

HOUSING IN THE SHETLANDS

A RELIC OF THE GOOD OLD DAYS

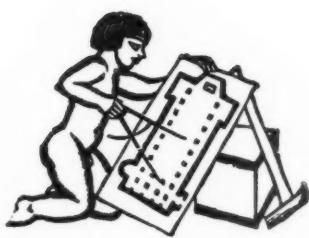


ONE of the remaining chimneyless crofters' houses in the Shetlands, which have now all been replaced by Government housing schemes. The walls are of rubble laid dry or in turf, and the roof of turf. There is only a small unglazed window, and fumes from the peat fires escaped through crevices in the walls and roof.



T. E. LAWRENCE'S GRAVE IN DORSET

The headstone of T. E. Lawrence's grave at Moreton in Dorset. Both headstone and kerb are of Portland stone and the designer was Mr. Eric Kennington.



THE PROBLEM OF CAMBRIDGE

THE new year which, in defiance of the calendar, begins again at the end of September for most livelihoods and for all educational processes, has this month left one mystery amongst the announcements of new appointments and new policies in architectural schools. Two days after the beginning of Michaelmas Full Term, the general world of architecture still does not know what is happening, or what is about to happen, at the Cambridge School.

This absence of information would not be in any way notable had it been concerning any other school. In connection with Cambridge it emphasizes the tremendous importance of the problems which must soon be decided concerning the school. And because the Cambridge University School of Architecture is, and must always be, an institution of great significance to architecture, it is doubtful whether silence concerning these problems is likely to result in the best possible solution.

Last July applications were invited for the post of Director of the school. So much, with the addition that no appointment has yet been made, is all that the general world of architecture has been allowed to learn concerning a matter which is of tremendous consequence.

The JOURNAL has always believed that a Cambridge school of architecture should make a special contribution to architectural knowledge; and that it would be a tragedy if the school's methods and training were ever to be made replicas of other three- or five-year schools. But we do not believe that that special contribution can best be evolved in the atmosphere of rumours, contradictions, small conspiracies and personal manoeuvres which seems to have troubled the Cambridge school at intervals during all the 15 years of its existence.

To the unbiased and benevolent observer the problems of the Cambridge school seem only two—and neither is the worse for being stated clearly.

The school, first of all, is the Cambridge University School, and the University is quite rightly determined to decide for itself who is to be upon its staff and what is to be taught within it. It might be considered that no one could possibly object to so reasonable a viewpoint when it is taken by a body so august as the University of Cambridge. The University's representatives, however, have at times, possibly with a little judicious encouragement from interested sources, decided that the R.I.B.A. wish to rule the roost in their school, and while asking for the assistance of the latter body, have continued to examine resulting suggestions, woodenly disinterested though they may have been, with the hearty goodwill of men handling an unexploded bomb. That there may have been faults

on both sides in this matter in the days immediately after the War, the JOURNAL will readily believe. In 1936 the position is different. We do not now feel that the R.I.B.A. will question the right of Cambridge to manage its own architectural school in every particular.

And what applies to the R.I.B.A. applies to all who are interested in architecture, with one significant exception. Cambridge cannot object when all architects take an interest, and a very keen and critical interest, in all that is done in its school. Directly the title of the Cambridge University School of Architecture has been conferred, the school becomes, not a private experiment, but a national institution. Many who have never heard of other British schools of architecture will expect the Cambridge school to be worthy of Cambridge University, and will in part judge all British architecture and architects by what is produced by that school.

So much for the relations between the Cambridge school and architects in general.

There remains, closely related to the first problem, the question of what should be the contribution of the Cambridge school to architectural knowledge.

Cambridge might be a replica of other schools; it might devote its energies, and its enormous potential powers, to achieving a standard of historical scholarship far beyond that of other schools; or, thirdly, it might apply its powers to contemporary architecture in its scientific aspects. It can do any one of these three; it should and must do that one superlatively well; and it is difficult, for the moment, to feel that it can do more than one superlatively well.

Since the contribution of Cambridge should be a special contribution, it is probable that the eventual choice will lie between the last two. Which of the two is chosen seems a smaller matter.

With the unique resources which lie within a mile of it the Cambridge school could become outstanding for its knowledge of the main development, and thousand variations, of English architecture. With all the faculties of the University to draw upon Cambridge could become the centre of modern architectural research in the wider spheres in which it is so badly needed—in economics, territorial planning, the æsthetic powers and limitations of mass-production, and particularly in building materials and processes.

In either study the school could justify itself and enhance its University's reputation. Both studies need a Director of outstanding ability and personality.

To-day, when some decision concerning the school is presumably imminent, all architects, individually and not as members of any society, hope that the University will use the present opportunity to appoint such a Director.



The Architects' Journal

Westminster, S.W.1

Telephones: Whitehall

9 2 1 2 7

Telegrams

Buildable

Parl

London

NOTES & TOPICS

WINTER SEASON

OCTOBER makes a grand start for the winter working season; institutes, associations, societies, schools, all leap into life again. Committees, sub-committees, panels, councils, groups, gather together old threads, pick up a new loop or two and start to spin new webs. Art, science, practice, literature, public relations, and all the other sub-divisions of professional activity, return to tend their respective charges.

There is a vast amount of work to be done, too, and the wider the distribution of it beyond the limitations of existing machinery the better.

I look to the Junior Members' Committee in this second year of its life to see to it that the younger members of the profession take their full share of work—and responsibility.

And, at the other end of the scale, what are the senior Academicians doing?

HOME CHATS

The latest series of cigarette cards to be produced by Messrs. Wills consists of a series of fifty "Household Hints." The only one I have seen so far tells you about "firefighting made easy," and seems perfectly sensible.

But is this the thin end of some wedge or other? I foresee a "Build Your Own House" series with plans and suitably adjusted elevations just to show everybody how unnecessary we architects are.

STIMULATING THE CIVIC CONSCIENCE

The R.I.B.A.'s Civic Centres exhibition ought to do a lot for architects, for it has been booked up more or less continuously until the spring of 1938 by a dozen or so provincial galleries and museums.

It was a good idea, too, to include a section on street furnishings—traffic signs and lamp-posts—for the design of these is generally even worse than that of the average town hall.

Provincial towns do seem to be gradually developing some sort of a civic conscience, or maybe it's only the urge to outdo a neighbour, but it does at least mean quite a number of competitions.

And incidentally did anyone else see a report of a council debate at a town in the North over the question of the new Town Hall site? The site was finally turned down after an impassioned appeal by one member, who said the site was too small, too far away, too everything else—and finally that "the Council was setting up nothing less than a white elephant, and they would find, within a very few years, that they had burnt their fingers on it."

STREETS CHALLENGE

At every Royal function when streets are to be decorated we have deplored the lack of architectural skill and guidance in the decorations. The few schemes which architects have carried out in recent years have, alas, encouraged the idea that modern architects have somehow lost the vital art.

The Coronation gives architects throughout the country another chance—perhaps a last chance.

The ablest architect in every provincial town might be chosen to decorate its central streets—and his efforts will end in failure unless he early realizes the difficulties of the task, of achieving a dignified gaiety, contrasting light tones of decoration against drab streets and creating bright contrasts of colour.

Mr. Wornum in Westminster, the A.A. students in Bond Street, and every other architect engaged on similar tasks, *must* make a job of them.

It may quite well be a very long time before architects have such an opportunity again.

NOISY PROBLEM

So traffic noise at last is to be measured. A device can tell the Minister of Transport at his command how many phons your car emits.

So far so good, but one regrets that the investigation has stopped so short. Traffic noise on open roads, in city streets, in market towns, may be reduced by a fraction, and for that we can be thankful.

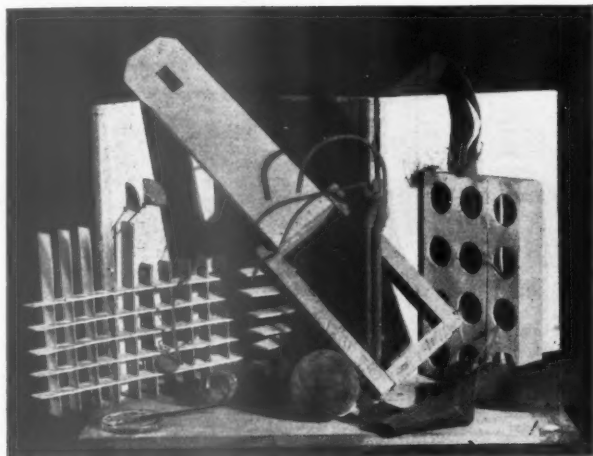
But real danger is not thereby eliminated. During the early morning hours, when everyone is just asleep, one solitary vehicle may emit much less noise than the statutory number of phons indicates, but, through reverberation and resonance in surrounding houses, still manage to waken the neighbourhood.

Measurement of intensity of sound must be augmented by measurement of *quality* of sound if any reasonable level of quiet is to be attained.

And what, too, of the street surfaces which are, in themselves, noisy?

CUT AND DRIED REVISION

Short and sharp and matter of fact are terms which extort from us all nowadays some feeling which, if it is



"Cosmic Distraction," a photograph by Mr. Christopher Heal from the Sir'Ealist Exhibition. See "Astragal's" note on this page.

not admiration, comes near to envy when they are applied to human beings. They bring visions of well-filled waistcoats, neat points scored in committees and the kind of bank accounts which architects never have.

And yet there's a touch of scornful rebellion in our voices when we use the terms ourselves. Existence is matter of fact enough in all conscience; so why not enliven it now and then with a pinch of pure romance—the kind of romance which a word like "decibel" brings to the dry sound paths of acoustics?

Lucio in the *Manchester Guardian* rarely feels architectural, but I'm glad that he feels with me over Decibel being overthrown by the curt modernity of Phon.

" . . . My Decibel, my Decibel,
What is this newer game?
What regions inaccessible
Receive thy former fame?
What! Is it that we nevermore
Shall know where thou art gone?
Art ousted, now and evermore,
By this new-fangled Phon?
O shame on this frivolity
From scientific men!
The Decibel had quality,
Adorning tongue or pen.
It seemed to have security
And strength to carry on;
But now for all futurity
The winning word is Phon. . . ."

LEVER HANDLES

Architect K. has a car seven years old. After sixty thousand miles of speeding roads, gravelled lanes, shattering tracks and uncharted sites . . . the four lever handles still point straight and rigid and horizontal.

And Architect K. spent 15s. apiece on lever handles for his new house and they all sagged in unison within a week, drooped in discord by the month's end, and soon after assumed any careless angle with the floor.

So he made an investigation; found the handles all right and the locks quite sound—but they didn't fit very well together. And then he found it almost impossible to

remedy the fault, almost impossible to find a well-designed lever handle and a well designed lock which had together been conceived as one unit.

. . . except, of course, on that seven-year-old car.

SIR'EALISM

Mr. Christopher Heal answers the question I asked last week: the Sir'Ealist exhibition was suggested by one of Sir Ambrose's own staff. The photograph on this page is Mr. Christopher Heal's own exhibit, entitled "Cosmic Distraction." He describes it much better than I can.

"It has, you will notice, considerable architectural interest, incorporating as it does what might be a modern block of flats as well as the intriguing insides of a w.c. cistern. However, much of its disturbing beauty depends on the colours, which unfortunately cannot be adequately reproduced."

DECORATION

The series of lectures which Mr. J. M. Holmes is giving at the R.I.B.A. has been organized by the Institute of British Decorators. That is a bald statement of fact, but there is much more to it.

Firstly, J. M. H. knows his job, has a strong and balanced point of view, and, rarer of gifts, knows how to impart his views to others with conviction.

Secondly, the lectures are at the R.I.B.A.—a graceful link between architecture and decoration and an indication that decorators are beginning to discover a more significant basis for their work than a few superficial tricks for stylistic disguise.

The decorator of tomorrow will soon have no excuse if he confuses the art of decorating a building with the trade of fitting a scheme of decoration into a building.

TAX ON SMOKE?

The Smoke Abatement Society (whose headquarters are, appropriately, in Manchester) has a big exhibition and a conference at South Kensington this month.

Architects are collaborating in a discussion on practical means of ensuring real smoke abatement.

We all know of the tons of soot under which our buildings stagger each winter, of the appalling filth we breathe each November—we all know, too, that the most persistent culprit is none other than the domestic fire, from the humble suburban range to the smoke-belching grates of Whitehall offices.

And knowing all this, and many more statistical provings, most of us don't care a toss, but go on calmly enjoying these death-dealing smoky open fires.

A new approach to the problem seems necessary. Something in the nature of a tax on domestic smoke, or a rating assessment modified to encourage smokeless heating and cooking.

ASTRAGAL

NEWS

POINTS FROM
THIS ISSUE

- "Two days after the beginning of Michaelmas Full Term, the general world of architecture still does not know what is happening, or what is about to happen, at the Cambridge School" 477
- Those lever handles 479
- "—a charm so great that the owner of a half-completed house was still, at the end of eight years, writing civil, if chilly, requests for completion" 497
- An automatically stoked kitchen range 505

THE LANCASHIRE MENTAL
HOSPITALS COMPETITION

The Lancashire Mental Hospitals Board have announced, and advertise elsewhere in this issue, an extension of the time during which applications may be made for the conditions of their competition for a mental hospital and mental institution at Lathom Park, near Ormskirk, Lancashire.

This competition was first advertised about August 20 this year, with a closing date for applications on September 1.

August being, however, a holiday month and the competition large and attractive, the promoters, on the advice of the assessors, have now decided to extend the period for applications until October 31.

EXETER CIVIC CENTRE

The City of Exeter is arranging for the extension and alteration of the existing Guildhall area. The committee of the Council dealing with the matter, after inspection of several civic centres in the south of England, have recommended that Messrs. Bradshaw Gass and Hope should be appointed architects for the scheme. Messrs. Bradshaw Gass and Hope were selected from a list of firms submitted by Sir Ian MacAlister at the request of the Exeter Council.

OVERCROWDING PROGRESS

The Minister of Health, Sir Kingsley Wood, has made an order, affecting thirty-six housing authorities in England and Wales, which fixes April 1, 1937, as the date for the overcrowding provisions of the Housing Act, 1935, to come into operation.

From this date overcrowding in the areas concerned will constitute an offence.

Seven of the thirty-six authorities affected by the order are county boroughs, and the others county districts. The boroughs are Cardiff, Leeds, Rotherham, Wakefield, West Ham, Wigan, and Worcester. The districts include Boston (Lincs), Ealing, Berwick-on-Tweed, and Doncaster.

The highest percentage of overcrowded dwellings shown is 18.3 per cent., at

THE
ARCHITECTS'
DIARY

Tuesday, October 13

ILLUMINATING ENGINEERING SOCIETY. Opening Meeting at 2 Savoy Hill, Strand, W.C.2. 4.30 p.m.

Wednesday, October 14

NATIONAL SMOKE ABATEMENT SOCIETY. Eighth Annual Conference and Smoke Abatement Exhibition. In London. Until Saturday, October 17. INSTITUTION OF SANITARY ENGINEERS. Mr. M. W. Lashmar on "Recent Workings of Sludge Digestion Plant at Sittingbourne." At Caxton Hall, S.W.1. 6 p.m.

Friday, October 16

LONDON SOCIETY. Miss E. Jeffries Davis on "The Story of Bloomsbury." 5 p.m.

Friday, October 23

ARCHITECTURAL ASSOCIATION. Annual Exhibition of Water-colours, Etchings and other Drawings by Members. Until November 6.

Tuesday, October 27

ARCHITECTURAL ASSOCIATION. Presidential Address by Mr. L. H. Bucknell, F.R.I.B.A. 8 p.m.

Berwick-on-Tweed; the next is Amble, Northumberland, with 13.2 per cent.

The recent overcrowding survey showed that of 8,924,523 dwellings inspected throughout England and Wales, 341,554, or 3.8 per cent., were found to be overcrowded.

About 200 authorities still remain, for whom a later appointed day will be fixed. These are areas where the survey showed overcrowding to be most severe.

NEW FILM STUDIO

A large new film studio, designed by A. F. B. Anderson, F.R.I.B.A., was opened by Dr. E. L. Burgin, LL.D., M.P. (Parliamentary Secretary to the Board of Trade), on Wednesday, September 30, at Pinewood, Iver Heath, Bucks.

The site is some hundred acres in extent and midway between Uxbridge and Slough.

The club, which adjoins the studio, contains eighty bedrooms, large private suites, lounges, drawing-room, billiards-room, library, restaurant, swimming pool, squash courts, and sixteen acres of ornamental gardens.

Two artesian wells are the source of the studio's water supply, and it is calculated that in the event of fire any stage could be flooded to a depth of 9 ins. from 1,000 sprinkler heads, in three minutes.

ST. DUNSTAN'S AT BRIGHTON

A new convalescent and holiday home for war-blinded soldiers is to be built by St. Dunstan's near Rottingdean instead of the present home at Brighton, which has become inadequate and inconvenient. It is hoped to open it next autumn.

CIVIC CENTRE FOR FINCHLEY

After nearly forty years of discussion, Finchley Council have decided to build a civic centre costing £133,000. The site is near the Great North Road. The council staff will be housed in a single administrative block. At present they occupy six separate buildings. There will be a boulevard approach to the new Town Hall and sunk gardens round it.

£2,000,000 HOUSING SCHEME AT
LIVERPOOL

Liverpool Corporation Housing Committee last week approved a lay-out plan

by the housing director, Mr. Keay, for the development of the Speke estate in three years at a cost of £2,116,798. It is proposed to build 5,000 houses, as well as shops, churches, cinemas, schools, and a police station.

HOUSING AT ROSYTH

In connection with the Admiralty scheme to establish a naval training centre for boys at Rosyth Dockyard, the Dunfermline magistrates have received a communication from the Admiralty that 200 naval ratings and pensioners will be attached to the centre as instructors, and asking the magistrates to consider the question of providing 200 houses to accommodate the instructors and their families.

The matter will be considered at an early date by the Town Council in conjunction with the Scottish National Housing Company, who are the proprietors of the present Garden City at Rosyth.

GLASGOW EXHIBITION

The fourteenth annual exhibition of Health and Housing, now open at the Kelvin Hall, Glasgow, is the largest of the series. Five full-sized houses have been built, as well as the five-room house which was placed first in the recent competition. Other exhibits include those of physical training societies, dairy stands to emphasize the pure milk campaign, and building materials.

LIFTING THE TEMPORARY
WATERLOO BRIDGE

A most intricate engineering feat is to be undertaken shortly by Sir William Arrol & Company. This involves the lifting of the whole north end of the temporary Waterloo Bridge. When raised nearly 6 ft. it will connect with raised shore approaches now being erected, providing a level roadway at the intersection of bridge and street. This operation, together with the slewing round of the bridge's shore span on the south side of the river, will enable the new permanent bridge to be constructed without causing any inconvenience to traffic.

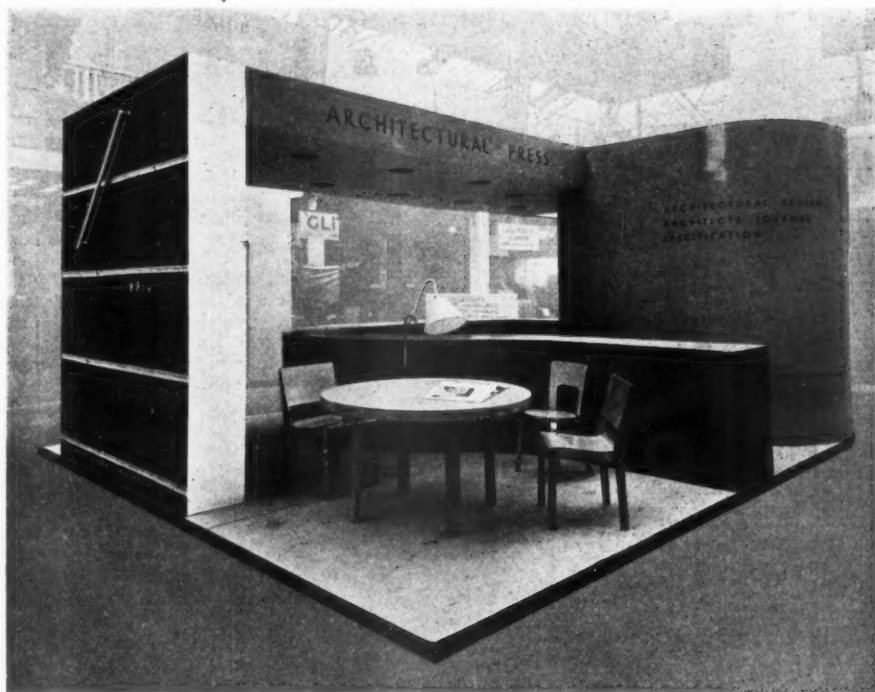
BREEZE AND CLINKER AGGREGATES

The Department of Scientific and Industrial Research has just issued a revised edition of a bulletin published some years ago on the properties of breeze and clinker aggregates and methods for testing their soundness (Building Research Bulletin No. 5. H.M. Stationery Office, 6d. net). The materials dealt with are used in a number of ways in building, but the present publication deals mainly with their use as aggregates for poured concrete, pre-cast blocks or slabs and pressed blocks. The term "clinker" is taken as covering well-burnt furnace residues, which have been fused into lumps, while the term "breeze" is taken to cover any type of furnace residue varying from disintegrated clinker to fine poorly sintered ashes containing a large proportion of combustible matter. Examples of failures of concretes made from breeze and clinker, it is stated, are common.

