and Hardy. Drawn by J. D. M. Harvey. Above left: Secondary Modern School, Downham. By Archard and Hardy. Drawn by Norman Howard. Below left: Castle Donington Power Station, for the British Electricity Authority. By Clifford Tee & Gale. Drawn by Frank Weemys. Below right: Shop premises, Market Square, Hanley. By Colin St. C. Oakes. Drawn by Frank Hoar.





. Above row. By

#### ARCHITECTURE AT THE ROYAL ACADEMY: MODELS



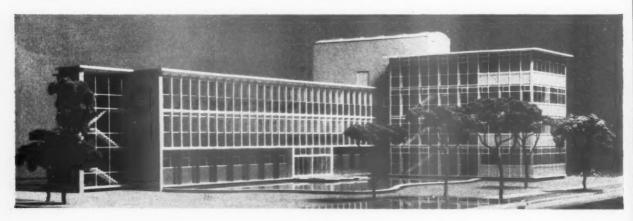






Extreme top: Assembly Hall, Engineering College, Rangoon University. By Raglan Squire and Partners. Top left: College of Further Education, Harrow, Middlesex. By C. G. Stillman. Top right: Office Building at 24, Chiswell Street, London, E.C.I. By Cecil C. Handisyde. Above left:

Harlow Police Station and courts. By Frederick Gibberd. Above right: New Pavilion, East Molesey Cricket Club. By Basil Ward. Below: Sylvania-Thorn Colour Television Laboratories, Enfield. By Geoffrey A. Jellicoe.



This serv "M room of s

#### POLICE HEADQUARTERS

in TALBOT ROAD, STRETFORD, MANCHESTER

designed by G. NOEL HILL, County Architect,

F. A. HEWITT, assistant county architect, E. P. HAINS, principal assistant architect

W. CLAYTON, assistant architect-in-charge

S. BOYD, chief engineer, Lancashire County Council

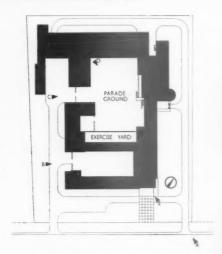
H. WILD, chief quantity surveyor, Lancashire County Council

This police headquarters, which is the first to be built by the Lancashire County Council since the war, serves the largest police division in the country. It was designed before the Home Office published its "Memorandum on the Design and Construction of Police Stations" (HMSO 1s. 6d.), in which smaller rooms were recommended. When the building was put up the Home Office insisted on the provision of some protection against blast, and this accounts for the construction of steel framework within a 14½-in. cavity wall. The general contractors were E. E. Coleman Ltd. For sub-contractors see p. 624

The approach to the building from the south. (Viewpoint A on key plan)



Below:
ffrey A.



Key plan showing photographic viewpoints

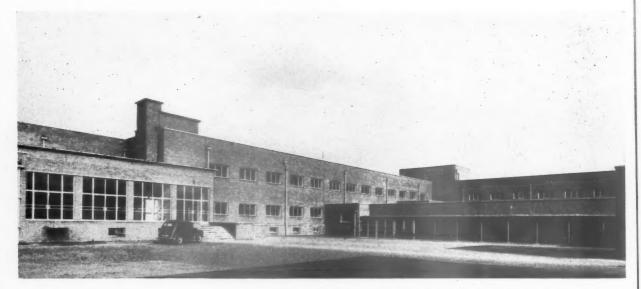




Viewpoint B: Entrance to one of the two courtyards on the west side of the building. After prisoners have been brought into the yard by van they enter the building by the door seen beyond the opening in the brick wall. In the left foreground of this photograph is the entrance to the Weights and Measures Dept. something that is not necessarily found at a police station,

The entrance to the second and larger courtyard (viewpoint C) on the west side of the building—used as a parade ground. On the left are the workshops of the motor transport section. There is accommodation for fifty cars. The maintenance of vehicles from two other divisions is carried out in the workshops. On the right are the stalls for six horses (and an isolation box) of the mounted section.

#### POLICE HEADQUARTERS AT MANCHESTER



Above: the parade ground (viewpoint D): on the left are the windows of the parade room; the other windows give light to circulation corridors. Beyond the covered bicycle storage space is the exercise yard for the cell block. The cells are lit through glass lens on to this yard, which is entirely enclosed by the high walls of the surrounding buildings and by a wall separating it from the general parade ground. A few windows to upper floor corridors which are used solely by police look down into the yard (the public is not allowed to have viewing access to the yard).

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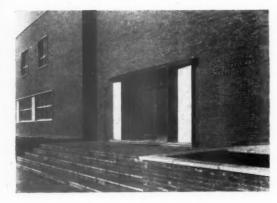
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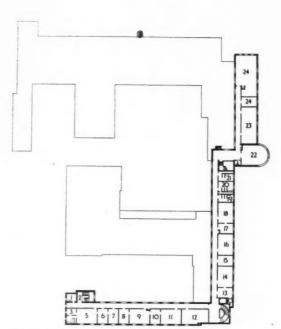
7. 8. 9. 10.

11. 12. 13. 14. 15. 16. 17.

18. 19. 20. 21.



The main public entrance (viewpoint E) facing south on to Talbot Road. The double doors of polished mahogany are glazed with 4-in. armourplate glass. The screen is glazed throughout with armourplate in frames of mahogany and oak; the two projecting jambs are faced with cream quartzite tiles. The top fascia board is of mahogany, with flashing in 24 gauge copper.

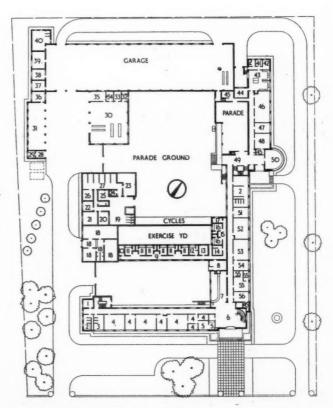


First floor plan



Basement plan

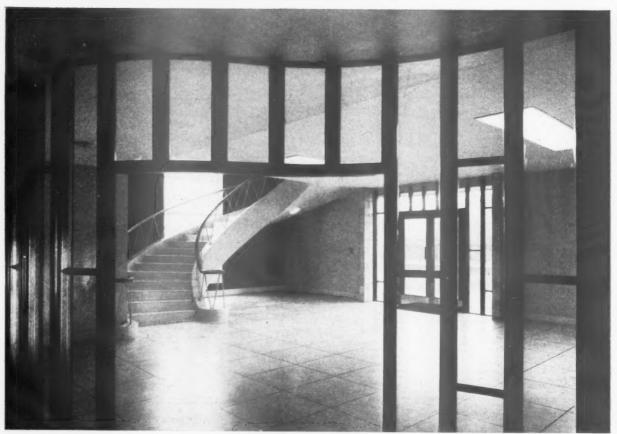
	Filing Accounts
	Map room
13.	Woman police Inspector
14.	Women police
	C.D. Inspector
	Training and acci-
	dent prevention
17.	Special constables'
	Commandant
	Special constables
	Female lavatory
20.	Male lavatory
21.	Officers' lavatory
22.	Library
	Lecture room
	Recreation
	11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22.



Ground floor plan [Scale:  $a_h^{3}$ " = 1'0']







Opposite page, top : The enquiries desk is separated from the main hall by a mahogany glazed screen. The CID offices are behind the glazed doors on the left; the sub-divisional offices are behind the doors on the right. The architects tried to create a friendly and " open " feeling here-so that people making enquiries should not be discouraged. The relationship between this enquiry space and the charge room and cell block is important. Visitors must be able to pass quickly from the enquiry desk into the cell block, while the prisoners arriving and entering the charge room must be shielded from the public view.





Opposite page, below: The enquiries room, looking back towards the main entrance doors and the semi-circular reinforced-concrete staircase. The construction, shown clearly in the progress photographs above, is of two reinforced-concrete strings 2 ft. 3 in. deep, with two beams per flight spanning to stanchions on either side of the floor-to-ceiling windows. Ceilings and walls are of painted plaster; floors and coved skirtings are of terrazzo.

#### POLICE HEADQUARTERS AT MANCHESTER

The main parade room for the local Stretford police force. Essential requirements were easy access from outside through constables' entrance, direct access to the adjoining parade ground, ample space for notices and a hard-wearing wood block floor.



This recreation room on the first floor accommodates a billiard table, a table-tennis table and a dart board. The radiators seen on the side wall are part of the low-pressure hot water system, run by automatically stoked boilers. The building is divided into four separate zones in each of which the heating is thermostatically controlled from a board in the telephone exchange.





Main day meals are served from this kitchen to a varying number of staff in the building. Seen through the open service hatch is the constables' mess. There is a separate mess beyond for officers and another for special constables. A service lift supplies the recreation room immediately above. On the right is a doorway to the staff sitting room. The floor is covered with quarry tiles. Walls and ceilings are of painted plaster, with tiles to a height of 4 ft. 6 in.

#### POLICE HEADQUARTERS AT MANCHESTER





Above: the Weights and Measures department. There is no link between this department and the divisional offices. Walls are of fair-faced brickwork, painted. The floor has a granolithic finish.

Left: the photographic section in the basement consists of an office, a studio and three dark-rooms, one of which is shown here. This section is greatly used, as all prisoners and scenes of crime are photographed before any investigations take place.

The cells, right, which are approached directly from the charge room, are planned so that there is no point where male and female prisoners can meet. All cells, which are lit by double lens set into a reinforced, concrete frame on to the exercise yard, are artificially ventilated. Each cell (65 sq. ft. in area) has its own WC leading off it, as shown below. Heating is provided from hot pipes under the bench, which is of teak tongued and grooved boards.





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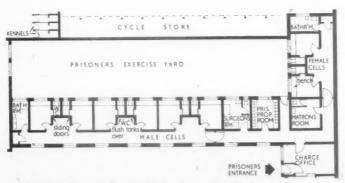
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WC flushing and the opening and closing of the WC door in each cell are controlled by the warders in the passage outside. Cells are lined with faience. They have granolithic flooring. The steel door to the cell, which opens inwards, has an inspection hole and a service flap through which food is passed. It is splayed to make it easier for stretchers to be taken into the cell.



Detailed plan of ground floor cell block [Scale: 1 " = 1' 0']

#### CLIENT'S BRIEF: his stated requirements

A building to provide accommodation for the Manchester Divisional, Stretford Sub-Divisional and CID Staffs, with Transport Section, Mounted Section and Weights and Measures Staff. The plans were prepared before the Home Office Memorandum on Standards of Accommodation was published.

#### SITE: topography, surroundings, access and planting

The 31-acre site is practically level with a south frontage to Talbot Road and overlooking Old

Trafford Cricket Ground. On the east boundary are the formal gardens of Stretford Town Hall

JUNIOR
TECHNICAL
COLLEGE
TOWN HALL

TRAFFORD CRICKET GROUND

and on the west is the Stretford Junior Technical College. To the north is an area of open ground scheduled by the town planning authority for further development as a civic centre. Tree planting is intended in grassed borders along the south and west boundaries.

GREAT STONE ROAD

Site plan

#### PLAN: general appreciation

The plan shape is a logical development of the requirements within the pattern of the town planning proposals. The various sections are linked to each other. The reverse E shape of the plan presents an unbroken facade to the east and to Talbot Road on the south, leaving a proposed

building to complete the recessed square of the existing civic gardens.

The CID and Divisional Offices are on the ground and first floors of the south wing; the sub-divisional offices are in the southern half of the east wing; kitchen and dining rooms, with

recreational rooms over, and in the northern half; the single-storey cells form the middle horizontal of the "E" and the transport section the top horizontal. A basement floor extends the full length of the south and east wings.

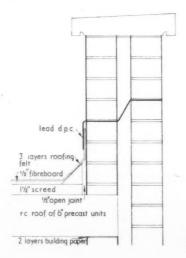
#### MAIN CONSTRUCTION

LOADBEARING ELEMENT: a. Steel frame. b. Brick piers and steel plate girders. c. Loadbearing brickwork. Location: a. South and east wings. b. Garage and workshops. c. Elsewhere.

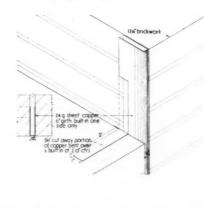
Beam spans: a. 25 ft. b. 52 ft. Column grid: a. 25 ft.  $\times$  12 ft.

FOUNDATION TYPE : a. Massed concrete bases.

b. Strip foundations. Location: a. Under stanchions.
b. Single-storey structure. Sub-soil:
a. Boulder clay.
b. Gravel. Depth: a. 10 ft. to 20 ft.
b. 3 ft. average.







Left: expansion joint. Above: ","," Right: ","," Section at gable wall [Scale: 1" = 1'0"]
Part elevation garage wall [Scale: \(\frac{1}{2}\)" = 1'0"]
Plan and projection garage wall external joint
[Scale: \(\frac{1}{2}\)" = 1'0"]



Above: This is a typical detail of one of the expansion joints at the junction with the stub stanchion bases. When this building was designed the Home Office considered that a steel frame building, with brick cladding, gave the required standard of protection against blast and as there has always been a possibility that an additional storey would be built on top of the divisional offices and the wing running at right angles, so that the stanchion bases have been formed at roof level to make extension easier. There are ten roof expansion joints, thirteen roof sliding-joints and twenty-two vertical expansion joints.

OUTER WALL TYPE: a. 14½-in. cavity brickwork (5½-in. cavity). b. 13½-in. solid brickwork. c. 11-in. cavity brickwork. Location: a. South and east wings. b. Cell block. c. Elsewhere. Finish: a, b, c. Accrington facings.

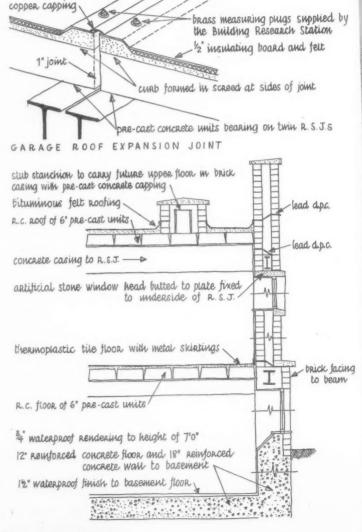
ROOF TYPE: Flat. Location: Throughout.

Material: Precast concrete beams. Finish:
3-layer roofing felt.

FLOOR STRUCTURE TYPE: a. Precast concrete beams to all suspended floors. b. Solid concrete osingle storey blocks. Location: a. South and east wings offices and corridors. Entrance halls, staircases, lavatories. Parade room. b. Offices. Cells and garage, etc. Finish: a. Thermoplastic. Terrazzo. Wood block. b. Thermoplastic. Granolithic concrete.

INTERNAL WALL TYPE: a. Partition walls. b. Partition walls. c. Partition walls. d. Inner leaf outer wall. Location: a. South and east wings. b. Elsewhere. c. Cells. d. Garage and workshops. Material: a. 3-in. woodwool. b. Brick. c. 9-in. brick. d. 4½-in. sandlime brick. Finish: a. Plasterboard painted. b. Plasterboard painted. c. Faience lining. d. Plain brickwork.

CEILING TYPES: a. Soffit of precast beams. b. Ribbed metal lathing. Location: a. Generally. Garage and workshops, b. Cell corridors. Material: a. Plasterboard. Fair-faced beams. b. Plasterboard. Finish: a. Painted. Stone paint. b. Painted.



Details of expansion joints

#### ARTIFICIAL LIGHTING

SOURCE AND FITTING TYPE: a. Tungsten: opal glass pendant (acorn). b. Tungsten and fluorescent; recessed with glass diffuser and louvred fluorescent, c. Tungsten: metal reflector (RLM). d. Tungsten: ceiling fitting (saucer). e. Tungsten: recessed with diffusing glass. f. Emergency lighting battery; in general fittings. Location: a. Offices. b. Main hall. c. Garages. d. Corridors. e. Cells. f. Various electrical points. Illumination level: a. 12 lumens. b. II lumens. c. 5 lumens. d. 3/5 lumens. Quality: a, b. Diffused. c. Direct. d, e, f. Diffused.

WIRING AND SWITCHING TYPES: a. Con-

cealed HGSW galvanized conduit, b. Surface galvanized conduit. Location: a. Main building. b. Garages. Reasons and comments: a. Main conduit runs concealed in service ducts formed for the purpose, others in in-situ concrete and plaster, h. Unplastered wall. All switches fitted with metal plates, BMA in main building; galvanized in garage. Emergency lighting: battery and control panel with rectifier, changeover switch, etc., to operate immediately on a mains failure or on failure of any phase of the supply, this being 3-phase 415/240 volt. Battery consists of 120 lead acid sealed glass cells, fully charged, having a capacity of 240 amp. hours

when discharged in 10 hours.

POWER SUPPLY TYPE: 3 phase and neutral MV supply to a totally-enclosed iron-clad industrial type air break switch-gear. How distributed: Paper-insulated, lead-covered, steelwire armoured-cables from main panel to section boards: thence by conduit to final sub-circuits. Comments: Power in garage, sockets for portable equipment fed at 110 volts from 240/110 volts transformer double wound with secondary winding centre tapped and earthed.

#### NATURAL LIGHTING

WALL GLAZING: a. Metal casements. b. Glass lenses in concrete frame. Location: a. Generally.

ROOF GLAZING TYPE: a. Metal framed lantern lights, b. Reinforced-concrete lanterns with glass lenses, c. Saucer domes, Location: a. Police

entrance stairs. b. Garage, workshops, stables, c. Weights and Measures block.

#### HEATING AND VENTILATION: artificial and natural

HEAT EXCHANGER TYPE: Low-pressure central heating system. Location: Boiler house. Reason: To meet Home Office requirements.

BOILER TYPE AND CAPACITY: No. 2 6RS. 8 Sectional Boilers, 1,292,000 BTUs hour each. Heat load: Total 2,584,000 BTUs hour. Fuel type: Coal. Stoking method: Automatic underfeed stokers. Reason for choice: Most economical. The heating installation is fully automatic with zone control. The installation is split up into

4 zones which can be in operation at different times.

WATER HEATER TYPE: No. 25 K. sectional boiler. Location: Boiler house. Fuel type: Coke. Stoking method: Hand fired. Reason for choice: Most suitable for this installation.

