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# THE ARCHITECTS'



## JOURNAL

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

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OPENED LAST MONDAY  
H. M. V. SHOWROOMS, OXFORD STREET, W.1



*The new H.M.V. Showrooms, designed by Mr. Joseph Emberton, were opened by Sir Thomas Beecham on Monday last. The photograph is taken looking down the staircase well from the second floor landing towards the main staircase leading to the ground floor. Further views of the showrooms appear on pages 763-767.*

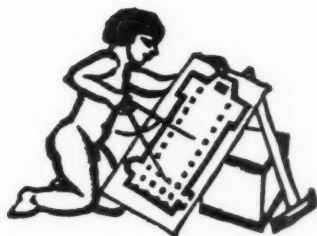


## THE FRANK LLOYD WRIGHTS

Today, at 8.30, Mr. Frank Lloyd Wright will give his final lecture at the R.I.B.A. as the Sir George Watson Lecturer of the Sulgrave Manor Board for

1939. The photographs, taken at their London hotel on the day of their arrival, show Mr. and Mrs. Frank Lloyd Wright and their daughter Iovanna.





## FRANK LLOYD WRIGHT

**B**Y the time this JOURNAL appears the third of the four Sulgrave Manor sermons—for sermons they are, being concerned with architecture by way of nature and the art of living—will have been delivered by Frank Lloyd Wright at the R.I.B.A. At the evening meeting last Friday the audience overflowed into the aisles. The white-haired prophet was in form, disciples and disbelievers spellbound by his natural dignity, his obvious sincerity, his easy manner—or rather, his lack of anything so superficial as a manner. He has an irresistibly persuasive voice, mellow, smooth-flowing.

Frank Lloyd Wright is nothing if not American. But far from typically American, of course, if such a state of being exists. We are apt to forget, because of the tie of language, that Americans are “foreigners.” Americans have an idiom not only in the expression of their speech but in the expression of their being. They have no taboos, for instance, about communicating what might be termed a nature-experience: they don’t mind, most of them, admitting to a romantic reflex if they feel that way. We do. When Frank Lloyd Wright tells us he was born in the prairie, “out in the long grasses,” we shift uneasily in our seats. When he talks of a building growing “out of the earth into the light” we get slightly clammy. But he gets away with it, for the good reason that he believes it and lives it. His lyrical philosophy, with its robust American tang, comes out full strength in his buildings. He remains the Walt Whitman of architecture. An individualist.

We are inclined to sneer at the romantic element in architecture at the moment. But we need to watch out. We cannot, for our good, banish this element from our natural experience. Neither, alas, can we manufacture it.

The intensely metropolitanized environment of England tends to develop in us dangerously superficial intellectualities. Even sociological problems, which have inspired so much English work in recent years, now are kept wrapped up in intellectual cellophane. We are getting numb. We don’t know the real feel of the goods. We must learn to *feel* again, as well as to argue.

Frank Lloyd Wright has come along just at the right moment. The romantic factor needed re-emphasizing. (Or, if that word is still too dangerous, the *intuitive* element.) Frank Lloyd Wright is administering, if he’ll forgive British crudity, a strong and necessary dose of salts. Perhaps he yet can save English progressives from a new stylistic constipation.

The influence of Wright’s work on European architects was described in the JOURNAL last week by Nikolaus Pevsner. Though his monographs have been well known and well studied in the schools for many years, England, lagging behind architecturally as usual, has taken a short cut and has arrived, very late, by way of Gropius and Le Corbusier rather than Wright. Consequently, having missed most of the earlier experience, she is now in danger of backsliding

to another eclecticism, a stylism—a fifty-eighth variety, as Wright put it, for the architectural garbage heap. Wright, of course, accuses Le Corbusier of being a stylist, creating a new æsthetic—superficial, inorganic.

America, as is well known, has been even less directly influenced by Wright than has England. America has developed what she chooses to call the international *style* second-hand from Europe, and the best of her contemporary buildings certainly have no trace of an indigenous character—one of the essential ingredients of Wright’s inspired work, whether in prairie, desert or suburb.

The latest phase of Wright’s work—the “House on the Mesa” project, the houses designed for “Broadacre City,” the executed house called “Falling Water”—shows his line of development converging with that which originated in Europe. The line *converges*, having never crossed. For through all the fifty years of pioneering, Wright has progressed alone. Originator of the “free plan” principle and the idea of “bringing the garden into the house,” Wright nevertheless in his earlier phase designed essentially in mass rather than in volume. Now, though he still clings to his “of the earth” idea, his work shows more of the quality of lightness and space.

To most of us, this labouring the “of the earth” idea is a weakness. Today, when so many building materials are synthetic, the natural effect of most buildings must be to *contrast* with their terrain, not to grow out of it. Is there not something to be said for the idea (equally romantic?) of a light and graceful building, poised on the earth like a visiting seagull?

But he will be remembered for at least two fundamental innovations, both of which we still talk about today as if we had just invented them ourselves. One was the garden-into-house idea, the free plan; the other, consistent with it in the wider field of regional planning, was the decentralization principle, which he began to preach as soon as the motor-car assumed social significance. Later he developed it in his book “The Disappearing City.”

His latest development of this theme, the famous model of Broadacre City made by the Taliesin Fellowship in their Arizona encampment, somewhat overstates the case for decentralization. (It is planned on the basis of one acre to every family, so making every man an amateur agriculturist.) Broadacre City is not so well balanced sociologically as the Berkshire project of our own School of Planning. Nevertheless, in the realm of regional planning, Wright, walking again his own path alone, begins to converge with the newly developing “geotechnic” school of thought so ably propounded by Lewis Mumford.

So, after many tireless years of preaching, words and deeds, to the heathen, Frank Lloyd Wright should feel that at last he has gained disciples. To us in England he brings not merely a warning but a fresh line of thought—even to the youngest of us who thought we were way ahead of the times.



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## N O T E S & T O P I C S

### RESERVATION

**T**HE question "Reserved or Unreserved?" took a new turn this week. The R.I.B.A. has announced that strong recommendations have been made to the Government that architects over 30 should be reserved again, and a quick decision is hoped for.

We will all hope for it—for this matter is becoming a mild nightmare. Last September a good many architects took the first steps in offering their own services—for instance, in the Supplementary Reserve for the Royal Engineers. With the announcement of the National Register scheme (an obviously more businesslike method) they ceased their efforts. Now the Supplementary Reserve is full and architects are no nearer knowing where they will be needed.

What is more, we ought to realize that the mere reservation of architects over 30 will get us nowhere. What we ought to aim at is *allocation* of architects to different jobs according to age and qualifications. It is absurd to maintain that this cannot be done.

For example, an L.C.C. architect has been put in charge of Rescue and Demolition services for the London Area. Each section of this area will need a skeleton organization established of architects, engineers and builders; and it must be possible to calculate *roughly* how many additional architects will be needed for this service, to allocate suitable men and even enable them to get some training. The 100, or 500, needed would jump at the chance.

Every architect ought to insist, and go on insisting, that this and similar preparations are begun at once. Without these the National Register may be entirely waste paper for the first three months of war.

### WORLD OF TOMORROW

While the New York World's Fair, the "World of

Tomorrow," is busy "interpreting the metropolis to the nation," America's greatest architect, Frank Lloyd Wright is over here telling us that the metropolis is an "exaggeration, a gross imposition on our lives . . . a menace to life."

Perhaps because of these views Frank Lloyd Wright has not been asked to design a building in the Fair. This time even a protest meeting on his behalf, like the one led by Alexander Woolcot and Lewis Mumford before the Chicago Fair, did not take place.

We have heard rumours of several good buildings at the Fair, but the newscuttings have not so far found time to tell us about them among attractions so sensational that no previously known words would cover them. "Democracy" is studded with Trylons and Perispheres, slides on Heliclones and splashes in Aquacades. An Immortal Well (protected from immortal expectoration by plate glass) has a Time Capsule fifty feet below ground; and the Drugstore of Tomorrow serves 300,000 stream-lined ice cream sodas in the Hall of Pharmacy. . . .

So far Frank Lloyd Wright seems well out of it.

### INFORMAL ENQUIRY

The Chewdor on the Mould enquiry at the R.I.B.A. on May 3 managed to be exactly what was intended—a *practice* enquiry.

The participants in this affair (in which Miss Margaret Low appealed against the disapproval of her designs for a timber house by the Chewdor R.D.C.) had had just the drilling in their evidence which they would have had in a real enquiry—no more and no less. And the occasional wrong replies gave a verisimilitude which no rehearsal could achieve and kept a full house interested from 6.35 till 8.40: a great feat.

Mr. Carter and Mr. Richards (solicitors who gave much time to preparing their cases) earned a special mention—Mr. Carter for his recovery after addressing Expert Witness Raymond Mars (Mr. John Summerson) as Mr. Raymond Mortimer; Mr. Richards for a concluding address for the Council which was quiet, reasoned, convincing, and magnificently devoid of wisecracks.

And there was Interrupter No. 1 who had to be ejected, protesting. Believed by everyone (including the organizers) to have been planted, he turned out in the end to be unknown to all. A rumour is going round that he was a Ministry of Health Inspector determined to get some of his own back at last.

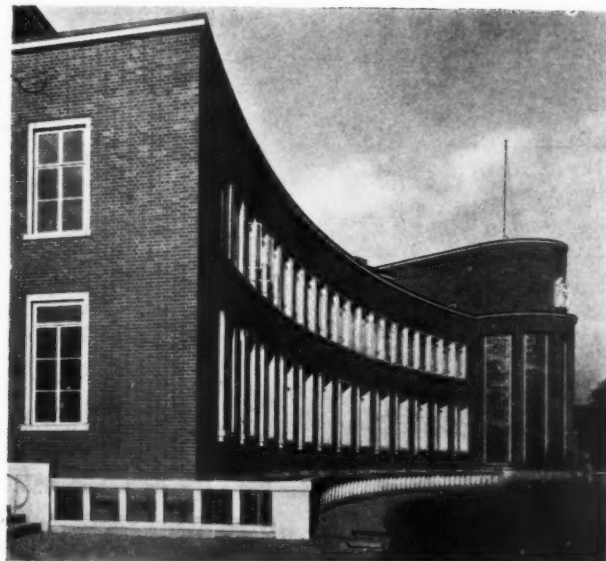
### ARTS AND CRAFTS GO PLACES

The Camberley (Surrey) Arts and Crafts Society holds annual exhibitions of local talent—exhibitions much more lively and enterprising than most. This year some of its perennial visitors must have blinked, goggled and pinched themselves to make sure it wasn't all a dream.

A large part of the exhibition was given over to a lively exhibit of modern domestic architecture—furnishings,



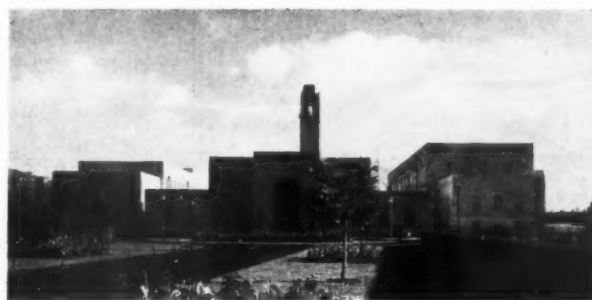
Chosen by Mr. J. Lees-Milne—Imperial Airways Headquarters, by A. Lakeman.



Chosen by Mr. James Bone—Metropolitan Water Board Offices, by Stanley Hall and Easton and Robertson.

1. R.I.B.A. President Goodhart-Rendel demanded a vigilance committee to vet designs for important buildings. 2. Astragal said committee consisting of whom? Architects ineligible; live-wire laymen, such as Georgian Group? 3. Georgian Group chairman Lord Derwent said difficult to vet modern buildings until some sort of standard established. He would accept for standard: B.B.C., Imperial Airways, Scarborough Hospital, Radio City, Battersea Power Station, Underground Building, R.A.F. aerodromes. 4. Astragal, puzzled, said: would this standard satisfy other eminent laymen. Decided to find out. Invited readers to nominate for vigilance committee laymen in whom they would have confidence. 5. readers sent in names of 61 men, 2 women. 6. A.J. Editor, at Astragal's request, asked above 63 for six recent buildings they approved of.

First of all, any enquiry of this sort invariably re-  
spondence



Also chosen by Mr. Lees-Milne—Swansea Civic Centre, by Ivor Jones and Percy Thomas.

fabrics, tools and such: an exhibition of the "Art of Living." Some of it is illustrated on page 760.

The show was well done (I believe one of the residents comes from that hot-bed of curious inventions in Bedford Square) and, what is more, Camberley greeted the venture with enthusiasm. "The innovations were triumphantly justified," said one local paper.

#### VIGILANCE COMMITTEE

This looks like being almost the final instalment of my serial story of the taste above stairs. The response, I may say at this stage, has been magnificent. The editor wrote on my behalf to 63 people. Including the new lists given this week, I have been able to print 33 definite lists besides a number of remarks and suggestions from people who did not feel like committing themselves to six buildings they really admired.

New lists for this week are:

From James Bone (of the *Manchester Guardian*), who writes:

"I think it was an admirable and practical idea to let us, the more or less instructed lay public, put before professional opinion the buildings we thought of greatest architectural merit. I shall confine my list to London and district buildings and to different kinds of buildings, by which our age is most likely to be judged by posterity. For that reason I have not included buildings which seem to me the beginning of something that will soon be much better done. It has been, I think, to many of us a consoling reflection—when so many memorable buildings

have gone—that anything so first-rate as the new London University buildings should have been done in our time."

Mr. Bone gives:

London University (by Charles Holden), Battersea Power Station (by Sir G. G. Scott, Dr. Pearce and others), R.I.B.A. building (by G. Grey Wornum), the Metropolitan Water Board's new offices (by Stanley Hall, Easton and Robertson), a church by A. W. Kenyon, near Wembley, and the "Comet" Inn, Hatfield (by E. B. Musman).

From J. Lees-Milne (of the National Trust):

Imperial Airways Terminus, Victoria (by A. Lakeman), Battersea Power Station, Swansea civic buildings (by Ivor Jones and Percy Thomas), the Underground building, Arncliffe Grove Underground Station (S. A. Heaps and Adams, Holden and Pearson), and Peter Jones store. To these he adds mention of the new L.P.T.B. bus shelters.

To the above lists I must add a postscript to the list sent in by Mr. Peter Fleetwood-Hesketh, which was printed some weeks ago. He now sends another letter asking that Edward Armstrong's flats at Brixton ("Loughborough Court") be added to his list, and still another to say that the factory near Harrow which he mentioned in his letter (see this page, April 20), is called "Collars, Ltd.," and that the house he liked was at Great Crosby, Lancs, not at Formby; also that he has recently driven down the Great West Road, which made him pray for an air-raid.

ASTRAGAL



## NEWS

POINTS FROM  
THIS ISSUE

Conditions are now available for the competition for new offices and departmental buildings, Oldham. . . 761

Strutted basements do not fulfil any one of the three fundamental conditions on which the safety of shelters depends. . . 762

Over 70 per cent. of U.S. families earn less than \$2,000 a year. . . 787

## NATIONAL SERVICE

The R.I.B.A. has issued the following statement concerning architects and National Service:—

Members of the R.I.B.A. will no doubt have noticed that a recent decision of the Government on the Schedule of Reserved Occupations had the effect of allowing architects of any age to volunteer for the armed forces in peace time.

The Architecture and Public Utilities Committee, which is advising the Government as regards the position of architects and surveyors on the Central Register, has made strong representations as to the undesirability of allowing this decision to stand, and has expressed the view that architects should be reinstated in the Schedule with an age limit of 30. Reinstatement would mean that architects of the age of 30 or above, though restricted generally from volunteering for the armed forces in peace time, would still be free to offer themselves (a) for whole-time service in war in their professional capacity, or (b) for A.R.P. service at their place of employment or any other service which will be only part-time in war, but it should be made clear to the service concerned that work in their professional capacity will have first claim upon their services in war time. Architects under the age of 30 would continue to be free to volunteer for the armed forces or for any other form of National Service.

The R.I.B.A. representatives have received an official assurance that their representations are under most urgent consideration, and that a decision will be reached at an early date.

THE  
ARCHITECTS'  
DIARY

## Thursday, May 11

SULGRAVE MANOR BOARD'S WATSON LECTURES. At the R.I.B.A., 66 Portland Place, W.1. Last of four lectures on "Organic Architecture: the Idea, the Movement, the Scene at Present and the Future," by Frank Lloyd Wright. 8.30 p.m.

BUILDING CENTRE, 158 New Bond Street, W.1. Novelty Exhibition; also, exhibition of photographs and drawings of the work of Frank Lloyd Wright. Until May 20.

SCHOOL OF ARTS AND CRAFTS, Birmingham. At the Museum and Art Gallery. Exhibition of Students' Work. Until May 20.

SOCIETY OF ANTIQUARIES, Burlington House, W.1. "Prehistoric Cilticia." By Professor John Garstang. 8.30 p.m.

## Friday, May 12

TOWN PLANNING INSTITUTE. Twentieth Annual Meeting. At Leeds. Until May 14. Today, at the City Museum, Park Row. "Planning in Leeds." By J. E. Acfield. "Housing in Leeds." By R. A. H. Livett. 8 p.m. May 13 and 14: Visits.

## Saturday, May 13

LONDON SOCIETY. Visit to Fulham Palace, S.W.6. 2.30 p.m.

## Tuesday, May 16

HOUSING CENTRE, 13 Suffolk Street, S.W.1. "Maisonnets." By Eugen Kaufmann. 1 p.m.

CHADWICK TRUST. At 66 Portland Place, W.1. "Comparative Study of the Housing of the Working Classes." By G. H. Henderson.

## Wednesday, May 17

BUILDING CENTRE, 158 New Bond Street, W.1. "Building Materials and Equipment: Heating and Ventilating Equipment." By W. Topp. 5.30 p.m.

## ON THE AIR

The B.B.C. announces that the following broadcasts will shortly be included in the programmes:—

"Built to Last": West: May 17.—John Betjeman will give the third talk in the "Built to Last" series on May 17, when he will deal with the preservation of buildings of outstanding historical or architectural interest in Plymouth. The talk will be repeated in the Regional programme on May 20.

"Ancient Monuments": Wales: May 19.—Lord Harlech, President of the National Museum of Wales and former First Commissioner of Works, will give a talk on May 19 on the "Ancient Monuments of North Wales." When Lord Harlech was at the Office of Works no part of his duties interested him more than the administration of the Ancient Monuments department of that office. He wrote and published three volumes of regional guides to the Monuments of England. Since he retired from the Cabinet, he has found time to write a fourth volume in this series dealing with the Monuments of North Wales, to be published shortly by His Majesty's Stationery Office.