The constituents likely to cause trouble in breeze and clinker have been found to be certain coals present in an unburnt or very slightly burnt condition. These coals are of certain definite types and cause failure

The Architectural Press Stand at the recent Building Exhibition at Olympia.

The stand is constructed from fire-proof plywood, coloured generally with a pale grey gloss paint; the counter top is white and the counter front bright blue; the lettering is red; the floor is covered with white linoleum; the applied metal lettering is painted a bright red. The wall in the foreground is covered by photostat enlargements of information sheets. This wall is the backing to a bookcase. The space occupied by the stand is 20 ft. by 16 ft. The curved wall encloses an office approximately 9 ft. by 6 ft. The architects were F. R. S. Yorke and Marcel Breuer.



owing to the swelling movements they undergo in the concrete.

It has been general in the past, the bulletin states, to attribute the failure of breeze or clinker concretes to the presence of certain sulphur compounds. It was supposed that oxidation of these compounds occurred and was accompanied by a volume change which cracked the concrete. While it is true that failures can be so produced, it is clear that, in practice, a failure is rarely due to such a cause and that the presence of unburnt coals likely to lead to trouble is the cause of the failure. It may be noted, the bulletin continues, that while exposure to weather will in no way reduce the unsoundness of a breeze or clinker concrete if due to the presence of unburnt coal, it will appreciably reduce any unsoundness due to sulphur compounds. In the case of pressed blocks of breeze or clinker made with lime or cement, a process of autoclaving or other steam treatment tends completely to eliminate any possible dangers due to sulphur compounds. It is without effect in reducing unsoundness due to dangerous coals.

The bulletin ends with a detailed description of simple methods for testing the soundness of breeze and clinker aggregates, the use of which should minimize the risks of failures. Since the tests require practically no laboratory apparatus, they should prove of utility under field conditions.

LANCASHIRE MENTAL HOSPITALS COMPETITION

Extension of Time for Applications

The Lancashire Mental Hospitals Board invite Chartered and/or Registered British and Irish architects to submit designs in competition for a new mental hospital for

1,000 patients, and a new institution for 2,000 mental defectives, proposed to be erected on a site at Lathom Park, near Ormskirk, Lancashire.

The Board have appointed Messrs. Charles E. Elcock, John Kirkland and Patrick L. Abercrombie—Fellows of the Royal Institute of British Architects of London—to advise them on the conduct of the competition, to act as their assessors, and to adjudicate on the whole of the designs submitted, and to make the award.

Premiums of £500, £400, and £300 will be paid to the author of the designs placed by the assessors 1st, 2nd and 3rd respectively in each group.

The time within which applications for a copy of the conditions and other particulars must be made to the Clerk to the Mental Hospitals Board, County Hall, Preston, has been extended to October 31, 1936. Applications must be accompanied by a deposit of £3 3s., which will be returned on receipt of a *bona fide* design or on the return of the particulars before the specified date.



R. I. B. A.

STUDENTS' DRAWINGS EXHIBITION

The designs of students of Schools of Architecture recognized for exemption from the R.I.B.A. Final Examination will be exhibited at the R.I.B.A., 66 Portland Place, London, W.1, from October 14 to 19,

1936, inclusive, between the hours of 10 a.m. and 8 p.m.; Saturday 10 a.m. and 5 p.m. The R.I.B.A. Silver Medal for Recognized Schools of Architecture and £5 in books is awarded for the best set of drawings submitted.

The designs of students of Schools of Architecture recognized for exemption from the R.I.B.A. Intermediate Examination will be exhibited at the R.I.B.A. from October 23 to 29, 1936, inclusive, between the hours of 10 a.m. and 8 p.m.; Saturday 10 a.m. and 5 p.m. The R.I.B.A. Bronze Medal for Recognized Schools of Architecture and £5 in books is awarded for the best set of drawings submitted.

R.I.B.A. DANCE CLUB

A programme of four dances at the R.I.B.A. has been arranged for the forthcoming session. These will be held on the following Tuesdays: November 3, 1936; December 15, 1936; April 13, 1937; June 1, 1937. They will start at 9 p.m. and finish at 1 a.m. During the last two sessions the club dances have been very well attended, and on several occasions all tickets have been sold, the committee wisely limiting the numbers so that the floor is not unduly crowded. Members are therefore advised to make early application for tickets. They should also bear in mind the following regulations. Individual tickets are 6s. for each dance; parties of four or more persons 5s. each ticket; not more than 10 tickets can be issued to any one member. Applications for tickets should be made to Mr. R. W. H. Robertson, clerk to the dance club, at the R.I.B.A., not less than four days before the dance for which the tickets are required. Members will make their own arrangements for alcoholic refreshment.

LETTERS

FROM

READERS

The Birmingham Flats Competition

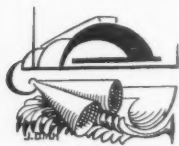
SIR,—As a competitor in the above competition, I hesitate to follow the A.T.O. into the critical arena, but since my remarks apply to the majority of working-class flat schemes, I feel justified in so doing.

I heartily support the proposal that an advisory committee should prepare a "black list" and suggest that one other serious fault should be included.

Of the four premiated designs, in only one instance, that of Type A in the scheme placed second, is the w.c. separate from the bathroom, a feature to which the authors proudly refer on their drawings! I submit that a twentieth-century family flat in which the one and only w.c. is placed adjacent to the bath and lavatory basin, cannot be accepted as well planned and highly liveable.

In my opinion, the undoubted extra convenience and greater hygiene resulting from a separate w.c. more than offsets the slight extra cost involved, and there is no question as to which arrangement tenants of any class prefer.

A. F. RUSSELL.



ART SCHOOLS AND MASS PRODUCTION

Mr. Eric Gill recently lectured to the Croydon School of Arts and Crafts on the subject of "Art schools in the machine age." Some extracts from the lecture appear below.

The Great Exhibition of 1851 was the first attempt of manufacturers to advertise internationally, and one of its results was the recognition by the upper classes of the fact that the introduction of the factory system and the development of machine production had resulted in a degradation of the design of objects in common use. The people who controlled the factories, being only interested in making money, had only one idea, to produce larger and larger quantities of those things to which people were used. They produced simply machine-made copies of hand-made things, so that the first intention of the new art schools was to improve commercial design; and in order that this might be done they could think of nothing better than the endowment of museums in which to place

examples of the works made by men before machinery was introduced.

The basing of industrial design upon a study of ancient examples was bound to be a failure. The bases of good design are (a) a knowledge of the purpose of the thing to be made, (b) the use of good materials, and the understanding of their natures and possibilities, (c) good tools and technical training, and (d) a lively imagination in the workman, so that he may see clearly in his mind the form of the thing to be made. But the study of ancient examples corrupted all these bases because (1) modern purposes differed from old ones so that old models were very little use. (2) The knowledge of materials must be obtained at first hand; (3) the use of tools could only be gained by actually using them, and, above all, (4) the imagination was corrupted because the mind was filled with other people's ideas.

The aim which industrialism followed with enthusiasm is the complete mechanization of all necessary industries, so that we may have leisure to pursue sports and hobbies freely. This ideal is called the leisure state, and to attain it not only is machinery being improved day by day, but endeavours are being made to train us to enjoy leisure properly.

When we consider the nature of factory employment, the leisure state is an overwhelming temptation—nobody can be expected to regard working on the belt system, for instance, as a vocation to which he was called by God. But the business of machines is to make things in quantity, not in variety; not to do things one by one and all different, but to do them in large quantities and all the same. Obviously, good design for machine-made things must rely on plainness—the thing must be a good shape in itself, and this good shape must depend primarily upon the use of the thing. Therefore, the whole idea of studying hand-made things in museums was ridiculous and examinations in styles and ornament were worse than useless. Such a world was quite different from that which people who regarded their work as a vocation would like to have. But such people are a very small minority today. They have become special people. We call them artists and employ them to make things to amuse us in our leisure. In former times it had been true to say, "the artist is not a special kind of man, but every man is a special kind of artist"; but today the reverse of this was the case, and the ordinary man was a machine-minder.

Beauty is not simply an adornment; it is the result of making things the right way, and the business of art is not to make things beautiful, but to make them according to right reason. There is, indeed, no need to talk about beauty, still less to put it on a pedestal and worship it as something above the common things of men; and it is completely and utterly wrong to think that capitalists and industrialists did not care about beauty. There was no lack of honour to beauty; the evil was that we thought of it not as an ordinary thing to be found everywhere, but as a special thing made by special people, and found only in special places. The remedy was not in talking more about beauty, but in talking less, and we should especially remember that beauty has nothing to do with art or art schools.

What is the place of the art school? Has

it any place in our world? The art school has a very definite and useful place. The art school was what biologists, monks and revolutionaries called a cell. A cell was a living unit in a living body. A body was built up of living cells.

The Communists talk about Communist cells, and an art school is a revolutionary school in exactly the same way. What is the revolution to which art schools are committed? Nothing less than the complete reversal of our existing industrialism.

The diabolical direction in which industrialism is going, and on which it actually prides itself, is the supersession of human labour by the machine. If this ideal is realized, human labour will be only for hobbies, while the necessities of life will be made by machines. But the things men need are the things they love. During countless centuries men and women have expended all their care and skill on such things as the farm and the kitchen, on clothes, furniture, pottery, metal and the whole business of building, from cottages to cathedrals. It is said that if all such work were done by machinery we should be released for higher things, but for the majority of men and women there are no higher things. As things are today, the art school is the only place where such a revolution can be fostered. It is the only place left where men and women, boys and girls, are taught to be responsible workmen, the only place where people actually design what they make and make what they design.

BIRMINGHAM HOSPITAL APPEAL

Birmingham Children's Hospital is appealing for £40,000 for the construction of a new block for the treatment of babies.

MODERN HOSPITALS

A Chadwick Public Lecture will be given at the Town Hall, Gateshead, on Friday, October 30, at 3 p.m., entitled "Modern Hospital Construction," by Mr. Lionel G. Pearson, of the firm of Adams, Holden and Pearson.

GAS-PROOF OFFICES

Preparing for the worst, one of the best-known air-conditioning firms has completed a new office building in Buckingham Gate which is claimed to be the first completely poison-gas-proof building in the country. The company is also laying down machinery for the manufacture of filters proof against poison gas.

SOANE MUSEUM

The Sir John Soane's Museum will be open on Mondays and Fridays in October from 10.30 to 5, and in November from 10.30 to 4. The museum is at 13 Lincoln's Inn Fields, W.C.2.

CHANGES OF ADDRESS

Mr. Georges J. Hughes has moved his offices to 37 The Square, St. Annes-on-the-Sea. Telephone: St. Annes 111.

Mr. Reginald J. Duke has moved his offices to 10 Stratford Place, W.1. Telephone: Mayfair 1164, as before.

Messrs. Lucas and Roberts, architects and surveyors, of Guildhall Chambers, High Street, Exeter, have removed their offices to 27 Dix's Field, Exeter. Telephone: 3534.

FLATS AT STOCKWELL, S.W.



DESIGNED BY G. GREY WORNUM

GENERAL PROBLEM—*Hartington Court*, a block of flats of two types: (A) containing an entrance hall, double bedroom, living room, kitchen and bathroom; and (B) containing an entrance hall, two bedrooms, living room, kitchen and bathroom. The building is designed to meet the demand for flats at cheap rents in a position close to the City and the West End. It had to be planned and built in two sections.

SITE—At the corner of *Lansdowne Road* and *Lansdowne Gardens*, S.W.8.

CONSTRUCTION—Solid brick walls, 3-in. breeze partitions, and reinforced concrete floors. Staircases are precast concrete with wrought-iron balustrading; roofs are finished in asphalt.

ELEVATIONAL TREATMENT—The walls are faced with sand lime bricks. Windows are standard metal in wood frames.

The photograph is of the Lansdowne Road front.

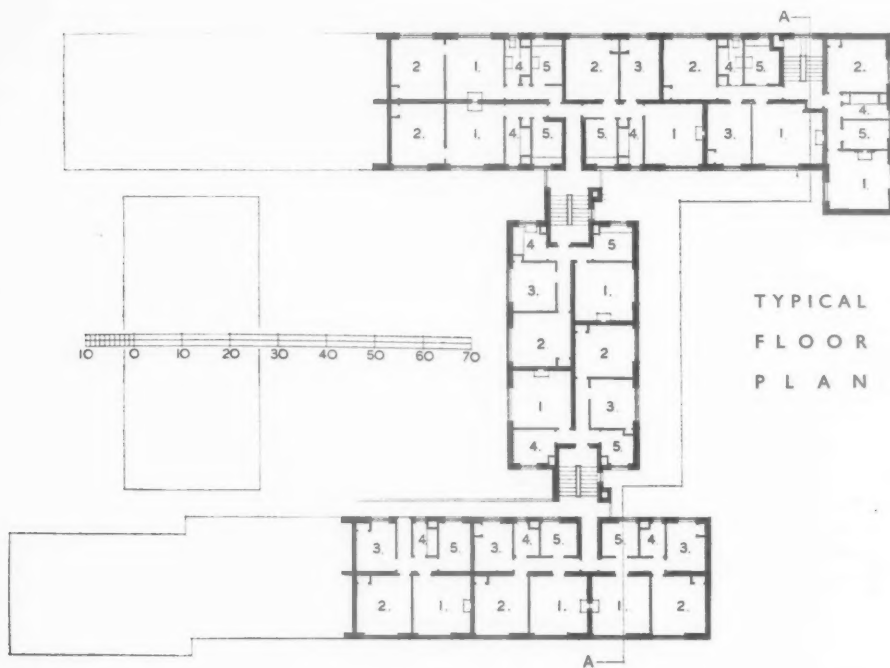
FLATS AT STOCKWELL, S.W.:



INTERNAL FINISHES—The walls of the staircases and the internal public spaces are cement glazed and coloured; those of the flats are plastered. The living rooms and bedrooms have boarded floors, the kitchens and bathrooms jointless floors.

Built-in cupboards are provided in the bedrooms and kitchens. Cooking is by gas.

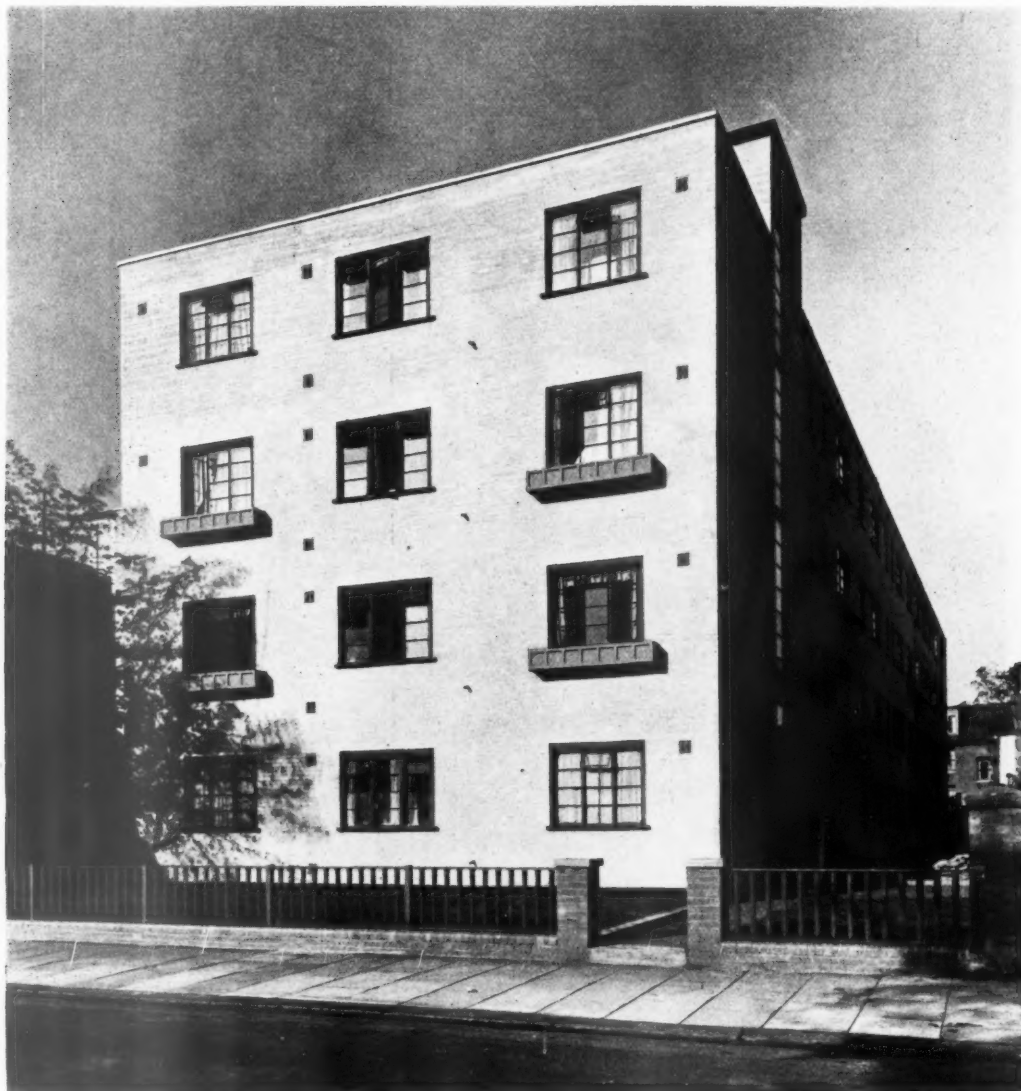
The photograph is taken in the courtyard, and shows on the right the entrance from Lansdowne Road.



KEY

- 1 Living Room
- 2 Bedroom 1
- 3 Bedroom 2
- 4 Kitchen
- 5 Bathroom

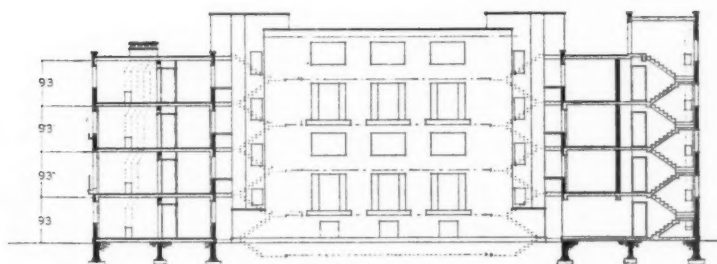
DESIGNED BY G. GREY WORNUM



RENTS—Type (A), £80 per annum ; type (B), £104 per annum.

CONTRACT PRICE—The flats were built in two portions and by two contracts ; the total contract price being £49,000.

The photograph is of the Lansdowne Gardens front.



SECTION A—A

F L A T S A T S T O C K W E L L , S . W .



D E S I G N E D

B Y

G . G R E Y

W O R N U M

SERVICES—Hot water and heating by radiators are included in the rents. The boiler house is placed adjoining the main road, automatic stoking of the boiler being provided. No lifts are included in the scheme.

For list of general and sub-contractors see page 506.

The photographs show: above, a typical staircase and entrance door to a flat; right, looking from a balcony towards Lansdowne Gardens.



NEWSPAPER BUILDING, VICTORIA EMBANKMENT, E.C.