HOT WATER STORAGE TYPE: Indirect cylinder, Location: Boiler house, Materials: Copper, Capacity: 200 gallons.

PIPES AND JOINTING TYPES: Heating, screwed and socketed steel tube. HWS copper tube capillary fittings.

COLD WATER STORAGE: HWS tanks. Cold water-mains supply. Location: Tank room over boiler house. Materials: Galvanized steel. Capacity: 250 gallons.

#### SOIL WASTE

TYPE OF SYSTEM: Combined system to main sewer. Location: General. Materials: First quality SG stoneware. CI under buildings.

RAINWATER DISPOSAL TYPE: Roof outlets to

LIFTS TYPE: Lift well provided, lift to be installed should second floor extension be neces-

RW heads. Location: General. Materials: CI sary. Relation to traffic circulation: Junction of south and east wing corridors off main entrance hall.

#### FIRE

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STRUCTURAL PRECAUTIONS: Maximum use of incombustible materials and 2-in. concrete casing to steelwork. Grade of protection: 2 hours. PLANNING PRECAUTIONS: ACCESS FOR

and hand extinguishers.

Apparatus sprinklers, etc.: Corridor hose reels FIGHTING: Three staircases and additional

access from main building on to single-storey flat roofs.

#### COLOUR

ceilings offices generally. b. Windows and architraves. c. Doors, counters, library fittings, etc.

PAINT TYPES: a. Emulsion paint. b. Gloss COLOUR TREATMENTS: Generally light repaint. c. Stain polish. Where used: a. Walls and flecting colours uniformly used except where necessary to emphasise a change of use, e.g., offices, circulation, recreation, dining room.

Wallpapers in strong contrast used for "stopping" corridors and in the main entrance hall to give emphasis to staircase and balustrade.

#### TIME SCHEDULE

Drawings: Final working drawings, March 1950-March 1951.

Contract signed: March, 1951. Work commenced:

March, 1951. Work completed: July, 1954. Type of contract: Bill of Quantities.

#### COST ANALYSIS

Total ground floor area of super-			ELEMENT	Cos	t per	ELBMENT	Cos	t per
structure	36,624	sq. ft.		sq	ft.		sq	. ft.
Total floor area (excluding base-				S.	d.		S.	d.
ment)	49,352	sq. ft.	Preliminaries and insurances	2	31	Drainage	2	31
Floor of basement	12,089	sq. ft.	Contingencies	1	8	Glazing		31
Storey heights of basement	10 ft. o	in.	Work below ground floor level	13	0	Decoration	I	41/2
Total depth of basement-			External walls and facings	5	4	Paved areas	3	6
Below ground level generally	7 ft. o	in.	Internal load bearing walls		5	Special sound insulation	-	_
In heating chamber	9 ft. o	in.	Internal partitions	I	7	Special thermal insulation	-	_
			Frame	6	12	Lifts (excluding shaft and mot	or	
TENDER DATE			Upper floor construction and stair-			room)	_	_
Tender cost of superstructure	,		case	2	3	Difference between tender cos	st and	
installations and finishings	£159	595	Roof	4	5	final cost	Not yet k	nowi
Tender cost of foundations and			Rooflights	1	0			
basement	£39,	770	Floor finishes	2	8			
Tender cost of external works	£9,	050	Windows and doors (external)	I	6			
Gross total cost	£208,	415	Doors (internal)	I	0			
	8.	d.	Wall finishes	I	9			
Cost per ft. super of floor a	rea		Built-in fittings		6			
including basement	67	10	Ironmongery		8			
Cost per ft. cube including baseme	ent 4	0	Plumbing (external)		71			
			Plumbing (internal)		9			
FITTINGS AND EQUIPMENT			Sanitary fittings		8			
Kitchen equipment		7	Gas installation		2			
Garage equipment		9	Electric installation	5	2]			
Telephone equipment.	I	0	Heating installation	3	8			
Site Development		8	Ventilation		2			

#### COST ANALYSIS: comments

To illustrate the possibility of comparing different types of buildings we reprint the cost The elements are grouped in a way that is usually found convenient for comparison of one building with another. It should be noted that noted especially in relation to the large window costs are slightly lower per square foot but give the schools which are in general of prefabricated associated with prefabricated work. an indication generally of the plainer finish construction compared quite favourably with the traditionally built Police Headquarters.

which is a feature on this scheme, the remainder analyses of three schools previously published. of the structure shows little variation from building. Note also that the special equipment average costs per square foot. The low rate for for kitchen, garages and telephone services windows of the metal casement type should be represents 2s. 4d. per square foot. The finishing The services are relatively economical apart from expected in office blocks. the electrical installation, the cost of which

With the exception of the foundation work, reflects the additional requirements of emergency lighting equipment needed in this type of

				Т	Sheffield S.M. School Tender: March, 1951 Floor area: 41,853 sq. ft.			Barnet S.M. School Tender September, 1952 Floor area: 50,920 sq. ft.					T	Dartford Technical College Tender: October, 1951 Floor area: 72,640 sq. ft.					Police Headquarters Manchester Tender: April, 1951 Floor area: 61,441 sq. ft.			
ELEMENT				s.	d.	s.	d.		S.	d.	8.	d.	s.	. d.		S.	d.	s.	d.	s.	d.	
Preliminaries				0	8				1	0			1	2	3			2	31			
Contingencies					_	0	8		I	61	2	61		5	*	2	81	I		3	III.	
Foundations				7	94				3	II			4	9				13	0			
External wall				5					-				8					5	4			
Internal partition	S			I					-	II			8	5				2	0			
				4	6					61			7	-					13			
TY 0				2	Ož				-	21			4	7					-			
Doof				6	o)					IO!			4						3			
D (11 - 1 -				0	-					71				-	-				5			
Windows and Do			• •	4	1					113			0		in ext. walls				0			
Classica		* *		0					-	91								I	6			
Y	* *	* *			-		_					0.1	0					0	31			
		* *	* *	0	71	33	7		0	103	33	81	0	3	4	36	2	1	0	37	0	
Ceiling finishes				I	31				2	2			4	6	1				_			
Wall finishes				I	101				2	2			0						9			
Floor finishes				3					4	31			1									
D				I		9	21		2		***	101					10	2		_	- 1	
					91	0	-2		-	3	10	103	0	0		D	10	I	41	5	91	
Plumbing interna				3	54				1	11			0	8	1.3			0	9			
Sanitary fittings		**		0	41				0	81			0	3				0	8			
Gas				0	21				0	41				_					2			
Electric				3	31				3	6			3	10	d.				21			
Heating and vent	ilation			5	41	12	8		6	0	11	81		3		14	I 1		10	10	73	
W.C. doors and p	artitio	ns		0	1				0	21			0	2	3							
Cloakroom fitting				0	I i					31								-	_			
Built-in fittings					-				0	38			0	I	1			_	_			
Eissing.				2					3	3			_		}			0	6			
T		**		0	2								I	11	3							
Plumbing externa	1		**						0	41								0	8			
Destaura		* *		0	3				0	91			0		-			0	71			
Diamage	• •		.:	2	2	5	41		1	8	6	63	I	1		3	61		31	4	03	
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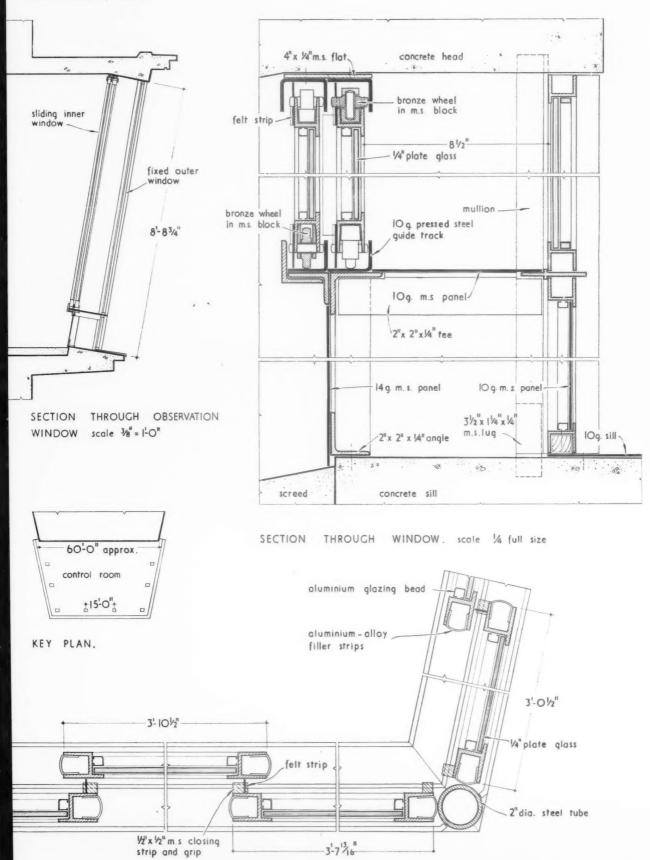




This window is double-glazed for purposes of sound reduction and is canted to eliminate reflection and glazed with anti-sun glass to reduce solar heat transmission. It comprises a fixed outer window and a sliding inner window. The former would have been virtually impossible to clean were it not for a sliding cradle (not included in the drawings) which runs round the full perimeter of the window. As the sliding windows are canted, the runners at the top are at right angles to the plane of the window.

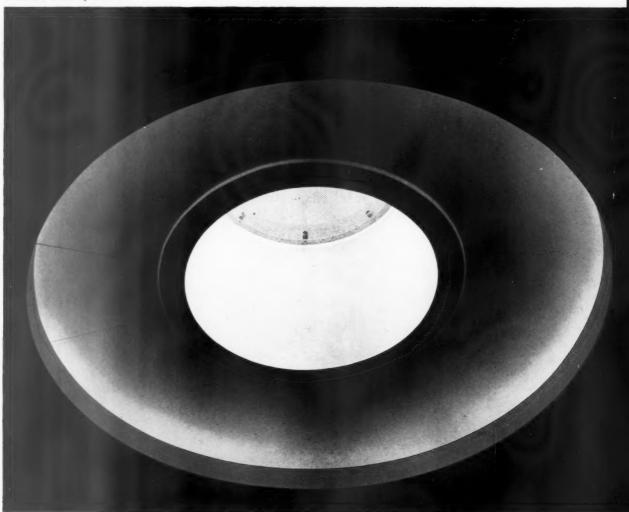
APPROACH CONTROL ROOM: LONDON AIRPORT

Frederick Gibberd, architect



DOME ROOFLIGHT IN BALCONY LOUNGE: LONDON AIRPORT

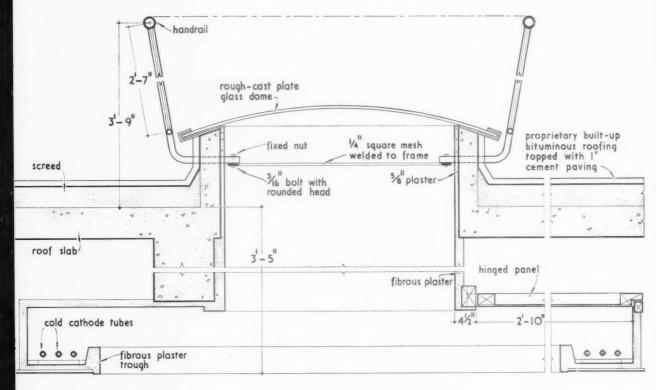
Frederick Gibberd, architect



Since this rooflight gives on to the roof garden above, it is protected against crowds by a circular balustrade. The supports of this balustrade, which are cast into the concrete upstand, are used to secure a wire mesh tray to prevent broken glass from falling on people below. Access to the transformer for the cold cathode tubes is by means of a flush-fitting trap door let into the fibrous plaster surround. The tubes are 20/22 mm. dia. "intermediate white."

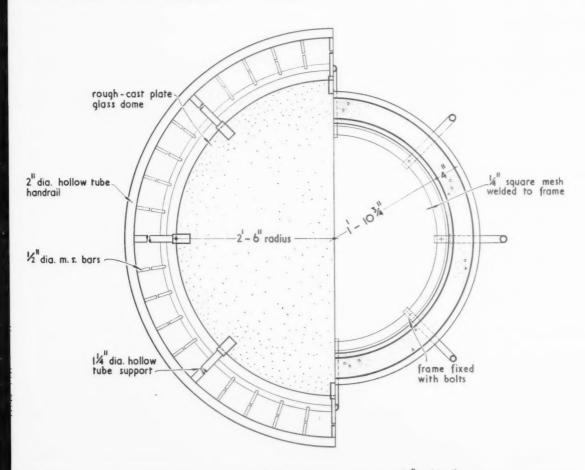
DOME ROOFLIGHT IN BALCONY LOUNGE: LONDON AIRPORT

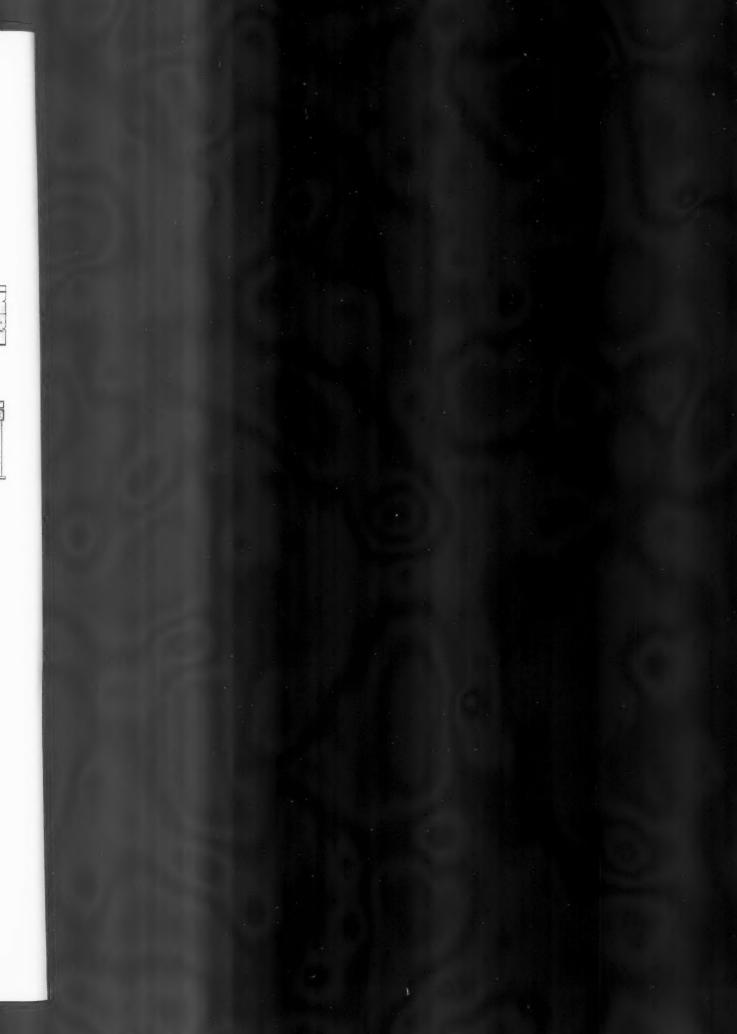
Frederick Gibberd, architect



VERTICAL SECTION THRO ROOFLIGHT.

scale  $\frac{34}{4} = 1 - 0$ 







## TECHNICAL SECTION

Those who have anything to do with maintenance will know the nuisance caused by the traditional "Portsmouth" type ball valve described in B.S. 1212. About a million and a half of these have to be replaced every year in this country: the average life of ball valves in downstairs fittings has been estimated to be from six to eighteen months. A BRS test, conducted by A. Sobolev,\* shows that this shortness of life is due to cavity erosion of the seating, caused by the formation and bursting of minute bubbles (that sizzling sound). The solution which BRS propose is to prevent the formation of vortices (hence of bubbles) by rounding the outlet and inlet. This has the added advantage of multiplying the rate of flow by five—thus cutting down that long wait between flushes. Other improvements include a star-sectioned outflow pipe, which deadens sound, and a plastic float which is immune to the electrolytic damage caused by the soldered copper float. A prototype ball valve incorporating these features will be on show at the Building Exhibition.

## 10 DESIGN: BUILDING TYPES design of school kitchens

This week's special feature

The number preceding the week's special article or survey indicates the appropriate subject heading of the Information Centre to which the article or survey belongs. The complete list of these headings is printed from time-to-time. To each survey is appended a list of recently-published and relevant Information Centre items. Further and earlier information can be found by referring to the index published free each year.

MOE Building Bulletins are almost certainly the most important documents relating to architectural practice these days. Though confined in scope to a single building type—schools—they alone attempt to state what the architect should know about each separate aspect of design: what his competence should be. On March 10 we reviewed MOE Building Bulletin No. 10, on New School Playing Fields: this week we have asked Miss J. E. Walley, of the Department of Household Arts at Queen Elizabeth College, to review Bulletin No. 11, which is devoted to the design of school kitchens.

The main purpose of this Bulletin is to help those who have to design kitchens in new school buildings. Historically its purpose is to lift the whole subject of kitchen design out of the context of the MOW type plans of the war period when the kitchen was thought of as an adjunct to the school and was housed in standard huts. This re-appraisal of the school kitchen is made not by the usual architect-enquiry, of the kind which asks how much room is

needed for each operation, but by an enquiry into the efficiency of the operations themselves, of the sort we associate with the production engineer.

Though the Bulletin is very detailed, the Minister of Education, Sir David Eccles, has been careful to point out that it is concerned only with principles and that none of the plans and diagrams is to be regarded as "standard." As he remarks, there are still gaps in our knowledge on subjects such

<sup>\*</sup> Report published in the March issue of the "Journal of Water Engineers."