In his broadcast, Lord Harlech will deal in outline with the most important of these—beginning with the megalithic tombs of Anglesey erected by the Iberian colonists of Wales about four thousand years ago.

Talks by a Plasterer: North: May 22.—Starting on May 22, three talks are to be given in successive weeks in the "Slices of Life" series by a young Lancashire workman, a plasterer named Charles Holland, himself a most interesting talker by broadcasts in the Children's Hour. There is nothing of the "practical hints on plastering a wall" line about Holland's broadcasting; his is an inconsequent, philosophic style rather after the manner of John Hilton. He will probably speak about some of his mates and their ways; about the joys of doing a good job of work; about the questions children have asked him as they have watched him at his plastering; or, say, about how to get a heavy builders' lorry out of a boggy ditch.

The Ancient Monuments of South Wales: Wales: May 24.—Sir Cyril Fox, Director of the National Museum of Wales, will give a talk on May 24 on "The Ancient Monuments of South Wales."

"The House and the Man": West: May 24: and National, May 25.—In a talk in the series "The House and the Man," describing eminent people against the background of their own homes, an account will be given of "Mrs. Percy Wyndham at Clouds House," by Edith Olivier in the Western programme on May 24 and in the National on May 25.

## BAGGY POINT, NORTH DEVON

The Misses Constance and Florence Hyde have presented to the National Trust the whole of Baggy Point, North Devon, a property some 240 acres in extent, including agricultural land, the income from which will be available for the proper upkeep of the property.

Baggy Point forms the southern arm of Morte Bay in North Devon and is a bold headland which is the principal feature in the view from the northern arm of the Bay, Morte Point, which was presented to the Trust by Miss Chichester, who also presented Potters Hill in the middle of the Bay, and gave covenants for the protection of further coastland.

On the other side, Baggy Point looks across Barnstaple Bay to the Trust properties at Kipling Tors and Clovelly, with Hartland Point in the distance beyond.

## NEWS IN BRIEF

● The Reading Town Council has decided to shelve again a scheme for new municipal offices. A recommendation that a £100,000 scheme for a building on the London Road be adopted was defeated.

● Mr. G. Siddall, of Wigan, has been appointed assistant architectural assistant in the Lancaster City Engineer's department at a salary of £350 per annum.

● On May 2, Lord Derby opened the first section of the new Liverpool Exchange buildings. When completed, the building which will cover three sides of the famous Exchange Flags, will have cost a total sum in the neighbourhood of £1,250,000. The architects are Messrs. Gunton and Gunton.

● The following are the dates on which the forthcoming R.I.B.A. Examinations will be held: Final Examination—July 5, 6, 7, 8, 10, 11 and 13, 1939. (Last day for receiving applications: June 5, 1939.) Special Final Examination—July 5, 6, 7, 8, 10 and 11, 1939. (Last day for receiving applications: June 5, 1939.)

● At a Council Meeting of the Royal Institute of the Architects of Ireland, Mr. W. H. Howard Cooke was re-elected as representative of the R.I.A.I. on the R.I.B.A. Board of Architectural Education for the coming session. In connection with the International Congress of

Part of the Camberley (Surrey) Arts and Crafts Society Exhibition. See Astragal, page 758.

Architects at Washington, in September, 1939, it was decided to form a delegation which would be headed by the President.

• The JOURNAL regrets that in its issue for May 4 the architect for Crawfords' building in Holborn was given as Mr. Frederick Etchells only. Mr. Herbert Welsh was joint architect for this building.

## COMPETITION NEWS

### ACCRINGTON HOSPITAL COMPETITION

Mr. Harry S. Fairhurst, F.R.I.B.A., has been nominated assessor for the proposed architectural competition for a hospital at Baxenden for the Accrington and District Joint Hospital Board.

### OFFICE BUILDING, OLDHAM

The Corporation of the County Borough of Oldham invites registered architects to submit designs in competition for new offices and departmental buildings for the electricity department, to be erected upon a site in Union Street, Oldham. Assessor: Mr. R. A. Cordingley, M.A., F.R.I.B.A. Premiums: £400, £250, £100. Last date for submitting designs: October 4, 1939. Last date for questions: June 1, 1939.

Conditions may be obtained (deposit 2 guineas) from Mr. F. L. Ogden, Borough Electrical Engineer, Greenhill Offices, Oldham. Clause 3 of the conditions provides:—

"No member of the Council, nor the assessor, nor any partner, associate or employee of either, shall compete or assist a competitor or act as architect or joint architect for the work."

## LETTERS

J. ROLAND  
W. G. LELY

### *The Coseley Competition*

SIR,—In one of your recent issues I read the assessor's report on the Coseley Council School Competition. In view of the fact that I am fully acquainted with the work of Mr. J. Blackburn, author of the design placed second, I was rather surprised to learn that the assessor was of the opinion that his scheme could not be built for the stated cost.

I should like to clear up some doubts which appear to exist with regard to the saving in cost of certain modern methods of construction and planning.

In his competition design, Mr. Blackburn employed the same principles of construction and planning which he has used for the same type of school for the neighbouring borough of Rowley Regis. He incorporated many improvements suggested from his experience with the latter.

The winner of the competition estimates his cost at £20,826, a figure with which the assessor apparently agrees. Mr. Blackburn's estimate is £18,776, there being only £2,050 difference in the respective costs.

Eighteen months ago, when prices were at their peak, the borough of Rowley Regis put out to tender two babies', infants', and junior elementary schools, each for 350 pupils, the sites

being quite close together. One of these schools incorporated similar principles of construction to those used by the winner of the competition, and the other used the same principles as are used in the design which has been placed second.

The same builder, who incidentally is from Coseley, obtained both contracts, the figures for the former being approximately £25,000, and for the latter £15,000, giving a difference in cost of £10,000. These schools are now almost completed, and while part of the difference is no doubt made up in extra excavation, etc., they clearly prove the great saving which can be made by employing the light-weight roofs which Mr. Blackburn advocates.

The latter Rowley Regis School also includes such luxuries as underfloor heating throughout, long horizontal sliding and folding windows, external sun blinds to every classroom, green pre-cast concrete slab paving to playgrounds, pressed steel door frames incorporating electric light switches, slate slab sills, marigold blackboards, complete built-in lockers and furniture, circular glazed babies' room and extra playground, and closed corridors capable of being completely open.

The competition demanded very few of these luxuries, and this makes it all the more obvious that Mr. Blackburn's scheme could, in my opinion, be built for much less than the figure stated.

J. ROLAND

Peterborough.

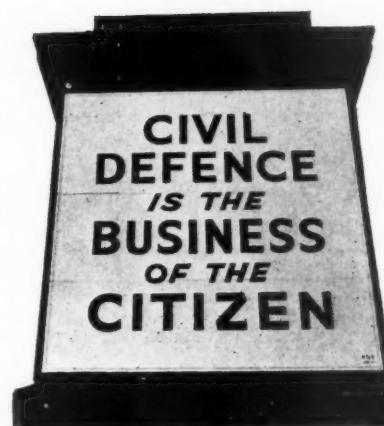
### *Misuse of the name "Teak"*

SIR,—I would express my appreciation of Messrs. Davis and Belfield's letter in the JOURNAL for May 4, but I beg to question their view regarding Iroko, "that most people realized that this timber was not a true Teak." Whilst the leading merchants and people technically interested, no doubt, realize this fact, I am afraid that only a very small proportion of the general public do so, while it is common to find builders, small timber merchants, etc., who still think that Iroko is teak because it has been sold to them as "African Teak" or "Iroko Teak." Similarly with other false "teaks."

It is our endeavour to do away with such misapprehensions and it is hoped that the forthcoming "British Standard Nomenclature of Hardwoods" will, when published, lend valuable aid in this direction. In the meantime, I trust that Messrs. Davis and Belfield will give us their assistance, either by dropping the name "African Teak" altogether or if, for practical reasons, they consider this too drastic a change to be made at one step, by showing the item in "Current Prices" in some such form as: "IROKO (sometimes miscalled African Teak)."

W. G. LELY

London.



## 2: BASEMENTS

By B. LUBETKIN

*THREE weeks ago the Government asked local authorities to give A.R.P. schemes priority over all other work; and the Civil Defence Bill, which will be passed in the near future, will compel all firms of over 50 persons to provide certain standards of protection for their employees.*

*This protection will probably be either in the form of light shelters or shelters in basements. In the article below, Mr. Lubetkin, of Messrs. Tecton (the architects who prepared the Finsbury deep shelter scheme after a most careful survey of conditions in that area) gives his reasons for believing that basement shelters are the least satisfactory of any type, deep or light.*

**A**S we have already seen, the safety of an air-raid shelter depends upon three factors—the strength of the walls, the strength of the roof, and the area.

Since strutted basements are now being advocated for use as shelters on a national scale, and since it has frequently been stated that such shelters are considered very satisfactory by experts, it will be important to analyse them in the light of these three fundamentals. The question whether or not strutted basements are good shelters is after all not



a matter of opinion, but a problem which can be resolved once and for all by scientific analysis.

**A** BASEMENT consists, in essence, of a large excavated space, covered by the building above, and having side walls intended to resist no greater pressure than that exerted by the surrounding earth.

The building above constitutes no protection for the occupants of the basement, since delayed-action bombs, which experience has shown may be the most widely used type, can pierce several reinforced concrete floors, and may not explode before reaching the basement. Indeed, far from protecting the basement, the superstructure forms an added risk, for its collapse may be fatal to the occupants.

The method by which the Government intends to adapt basements for use as shelters consists of the introduction of struts to support the ceiling. This strutting is designed only to combat the hazard of falling masonry, not to give any protection whatever against the primary effects of bombardment. In short, what is proposed is to place people in shelters where they are exposed, so to speak, to an extra risk during air raids, and then to protect them only against this extra risk, without attempting to make them safe against the main risks—the direct effects of bomb explosions.

So much for roof protection. The side walls, as we have already seen, have also a most important part to play. In the normal basement, however, these are designed to do nothing more than retain the earth outside, and their strength is not sufficient to resist shock waves travelling through the earth from any but comparatively distant explosions. They may be caved in by the effects of bombs falling many yards outside the building; to take a concrete example, the basement of the "Madrid-Paris" store, Madrid, was far more strongly built than many in this country, yet an explosion occurring outside the building damaged it very badly indeed. A 22½ in. thick brick wall with 1 ft. 4 in. by 2 ft. 6 in. reinforced concrete piers was demolished over a length of 45 ft., the reinforced concrete ceiling and beams were shattered over a considerable distance, pipes and conduits were completely destroyed, and splinters penetrated the brick partitions and damaged the back wall of the building 42 ft. 6 in. from the street in which the bomb fell.

In fact, when official spokesmen tell us that basements will be "proof against anything except a direct hit," they intend the words "direct hit" to include explosions occurring, according to Government publications, as much as 50 ft. away on all sides.

To the deficiency of the roof and side wall protection must be added the disadvantage of large area, as compared with, say, "Anderson" shelters. This means that the chances of a hit are

comparatively great, while the vulnerable area round the shelter, within which explosions may be fatal, is very large indeed.

In short, strutted basements do not fulfil any one of the three fundamental conditions on which the safety of all shelters depends. Roof protection is virtually non-existent, lateral protection is inadequate, and the area is excessively large. If it were proposed to construct new shelters in open spaces in the form of large excavations unprotected from above, and with the lightest possible side protection, there can be no doubt that the authorities would quite rightly turn down the suggestion on account of its excessive vulnerability; yet that is all basements are, although the existence of a number of irrelevant factors appears to have blinded many people to their real nature.

As a matter of fact, these very irrelevant factors increase the danger of basements enormously, and would in themselves be sufficient grounds for condemning their use on a large scale.

Early this year, the report of the Anderson Committee on air-raid shelters was published as a "White Paper." The Committee of Engineers, in discussing the question whether "Anderson" steel shelters should be placed inside or outside the houses, give six excellent reasons why they should *not* be placed inside. They refer to the importance of keeping available as much living accommodation as possible in war time, and point out the inconvenience of rooms being rendered useless by the installation of shelters. The danger of all exits being blocked, and the risk of fire when the occupants are trapped, are also listed, and these, of course, apply equally to strutted basements. Again, there is a considerable risk from escaping domestic gas, against which respirators give no protection. Finally, in the eventuality of a collapse of one wall of the building, it is possible that one wall falling inwards on the skew might deform any struts and allow the collapse of the ceiling above.

Although the Committee may not have realized it, each one of these points is an argument against the use of strutted basement shelters, to which they apply with equal force.

In adapting existing basements, innumerable difficulties have to be met, and the fact that each case is different, and little standardization is possible makes the problem even more complicated. Firstly, the provision of effective emergency exits to guard against the danger of imprisonment by fallen debris is uneconomical, since it is so often impossible to construct them outside the confines of the building, in positions where they would be less likely to become blocked. Ventilators, pavement lights and windows form another danger which is expensive and difficult to deal with in such a way as to be at all certain of the result, since rule of thumb methods, for which there is no theoretical backing, or even experience, must be relied upon. Again, adequate sanitary accommodation is an absolute

essential which must be provided. It is very common, especially in the larger basements, to find a great number of pipes—water, central heating, drainage, refrigerant, and so forth—all of which represent potential dangers, but which it is almost impossible to deal with unless an enormous expenditure is incurred. Lastly, the fact that the loads assumed by the British Government for the calculation of struts to basement ceilings are considerably lower than those published by foreign Governments makes it rather doubtful whether the risk from falling masonry will be adequately guarded against. This is so more especially because we are here concerned with something almost incalculable—a steel joist or a block of stone cornice falling on edge so as to bring a concentrated load to bear on the ceiling, might well penetrate, although if the whole building were to collapse in such a way as to distribute its weight evenly, all might be well. It depends on so many haphazards that it is almost impossible to guarantee any form of strutting. It is for this reason that tests on basements are of such very doubtful value, although officials seem to attach great importance to them—apart from the fact that they can never prove anything more than that the strutting of the particular basement resisted the weight of the particular building demolished in the particular way—information which is not very useful since it concerns a building which no longer exists. It must also be realized that masonry projected by an explosion can fall with much greater force than if it simply collapses by its own weight.

The actual carrying out of the work involved in adapting basements for shelter use is so decentralized and unstandardized and involves so many variables, that it must necessarily be expensive, and, to a certain extent inefficient, quite apart from the fact that it must entail the loss of the premises for all peacetime purposes if it is to be done in advance.

Reliance must necessarily be placed on a great many individuals whose task it will be to improvise precautionary measures for each particular building. But this in itself seems extremely undesirable in view of the fact that, except in the case of relatively new buildings, it may often be impossible to ascertain what is the exact construction, say, of reinforced concrete slabs and beams, or what is the nature of the soil below the basement.

The difficulty of carrying out and supervising such work in confined spaces, especially where underpinning has to be carried out, is great.

In view of all these facts, it seems obvious that strutted basements would be absolutely inadequate as the basis of a national policy, even if it could be allowed that the protection they afford is sufficient (which, as we have shown, it is not). It is extraordinary that statements should repeatedly be made to the effect that "eminent experts" consider

that basements can form the basis for an efficient shelter policy. If this is true, then we might surely expect the experts to give their reasons for this opinion, for the question is not one of guesswork, but one which can be settled only in a scientific way. Again, it is impossible to justify the basement policy by references to tests (the nature of which incidentally is not revealed); as we have said such tests are at best thoroughly unscientific; on the other hand, if we are to rely only on experience and not on calculation, then Spain presents many examples of the effects of bombardment on structures, which are certainly a better guide than any experimental demonstration can be—and we can hardly believe that the British Government has no information regarding the Spanish air raids—there can be no reason to ignore the lesson they have provided.

The use on a nation-wide scale of such shelters is in fact absolutely indefensible, and seems even less realistic than the now defunct gas-proof room—one can only hope that they will go the same way.

## EXHIBITIONS

[ By D. COSENS ]

**D**UNOYER DE SEGONZAC is probably best known in this country for his landscape and still-life paintings, and as a popular artist who has painted competently, but without any great contribution to contemporary art in the years since the war. In most exhibitions of French painting there will be found a water-colour by Segonzac, immediately recognizable, and usually very much better than the company in which it finds itself. For while he has, in the long run, not kept pace with the greater painters of his generation (he was born in 1884), he has a mastery of design that is outstanding amongst the less assured work of younger men. His exhibition at the Wildenstein Galleries particularly emphasizes his remarkable skill as a draughtsman, and his line and wash drawings have a freshness and vitality that is generally lacking in his paintings—in fact in this slighter medium he is wholly successful in suggesting space and atmosphere and the texture of things, and in his slightest etchings (No. 14, for instance) he manages to convey a hot Provençal day more vividly than he succeeds in doing in any of his rather laboured water-colours. In his illustrations for the Georgics and in many of his other drawings and etchings he finds exact expression for his particular art.

Sometimes Ragnar Sandberg's work combines a somewhat consciously sustained childish naïveté with a very good understanding of contemporary work, and at such moments it is intensely irritating. At others he is pleasantly spontaneous and direct. On the whole a confusing painter, because often, hoping to please, he refuses to say what he really thinks, and one can only surprise it here and there by accident.

Georg Ehrlich's sculpture, also at the Matthieson Galleries, is of the pleasantly straightforward realist school. His portrait busts in particular are clearly realized and simple statements in which sincerity and the avoidance of any fashionable tricks almost compensate for certain limitations of vision.

Segonzac. Wildenstein Galleries, 147 New Bond Street. Until May 15.

Sandberg and Ehrlich. Matthieson Galleries, 142 New Bond Street. Until May 12.

## H.M.V. SHOWROOMS

OXFORD STREET, W. : BY JOSEPH EMBERTON

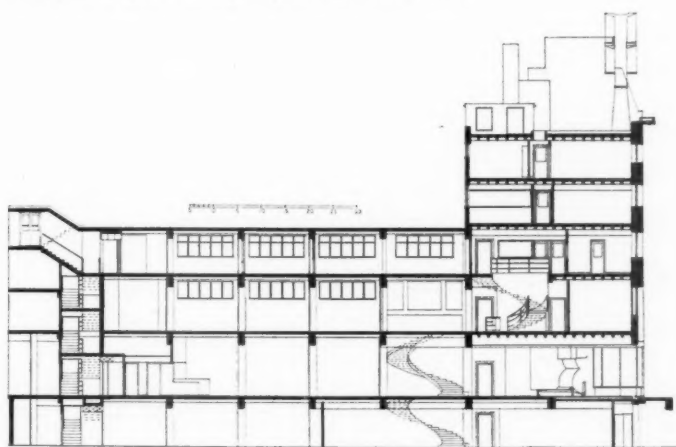


**PROBLEM**—The general requirements consisted of showrooms, servicing departments and despatch rooms on the lower ground floor, adequate window display, commodity sale-rooms, and gramophone audition compartments on the ground floor, the first floor being devoted to instrument demonstration and the second, third and fourth floors being relegated for administrative purposes.