D E S I G N E D B Y
H E R B E R T O . E L L I S
A N D C L A R K E

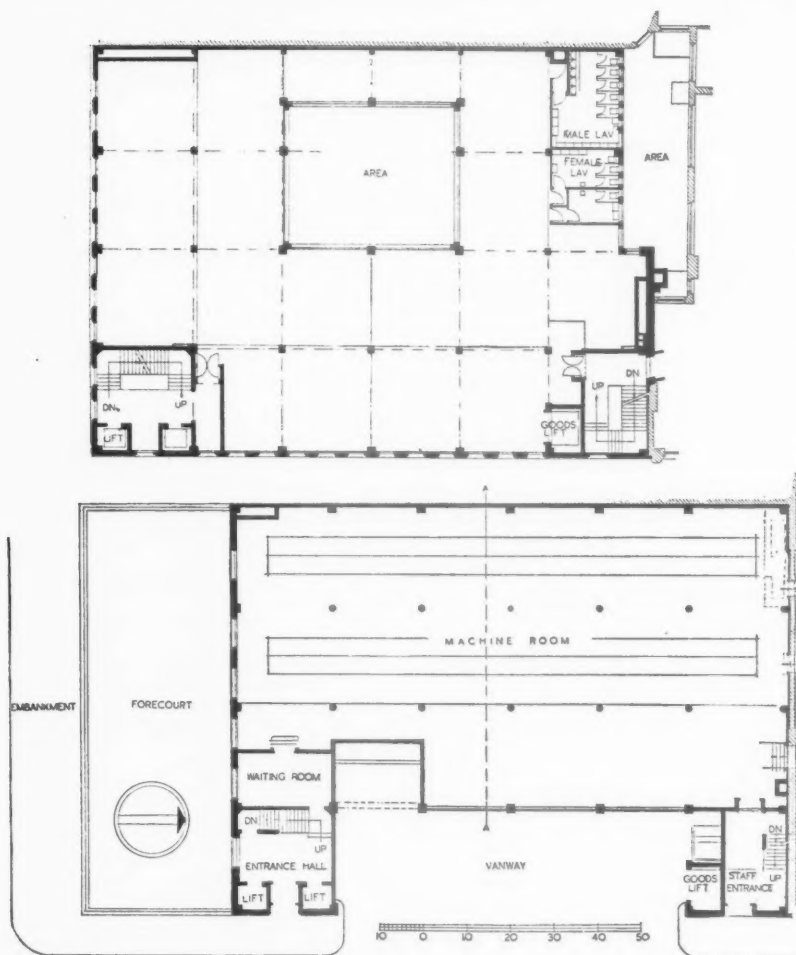
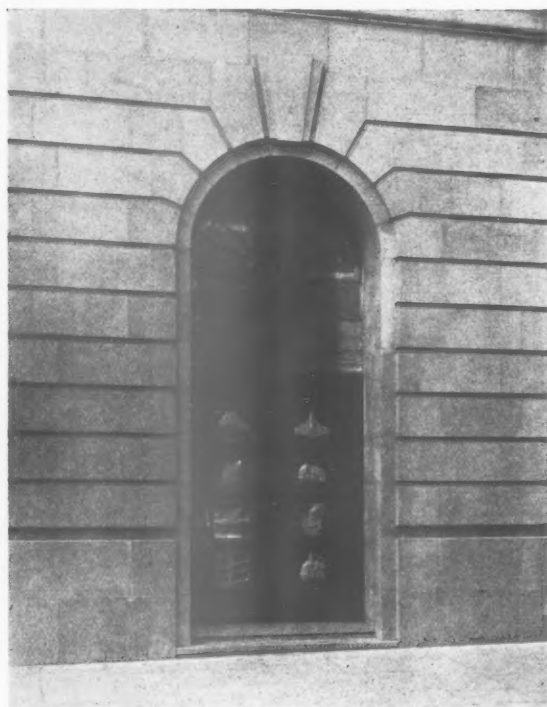
GENERAL PROBLEM—*To provide accommodation for extra printing presses and publishing space for Associated Newspapers, Ltd.*

CONSTRUCTION—*Steel-framed, with stanchions carried down to a reinforced concrete raft, 5 feet thick, which covers the whole extent of the site. Walls are brick; the floors and roof of reinforced concrete. On the upper surface of the flat roof a layer of cork was placed between the screeding and the asphalt and a fine white spar rolled into the asphalt while it was still plastic. This was done to avoid excessive heat absorption during sunny weather. Internal partitions are metal.*

The ground story is faced with fine-axed Aberdeen granite; the remainder of the building above with Portland stone. Window sashes are metal.

The photograph is of the front to Victoria Embankment.

NEWSPAPER BUILDING, VICTORIA EMBANKMENT, E.C.



PLAN—The planning was controlled by the nature of the sub-soil, and the risks which would have been involved to the District Railway on the one side and the adjoining properties on two sides if the building had been constructed with a deep basement. For these reasons the publishing room was planned on the first floor level, immediately over the machine room, the printed paper being brought to the publishing room by automatic conveyors and to the vans in the loading concourse below by chutes. The height of the machine room determined the level of the first floor, which is some 17 feet above pavement level.

The form of plan, therefore, was automatically settled by the requirements of the machine room and publishing department. The staircases are placed to provide for future development.

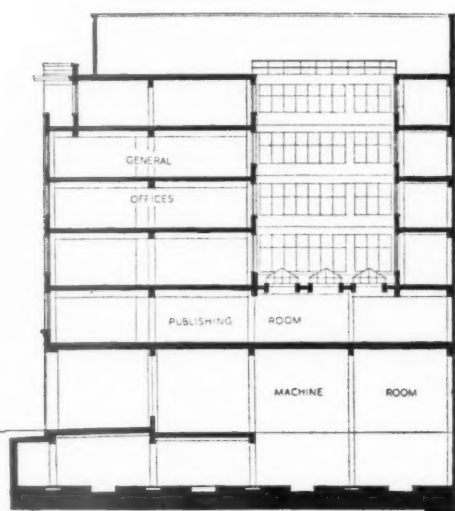
The photographs show: above, left, the Victoria Embankment façade; right, the main entrance from Carmelite Street.

PLANS OF THE GROUND AND TYPICAL UPPER FLOORS

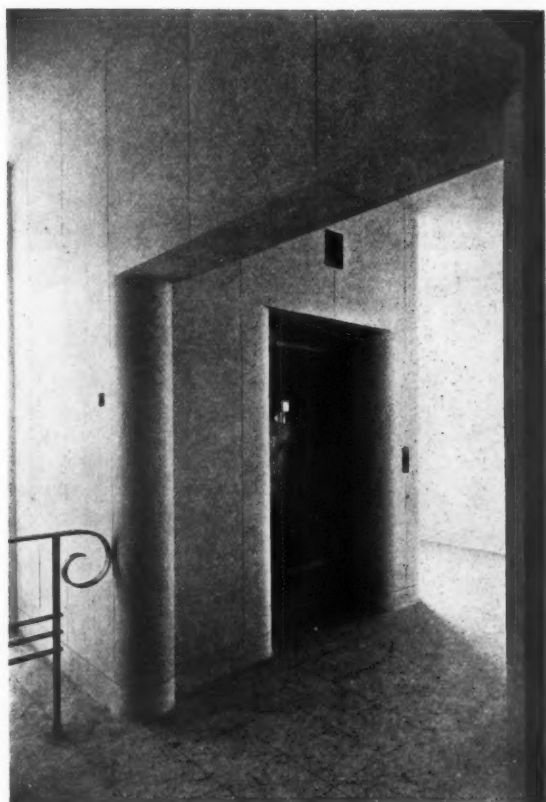
DESIGNED BY HERBERT O. ELLIS AND CLARKE



The photograph shows: above, the entrance hall; right, a lift door on one of the staircase landings.



CROSS SECTION



NEWSPAPER BUILDING, VICTORIA EMBANKMENT, E.C.



DESIGNED BY HERBERT O. ELLIS AND CLARKE

INTERNAL FINISHES—The walls and floors of the entrance hall and principal staircase are finished with terrazzo with aluminium divisions, treads having non-slip insets and the floors a percentage of non-slip aggregate. The main entrance door is of bronze with silver bronze panels. The inner lobby doors are also in silver bronze. The waiting-room is panelled in brown English oak.

The lowest floor of the machine-room is covered throughout with cast-iron tiles; all other departments have Burma teak wood block floors, with black tile skirtings and window cills. The machine-room itself, at the platform level, has a dado of stainless steel 6 ft. high, the remainder of the wall surfaces being tiled. Rooms on all other floors have plastered walls and ceilings, and are finished in paint of a light parchment colour. The works' staircase walls, landings, and treads,

are tiled, all floor surfaces being non-slip. All lavatories have tiled walls and floors.

SERVICES—Two high-speed passenger lifts and one two-ton freight lift are installed. Heating is by panels in the ceiling soffits, fed from gas-fired boilers. The ventilating plant for the publishing room, and machine-room, is housed on the roof. There is no mechanical ventilation to the offices on the second floor and upwards.

All water services are buried and are of welded copper. Sprinklers are installed throughout the building, all pipes being hidden and all joints welded. The plant for the vacuum cleaning installation is in the basement. All wastes from the lavatory basins are accessible by means of removable tile panels.

For list of general and sub-contractors, see p. 506.

The photograph is of a typical landing on the main staircase.

WORKING DETAILS : 503

LAMP STANDARDS AND RAILINGS

• WHITE HOUSE •

ROBERT ATKINSON



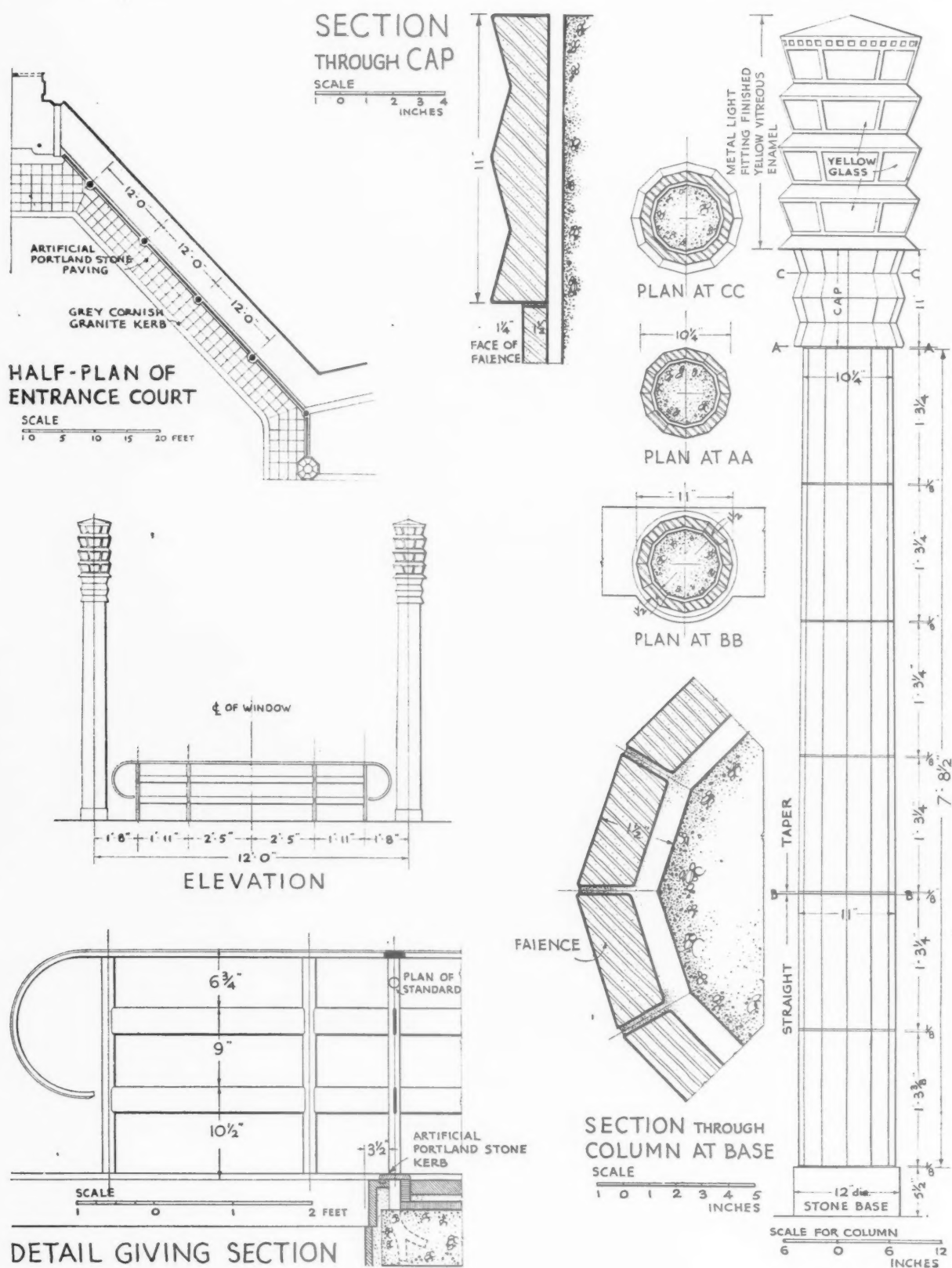
The photograph above shows the faience lamp standards and wrought-iron railings around the entrance court of the "White House" block of flats. Details are given overleaf.

WORKING DETAILS : 504

LAMP STANDARDS AND RAILINGS

WHITE HOUSE

ROBERT ATKINSON

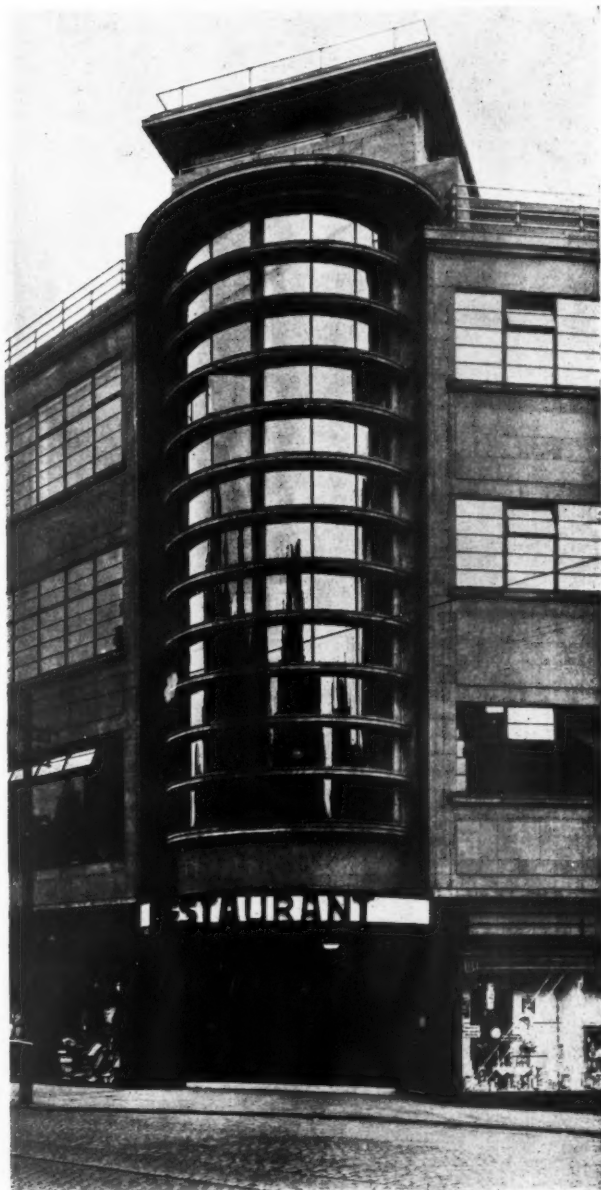


WORKING DETAILS : 505

CORNER WINDOW •

BRADFORD CO-OPERATIVE STORE •

W. A. JOHNSON



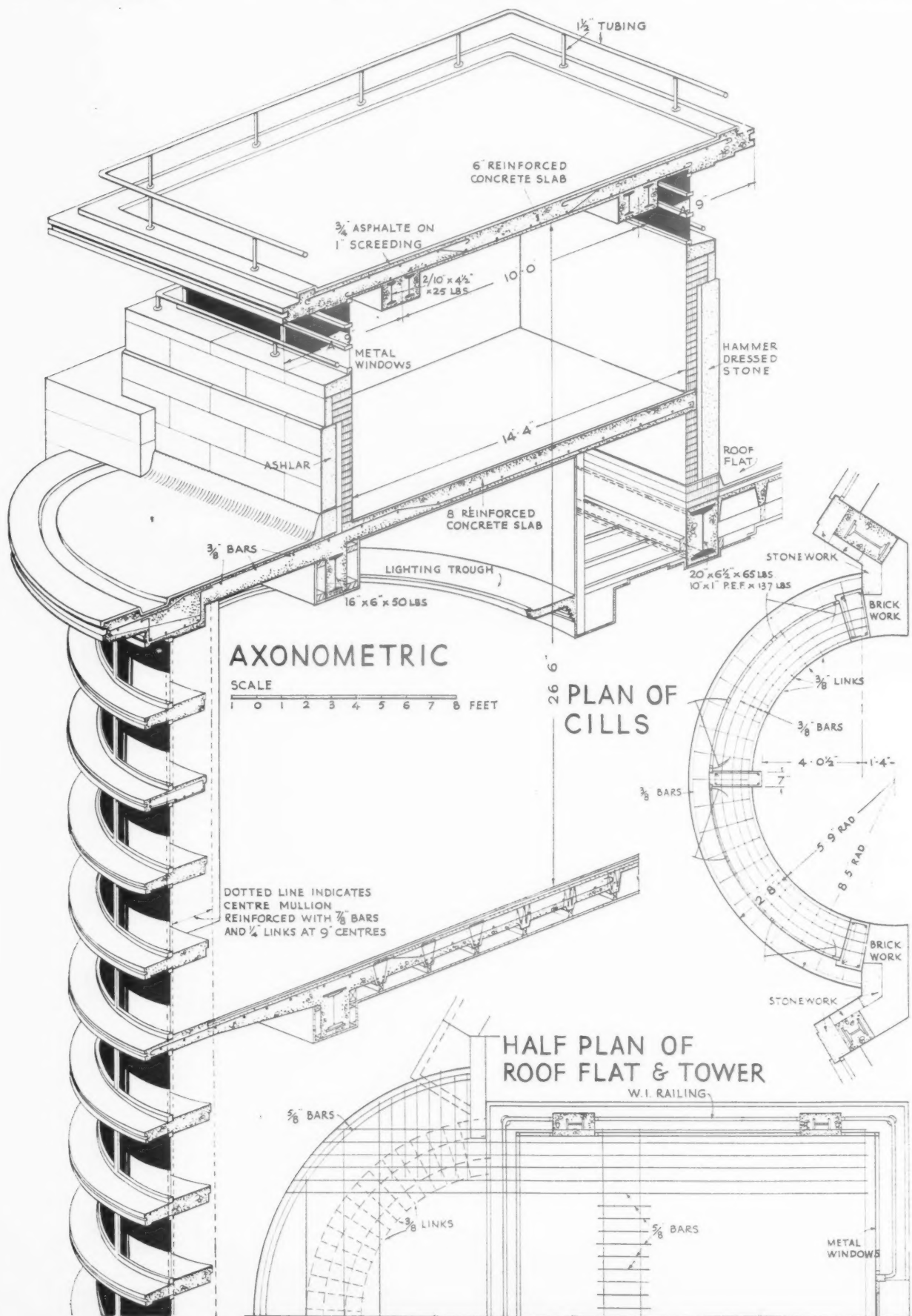
These photographs show the continuous bay window and tower at the corners of The Bradford Co-operative Store, illustrated in this Journal for September 24. Axonometric and details are given overleaf. The Architects were: W. A. Johnson (Chief Architect, Manchester C.W.S.), and J. W. Cropper, Assistant.

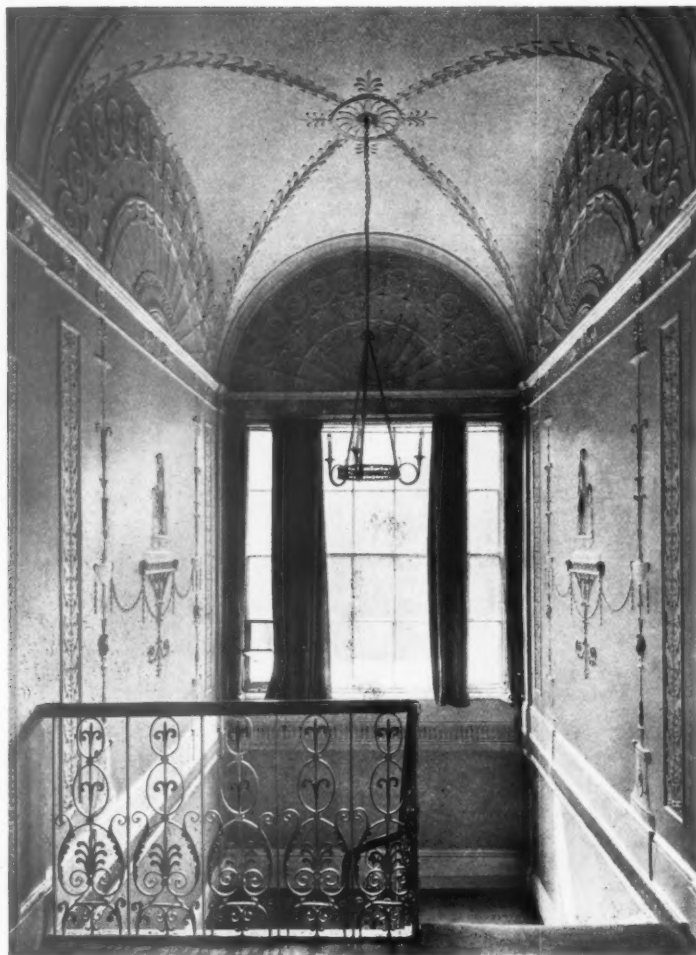
WORKING DETAILS : 506

CORNER WINDOW

BRADFORD CO-OPERATIVE STORE

W. A. JOHNSON





The Staircase in James Wyatt's House in Foley Place, now demolished. By permission of "Country Life." From "James Wyatt, Architect."