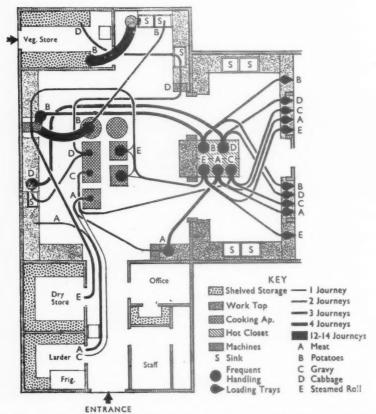
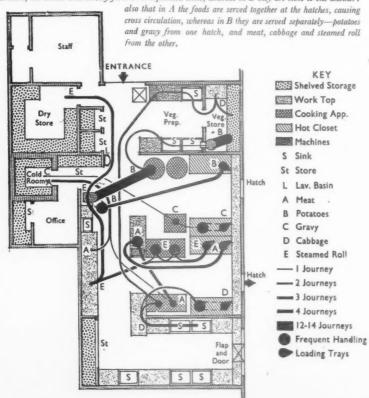


Fig. 1. Diagrams showing the principal movement during the preparation and service of 450 meals using family organization. A (above) is a standard 500-meal kitchen and B (below) is a kitchen which has been reformed on the principles outlined in the Bulletin. It will be noticed that in A the cookers, hot closets amd servery form three separated units, whereas in B they are close to one another:



as ventilation, the design of equipment and the type of meal to be served, and a major change in our ideas about any of these can easily require a change in planning.

#### FLOOR AREAS AND EFFICIENCY

In planning a kitchen the architect should, of course, try to provide a convenient layout in the smallest possible area. The Bulletin contains a graph and a table of figures showing how total areas used for school kitchens by local authorities gradually increased during the years 1949-52 above those shown in the standard wartime plans which were issued by the MOE. The kitchen areas now recommended and shown to be practicable are less than those of the standard plans; they are "strikingly more economical in area " and, at the same time, "significantly more efficient". For instance, the overall area of a kitchen for 500 meals on the standard plan was 1,750 sq. ft.: the area now recommended is 1,530 sq. ft. This saving has been effected mainly by making the servery a part of the main kitchen, instead of a separate entity as in the old standard plan. Diagrams in the Bulletin, reproduced in Figure 1, show this clearly. Not only has a saving been made in total area but (as is shown by the movement lines in the diagram) the food in preparation travels a shorter distance; this, of course, saves the time and energy of the worker, and adds considerably to increased efficiency in the kitchen. Comparison of the two diagrams shows there is a reduction in the amount of floor area not used for equipment or traffic routes, this means there is a smaller floor area for cleaning as well as a saving in the cost of building.

Section 1 of the book deals with such matters as the type of service and dining organisation; section 2 covers the general basis of design and includes a short statement on time and movement, together with a fascinating, curious, and rather incomprehensible diagram which, it is claimed, illustrates "positions of work" in the kitchen. The writers of the document then discuss at considerable length (in section 3) the design of individual areas. Each area is dealt with in two parts; in the first part is a description of the main processes that take place there and in the second a suggested layout is given. The first is printed in italics, so that it can be skipped by those familiar with this part of the work.

In other sections of the Bulletin one reviews services, physical conditions, construction, materials and finishes. The complete kitchen is dealt with in a summary which includes an aide-mémoire of 32 main points to be borne in mind throughout the process of design. Six specimen diagrams illustrate the main principles embodied in the document. One of these diagrams shows the layout of a kitchen for 600 meals, and another for 200 meals. The remaining four are variations of a 300 meal kitchen, one in a non-modular "tailor-made" plan, one on a 10 ft. bay, one on a 3 ft. 4 in. module, and one on an 8 ft. 3 in. module. It is interesting to find that the total

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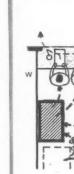
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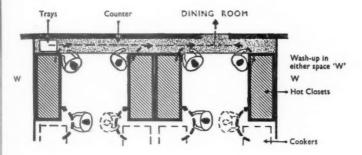
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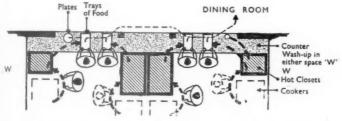


Fig. 2. Servery arrangements for, top, family organization, and above, counter organization.

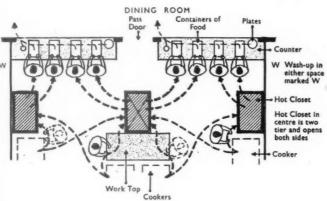


Fig. 3. Service arrangements for counter organization adapted to serve more than 150 meals at a sitting.

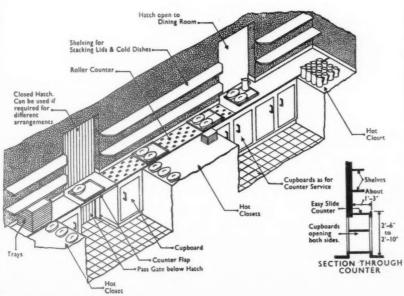


Fig. 4. Counter for family organization.

areas of all four are "within about 40 sq. ft. of each other."

The document deals mainly with kitchens to serve between 150 and 600 daily meals for individual schools, as these are the kitchens now most frequently built. Very large kitchens and the special problem of enlarging existing kitchens are given some brief consideration in an appendix. It is interesting to note that "kitchens within the range of 200-600 meals can be planned at almost the same area per meal," and that "the running costs per meal will not vary greatly." Small kitchens serving less than 150 meals are expensive in capital and running costs, and large ones of over 500 to 600 present serious problems of efficient management.

#### FAMILY AND COUNTER ORGANIZATIONS

A good feature of the Bulletin is the wealth of illustrations, which includes drawings of suggested storage shelving, diagrams to show the movement of food through the kitchen, as well as a number of suggested layouts for whole kitchens and individual sections. The two diagrams reproduced in Figure 2 show serving arrangements: they illustrate the different requirements for (a) family organization; (b) counter organization. The text explains that for the former the speed of service should be something like twelve trays a minute which, assuming six meals per tray, is seventy-two meals per minute, and that this serving is therefore satisfactory for any normal sized dining room. When counter service is used, however, the speed is much slower, resulting in the service of 150 courses in 7½ minutes." This layout is therefore suitable only for a dining room serving 150 meals. For more than this number an arrangement as shown in Figure 3 is needed. The isometric drawing in Figure 4 gives another impression of serving arrangements and shows the layout of the recommended cupboards, shelves, and hot cupboards. When referring to the layout of the kitchen as a whole, a point is made of the dilemma which is well known to all planners of kitchens, namely the "sharp conflicts of contradictory requirements' which inevitably results in a compromise, and this must always be borne in mind when considering the efficiency of any kitchen layout. This problem should not, however, arise when planning layouts of individual sections in isolation as illustrations, and one wonders therefore why on p. 28 it is necessary to show diagrams of vegetable preparation and store areas in which the route for delivering vegetables lies through the main working area of vegetable preparation.

A number of precise data are given which should prove useful to planners. For instance, the width and height and length of the counter for both family and counter organization; the working height of the sink in vegetable preparation (could not a second figure be given for those cases where the workers sit to do this work?); the temperature of the air surrounding a refrigerator (but surely the temperature of the air in the kitchen should "never exceed 80° F." in any case); the widths of gangways which it is stated should be wide enough to allow for a probable and not a maximum amount of activity; the clearance distance to allow around cooking apparatus to facilitate cleaning; the minimum areas of table per diner for both types of meal service; the maximum distance for the farthest table from the hatch; the lengths of collection counters for used tableware for both types of service and of the stacking unit; the height of the sink for washing up and of the tabling for the washing machines. Among this wealth of detail the statement on the supply of hot water is rather general. and some idea of likely demands would be

#### FOOD STORAGE

Some space is devoted in the bulletin to arrangements for food storage, and this is a very important topic on which careful thought to planning can effect considerable improvements in the efficient use of the cubic space available. It can also save the time and energy of the worker. In the first place careful definition of the various uses of such areas as the larder, the store room and the refrigerator or cold room would seem to be necessary. Surely the refrigerator and cold room are essentially the same in use. The statement that "the general requirements of the larder and the dry store are the same" is perhaps open to question on the score of temperature alone. Low temperatures and condensation are intimately related and the damp stores where moulds grow readily and tins become rusty are all too common a feature of our kitchens. The suggestion for shelving in the storeroom shows shelves of 21 in. depth with a 15 in. clearance between all after the first, and the articles disposed on these occupy the cubic capacity completely, thus following one of the basic principles of efficient storage. Another consideration, however, is ease of use and the "small bins" of approximately 21 in. by 15 in. by 12 in. may be quite heavy and difficult to handle when filled. The same point arises in the storage at a height of 4 ft. 3 in. of the nets of vegetables which may weigh up to 40 lb. The storage arrangements shown for sacks of potatoes looks neat but will only work satisfactorily if the co-operation of the delivery man can be relied on.

#### CONCLUSION

The bulletin crystallizes the experience of some fifteen years' work by local authorities and the Ministry of Education in the provision of school meals, and shows clearly that much has been "learned from the short but crowded history of school kitchens." We know that "the kitchen itself is only a machine; the quality of its products depends entirely on the human element. Good staff will produce first class meals regardless of the shortcoming of the kitchen they have to use. A good kitchen cannot ensure good meals; it can only facilitate and cheapen their production." But the contribution that a well-designed kitchen can make to the production of school dinners which are "nutritious, wholesome and attractive" is very considerable, and this document should help the architect to achieve his end and to avoid "compromise after compromise as his lot and a bad kitchen as his fate."

## INFORMATION CENTRE

10.125 design: building types SHOP DESIGN

The Specialty Shop, Jose A. Fernandez. (Architectural Book Publishing Company Inc. \$12.50.)

This is a revised edition of a book which first appeared in 1950. It is a picture book giving illustrations and thumb nail plans of a very large number of specialty shops ranging from a wine merchants to a corsetorium. All but one (Ellis Somake's Dolcis Shop in Bristol) are American examples. The writer describes very well the attitude of mind which must govern this class of work, though the text of the book is of the kind you imagine a busy man dictating to his secretary in off moments. There are some 50 pages of Working Details in the back of the book, though some of these are rather thin.

## 23.206 heating: ventilation SKIRTING BOARD HEATING

Skirting Board Heating. A. W. Pratt (Journal of the IHVE, February, 1955.)

So little has been heard of skirting board heating in this country that this article is to be welcomed. It refers to the well known experiments at the University of Illinois and to some other American examples, and then goes on to describe some tests on four houses at Ipswich, two of which had skirting board heating supplemented by open fires. It finally describes a house of 1,500 sq. ft. at Welwyn where this type of heating was used. The author's conclusions are that it is a pleasant form of heating, neat in appearance, flexible in operation, and no more expensive to run than a comparable system of radiator heating. The cost of installation is not mentioned.

There appears to be some awakening of interest in this form of heating in this country. It certainly has a number of attractive features, but it would be helpful if heating engineers or component manufacturers could make known some reliable facts on first costs—without some guidance on this, many people will not follow it up.

## 8 ESTIMATING materials' prices

Current prices for measured work will appear on May 19.

Prices of materials and measured work last appeared in the JOURNAL on February 10 and February 24, 1955, respectively.

Current prices for measured work appear on May 19.

Current rates of wages and market prices of materials prepared by Davis, Belfield and Everest, Chartered Quantity Surveyors. Rates for measured work will be published in the JOURNAL for May 19.

Rates of Wages rose on April 18, 1955 a	nd are now a	s follows:—	
LONDON DISTRICT		Craftsmen.	Labourers.
Within 12 miles radius		4s. 1½d.	3s. 7d.
From 12-15 ,, ,,		4s. 1d.	3s. $6\frac{1}{2}$ d.
LIVERPOOL and DISTRICT		4s. 1½d.	3s. 7d.
GRADE CLASSIFICATIONS A	A <sup>1</sup>	A <sup>3</sup>	$A^3$
Craftsmen 4s. 0d.	3s. 11½d.	3s. 11d.	3s. 10½d.
Labourers 3s. $5\frac{1}{2}d$ .	3s. 5d.	3s. $4\frac{1}{2}$ d.	3s. 4d.

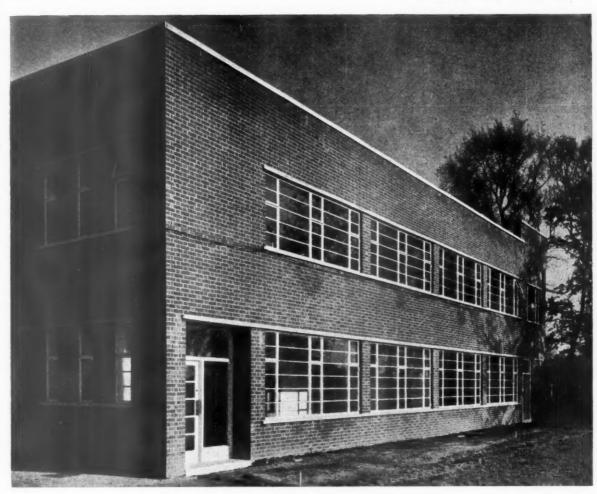
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Architects: A. F. Scott & Sons, F./A.R.I.B.A., Norwich.

Bricks supplied through Cyril Ridgeon & Son Ltd., Cambridge.

Contractors: R. & H. Wale Ltd., Gamlingay, Beds.

## New Canteen and Office Block

PYE TELECOMMUNICATIONS Ltd., Cambridge IN IBSTOCK RED SAND-FACED

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Owing to the heavy demand, supplies of facings of most types are booked for a long time ahead, and reservations for 1955/56 are now being made.

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# Radiation

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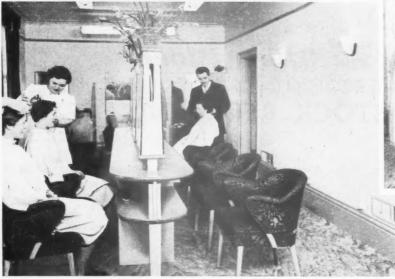


THERE ARE NO COLD DRAUGHTS at the new Clearwell House Coiffure, Malvern Link. The proprietress has wisely entrusted the comfort of her clientele to an oil-burning Radiation Whole-House Warming unit, which gives her all the hot water she needs — for at least 30 shampoos a day.

The system is automatically controlled and requires practically no attention. It operates by ducting warm air into every room in the building by way of small outlet grilles in the walls. It does away with boiler rooms and space-taking, dust-trap equipment. It cuts out dirt and labour — increases comfort and healthy circulation of air without draughts.

Radiation's Whole-House Warming system for business premises, houses, flats and public buildings, gives the same smokeless combustion and efficient heating, whether a gas, oil or solid fuel-burning unit is used. Any of these units can be specified to provide an integral and exceptionally efficient low-cost water heating system. For more detailed technical information, please write to our Chief Consultant.

The unobtrusive oil-burning unit fits neatly into a recess.





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## CONCRETOR

#### Cements .

Portland to B.S. 12, 6 tons and over	per ton	96/6
Rapid hardening to B.S. 12, 6 tons and over	99	104/6
Aquacrete water repellant, 6 tons and over	22	129 /-
Aluminous to B.S. 915, 1 ton lots	99	299/6
Sulphate resisting cement, 6 tons and over	22	129 /-
Snowcrete, 1 ton lots	**	257 /-

Above prices include for delivery to Charing Cross in non-returnable paper bags or cotton sacks.

## Aggregate and Sands, etc. (Full Loads)

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Brick	hardcore			****		****	per yard cube	9	/6
Ashes	****	****	****				. ,,	10	1-

(For Sands for Bricklaying and Plastering, see respective trades)

#### Floor Blocks

					4"	6"	7"
Floor blocks,	12"	X	12"	 per 1,000	698 /-	936 /-	1,138 /-

#### Reinforcemen

1	Keinjo	rcement					
Home trade maximum basis prods to B.S. 785, $\frac{5}{8}$ diameter mills delivered to station or	r and	upward	s, ex	per ton	£32	13	0
Extras for:-							
Under 5" to 7" diameter		****	****	29	£1	12	0
Ditto 7 and over 1 diam	eter	****	****	99	£1	19	6
and over # diameter				99	£2	9	6
# and over for diameter				99		19	6
5 and over 3 diameter				99	£3	7	0
32" and over 1" diameter		****		27	£3	17	0
‡" diameter	****			**	£4	7	0
Under 1" to 16" diameter		****		22	£6	4	6

## Fabric Reinforcement

	16.35 lb.	9.32 lb.	4.71 lb.	1.83 lb.
Steel wire mesh fabric to B.S. 1221, Part A. per yd. super	8/43	$4/10\frac{7}{8}$	$2/5\frac{1}{4}$	1/47

## BRICKLAYER

be

6221

BRICKLATE			Com	mon Br	ricks			
Common stock	ks			****	****	1	per 1,000	130/4
Rough stocks			****				32	169/4
Mild stocks		****	****	****		****	**	210/10
Sand limes					****		99	110/6
Phorpres pres	sed flo	ettons	****			****	99	113/-

#### Facing Bricks

Hand-selected sand limes		****		****	per 1,000	145/9
Phorpres rustic flettons					"	138 /
Stocks, first hard				****	22	261/4
Stocks, second hard	****				99	245/4
Southwater pressed sandfa	ced re	ds	****		22	301/6
Dorking pressed sandfaced	mult	icoloure	ed facin	ıgs	99	244 /-

## Engineering Bricks

Lingfield eng Southwater						red	per 1,000	225	0
pressed)				****		****	99	289	
Blue pressed	bricks	to B.S.	130	1	****		9.9	514	6

#### Glazed Bricks

White, ivory	or	brown.	9" >	27"	× 41"	deliv	ered		$B\epsilon$	est q	uali	ty.
London				0		****				£	8.	d.
Headers					****	****	****	per	1,000	67	14	6
Stretchers				****	****	****	0000	-	99	68	16	0
Seconds qu	nalit	y above	pric	es le	ss 10%							

### BRICKLAYER (continued)

#### Limes and Sands

			1 ton lots
†Lime, greystone, to B.S. 890	****	per ton	114/6
†Lime, chalk, ditto		,	114/6
*Lime, hydrated, ditto	****	99	127/-
Washed pit sand to B.S. 1200	****	per yard	cube 23/2
* Including paper hags			,

† Hire of jute sacks charged at 1/6 and credited at 1/6. If left, charged at 1/9.