**SITE**—Rebuilt on the external form of the old premises in Oxford Street (destroyed by fire in 1937), the plan was subjected to stringent rights of light restrictions.

**PLAN**—A large publicity sign on the Oxford Street front is situated at the normal window space level, thus the darkened area on the first floor forms an admirable television demonstration studio.

Above, the Oxford Street front, with television mast.



SECTION



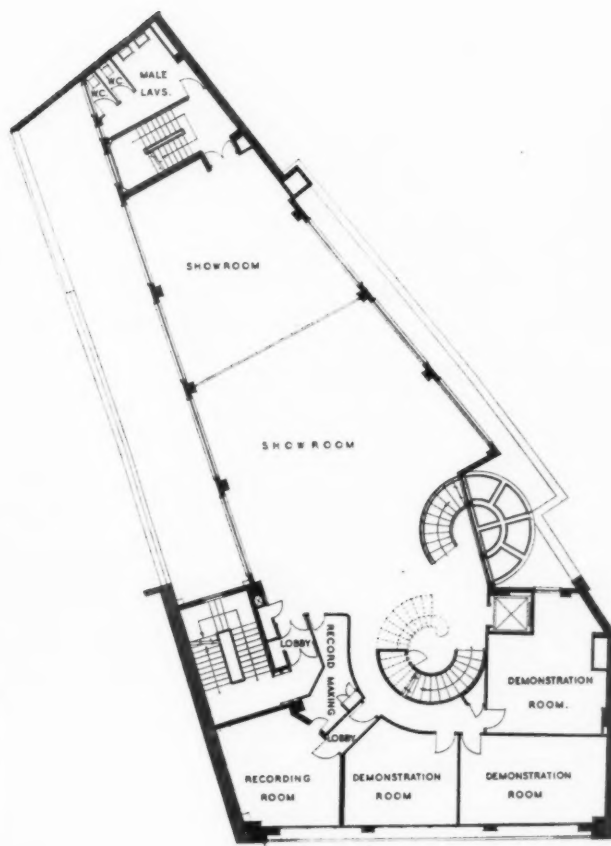
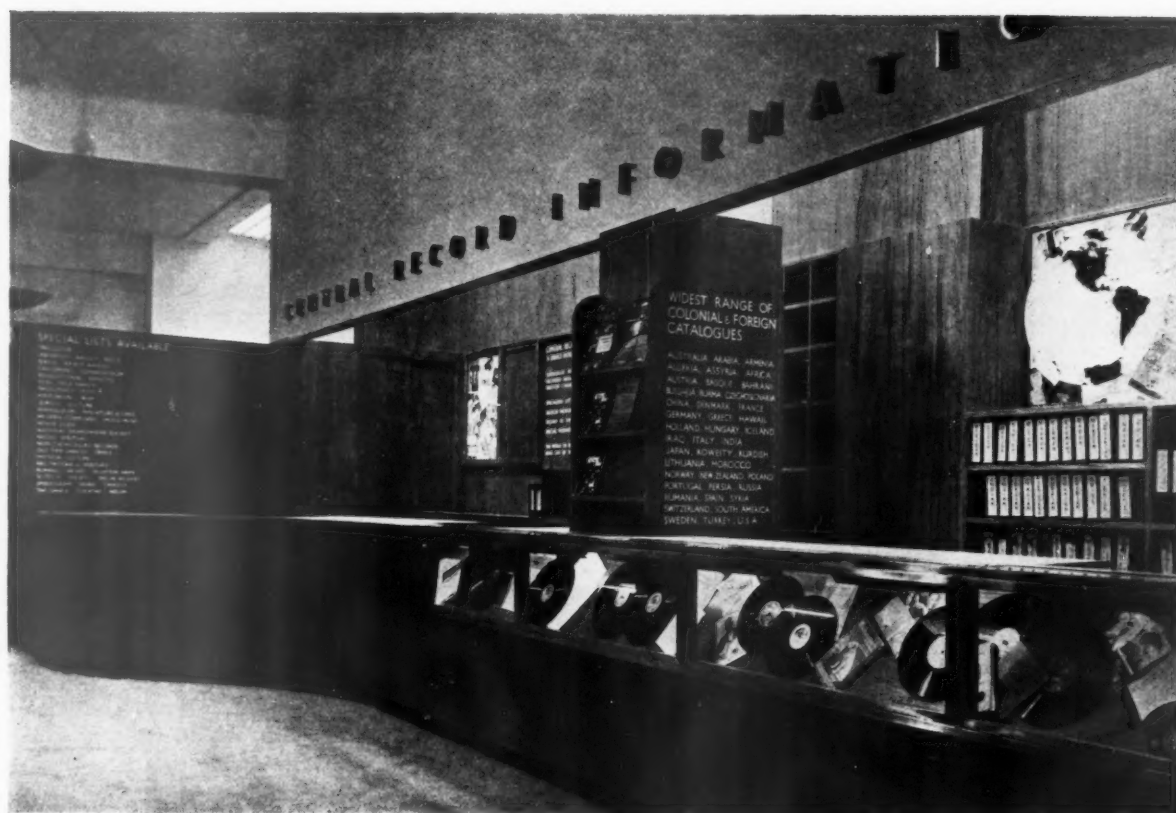
*The entrance*

H.M.V. SHOWROOMS, OXFORD STREET, W.1 • BY JOSEPH EMBERTON

Central  
technical

GROUP  
FIRST  
PLANS





### GROUND AND FIRST FLOOR PLANS

H.M.V. SHOWROOMS, OXFORD STREET, W.1 • BY JOSEPH EMBERTON



**CONSTRUCTION AND EXTERNAL FINISHES**—External walls, piers, etc., of reinforced concrete, internal partitions 3-in. patent blocks, and patent acoustically-treated wallboards on studs. The flat roof is of reinforced concrete, covered with asphalt laid to falls; all floors are also R.C. The front elevation is faced with black granite, long stretches of glass bricks interspaced with small metal windows being used to insulate the building from external noise.

**INTERNAL FINISHES**—Walls generally are plastered, those in the main showrooms being stipple-finished plastic paint, elsewhere they are distempered except for panelling in the managing director's room. The basement showroom, staircases and public lavatory floors are finished with terrazzo; the ground floor main showrooms and audition rooms are floored with carpets laid on felt spread over the thin cement screed; while above, the office floors are finished with linoleum.

**SERVICES**—Ventilation, heating and hot water is by electricity, the main ventilation scheme, thermostatically controlled, is provided by thermal storage. An electrical passenger lift serves all floors, while a goods hoist serves the ground floor and basement. A staff canteen is also provided on the fourth floor.

*Above, first floor landing of main staircase leading to ground floor.*

*Left, the audition room dedicated to Strauss contains his portrait and, woven in brown on a fawn curtain, a few bars from his most popular composition, the "Blue Danube." Each audition room is dedicated to a famous composer in this manner.*

The general contractors were Griggs and Son, Ltd.; for list of sub-contractors and suppliers, see page 793.

H.M.V. SHOWROOMS, OXFORD STREET, W.1 • BY JOSEPH EMBERTON





*Main staircase, taken at ground floor level.*

H.M.V. SHOWROOMS, OXFORD STREET, W.1 • BY JOSEPH EMBERTON



# ANALYSIS OF A BUILDING

## RECREATION BUILDINGS AND GROUND

### HAMSTEAD, STAFFORDSHIRE

DESIGNED BY J. H. FORSHAW AND W. A. WOODLAND, ARCHITECTS  
J. D. O'KELLY, LANDSCAPE ARCHITECT

**REQUIREMENTS**—Facilities for complete indoor and outdoor recreation for miners and their families. The scheme was constructed for the Trustees of the Hamstead Miners' Welfare Committee by a capital cost met from the South Staffordshire and East Worcestershire District Miners' Welfare Fund. The scheme is maintained by a Management Committee consisting of representatives of owners and workmen, and the running costs are met by a levy on men

of 1d. per week for the first year's working. The colliery company assist with cash contribution.

**ACCOMMODATION** — Indoor recreations: Concerts, cinema displays, lectures, dancing, badminton, table tennis, billiards and physical training. Outdoor recreations: Football, tennis, bowls, and children's games, including swings, chutes and other apparatus.

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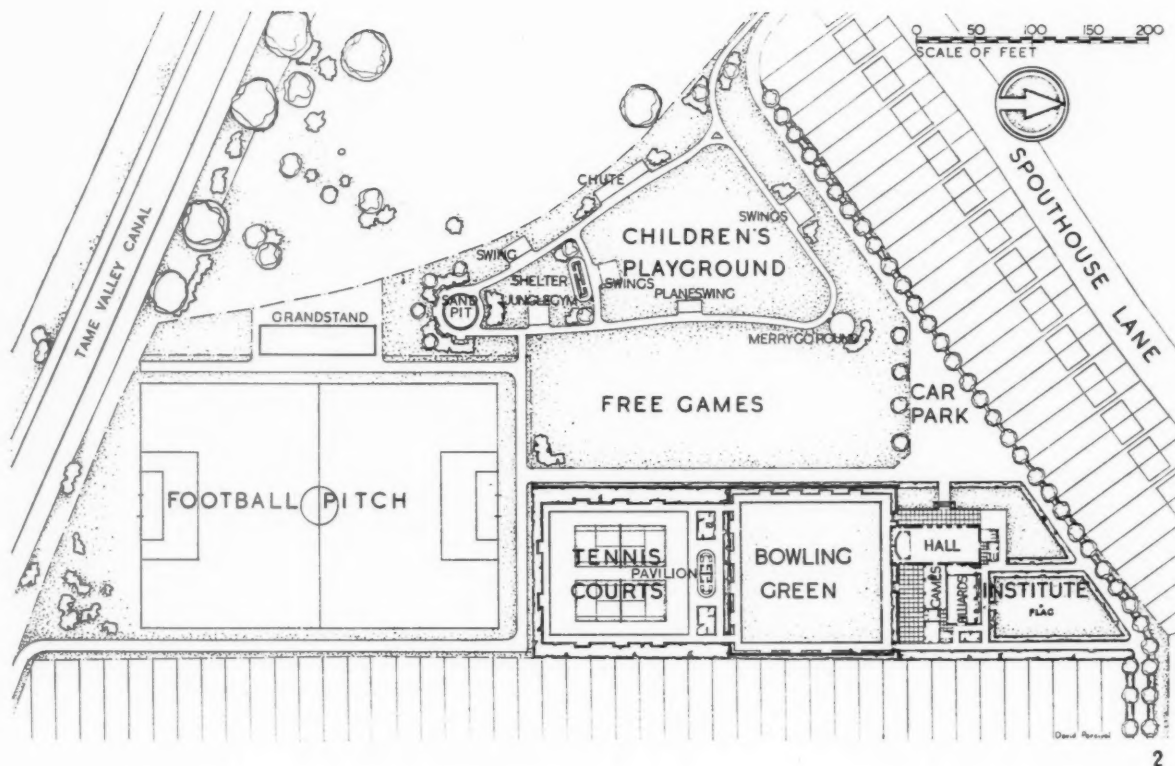
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## LAYOUT



2

The site is approximately triangular in shape with its base on the east, adjacent to the back gardens of a row of houses. The rectangular elements of the plan, the institute, bowling green, tennis courts, and football pitch are placed on this long side, leaving an irregular area which is devoted to children's games.

The Institute and the car park is placed in the north-east corner adjacent to the main drive. It is planned so that the games rooms have south aspect, the hall east and west aspect, and the billiards room north—or even—light. The quietest games (bowls) are planned next to the Institute, and the noisiest (football) farthest away. A pavilion for adults is planned between the bowls and tennis courts.

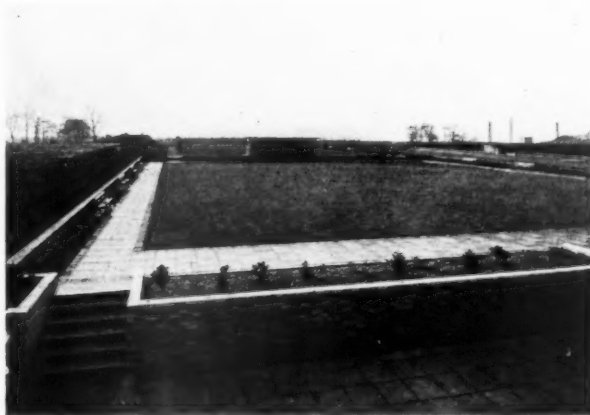
In contrast with the rectangularity of the adults' section the children's area is laid out in a free and easy manner—children do not move in straight lines. A path roughly triangular in shape surrounds their playground, and on it are placed the swings and other play apparatus. A children's shelter with lavatories and seats is placed within the triangle.

The back gardens of the houses are hidden by a row of trees down the drive.

Flower-boxes, hedges, and shrubs emphasize the main elements of the layout and help to divide its various zones.

**COSTS**—The total cost of the scheme was £16,090, which is made up as follows.

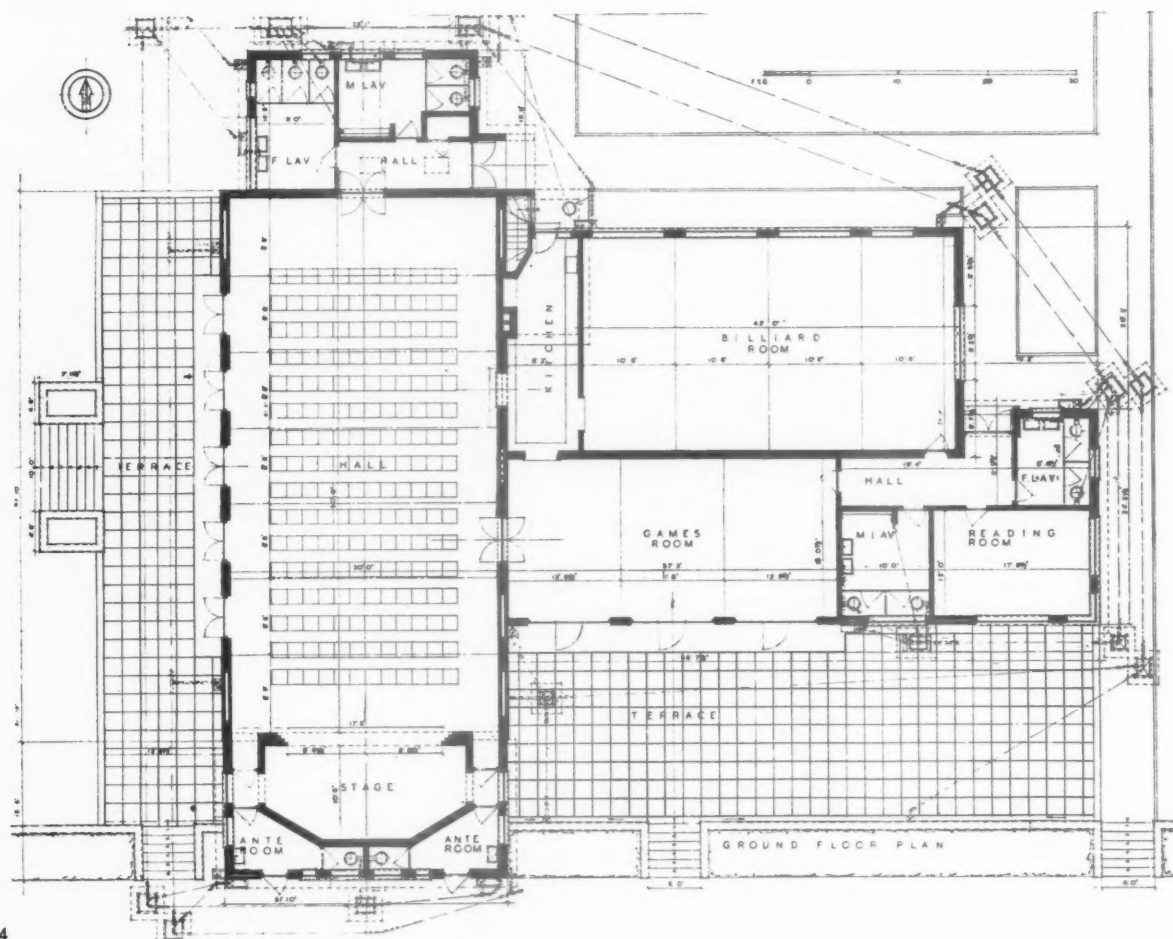
	£		£
Institute building (including furniture and equipment)	7,100	Football stadium	2,500
Bowls pavilion	560	Football pitch	500
Children's shelter	390	Children's apparatus	260
Tennis courts	470	Site work	1,350
Bowling green	860	Fencing	1,100
		Purchase site	1,000



General view of the site, with the colliery in the distance, taken from the Institute.

3

# THE INSTITUTE PLAN



4

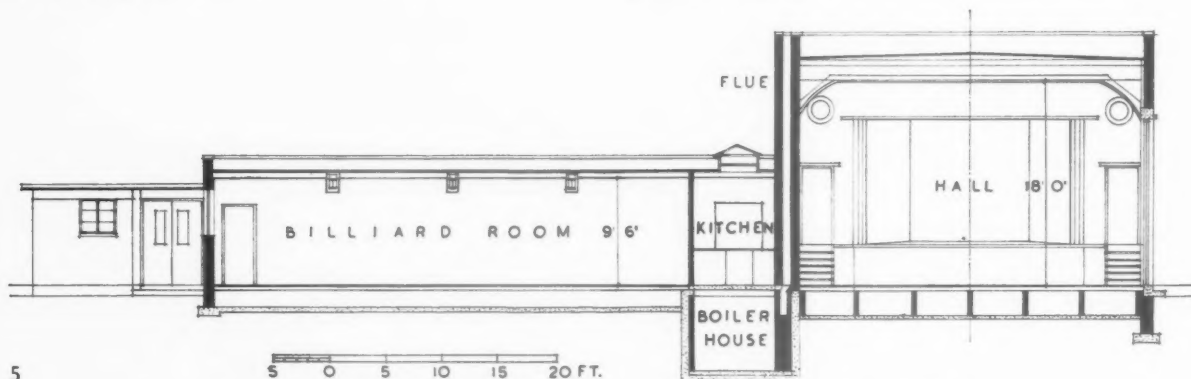
The complete indoor recreation unit consists of two interconnected sections, namely, the hall and the games rooms, each with its own entrance terrace and lavatory accommodation.