L I T E R A T U R E

JAMES WYATT

[BY H. MYLES WRIGHT]

James Wyatt, Architect. By Antony Dale, B.A., B.LITT. OXFORD: Basil, Blackwell. Price 12s. 6d.

IT is quite impossible for one who has tried to find a livelihood amongst the architecture of the nineteen-thirties to read about James Wyatt without some long and wistful pauses. And to put it like that is to be very modern in one's under-emphasis.

Miss Sitwell's descriptions of how oppressive a fashionable gathering could become in the days when Wyatt was thinking of his plans for Kew, of the Duke of Norfolk, who could only be approached with water when he was insensibly drunk, have given us historical glimpses somewhat unappealing to a generation which, whatever its many faults, certainly does wash. But

despite these stories, and even in the face of young surgeons' tales of the times when the only anaesthetics were whisky and a mallet, architects may still feel that washing isn't everything—that it is difficult not to feel quite ill with envy over some episodes in James Wyatt's career. And of all these apparent strokes of good fortune, none is more bewildering and successful than James's arrival on the professional map.

In 1772 English architecture was quietly going upon its way. In a sense it was an interregnum in the world of taste. The age of Palladio and the Burlingtonians was passing, and half-fascinated meanderings after the sublime and the picturesque—after ruins, Greek temples and Chinese pagodas—were still in what might be called the playful stage. Not for another forty years were such fashionable make-believes to turn to the grim determination which was to continue Gothic

revivalism for nearly a century after the spirit which brought it about had vanished.

At that time persons of quality had money, as well as leisure, taste and an inclination to patronise the arts. It was truly a golden age, and one in which there were few architects to enjoy. Indeed, only two firms then possessed practices on the grand scale—Sir William Chambers and the brothers Adam.

Sir William, despite a hankering for the Chinese which had showed itself twenty years before, bore the mantle of the Palladians and the Old Guard. His rivals, or his conquerors, were busy turning the handle of that astounding machine for producing two-dimensional architecture, which, with its brightness, femininity, delicacy and gracefulness, was to overshadow all the other building achievements of its century and to set a standard of fine urbanism which has since been only once approached, and never equalled.

And then into this world of architectural opportunity burst young James Wyatt, a mere stripling of twenty-six. And in envying the result, an astonishment for the smallness of the means needed to achieve that result cannot be omitted.

For Wyatt's whole fame and fortune was secured by his designing the Pantheon in Oxford Street. The Pantheon, which never seems to have had much in the way of an outside, was what would now be called an assembly hall and reception rooms. It was to be apparently a sort of winter Ranelagh.

Perhaps Society in 1772 was bored with itself, and wanted something to go crazy over; perhaps it was just that nothing quite like the Pantheon had been done before. Whatever the reason, it was good enough for Wyatt.

Society took him to its bosom; the Empress Catherine offered him any salary he liked to go to Russia; two Dukes jostled in the throng to employ him; a number of noblemen joined in offering him £1,200 a year to supervise their building ventures; and on the strength of three drawings of the Pantheon he was elected an Associate of the Royal Academy.

After so breathless a sketch of the perfect beginning to an architectural career it is almost distasteful to return to the relatively everyday affairs of the Pantheon's merits, of who James Wyatt was, and where he was trained, and of how he managed to become the designer of so desirable a building. But even in these things there is an attraction in the meagreness of the information which Mr. Dale's research has supplied to us.

James was the sixth son of Benjamin Wyatt, a farmer, timber merchant,



Fonthill Abbey, Wiltshire. From "James Wyatt, Architect."

builder and architect, who designed the Stafford Infirmary between the years 1769-1772. After some preliminary schooling James studied and measured in Italy for six years, and on returning to England presumably worked with his father and brothers near Stafford for a further two.

There is nothing very astonishing about all this. But how did he get the job of rebuilding the Pantheon in 1770? Mr. Dale advances two solutions. It is possible that James's elder brother, a surgeon, was one of the committee of proprietors of the Pantheon, and thus influenced the choice of an architect. And it is probable that Wyatt met in Italy Richard Dalton, who was collecting pictures for George III, and, becoming friends with him, obtained some influence in high places. But all that is really definite is his success; and that, after all, is what matters most.

How much of this success hung upon the architectural merits of the Pantheon is not easy to determine. Mr. Dale, who confesses that he is not an architect (and whose book suffers remarkably little from the drawback), suggests that the Pantheon was a place of public entertainment much needed, and that this was the real cause of public appreciation. It is difficult not to agree with him. Within, the Pantheon was commodious and well-detailed, and of a robust Adam style; a fact which did not at all please the famous brothers. It was extravagantly

praised in its freshness, and ten years later quite widely deprecated. By then, however, it had done the trick for James.

From his first building Wyatt moved into the more general and, then, more lucrative field of designing country houses, and for some years became less exciting. Adopting the usual "grand" plan of central block and flanking wings, he practised several variations on the Adam elevation and rather less variation on the Adam interiors. Heaton

House, Dodington Park and Heveningham Hall, may all be so described without injustice; and the Adam brothers continued not to like him.

And then about 1780 there came a change. James Wyatt turned to Gothic. Whether it was a light within, or straws blowing in the wind of fashion, which caused this change, Mr. Dale cannot be sure. Perhaps it was both. It was certainly a big change.

Young enough to move with the



The Pantheon, Oxford Street, 1772. From a print in the possession of Messrs. W. & A. Gilbey. From "James Wyatt, Architect."

times, Wyatt at all events abandoned the mount which had served so well so far, and, in 1782, set out on a much more fantastic steed. That the first 18th century clients of buildings in the Gothic manner did not take them seriously is now well known. But in 1782 they appear to have been ready to suffer some discomfort to satisfy their tastes. Lee Priory, Wyatt's first Gothic achievement, had, for instance, a library. This library was an ellipse on plan, from which eight "clustered shafts" gathered into a dome above; from the centre of this dome came the light which was in turn admitted from a lantern above, glazed with stained glass. The architects of to-day will read with curious feelings of a lavishly praised library in which it was almost impossible to read.

But if Wyatt needed a client who was prepared to take his whims seriously, his luck was still in. Indeed, his next client must have been nothing less than a walking Paradise. A man of huge imagination and infatuated with the romanticism of his times almost to the point of insanity, William Beckford had inherited an income approaching £300,000 of our money. And a great deal of his fortune he was ready to spend in providing his personality with what he felt were suitable surroundings.

The story of Wyatt's Fonthill is now an old one—the continuance of work night and day, the reception to Nelson, the final tower which rivalled Salisbury, the deathbed confession and the tower's later fall; all are worth re-telling, and perplex the reader with pictures of the fantastic society which produced them. He is left wondering whether such patrons were sane in their enthusiasms and, still more, whether those enthusiasms were good for architecture and architects.

Was James Wyatt, for instance, a great architect or an extremely astute man who knew an oyster when he saw one? The reviewer has seen only one of Wyatt's works—Ashridge—and therefore is not entitled to state an opinion. Wyatt was certainly capable of very fine and delicate work, he loved "modern" materials (Kew Palace, which was abandoned in 1811 when it had already cost half a million, is said to have been entirely constructed of cast-iron, save for the floors) and had at least two of the qualities often associated with genius: he had no business capabilities, and was completely improvident. It is still too early to place him with certainty in the order of fame. Perhaps he was spoilt, as many others have been, by taking on far more work than he could carry out.

But at the end of Mr. Dale's careful balancing of the profit and loss of Wyatt, there is left a great belief in Wyatt's personal charm—a charm so great that

the owner of a half-completed house was still, at the end of eight years, writing civil, if chilly, requests for completion. And there is also an appreciation of four really fine buildings, And since we did not have to bear with his faults, let these four entitle him to something of greatness.

THE PROBLEM OF RENT REBATES

BY PHILIP H. MASSEY

B.Sc.(Econ.), F.R.Econ.S.

Rent Rebates. By Geoffrey Wilson. London: New Fabian Research Bureau and Victor Gollancz. Price 1s.

THREE common defects in local authority housing schemes are the lack of sufficient variation in the sizes of houses, the lack of sufficient variation in the types of families accepted as tenants, and the application of available subsidies to the houses instead of to the tenants. This booklet is directly concerned with the last of these factors and indirectly with the other two. Mr. Wilson starts from the basic principle that rent relief should be given only to those who need it and only for so long as they need it. The wastefulness and injustice of applying subsidies so that the rent of each house in a scheme is reduced by an equal amount is exemplified by references to the spread of incomes within certain areas of bad housing and by a consideration of the changes in rent-paying capacity of a working man arising from changes in the number of persons dependent on him.

It is pointed out that most of the existent rent rebate schemes are confined to houses built under the 1930 Act, though the 1935 Act empowers local authorities to apply all the post-war subsidies, broadly, as they choose. The failure of local authorities to adopt differential schemes may be attributed partly to lack of knowledge and imagination, and partly to their fear of the political consequences of increasing any of the rents paid by municipal tenants.

This booklet is concerned with the most advantageous distribution of the available subsidies within existing legislation, and the author rightly draws attention to the tendency on the part of local authorities to let their houses to the fairly well-off. But it should be noted that this may be necessary, as regards a proportion of houses, if a differential scheme is applied. If the subsidy available, distributed at a flat rate, is insufficient to enable the poorer workers to occupy municipal houses, then it follows that a differential scheme must be accompanied either by the housing of a considerable proportion of people who can afford something

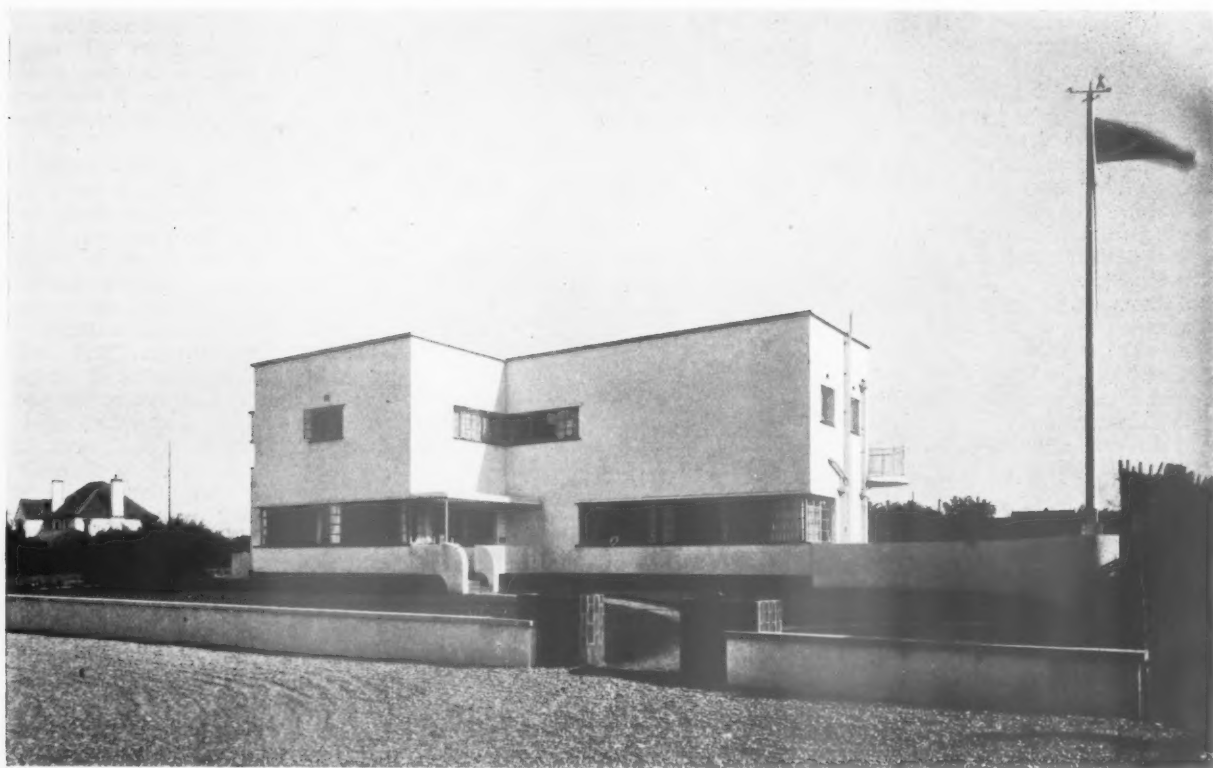
like the full economic rent or by an additional contribution from the rates. And now there is a new difficulty, in that the consolidation of accounts and the pooling of subsidies will weigh against the tenants of the newer municipal houses which will have been so much cheaper to construct than those built under the old Acts.

The author notes of the schemes in existence: "In practically every respect in which it was possible for one scheme to differ from another, it has done so." He has found forty-three local authorities with rebate schemes and has managed to classify the schemes under six main heads; examples of each type of scheme are given (additional material is presented in well set out appendices) and the author then passes on to general questions arising from a consideration of these examples. He points to the necessity of making allowance, in computing family incomes, for travelling expenses and the cost of meals, which are often deterrents to the worker who is offered a corporation house. He considers that the provision for a minimum rent to be paid under any circumstances is expedient in view of the novelty of the scheme and the necessity of securing the general support of tenants, though such a provision is essentially illogical and could generally be avoided by making the standard rent equal or nearly equal to the economic rent. Again, one might add—and by securing a number of tenants who will generally be able to pay such standard rent. This Mr. Wilson recognizes in his insistence that no ideal type of scheme can be drawn up, that each must be suitable to the locality concerned, and that "the first essential for a comprehensive and successful scheme is a full and accurate survey of the conditions of those who are either now municipal tenants or are likely to become so in the near future."

This booklet contains a great deal more information, and gives evidence of a great deal more thought, than many a more pretentious volume; it is strongly recommended to those who think of the housing problem as more than a mere problem of construction and who are seeking a real solution of the housing problem—one that does not break down on meeting cases of particularly low pay or persistent unemployment.



HOUSE AT HUNSTANTON, NORFOLK:



GENERAL PROBLEM—*A private house for use as a summer residence.*

SITE—*In Hamilton Road, Hunstanton, Norfolk, on a site partly overlooking the sea.*

CONSTRUCTION—*Eleven-inch Fletton brick cavity walls, finished externally with white cement rendering. The timber boarded roof is insulated and finished with patent roofing and gravel overlay. Walls internally are brick, 4 in. by 2 in. studding, and 3 in. breeze. The roof over the garage forms the roof garden to the best bedroom, and is of reinforced concrete.*

ELEVATIONAL TREATMENT—*Casements are metal, fixed direct to the brick jambs; the front door also is of metal. The windows to the dining room and best bedroom slide and fold back. Window cills are quarry tile; the plinth is tarred and the copings are artificial stone. The hood over the entrance bay is of reinforced concrete.*

The photographs show: Above, the entrance front; left, the entrance.

DESIGNED BY GERALD LACOSTE

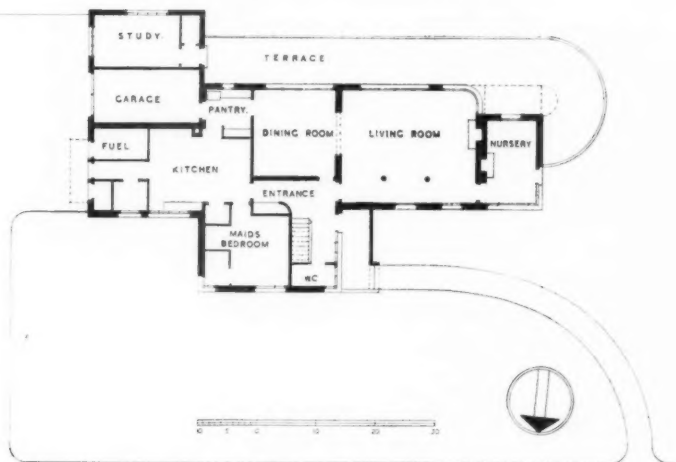


PLAN — The house was erected on the highest part of the site to command the best view of the sea, which can only be seen from the first floor window facing north and the roof. It was desired that all the principal bedrooms and children's bedrooms should face south or south-east, that the best bedroom should also have a view of the sea, that the living room and the dining room should be communicating and should face south; and that the nursery should face south and have its own access from the garden. The flat roof provides for sun bathing and other recreation and a view of the sea.

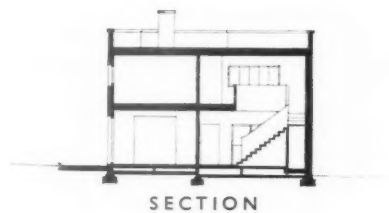
The photograph is of the principal bedroom.



FIRST FLOOR PLAN

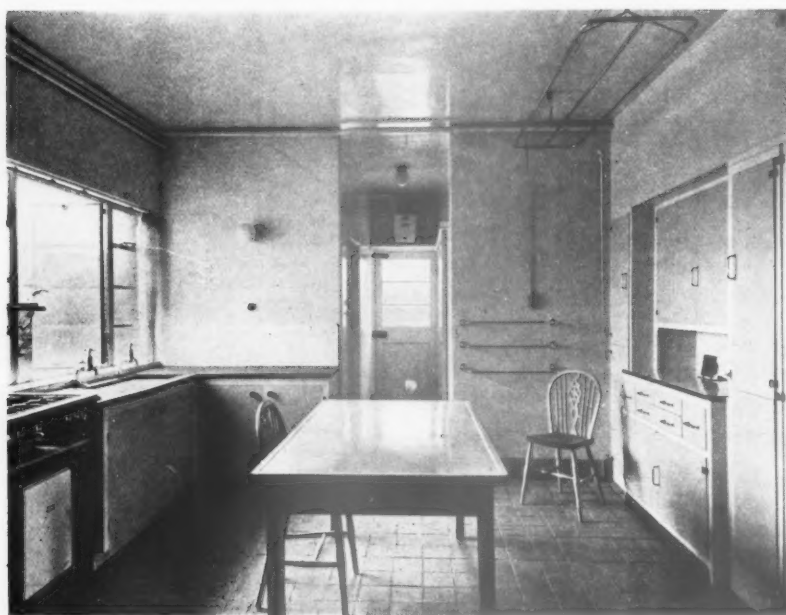
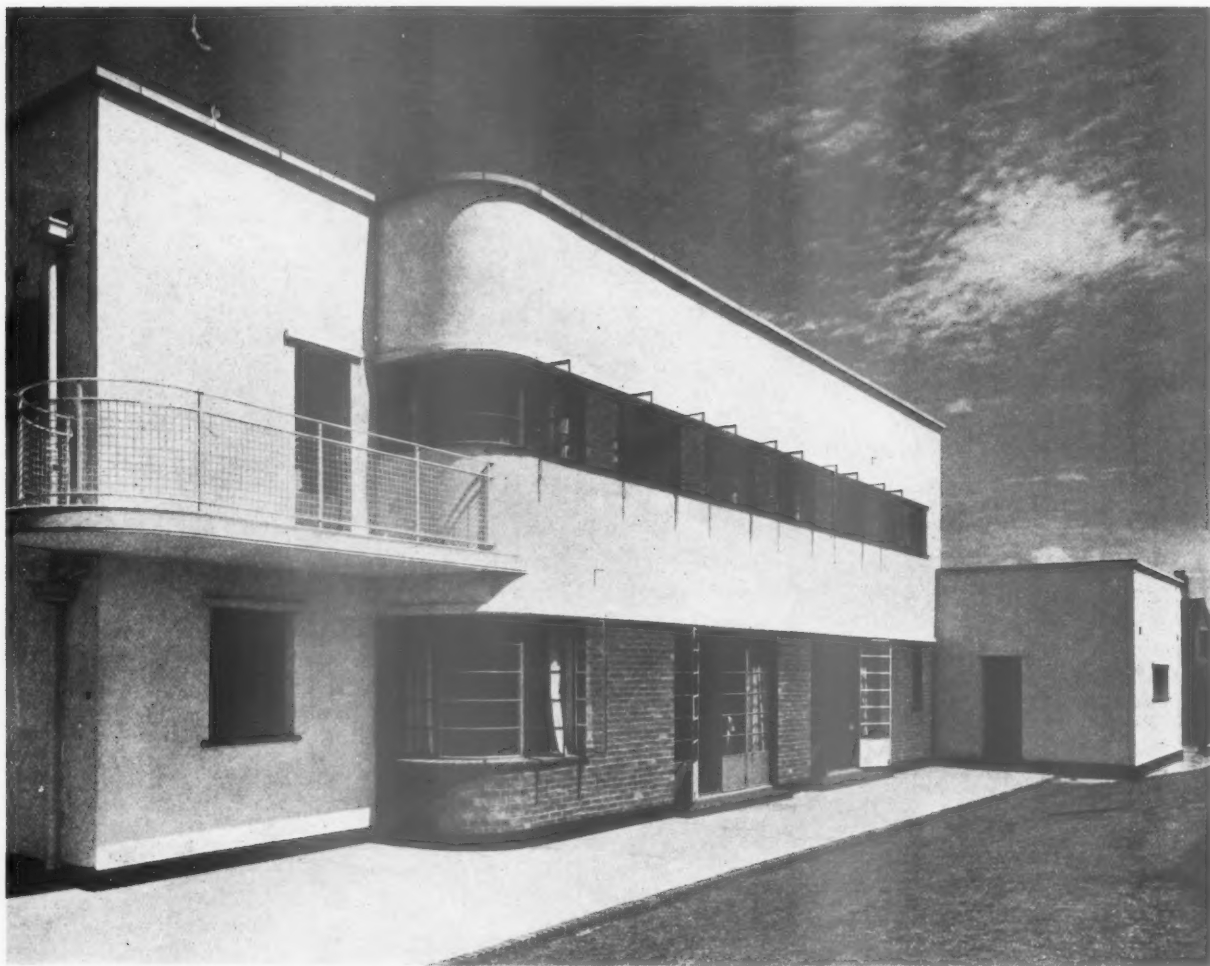