#### Sundries

Sunaries			
10 s.w. gauge galvanized butterfly type w B.S. 1243			0 106/-
Wall ties, galvanized, $8'' \times \frac{1}{4}'' \times \frac{1}{8}''$ , to B.			
Damp proof course slates:	Imp	orted	
Size 14" × 9"	per 100 4	3/-	78/3
, 14" × 4½"	., 2	1/-	34/9
Hessian base bitumen damp course to		,	
B.S. 743	per yard s	uper	5/1
	$9'' \times 3''$	$9'' \times 6'$	9" × 9"
Terra-cotta airbricks eac	h 1/3	2/6	6/-
Galvanized cast-iron airbricks ,,			
Galvanized cast-iron hit-and-miss	-1-	-1-	-1
ventilators ,,	3/9	6 19	8/_
Wall reinforcement supplied in standard	nolls contain	ing 95 m	anda lineal
‡ 2" wide black japanned	****	per ro	11 3/41
12½" wide black japanned Greater widths pro rata 2½" price, of		,,,	4/31
	carriage pan	on ord	ters of £1.
Discount for quantities.			

#### Partitions, etc.

raritions,	eic.				
Clinker concrete solid per yard super	$\frac{2''}{3/7}$	$\frac{2\frac{1}{2}''}{4/2}$	3" 5/-	4" 6/2	
Hollow clay to B.S.	4/3	4/6	5/2		
	, -	,		10./0	41"
Moler (keyed) ,, Leca blocks	14/3	15/-	16 /		21/-
Solid ,, Hollow ,,	6/-	7/- 8/6	8/-	10/-	
Building blocks (keyed):—	. 10				4"
6 cavity Normal quality woodwool slabs	1	per y	ard su 2"	per 2½"	6/7
Minimum delivery, square yards,	50	0 400	325	275	250
per yd. super	0	- 6/6	8/-	9/2	10/3

#### **PAVIOR**

2" coarse gravel i	or paths		****			per yard cube	22/3
3" fine ditto				****		29	23/9
Clean granite ch	ippings	to	B.S. 1201	Table	4		
(in 5-ton loads)				****		per ton	42/9
Red quarry tiles	$6'' \times 6''$	X	7", to B.S.	1286		per yard super	14/-
Ditto						,,,	12/-
Buff quarry tiles,	$6'' \times .6''$	×	7", to B.S.	1286		**	17/3
Ditto	$6'' \times 6''$	×	a", to B.S.	1286		**	14/6
Hard red paving	bricks, 2	2"		****		per 1,000	467/3
Ditto		12"				92	441/6

## DRAINLAYER

## Clay Land Drain Pipes to B.S. 1196

			3"	4"
Pipes in 12" lengths	 	per 1,000	213/6	282 /-

## Salt Glazed Stoneware Pipes and Fittings

The following percentages to be added to the Standard List prices.

	Orders under	Orders under
Orders for	2 tons 100	2 tons less
2 tons and	pieces	than 100
over	upwards	pieces
Seconds Quality 671% less 15%		107½% less15%
Best quality 671%	971%	1071%
British Standard Quality 671%+10%	$97\frac{1}{2}\% + 10\%$	$107\frac{1}{2}\% + 10\%$
Tested Quality $67\frac{1}{2}\% + 37\frac{1}{2}\%$	$97\frac{1}{2}\% + 37\frac{1}{2}\%$	$107\frac{1}{2}\% + 37\frac{1}{2}\%$
British Standard Tested $67\frac{1}{2}\% + 47\frac{1}{2}\%$	$97\frac{1}{2}\% + 47\frac{1}{2}\%$	$107\frac{1}{2}\% + 47\frac{1}{2}\%$

## Cast Iron Drain Pipes and Fittings

Saalsa	st and	spigot p	ines to	RS 437	7			
		per 9 ft.		9 fts.	6 fts.	4 fts.	3 fts.	2 fts.
1	1	17	4"	67 /-	48/4	37/8	29 /-	23/1
2	0	1	6"	99/3	75/10	59/2	47/1	35/3
				100/0	150 /10	105 14	00 10	



You know exactly where you are with WARERITE Handy Panels. All you need is ordinary cold-setting glue—and common sense. For resurfacing or for on-site jobs you'll find them easy to cut and fit. WARERITE Handy Panel is WARERITE Veneer press-bonded, with a synthetic-resin cement, to top-grade plywood, as in the manufacture of all good quality WARERITE surfaced furniture.



LAMINATED PLASTICS

WARERITE Veneers are intended for surfacing plywood and similar cores using synthetic resin adhesives, the bonding being carried out with the use of veneering presses. Contact adhesives are not recommended for first class work and users who are not equipped with veneering presses are advised to purchase Warerite veneered plywood from WARERITE Limited or from WARERITE Specialists who are located in various parts of the country. Names on application.

WARERITE LIMITED (UNIT OF BAKELITE LIMITED) . WARE . HERTS . TEL: WARE 502

WA 9.8

DRAIN

\*Bends ( \*Single j \*Interce

\*Extra f \*Grease \* Thes

Standard ware pip

Order

C.I. coa and fi 497, (

> frame Grade

Coated B.S. 4 Galvani Coated B.S. 4 Galvani

MASO

Blocks
Add for
Templa
to 4

per t

Monk's St. Ald Deliver

Whitb Delive

Doulti

4½" × groot 9" × 2" × thro

3" × 5" × 6" ×

16" ×

SLAT

#### DRAINLAYER-(continued)

#### Tonnage Allowances :-

Orders up to 2 tons nett.
---------------------------

			4"	6"	9"
*Bends (short radius)		each	15/6	41/3	115/6
*Single junctions	****	99	27/6	66 /-	171 /-
*Intercepting traps		99	101/6	155/6	335 /-
*Gullies ordinary trapped " P	22	99	39/9		
*Extra for 4" vertical back inle	et	9.0	8/3		
*Grease gully trap	****	99	325/3		

<sup>\*</sup> These prices are subject to 2½% plusage.

### Channels in Brown Glazed Ware

Standard list + same percentages as "Best" quality salt-glazed Stoneware pipes.

### White Glazed Channels

Orders under £30, makers' list value. Standard list + 25%.

### Manhole covers and frames

Size of

Unit

	load	price
C.I. coated double triangular manhole cover and frame, 22" dia. clear opening to B.S. 497, Grade A	35 tons	190 /7
Grade B each	5 tons	101 /7
Size of load	Single seal Flat type	Double seal Flat type
Coated manhole cover and frame to		
B.S. 497, Grade C, 24" × 18" each 1 ton	34/10	49/8
Galvanized ditto, 24" × 18" each 1 ton	62/6	87/10
Coated manhole cover and frame, to	,	,
B.S. 497, Grade C, 24" × 24" each 1 ton	53/1	79/4
Calvanized ditto 24" v 24" each 1 ton	96/10	137 /6

## MASON

## Yorkstone

		foot cube	12/9
Add for blocks to dimension sizes	••••	**	1/6 (eac dimension
Templates with sawn beds, edges rough			
to 4 ft. super and not over 2' 6" long)	****	22	14/3
Templates with sawn beds, sawn one edge		99	16/6
Price f.o.r. Yorkshire, railway rate to			
per ton. (Minimum 4-ton loads)			62/11

## Bath stone in random blocks

Monk's Park		****		per foot cube	7/10
St. Aldhelm Box Ground	***		****	99	8/10
Delimoned on wil at Couth	Lamb	oth Sto	tion		

## Portland stone in random blocks, average 20 feet cube

Whitbed	0000	****	****	****	****	per foot cube	8/11
Delivered or	n rail at	Nine	Elms	Station.			

## Somerset stone in random blocks

Doulting	per foot cube 8/7
----------	-------------------

### Artificial Stone to B.S. 1217

41" × 4" Sill, sunk,	weath	ered, t	hroated	and		
grooved	****	****	****		per foot run	3/2
9" × 3" Ditto		****	****		99	4/9
2" × 12" Coping,	weath	nered a	and tw	ice		
throated				****	**	4/2
3" × 12" Ditto	****		****	****	>>	6/4
5" × 12" Saddlebad	ek copi	ing, tw	ice thro	ated	>>	9/5
6" × 12" Ditto				****	99	10/6

## SLATER, TILER AND ROOFER

States							£	8.	d.				
16"	X	10"	Best	Bangor	Slates	to I	B.S.	680	 per 1,000 actual	50	0	0	
20"	×	10"	Ditto	)			****		 **	83	10	0	

### SLATER, TILER AND ROOFER (continued)

#### Tiles

Best hand-made sandfaced $10\frac{1}{2}'' \times 6\frac{1}{2}''$ red roofing tiles ex works per 1,000	221/6
Machine-made sandfaced best red tiles	221/0
with continuous nibs, $10\frac{1}{2}$ " $\times$ $6\frac{1}{2}$ " ditto	183 /-
Delivery to London sites 37/- to 45/- per 1000	
Bridgwater hand made red sandfaced	
pantiles, in 6-ton loads ,,	878 /-
Bridgwater hand made red sandfaced	
Double Roman tiles, in 6-ton loads	1,156/6
Concrete plain tiles, $10\frac{1}{2}'' \times 6\frac{1}{2}'' \dots$	152/6
Ditto interlocking tiles, 15" × 9"	445 /-
Ditto Double Roman Tiles ,,	760 /-

### Asbestos-cement

*6" corrugated sheets, grey per yard super 5	/9
--	----

<sup>\*</sup> Prices are for minimum two-ton loads, and are subject to 5% trade discount.

#### Felt

Reinforced roofing felt to B.S. 747	per yard sup.	1/6
Roofing felt (1-ply bitumen) to B.S. 747, Part I	**	1/6
Bituminous hair felt to B.S. 747, Part II	**	2/9

## CARPENTER AND JOINER

#### Wall boards

½" Imported Fibre board	****	****		5,000 to 15,000 sq. f	t.
(per 100 sq. ft.)		****	****	42/6	
1" Imported Hardboard (per	100 sq	. ft.)	****	42 /-	
3 " Imported Hardboard (pe	r 100 s	q. ft.)		62/6	
* 3 " Semi compressed ash	estos	cement			
building sheets, grey, size	$8' \times 4$			per yard super 3/1	
* 1" Ditto	****		****	,, 4/1	

<sup>\*</sup> Prices are for orders of 2 tons and over. Subject to 5% trade discount.

#### Sundries

"Sisalkraft" standard grade	****		****	per yard sup.	$-/10\frac{1}{2}$
"Sisalkraft" subsoil grade				99	$-/6\frac{1}{2}$
"Sisalation" single sided		****	****	99	1/101
"Sisalation" double sided	****	****	****	99	2/10
Fibre glass Bitumen bonded		****		**	1/91

## Timber

Softwood for (	Carpentry	y (aver	age p	rice)	****	per st	d. £95
Softwood for J	Joinery (	ditto)			****	99	£107
Tongued and C				oring (		99	£107
*First Quality	Europea	ın Oak	****	****	per ft.		25 /- to 40 /-
*Teak	****	****		***	99		40 /- to 80 /-

<sup>\*</sup> Prices vary considerably depending on specification.

## Standard Panelled and Glazed Wood Doors to B.S. 459, Pt. I

Type 4	size 2' 6"	× 6' 6"	× 1½"	each	35/3
Type $2 \times G$	size 2' 6"	× 6' 6" >	2"	93	42/9
Type $4 \times G$	size 2' 6"	× 6' 6" >	( 2"	59	49 /-
In lots of	from 1 to 1	linclusive			

## . Wood Windows

N 26 V	size 1' 5\\ " × 2' 6\\ "	****	 ****	each	21/10
2 26 V	size 4' 0\ " × 2' 6\ \ "		 ****	99	43/8
N 40 V	size 1' 5\\\\ 4' 0\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		 	90	24/8
3 40 V	size 5' 11\frac{1}{4''} × 4' 0\frac{1}{4''}		 	99	76/7
4 40 V	size 7' 101" × 4' 01"		 		96/3

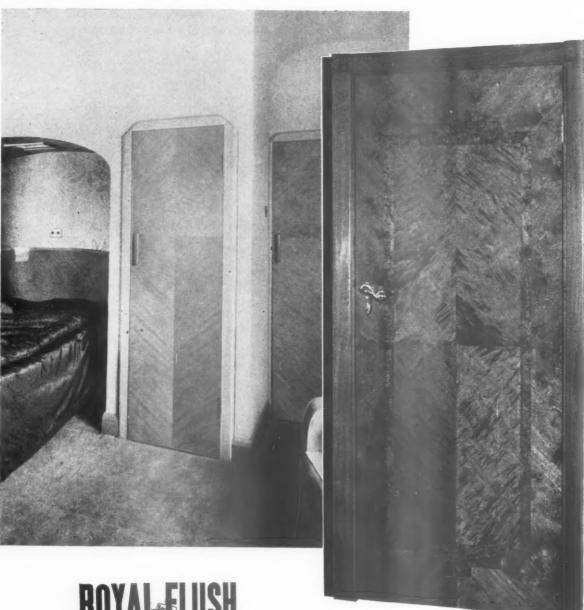
## In lots of from 1 to 20 inclusive.

## Kitchen Units

No. 1	size 3'	6" ×	2'8"	X	1' 7"		****	each	166/3
No. 2	size 3'	6" ×	2' 8"	×	1'7"			99	115/3
No. 4	size 2'	8" ×	1'9"	×	1'7"		0110	9.9	102/-
No. 5	size 3'	10"×	1'9"	×	1' 7"	****		99	88/7
No. 7	size 6'	6" ×	1'9"	×	1' 7"				133/5

Prices include for tops and plinths.

In lots of from 1 to 15 inclusive.



The renewed accent on private building again spotlights ROYAL FLUSH Doors as decorative elements in room design. But their beauty is more than skin-deep. Under their handsome veneers—to architects' specification— ROYAL FLUSH Doors embody solid or semi-solid cores, built by craftsmen under strict moisture content control. They are all guaranteed unconditionally. Send for full details and prices.

(Left) ROYAL FLUSH Doors in Quartered Sycamore grace this bedroom in a private

(Right) A handsome ROYAL FLUSH Door in Figured, Curly and Straight-grained Birch in a private house. Architect: H. H. Brown, Esq., F.R.I.B.A. Manchester. Builder: Robert Carlyle & Co. Ltd., Manchester.



Head Office: Bold Saw Mills, WIDNES

Branches and depots at BRISTOL, LONDON, MANCHESTER, GLASGOW, DUDLEY, HANLEY and KETTERING

@ 4I

STEEL Basis pr Extra fo

> 16" 18" 5" × 5" ×

3½" × 9" : 4" × 4½" × 6" × 4" × 3" × 4¾" × 3" ×

Basis pr

Rustpro Type Prices v PLAST

Thistle ( Gypstor Paristor Ditto Cretesto Sirapite Ditto Keene's Keene's and u

Sharp w Expand mesh

l" Plas a" Insul Plaster Hessian

The foll Standar

Cream ( Eggshe

**PLUM** 

3½ lb. a of 5 o Hot ro

Ditto Zine sh

Rainwa Soil goo

Gutters

Pipes a

The :

Orde

STEEL AND IRONWORKER				
			£ s.	d
Basis price for rolled steel joist sections, in 10 ft. to 50 ft. length	ıs ex m	ills per to		
Extra for sizes:—				
9" × 7", 10" × 8", 12" × 8", 14" ×	51"			
$14'' \times 6''$ , $14'' \times 8''$ , $15'' \times 5''$ , $15'' \times 16'' \times 6''$ , $16'' \times 8''$ , $18'' \times 6''$ , $18'' \times 6'''$ , $18'' \times 6''$	7",			
$18'' \times 8''$ , $20'' \times 6\frac{1}{2}''$ , $20'' \times 7\frac{1}{2}''$	Add	per ton	10	
$18'' \times 8''$ , $20'' \times 6\frac{1}{8}''$ , $20'' \times 7\frac{1}{8}''$ $5'' \times 4\frac{1}{8}''$ , $7'' \times 3\frac{1}{8}''$ , $13'' \times 5''$ $5'' \times 5''$ , $12'' \times 5''$ , $22'' \times 7''$	99		1 0	
$34'' \times 34''$ , $6'' \times 44''$ , $7'' \times 4''$ , $8'' \times 4''$	1",	**		0
9" × 4", 10" × 5"	99		1 5	0
$4\frac{1}{2}$ " $\times$ $4\frac{1}{2}$ ", $5$ " $\times$ $2\frac{1}{2}$ ", $5$ " $\times$ $3$ "		22	1 15	0
6" × 3" 24" × 71"	22		$\begin{array}{ccc} 2 & 0 \\ 2 & 5 \end{array}$	
4" × 4"	23		2 10	0
43" × 13"	33	23	3 5 3 10	
Basis price for angles	ex n	ills per to		
" " ,, tees	91	9.9	30 4	6
,, ,, solid steel columns			32 4	6
All delivered Station		ζ.	•	
Standard Metal	Windows			
Rustproof type Type ND2F, $4'$ $0'' \times 3'$ $31''$	****	each	16 /- to 6	1/4
Type ND2F, 4′ 0″ × 3′ 31″ ,, ZND2F, 4′ 0″ × 4′ 0″		. ,, ,	52-/ to 6	9/4
Prices vary with size of order, those give	n are max	imum and	minimui	m.
PLASTERER				
Plaster and Ce	ement			
		1-ton loads 5	4-ton 1	
		ioaus e	loads	
Thistle (browning) to B.S.1191, Class B	per ton	152/6	135 /-	-
Gypstone to B.S.1191, Class B Paristone (haired) to B.S.1191, Class B	99	152 /6 155 /-	135 /- 137 /	6
Ditto (unhaired) Cretestone bonding plaster	99	152/6	137/	-
Cretestone bonding plaster Sirapite (coarse) to B.S.1191, Class C	99	162/6 149/-	145 /- 133 /-	-
Ditto (fine) to B.S. 1191, Class C	99	157/-	141/-	
Keene's Pink to B.S.1191, Class D	99	198/6		
Keene's White to B.S.1191, Class D Cullamix (Tyrolean Finish), 1-ton lots	99	204 /-		
and upwards per t	on from	184/3 t	o 217/	9
Sundries				
Sharp washed sand to B.S.1198 Cow Hair Expanded metal lathing, 9' 0" × 2 mesh × 24 gauge 75 to 148		per yard	l cube 23	/2
Cow Hair	0" × 3	per cwt.	. 97	/6
mesh × 24 gauge		per yd.	sup. 2	$/8\frac{1}{2}$
75 to 148 8" Plasterboard (base board yards or lath) per yard super 2/8	150-299	300-599	Over	600
or lath) per yard super 2/8	2/6	2/5	2/3	
4" Insulating ditto				
per yard super 3/9 Plasterboard nails 12 G Hessian Scrim cloth in 100-yard rolls,		per cw	t. 121	1-
3½" wide	****	per rol	1 7	/9
Wall Tile				
The following prices are subject to 25 p Standard quality white glazed $6'' \times 6'' \times$	er cent. a	ddition:—	18/	6
Cream glazed $6'' \times 6'' \times 4''$				
Eggshell or glossy glazed $6'' \times 6'' \times \frac{3}{8}$ in	1		26/	3
By the empty				
PLUMBER  Lead and Co	nner			
3½ lb. and upwards milled sheet lead in		A.		
of 5 cwts. to under 1 ton in sheets to			wt. 142	
Hot rolled copper sheeting in 1-ton lots $(4' \times 2' \text{ sheets})$ , to B.S.899 23	2 wire gan	ze perton		d. 0
Ditto 22 Zinc sheeting in 1-ton lots 1	4 wire gau	ge, per con	427 10	0
Zinc sheeting in 1-ton lots 1-	4 gauge	99	125 15	0
Cast Iron Go	oods			
Percentage Adjustment on List	No. 3300	A.B. 1/2/5	5.	
Rainwater Goods (painted or unpainted)			21%	
Soil goods (coated or uncoated)	****	Plus	21%	
Mild Steel Rainwa	ater Goods	-		
Gutters (under 100 lengths)			andard las 25%	List
Pipes and Fittings ( ,, ,, )	8877			
- 1			ss 25%	
	••••	Le		
Asbestos-Cement Ra	inwater Go	Le		
	inwater Go	Le		