The kitchen—with boiler-house under—is planned between the two sections in the heart of the plan so that there is direct service through hatches to the principal rooms.

The hall is 60 ft. long by 30 ft. 0 in. wide, plus a stage 12 ft. deep by 17 ft. 5 in. wide.

Retiring-rooms are planned round the stage and a chair store with 4 ft. 9 in. headroom under. Access to the latter is provided from the hall by a trap door in the stage flooring, and from the terrace by a pair of doors 3 ft. 3 in. wide by 3 ft. 4 in. high.

The games room is 37 ft. 3 in. by 18 ft., and is divided by a folding partition into two. The billiards room is 42 ft. by 24 ft., and accommodates three tables, and spectators' seats under the windows.

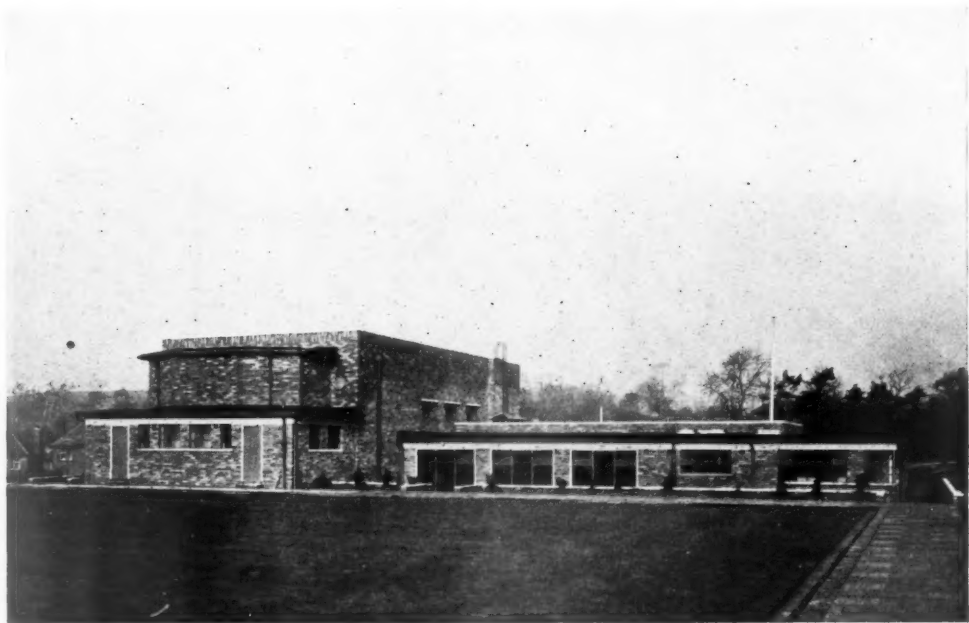


5

Key section through the building showing the centrally placed Kitchen and Boiler House under.



# THE INSTITUTE CONSTRUCTION



The south elevation of the Institute from the bowling green showing stage projection and the games rooms.

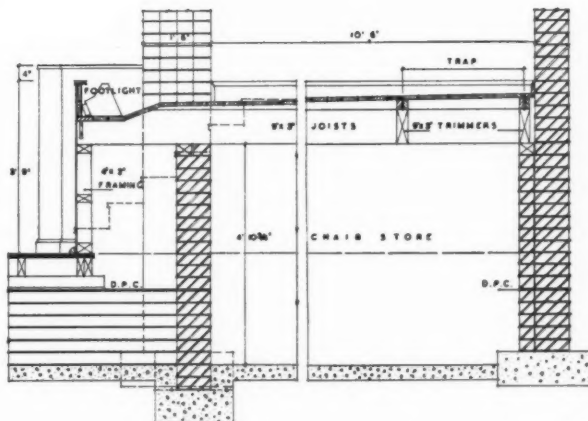
6

**WALLS**—The side walls of the hall are of 14 in. brickwork with 5 in. cavities to the non weight-carrying sections. They rise straight from 2 ft. 2 in. by 9 in. foundations, and at ceiling level reduce to 9 in., where a decorative band of bricks on edge is finished with a reconstructed stone coping. Other external walls are of 11 in. cavity construction, and brick is used for the internal 9 in. and 4½ in. walls.

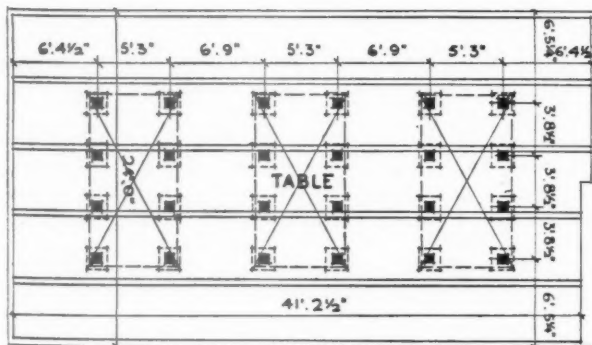
**FLOORS**—The ground floor consists of 5 in. by 2 in. joists fixed to 4 in. by 3 in. plates carried on sleeper walls at 4 ft. 9 in. average centres; thus the floors are independent of the walls. In the billiards room the weight of the tables is carried by 9 in. by 9 in. brick piers built up to support the legs (7). The floor of the stage is of 9 in. by 2 in. joists, cantilevered at the open end and cut out to form a recess for the footlights (8).

**ROOFS**—The roofs consist of 7 in. by 2 in. wood joists at

16 in. centres carried on steel joists where the span exceeds 12 ft. The r.s.j. to the hall are 16 in. by 6 in. at 8 ft. 6 in. centres and rest on 18 in. by 3 in. by 6 in. deep stone pads,



8



7

resting on 14 in. solid brickwork (12). 5 in. by 2 in. plates rest on the top flange and 5 in. by 2 in. ceiling joists on the bottom flange. A cheaper system is used in the billiards and games rooms. Here 4 in. by 2 in. plates rest on the bottom flanges of the steel joists and running in the same direction, are bolted to the web. The wood ceiling joists are spiked to the plates and are cut away round the top flange of the r.s.j.

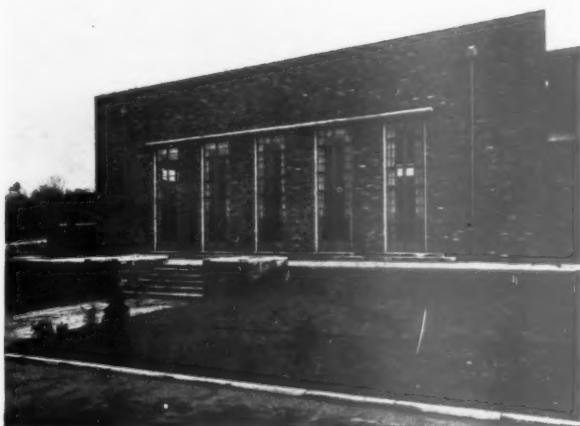
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# THE INSTITUTE FINISHES



9

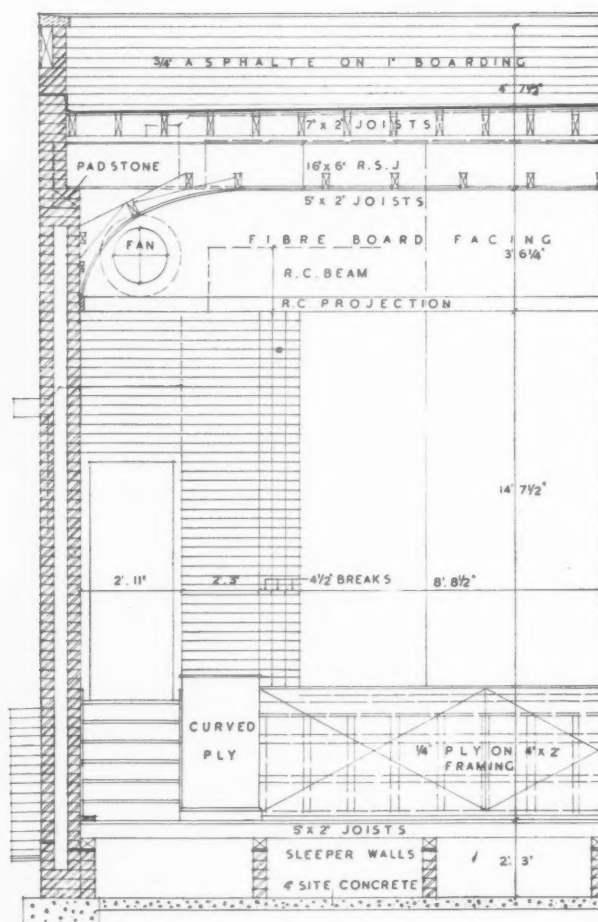


10



11

The pictures above show : the north elevation of the hall and billiards room (9) ; the west elevation of the hall with its doors to the terrace (10) ; and the interior of the hall (11). The diagram (12) is a detail section through the hall showing the proscenium opening.



Cross section through hall showing stage.

12

**FLOORS**—Floors generally are in 1 in. tongued and grooved deal in 4 in. widths ; that to the hall is 1 in. tongued and grooved Canadian maple in 3 in. widths, wax polished. Skirtings are 3 in. by 1½ in. rounded, and match the floors.

**WALLS**—Walls generally are plastered in Keene's cement with paint or distemper finish. Part of walls and cills to kitchen and lavatories are in white tile.

**CEILINGS**—Ceilings generally are covered in expanded metal with Portland cement or Keene's cement plaster finish. Ceiling and covered soffits to hall are in ½ in. fibre board in standard 10 ft. lengths fixed with 1½ in. galvanized panel pins. Ceiling to heating chamber lined with ¼ in. asbestos, sheeting fixed to the soffit of the joists.

**EQUIPMENT**—Windows and composite door and window to terrace are standard steel section. Doors generally are the standard flush type, and cupboard doors are 1 in. laminated board.

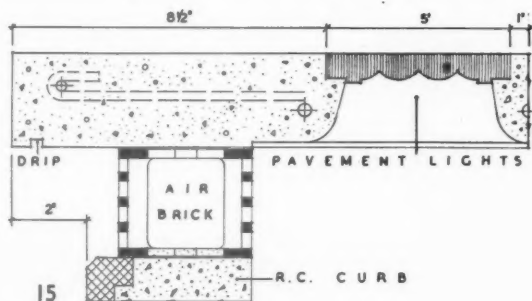
The kitchen is equipped with a coal-burning range, gas cooker and water heater, and Belfast sink ; a range of cupboards at table height run round the room.

Lavatories are equipped with high-level w.c.s in metal-faced ply compartments, three stall urinals, 22 in. lavatory basins, and c.p. toilet roll holders and indicating bolts.

Electrical and plumbing installations are to standard practice.

SECTION

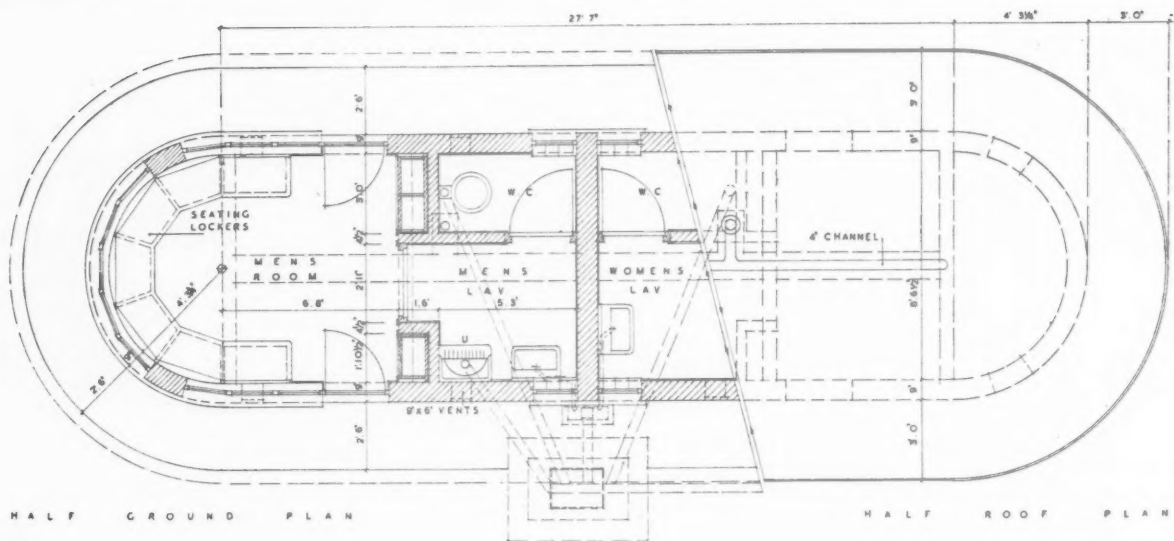
17



A black and white photograph of a modern, single-story building with a flat roof and large glass windows, situated in an open field. To the right of the building is a large, dark, triangular structure, possibly a sculpture or a playground feature. Bare trees are visible in the background.

18

# BOWLS AND TENNIS PAVILION



19

**PLAN**—The plan shape is a long rectangle with rounded ends. The building is divided into two, on the centre line, for both sexes, with the lavatories situated in the centre and locker rooms at the ends (19).

The entrance doors are placed adjacent to the lavatories so that a semi-circular space, free from cross circulation, is reserved for sitting and changing shoes.

Windows stretch right round the room and these, together with the glazed doors, allow a wide view over both the bowling green and tennis courts (20).

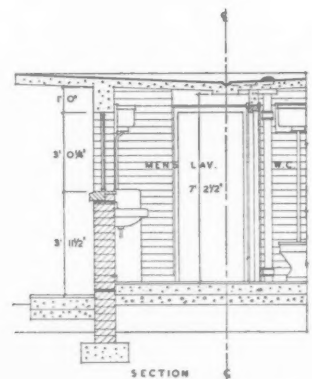
**CONSTRUCTION**—The building is constructed of 9-in. weight carrying brick walls on mass concrete foundations. The roof consists of a 3½-in. thick r.c. slab supported on

cross beams and the centre division wall. The slab slopes towards the centre and is thickened to 5 in. to allow for a shallow drainage channel 4 in. wide in the top surface (21). This channel is picked up by r.w.p.'s, which descend in the corners of the w.c. compartments to be connected up to the soil wastes, thereby acting as vents.

**EQUIPMENT AND FINISH**—The windows are metal of standard "Cottage" section with reconstructed stone cills; and the doors are faced with metal ply. Lockers for shoes, etc. are built in under the windows and have lift up tops forming seats. Bowls are stored in lockers built in to the back partition separating the changing room from the lavatory. Furniture and equipment generally are similar to the children's shelter.



20



21

On the left is shown the pavilion with the bowling green in the foreground. Above is a cross section through the building.

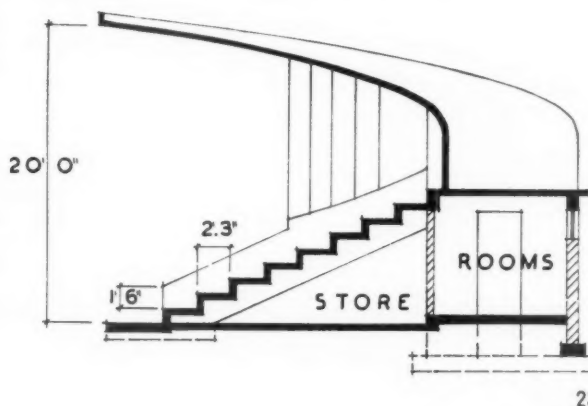
## ADULTS' GAMES

**TENNIS**—The two tennis courts run from north and south so that in the late afternoon the sun falls across them and not into the players' eyes (2). They are full-size doubles courts—78 ft. by 36 ft.—and have run backs of 21 ft., making a total length of 120 ft., which is international size. The total width is 106 ft.; the courts being 12 ft. apart, with margins between their edges and the boundary wire of 11 ft. The tennis courts are surfaced with crushed granite from the Malvern Hills, laid on a 5-in. foundation of clinker ashes. Ground drainage is by 3-in. diameter agricultural drains at 15-ft. centres connected up to a 4-in. main drain.

**BOWLS**—The bowling green has a 9 in. crown and is 120 ft. square so that the game may be played in any direction (2). The green is surrounded by a shallow ditch (20) to stop the run of the bowls, all in accordance with standard practice. The green is laid with Lancashire sea-washed turf on a bed of soil and sand 2 in. thick. The foundation consists of 7 in. of clinker ashes, and the drainage is by 3-in. diameter agricultural drainage at 9-ft. centres, with a 4-in. catch drain in the ditches.

**FOOTBALL**—The field of play of the football pitch is 103 yds. long by 70 yds. wide, which is international size; the regulations being: maximum size, 130 by 100 yds.; minimum size, 100 by 50 yds.

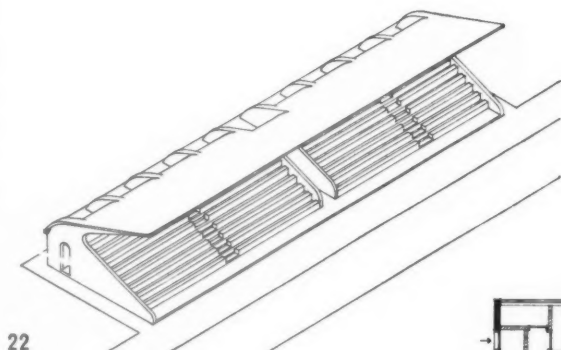
The football stand, although not yet built, promises, on paper, to be an efficient and rational building. The spectators' accommodation consists of nine rows of steps, 1 ft. rise—a generous dimension; 8 in. is average—by 2-ft. 3-in. tread. The length of one run of steps is 80 ft., approximately, making



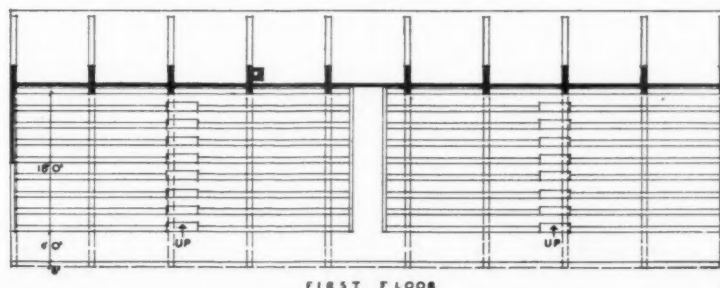
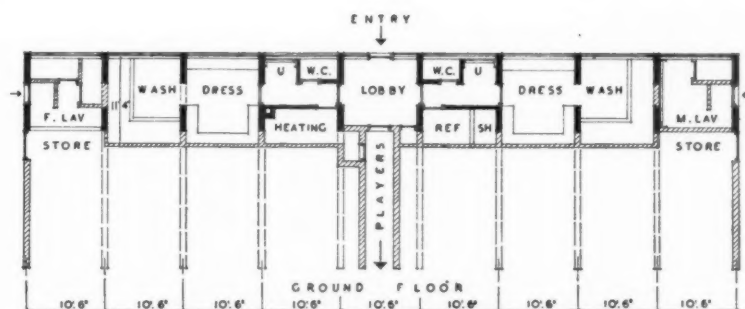
23

a total length of 720 ft., which, on a wide spacing of 2 ft. per person, gives an accommodation of 360 persons.