GROUND FLOOR PLAN



SECTION

HOUSE AT HUNSTANTON, NORFOLK:



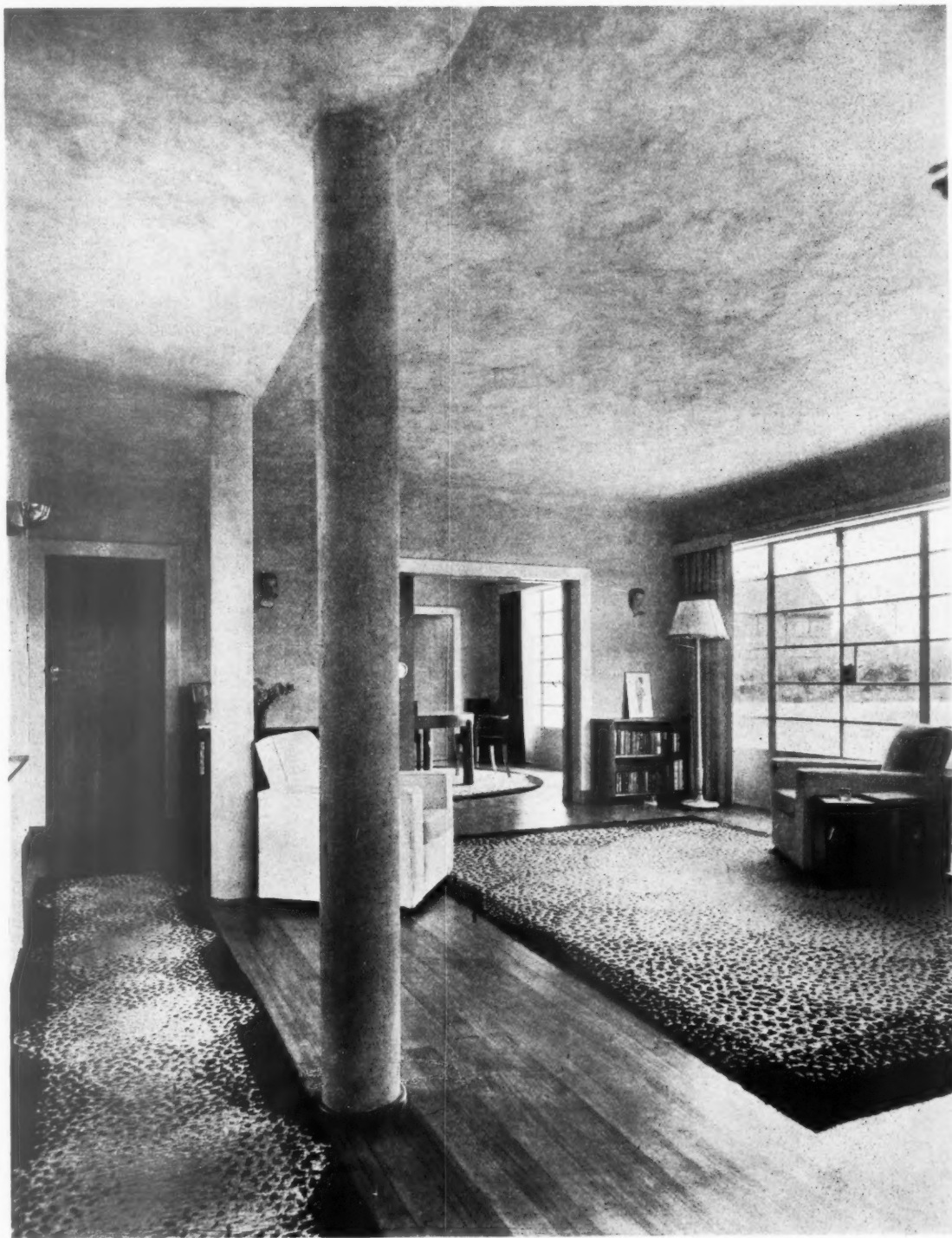
INTERNAL FINISHES—The walls and ceilings are plastered. In the bedrooms, living room, and on the staircase the walls are finished with a wood float to give a slightly rough texture, the plaster being gauged with a pink tinted cement to avoid further decorative treatment. In the bathroom and kitchen quarters the walls and ceilings are finished in enamel. The walls in the bathrooms are partly covered with green vitrolite.

Floors: living room, dining room and hall, 3 ins. Tasmanian oak strip; bathrooms, rubber; domestic quarters, tile; remainder deal, carpeted.

The staircase is Austrian oak, with Austrian oak capping to the handrail. The desk and the window seat in the living room are of Australian walnut, as also are the bookshelves. The tables are Indian silver grey wood. Other built-in furniture is in pine, painted.

The photographs show, above, the south front; left, the kitchen.

DESIGNED BY GERALD LACOSTE



The living room, looking towards the dining room. The walls of both rooms are plastered and finished with a wood float to give a slightly rough texture, the plaster being gauged with a pink-tinted cement to avoid further decorative treatment. Floors are Tasmanian oak strip.

HOUSE AT HUNSTANTON, NORFOLK



The photographs show : above, the living room ; below, left, the dining room ; right, dressing room. For list of general and sub-contractors, see page 506.



DESIGNED BY GERALD LACOSTE

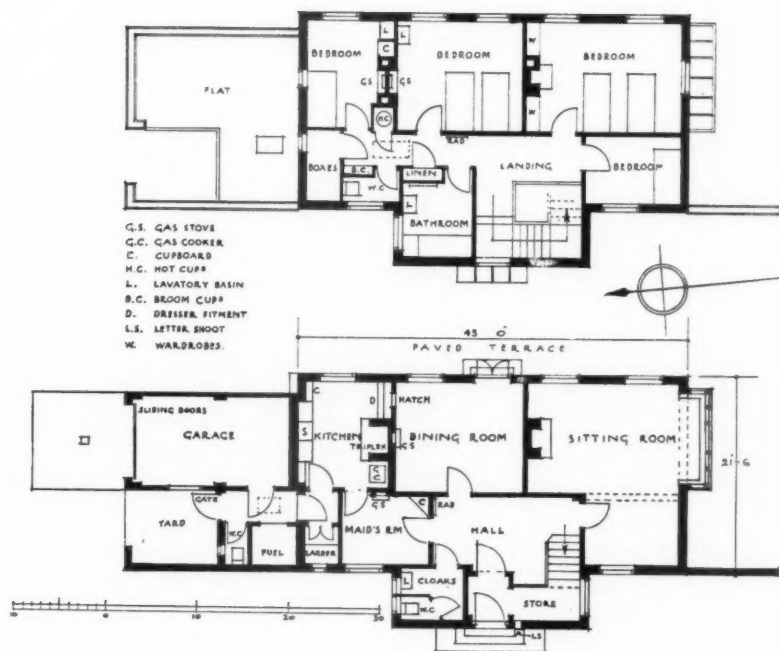
HOUSE AT BEACONSFIELD



DESIGNED BY

J. H.

S A T N E R



The house illustrated on this and the following page was designed by the architect for his own use. Above is a view of the east elevation; the facing bricks are multi coloured and the tiles sand-faced hand made.

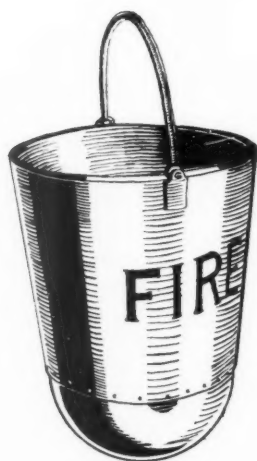
HOUSE AT BEACONSFIELD



D E S I G N E D B Y
J . H . S A Y N E R



Above is a detail of the entrance front, on the left a view of the living room: the fireplace is in Clipsham stone.



TRADE NOTES

[EDITED BY PHILIP SCHOLBERG]

Fire Protection

THE headpiece to these notes shows a piece of design which amounts almost to genius. Everyone knows the usual snags of the ordinary type of fire bucket, how it can so easily be used by cleaners as a rubbish pail or for scrubbing floors, to be found, when really needed, without any water or sand in it.

The hemispherical bottom makes all this quite impossible; with the result that the bucket remains on its bracket in its proper place, ready for use. The idea is not startlingly new, but it seems to me to be worth mentioning. Incidentally, these buckets are hardly any more expensive than the standard flat-bottomed type, 4s. 6d. as against 3s. 4d., for the regulation 2-gallon type. Brackets cost 1s. 6d.

An Automatic Coal Range

Messrs. Ashwell and Nesbitt have now applied automatic firing to the kitchen range, the result being seen on the right. Drawing and photograph are more or less self-explanatory; the stoker is of the under-feed type, with the usual thermostatic controls, and the hopper naturally does away with the need for constant hand firing with its resultant dust and variation in cooking temperature. The range is now on show at the premises of the Coal Utilisation Council.

The price has not yet been definitely fixed, but will be from £200 to £250, according to the particular arrangement of ovens and stoker necessary to meet the particular conditions of the job.

A New Structural Material

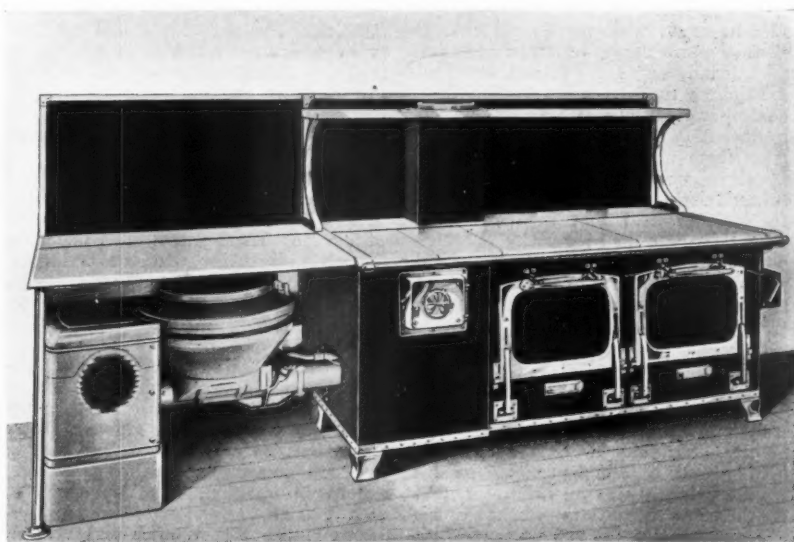
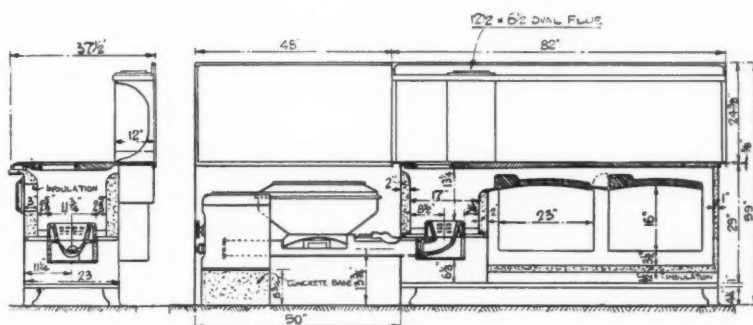
It seems possible that a new structural material may become available, but whether for building work or not, there is no means of telling. Messrs. Aero Research, who have recently opened new laboratories and workshops at Whittlesford under the directorship of Dr. M. A. de Bruyne, have for some time been investigating the use of synthetic resins for aeroplane construction.

When used alone, synthetic resins have too low a tensile strength for important elements in aeroplane construction. They must, therefore, be reinforced, so that the resin itself is subjected to only compressive

forces. Instead of using steel it has been found better to use cellulose, for which some of these resins have a peculiar affinity. Cellulose, the material of cotton and artificial silk, with a density of 1.5, has an ultimate tensile strength of 60 tons to the square inch and an elastic modulus of 15,000,000 lb. to the square inch. Its tensile strength is, in fact, surpassed only by that of high-grade steel, which is far heavier and more expensive.

Dr. de Bruyne and his colleagues have established the important point that, by giving the fabric a large initial tension during manufacture, the stage at which "creep" begins can be substantially raised and the elastic modulus at the same time increased. It is true that these qualities are secured at the expense of the ultimate tensile strength of the material. But the enormous tensile strength of cellulose—and the ultimate strength of reinforced resin is simply the strength of the fabric—makes it possible to increase the "creep" stress to a valuable extent without reducing the ultimate strength too greatly for many practical purposes. The essence of the process, which is provisionally patented by Aero Research, is to apply a direct external tension to the fabric while the resin is hardening round it.

So far the material has been used only in experimental variable-pitch airscrews, but



An automatically-fired cooking range recently produced by Ashwell and Nesbitt.

it seems that this material may well be of use, particularly for furniture, where the stresses in table legs and the steel type of chair are a good deal higher than most people realise.

LAW REPORTS

HOUSING ACTS APPEAL ALLOWED—

IRREGULARITY ALLEGED

Sunderland (Durham Road) Housing Order. Appeal.—King's Bench Division. Before Mr. Justice Swift.

THIS was an appeal under the Housing Acts, 1925-30, and the point raised by the appellant, Mr. Albu Horn, owner and occupier of Springwall Farm, Durham Road, Sunderland, was whether the Minister of Health had committed an irregularity in receiving a deputation from the Sunderland Corporation, after the public inquiry had been held.

Mr. H. A. Hill represented the appellant, and the Solicitor-General, Sir Terence O'Connor, K.C., appeared for the Minister of Health.

Mr. Hill stated that his client appealed against an order for compulsory acquisition of 102 acres of his land, made by the Corporation and confirmed by the Minister of Health. His case was that while acting judicially in considering whether the Order should be confirmed, a public inquiry having been held, the Minister acted irregularly in receiving a deputation from the Corporation, and that this action vitiated the confirmation of the Order. The facts were that a deputation from the Corporation discussed with an official representing the Minister certain housing matters in Sunderland, which were also relevant to the inquiry, and also relevant to the order that his client objected to. His submission, under the circumstances, was that the discussion vitiated the confirmation of the order, as the Minister was then, in relation to the order, acting in a judicial capacity. He therefore asked his lordship to allow the appeal, and quash the order.

The Solicitor-General contended that the Minister had administrative functions to perform, distinct from his judicial functions, and that therefore it was necessary for him to be in touch with the Corporation in regard to matters upon which he had been semi-judicially engaged. It was true that the Minister received a deputation from the Corporation, but it was on matters unconnected with the order in question. Under these circumstances he submitted that there was nothing to vitiate the Minister's decision in confirming the order.

His lordship held that in the present matter there was an irregularity of which the appellant was entitled to complain and which went to the root of the matter, and he therefore quashed the order, allowing the appeal with costs.

In the course of his judgment, his lordship said the question he had to decide was whether from the moment the appellant objected to the order, the Minister was merely an administrator or a quasi-judicial authority, deciding a contest between litigating and differing parties. In his view the Minister was an arbitrator, and was therefore bound to discharge his functions judicially. It was no part of his duty to hear one party behind the back of

the other, or to receive people from one side without hearing the other side, so that they might have an opportunity to answer the allegations made. The present case could not be distinguished from the decided case of *Errington v. The Minister of Health*, except that he held that in the circumstances of the case before him, justice did not seem to have been done when the Minister received the deputation from the Corporation. His lordship said there was no suggestion of bad faith on the part of anyone concerned with the case, and no criticism had been directed at the conduct of the public inquiry which had been held by order of the Minister.

SALE OF FLATS DISPUTE

London County Freehold and Leasehold Properties, Ltd., and Globe Investment Co., Ltd. v. Berkeley Property and Investment Co., Ltd.—Court of Appeal. Before Lords Justices Slesser and Romer and Mr. Justice Eve

THIS appeal arose out of the purchase by the London County Freehold and Leasehold Properties, Ltd., and Globe Investment Co., Ltd., for £611,000, in December, 1932, of four blocks of flats—Clive Court, Maida Vale, and Grove Court, Clifton Court, and St. John's Wood Court, Marylebone, from the Berkeley Property and Investment Co., Ltd.

The matter originally came before Mr. Justice Goddard, in the King's Bench Division, in an action by the plaintiffs against the defendants, claiming damages for alleged misrepresentation and breach of warranty. The case for the plaintiffs was that it was warranted or represented that all the rents shown as payable by the tenants in the schedule were in the main paid without dispute and promptly. Plaintiffs now alleged that this was not the fact, as flats were not let to persons on the terms set out, rents were not paid promptly, and that there were disputes. Consequently they set up that the flats were not worth the price paid and they claimed damages from the defendants.

The defendants denied that there had been any misrepresentation or breach of warranty, and denied all the allegations of the plaintiffs.

Mr. Justice Goddard, after a long hearing, held that the defendants had not been guilty of misrepresentation as alleged, but held that defendants gave what amounted to a warranty, and that under that warranty the plaintiffs had sustained a loss, and on that footing he gave judgment for plaintiffs for £6,700 damages, with costs.

Defendants now appealed and asked that the judgment of Mr. Justice Goddard should be set aside and judgment entered for them, with costs. There was a cross appeal by the plaintiffs asking that the finding by Mr. Justice Goddard as to the misrepresentation allegation should be reversed and judgment entered for plaintiffs on that issue for £21,453.

The Court allowed the appeal and cross-appeal, without costs, and ordered an enquiry as to damages. Leave to appeal to the House of Lords was granted. It was stated that no person connected with the defendant company at the time of the transactions in question, was now connected with it at all.

Lord Justice Slesser, after reviewing the facts of the case said he came to the con-

clusion that no subsidiary or other contract was ever made between the parties at all, and it followed that no collateral contract could properly have been found by the judge, and therefore the appeal succeeded.

Dealing with the cross-appeal his lordship was of opinion that there had been misrepresentation and therefore the cross-appeal would be allowed.

THE BUILDINGS ILLUSTRATED

HARTINGTON COURT, STOCKWELL (pages 483 to 486). General contractors were: E. and J. Cotton, Ltd., plumbing; Rapid Floor Co., Ltd., reinforced concrete floors; Vigers, Bros. & Co., Ltd., wood block floors; Williams & Williams Ltd., windows; George Jennings (Lambeth) Ltd., sanitary fittings; G. R. Powell, Ltd., electrical work; A. Goldstein & Co., Ltd., glazing; Hill & Smith, Ltd., balustrading; Limmer & Trinidad Lake Asphalt Co., Ltd., asphalt; Kandya, Ltd., kitchen cabinets.

NEW BUILDING FOR ASSOCIATED NEWS-PAPERS, LTD. (pages 487 to 490).

General contractors were Trollope and Colls, Ltd. Sub-contractors: Demolition and Construction Co., raft demolition; Moreland Hayne & Co., Ltd., steelwork; The Ham River Grit Co., Ltd., ballast, etc.; The Limmer and Trinidad Lake Asphalt Co., Ltd., asphalt; Fenning & Co., Ltd., granite; Diespeker & Co., Ltd., terrazzo work; Joseph Kaye and Sons, Ltd., locks, etc.; Roneo, Ltd., movable unit steel partitioning; Richard Crittall & Co., Ltd., boiler, warming sprinklers and ventilation; Crittall Manufacturing Co., metal windows; Waygood Otis, Ltd., lifts; W. B. Simpson and Sons, Ltd., tiling; Rashleigh Phipps & Co., Ltd., electrical installation; J. H. Holmes & Co., Ltd., printing press drives; Stevens and Adams, wood block floors; Haskins, steel shutters; Wotton & Son, Croydon, lantern lights; Comyn, Ching & Co., Ltd., staybrite dado and bronze entrance doors; Sturtevant Engineering Co., vacuum cleaning plant; Pontifex and Emanuel, sanitary fittings; Gillett and Johnston, electric clock; Clark, Hunt & Co., Ltd., cast iron floor tiles; Keystone Paint Co., Ltd., paint; A. Luff and Sons, Ltd., forecourt layout; Troughton and Young, electric light fittings.