PLUMBER (cont	inued)					
		Rainwe	der Pipe	88		
6′ 0″ lengths	9"		21" D	iameter 3"	4"	6"
6' 0" lengths .	7/6	8	/-	9/8	12/10	25/9 each
10′ 0″ " .	11/1	10 12	/10 1	5/-	21/6	43/- "
		Gu	tters			
Half round gutter 6ft. lengths	rs	3"	4"	41"	5"	6" 8"
6ft. lengths	each 3	5/- 5	/11	6/1	7/2 1	0/- 12/4
INTERNAL PLU	IMBER					
		o ocila E	omta to	under 1	ton	
Lead pipe (basis, w	BS 602				ner ow	t. 143/6
Light lead pipe	ditto	****			per cw	t. 145/6
Lead pipe to B.S.	1085	annae i		****	per cw	t. 151/6
quantities of 50	0 ft. to 9	99 ft.		1"	1 1	" 11"
Light lead pipe Lead pipe to B.S. Polythene tubing, quantities of 50 per 100 ft Ditto, heavy gauge	no ditto		€	32/6 1	23 /- 158 /	6 250/6
per 100 ft	ge unito	****	13	3 /- 1	83 /- 233	6 —
Drawn lead traps	with bra	ass screv	v eve.			
to B.S.504 S. trap 1½" seal "3" deep Drawn copper t S. trap 1½" seal "3" deep se			each	6/104	1½″-6lb. 8/2	2"-7lb.
" 3" deep	seal		99	8/21	9/81	13/11 15/103
Drawn copper t	raps to	B.S. 1	184	11"	11"	2"
3" deep s	eal		each	24/7	27/3	43 /7
Screwed and Sc	ocketea St		ım, elc.	unys	jor Gas, n	uter ana
Fittings and to	ubes orde			ndom	engths are	subject to
the following trad	le discour	its:-	TOTAL			
Class B	1" t	64%	L	ings: ightweis	zht	plus 6%
" C		41%	H	eavywe	ight	plus 131%
Galvanized Class	B plus 3	94%	Galv	anized:	zht.	nlus 1839/
Tubes: Class B Class B Galvanized Class Galvanized maller Less 3	able fittin	igs	H	eavywe	ight	plus 261%
Less 3	7½% less	61% p	us 40%			2 12 2 2
copper tubing to	b.6. 059 a	mu 1900		o marco r	on lb	
			. Dasi	c price p	er lb	2/113
GLAZIER			. Dasi	c price p	er lb	2/118
	o size (or				oer lb	
Sheet Glass, cut t	****	dinary į	glazing	quality)	to B.S.952	2, Section A
Sheet Glass, cut t	****	dinary į	glazing	quality)	to B.S.952	2, Section A
Sheet Glass, cut t 18 oz 24 oz 32 oz	*** ****	dinary g	glazing	quality)	, to B.S.95; per foot suj	2, Section A per -/5\frac{2}{5} -/7\frac{2}{5} 1/1
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## THE INDUSTRY

From the Industry this week, Brian Grant reports on new developments in domestic heating, pre-stressing bars, and a lightweight partition panel.

#### DEVELOPMENT IN HEATING

At the last Building Exhibition, some 18 months ago, one heard rumours that Mr. J. A. Sumner, whose Norwich heat pump should be familiar to most readers, was heating a bungalow with a heat pump rated at about 3 kilowatts. Comparatively little information was available, but Mr. Sumner has now reported (in a paper to the IHVE) on the results obtained in three winters' use.

The bungalow has an area of 1,650 sq. ft., and is heated by \(^3\)-in. copper pipes buried in the 5-in. concrete floor slab at a depth of 2 in. from the surface. The slab rests on a 6-in. vermiculite concrete sub raft, but the author considers that this can be omitted provided that the edges of the slab are adequately insulated. U figures for the various parts of the structure are: walls 0.29, floor 0.3, ceiling 0.16 and windows (double glazed) 0.8.

The heat pump used had a rating of 3.6 kilowatts, this figure including the energy required for the heating coil circulating pump. This provided all the heating and also domestic hot water: facilities are available for refrigeration and deep freezing, but have not so far been used.

Both the running and installation costs are interesting. With all the rooms kept at 60 deg. F. the seasonal cost (including maintenance) was £36 for the heat pump, £89 for "raw" electricity (both at 1d.), using a 10.1 kilowatt immersion heater in the hot water cylinder. Assuming a sectional boiler with an efficiency of 40 per cent., Mr. Sumner calculated that the corresponding cost, using solid fuel, would be £59. With the temperature kept at 65 deg. the corresponding figures are £44, £74 and £111. These may seem high, but the standard of heating allowed for is much higher than usual. Installation costs came to about £100 for the pipework and circulating pump. Cost of the heat pump itself is not given, but Mr. Sumner has assumed that it should be possible to produce a 3-kilowatt unit in quantity for £150 to £200, against which could be allowed the saving on all flues, chimney breasts, fire-places and other heating equipment.

It seems more than possible that the increasing price and the growing scarcity of domestic coal may be another important factor in the development of the heat pump, for, as Mr. Sumner points out, 1 lb. of coal burnt in the house will produce only 1,500 B.Th.U. whereas, owing to the heat pump's efficiency, 1 lb. burnt at the power station

can produce about 9,000 B.Th.U. in the house.

At the opposite end of the scale from the heat pump is the Radiation Group's new Heatmaster. Readers will no doubt remember this firm's whole house heating system, with warm air ducted from a central gas or solid fuel furnace. The idea has now been extended to include water heating and cooking, still from a single unit.

The installation consists of a heavily insulated solid fuel cooker, thermostatically controlled, which also supplies the domestic hot water. Between the cooker and the start of the brick flue is a tubular heat exchanger which heats the room air. Control of this air circulation is by a thermostat in the living room, an electric fan drawing air from one of the upper rooms of the house, passing it through the heat exchanger, and then through ducts to the other rooms as required. Tests in maisonettes at Coventry show that the appliance will provide full heating on the lower floor and background heating on the floor above on a fuel consumption of 2 to 21 cwt. per week, including cooking and hot water. The Heatmaster will not be in general production until the autumn, but anyone with a house to design might well like to start thinking about it now. (Radiation Group Sales Ltd., Solid Fuel Division, Armley, Leeds 12.)

#### BARS FOR PRE-TENSIONING

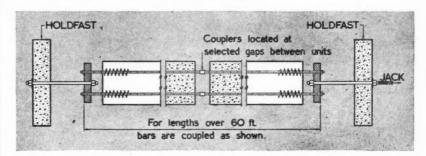
Most readers will know the Lee-McCall system of prestressing, which employs comparatively large diameter bars threaded at each end. For members less than 25 ft. long considerable economies can be made if the bond between the bars and the concrete can be improved as the cost of end anchorages can then be reduced.

The new Macalloy deformed bar is made of high tensile steel, like the round bars, but is rolled with two longitudinal ribs, which are joined by a series of transverse ribs at an angle of about 60 deg. to the axis of the bar. One end of the bar is generally threaded, the other end having a self-tightening wedge and collar grip. Both end fittings are recovered when the concrete is cured and can be re-used. The bars can be used for pre- or post-tensioning, the prestress being distributed at the ends of the concrete by wire helices round the ends of each bar (see diagram). ½, ½ and ¼ in. bars are produced and the effective crosssectional area is the same as for round bars of the same nominal diameter. These bars are particularly suitable for pre-cast floor units, where the lengths are usually below 20 ft., and where the cost of end anchorages with any system of post-tensioning is a high proportion of the total steel cost. (McCalls Macalloy Ltd., P.O. Box 41, Templeton, Sheffield.)

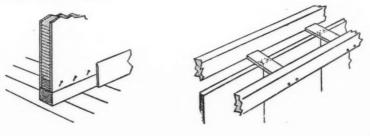
#### LIGHTWEIGHT, PARTITIONING

A new type of lightweight partitioning panel, known as the Shearwater, is now being produced in widths of 3 ft. and 4 ft. and in all heights from 7 ft. to 12 ft. The panel is made up of two sheets of plaster-board separated by a layer of Dufaylite, a honeycomb paper core which is used to a considerable extent in the aircraft industry and which is exceptionally light in weight. Timber head and sole pieces are built into the panels for fixing, details of which are shown in the diagrams below.

Vertical joints between panels are made with 4-in. long wooden blocks, three of which are fixed in each edge of each panel to form a tongue, but where the panels butt against door frames a 3-ft. timber strip is used, flush with the plasterboard edge. When comparatively heavy items such as cisterns or wash basins have to be fixed to the panels, wooden blocks, the thickness of the core, can be driven in on site, and the core can also be pierced for wiring. (Shearwater Ltd., Ditton Road, Widnes, Lancs.)



Above, diagram showing the use of coupled Macalloy deformed bars. Below, fixing details for Shearwater partitions. Left, detail at foot; right, detail at head.



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Divisional Police Headquarters, Talbot Road, Stretford, Manchester, for the Lancashire County Council. (Pages 603-614.) Architect: G. Noel Hill, F.R.I.B.A., M.T.P.I., F. A. Hewitt, A.R.I.B.A., Assistant County Architect, E. P. Hains, A.R.I.B.A., Principal Assistant Architect, W. Clayton, A.I.A.A., Architect-in-Charge; consultant, heating, ventilating and structural engineering: S. Boyd, M.I.MECH.E., A.M.I.N.A., Chief Engineer, Lancs. County Council; Quantity Surveyor: H. Wild, F.R.I.C.S., Chief Quantity Surveyor, Lancs. County Council; Quantity Surveyor, Lancs. County Council; Quantity Surveyor, Lancs. County Council; General contractors: E. E. Coleman Ltd.; Subcontractors and suppliers: reinforced concrete, (steel rods) Square Grip Reinforcement Co. Ltd.; (fabric reinforcement) Grip Steel Bar Co. Ltd.; bricks, Accrington Brick Tile Co. Ltd.; quartzite (main entrance), John Stubbs Ltd.; artificial stone, The Liverpool Art Stone Co. Ltd.; terra-cotta, J. G. Edwards (Ruabon) Ltd.; structural steel, Bannister Walton & Co. Ltd.; terra-cotta, J. G. Edwards (Ruabon) Ltd.; structural steel, Bannister Walton & Co. Ltd.; terra-cotta, J. G. Edwards (Ruabon) Ltd.; structural steel, Bannister Walton & Co. Ltd.; terra-cotta, J. G. Edwards (Ruabon) Ltd.; structural steel, Bannister Walton & Co. Ltd.; terra-cotta, J. G. Edwards (Ruabon) Ltd.; structural steel, Bannister Walton, Brightside Co. Ltd.; wood block flooring, The Neuchatel Asphalte Co. Ltd.; "Sika" waterproofing material, W. J. Harries Ltd.; central heating, ventilation, Brightside Foundry & Engineering Co. Ltd.; gas fixtures, kitchen equipment, North Western Gas Board; boilers, radiators, Ideal Boilers & Radiators Ltd.; electric wiring, D. C. Engineering Co. Ltd., electrial light fixtures, Hallwood & Ackroyd Ltd., derechant Adventurers of London Ltd., Courtney Pope Ltd., Falk Stadelmann & Co. Ltd., General

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## Corrections

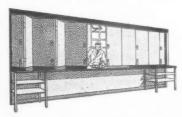
On page 454 of our issue for March 31, 1955, Erith & Co. Ltd. were incorrectly shown as suppliers of Swindon wire-cut bricks for the houses at Pitstone, Buckinghamshire. The bricks were supplied by Broad & Co. Ltd.

On page 556 of our issue for April 21, 1955, the name of Sovex Ltd. was omitted from the list of sub-contractors for the Passenger Handling Building, London Airport. Messrs. Sovex were responsible for the luggage conveyor belts in this building.



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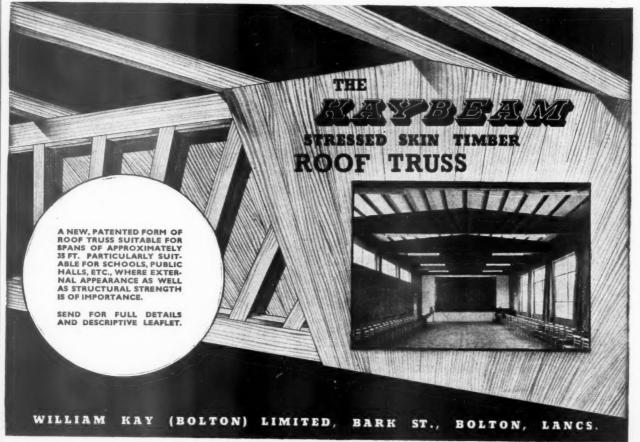
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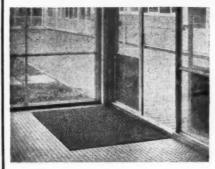
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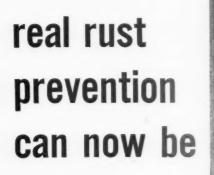
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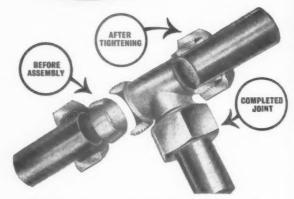
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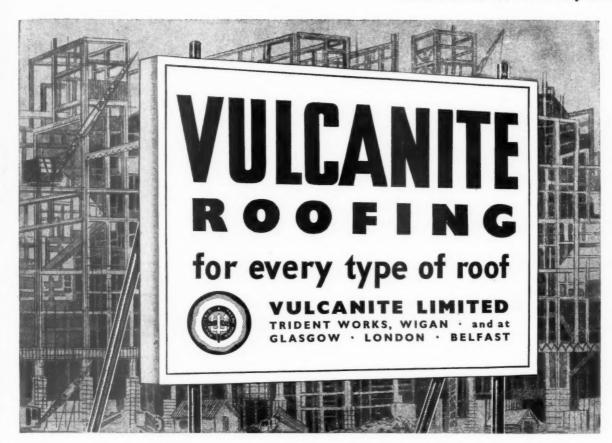
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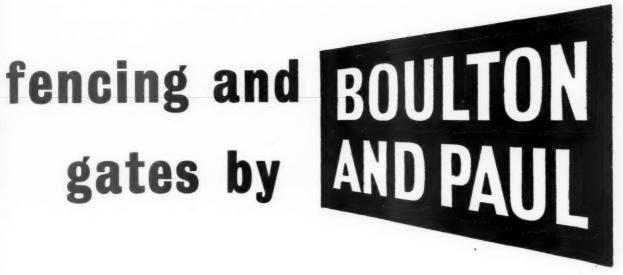


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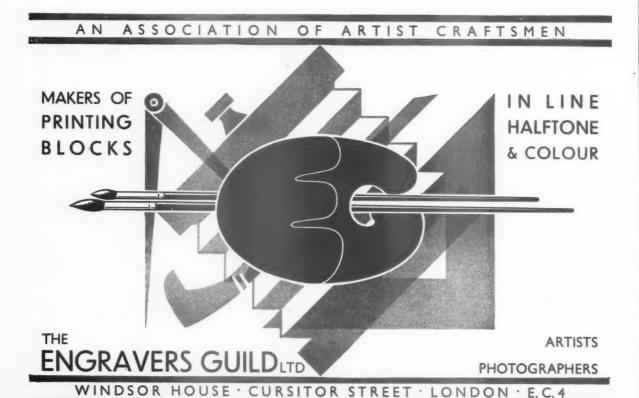
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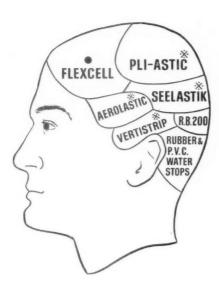
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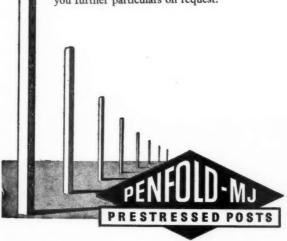
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EAST MIDLANDS DIVISION.

Applications are invited for the following position within the Division:
SECTION LEADER (CIVIL), Generation (Construction) Div. H.Q. (Vacancy No. 65/56/AJ.)

Candidates should be capable of taking charge of a Civil Section in the Generation (Construction) Drawing Office, and should have experience in the design and detail of heavy reinforced concrete structures, heavy foundations, retaining walls, culverts, etc.