The steps are in reinforced concrete carried on reinforced concrete beams. The canopy over consists of a thin r.c. curved shell hung from cantilevers taken down to the ground in the form of wide legs (23). The space between the legs of the cantilevers is planned as dressing-rooms, with a central players' entrance in accordance with standard practice (24). The doors between the rooms are pierced through the flat legs of the girders. Panel walls are in brickwork and the end screens in glass on metal frames.



22



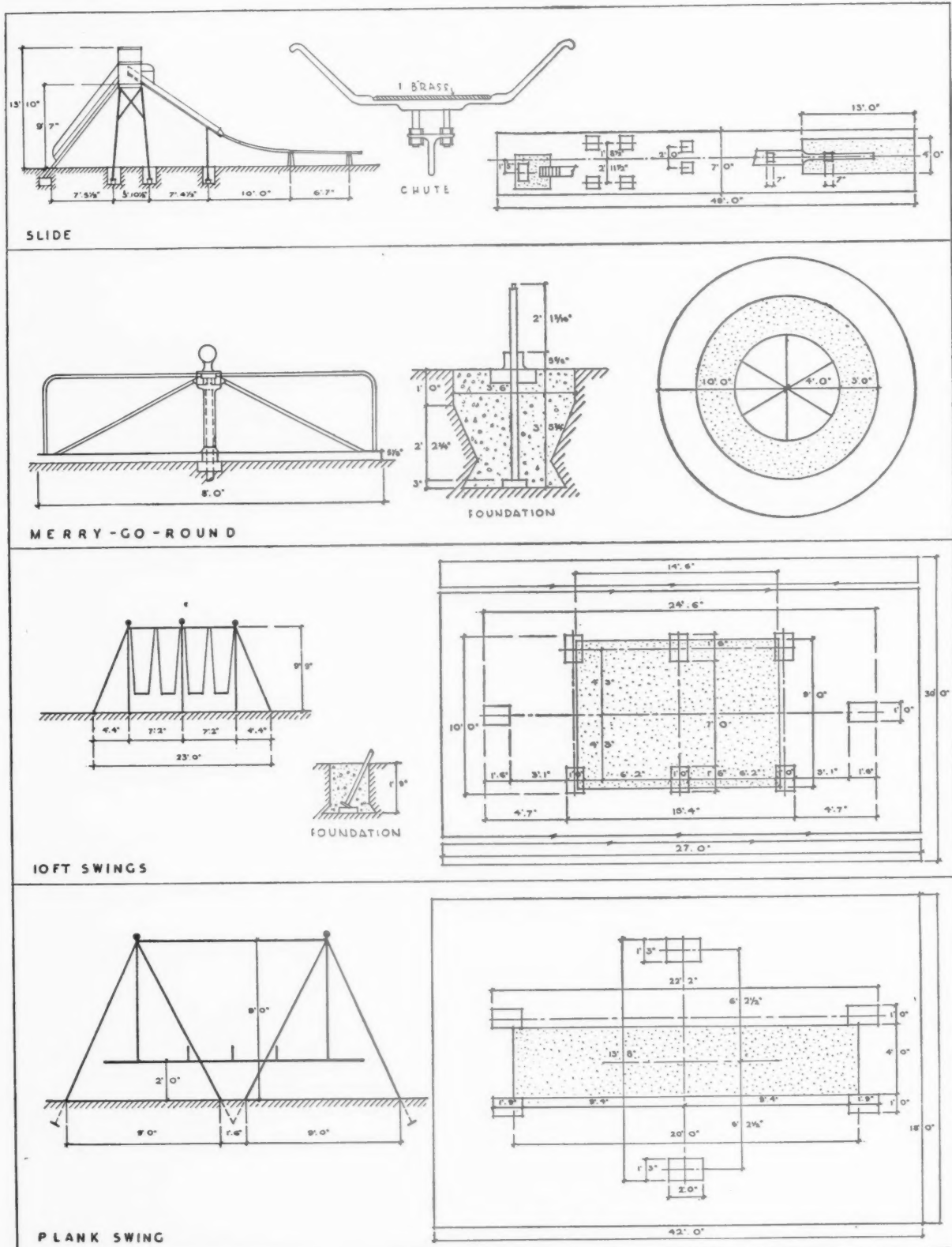
FIRST FLOOR

24

The diagrams on this page show the reinforced concrete football pavilion. On the right are the plans and above is an isometric view and cross section showing the structural ribs.



# CHILDREN'S GAMES





# CHILDREN'S GAMES

**SLIDES**—Constructed of steel with cast-iron steps and wood platform, although all metal construction can be obtained. The chute is constructed with steel with the bottom filled with hard brass—a metal that offers little friction. It is, of course, essential that the joint between the steel and the brass shall be quite smooth. The sides of the chute are brought well up to prevent accident.

The example illustrated has a platform at the top, and although this is not always included it is very necessary as it prevents congestion at the top of the steps.

Sizes of chute and spaces required are : 19 ft. long, 26 ft. by 5 ft. area ; 30 ft. long, 48 ft. by 7 ft. area ; 40 ft. long, 58 ft. by 7 ft. area.



26

**MERRY-GO-ROUND**—Constructed of steel with hardwood enclosure and hardwood or steel platform. Centre post carried on deep concrete foundations, apparatus turns on patent ball-bearing construction.

Sizes are 8 ft. diameter with six sections requiring safety space of 20 ft. diameter ; 10 ft. diameter with eight sections requiring space of 22 ft. diameter.



27

**SWINGS**—Constructed of  $1\frac{3}{8}$ -in. diameter steel tube for 10-ft. swings and  $2\frac{3}{8}$ -in. diameter tubes for 12-ft. and over swings. Design of heads differ, each maker having his own patent device. Chains should be designed to allow for a comfortable grip. Seats are of hardwood, and cradle seats can be obtained for small children.

Sizes vary from two seats in a single bay, 8 ft. high, requiring a ground space of 5 yds. by 9 yds. to six seats in two bays, 15 ft. high, requiring an area of 15 yds. by 14 yds.



28

**PLANK SWINGS**—Intended for very young children as, owing to the length of the plank the swinging arc is limited. The construction is similar to the ordinary swing, although a popular alternative has steel rods in place of chains, which pivot on ball-bearing joints.

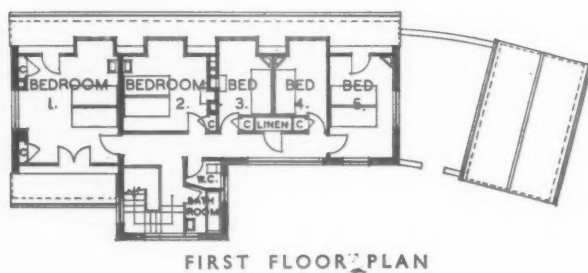
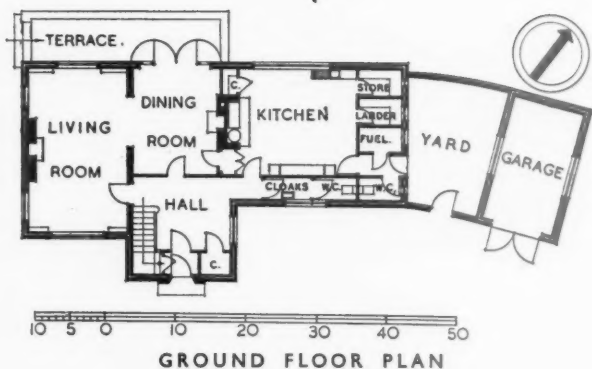
The photographs on this page and photo No. 1 were taken by P. J. Davis.



29

## HOUSE AT TREBETHERICK, CORNWALL

DESIGNED BY C. COWLES - VOYSEY



**PROBLEM**—The house is situated on the North Cornish coast overlooking the Atlantic. It was desired to obtain north-west views. The client required a house that would not be in-harmonious with the traditional local buildings. It was planned for use during the holidays and was built in 1938.

**CONSTRUCTION**—Walls: 11-in. cavity concrete block, rough cast and distempered white. Roof: steep timber construction covered with green Delabole slates. Internal walls: concrete block. Windows: wood casements, painted white.

**INTERNAL FINISHES**—Walls and ceilings generally are finished in rough plaster and distemper. Floors are of oak. Internal doors are deal batten doors with strap hinges and oak latches. Staircase of oak. Kitchen has a tiled recess for cooker and boiler. Bathroom has tiled walls. Furniture of limed oak.

**SERVICES**—Heating is by open fires, and by low pressure hot water with radiators. Hot water is supplied by a coke boiler.

**COST**—Approximately £2,300. 1s. 3d. per cubic foot. The illustrations show: (above), the north-west front which overlooks the sea; and (below), the house from the south.

## WORKING DETAILS : 749

STAIRCASE • ST. DUNSTAN'S HOME, BRIGHTON • FRANCIS LORNE OF SIR JOHN BURNET, TAIT &amp; LORNE



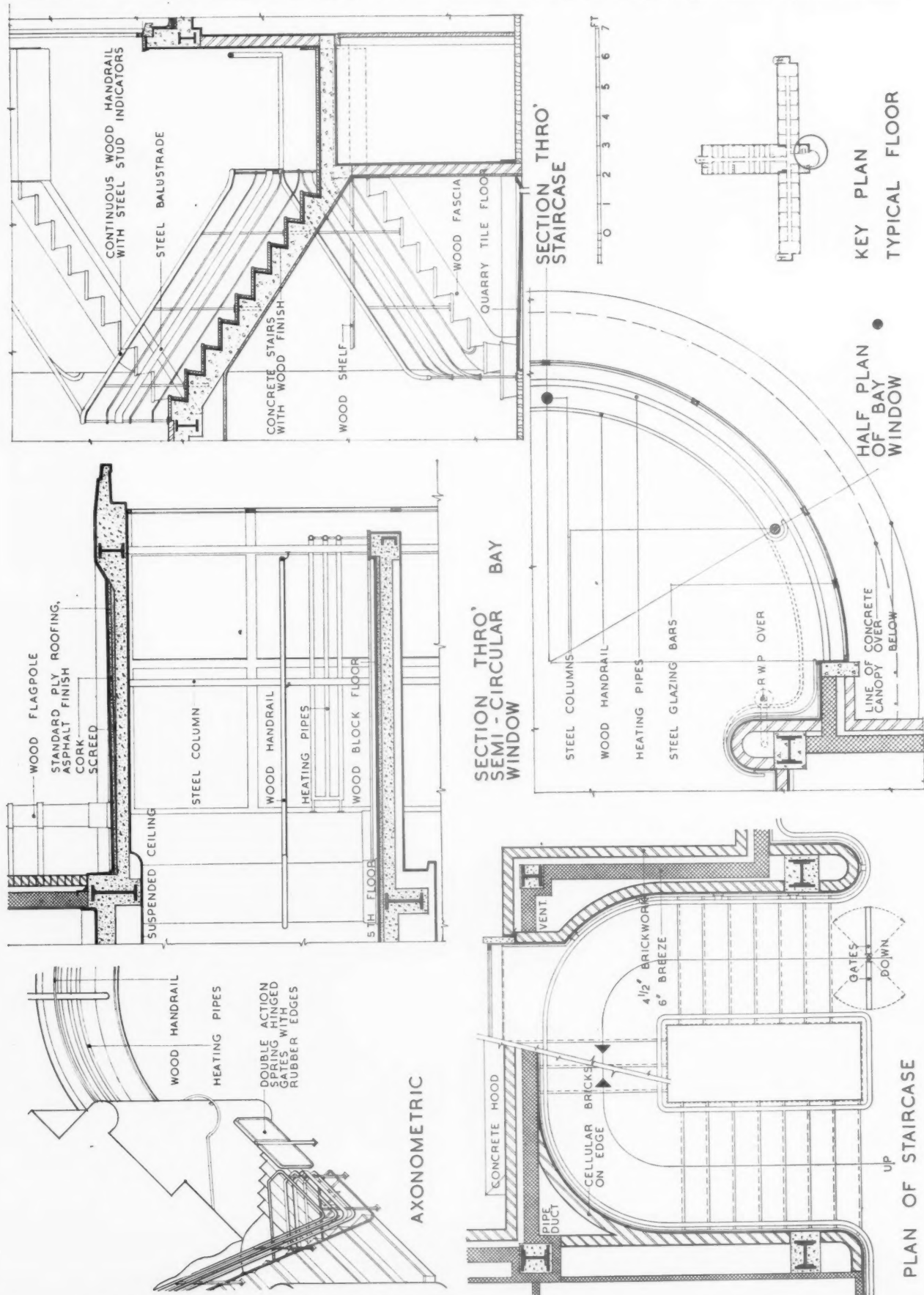
The staircase and large semi-circular bay window which lights it occupy the central position on the main front of the building. The building is of steel framed construction with external cavity walls of  $4\frac{1}{2}$  in. facing bricks, 3 in. cavity and 6 in. foamed slag as an inner membrane. The stairs have easy risers and are finished in oak strip boarding. At the head of each flight are self-closing flap gates to warn the blind of stairs going down. The staircase handrail in ebonized mahogany is carried completely round the bay window, and has steel studs inserted denoting floor levels and certain obstacles.

The bay window has glazing bars in sherardized metal. The heating pipes are carried round the bay underneath the handrail. Details are shown overleaf.



# WORKING DETAILS : 750

STAIRCASE • ST. DUNSTAN'S HOME, BRIGHTON • FRANCIS LORNE OF SIR JOHN BURNET, TAIT & LORNE

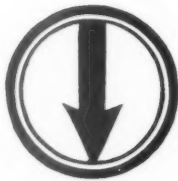


Axonometric and details of the staircase illustrated overleaf.  
780



# The Architects' Journal Library of Planned Information

## INFORMATION SHEET SUPPLEMENT



### SHEETS IN THIS ISSUE

**729** Steelwork

**730** Wall Facing Materials and Wallboards



*All the Information Sheets published in The Architects' Journal Library of Planned Information since the inception of the series to the end of 1938 have been reprinted and are available in the four volumes illustrated here. Price 21s. each.*

Sheets issued since Index :

- 701 : Tile Hanging
- 702 (420 revised) : Fixing Insulating Board
- 703 : Sheet Metals
- 704 : Plan Elements
- 705 : Metal Work
- 706 : Plan Elements
- 707 : Furniture Layout
- 708 : Plan Elements
- 709 : Flue Construction
- 710 : Natural Lighting
- 711 : Glass and Glazing
- 712 (109 revised) : Quarry Tiles
- 713 : Glass and Glazing
- 714 : Metalwork
- 715 (106 revised) : Hot Water Radiators (Pressed Steel)
- 716 : Furniture Layout
- 717 : Metalwork
- 718 : Flooring Materials
- 719 : Plumbing
- 720 : Water Heating
- 721 : Wall Facing Materials and Wallboards
- 722 : Roofing
- 723 : Metalwork
- 724 : Timber Construction
- 725 : Sanitary Fittings
- 726 : Metalwork
- 727 : Waterproof Jointing and Bedding
- 728 : Timber Construction







## THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

## STEELWORK: BRITISH STANDARD SPECIFICATION SIZES OF COMMON SECTIONS:

I JOISTS.			CHANNELS.			EQUAL ANGLES.			UNEQUAL ANGLES.			T BARS.		
SIZE. Ins.	Wt./lbs./ft. run.	STOCK	SIZE. Ins.	Wt./lbs./ft. run.	STOCK	SIZE. Ins.	Wt./lbs./ft. run.	STOCK	SIZE. Ins.	Wt./lbs./ft. run.	STOCK	SIZE. Ins.	Wt./lbs./ft. run.	STOCK
3x1 1/2	4.0	C	3x1 1/2	4.60	C	1x1	0.80	D	2x1 1/2	2.11	C	1 1/2x1 1/2	2.36	D
3x3	8.5	C	3x1 1/2	5.11	D	1x1	1.15	D	2x1 1/2	2.76	C			
4x1 3/4	5.0	C	4x2	7.09	C	1 1/4x1 1/4	1.01	C	2 1/2x1 1/2	2.43	C			
4x5	10.0	C	4x2	7.91	D	1 1/4x1 1/4	1.47	C	2 1/2x2	3.19	C	2x2	3.21	D
4 3/4x1 3/4	6.5	C	5x2 1/2	10.22	B	1 1/2x1 1/2	1.79	B	2 1/2x2	2.75	B			
5x3	11.0	C	5x2 1/2	11.24	D	1 1/2x1 1/2	2.34	B	2 1/2x2	3.61	B	2 1/2x2 1/2	4.07	D
5x4 1/2	10.0	B	6x3	12.41	C	1 3/4x1 3/4	2.11	C	3x2	4.45	B			
6x3	12.0	C	6x3	13.64	D	1 3/4x1 3/4	2.76	C	3x2	4.04	B	2 1/2x2 1/2	5.92	D
6x4 1/2	20.0	B	6x3	16.51	D	2x2	2.43	A	3x2 1/2	4.98	B			
6x5	25.0	B	6x3	17.53	D	2x2	3.19	A	3x2 1/2	5.51	B			
7x4	16.0	B	6x3 1/2	16.48	C	2x2	3.92	A	3 1/2x2 1/2	6.54	B	3x3	7.20	D
8x4	18.0	B	6x3 1/2	18.52	D	2 1/4x2 1/4	2.75	C	3 1/2x2 1/2	4.89	A			
8x5	28.0	B	7x3	14.22	C	2 1/4x2 1/4	3.61	C	3 1/2x2 1/2	6.04	A	4x3	8.49	C
8x6	35.0	B	7x3	17.07	D	2 1/4x2 1/4	4.45	C	3 1/2x3	7.17	A			
9x4	21.0	B	7x3 1/2	18.28	C	2 1/2x2 1/2	4.04	A	3 1/2x3	6.58	B	4x3	11.09	C
9x7	50.0	C	7x3 1/2	20.18	D	2 1/2x2 1/2	4.98	A	4x2 1/2	7.81	B			
10x4 1/2	25.0	B	8x3	15.96	C	2 1/2x2 1/2	5.90	A	4x3	7.11	A	4x4	9.77	D
10x5	30.0	C	8x3	18.68	D	3x3	4.89	A	4x3	8.45	A			
10x6	40.0	C	8x3 1/2	20.21	C	3x3	7.17	A	4x3	11.05	A	4x4	12.79	D
10x8	55.0	C	8x3 1/2	23.20	D	3x3	9.35	A	4x3 1/2	7.64	C			
12x5	32.0	C	9x3	17.46	C	3 1/2x3 1/2	5.74	A	4x3 1/2	9.09	C	5x3	9.79	D
12x6	44.0	C	9x3	19.91	D	3 1/2x3 1/2	8.45	A	4 1/2x3	11.91	D			
12x6	54.0	D	9x3 1/2	22.27	D	4x4	9.73	A	4 1/2x3	9.09	D	5x3	12.80	D
12x8	65.0	C	9x3 1/2	23.49	D	4x4	12.75	A	5x3	11.91	D			
13x5	35.0	C	9x3 1/2	25.63	D	4x4	15.68	A	5x3	12.75	B	5x4	11.06	D
14x6	46.0	C	10x3	19.28	C	4 1/2x4 1/2	11.00	D	5x3 1/2	10.37	C			
14x6	57.0	C	10x3	21.33	D	4 1/2x4 1/2	14.45	D	5x3 1/2	13.61	C	5x4	14.50	D
14x8	70.0	D	10x3 1/2	24.46	C	4 1/2x4 1/2	17.80	D	5x4	11.00	D			
15x5	42.0	D	11x3 1/2	28.54	D	5x5	12.28	B	6x3	14.45	B	6x3	11.08	D
15x6	45.0	B	11x3 1/2	26.78	D	5x5	16.16	B	6x3 1/2	11.63	B			
16x6	50.0	D	11x3 1/2	30.52	D	5x5	19.93	B	6x3 1/2	15.30	B			
16x6	62.0	D	12x3 1/2	26.37	C	6x6	14.82	A	6x4	12.28	B	6x3	14.52	D
16x8	75.0	D	12x3 1/2	30.45	D	6x6	19.55	A	6x4	16.16	B			
18x6	55.0	D	12x4	31.33	B	6x6	24.17	A	7x3 1/2	19.93	B	6x4	16.22	D
18x7	75.0	C	12x4	36.63	D	6x6	28.69	A	7x3 1/2	17.00	C			
18x8	80.0	D	13x4	33.18	D	7x7	22.95	D	7x4	17.85	D	6x4	19.99	D
20x6 1/2	65.0	C	13x4	38.92	D	7x7	28.42	D	8x3 1/2	22.05	D			
20x7 1/2	89.0	C	15x4	36.37	C	7x7	33.79	D	8x3 1/2	16.46	D	6x6	19.62	D
22x7	75.0	D	17x4	44.34	C	8x8	32.68	D	8x4	18.70	D			
24x7 1/2	95.0	D	17x4	51.28	D	8x8	38.89	D	8x4	19.55	D	6x6	24.23	D
						8x8	45.00	D	9x4	24.17	D			
									9x4	27.95	D			
									9x4	33.79	D			
									9x4	21.25	D			
									9x4	31.24	D			

A. indicates sections obtainable at any time (not ex-stock.)

B. indicates sections readily obtainable.

C. indicates sections obtainable in reasonable times.

D. indicates sections obtainable only in "rolling" quantities.

Issued by Braithwaite & Co., Engineers, Ltd.  
Compiled by C.W. Hamann, Consulting Engineer.

INFORMATION SHEET: STEEL FRAME CONSTRUCTION: No. 1.  
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C1.

THE ARCHITECTS' JOURNAL  
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# INFORMATION SHEET

• 729 •

## STEELWORK

Subject : Steel Frame Construction

TABLES OF SAFE DISTRIBUTED LOADS FOR I SECTIONS

Size d x b inches	SPANS IN FEET															
	10	12	14	16	18	20	22	24	26	28	30	32	36	40		
24x7½	112	93	80	470	3	62	55	2	51	1	46	9	43	2	40	2
22x7	81	2	67	7	58	0	50	8	45	1	40	6	36	9	33	8
20x7½	89	2	74	3	63	7	55	7	49	5	44	6	40	5	37	1
20x6½	65	3	54	4	46	7	40	8	36	3	32	6	29	7	27	2
18x8	76	5	63	8	54	6	47	8	42	5	38	2	34	8	31	9
18x7	68	2	56	8	48	7	42	6	37	8	34	1	31	0	28	4
18x6	49	8	41	5	35	6	31	1	27	7	24	9	22	6	20	7
16x8	64	9	54	1	46	3	40	5	36	0	32	4	29	5	27	0
16x6H	48	3	40	2	34	5	30	2	26	8	24	1	21	9	20	1
16x6L	41	2	34	3	29	4	25	7	22	8	20	6	18	7	17	1
15x6	34	9	29	1	24	9	21	8	19	4	17	4	15	9	14	5
15x5	30	4	25	3	21	7	19	0	16	9	15	2	13	8	12	6
14x8	53	7	44	7	38	3	33	5	29	8	26	8	24	4	22	3
14x6H	40	6	33	8	29	0	25	3	22	5	20	3	18	4	16	9
14x6L	33	7	28	0	24	0	21	0	18	7	16	8	15	3	14	0
13x5	23	2	19	3	16	6	14	5	12	9	11	6	10	5	9	6
12x8	43	3	36	1	30	9	27	0	24	0	21	6	19	7	18	0
12x6H	33	4	27	8	23	8	20	8	18	5	16	7	15	1	13	9
12x6L	28	1	23	4	20	1	17	5	15	6	14	0	12	7	11	7
12x5	19	6	16	3	14	0	12	2	10	9	9	8	8	1	6	9

### General :

The series of Sheets on steel construction, of which this is the first, is not intended to cover the field of engineering design in steel, but to deal with those general principles governing economical design which affect or are affected by the general planning of the building. It also deals with a number of details of steel construction which have an important effect upon the design of the steelwork.

Both principles and details are considered in relation to the adjoining masonry or concrete construction, and are intended to serve as a guide in the preliminary design of a building so that maximum economy may be obtained in the design of the steel framing.

This first Sheet sets out the standard sizes of the five basic steel sections in most common use and (below) British Steelwork Association tables of safe distributed loads for I sections and channels.

TABLES OF SAFE DISTRIBUTED LOADS FOR CHANNELS

Size d x b inches	SPANS IN FEET															
	10	12	14	16	18	20	22	24	26	28	30	32	36	40		
17x4*	35	7	29	7	25	5	22	3	19	8	17	8	16	2	14	8
17x4	32	6	27	2	23	3	20	4	18	1	16	3	14	8	13	6
15x4*	27	2	22	6	19	4	17	0	15	1	13	6	12	3	11	3
15x4	24	8	20	6	17	7	15	5	13	7	12	4	11	2	10	3
13x4*	22	2	18	5	15	8	13	8	12	3	11	1	10	0	9	2
13x4	20	2	16	8	14	4	12	6	11	2	10	1	9	2	8	4
12x4*	19	4	16	2	13	8	12	1	10	8	9	7	8	8	8	2
12x4	17	7	14	8	12	7	11	1	9	8	8	8	8	0	7	4
12x3½*	15	4	12	8	11	0	9	6	8	5	7	7	0	6	4	5
12x3½	14	1	11	8	10	1	8	8	7	8	7	0	6	4	5	9
11x3½*	14	8	12	3	10	5	9	2	8	2	7	4	6	7	5	6
11x3½	13	7	11	4	9	8	8	6	7	6	8	6	2	5	2	4
10x3½*	12	7	10	6	9	1	7	9	7	0	6	3	5	2	4	4
10x3½	11	6	9	7	8	3	7	3	6	4	5	8	4	8	4	0
10x3*	9	3	7	7	6	6	5	8	5	1	4	6	3	8	3	2
10x3	8	8	7	3	6	2	5	5	4	8	4	4	3	6	3	0
9x3½*	10	5	8	8	7	5	6	6	5	8	4	7	3	9		
9x3½	10	0	8	4	7	2	6	3	5	6	4	5	3	7		
9x3½	9	7	8	1	6	9	6	1	5	4	4	4	3	6		
9x3*	7	9	6	6	5	7	4	9	4	4	3	5	2	9		
9x3	7	4	6	1	5	2	4	6	4	1	3	3	2	7		

Size d x b inches	SPANS IN FEET															
	3	4	5	6	7	8	9	10	11	12	14	16	18	20		
10x8																
10x6																
10x5																
10x4½																
9x7																
9x4																
8x6																
8x5																
8x4																
7x4																
6x5																
6x4½																
6x3																
5x4½																
5x3																
4½x1½																
4x3																
4x1½																
3x3																
3x1½																

Spans are given in feet, loads in tons.

Calculations are based on a safe stress of 8 tons per square inch.

When using the values to the left of the dotted zigzag lines, web stiffeners are required.

Loads to the right of the solid zigzag lines have been reduced in value so that the deflection does not exceed  $\frac{1}{325}$  of the span.

Tables from the British Steelwork Association's handbook.

\* Web thickness obtained by raising the rolls.

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Braithwaite & Co. Engineers, Ltd.

Address : Horseferry House, Horseferry Road, London, S.W.1

Telephone :

Victoria 8571

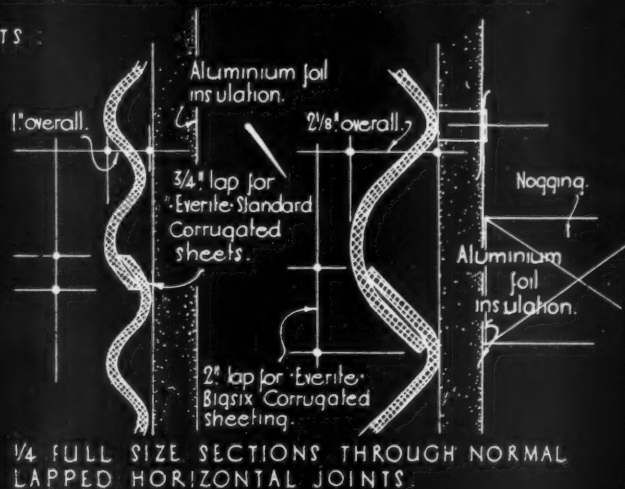
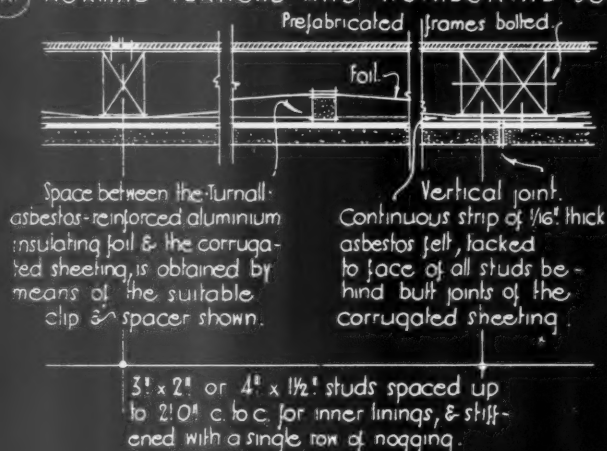
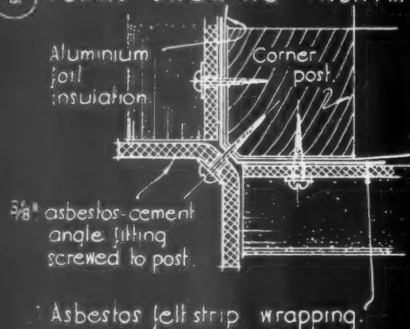




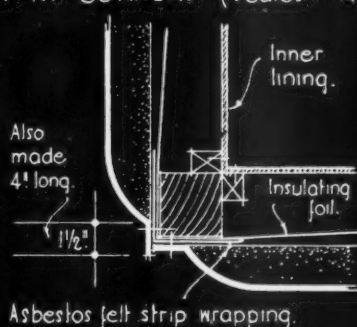


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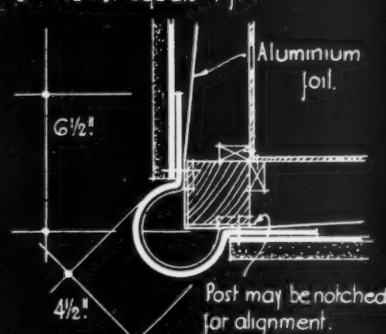
**CORRUGATED ASBESTOS-CEMENT EXTERNAL WALL COVERINGS FIXED HORIZONTALLY :**  
Details of finishes at joints, corners, openings, etc., when Everite-Standard Corrugated sheets or Everite-Bigsix Corrugated sheets are used.

**A. NORMAL VERTICAL AND HORIZONTAL JOINTS :****B. PLANS SHOWING TREATMENT AT CORNERS (Scales :  $\frac{1}{4}$  F.S. &  $\frac{1}{2}$  ins. equals 1 ft.)**

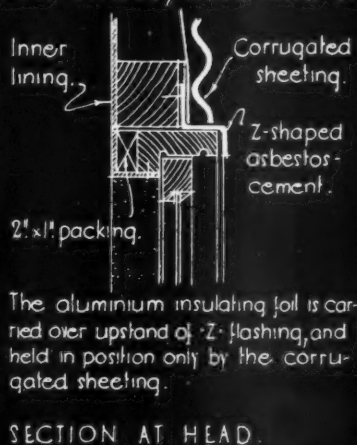
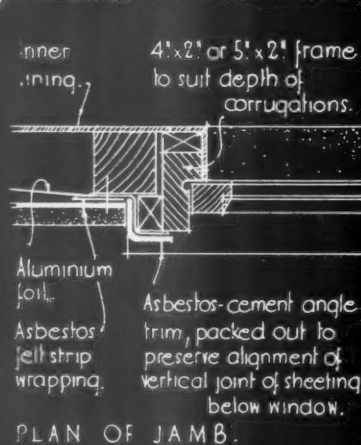
**METHOD 1 :** The angle fitting is available in depths to suit the depth of the corrugations of the particular sheeting used.



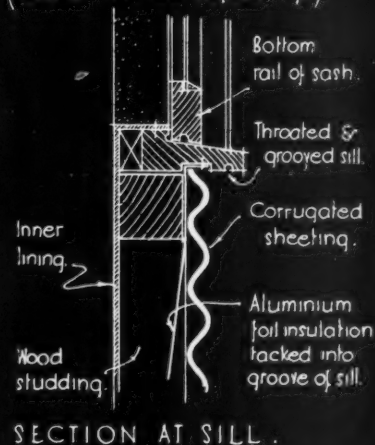
**METHOD 2 :** Corner formed by the use of Everite-Bigsix Closed-end corrugated sheets. Opposite ends have open corrugations.



**METHOD 3 :** Corner formed by the use of moulded asbestos-cement corner piece. One end of each piece is joggled for a flush fitting.

**C. FINISHES AT WINDOW & DOOR JAMBS, HEAD AND SILL (Scale :  $\frac{1}{2}$  ins. equals 1 ft.)**

The aluminium insulating foil is carried over upstand of Z-flashing, and held in position only by the corrugated sheeting.



*Information from Turners Asbestos Cement Co. branch of Turner & Newall Ltd.*

INFORMATION SHEET : LIGHT FRAME CONSTRUCTION FOR ASBESTOS-CEMENT MATERIALS : DETAILS.  
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE, MONTAGUE PLACE BEDFORD SQUARE LONDON WCI • *Drawn by G. Bayne.*

THE ARCHITECTS' JOURNAL  
LIBRARY OF PLANNED INFORMATION  
INFORMATION SHEET

• 730 •

WALL FACING  
MATERIALS  
AND WALLBOARDS

**Subject :** Wall Construction and Details for Corrugated Asbestos-cement Sheets laid horizontally.

**General :**

Sheet No. 721 deals with asbestos-cement sheeting fixed with the corrugations running vertically, i.e. from ground to eaves.

The present Sheet gives a number of constructional details for use when the corrugations of the sheeting are run horizontally i.e. parallel with the eaves. They are generally applicable to either Everite Standard asbestos-cement corrugated sheets or Everite Bigsix asbestos-cement corrugated sheets, particulars of which are given on Sheets Nos. 527, 530 and 533.

**Framing :**

The structural framing required for the fixing and support of the outer covering on an external wall differs according to the type used ; but if the members are designed to suit not only the outer covering but also the insulation and inner lining, then it is found that the simple standard framing shown on this Sheet and on previous Sheets of this series, Nos. 721 and 722, is the most economical and satisfactory. It consists of a top plate, bottom plate and studs (usually 3 in. by 2 in. or 4 in. by 1½ in.) at 2 ft. centre to centre, with one row of nogging centrally placed if the stud is not longer than ten feet.

The framing may be prefabricated in units erected in sections, and bolted together when in position on the site.

**Insulation :**

Wall insulation is provided by Turnall asbestos reinforced aluminium foil, which is made on a core of either asbestos paper or asbestos felt. For further details of this material see Sheets Nos. 403 and 406.

The total heat transmittance of the composite wall panel shown at the top of this Sheet is 0.23 B.Th.U. per hour per sq. ft. for 1 deg. F. difference in air temperature between either side. A full analysis of the heat resistance and transmittance is given on the back of Sheet No. 721.

The insulation of roofs or ceilings is as important as the insulation of walls, and is shown and described for this form of construction on Sheet No. 722.

It should be noticed that an air space is obtained on either side of the foil by means of a clip and spacer fixed to the inner side of the corrugated sheeting between studs.

**Waterproofing :**

Turnall asbestos reinforced aluminium foil on asbestos felt not only provides insulation, but by this method of fixing performs the additional function of forming an impenetrable skin behind the outer covering which waterproofs the framework.

It removes any necessity of using cover fillers or employing lapping at vertical joints and simplifies the problem of flashing at openings.

**Joints :**

Before the outer sheeting is fixed, all studs over which the vertical joints will occur should have a strip of asbestos felt tacked down their full length. The strip should be slightly wider than the stud.