HOUSE AT HUNSTANTON (pages 498 to 502).

General contractors were F. W. Shanks, excavation, foundations, etc.; London Brick Co. Ltd., bricks; Frazzi, Ltd., special roofing; Vulcanite, Ltd., special roofings; British Vitrolite Co., Ltd., glass; T. R. Freeman, Ltd., central heating; Candy & Co., Ltd., Devon fires; Berry's Electric, Ltd., electric fires; General Electric Co., Ltd., electric fires; Jackson Electric Stove Co., Ltd., electric fires; Davis Gas Stove Co., gas cooker; Troughton and Young, Ltd., electric light fixtures; W. N. Froy and Sons, Ltd., sanitary fittings; N. F. Ramsay & Co., Ltd., door furniture; Almarco Metal Windows, Ltd., casements; J. R. Pearson, Ltd., iron railings and weather vane; Art Pavements and Decorations, Ltd., marble; Dunsmore Tile Co., tiling; Peter Jones, Ltd., furniture; Peerless Kitchen Cabinets, Ltd., kitchen fittings; Pugh Bros., Ltd., glass name plate.

THE WEEK'S BUILDING NEWS

LONDON AND DISTRICT (15 Miles Radius)

HAMMERSMITH. *Flats.* Plans passed by Hammersmith B.C.:—Block of flats, Hamlet Gardens, Mr. A. J. Caney; flats, Harrow Road, Messrs. Anns and Haigh; flats, Goldhawk Road, Mr. W. A. Ball for Messrs. Roy Gibson Ltd.; offices, Brook Green Road, Mr. E. P. Kendall; church house, lecture hall, etc., Rivercourt Methodist Church, and new buildings, King Street, Messrs. Periam and Son; showrooms and store, Brook Green Road, Messrs. Percy Pratt and Blount; showroom and offices, Queen Street, Mr. C. W. Curtis; extension, Elms House site, Brook Green, Messrs. Holman and Goodham; flats, Goldhawk Road, Messrs. White-Cooper and Turner; garage at Olympia Exhibition Hall, Mr. J. Emberton; building, King Street, Messrs. F. W. Woolworth & Co., Ltd.; neon signs, Regal Cinema, King Street, Messrs. Pearce Signs, Ltd.; six-storey flats, Uxbridge Road, Messrs. McClelland & Co., Ltd.; building, Queen Street, Mr. L. O. Woodward; extensions, Hammersmith Tram Depot, The London Passenger Transport Board; building, Bulwer Street, Messrs. E. Howard and Partners.

HARPENDEN. *Stores.* Messrs. F. W. Woolworth & Co., Ltd., are to erect new stores in the High Street to plans by their own architects' department.

KENTISH TOWN. *Rebuilding.* Plans have been prepared by Sir Alexander Gibb and Partners for the rebuilding of the premises of the Aerated Bread Co., Ltd., in Kentish Town Road.

LEWISHAM. *Houses, etc.* Plans passed by Lewisham B.C.: Factory, Lee Road, Commercial Structures, Ltd.; houses, Southend Lane, Maisonnets Construction Co., Ltd.; two houses, Horniman Drive, Mr. John Lax; 29 houses, Tewkesbury Avenue, and house, Liphook Crescent, Forest Hill, Mr. Hugh Macintosh; one house, St. German's Road, Mr. S. Leonard; additions to Park Hospital, Stainton Road, Messrs. Norman Wright (Builders), Ltd.; addition, Lee Terrace, Mr. J. P. Briggs; neon sign, State Cinema, Sydenham Road, Sydenham, Excelsior Super Cinemas, Ltd.; three houses, Beckenham Hill Road, and 14 in Highland Croft, Messrs. F. Hugh Thoburn, Ltd.; nine houses, Ewelme Road, Mr. Edward W. Wallis; 60 houses, new road, off Bromley Road, and houses, Verdant Lane, Catford, Messrs. Wates (Streatham), Ltd.; three houses, Silverdale, The Great Britain Property Co., Ltd.; flats, Border Crescent, Sydenham, Messrs. F. W. Rees and Partners; workshop, Gilmore Road, Mr. G. T. Harman; factory, Castlards Road, Catford, The Commercial Structures, Ltd.; maisonettes, Myrtle Grove, Sydenham, Messrs. Noys and Howes; three houses, Dacres Road, Sydenham, Great Britain Property Co., Ltd.; maisonettes and houses, Southend Lane, Sydenham; seven houses, Southend Lane, Messrs. T. Spencer Bright & Co.; extension, Century Works, Thurston Road, Mr. W. R. Davidge; houses, Mylis Close, Sydenham, Mr. L. A. Culliford; flats, Eltham Road and Leyland Road, Lee, Mr. J. J. de Segrais; flats, Eliot Bank, Forest Hill, Mr. A. Higuier; flats, Ravensbourne Strand, Mr. A. J. Caney; church hall and presbytery, Burnt Ash Hill, Lee, Messrs. T. Spencer Bright & Co.; buildings, Belmont Grove, Mr. E. W. Ashton; flats, The Drive, Sydenham, Mr. H. Oliver; flats, Brockley View, Forest Hill, Mr. A. J. Horsfield; flats, Queen's Road, Forest Hill, Mr. A. Higuier; factory, Perry Vale, Mr. G. T. Harman; houses, Beckenham Lane estate, Mr. L. A. Culliford; alterations, Horse and Groom, Blackheath Hill, Blackheath, Messrs. Whitbread & Co., Ltd.; building, Bromley Road, Bromley, Mr. A. Frampton; five houses, Priestfield Road, Forest Hill, Mr. T. H. Dow; estate development, St. Mildred's Road, Lee, Mr. B. G. Utting; houses' Carlton Terrace, Sydenham Park, Mr. J. Hodges; buildings, Loampit Vale, Lewisham, Mr. W. R. Davidge; flats, Canonbie Road,

Forest Hill, Messrs. G. E. Clare and Son; flats, Belmont Hill, Mr. E. W. Palmer; church hall, Ballamore Road, Downham, Messrs. J. Harrison & Co.; flats, Sunderland Road, Forest Hill, Ashford Trust, Ltd.; extension, Bell Green, Sydenham, South Suburban Gas Company; flats, Baring Road, Grove Park, Messrs. W. Whiteley, Ltd.; extension, Catford Motor Body Works, Catford Hill, Messrs. F. Braby & Co., Ltd.

SOUTH-EASTERN COUNTIES

BRIGHTON. *Remedial Baths.* Brighton Corporation is to obtain land in North Road for the provision of remedial baths.

BRIGHTON. *Houses.* Brighton Corporation has instructed the borough surveyor to prepare plans for the erection of some 5-bedroom houses on five housing sites.

BRIGHTON. *Extensions.* The governors of the Brighton Girls' Orphanage have acquired premises at Bristol Gate for extensions.

BRIGHTON. *Art School.* Brighton Education Committee has approved plans for re-building the municipal school of art at a cost of £165,430.

BRIGHTON. *Church.* Brighton Corporation has sold a site for the erection of a church on the East Moulsecombe estate to the Rev. R. M. Wilson, Secretary, Sussex Church Builders.

BRIGHTON. *Town Hall.* Brighton Corporation has further considered the plans prepared by Mr. John L. Denman for the proposed new town hall to be erected on the site between Bartholomews and Black Lion Street. The General Purposes Committee has submitted Mr. Denman's plans to the Royal Fine Art Commission for criticism, and the Commission states that it is much interested in the layout of the scheme and the skilful manner in which the architect has combined in one building both judicial and municipal requirements. The Commission also states that the plan appears to have a unity worthy of its purpose and the elevations to be satisfactorily composed and to have their own special interest. The committee suggests seeking sanction to borrow £148,000 for the erection of Section 1 of the proposed new town hall.

BRIGHTON. *Junior School.* Brighton Education Committee has approved plans for the erection of a junior mixed and infants' school at Woodingdean.

HERNE BAY. *Library.* Herne Bay U.D.C. recommends the erection of a library in Dering Road, at a cost of £8,000.

HERNE BAY. *Houses.* Herne Bay U.D.C. has accepted the tender of Messrs. Stroud and Roberts, £4,992 14s., for the construction of 14 houses in Sea Street.

LITTLEHAMPTON. *Pumping Plant, etc.* Littlehampton U.D.C. has approved plans of the pumping plant and cottage at the water works.

LITTLEHAMPTON. *Houses, etc.* Plans passed by Littlehampton U.D.C.: House, Church Street, Mr. E. W. Owen; rebuilding True Blue Inn, Wick Street, Messrs. Henty and Constable, Ltd.; alteration, High Street, Mr. H. J. Jenkins; additions, Beach Hotel, Mr. L. Radford; houses, Parkside Estate, Mr. F. Hamlet; alterations to office, Duke Street, Messrs. Snewin Bros.

MIDLAND COUNTIES

KETTERING. *Homes.* Kettering U.D.C. has accepted the tender of the U.D.C. works department, £2,150, for the erection of 8 homes for aged people, in Avondale Road.

KETTERING. *School.* Kettering Education Committee has approved plans for the provision of a school for infants and juniors in the vicinity of Windmill Avenue.

KETTERING. *Houses.* Plans passed by the Kettering U.D.C.: Alteration, factory, Bath Road, The Kettering Cartons, Ltd.; two houses, Lower Street, Mr. A. Mutton; seven shops and flat, Silver Street, Mr. C. Saunders; house, Beatrice Road, Messrs. Mace and

Wooding; four houses, off Poplar's Farm Road, Messrs. F. G. Barlow (Properties), Ltd.; grindery room, boiler house and engineers' shop, Havelock Street, the Co-operative Boot and Shoe Manufacturing Society; estate development, Pytchley Road, K.I.C.S., Ltd.; house, Northampton Road, Mr. R. A. S. Adams; house and shop, Barton Seagrave, Messrs. F. G. Barlow (Builders), Ltd.; house, Britannia Road, Mr. G. A. Meadows; furnace stage in foundry yard, Stamford Road Works, Messrs. C. Wicksteed & Co.; bungalows, Westview Estate, Mr. M. M. Drabble; estate development, Pytchley Road, Mr. A. Morris Wheeler; house, Pytchley Road, Mr. H. Taylor; two shops and flat, Montagu Street, Mr. W. L. Robinson; garage and store, Bridewell Lane, Mr. A. Bone; house, Beatrice Road, Messrs. Buckby and Streather, Ltd.; three houses, Burns Road, Messrs. Mutton and Clarke; house, Northampton Road, Mr. T. Bennett; house, St. Mary's Road, shops and flats, Linden Avenue, Messrs. F. G. Barlow (Properties), Ltd.

WALSALL. *Houses.* Walsall Corporation recommends the tender of Mr. L. G. Peace (£22,008), for the erection of 74 houses on the Ryecroft housing site.

NORTHERN COUNTIES

NORTHUMBERLAND. *Senior school.* Northumberland Education Committee has purchased a site in Mitford Road, Morpeth, for the erection of a senior school.

NORTHUMBERLAND. *Extensions.* Northumberland Education Committee has purchased land for the enlargement of the council school at Cramlington.

REDCAR. *Electricity showrooms.* Redcar Corporation is to erect electricity showrooms in Old Market Walk at a cost of £4,000.

REDCAR. *Gas showrooms.* Redcar Corporation is to provide gas showrooms in High Street at a cost of £3,150.

TYNEMOUTH. *Verandah.* Tynemouth Corporation is considering the question of the provision of a verandah at the cubicle isolation block at the Moor Park Isolation Hospital.

TYNEMOUTH. *Houses.* Tynemouth Corporation has accepted the tender £39,695 7s. 6d. of Mr. S. Pye, of North Shields, for the erection of 152 houses on the Ridges estate.

TYNEMOUTH. *Houses, etc.* Plans passed by Tynemouth Corporation: Shop and flat, St. George's Road, Cullercoats, Laws Stores, Ltd.; four houses, Sheringham Avenue, Messrs. F. R. N. Haswell and Son; alterations, West Percy Street, Mr. W. Stockdale; nursery school, Percy Square, North Shields Nursery School Committee; flats, Lansdowne Terrace West, The North Chirton Estate; four houses, Sheringham Avenue, Mr. S. Pye; flats, Milton Terrace, Mr. Jake Burton; adaption of lifeboat house for motor lifeboat, Cullercoats Bay, The National Lifeboat Institution; addition to sub-station, corner of New York Road and Cowan's Lane, The North Eastern Electric Supply Co.; flats, Norham Terrace, Percy Main, Messrs. Marshall and Tweedy; addition to cinema, Billy Mill Avenue, Mr. S. Miller; two houses, The Drive, Tynemouth Park Estate, Mr. J. R. Wallace; six houses, Glendale Avenue, Preston Colliery Estate, Messrs. Cackett, Burns, Dick and Mackellar; rebuilding New Dolphin Inn, Union Road, Low Lights, The Newcastle Breweries; four houses, Millview Drive, Mill Estate, Mr. J. A. Whitelaw, Ltd.; addition, St. Oswald's College, Huntingdon Place, Mr. T. W. Grey.

WALLASEY. *Houses.* Wallasey Corporation is to erect 18 houses in Gorsedale Road.

WALLASEY. *Central Council school.* Wallasey Education Committee has accepted the tender of Messrs. R. Costain and Sons (Liverpool), Ltd., £36,665, for the erection of a central Council school at Coronation Avenue.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for

labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

Column I gives the rates for craftsmen; Column II for tradesmen.				Column I gives the rates for craftsmen; Column II for tradesmen.				Column I gives the rates for craftsmen; Column II for tradesmen.				Column I gives the rates for craftsmen; Column II for tradesmen.					
		I		II				I		II				I		II	
		s.	d.	s.	d.			s.	d.	s.	d.			s.	d.	s.	d.
A ₁	ABERDARE ... S. Wales & M.	1	6	1	1 1/2	A ₁	EASTBOURNE ... S. Counties	1	6	1	1 1/2	A	Northampton ... Mid. Counties	1	6	1	2
A ₁	Aberdeen ... Scotland	1	6	1	1 1/2	A ₁	Ebbw Vale ... S. Wales & M.	1	6	1	1 1/2	A	North Shields ... N.E. Coast	1	6	1	2
A ₁	Aberglavenny ... S. Wales & M.	1	5	1	0 1/2	A ₁	Edinburgh ... Scotland	1	6	1	1 1/2	A ₁	North Staffs ... E. Counties	1	6	1	2
A ₁	Abingdon ... S. Counties	1	6	1	1 1/2	A ₁	Exeter ... S.W. Counties	1	5	1	0 1/2	A ₁	Nottingham ... Mid. Counties	1	6	1	2
A ₁	Accrington ... N.W. Counties	1	5	1	0 1/2	A ₁	Exmouth ... S.W. Counties	1	4	1	0 1/2	A ₁	Nuneaton ... Mid. Counties	1	6	1	2
A ₁	Addlestone ... S. Counties	1	6	1	1 1/2	A ₁	FELIXSTOWE ... E. Counties	1	5	1	0 1/2	A	OAKHAM ... Mid. Counties	1	5	1	0 1/2
A ₁	Adlington ... N.W. Counties	1	6	1	1 1/2	A ₁	Filey ... Yorkshire	1	5	1	0 1/2	A	Oldham ... N.W. Counties	1	5	1	0 1/2
A ₁	Aldershot ... Scotland	1	6	1	1 1/2	A ₁	Fleetwood ... N.W. Counties	1	6	1	1 1/2	A ₁	Oswestry ... N.W. Counties	1	6	1	1 1/2
A ₁	Aldridge ... E. Counties	1	2	1	2	A ₁	Folkestone ... S. Counties	1	4	1	0	A ₁	Oxford ... S. Counties	1	6	1	1 1/2
A ₁	Aldeburgh ... N.W. Counties	1	6	1	1 1/2	A ₁	Fredsham ... N.W. Counties	1	6	1	1 1/2						
A ₁	Altrincham ... N.W. Counties	1	6	1	1 1/2	A ₁	Frome ... S.W. Counties	1	3	1	1 1/2						
A ₁	Appleby ... N.W. Counties	1	5	1	2												
A ₁	Ashton-under-Lyne ... N.W. Counties	1	4	1	0	A	GATESHEAD ... N.E. Coast	1	6	1	2	A	PAISLEY ... Scotland	1	6	1	2
B ₁	Aylesbury ... S. Counties	1	4	1	0	A	Gillingham ... S. Counties	1	6	1	1 1/2	A	Pembroke ... S. Wales & M.	1	3	1	1 1/2
						A ₁	Glamorgan-shire, Rhonda Valley District	1	6	1	1 1/2	A ₁	Perth ... Scotland	1	6	1	1 1/2
B ₁	BANBURY ... S. Counties	1	4	1	0	A ₁	Glasgow ... Scotland	1	7	1	2 1/2	A ₁	Peterborough ... S.W. Counties	1	6	1	2
B ₁	Bangor ... N.W. Counties	1	4	1	0	A ₁	Gloucester ... S.W. Counties	1	5	1	1 1/2	A ₁	Plymouth ... Yorkshire	1	6	1	1 1/2
B ₁	Barnard Castle ... N.E. Coast	1	5	1	0 1/2	A ₁	Goole ... Yorkshire	1	5	1	1 1/2	A ₁	Pontefract ... S. Wales & M.	1	6	1	1 1/2
A ₁	Barnsley ... Yorkshire	1	4	1	0 1/2	A ₁	Gosport ... S. Counties	1	5	1	0 1/2	A ₁	Pontypridd ... S. Counties	1	5	1	1 1/2
A ₁	Barnstaple ... N.W. Counties	1	6	1	2	A ₁	Grantham ... Mid. Counties	1	6	1	1 1/2	A ₁	Portsmouth ... S. Counties	1	6	1	2
A ₁	Barrow ... N.W. Counties	1	6	1	2	A ₁	Graveland ... S. Counties	1	6	1	2						
A ₁	Barry ... S. Wales & M.	1	6	1	2	A ₁	Greenock ... Scotland	1	6	1	2	A	QUEENSFERRY ... N.W. Counties	1	6	1	2
A ₁	Basingstoke ... S.W. Counties	1	4	1	1 1/2	A ₁	Grimaby ... Mid. Counties	1	4	1	0 1/2						
A ₁	Bath ... S.W. Counties	1	6	1	2	B	Guildford ... S. Counties	1	4	1	0 1/2						
A ₁	Batley ... Yorkshire	1	6	1	1 1/2							A ₁	READING ... S. Counties	1	5	1	1 1/2
A ₁	Bedford ... E. Counties	1	6	1	1 1/2							A	Reigate ... S. Counties	1	4	1	1 1/2
A ₁	Berwick-on-Tweed ... N.E. Coast	1	5	1	1 1/2	A	HALIFAX ... Yorkshire	1	6	1	2	A	Retford ... Mid. Counties	1	5	1	0 1/2
A ₁	Bewdley ... Mid. Counties	1	5	1	1 1/2	A	Hanley ... Mid. Counties	1	6	1	2	A ₁	Rhondda Valley ... S. Wales & M.	1	5	1	0 1/2
B ₁	Bicester ... S. Counties	1	7	1	1 1/2	A	Harrogate ... Yorkshire	1	6	1	2	A ₁	Ripon ... Yorkshire	1	6	1	2
A ₁	Birkenhead ... N.W. Counties	1	6	1	2	A	Hartlepool ... N.E. Coast	1	4	1	0 1/2	A	Rochdale ... N.W. Counties	1	4	1	0 1/2
A ₁	Birmingham ... Mid. Counties	1	6	1	1 1/2	A	Harwich ... E. Counties	1	4	1	0	A	Rochester ... S. Counties	1	6	1	1 1/2
A ₁	Bishop Auckland ... N.E. Coast	1	6	1	2	A	Hastings ... S. Counties	1	5	1	1 1/2	A ₁	Ruabon ... N.W. Counties	1	6	1	2
A ₁	Blackburn ... N.W. Counties	1	6	1	2	A	Hatfield ... S.W. Counties	1	4	1	0 1/2	A ₁	Rugby ... Mid. Counties	1	5	1	1 1/2
A ₁	Blackpool ... N.W. Counties	1	6	1	2	A	Hereford ... E. Counties	1	6	1	2	A ₁	Runcorn ... N.W. Counties	1	6	1	2
A ₁	Blyth ... N.E. Coast	1	4	1	0	A	Heysham ... N.W. Counties	1	6	1	2						
B ₁	Bolton ... S. Counties	1	4	1	2	A	Howden ... N.E. Coast	1	6	1	2	A ₁	SALE ... S. Counties	1	6	1	2
B ₁	Bolton ... N.W. Counties	1	4	1	0 1/2	A	Huddersfield ... Yorkshire	1	6	1	2	A ₁	St. Albans ... E. Counties	1	6	1	1 1/2
A ₁	Boston ... Mid. Counties	1	5	1	1 1/2	A	Hull ... Yorkshire	1	6	1	2	A	St. Helens ... N.W. Counties	1	6	1	2
A ₁	Bournemouth ... S. Counties	1	3	1	1 1/2							A ₁	Salisbury ... N.W. Counties	1	6	1	1 1/2
A ₁	Bovey Tracey ... S.W. Counties	1	6	1	2	A	ILKLEY ... Yorkshire	1	6	1	2	A ₁	Scarborough ... Yorkshire	1	6	1	2
A ₁	Bradford ... E. Counties	1	6	1	1 1/2	A	Immingham ... Mid. Counties	1	5	1	1 1/2	A ₁	Scunthorpe ... Mid. Counties	1	6	1	2
A ₁	Brentwood ... S. Wales & M.	1	6	1	1 1/2	A	Ipswich ... E. Counties	1	4	1	0 1/2	A ₁	Sheffield ... Yorkshire	1	6	1	2
A ₁	Bridgend ... S.W. Counties	1	6	1	1 1/2	A	Isle of Wight ... S. Counties	1	4	1	0 1/2	A ₁	Shipley ... Yorkshire	1	6	1	1 1/2
A ₁	Bridgewater ... Yorkshire	1	6	1	2	A	JARROW ... N.E. Coast	1	6	1	2	A ₁	Shrewsbury ... Mid. Counties	1	5	1	1 1/2
A ₁	Bridlington ... Yorkshire	1	6	1	2							A ₁	Skepton ... S. Counties	1	5	1	1 1/2
A ₁	Brighouse ... Yorkshire	1	6	1	1 1/2	A	KEIGHLEY ... Yorkshire	1	6	1	2	A ₁	Slough ... Mid. Counties	1	6	1	2
A ₁	Brighton ... S. Counties	1	6	1	2	A ₁	Kendal ... N.W. Counties	1	5	1	0 1/2	A ₁	Southampton ... S. Counties	1	6	1	1 1/2
A ₁	Bristol ... S.W. Counties	1	3	1	1 1/2	A ₁	Keewick ... N.W. Counties	1	6	1	1 1/2	A ₁	Southend-on-Sea ... N.W. Counties	1	6	1	2
A ₁	Brixham ... Mid. Counties	1	3	1	1 1/2	A ₁	Kettering ... Mid. Counties	1	5	1	1 1/2	A ₁	Stafford ... N.E. Coast	1	6	1	1 1/2
A ₁	Bromsgrove ... Mid. Counties	1	3	1	1 1/2	A ₁	Kidderminster ... Mid. Counties	1	5	1	1 1/2	A ₁	Stirling ... Scotland	1	7	1	2 1/2
A ₁	Bromley ... N.W. Counties	1	6	1	2	A ₁	King's Lynn ... E. Counties	1	4	1	0	A ₁	Stockton-on-Tees ... N.W. Counties	1	6	1	2
A ₁	Burnley ... Mid. Counties	1	6	1	2	B ₁	LANCASTER ... N.W. Counties	1	6	1	2	A ₁	Stoke-on-Trent ... Mid. Counties	1	6	1	2
A ₁	Burton-on-Trent ... N.W. Counties	1	6	1	2	A ₁	Leamington ... Mid. Counties	1	6	1	1 1/2	B	Stroud ... S.W. Counties	1	4	1	0 1/2
A	Bury ... N.W. Counties	1	6	1	1 1/2	A ₁	Leek ... Yorkshire	1	6	1	2	A	Sunderland ... N.E. Coast	1	6	1	2
A	Buxton ... N.W. Counties	1	6	1	1 1/2	A ₁	Leicester ... Mid. Counties	1	6	1	2	A	Swansea ... S. Wales & M.	1	6	1	2
						A ₁	Leigh ... N.W. Counties	1	6	1	2	A	Swindon ... S.W. Counties	1	5	1	0 1/2
A ₁	CAMBRIDGE ... E. Counties	1	6	1	1 1/2	A ₁	Lewes ... S. Counties	1	5	1	1 1/2						
B ₁	Canterbury ... S. Counties	1	4	1	0	A ₁	Lichfield ... Mid. Counties	1	6	1	2	A ₁	TAMWORTH ... N.W. Counties	1	6	1	1 1/2
A ₁	Cardiff ... S. Wales & M.	1	6	1	2	A ₁	Lincoln ... Mid. Counties	1	8	1	3	A	Taunton ... S.W. Counties	1	6	1	2
A ₁	Carlisle ... N.W. Counties	1	4	1	0 1/2	A ₁	Liverpool ... N.W. Counties	1	5	1	1 1/2	A	Teesside Dist. ... N.E. Counties	1	5	1	2
A ₁	Carmarthen ... S. Wales & M.	1	4	1	0 1/2	A ₁	Llandudno ... S. Wales & M.	1	6	1	3	A ₁	Teignmouth ... S. Coast	1	5	1	2
B	Carnarvon ... N.W. Counties	1	6	1	2	A ₁	Llanelli ... S. Wales & M.	1	8	1	2 1/2	A ₁	Tenbury ... Yorkshire	1	5	1	2
A	Carnforth ... Yorkshire	1	6	1	0 1/2	A ₁	London (12-15 miles radius)	1	7	1	2	A ₁	Tewkesbury ... S.W. Counties	1	6	1	1 1/2
A	Casford ... Yorkshire	1	6	1	0 1/2	A	Long Eaton ... Mid. Counties	1	6	1	2	B ₁	Thrapston ... S.W. Counties	1	3	1	1 1/2
A ₁	Castleford ... Yorkshire	1	6	1	0 1/2	A ₁	Loughborough ... Mid. Counties	1	6	1	1 1/2	A ₁	Thurrock ... S.W. Counties	1	6	1	2
A ₁	Chatham ... S. Counties	1	5	1	0 1/2	A ₁	Luton ... E. Counties	1	6	1	2	A ₁	Tidbury ... S. Counties	1	5	1	0 1/2
A ₁	Chelmsford ... E. Counties	1	5	1	0 1/2	A ₁	Lytham ... N.W. Counties	1	6	1	2						
A ₁	Cheltenham ... S.W. Counties	1	6	1	2	A ₁	MACCLESFIELD ... N.W. Counties	1	6	1	1 1/2	A	WAKEFIELD ... Yorkshire	1	6	1	2
A ₁	Chester ... N.W. Counties	1	6	1	2	A ₁	Malden ... S. Counties	1	5	1	0 1/2	A	Walsall ... Mid. Counties	1	6	1	2
A ₁	Chesterfield ... S. Counties	1	4	1	0	A ₁	Malvern ... Mid. Counties	1	6	1	2	A ₁	Warrington ... N.W. Counties	1	6	1	1 1/2
B ₁	Chichester ... S. Counties	1	6	1	2	A ₁	Manchester ... N.W. Counties	1	6	1	2	A ₁	Watlington ... Mid. Counties	1	6	1	2
A ₁	Chorley ... N.W. Counties	1	4	1	0	A ₁	Mansfield ... S. Counties	1	4	1	0	A ₁	West Bromwich ... W. Counties	1	5	1	1 1/2
B ₁	Cirencester ... S. Counties	1	6	1	2	B ₁	Margate ... Mid. Counties	1	5	1	0 1/2	A ₁	Weston-s-Mare ... Yorkshire	1	6	1	2
A ₁	Clitheroe ... N.W. Counties	1	6														