Preference will be given to candidates holding qualifications equivalent to Corporate Membership of the Institution of Civil Engineers.

Salary in accordance with Schedule D, Grade 3 (2960 × 220—2960 per annum) of the National Joint Board Agreement.

Closing date for receipt of applications: 26th

Closing date for receipt of applications: 26th (ay, 1955.

May, 1955.
This appointment will be pensionable within the terms and provisions of the Central Electricity Authority and Area Boards Superannuation

Scheme.

Applications should be submitted on the official form A.E.6/ACT, which may be obtained from the Divisional Establishments Officer, British Electricity Authority, P.O. Box 25, Barker Gate, Nottingham, and should be returned to the undersigned by the date stated. Please quote Vacancy number.

L. F. JEFFREY, Divisional Controller

BOROUGH OF BASINGSTOKE.

BOROUGH ARCHITECT'S DEPARTMENT.
Applications are invited for the appointment of CLBEK OF WORKS. Salary: Miscellaneous Housing is essential.
Applications, together with either copies of two recent testimonials or the names and addresses of two referees, must be submitted not later than Wednesday, the Ith May, to the Borough Architect (Eric Almond, Dipl. Arch., A.R.I.B.A.), Municipal Buildings, Basingstoke.

MEIRION O. JONES,
Town Clerk.
9693

KENT COUNTY COUNCIL.

Applications are invited for the following pointments in the Buildings Department:—
(1) ASSISTANT ARCHITECT. Salary within

Applications are hurited for the property of the case and the control of the case and the control of the case and the case

City Hall, Norwich.

26th April, 1955.

COUNTY BOROUGH OF STOCKPORT.

ARCHITECTURAL ASSISTAN'S, Education
Dept. Salary £675×230-£825. Conditions of
appointment and application from from
Director of Education, Town Hall, Stockport. 9733

CAMBRIDGESHIRE COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.
Applications are invited for the following

appointments:—

(a) TWO QUANTITY SURVEYORS, Grade
A.P.T., IV (£675 to £825).

Applicants should be chartered surveyors, and
should have had considerable experience in all
duties of quantity surveying, including site
measuring and final accounts.

(b) TWO ASSISTANT ARCHITECTS, Grade
A.P.T., V (£750 to £900).

Applicants must be Registered Architects, and
preference will be given to Members of the Royal
Institute of British Architects. They should have
a knowledge of modern school design and construction, the preparation of specifications and site
supervision.

(c) THREE ARCHITECTURAL

struction, the preparation of specifications and sue supervision.

(c) THREE ARCHITECTURAL ASSISTANTS, Grade A.P.T., II (£560 to £640).

Applicants should have passed the Intermediate Examination of the Royal Institute of British Architects, or its equivalent at one of the recognised Schools of Architecture, and have worked in an architect's office for a period of two years. They should have a good knowledge of construction and details, and be able to prepare drawings from preliminary sketches.

(d) ONE ARCHITECTURAL ASSISTANT, General Division (£170 to £475).

Applicant should be neat and expeditious draughtsman. Salary according to age and experience.

Applicant should be neat and expeditious draughtsman. Salary according to age and experience.

The appointments are subject to the Local Government Superannuation Acts, 1937 to 1953, the National Scheme of Conditions of Service, a satisfactory medical examination, and termination by one month's notice on either side.

Applications, stating age, present salary, present and previous appointments, details of training and experience, together with one recent testimonial and the names and addresses of two referees, should be submitted to the undersigned not later than 18th May, 1955.

COLONTY BOROUGH OF CROYDON.

EDUCATION DEPARTMENT.
Applications are invited for the following appointments in the School Architect's Section (School Architect, C. T. Ayerst, A.R.I.B.A.):—

(1) SENIOR ASSISTANT ARCHITECT.
Salary £675×£30-£25 p.a., plus "London weighting." Must be a Member of the R.I.B.A. with considerable experience in preparing sketch plans and working drawings.

(2) JUNIOR ARCHITECTURAL ASSISTANT. Salary £500×£20—£580 p.a., plus "London weighting."

Application forms from the Chief Education Officer, Katharine Street, Croydon.

Closing date: 16th May, 1955.

No living accommodation is offered.

E. TABERNER.

Town Clerk.

9739

COUNTY OF LINCOLN—PARTS OF KESTEVEN.

COUNTY OF LINCOLN—PARTS OF KESTEVEN.
COUNTY ARCHITECT'S DEPARTMENT.
Applications are invited for the following populations are invited for the following (a) SENIOR ASSISTANT ARCHITECT, A.P.T.,

(b) ARCHITECTURAL ASSISTANTS, A.P.T.,

(b) ARCHITECTURAL ASSISTANTS, A.P.T., III. II and I.
(c) JUNIOR ARCHITECTURAL ASSISTANTS, General Division.
(d) QUANTITY SURVEYING ASSISTANTS, A.P.T., IV.
(e) ENGINEER'S ASSISTANT (HEATING), A.P.T., III.
(f) ENGINEER'S ASSISTANT (ELECTRICAL), P.T. III.

(e) ENGINEER'S ASSISTANT (HEATING).
A.P.T. III.
(f) ENGINEER'S ASSISTANT (ELECTRICAL).
A.P.T. III.
(g) JUNIOR ENGINEERING ASSISTANT
(ELECTRICAL). General Division.
(h) CHIEF CLERK, A.P.T., III.
(i) RECORD AND PROGRESS CLERK.
(Clerical Division.
(j) CLERK OF WORKS, Miscellaneous VI.
Above the General Division scale, commencing salary will be according to experience.
Any further information can be obtained from the County Architect.
Applications, stating the post applied for and giving full particulars of age, training, experience, qualifications, previous and present appointments with dates and salaries, and accompanied by two testimonials, should reach the undersigned by the 16th May, 1955. Canvassing disqualifies.

J. E. BLOW.

County Offices, Sleaford, Lincs.

BOROUGH OF BARNES.

TEMPORARY ARCHITECTURAL ASSISTANT.

A.P.T., GRADE II.
A.P.T., GRADE II.
A.P.T., GRADE III.
A.P

to woon to the undersigned not later tube the undersigned not later tube May. 1955.

W. R. SHEPHERD, A.M.I.C.E., F.R.I.C.S.,

Borough Engineer and Surveyor.

Municipal Offices, Sheen Lane, S.W.14,

28th April, 1955.

9788

COUNTY BORG APPOIN Applie Assistant partment cants shof Britis able ext able ext work, pa new sch The a Conditio Council Technics Governu successfu medical Applicand qua more that to the West Happlicat 1955.

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COUNTY BOROUGH OF WEST HARTLEPOOL.
BOROUGH ARCHITECT'S DEPARTMENT.
APPOINTMENT OF ASSISTANT ARCHITECT.
Applications are invited for the position of
Assistant Architect in the Borough Architect's Department on Grade A.P.T., IV (£675—£252). Applicants should be Associates of the Royal Institute
of British Architects, and should have considerable experience in Local Authority architectural
work, particularly in connection with housing and
gew schools.

ow schools.

The appointment is subject to the Scheme of Conditions of Service for the National Joint Council for Local Authorities' Administrative. Technical and Clerical Services and the Local Government Superannuation Acts, 1937-1935. The successful candidate will be required to pass a medical examination.

Applications, giving details of age, experience and qualifications, together with copies of not more than three testimonials, should be addressed to the Borough Architect, Municipal Buildings, West Hartlepool. The last day for the receipt of applications is noon on Monday, the 23rd May, 1955.

7955. The Council is prepared to provide housing commodation, if required, to the successful

ERIC J. WAGGOTT,

Town Clerk.
26th April, 1955.

West Hartlepool.

26th April, 1955.

MONMOUTHSHIRE COUNTY COUNCIL.

APPOINTMENT OF ARCHITECTURAL STAFF.

Applications are invited for the following posts in the County Architect's Department under N.J.C. conditions:

TWO ARCHITECTURAL ASSISTANTS. Salary commencing at £765 by £30 annual increments to £825 per annum. Grade A.P.T., IV.

Forms of application, particulars of post and conditions of service, can be obtained from the undersigned.

Applications, together with copies of three testimonials, must be forwarded to the County Architect, Queen's Hill, Newport, Mon., not later than Saturday, the 21st May, 1955.

VERNON LAWRENCE,

Clerk of the Council.

County Hall, Newport, Mon.

9758

VEKNON LAWRENCE,
Clerk of the Council.
County Hall, Newport, Mon.

COUNTY COUNCIL OF RENFREW.
Applications are invited for the appointment of
SENIOR ARCHITECTURAL ASSISTANT in the
County Engineer's Department (A.P.T., V/VI,
2665—4815). Applicants must be Registered Architects and Members of R.I.B.A. and/or R.I.A.S.
Previous Local Authority experience would be an
advantage. The appointment is supersamuable.
Applications, stating age, qualifications and experience, together with recent testimonials, should
be sent to the County Clerk, P.O. Box 12, Paisley,
immediately.

BOROUGH OF RAPKING.

BOROUGH OF BARKING.

DEPARTMENT OF THE BOROUGH
ARCHITECT.

APPOINTMENT OF QUANTITY SURVEYING
APPLICATIONS are invited for the appointment of a Quantity Surveying Assistant, Grade A.P.T., I, at a commencing salary of £500 per annum, plus London weighting. Further particulars and form of application may be obtained from the Borough Architect, Town Hall, Barking reach the undersigned not later than 9 a.m. on Saturday, 14th May, 1955.

E. R. FARR, Town Clerk. 9742

COUNTY BOROUGH OF NEWPORT, MON.
Applications are invited for the following appointments:—
(a) THREE ASSISTANT ARCHITECTS—two Grade IV (£675—£825), one Special Grade (£650—£775—Grade III for fully qualified). Candidates should be Associate Members of the Royal Institute of British Architects.
(b) ONE ARCHITECTURAL ASSISTANT—Grade I (£500—£590). Candidates must be Associate Members of the Royal Institute of Chartered Surveyors or the Institute of Quantity Surveyors.

Surveyors.

(d) ONE ASSISTANT HEATING ENGINEER—
Grade III (£600-£725).

Housing accommodation will be provided, except for the appointment (b).
Conditions of appointment and service and Forms of Application obtainable from the Borough Architect, Civic Centre, Newport, Mon., to whom they should be returned not later than Monday.
23rd May, 1955.

KENT COUNTY COUNCIL requires TWO ASSISTANTS in the Planning Department at salaries within the grade £500×£20—£580 per

salaries within the grade £500 £20—£580 per annum.

Candidates must possess an appropriate degree or diploma or have passed a recognised professional Intermediate Examination. A knowledge of architectural design for one post and of land-scape design for the other post would be an advantage. National Scheme of Conditions of Service applies, and registered disabled persons will be considered.

Applications, together with the names of two referees, must reach the County Planning Officer, County Hall, Maidstone, not later than 15th June. 1955.

EAST RIDING OF YORKSHIRE
COUNTY COUNCIL.
Applications are invited for the following
permanent appointments on the staff of the County
Architect:—
(a) SENIOR ASSISTANT ARCHITECT: Grade
A.P.T. VI (£825 rising to £1,000).
(b) ASSISTANT ARCHITECTS: Grade A.P.T. IV
(£675 rising to £825).

(£675 rising to £825). (c) ASSISTANT ARCHITECTS: Special Scale

(c) ASSISTANT ARCHITECTS: Special Scale (1656) rising to £825).

(c) ASSISTANT ARCHITECTS: Special Scale (1656) rising to £775).

(d) ARCHITECTURAL ASSISTANTS: Grade A.P.T. II (£560) rising to £640).

Applicants for post (a) must be Fellows or Associate Members of the R.L.B.A., and should have had considerable experience in architectural design with a sound knowledge of construction. The successful applicant will be required to take charge of a capital works section and should be accustomed to the control of staff and the delegation of work.

Applicants for posts (b), (c) and (d) must possess the qualifications and have had the experience laid down by the National Joint Council as appropriate to the salary grades or scales in question.

The appointments are superannuable and subject to the passing of a medical examination.

Applications, giving particulars of age, training, qualifications, experience, past and present appointments stating salaries, together with the names of three referees, should be addressed to the County Architect, County Hall, Beverley, and must be received by him not later than Friday. 20th May, 1955.

Canvassing, either directly or indirectly, will be considered a disqualification.

THOMAS STEPHENSON.

Clerk of the Council.

County Hall, Beverley. May, 1955.

Beverley.

May, 1955.

BOROUGH OF WIMBLEDON.
BOROUGH ENGINEER AND SURVEYOR'S
DEPARTMENT.

Applications are invited for the appointment of an ARCHITECTURAL ASSISTANT on the established staff.

Salary in accordance with Grade A.P.T., I, £500 to £580 per annum. London weighting additional. Applicants should have attended a full-time course of Architecture and to have passed the R.I.B.A. Intermediate Examination or its equivalent; experience in Municinal architectural work would be an advantage. The appointment is subject to the National Scheme of Conditions of Service, the provisions of the Local Government Superannuation Acts, and to a satisfactory medical report. Applications, endorsed "Architectural Assistant, stating age, qualifications, former Local Government Service, present and previous appointments and experience, length of notice required to terminate present appointment, and the names of three referees, must be forwarded to the Borough Engineer and Surveyer by the 23rd May, 1955. Candidates must disclose in writing to the undersigned, if, to their knowledge, they are related to any member or senior officer of the Council. Canvassing disqualifies.

FRANCIS J. O'DOWD.

Town Clerk.

Town Hall. Wimbledon, S.W.19.

9791

SURREY COUNTY COUNCIL.
Applications invited for following appoint-

Applications invited for following appointments:—

(1) ASSISTANT ARCHITECT, Grade IV, £675 × £30—£825 p.a., plus London allowance. Must be Associate Members R.I.B.A. and have had good training and adequate experience in design and construction of modern buildings.

(2) ASSISTANT QUANTITY SURVEYOR, Grade IV, £675 × £30—£825 p.a., plus London allowance. Experienced taking off, site measuring, interim valuations and final accounts, and must have passed Final R.I.C.S. Full defails and present salary, accompanied by copies of three recent testimonials, to County Architect, County Hall, Kingston, by 16th May, 1955.

Architect, County Hall, Kingston, by 16th May, 1955.

SKEGNESS URBAN DISTRICT COUNCIL.
ARCHITECTURAL ASSISTANT, GRADE III (£600—£725).

Applications are invited from suitably qualified persons for the appointment of Architectural Assistant in the Engineer and Surveyor's Department, the commencing salary to be fixed according to the qualifications and experience of the person appointed.

The appointment will be subject to the National Scheme of Conditions of Service, the provisions of the Local Government Superannuation Acts, and the passing of a medical examination.

Applicants should have had experience in the preparation of plans, designs, details and specifications for the architectural work normally undertaken by an Urban Authority, including the preparation of quantities.

A two-bedroomed g.f. flat on a service tenancy is available for the successful candidate, if required.

Applications, suitably endorsed, together with copies of two recent testimonials, to be delivered to the undersigned not later than 18th May. 1955.

Candidates should disclose whether to their knowledge they are related to any member or senior officer of the Council.

Town Hall, Skegness.

8th April, 1955.

Town Hall, Skegness. 28th April, 1955.

HORNCHURCH URBAN DISTRICT COUNCIL.
Applications are invited for posts of ARCHITECTURAL ASSISTANT:—
(a) Grade IV—£675-£825—Temporary.
(b) Grade III—£600-£725.
Applicants for post (a) must be Associates of
the R.I.B.A. with considerable experience, and
preference will be given to candidates who have
served with a Local Authority and been engaged
on work in connection with town redevelopment
schemes.

schemes.

Applicants for post (b) should have completed professional training and have passed the Intermediate Examination of the R.I.B.A. and had at least 5 years' previous experience, preferably with a Local Authority.

Applications, on forms obtainable from the undersigned, must reach me not later than Saturday, 21st May, 1955, in envelopes appropriately endorsed.

day, 21st May, 1955, in envelopes appropriately endorsed.

P. L. COX,
Clerk of the Council.

Council Offices. Billet Lane, Hornchurch.
28th April, 1955.

BURGH OF HAMILTON.
ASSISTANT ARCHITECT.

Applications are invited for the above post from Associates of the Royal Institute of British Architects or equivalent qualification, with wide experience in post-war housing and civic building design, etc. The post is superannuable, and the salary A.P.T., V-VI (£665 to £815), with placing according to qualifications and experience. The successful applicant will be given the tenancy of a house if required.

Applications, containing full particulars of age, qualifications and experience, together with the names of three referees, should be lodged with the undersigned not later than 11th May, 1955.

Canvassing, either directly or indirectly, will be a disqualification.

JAMES KELLY.

Town Clerk.

JAMES KELLY, Town Clerk. The Town House, Hamilton.

28th April, 1955.

LINDSEY COUNTY COUNCIL.

PLANNING DEPARTMENT.

Applications are invited for the appointments of:

(a) SENIOR ASSISTANT (ARCHITECTURAL)
Headquarters, Lincoln. A.P.T., IV (£675—

(a) SENIOR ASSISTANT (ARCHITECTURAL) at Headquarters, Lincoln. A.P.T., IV (£675-£825).

(b) ASSISTANT at Divisional Office, Louth. A.P.T., I (£500-£580).

Successful candidate for (a) will be in charge of the architectural work of the department, and should have experience in dealing with re-development schemes, housing layouts and architectural control. This appointment involves responsibility and provides a wide scope for an architect who is interested in the related architectural/planning problems of a County Planning Authority. Membership of R.I.B.A. essential.

Applicants for (b) should have completed mot less than three years' professional training in planning, architect's or engineer's office, and be expert draughtsmen.

Superannuation and N.J.C. conditions of service, Allowance of 25s. per week and return fare home bi-monthly payable for up to six months to married men unable to find housing accommodation. Post (a) requires officer to provide own car for official journeys, for which allowance will be paid at essential user's rate for car not exceeding 10 h.p. or 1,214 c.c.

Applications, with full particulars of age, training, qualifications, experience, and names and addresses of two referees, to be in my hands by 20th May, 1955. Canvassing will disqualify. Relationship to any member or senior officer of the Council to be disclosed in writing by applicants.

R. L. STIRLING,

County Planning Officer.