The vertical joints of the horizontal asbestos sheeting are butted. Joints should be arranged to

terminate at the ends of the prefabricated units. Horizontal joints are formed by lapping the sheets one half corrugation.

**Fixings :**

Each end of every sheet should be fixed by drilling the valley of the corrugation and screwing direct to the studs. A flat lead washer over an asbestos felt washer should be used beneath screw head.

Intermediate fixings, if required, should be made to the studs and not to the nogging. Drillings are made through the valleys of the corrugations as before.

**Corners :**

The special angle fitting shown at B may be used for the corners of buildings covered externally with either of the materials mentioned at the beginning of these notes.

Closed-end corrugated sheeting is available in Bigsix size only, in lengths of 5 ft. and 5 ft. 6 in.

Corner posts should be wrapped with asbestos felt for both these corner finishes.

The standard moulded corner piece may be used for both types of sheeting. The pieces are supplied in lengths of 8 ft., and are laid with an end lap of 4 in. It is recommended that corner posts be notched to receive the wings of the corner pieces, to maintain the sheeting at the corner in the same plane.

**Openings :**

In order that the vertical joints of the corrugated sheeting may be kept in true alignment, the ends of the sheets abutting door or window frames should terminate centrally on the trimming stud. This necessitates the use of a packing piece between the stile of the frame and the end of the sheet, the whole being covered by an asbestos-cement angle similar to that used for the corner at B.

If desired, a light metal flashing of Z shape may be used instead of the asbestos-cement jamb and head flashings shown. This would obviate the necessity for using a lintel thinner than the depth of the studs to accommodate the thickness of the asbestos flashing.

Cills should be weathered, rebated and throated, and grooved to receive the edge of the sheeting. In very exposed situations a water bar should be fitted. No flashing is necessary. It is recommended that the foil be pinned in the groove.

All frames should be set forward sufficiently to form a closure for the corrugations of the particular sheeting used, and packed on the inside to obtain the most economical arrangement of the reveal and cill linings.

**Eaves and Base :**

The treatment at the eaves may be similar to the detail shown on Sheet No. 722 for vertically run sheeting. The fixing screws may be driven into the top plate.

At the base, it is necessary to use small asbestos washers regularly spaced to form distance pieces. These are attached to the ends of the floor joists, or to the bottom plate, so that a clear space for moisture clearance is obtained between these members and the back plane of the corrugations. Alternatively, the bottom plate may be fixed very slightly behind the general face of the studding.

**Interior Finishes :**

Asbestos materials most suitable for finishing the interior walls of light-frame buildings constructed as shown on this Sheet, are enumerated on the back of Sheet No. 721.

**Issued by :** Turners Asbestos Cement Co. branch of Turner & Newall, Ltd.

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An aerial view of the layout for the 1942 Rome International Exhibition. [From "Rassegna di Architettura."]

## PERIODICALS

### MARCH—APRIL ANTHOLOGY

#### AMERICA

##### Architectural Forum

(Monthly, \$1.00. 135 East 42nd Street, New York)

**M**ARCH. Broadcasting studios at Hollywood, designed by O. B. Hanson, the Broadcasting Company's chief engineer, in conjunction with the Austin Company; building for the B.B. Company at Cambridge, Mass., by Coolidge, Shepley, Bulfinch and Abbott: this company is a subsidiary of the United Shoe Machinery Company and carries out research on new cements, leather finishes and machinery; Planning Techniques deals with tuberculosis sanatoria and illustrates several different layouts, mostly American; 16 pages of houses, about half traditional and half modern; the Products and Practice section has an interesting two pages on a cast *in situ* house-building system with large-scale permanent formwork.

April. The Low Cost house; an exceptionally full survey based on the fact that over 70 per cent. of U.S. families now earn less than \$2,000 a year, whereas ten years ago well over half earned more; plans, construction and cost details are fully analysed and the survey concludes with

50 examples built during the last few years and renting at between 25 and 40 dollars a month.

##### Architectural Record

(Monthly, \$1.00. 115 West 40th Street, New York)

March. Fifty plywood panel houses built at the rate of one a day by the Federal Housing Administration at Fort Wayne, Indiana; erection of each unit on the site took only 1 hour 40 minutes, and the houses rent at \$2.50 a week, this figure repaying principal and interest at  $4\frac{1}{2}$  per cent. over a period of 20 years; a simple and well-arranged bank modernization in Los Angeles by S. O. Clements; a proposal by Gavin Hadden to use a mirror so that spectators in squash courts can get a reasonable view. The system is somewhat on the same lines as that used in one or two Newsreel cinemas, but has the disadvantage that the image is reversed and that players thus appear to be left-handed. It is thought, however, that this limitation will be compensated for by the fact that accommodation can be provided for 200 spectators seated or 400 standing; a house in Michigan by Alden B. Dow, designed for one servant and a family of two; typical kitchen units for families

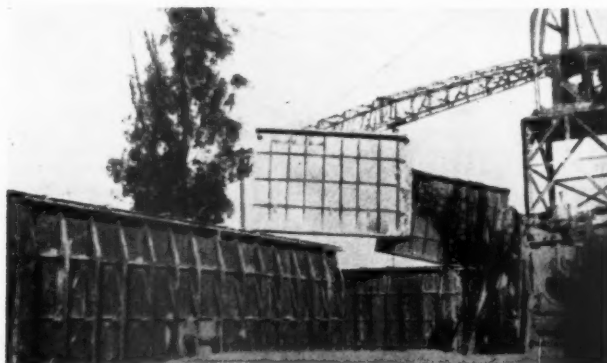
of varying size—kitchen here generally includes a small alcove for eating; the Building Types section deals with site planning for low-rent houses.

April. Selected pavilions from the San Francisco Golden Gate exposition: those for Brazil and the Argentine seem among the best, though Mark Daniels's Hall of Floriculture (wood frame with synthetic glass infilling) looks light and straightforward; winning designs for the National Theatre competition, won by Eero Saarinen, Rapson and James, with Edward Stone and Philip Goodwin taking both second and third prizes; dining-room units; recent trends in Roman Catholic church design, an article by Maurice Lavanoux; the Building Types section deals with retail shops, and has some valuable information on window arrangements and storage.

##### Pencil Points

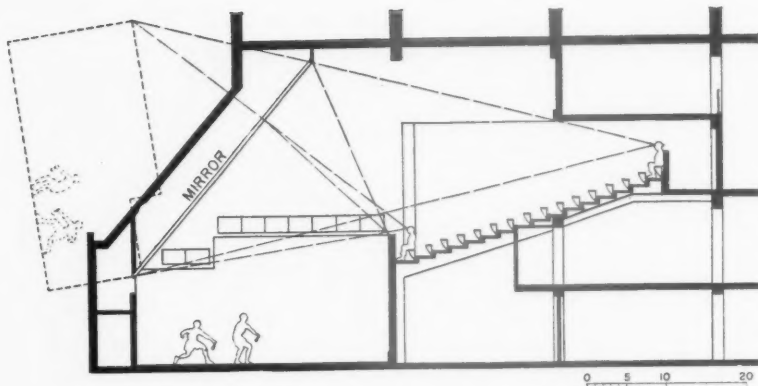
(Monthly, 50 cents. 330 West 42nd Street, New York)

March. Professor Talbot Hamlyn on schools; the Rackham School of Graduate Studies, the latest addition to Michigan University, by Smith, Hinchman and Grylls, American "classic" of the luxury type; eight pages of working drawings of built-in furniture, by Neutra, Edward Stone and others; an article by D. H. Grootenboer and Don Graf on porcelain enamel sheet as an external covering and for mural decoration: for this latter purpose a mural 28 ft. by 70 ft. from the New York World's



A Los Angeles company has evolved a method of pouring reinforced concrete houses with pipes, services, window frames and interior trim all in place. The photographs show, left, the internal formwork the size of a complete room being placed on the foundation slab; right, the placing of the outer formwork after reinforcement and services have been installed. [From the "Architectural Forum."]





A mirror used over a squash court in order that a larger number of spectators may be able to watch games in progress. The image is reversed so that players appear to be left-handed. [From the "Architectural Record."]

Fair is illustrated, it "dramatises the elemental forces in Nature, in Man's conquest for better living" and looks as one might guess from this description, though the material seems to have possibilities if properly handled.

April. Royal Barry Wills on the building up of an architectural practice—the first of a series of articles: Professor Talbot Hamlin on the failings of contemporary American architecture; Concrete Virtues, a well-illustrated article by Dennis Murray; useful and informative article by J. C. Rose on plant forms and the colours, shape and heights of various shrubs and trees; flat roof overhangs—a series of working details by various architects; Early American Architecture from Massachusetts.

#### FINLAND

##### Arkkittehti

(Monthly, 15 fmk. Aionokatu 3, Helsingfors)

No. 1. A hotel near Hämeenlinna, by Märta Blomstedt and Matti Lampén: the whole number, 16 pages, is devoted to plans, illustrations, and a full technical description of the job.

April. An office and store building in northern Finland built by a large wholesale firm, architect Erkki Huttunen; a bakery and store in Helsinki by the same architect; a criticism of the town planning regulations for northern Helsinki by Kaj Englund; town planning in the poorer residential districts.

#### FRANCE

##### L'Architecture

(Monthly, 10 frs. 2 Rue de l'Echelle, Paris, 1er)

March. Flats in Paris, by G. Larnet; a newspaper building in Lille, by Laprade, Bazin and Willoqueaux; a church at Blois, by Paul Rouvière; a museum at Basle, by Rudolf Christ and Paul Bonatz.

April. Californian work by Richard Neutra; the new wireless building at Lyons by Michel Roux-Spitz; the *Cité Hospitalière* at Lille; mountain chalets by various architects; traditional and modern architecture at Casablanca.

##### La Technique des Travaux

Monthly, 10 frs. 54 Rue de Clichy, Paris, 9e)

March. Hospital at Brussels, by Brunfaut and Jasinski; power station at Asnières;

a lifting bridge at Dunkirk; the Galveston bridge, Texas; shear stresses in reinforced concrete, an article by Professor G. Magnel.

April. Wireless building at Billancourt by Charles Girond; the Dutch building at the *Cité Universitaire*, architect, W. M. Dudok; church of Notre Dame at Lisbon by Pardal Monteiro; two bridges, including a welded one in Belgium.

#### GERMANY

##### Baukunst und Städtebau

(Monthly, 1 mk. 90 pf. Bauwelt Verlag, Charlottenstrasse 6, Berlin, S.W. 68)

March. Buildings at the Junkers works by Werner Issel—offices, hangars, workshops, research block and testing plant; the importance of scale in urban buildings—an article by Dr. Rudolf Stein, illustrated with numerous examples from Breslau; housing and site planning in Dresden by Paul Wolf; building regulations for walls and partitions in multi-storey buildings.

April. Building in the newly acquired provinces of Bohemia and Moravia; three buildings by Wilhelm Gross—a children's home, a branch bank and a private house; a timber house on the Havel by Erich Rothärmel; a clothing factory by Martin Simon.

##### Bauwelt

(Weekly, 90 pf. Bauwelt Verlag, Charlottenstrasse 6, Berlin, S.W. 68)

March 2. Re-housing under the Third Reich—an article by Walter Fey; an article by Professor Walther Wickop on the standardization of building costs, numerous examples are analyzed and the costs per cubic metre for the various parts worked out; the A.R.P. section deals with shelters in Barcelona, ministerial decrees for hospital precautions, and there is an article by Georg Bauer on the maintenance of water supplies for the civil population; the Junkers works in Dessau, already referred to in *Baukunst und Städtebau*.

March 9. The protection of steelwork against corrosion, an article by P. Lampenschierf-Arn; 1939 German living-rooms; a standardized factory at Hofheim, by Martin Simon; a review of Otto Völckers' book on Glass and Windows.

March 16. Three buildings by Wilhelm Gross—a children's home, a branch savings bank, and a police station; new Government specifications with diagrams for tongued and grooved boarding and skirtings.

March 23. The acoustics of large halls and theatres—an article by K. Weisse; building work in the Harburg district; a traditional timber house by Erich Rothärmel on the River Havel near Berlin.

March 30. Saving timber in roof construction—article by Ludwig Kroher; buildings in the newly-acquired Reich territory of Bohemia and Moravia.

April 6. Building regulations for floors in multi-storey buildings; dwelling-houses in Stuttgart, Allgäu and in Italy, by Eisenlohr and Pfennig.

April 13. Houses in the Taunus mountains by Walter Schwagenscheidt.

April 20. Herr Hitler at the German art exhibition; a method for constructing hollow floors using inflated rubber tubing; a plan by Paul Köhler for a town with twenty-two thousand inhabitants.

April 27. New buildings for the Henschel aeroplane works by Otto Biskaborn.

##### Deutsche Bauzeitung

(Weekly, 3 mks. 40 pf. per month. Beuthstr. 6-8, Berlin, S.W. 19)

March 1. Notes on the Leipzig Fair; "The Beauty of Labour" in the factory—an article by Hans Henniger based on a factory near Stettin by Professor Gregor Rosenbauer.

March 8. The planning and layout of petrol stations—an article by August Bembé; the 1940 International Trade Exhibition at Cologne; two country churches in Westphalia, by Gerhard Langmaack of Hamburg; portable "streamlined" garage.

March 15. The work of architectural students at the Berlin Art Academy, all very much in the Third Reich manner.

March 22. Results of a competition for a hotel near Bensheim, won by D. Reinhardt; wood shingles for roofing; firemen's training school at Mainz; technical high school at Bologna, by G. Vaccaro.

March 29. A.R.P. in Barcelona—a review of various schemes and executed work; A.R.P. in the hospital—an article by Hans Kammler; Norwich Town Hall.

April 5. Competition for the replanning of the market place in Greifswald, won by Ostermaier and Zilling; two houses built by architects for their own occupation.

April 19. Herr Hitler's 50th birthday; two Hitler youth hostels.

April 26. Notes on heating; new housing in Bremen.

##### Innen Dekoration

(Monthly, 2 mks. 50 pf. Alexander Koch, Neckarstrasse 121, Stuttgart)

March. A house by Heinz Lüttgen, four photographs, no plans; various contemporary interiors from Italy and Germany.

April. Current furniture and interiors, none of much interest.

##### Moderne Bauformen

(Monthly, 3 mks. Julius Hoffman, Stuttgart)

March. The new laboratories for the Ruhr Coal Syndicate in Essen, by Curt Wasse; alterations to a restaurant in an Essen hotel by the same architect; an Evangelical church in Bad Wiessee, by Bruno Biehler; a Catholic church near Gutenstein, by Robert Kramreiter; a house and various interiors by Erich von Boltonstern; contemporary Swedish furnishings, the first of a series of articles; measured drawings of the various jobs illustrated.

April. Two single family houses by Denis Boniver; houses in and around Stuttgart





A country hotel in Finland by Märta Blomstedt and Matti Lampén. [From "Arkkittehti."]

by Robert Hussendorfer; furniture produced by the Wohnungskunst Institute in Berlin; a government "Mother and Child" home for holidays for mothers of large families.

#### HOLLAND

*Bouwkundig Weekblad Architectura*

(Weekly, 15 florins per annum. Weteringschans 102, Amsterdam)

March 4. An appreciation by J. P. Mieras of the late B. W. Wierink. The Kröller-Müller Museum, by Henry van de Velde.

March 11. A house at Haarlem, by G. Friedhoff; piling in the Royal Palace at Amsterdam.

March 18. Further thoughts on the Amsterdam Town Hall competition, by B. T. Boeyinga; Albert I Memorial Library at Brussels.

March 25. Further notes on the Amsterdam Town Hall competition, by B. T. Boeyinga; lengthy review of a textbook called *Practical Studies*, by A. J. van der Steur.

April 1. The work of Dignes Janse, sculptor.

April 8. An appreciation of the late Richard Roland Holst.

April 15. Competition for a new town hall at Maassluis.

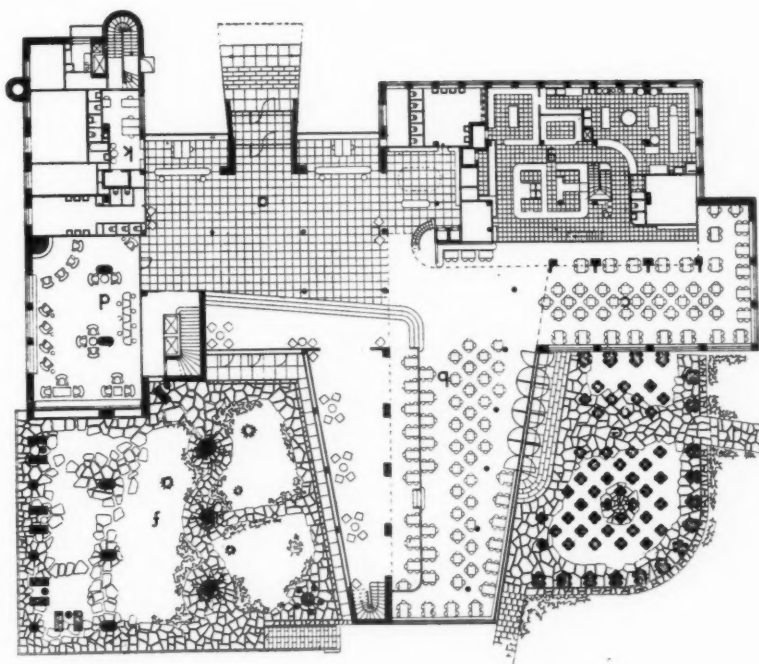
April 29. A number devoted entirely to the work of Doctor Jan Kalf.

*De 8 en Opbouw*

(Fortnightly, 30 cents. Amstel 22, Amsterdam, C.)

March 18. Report of a lecture by G. Rietveld; "What is being built in Russia Today?"—an article by J. B. van Loghem; an appreciation of the late Bruno Taut by Hans Schmidt.

April 1. Church at Zürich by Werner Moser.



April 15. Country homes for children, an article illustrated with some Dutch and Italian examples with some useful furniture sizes.

#### ITALY

*Architettura*

(Monthly, 15 lire. 150 lire per annum. Via Palermo 10, Milan)

December 1938. 1942 International Exhibition in Rome; town planning and

architecture—an article by Marcello Piacentini; an article on the town plan by Gaetano Minnucci; plans and photographs of pavilions for the 1942 Rome Exhibition.

January, 1939. Seaside colony at Cesenatico by Giuseppe Vaccaro; competition for the new headquarters of the Trade Fair at Florence, won by S. Pastorini and M. Pellegrini; competition for an ophthalmic clinic and hospital at Florence, won by Longo, Frenguelli and Ranieri; working-class rehousing in America, an article by



From the R.A. Exhibition: St. Marylebone Town Hall Extension, new public library and Public Health Centre. By Sir Edwin Cooper, R.A. (No. 1118.)