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjust-

ment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	per hour	s. d.
Bricklayer	1 8	
Joiner	1 8	
Machinist	1 8	
Mason (Banker)	1 8	
" (Fixer)	1 9	
Plumber	1 8	
Painter	1 7	
Paperhanger	1 7	
Glazier	1 7	
Slater	1 8	
Scaffolder	1 4	
Timberman	1 4	
Navy	1 3	
General Labourer	1 3	
Lorryman	1 5	
Crane Driver	1 7	
Watchman	2 10	per week

MATERIALS

EXCAVATOR AND CONCRETOR

	per ton	£ s. d.
Grey Stone Lime	2 0	
Blue Lias Lime	1 18	
Hydrated Lime	3 0	
Portland Cement, in 4-ton lots (d/d site, including Paper Bags)	1 19	
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags)	2 5	
White Portland Cement, in 1-ton lots	8 15	
Thames Ballast	6 6	per Y.C.
Crushed Ballast	7 0	
Building Sand	7 6	
Washed Sand	8 6	
Broken Brick	8 0	
Pan Breeze	10 3	
Coke Breeze	6 6	
Coke	8 9	

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	per F.R.	s. d.
Straight Pipes	0 9	
Bends	1 6	
Taper Bends	3 6	
Rest Bends	4 3	
Single Junctions	3 6	
Double	4 9	
Straight channels	1 6	
3" Channel bends	2 9	
Channel junctions	4 6	
Channel tapers	2 9	
Yard gullies	6 9	
Interceptors	16 0	
IRON DRAINS:		
Iron drain pipe	1 6	
Bends	5 0	
Inspection bends	9 0	
Single junctions	8 9	
Double junctions	13 6	
Lead Wool	5	
Gaskin	5	

BRICKLAYER

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

MASON

	F.C.	s. d.
Pertland stone, Whitbed	4 4	
" Basebed	4 7	
Bath stone	2 10	
York stone	6 6	
" Sawed templates	7 6	
" Paving, 2"	1 8	
" " 3"	2 6	

SLATER AND TILER

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

CARPENTER AND JOINER

	per ft. run	£ s. d.
Good carcassing timber	F.C.	
Birch	as 1" F.S.	
Deal, Joiner's	5	
" 2nds	4	
Mahogany, Honduras	1 3	
" African	1 1	
" Cuban	2 6	
Oak, plain American	1 0	
" Figured	1 3	
" plain Japanese	1 5	
" Figured	1 5	
" Austrian wainscot	1 6	
" English	1 11	
Pine, Yellow	1 0	
" Oregon	4	
" British Columbian	4	
Teak, Moulmein	1 3	
" Burma	1 2	
Walnut, American	2 3	
" French	2 3	
Whitewood, American	1 1	
Deal floorings	18 6	
" 1"	1 1	
" 1 1/2"	1 2	
" 2"	1 5	
" 2 1/2"	1 10	
Deal matchings	14 0	
" 1"	15 6	
" 1 1/2"	1 4	
Rough boarding	16 0	
" 1"	18 0	
" 1 1/2"	1 6	
Plywood, per ft. sup.		
Thickness		
Qualities	A B BB	A B BB
Birch 60 x 48	4 2 1/2	5 3 2 1/2
Cheap Alder	2 1 1/2	3 2
Oregon Pine	2 1 1/2	3 2 1/2
Gaboon	4 3 1/2	5 4 1/2
Mahogany	4 3 1/2	5 4 1/2
Figured Oak	6 1 1/2	7 5 1/2
Scotch glue	7 5 1/2	10 8

SMITH AND FOUNDER

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

	per ft. run	£ s. d.
Tubes, 2'-14' long	4 5 1/2	
Pieces, 12'-23' long	10 1 1/2	
" 3'-11 1/2' long	7 9 1/2	
Long screws, 12'-23 1/2' long	11 1/3	
" 3' M-1 1/2' long	8 10 1/5	
Bends	8 11 1/2	
Springs not socketed	5 7 1/2	
Socket unions	2 1/2	
Elbows, square	10 1 1/2	
Tees	1 1/2	
Crosses	2 2/3	
Plain sockets and nipples	3 4	
Diminished sockets	4 6	
Flanges	9 1 1/4	
Caps	3 5	
Backnuts	2 3	
Iron main cocks	1 6	
" with brass plugs	4 1/2	

Discounts

	Per cent.	Galvanized gas	Per cent.
Gas	65	52 1/2	
Water	61 1/2	47 1/2	
Steam	57 1/2	43 1/2	

Fittings.

	Galvanized gas	£ s. d.
Gas	47 1/2	
Water	42 1/2	
Steam	37 1/2	
Roller steel joists cut to length	12 9	
Mild steel reinforcing rods, 1"	10 6	
" 1 1/2"	10 3	
" 2"	10 0	

SMITH AND FOUNDER—continued

	per cwt.	s. d.
Mild steel reinforcing rods, 1"	9 6	
" 1 1/2"	9 6	
" 2"	9 6	
Cast-iron rain-water pipes of ordinary thickness metal	8 10	
Shoes	2 0	
Anti-splash shoes	4 6	
Boots	3 0	
Bends	2 7	
" with access door	6 3	
Heads	4 0	
Swan-necks up to 9' offsets	3 9	
Plinth bends, 4 1/2" to 6"	3 9	
Half-round rain-water gutters of ordinary thickness metal	5 6	
Stop ends	6 6	
Angles	1 7	
Obtuse angles	2 0	
Outlets	1 9	

PLUMBER

	per cwt.	s. d.
Lead, milled sheets	25 3	
" drawn pipes	25 9	
" soil pipe	28 9	
" scrap	16 9	
Solder, plumbers'	1 0	
" fine do.	8 1/2	
Copper, sheet	4	
" tubes	6	
L.C.C. soil and waste pipes:		
Plain cast	1 0	
Coated	1 1	
Galvanized	2 0	
Holderbats	3 10	
Bends	3 9	
Shoes	2 10	
Heads	4 8	

PLASTERER

	per ton	£ s. d.
Lime, chalk	2 0	
Plaster, Coarse	2 15	
" fine	4 7	
Hydrated lime	3 0	
Sirapite	3 6	
Keene's cement	5 0	
Gothite Plaster	3 6	
Pioneer Plaster	3 6	
Thistle plaster	3 6	
Sand, washed	Y.C.	
Hair	1 6	
Laths, sawn	2 4	
" rent	3 9	
Lath nails	1 6	

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft. s. F.S.	2 1/2	
" 26 oz.	3	
Flemish, Arctic, Figures (white)*	7	
Blazoned glasses	2 6	
Reeded: Cross Reeded	11	
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwrite	6	
Crown sheet glass (n/e 12" x 10")	2 0	
Flashed opals (white and coloured)	1 0	
1/2" rough cast; rolled plate	5 1/2	
1/2" wired cast; wired rolled	9 1/2	
1/2" Georgian wired cast	11 1/2	
1/2" Polished plate, n/e 1 ft.	11 1/2	
" 2	12 1/2	
" 4	12 3/4	
" 8	12 9	
" 20	13 1	
" 45	13 3	
" 100	14 0	
Vita glass, sheet, n/e 1 ft.	1 0	
" " over 2 ft.	1 3	
" " plate, n/e 1 ft.	1 6	
" " 2 ft.	3 0	
" " 5 ft.	4 0	
" " 7 ft.	5 0	
" " 15 ft.	6 0	
" " over 15 ft.	7 6	
" Calorex" sheet 21 oz., and 32 oz.	2 6 and 3 6	
" rough cast 1/2" and 1"	8 1/2	
Putty, linseed oil	1 0	

* Colours, 1d. F.S. extra.

† Ordinary glazing quality. ‡ Selected glazing quality.

PAINTER

	per cwt.	£ s. d.
White lead in t. cwt. casks	2 8 6	
Linseed oil	2 3	
Boiled oil	2 9	
Turpentine	4 1 1/2	
Patent knotting	14 0	
Distemper washable	2 0	
" ordinary	2 0	
Whitening	4 0	
Size, double	3 0	
Copal varnish	13 0	
Flat varnish	14 0	
Outside varnish	16 0	
White enamel	15 0	
Ready mixed paint	13 6	
Brunswick black	7 6	

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

SPACE REQUIRED BY ELECTRIC SWITCHGEAR AND TRANSFORMERS.
HIGH VOLTAGE SWITCHGEAR.

It is often convenient for the Supply Authority to loop through to a new building from a ring main circuit and the High Voltage switchgear consists of a circuit breaker with an isolator unit at each side. The floor space required by this arrangement is 8'4" long x 4'7" wide, x 8'0" headroom. (Allow 5'0" extra width to enable withdrawal of circuit breaker for inspection). In congested areas the Supply Authority should be consulted at an early stage since it may require facilities for feeding out to another area and additional floor space would then be required both for High Voltage switchgear and Transformers.

TRANSFORMERS.

The approx. space occupied by transformers in regular use is given in the following table:

TABLE N°5. DIMENSIONS OF TRANSFORMERS :

SIZE OF TRANSFORMER.	LENGTH	WIDTH	HEIGHT
10 KVA.	34 "	20 "	38 "
25 "	38 "	20 "	47 "
50 "	40 "	22 "	50 "
100 "	45 "	26 "	53 "
250 "	57 "	38 "	61 "
500 "	67 "	44 "	71 "

MEDIUM VOLTAGE SWITCHGEAR

The main switchgear for the medium voltage supply (110-660 volts) usually comprises a main circuit breaker of sufficient ampere carrying capacity for the full electrical load of the building and 'feeder' circuit breakers to control the power to each section or floor.

The following table gives the approximate space required for each size of circuit breaker complete with bus-bar chamber.

The circuit breakers are usually assembled side by side to form a switchboard but if necessary circuit breakers up to 300 amperes size may be mounted in two or three tiers as shown in Figures N°s. 1, 2 & 3, Sheet N°1 of this series. Allowance should be made at the front of the switchboard for operation and maintenance.

The height of a single tier switchboard (Fig. 1. Sheet. 1.) is approximately 4'9".

The height of a double tier switchboard (Fig. 2. Sheet. 1.) would increase this dimension by the height of the largest breaker mounted on the top tier. The height of a three tier switchboard (Fig. 3. Sheet. 1.) is the sum of the heights, from the following table, of the largest breakers on each tier.

TABLE N°6. DIMENSIONS OF CIRCUIT BREAKERS :

SIZE OF CIRCUIT BREAKER	WIDTH (average)	PROJECTION	HEIGHT
20 amps.	11 "	29 "	17 "
60 "	13 "	31½ "	24½ "
100 "	16 "	34 "	27 "
200 "	22 "	37 "	37 "
300 "	22 "	37 "	37 "
600 "	26 "	40 "	57 "
1100 "	30 "	46½ "	57 "
1500 "	33½ "	50 "	57 "

No allowance has been made in the table above for ammeters which would increase the height by 4 to 5 inches up to 60 amperes and by 6 inches up to 300 amperes.

Information from George Ellison Ltd.

INFORMATION SHEET: ELECTRIC SWITCHGEAR : 3 :
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1. Oscar A. Bayne

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 415 •

ELECTRIC SWITCHGEAR

Circuit Breakers:

Number of lamps or other appliances Circuit Breakers will control when used as main switches on supply systems given :

2 WIRE SUPPLY

For circuit diagrams see Systems 1 & 3 on Sheet No. 2 of this series.

Table No. 7

Size of Circuit Breaker	No. of 100 watt lamps circuit breakers will control at Voltages (V) given below							
	V 100	V 110	V 200	V 220	V 230	V 240	V 250	V 260
20 Amp.	20	22	40	44	46	48	50	52
60 "	60	66	120	133	139	146	150	158
100 "	100	110	200	222	232	243	250	263
200 "	200	220	400	444	465	486	500	526
300 "	300	330	600	666	690	732	750	790
600 "	600	660	1200	1320	1380	1468	1500	1560
1100 "	1100	1210	2200	2420	2540	2640	2760	2860
1500 "	1500	1650	3000	3300	3450	3600	3750	3900

3 PHASE 3 WIRE SUPPLY

For circuit diagrams see System 6 on Sheet No. 2.

Table No. 8

Size of Circuit Breaker	No. of 100 watt lamps circuit breakers will control at Voltages (V) given below							
	V 100	V 110	V 200	V 220	V 230	V 240	V 250	V 260
20 Amp.	34	38	69	77	80	84	86	91
60 "	104	114	208	230	240	253	260	273
100 "	173	190	346	384	402	421	434	456
200 "	346	380	692	768	804	842	868	912
300 "	520	572	1030	1150	1195	1268	1300	1368
600 "	1040	1144	2060	2300	2390	2536	2600	2736
1100 "	1920	2100	3800	4200	4410	4650	4760	5000
1500 "	2601	2862	5196	5769	6030	6336	6492	6810

3 PHASE 4 WIRE SUPPLY

(load balanced between phase & neutral)

For circuit diagrams see System 7 on Sheet No. 2.

Table No. 9

Size of Circuit Breaker	No. of 100 watt lamps circuit breakers will control at Voltage (P.V.) phase and neutral.				
	P.V.110	P.V.220	P.V.230	P.V.240	P.V.250
20 Amp.	...	66	89	139	145
60 "	...	198	399	417	438
100 "	...	330	666	696	729
200 "	...	660	1,332	1,395	1,458
300 "	...	990	1,998	2,070	2,196
600 "	...	1,980	3,996	4,140	4,392
1100 "	...	3,620	7,310	7,650	8,070
1500 "	...	4,950	9,900	10,440	11,250

Other Ratings of Lamps or Appliances :

Number of lamps or appliances of other ratings which can be fed through a given circuit breaker may be calculated thus :

$$\left\{ \begin{array}{l} \text{No. of 100 watt lamps} \\ \text{which can be fed through} \\ \text{breaker at a given voltage} \\ \text{(from tables).} \end{array} \right\} \times \left\{ \begin{array}{l} 100 \\ \text{rating of lamps or} \\ \text{appliances in watts.} \end{array} \right\}$$

e.g.—No. of 750 watt heaters which can be fed through a 300 amp. circuit breaker at 250 volts on a 3 phase 4 wire supply.

$$\frac{2250 \times 100}{750} = 300 \text{ heaters}$$

Transformers :

Number of lamps and other appliances which can be supplied by a 100 kVA transformer.