The Castle, Lincoln.

PNIGERIA.

The Castle, Lincoln

LAGOS EXECUTIVE DEVELOPMENT BOARD

NIGERIA.

SENIOR ARCHITECT, £1,700—£1,800 per annum.

(1) Applications are invited for the above appointment.

(2) The Board is responsible for large-scale planning control, outline and detail planning and construction for both new development and redevelopment for industrial, residential and commercial purposes in Lagos. These responsibilities follow very similar lines to those of a Development Corporation operating under the New Towns Act. 1946.

(3) Candidates must preferably have experience in large-scale housing development and be Associate Members of the Royal Institute of British Architects.

(4) Conditions of appointment are as follows: Appointment is for one tour of eighteen to twenty-four months in the first instance, renewable by mutual agreement. The Board operates a Provident Fund, to which the officer contributes 10 per cent. of his salary. Leave is granted at the rate of seven days on full pay for each month resident in Lagos. Free first-class air passages are provided for the officer and his wife, and assisted passages (maximum £75 per child) for up to two children, or separation allowance of £75 per annum per child in lieu thereof. Partly furnished ouarters are provided, for which a rent of 10 per cent. (maximum £150 per annum) of the officer's basic salary is charged.

(5) Application forms obtainable from The Nigeria Officer of the Indicate returnable to the Nigeria Office not later than 30th May. Mark correspondence L.E.D.B.

BOROUGH OF WILLESDEN.
ARCHITECTURAL AND TECHNICAL
ASSISTANTS.
Applications are invited from suitably qualified
and experienced persons for the following
permanent appointments in the Architects' Section of the Borough Engineer and Surveyor's

Applications are invited from suitably qualified and experienced persons for the following permanent appointments in the Architects' Section of the Borough Engineer and Surveyor's Department.

(a) ARCHITECTURAL ASSISTANTS (2) Grade A.P.T.VI 1825-255-21,000 per annum.

(b) TECHNICAL ASSISTANT (1) Grade A.P.T.VI 1825-255-41,000 per annum.

(c) ARCHITECTURAL ASSISTANTS (5) Grade A.P.T.V. 2750-250-24900 per annum.

(d) ARCHITECTURAL ASSISTANTS (2) Grade A.P.T.VI 1600-1252 (530-1825) per annum.

(d) ARCHITECTURAL ASSISTANTS (2) Grade A.P.T.II.VI 2600-1252 (530-1825) per annum.

(e) ARCHITECTURAL ASSISTANTS (2) Grade A.P.T.II.VI 2600-1252 (530-1825) per annum.

The salaries quoted are exclusive of the appropriate London Weighting which is payable in addition and which is £30 per annum for officers 26 years and over. The commencing salary in each case will be fixed in accordance with the qualifications and experience of the successful candidate. Applicants for appointments (a) and (c) must be Associates of the R.I.B.A. Applicants for appointment (b) must be either an Associate of the R.I.B.A. or the R.I.C.S. Applicants for appointments (d) and (e) must be either an Associate of the R.I.B.A. There is a large and interesting programme of work in the Department, including the clearance and redevelopment of urban areas for housing purposes, Minor Capital Works for the Education Services and various Municipal buildings.

For one of the posts (a) and (c) preference will be given to candidates having experience in the preparation of layouts for high density housing development.

The Technical Assistant, post (b) will be principally concerned with maintenance and small works of alteration to schools, with possibly an occasional capital job up to about £0,000 in value. The uties of the appointment call for an Architect or Surveyor with a sound practical approach to day-to-day maintenance problems and with considerable experience of specification writing. The person appointed will be required to work with sonior Officers of the

R. S. FORSTER, Town Clerk

Town Hall. Dyne Road. Kilburn, N.W.6. April, 1955.

ARIDUTA, N.W.b.
April, 1955.

9796

METROPOLITAN BOROUGH OF FULHAM.
BOROUGH ARCHITECT'S AND HOUSING
BOROUGH ASSISTANT QUANTITY SURVEYOR, A.P.T., V. 2750-4230—4900+2530 p.a.
London weighting. Applicants must be experienced in the preparation of bills of quantities, building management of large contracts for multistoreyed flats and public buildings. A.R.I.C.S.
(Quantities) exam. or equivalent.
(b) ASSISTANT QUANTITY SURVEYOR,
A.P.T., III, 4600×225—4725+230 p.a. London
weighting. Applicants must be experienced in taking-off, final measurement, preparation interim
certificates, final accounts, and have passed Intermediate R.I.C.S.
(c) JUNIOR ASSISTANT QUANTITY SURVEYOR, A.P.T., I, 2500×220—2530+London
weighting 220/2530 p.a., according to age. Applicants should be experienced in "working-up"
and abstracting.
(d) ARCHITECTURAL ASSISTANT, A.P.T., I
or II (£500/580 or £560 × £20—£640)+London
weighting. Applicates must have had at least
two years' drawing office experience.
Application forms from Town Clerk, Town Hall,
S.W.6. Closing date: 17th May.

9761

S.W.6. Closing date: 17th May. 9761

METROPOLITAN BOROUGH OF
CAMBERWELL.

DEPARTMENT OF DIRECTOR OF HOUSING
AND BOROUGH ARCHITECT.
(a) SENIOR ASSISTANT ARCHITECT.
(A) SENIOR ASSISTANT ARCHITECT.
National scale, A.P.T., V, VI or VII (salary range £780—£1,130, inclusive of £30 London weighting)
Grade and commencing salary according to qualifications and experience; (b) ASSISTANT ARCHITECT, A.P.T., III/IV (£630—£855, inclusive): (c)
JUNIOR ARCHITECT, A.P.T., II (£590—£670, inclusive). Qualification required for first two posts A.R.I.B.A.; for Junior Architect R.I.B.A. Intermediate Examination or its equivalent, followed by a minimum of one year in an architectural office. Work of départment includes design and construction of public buildings, housing estates, including multi-storey construction. No housing provided. Superannuation scheme, Application form from Town Clerk, Town Hall, S.E.5. Closing date: 31st May, 1955. 9787

BOROUGH OF KETTERING.
BOROUGH ENGINEER AND SURVEYOR'S
DEPARTMENT.

APPOINTMENT OF SENIOR TURAL ASSISTANT. ARCHITEC-

TURAL ASSISTANT.

Applications are invited for the above appointment, at a salary either in accordance with A.P.T., Grade II (£560-£540) or in accordance with the Special Scale applicable to Architectural Assistants (£550-£775), according to qualifications and experience. Housing accommodation will be available if required. Applications with the names of three referees to be sent not later than 21st May, 1955, to the Town Clerk, Town Clerk's Office, Kettering 1955, to the Kettering.

D. DUNSFORD PRICE, Town Clerk.

OFFICE OF THE RECEIVER FOR THE METROPOLITAN POLICE DISTRICT.

Applications are invited for unestablished appointments as ARCHITECTURAL ASSISTANTS (New Works and Maintenance Branches) and also as SANITARY ENGINEERING ASSISTANTS in the Chief Architect and Surveyor's Department.

Department.

Rates of pay, 2442 10s. (age 21) by annual increases to £655 (men) and £442 10s. by annual increases to £655 (men). Overtime of approximately £24 per annun is also payable while a 45½-hour week is worked.

Conditional hours, 44 per week. Annual leave, 24 days.

Application forms from the Chief Clerk, Architect and Surveyor's Department, New Scotland Yard, S.W.I, stating for which drawing office application is made.

CITY OF WAKEFIELD.
CITY ENGINEER'S DEPARTMENT.

Applications are invited for the following super-annuable appointments in the City Engineer's Department:

annuable appointments in the City Engineer's Department:—

(a) SENIOR QUANTITY SURVEYOR, Grade A.P.T., IV (£675—£325 p.a.).

Candidates must be members by examination of the R.I.C.S, or the I.Q.S., and should have had experience in large scale Local Authority housing and other Municipal buildings.

(b) ARCHITECTURAL ASSISTANT, Grade A.P.T., II (£560—£460 p.a.).

Applicants should have passed the A.R.I.B.A. Intermediate Examination, and should have had some Municipal experience.

HOUSING ACCOMMODATION WITH APPOINTMENT (a).

Applications, stating age, qualifications, appointments and experience, together with the names of two referees, to be sent to me not later than the 18th May, 1955.

W. S. DES FORGES.

W. S. DES FORGES

Town Hall, Wakefield.

ARGYLL COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.

COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the post of ARCHITECTURAL ASSISTANT in the County Architect's Department, Dunoon. The salary scale will be A.P.T., Grades 46 (6616-2815 per annum). with placing according to qualifications and experience. The post is superannuable.

Applicants must have had a general architectural training, be capable of surveying, levelling, preparing detailed drawings and specifications, and have had experience particularly in connection with school buildings. Preference will be given to applicants who hold a recognised architectural qualification.

Applications, stating age, experience and qualifications, together with copies of two recent testimonials, to be lodged with the County Architect, County Offices, Dunoon, within ten days of publication of this advertisement.

A. D. JACKSON,

County Clerk.

9815

CITY AND COUNTY OF KINGSTON-UPON-HULL, City Architect's Department.—Applications are invited for the following posts:—(a) ASSISTANT ARCHITECT, Grade IV, £675—£825 per annum. (b) ARCHITECTURAL ASSISTANT, Grades I-II, £500—£640 per annum. (c) QUANTITY SURVEYING ASSISTANT, Grades I-II, £500—£640 per annum. (d) TEMPORARY ASSISTANT QUANTITY SURVEYOR, Grade IV, £675—£825 per annum. (e) TEMPORARY ASSISTANT QUANTITY SURVEYOR, Grade IV, £676—£825 per annum. (e) TEMPORARY ASSISTANT ARCHITECT, Grade II, £560—£6540 or Special classes £650—£775, according to qualifications and experience. (f) TEMPORARY ARCHITECTURAL DRAUGHTSMEN, salary according to experience. (f) TEMPORARY ARCHITECTURAL DRAUGHTSMEN, salary according to experience. (f) TEMPORARY ARCHITECTURAL DRAUGHTSMEN, salary according to experience. (d) Temporate of posts (a) and (e) should preferably be A.R.I.B.A., with experience of modern school design and construction. Housing accommodation will be provided for successful married candidates for posts (a), (b), (c), (d) and (e). Candidates for post (f) should be experienced tracers and colourists. Forms of application may be obtained from the undersigned, to whom they should be returned completed not later than 23rd May, 1955.—Andrew Rankine, O.B.E., A.R.I.B.A., City Architect, Guildhall, Kingston-upon-Hull. April, 1955. 9812

BOROUGH OF ABERYSTWYTH-CARDIGAN
ARCHITECTURAL ASSISTANT (FINALIST
A.R.I.B.A.),
Salary: Minimum £650 p.a.; maximum £775 p.a.
Housing accommodation available.
Particulars may be obtained from undersigned, to whom applications must be submitted by 20th
May, 1955.

J. HENWOOD JONES, Town Clerk,

Town Hall, Aberystwyth, Cardiganshire.

Architectural Appointments Vacant

Architectural Appointments Vacant 4 lines or under, 7s. 6d.: each additional line, 2s. The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-69 inclusive unless he or she or the employment is excepted from the provisions of the Notification of Vacancies Order, 1952.

ARCHITECTURAL ASSISTANT: Intermediate approaching final. Commercial and industrial work; large-scale contracts. Watson, Johnson, Stokes. Victoria Square. Birmingham. 4895

URGENTLY required. ASSISTANT for responsible position in general practice with interesting work in hand over a large area. Salary directly related to ability. Accommodation available if required. Martindale and Jackson, F/A.R.I.B.A., Cathedral Chambers, Castle Street, Carlisle

SALARY up to £793, according to experience for ASSISTANT in first class City Office.

BOX 9169.

ARCHITECTURAL ASSISTANT required, intermediate stage or above, some office experience. Write for interview. Box 8770.

ARCHITECT. OR EXPERIENCED ASSISTANT, REQUIRED BY "THE ARCHITECTS' JOURNAL." Ability to write fluently and well, and a sound knowledge of construction and contemporary building techniques essential. Will be expected to write reports on buildings, supervise the production of technical architectural drawings, commission and sub-edit technical articles and assist production. Please reply to The Editor, "The Architects' Journal," 9, Queen Anne's Gate, S.W.1.

REQUIRED in Chief Architect's Department at Head Office of Multiple Store in London.

(a) JUNIOR ARCHITECTURAL DRAUGHTS.

MAN or ASSISTANT with good basic experience to prepare sketch plans, working drawings and give general assistance: (b)JUNIOR SHOPFITTING DRAUGHTSMAN for Store Fixtures and Fittings. Write, with details of experience and salary required, to Box 9194.

SENIOR and INTERMEDIATE ARCHITECTURAL ASSISTANTS required. Five-day week. Write or telephone, giving full particulars, including age and salary, to Hasker & Hall, Architects, 13, Welbeck Street, W.1 (WELbeck 0051)

PENING for QUALIFIED ARCHITECTS as PENING for QUALIFIED ARCHITECTS as Assistant Designers with an expanding firm of new traditional builders. Must have good general practical knowledge and a keen interest in new building methods. A prospect exists for working overseas. Starting salaries range between £650 and £750 according to experience, with an increase after six months' satisfactory service. Messrs, Reema Construction, Ltd., Milford Manor, Salisbury, Wilts.

Messrs. Reema Construction, Ltd., Militord Manor, Salisbury, Wilts.

2023

500 -£700 per annum salary offered for Scale development and remodelling of petrol filling stations, service stations, garages and workshops, etc. Must be capable of working independently. Should be of intermediate standard. Work will involve original design, site visits and a high standard of presentation. Five-day week, good pension and life assurance scheme, sickness benefits and free luncheon vouchers. Social Club. Write, giving full details, stating age, experience and salary required to Box 9325, quoting Ref. Y 533.

RECHITECT with varied practice requires with knowledge of construction. Reply with details of age, experience and salary expected, to A. W. J. Mullins, L.R.I.B.A., 78, Thoro'fare, Woodbridge, Suffolk.

SISISTANT SURVEYORS experienced in the preparation of detailed drawings and surveys required by Davis Estates, Ltd., 346/350, Kilburn High Road, London, N.W.6. Apply giving details of past employment and salary required.

A RCHITECTURAL ASSISTANT required in the West End Offices of Percy Bilton Ltd. Salary about £500-£600 according to experience. Work would entail preparation of drawings, details and specifications for wide range of buildings including houses, flats and offices. Write giving experience and other useful information to Staff Architect, Percy Bilton Ltd., 113, Pack Street. W.1.

A RCHITECTURAL STAFF, all grades, wanted, interesting and varied work of contemporary character; light and airy offices. Apply J. Seymour Harris & Partners, 4, Greenfield Crescent, Edgbaston, Birmingham, 15.

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A RCHITECT'S ASSISTANTS required (1 Senior and 2 Juniors) for West End Office. Write, stating full particulars and salary required, to Box 8725.

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Apply

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REQUIRED for Architects' office, Central London area, young qualified ASSISTANTS unterested in design and construction. Write, stating experience and salary required. Box 2325.

A RCHITECTURAL ASSISTANT required in small private office. Intermediate to Final standard. Write, stating experience and salary required, to: A. F. Bennett, 35, Queen's Gate Mews, London, S.W.7.

Mews, London, S.W.7.

RCHITECTURAL ASSISTANT required by Major Oil Company undergoing expansion, for its Sheffield office. Applicants should be of Intermediate standard, and must be capable of carrying out work on the design and re-modelling of service stations. Social Club, Pension and Life Assurance scheme, generous sickness benefits. Write, giving full details of experience, age and salary required, to Box 9262, quoting Ref. A.A. 588.

VOUNG ASSISTANT, up to Inter.-R.I.B.A. standard, required to assist Staff Architect in small Drawing Office of a Multiple Combine with Branches throughout Great Britain. Able to work with the minimum of supervision. Occasional travelling may be involved. Apply, stating age, previous experience, and salary required, to Box 9681.

A RCHITECTURAL ASSISTANTS required immediately for busy Birmingham practice. A.R.I.B.A. and/or Intermediate qualifications. Salary scale £500—£750, according to experience, etc. Write, giving full particulars and when available, to Wood & Kendrick & Williams, 57, Colmore Row, Birmingham, 3. 9683

A RCHITECTURAL ASSISTANT required in small busy office in Westminster. Must be quick and neat draughtsman, with at least 5 years' experience in private practice. Salary according to capabilities. Write, with full particulars, to Michael Brashier, A.R.I.B.A., 11, Gayfere Street, S.W.I.

A RCHITECTURAL ASSISTANTS required in busy London office; able to prepare working and detail drawings and supervise works; must be good draughtsmen. State salary and experience. Phone: Covent Garden 2629.

Phone: Covent Garden 2629. 9622

WANTED, in Oxfordshire office, ARCHITECTURAL ASSISTANT, male or female, approx. Inter standard. One who has some knowledge of, and is interested in, traditional and restoration work. Good prospects and scope for 
the right applicant, who must be keen and conscientious. Accommodation available. Apply, 
stating salary required. Box 9594.

ASSISTANT

A SSISTANT required for Architect's office.
Commencing salary up to £600, according to age and experience. Write full particulars to H. Wakeford & Sons, 184, Clapham Road, London, S.W.9.

SAMUEL MORRISON & PARTNERS require AMUEL MORRISON & PARTNERS require the following:—

(a) SEVERAL ARCHITECTS, to undertake research and assume responsibility for the design and erection of contemporary schools.

(b) SEVERAL ARCHITECTS, to carry out similar work in the sphere of housing, shopping centres, etc.

(c) ASSISTANTS of Intermediate or Final standard to collaborate with the above.

(d) An ASSISTANT who is interested in the preparation of articles and typography, in addition to normal architectural work.

Salaries comparable to Local Authority Scales; interview expenses paid. 8t. Alkmunds House, 3653

Belper Road, Derby.