Table No. 10

Lamps		Other Appliances	
Rating of lamp in watts	No. of lamps that can be supplied	Rating of appliances	No. of appliances that can be fed
15	6660		
25	4000	600 watts	160
40	2500	750 "	130
60	1660	1 kilowatt	100
75	1330	2 "	50
100	1000	3 "	30
150	660	4 "	20
200	500	5 "	20
300	330		
500	200		
1000	100		

Number of lamps or appliances of other ratings which can be supplied by a given transformer may be calculated thus :

$$\frac{\text{kVA of transformer}}{\text{Wattage of apparatus}}$$

if all the appliances have a P.F. of 1.0

Sizes of Transformers :

The sizes of transformers, the output of which can be controlled by standard size CIRCUIT BREAKERS, are given in the following table, for 400 volt, 3 phase, 50 cycle supplies only.

Table No. 11

Size of Transformer kVA.	Current to be Controlled	Size of Circuit Breaker required
350	505 amps	600 amp.
400	578 "	600 amp.
500	722 "	1100 "
700	1012 "	1100 "
750	1085 "	1100 "
1000	1450 "	1500 "

The full load current of transformers at any other 3 phase voltage may be calculated with the aid of the following formula and thus the appropriate size of circuit breaker can be chosen.

$$\text{Current} = \frac{\text{kVA of transformer}}{\text{voltage} \times \sqrt{3}}$$

Previous Sheets :

Sheets already published in this series are Nos. 411 and 414.

Name of Switchgear Manufacturers : George Ellison, Limited
Address : Perry Barr, Birmingham, 20
Telephone : Birchfields 4562

TH

L

T

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

h

INF
SIR

IN

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

LLOYD SUPER-HARDBOARD : SHUTTERING AND FLOORING :
TABLE GIVING SIZES, ETC :

THICKNESS.	WIDTH.	LENGTH.	COLOUR.
$\frac{1}{8}$ Inch.	5 Feet.	8 Feet and 16 Feet.	Dark brown with lighter mottling.

SURFACE :

Super-hardboard has a highly finished grainless and even-wearing surface upon which heavy furniture will not make indentations. The material may be washed, scrubbed or wax polished in the usual way.

 $\frac{1}{8}$ " SUPER-HARDBOARD

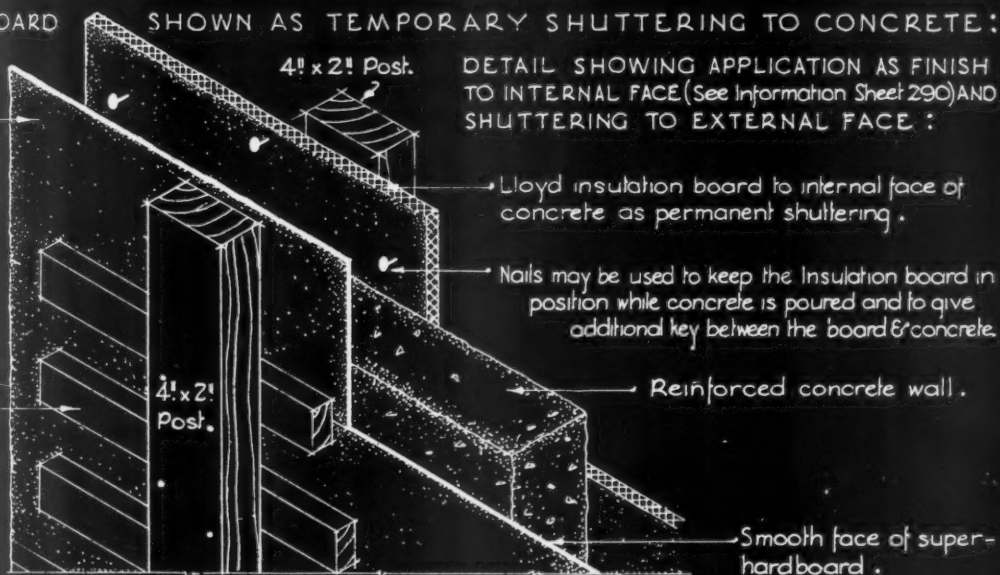
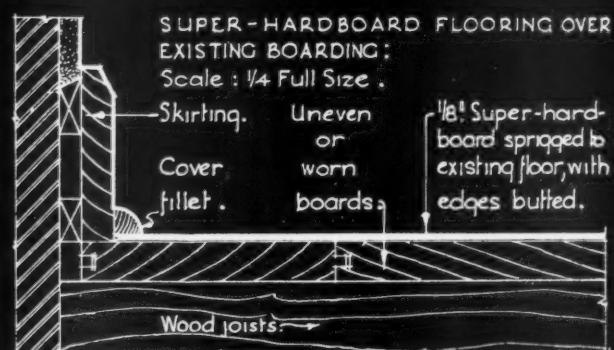
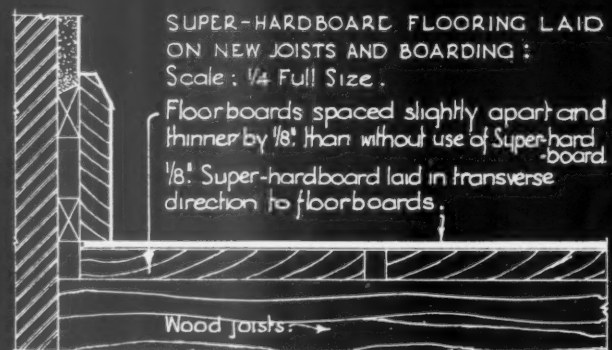
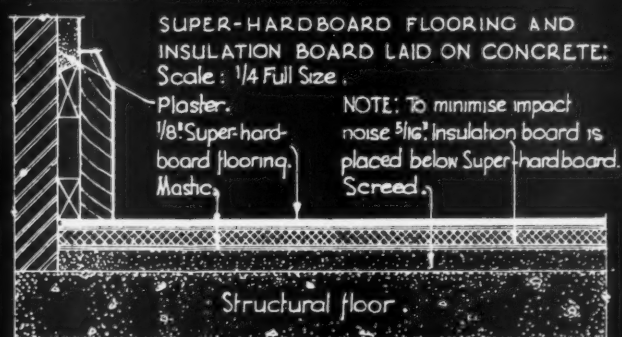
SHOWN AS TEMPORARY SHUTTERING TO CONCRETE :

Lloyd $\frac{1}{8}$ " Super-hardboard as temporary shuttering to external face of concrete.

Smooth face of Super-hardboard to be greased before the concrete is poured to prevent adhesion.

2"x1" Wood centering.

All edges of the shuttering should be tightly butted and even, and all vertical and horizontal joints to be plumb.

 $\frac{1}{8}$ " SUPER-HARDBOARD USED AS A FLOOR COVERING :

Information from Edward Lloyd Wallboards Ltd.

INFORMATION SHEET : LLOYD SUPER-HARDBOARD SHUTTERING AND FLOORING.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WCI. *Given A. Bayne*

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 416 •

INSULATING BOARD

Product : Lloyd $\frac{1}{8}$ -in. Super Hardboard.

This is the fifth of a series of Sheets dealing with the uses of Lloyd Insulation Board and Hardboards in building work.

Lloyd $\frac{1}{8}$ -in. Super Hardboard :

Is made from tough wood fibre in conjunction with appropriate chemicals, compressed into tough, durable board.

Surface :

The surface of this board is smooth and grainless, and will not indent under uneven pressure. It is capable of withstanding repeated washings and scrubbing and may be French polished, wax polished, painted, or stained if so desired.

Floors :

As shown overleaf, Super Hardboard may be applied to either new or existing wood or concrete floors, with or without the interposition of a sound-deadener. The material is similar to linoleum in its laying, being obtainable in lengths up to 16 ft. by 5 ft. wide. The edges are butted and sprigged, if on a wood foundation, while on a concrete or screed base the boards may be laid in mastic. At skirtings the edges may be tucked under or cover-filleted.

The mastic is mixed into a creamy consistency and spread upon the floor with a trowel or float similar to cement screeding. The Super Hardboard is then treated with a Flexine

liquid on its back, laid upon the mastic, and weighted along the exposed edges, to keep it firm until the mastic has had time to become fairly solid. This occurs in about 20 minutes. When large sheets are laid, it is preferable to leave the mastic to dry a little longer than this. Sufficient mastic is put down to bed one sheet at a time. When the first sheet is adjusted, the mastic is spread for the second, which is butted to the first and weighted in the same way. If small sheets of Super Hardboard are used, such as 5 ft. by 4 ft., the mastic can be laid for two boards, the boards then embedded butting, and the weights put over the joint. This is preferable to their being done separately since weights common to both boards tend to keep the edges in the same plane. Tiles, strips and various patterns may also be made up.

Another method is to lay upon Flexine mastic, Lloyd $\frac{1}{16}$ -in. Insulating Board, as shown, then the mastic is used on the Insulating Board to lay the Super Hardboard in the same way as described for laying direct to the concrete. The mastic for this purpose can be thinned down considerably.

Shuttering :

Used as external temporary shuttering to concrete, the face of the board should be greased before the mass is poured, to prevent adhesion. Individual boards may be re-used as required. Nails are occasionally used to give an additional key between board and concrete, but these have, in practice, proved to be unnecessary.

Previous Sheets :

Previous Sheets of this series were Nos. 302, 316, 336 and 374.

Manufacturers : Edward Lloyd Wallboards,
Ltd.

Address : Shell-Mex House, Strand,
W.C.2

Telephone : Temple Bar 9221

TH

D

O

3/

d

W

lo

I'

sr

se

S

M

V

T

o

T

L

S

P

A

h

M

F

M

I

3

A

u

C

W

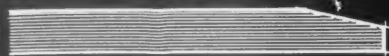
IN
SIR

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

DETAILS SHOWING THE WORKING OF PLATE GLASS :

• BEVELLING •

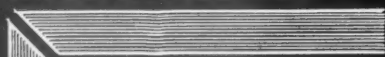
Widths of bevel
ORDINARY BEVEL: $\frac{1}{4}$ " to 3"



$\frac{3}{4}$ " to $1\frac{1}{4}$ " are normal widths for wardrobe doors & plates generally to 15'0" super.
 $1\frac{1}{2}$ " is normal width for big cafe mirrors and large plates generally.
1" to 2" are normal widths for Clear Glass small sizes for decorative door panels etc.; sometimes bevelled both sides.

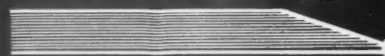
SPECIAL VARIETIES :

MITRE BEVELLING :



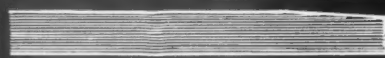
Mechanically produced to give a close fitting joint. For frameless built-jointed shop fronts, specify a smooth finish & a polished finish for column mirrors.

FEATHER EDGE OR STEEP BEVEL :



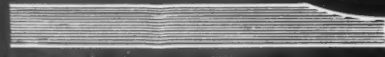
A sharp inclined bevel for decorative purposes.

VAUXHALL BEVEL :



The bevel is very slight & has no clearly defined edge. Used to give antique effect.

THUMB OR FLUTED BEVEL :



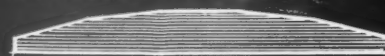
SECTION :



PLAN :

A decorative form done on a Brilliant Cutting Wheel & gives a pie-crust effect. Maximum economic size 10'0" super.

FIVE FACET BEVEL :



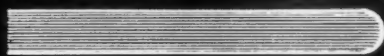
MAXIMUM SIZES: (Rectangular panels.)
 $1\frac{1}{4}$ " to $3\frac{1}{2}$ " Wide, up to 42" long.
 $3\frac{1}{2}$ " to 6" " " " " 80"

A decoration for strips of glass forming borders to mirror surrounds, etc. Can be done in shapes as well as straight work. Especially effective in coloured plate glass.

• POLISHED EDGES •

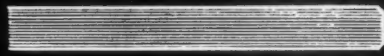
TYPES OF EDGE FINISH :

ROUND EDGE :



Maximum suitable size,
: 100' x 100'

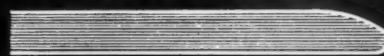
FLAT EDGE :



Maximum suitable size.

{	130' x 90'
	120' x 100'

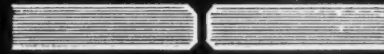
THUMB OR BULLNOSE EDGE :



Maximum suitable size,

80' x 24'	{ Extra charge on price of Flat or Round Polishing.
60' x 30'	

BUTT JOINT WITH POLISHED ARRIS :



For sectional mirrors, etc.

TREATMENT OF EDGES :

1. ARRISING :

The sharpness is taken off to make plate safe for handling.

2. GRINDING :

Edge ground to a level surface with a smooth but obscure finish. This is satisfactory when edge is covered by a bead or sunk in an opening. If exposed it takes on a dirty appearance.

3. POLISHING :

Ground edges to frameless mirrors, shelves, furniture tops, etc., are finished with a polish to give a permanent, shiny transparent appearance.

• DRILLING •

The standard hole for fixing splashbacks, mirrors, etc., is $\frac{1}{4}$ " diameter. The most economical drilling is a $\frac{1}{4}$ " dia. hole on a $\frac{1}{4}$ " thick plate of 48" maximum length, & up to 5'0" super.

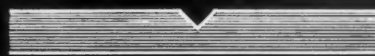
Square holes are inadvisable as they have to be cut out & edges filed. This is not economical & weakens the plate. Square holes in mirrors should be covered with metal plates to obscure the filed edge.

For further notes on drilling to glass exceeding above economical sizes, see reverse side of this sheet.

• BRILLIANT CUTTING •

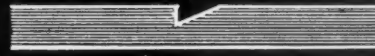
TYPES OF LINE CUT :

'V'-CUT :



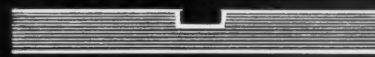
Standard & most usual type for straight lines. Usually $\frac{3}{16}$ " wide.

EDGE CUT :



Preferably for intricate designs, scroll work, sharp curves, etc.

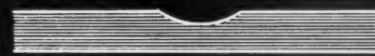
PANEL CUT :



Used for straight line work only. Standard width $\frac{1}{4}$ ". Also obtainable in $\frac{1}{8}$ " & $\frac{3}{8}$ " widths.

SPECIAL TREATMENTS :

ROUND PUNT :

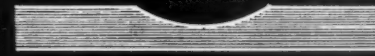


SECTION :

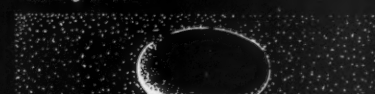


PLAN : Maximum size 2" diameter.

HOLLOW OR OVAL PUNT :

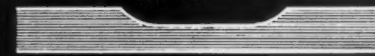
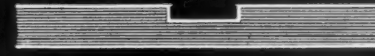


SECTION :

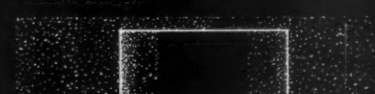


PLAN : $\frac{1}{2}$ " to $\frac{3}{4}$ " wide, & up to 4" long.

FINGER CRIPS :



SECTIONS :



PLAN : Standard size, $\frac{3}{4}$ " x $2\frac{1}{2}$ ". Also in $\frac{1}{2}$ ", $\frac{7}{8}$ " & 1" widths, & up to 3" long.

Information from James Clark & Son Ltd.

INFORMATION SHEET : VARIOUS TYPES OF WORKED FINISHES TO PLATE GLASS :
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C1. *Stan A. Bayne.*

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 417 •

WORK ON GLASS

This Sheet sets out with diagrams and notes the various types of finishes and decorations used with plate glass.

The following paragraphs deal with some of these points more fully.

The Working of Plate Glass :

Bevelling

A bevel less than $\frac{1}{4}$ " in width is usually known as a polished arris.

Sizes.—Sheets can be bevelled by machine up to 144" x 100".

Cost.—The cost of bevelling varies with the width of the bevel, the size of the sheet, and whether the bevelling is straight or curved work. Generally the most economical is a bevel from $\frac{1}{4}$ " to $\frac{3}{8}$ " in width on straight edges; circles, ovals, rounded corners, mitred angles, scallops and curved work are always more expensive than straight work.

Brilliant cutting

Brilliant cut work consists of V-shaped grooves of varying width and depth, cut in the surface of the glass to form lines, patterns, stars or other devices.

Variations in effect are obtained by varying the width and depth of the groove and by leaving the cut unpolished or by polishing it. An unpolished groove has a smooth "ground glass" appearance.

Mirrors may be brilliant cut on the face, or on the back before silvering. Cutting on the face is preferable in all cases, as cutting on the back is liable to cause apparent defects in the silvering.

Drilling

Cost.—The cost of drilling increases when (a) the hole exceeds $\frac{1}{2}$ " diameter (6" is maximum diameter); (b) being countersunk; (c) in glass exceeding $\frac{1}{8}$ " thickness; (d) in plates exceeding 5' super and 48" long; (e) in opaque glass.

Surface Finishes to Plate Glass :

Silvering :

Any type of glass may be silvered in whole or in part, on a polished surface or on a rough glass surface. It is from variations of silvering that much decorative glass work is built up; additional decorative effect may be obtained by silvering glass with decorative pattern work already applied to one side.

Qualities of plate glass on which silver is applied

S.G. and S.Q. are qualities of which the former is the standard grade and certain defects have to be admitted, the latter being a specially selected grade for higher-class work at a higher price.

Planimetrie is the quality used where true reflection is required. The plate is specially manufactured with tested parallel surfaces and freedom from wave. Each specification has to be separately considered and quoted for, as prices are prohibitive for most purposes.

The silvering process consists of depositing on the glass a very fine film of tin, followed by a similar but

heavier film of silver, which is in turn covered by a protective coating of paint, composition, or lead foil.

Varieties of silvering

Pewter silvering. As the name implies, this process gives a duller effect more like gun-metal than silver; it is usually a little more expensive than silvering.

Antique silvering. This is a silvering process especially treated so that the mirror effect obtained will match mirrors with old type mercury backings and other out-of-date processes.

Venetian striping. This process is one of silvering sheets of glass in the usual way and then removing strips of the silvering about $\frac{1}{4}$ " wide and $1\frac{1}{4}$ " apart. Glass silvered in this way is commonly used for doors or partitions. The effect is transparent from the back of the mirror, but opaque when viewed from the front.

Gilded mirrors. Gilded mirrors are produced in similar way to silvered mirrors, but the process is somewhat more difficult and more expensive.

Acid Embossing :

Acid can be applied to any glass, clear or obscured, over the whole face or in a pattern design. The resulting acid surface may be of fine or coarse texture as required; it gives a translucent milky finish which can be easily kept clean.

Varieties of acid embossing

Single acid embossing is the name given to a white acid pattern or design on a clear glass field.

Single embossing and grinding. A design or pattern in line giving a semi-transparent effect on an entirely frosted surface.

Double embossing. A combination of two acid tones, used in any design, and commonly termed white and satin finish. In this treatment the plate may also be left partially clear.

Treble or french embossing. A similar treatment but using three acid tones; in this work emphasis is usually obtained by using "Brights," or thin transparent lines.

Stipple or glacine embossing. This is a stippled acid treatment which can be produced with a fine, medium, or coarse texture, and can be finished bright or satin obscured.

Lettering. Lettering on every type of embossing is usually carried out in gold, either burnished or matt, but any colour paint may be used.

Sandblasting :

Surface or matt finish. This process does not bite deeply into the glass but scores the surface sufficiently to produce a frosted effect. It may be carried out over the whole surface, or in lines and patterns, shapes, figures, etc.

A sandblasted surface is usually required as a base for sprayed paint finishes, etc., as used in electric light fittings and similar purposes.

Deep or grave finish. In this process the sandblasting bites deep into the glass, the variations in depth giving a moulded effect where required.

On $\frac{1}{4}$ " plate glass depths of $\frac{1}{32}$ " to $\frac{1}{16}$ " and $\frac{1}{16}$ " to $\frac{3}{32}$ " are used. If greater depths and greater variety of moulding are required, it is essential to use a thicker glass.

Blast cutting. The sandblast process is also used to cut special shaped holes or designs right through the glass, to cut unusual shaped edges and for a variety of special purposes.

Issued by : James Clark & Son, Limited.
Telephone : Waterloo 4611
Address : Blackfriars, London, S.E.1
Branches : Canterbury, Bournemouth, Eastbourne