Interview expenses paid. St. Alkmunds House, 103, Belper Road, Derby. 9653

BRITISH HOME STORES, LTD., require grades between 27 and 40 years of age for their Architect's Department. Salary rates from 4550 to £1,000 per annum, according to experience. Applicants must have had at least 4 years' office experience. Positions give good opportunities for up-grading. Contributory pension scheme, non-contributory life assurance scheme, and subsidised staff canteen in operation. Applications in writing, giving full details of age, experience, etc., to be sent to Personnel Manager, British Home Stores. Ltd., Marylebone House, 129-137, Marylebone Road, London, N.W.1. 9642

SENIOR and JUNIOR ARCHITECTURAL ASSISTANTS required for general and commercial practice. Apply, stating age, experience, qualifications and salary required, to Duncan Clark & Beckett, F./L.R.I.B.A., F./F.R.I.C.S., Architects and Surveyors, 7, West Stockwell Street, Colchester.

ROFF MARSH, F.R.I.B.A., M.T.P.I., requires
CHIEF AND SENIOR ASSISTANT.
Interesting work on flats, shops, schools, etc.
Apply to 125, London Road, Chelmsford. 9647

REQUIRED by West End London Architects, an ASSISTANT, about Intermediate standard, for varied practice. Write, stating age, experience, and salary required. Box 9651.

A RCHITECTS' ASSISTANT required by small busy office in Essex. Varied and interesting work in Home Counties area. 5-day week. Salary by arrangement. Please write to Box 9659.

VACANCIES occur in busy London Architect's practice for Senior and Junior ASSISTANTS, salaries varying from £600 to £900, according to experience and capabilities. Reply with full particulars to Box 926.

A RCHITECT'S ASSISTANT, Intermediate standard, required in the Architect's Department of a London Brewery Company. Write with full particulars to Box 9692.

A SSISTANT ARCHITECT, Intermediate papilicant. Write, giving age and experience, to W. D. Sterland, 86, Friar Lane, Nottingham. 9612

A RCHITECTURAL ASSISTANTS required in West End office. Qualified or Intermediate standard. Varied and interesting work. 5-day week. Salary range £000-£850.

A RCHITECTURAL ASSISTANTS senior and Junior, required for busy Birmingham practice. Apply, stating experience and salary required. Martin-Martin & W. H. Ward, 106. Commer Row, Birmingham 3. 9615

CITY of London Architects require JUNIOR ASSISTANT and SENIOR ASSISTANT for Commercial and Industrial Practice in London and Home Counties. Write, stating age, qualifications and salary required. to Box 9617.

THE STEEL COMPANY OF WALES, LIMITED (Steel Division), PORT TALBOT, invites applications from suitably qualified Engineers for a number of vacancies created by the present large expansion of the Works.

The Steel Division is a fully integrated iron and steel works, and produces medium and light plates, hot and cold rolled sheets and hot strip for cold rolling into timplate. These products are used in motor cars, electrical machines, refrigerators, washing machines, oil drums, and many forms of cans and boxes for food and other uses; and are in demand far beyond the present capacity of the industry.

The Works is extremely modern, has excellent working conditions, and a very high standard of plant and ecuprement.

MECHANICAL ELECTRICAL and CIVIL MCRERS are required for a wide range of different jobs, including both general development work and experience. Prospects of promotion are anoton.

Experience in the steel industry is not essential although preferred. Age will be rec

tions and experience. Prospects of promotion are good.

Experience in the steel industry is not essential although preferred. Age will be reckoned less important than the ability to assimilate training, which will be given to all successful candidates who need it.

The positions are permanent, and the Company has a generous superannuation scheme which is compulsory for all members of the Staff. The Works is situated on the seaboard, with agreeable residential areas nearby.

Those interested should write for official Application Form to the:

PERSONNEL SUPERINTENDENT,

The Steel Company of Wales, Limited (Steel Division).

Abbey Works, Port Talbot. 9685

The Steel Company of Wales, Limited (Steel Division),
Abbey Works, Port Talbot.

JUNIOR and INTERMEDIATE ARCHITECTURAL ASSISTANTS required urgently in London Office with widely varied practice. Good salaries, 5-day week. Lewis Solomon, Son & Joseph. HOL 5108 or 7082

REIDENT REPERSENTATIVE required for Resat Anglia and East Midlands by leading nationally known manufacturers of prefabricated timber buildings. Applicants must have sound knowledge of building construction with some experience of timber of prefabricated structures. This is an opportunity for a capable sales executive able to initiate, maintain and successfully finalise technical and commercial negotiations at high level. Send fullest details of career, age, experience and salary level to Box 9520.

A RCHITECTURAL ASSISTANTS required in West End Architect's office. Those studying for Inter. to Final R.I.B.A. Examination or qualified, Varied practice, specialising somewhat in factories, city offices and stores. Write, giving full particulars, to Box H.337, Willing's, 362, Grays Inn Road W.C.1.

SSISTANT ARCHITECT required urgently in small growing country practice in Swindon. Write stating age, experience and salary required to Box 9802.

A RCHITECTURAL ASSISTANT required for husy practice covering North West England. Box 9136.

RCHITECTURAL ASSISTANT required for husy practice covering North West England. Box 9136.

RCHITECTURAL ASSISTANT required in Chief Architects Office, London. Write, giving details of experience and salary required to the Winbourne, F.R.I.B.A. Chief Architect. F. W. Woolworth & Co. Ltd., 1/5, New Bond Street London, W. 1.

A RCHITECTURAL ASSISTANTS of Final and Intermediate standard required for Bristol Office. Varied and interesting work; good salary; contributory pension scheme. Write giving age. experience and salary to W. H. Watkins, Gray. FF. R. I.B. A. and Partners. 1, Clare Street. Bristol, 1.

A RCHITECTURAL METALWORK DESIGNER wanted. Top rates paid. Write Box 340, W.B.G., 39, Cheapside, London, E.C.2.

Box 340, W.B.G., 39, Cheapside, London, E.C.2.

SENIOR ASSISTANT required in Architect's Department of large London industrial concern. Knowledge of London Building Acts and By-Laws an advantage. Good prospects; pension scheme. State age, experience, and salary required. Reply Box 9696.

ARCHITECTURAL ASSISTANT. Quick, accurate draughtsman for Architects' Department of London Property Development Company. Commencing salary 2750 p.a., with excellent prospects for right man. 5-day week-overtime paid. Write, with full particulars of age and experience, to Box 1823, c/o Whites, Ltd., 9703

CECIL Howitt & Partners, Architects, 8t., Andrew's House, Mansfield Road, Nottingham. require JUNIOR ARCHITECTURAL ASSISTANTS, preferably Inter. R.I.B.A. standard. Please apply in writing, giving full details and stating salary required.

SENIOR ASSISTANT required by West End Architects. Should be A.R.I.B.A., about 35. Starting salary up to £1,000 p.a., according to experience. Box 9789.

Architects. Should be A.R.I.B.A., about 55. Starting salary up to £1,000 p.a., according to experience. Box 9789.

A.S.I.B.A., preferably school-trained. Good contemporary design essential. Salary up to £600, according to ability and experience. H. M. R. & H. W. D. Burgess, A/A.R.I.B.A., F.R.I.C.S., 30. Mill Street, Pontypridd.

GOODAY & NOBLE require an ASSISTANT of Intermediate to Final standard. Apply in writing, stating salary required, to 2. Cadogan Place, S.W.I.

A.R.H.TECTURAL ASSISTANT required, intermediate standard, with private office experience. also JUNIOR for our Tiverton Branch. H. S. W. Stone & Partners F/F.R.I.B.A., 20. The Crescent. Taunton. Somerset.

A.P.PLICATIONS are invited for the post of Builders and Estate Developers in South Bedfordshire. Thorough knowledge of surveying, estate layouts, design and detailing of various buildings essential, combined with ability to work on own initiative and assume responsibility for production of drawings. Pension scheme in operation. Apply, stating age, previous experience and salary required to H. C. Janes Ltd., 183, High Town Road, Luton.

B.C. invites applications for post in Buildings pension of acoustic principes in design and treatment of studios. Consideration with practical application of acoustic principes in design and treatment of studios. Consideration will be given to application from qualified engineers of physicists specialising in according to appreciation of architecture, or from qualified engineers of physicists specialising in according to design appreciation of music essential. Successful candidate will be rounded to the consideration with beautical application form to Engineering Essearch Department. Salary in the range £1,085 to £1,605 per annum, according to application form to Engineering Essearch Department. Salary in the range £1,085 to £1,605 per annum, according to Goodern application form to Engineering Essearch Department. Salary in the range £1,085 to £1,605 per annum, according to Goodern Essential Courter of Engineerin

TWO ARCHITECTURAL ASSISTANTS required, inter. standard, for contemporary office. Salary according to experience. C. H. Elsom, F.R.I.B.A., 44, Catherine Place, S.W.I. Victoria 4304.

A RCHITECTURAL ASSISTANT required with office experience, preferably industrial cor schools. Salary by arrangement. Liewellyn Smith & Waters, 103, Old Brompton Road, S.W.7.

Smith & Waters, 103, Old Brompton Road, S.W.T.

9128

A RCHITECTURAL ASSISTANT; Intermediate
or Senior, for General Practice in Dartford,
Kent. Salary by arrangement. Box 9773.

THE NUFFIELD FOUNDATION.

VACANCIES occur for ARCHITECTURAL
ASSISTANTS of both Final and Intermediate
standard in the Nuffield Foundation's Division
for Architectural Studies, wcrking on hospitals,
research laboratories and farm buildings. All
those interested should write in to the Director.
Salary by agreement. Box 9755.

A RCHITECTURAL ASSISTANTS (SENIOR
and JUNIOR) required. Please reply giving
particulars of qualifications, experience and
salary required to Bernard H. Dale and Partners,
10. Cariton Crescent. Southampton.

A SSISTANT able to develop working drawings
from sketch designs and to take control of
small jobs from start to finish required in southwest country practice. Starting salary in range
6200 to £000 with prospect of share in profits upon
proof of en'husiasm and reliability. Write giving
ful'est possible particulars to Alee H. Joy,
A.R.I.B.A., Northville Read, Kingsbridge, Devon.
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DAMS. HOLDEN & PEARSON require

A DAMS. HOLDEN & PEARSON require SENIOR ARCHITECTURAL ASSISTANTS immediately. Write giving particulars of experience and salary required to 38, Gordon Square, W.C.1.

TWO ASSISTANTS required for private offi TWO ASSISTANTS required for private office engaged in hospital work. Newly qualified or Inter. R.I.B.A. standard. Salary £500 to £650 p.a., according to experience. Applications stating age, qualifications and experience to W. Fowler Howitt, Esq., A.R.I.B.A., 77, Lambeth Palace Road, London, S.E.I.

EX PERIENCED ARCHITECTURAL DRAUGHTSMAN, experienced in industrial building details. Westminster. Five-day week. Salary £16 per week. Box 9779.

TONTEMPORARY ARCHITECT requires

Salary £16 per week. Box 9779.

CONTEMPORARY ARCHITECT requires
PERSONAL ASSISTANT (male or female)
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Apply with full details, including salary required

A SSISTANT BUILDING SURVEYOR required by an old established Midlands firm of surveyors with town and country practice. Applicants should be experienced in surveying sites and buildings and preparing plans, specifications and schedules. Salary according to capabilities. Write giving full details of age and experience. Apply Box 9781.

EXPERIENCE. Apply Box 9781.

DEVON ARCHITECT requires ASSISTANT of R.I.B.A. Intermediate or Final standard for small busy office. Varied and interesting work with plenty of scope for someone with enthusiasm, Starting salary will depend on previous experience and will be raised according to capability. Antony Lamb, A.R.I.B.A., A.M.T.P.I., Architect, 2, Prospect Place, Ottery St. Mary, Devon. 9782.

A RCHITECTURAL ASSISTANT required with

A RCHITECTURAL ASSISTANT required with office experience, preferably hospital, for private practice, good salary paid to suitable applicant. Apply giving full particulars: T. F. Lawson, A.R.I.B.A., F.R.I.C.S., Norwich Union Chambers, Clarence Street, Gloucester. 9786

ARCHITECTURAL DRAUGHTSMEN required for architects' office in Manchester. Sound knowledge of construction, able to prepare working drawings and details. Write stating age, experience and salary required. Box 97771.

ARCHITECTS ASSISTANTS required for General Architectural practice in Manchester. Write stating age, qualifications and experience. Salary 2600 to 2800 according to experience. Son 9770.

ARCHITECTURAL ASSISTANTS required. ARCHITECTURAL ASSISTANTS required. State age, qualifications and salary. J. W. Beaumont & Sons, 51, Mosley Street, Manchester: 2.

RCHITECTS with extensive London and Provincial Practice, covering all classes of industrial, commercial and domestic work, require ASSISTANTS. Write giving details of experience, etc., to Box 9768.

A BBEY & HANSON of 11 Cloth Hall Street, Huddersfield, and 11 Wyle Cop, Shrewsbury, require SENIOR, and JUNIOR ASSISTANTS. Interesting contemporary design in this country and abroad. Good salary and prospects. Apply to Huddersfield office (telephone 225) giving experience and salary required.

A SEISTANT ARCHITECT required. Please and salary required to Richard Brown, 123. Victoria Road, Darlington.

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Victoria Road, Darlington.

A SSISTANT ARCHITECTS required for interesting contemporary work. Salaries \$500-8200, according to experience. Apply in writing only to J. Brian Cooper, F.R.I.B.A., 177. Corporation Street, Birmingham, 4.

WELL-KNOWN Architects require two ARCHITECTURAL ASSISTANTS/DRAUGHTSMEN for large and small works. Wide experience and prospects are offered to competent and enthusiastic Assistants. Salary approximately £500-£750, according to ability. DCNIODE/LEADING. ASSOCIATION (CONTINUED ASSOCIATION (CONTI

SENIOR/LEADING ASSISTANT required in Reading Office—General, Industrial and commercial work—Pension Scheme. Apply Sainsbury and Chamberlain, L/F.R.I.B.A., 14. Cross Street, Reading.

A SSISTANT at about Intermediate standard required. Full experience working drawings. Commencing salary £400. Reply giving age, general and technical education and experience to Mauchlen. Weightman & Elphick, Saville Row, Newcastle-upon-Tyne.

Row, Newcastle-upon-Tyne.

ARCHITECTURAL ASSISTANT or BULLDING DRAUGHTSMAN age up to 35, required for work on industrial buildings.
Preference given to candidates with Inter.
R.I.B.A., but this not essential, although O.N.C. in building is the minimum acceptable qualification. Applicants should have experience in foundation work, drainage and factory buildings.
Permanent position and attractive salary. Assistance with housing given if necessary. Write in confidence to Personnel Manager, Michelin Tyre
Co. Ltd., Stoke-on-Trent, Staffs., giving all relevant information.

QUANTITY SURVEYING. Simon Carves Ltd. have a vacancy for a TAKER-OFF. Applicants should have had professional experience where the London Method is employed and the Standard Method of Measurement followed. Excellent scope and working conditions; a five-day week and pension scheme are in operation. Brief relevant details and salary required should be sent to Staff & Training Division, quoting ref. ET69, Simon-Carves Ltd., Cheadle Heath. Stockport.

VIC HALLAM LTD. require a Staff Architect. VIC HALLAM LTD. require a Staff Architect. Responsible and permanent position with extremely good prospects for the right man. Only applicants who have had practical experience and possess keen interest in contemporary prefabrication considered. Applications giving details of training, experience, previous appointments and availability should be sent to: The Secretary, Vic Hallam Ltd., Langley Mill, Near Notthigham.

Nottingham. 9700

CROYDON: SENIOR ARCHITECTURAL
ASSISTANT required. Age about 30. Salary
up to £750 p.a., according to qualification and
experience. Interesting varied private practice.
Good opportunity for man with initiative. Box

JUNIOR ARCHITECTURAL ASSISTANT quired in Croydon office for varied private practice. Good opportunity. Write stating age, experience and salary. Box 9708.

RCHITECTURAL ASSISTANT required by East Lancashire Brewery Company. Licensing work experience an advantage. Staff Pension Write full particulars to Box 9712.

RAUGHTEMEN required for busy London Unities for extending experience. Full particulars and salary required to Eric Ambrose, F.R.I.B.A., 55, Pall Mall, S.W.1.

RCHITECTURAL ASSISTANTS (One Spinor) one INTER. or advanced JUNIOR) required in N.W. Lancs. office. Interesting long-term programme of Schools, Church and Domestic work offering scope for initiative under agreeable working conditions. Good and progressive salaries will be offered to keen and capable candidates. Good draughtsmanship and sound constructional knowledge essential qualifications. Details of training, qualifications, experience and age, please. Box 9710.

cations. Details of training, qualifications, experience and age, please. Box 9710.

Lewis Berger (Great Britalin), Ltd., Manufacturers, require Architerts and Building Contractors. Age: 25-40. with good educational and sales background, strong personality and ambition to make progress, previous experience in the trade is an advantage. Ability to sell in a highly competitive market essential, Good commencing salary. Please reply in confidence, to the Personnel Officer, Morning Lane, Homerton, E.9.

RONALD WARD & PARTNERS require several capable Architectural ASSISTANTS with contemporary outlook and willing to use own initiative. Salary range £400 to £800. Interesting and varied work, home and abroad. Congenial working conditions. Apply 29, Chesham Piace, S.W.1. Telephone Belgravia 3361. 7023

SENIOR and JUNIOR ARCHITECTURAL ASSISTANTS required for busy general practice. Commencing salaries £500 to £750 p.a., according to experience and qualifications. Apply H. N. Jepson & Partners, Chartered Architects, Midland Bank Chambers, Nuneaton.

Architectural Assistants of Final and Intermediate standard required in private practiciner's office, Glasgow. Apply stating age. experience and salary required. Box 9740.

age. experience and salary required. Box 9740.

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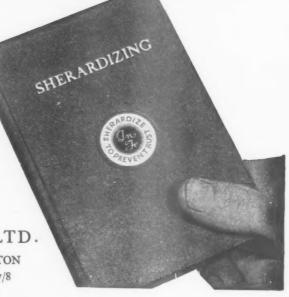
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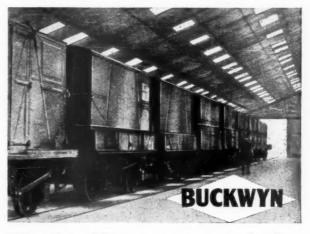
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