P. Carbonara; an appreciation of the late Gaetano Moretti.

February. The League of Nations building at Geneva.

#### *Rassegna di Architettura*

(Monthly, 15 lire. Via Podgora 9, Milan)

January. Holiday hotel at Breuil by Renzo Gerla; what the 1942 Rome International Exhibition will be like; a villa and garden at Ascona, by Carlo Weidemeyer; furniture by Franco Albini and Giancarlo Piretti.

February. Film settings by various architects; party buildings at Dalmine and at Castelfiorentino; two houses in Libya by Giovanni Pellegrini.

#### SWEDEN

##### *Byggmästaren*

(Weekly, 20 kr. per annum. Kungsgatan 32, Stockholm)

No. 6. The planning of seaside colonies.

No. 7. Discussions and resolutions passed by the Swedish Society of Architects.

No. 8. A double number devoted to swimming pools, both in Sweden and abroad.

No. 10. Gothenburg town hall—plans, photographs and many illustrations.

No. 11. The new Sabbatsberg hospital.

No. 12. Town hall at Halmstad.

#### SWITZERLAND

##### *Schweizerische Bauzeitung*

(Weekly, 1 fr. Dianastrasse 121, Zürich)

March 4. Town planning and reclama-

tion of the Linth plain between the Lake of Zürich and the Lake of Walen; a house for himself, by Professor W. Dunkel.

March 11. The Swiss Exhibition, a review of the work completed up to the end of February of this year.

March 18. The Swiss samples fair at Basle.

March 25. The ventilation of the Maas tunnel at Rotterdam, an article by Erwin Schnitter; new laboratories for the Swiss Aluminium Co. at Neuhausen am Rheinfall.

April 1. Heavy duty tractors for cross-country work.

April 8. Competition for a new school in Zürich, won by A. C. Müller.

April 15. The Weisshorn ski lift at Arosa; further schemes submitted in the School competition referred to above.

April 22. A hospital at Biberist by Paul Hüslar.

April 29. The jubilee of the Neuhausen aluminium industry; a gymnasium at Neuhausen by F. Käser.

##### *Werk*

(Monthly, 3 frs. 50 cents. Mühlebachstrasse 55, Zürich)

March. Painting, sculpture and the graphic arts are shown at the Zürich Exhibition; an Evangelical church at Liss (Berne) by Hans Klauser; two other churches; an appreciation of Theodor Fischer.

April. Three magnificent progress photographs from the Zürich exhibition; sketches from the Delacroix exhibition in Zürich.

## LAW REPORT

NOISE FROM SCHOOL: NOT AN ACTIONABLE NUISANCE

*Compton v. Bunting.*—Chancery Division. Before Mr. Justice Morton

THIS was an action by Mrs. Cecilia Margery Compton, of 138 Widmore Road, Bromley, against Miss Dorothy Violet Bunting, of 140 Widmore Road, Bromley, for an injunction to restrain defendant carrying on a kindergarten and preparatory school so as to cause a nuisance or annoyance to the plaintiff.

Plaintiff's case was that her house adjoined defendant's, and she complained of the noise made by the children, noise from a percussion band and the playing of pipes and vibration from the children romping.

The defendant, in her defence, denied any nuisance and pleaded that any nuisance complained of had been remedied. She also pleaded that the road had been commercialized.

Mr. Christie, k.c., and Mr. Strangman appeared for the plaintiff, and Mr. Harman, k.c., and Mr. G. Upjohn for the defendant.

The plaintiff's case was that she purchased her premises in 1933 for £600, and in 1936 the defendant acquired the adjoining premises for £700. The defendant had opened a kindergarten school and she had some fifty or sixty pupils, whose ages ranged from four to ten years. Plaintiff complained that since the school was opened she had suffered a nuisance or annoyance from the children "rioting" in the drive of defendant's house, when they came to school, and of running up and down the stairs and along passages to the classrooms. This caused annoyance and vibration. She also complained of stamping and scuffling, of noise from piano playing and from a percussion band, and the playing of reed pipes. Plaintiff alleged that the percussion band was all beating and a noisy performance.

Mrs. Compton gave evidence and said as a result of the annoyance she was not able to read or write or concentrate on knitting patterns. The noise made her cry and she had to go out of the house to get away from it. She complained of the children jumping in the rooms.

Mr. Harman, for the defendant, denied that the plaintiff had suffered any annoyance and said his case was that there was an exaggeration by the plaintiff of the noise.

Miss Bunting, the defendant, denied that the children rioted in the drive, that they were boisterous, or that they romped and did as they liked. She had an efficient staff and perfect order was kept. When she received complaints from the plaintiff she did all she could to mitigate them and prevent annoyance to neighbours. In her opinion the vibration was due to the number of lorries and buses that used the road.

Mr. Leslie Peters, a surveyor, giving evidence for the defendant, said that Widmore Road was becoming commercialized and values from a residential point of view were going down.

After hearing a mass of evidence and visiting the premises with counsel, when certain experiments were tried, his lordship dismissed the action, with costs.

His lordship, in his judgment, said he based his conclusions on the evidence he had heard and not in any way on the experiments that were made when he visited the house. There was a sun loggia

which extended from the plaintiff's house to the defendant's house, which made the passage of sound much easier between the school music-room and plaintiff's dining-room, which she used to a great extent as a sitting-room. There were four grown-up persons at home all day in the plaintiff's house and not very busily occupied. Any noise which caused the plaintiff annoyance must have aroused a great deal of sympathy in the other three. His lordship thought it might well be that if the plaintiff's house had been occupied by a family, where everyone except perhaps the lady of the house was out during the day, and she was busy with household tasks, and was able to go out shopping, the trouble might never have arisen. In his view the defendant's school was conducted in a sensible and ordinary manner and the children were supervised whether in the house or garden. The evidence with regard to vibration had fallen far short of establishing a nuisance. He thought that any noise heard in rooms, other than the dining-room, was of a trifling nature.

With regard to the music, he thought that the plaintiff could get relief by moving into another room whilst the lessons were being given, as they only occurred on two days a week. Under all the circumstances he came to the conclusion that the plaintiff had not established such a nuisance as would entitle her to an injunction. He sympathized with the plaintiff, but the inconvenience was one of those things which people must put up with in modern life. It was not an inconvenience that the court would interfere to stop. The result was that the action would be dismissed and the plaintiff must pay the defendant's costs.

His lordship suggested that the defendant should give plaintiff a timetable as to the exact hour at which each lesson was to take place and how long it would last and adhere strictly to those hours. Defendant would be well advised not to increase materially the amount of music which went on in the music-room.

Mr. Harman said the observations would be attended to.

## Obituary

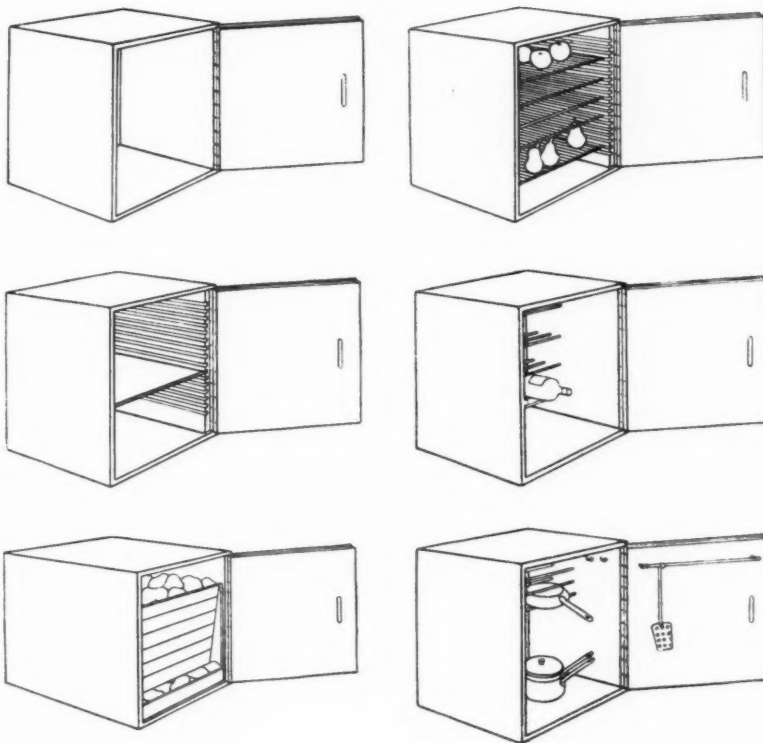
The death took place recently of Mr. Ernest Edward Moody, F.R.I.B.A. For the past 30 years Mr. Moody, who was 65 years of age, had been in partnership with Mr. D. F. Chrisfield in High Street, Broadstairs. The firm have taken a big part in the development of Broadstairs, especially the Dumpton Park estate and the Broadway.

We regret to record the sudden death of Mr. William Thomas Dean, managing director of Holophane, Ltd., at the age of fifty-five, from heart failure.

Mr. Dean was on a business visit to the U.S.A. when he collapsed in his hotel at Washington, and despite immediate medical attention, passed away.

A popular and well-known figure in electrical circles, Mr. Dean had been associated with Holophane, Ltd., for over thirty years, in the positions of sales manager, and managing director for the past three years.

We regret to record the death of Mr. Frederick Purton, F.S.E., M.I.S.T.R.U.C.E. Mr. Purton joined the Expanded Metal Co., Ltd., in the year 1899, and in 1907 was appointed engineer and manager, a position he held up to March, 1920, when he became sales director. This position he held until his death.



## TRADE NOTES

[By PHILIP SCHOLBERG]

### Kitchen Cabinets

THE single large kitchen cabinet which is supposed to hold all necessary equipment has been popular for many years, and is now almost standard practice in speculatively built houses as an eye-catching feature which makes the hesitating purchaser sign on the dotted line. Many of these cabinets are, of course, perfectly satisfactory, and a number of firms have given a great deal of thought to their design. They are tending, however, to become more and more elaborate, and some of them have now reached a stage where they are the dominating feature of the kitchen, and the other essentials like cookers have to be tucked away in the odd spaces left. On these grounds there is much to be said in favour of a series of smaller units, standardized so that it is possible to make up a series of cupboards and shelves to suit any given job. An English firm is now making a large range of cupboards and cabinets based on designs prepared by a panel of six Belgian architects, and the sketches at the head of these Notes show a few of the standard designs. Dimensions have been arranged so that almost any layout can be built up piecemeal; the standard width is 2 feet with a depth from front to back of 2 feet or 16 inches. Heights vary, most of the units being 10, 15, 20 or 30 inches, the smaller units all working neatly into the basic dimension of 30 inches. For brooms and vacuum cleaners there is a 60-inch cupboard, and at the other end of the scale there are small units with glass containers for the storage of things like flour and sugar. These latter are much the same as those fittings which we have seen

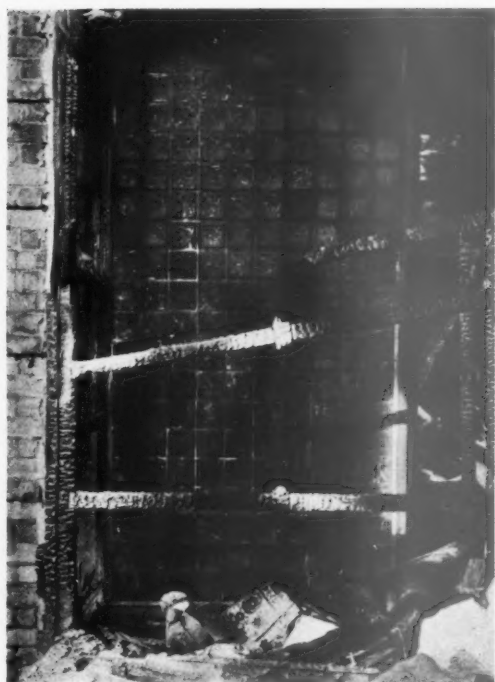
in illustrations of Swedish kitchens, but which have not, so far as I know, been available here for very long, though Kandya had some of them at the 1936 Building Exhibition.

The cabinets referred to here are marketed under the trade name of Cubax, and they seem to be very well made. The doors are hung on full-length piano hinges and have good solid loop handles. Prices are not ultra cheap but are very reasonable considering the standard of workmanship. Samples of them can be seen at the Kitchen Planning Centre, 2 Old Bond Street.—(Cubax Kitchen Cabinets, Ltd., Alfred's Way, By-Pass, Barking.)

### Surface Finishes for Concrete

Nearly everyone ought to have read the Building Research Station's pamphlet on external renderings which was published some months ago. This pamphlet is only part of a much wider survey on concrete finishes in general which is being carried out in co-operation with the Cement and Concrete Association. A tour of Germany, France, Switzerland and the erstwhile Austria and Czechoslovakia was made to study the technique of surface finishes for the concrete itself, as opposed to renderings, and the results have been embodied in a report by Mr. L. F. Denaro (one of the joint authors of the renderings pamphlet) and Mr. J. G. Wilson of the Cement and Concrete Association. The report consists of some forty pages of typescript and photographs and is a remarkably thorough piece of work. There is not enough space here for a full-length review, but it may be fairly said that most aspects of concrete





*The panel of glass masonry which was in the centre of a recent fire which raged all night at Kendal Milne's Store in Manchester. Although discoloured and crazed in parts, the panel remained intact. See note on this page.*

construction are dealt with both from the point of view of the contractor and of the architect, and there is much to be learnt about the proper arrangement of the shuttering so that the board marks give interest to the surface and form a definite part of the design. Much is made of this method, particularly in Switzerland, and the photographs in the report show how remarkably successful board marks and lift lines can be if they are thought out from the beginning. For the Swiss architect matters are made a good deal easier since it is the standard practice to give the formwork and the concrete as two separate items in the bill of quantities, so that it is easy to work out the extra cost of using wrought boards as opposed to ordinary rough sawn. Tongued and grooved boarding is also often used to prevent the escape of mortar at the joints, but many architects and contractors agree that its use is not really necessary if proper care is taken in the erection of the formwork.

The Association has a limited number of copies of this report, and will send them to anyone who cares to apply for them. The report is very well worth having in its present state, though it is to be assumed that the information contained in it will ultimately become available when the whole survey is completed.—(*The Cement and Concrete Association, 52 Grosvenor Gardens, London, S.W.1.*)

#### *Glass Bricks and Fire Resistance*

Glass masonry has so far been classified under grade D for fire resistance as giving resistance to the passage of fire for one hour. The photograph on this page demonstrates that this laboratory figure has been borne out in practice, for it shows a glass window after a very severe fire in Kendal Milne's store in Manchester. This window faced on to a light well which probably acted as a flue for the flames, and it may therefore be assumed that the panel was submitted to a pretty fierce heat, while jets of water from hoses cannot have

done very much to help, for they would tend, if anything, to produce cracking through sudden temperature changes. As the photograph shows, the panel is discoloured and crazed in parts, and one or two of the bricks are broken, but the panel may fairly be said to have remained intact. The bricks were Insulight.—(*Pilkington Brothers, Ltd., St. Helens, Lancs.*)

#### *Shop Lighting*

Mercury vapour lamps show such large current savings that their use for shop lighting was bound to increase, though they have the disadvantage of producing such a corpse-like colour on human beings that some form of other lighting is necessary as well. Several firms have already produced duplex fittings to take both mercury and tungsten lamps, the blue of the mercury and the yellow of the tungsten giving together something approaching a daylight effect which is said to be very good for fabric display. One of the first shops to change over completely to this form of lighting is C. and A. Modes in Oxford Street. Here the fittings are designed by Zeiss's and have an 80-watt mercury lamp arranged in the centre of the fitting with three 150-watt tungsten lamps round the edge. Just over three-quarters of the illumination is directed downwards on to the working plane and the rest to the ceiling. Spaced at 20 to 25 foot centres these lamps give an average intensity of 15 foot candles. If the mercury lighting is not required the fittings can be adapted to use tungsten lamps alone.—(*Zeiss Ikon, Ltd., Mortimer House, Mortimer Street, London, W.1.*)

#### *Electric Fires*

From time to time I have made some fairly offensive remarks about electric fires made to imitate coal, but I have now discovered one model in which the heat is really radiated from the imitation fuel instead of from a separate heating element. It is called the Sunrise, and is made by Bratt, Colbran. The most interesting feature is that the fuel is hot enough to

burn up any cigarette ends which may be thrown into it, and this overcomes the one really serious failing of all electric fires. I am still not at all sure about imitation coal, but if you must have it this seems to be the most honest way of doing it.—(*Bratt, Colbran, Ltd., 10 Mortimer Street, London, W.1.*)

#### *Synchronous Clock Connectors*

The Seetric clock connectors made by Sanders & Co. have already been dealt with in these Notes, but it is perhaps worth adding that this firm now make a pattern intended for use with British Standard circular boxes. The finish is cream and the price is 32s. a dozen.—(*William Sanders & Co. (Wednesbury), Ltd., Falcon Electrical Works, Wednesbury, Staffs.*)

#### *Novelties at the Building Centre*

The Building Centre has at the moment a very interesting show of building equipment which has been placed on the market during the last year or so. The exhibition is officially called Novelties, rather an unfortunate word since it implies to many people a stunt which doesn't work and for which there is no particular reason. In practice, however, this show is nothing of the kind, for there is a large room full of (mostly) very sensible devices and hardly any gadgets. Quite a number of the exhibits have already been referred to in these Notes and the others will be dealt with in due course. In the meantime the show stays open until May 20.—(*The Building Centre, 158 New Bond Street, London, W.1.*)

#### *Housing in Scotland*

More houses were built by local authorities in Scotland in 1938 than in any previous year, states the Annual Report of the Department of Health for Scotland, just published by H.M. Stationery Office, price 4s. 19,160 houses were completed in 1938, as compared with 13,341 houses in 1937. Nearly a quarter of a million new houses are, however, still required before the working-class population of Scotland can be said to be satisfactorily housed, and if these requirements are to be made within a reasonable time the rate of building must be substantially increased.

The report states that the serious difficulties that had faced local authorities in 1937 eased to some extent in 1938. The sharp rise in building costs was arrested; the supply of essential building materials was in general sufficient; and more labour was available for housing schemes. Many local authorities have reported that progress with their building schemes is still being hampered by shortage of skilled labour in certain trades—notably in the bricklaying trade, which is not yet sufficient to ensure a satisfactory rate of progress with rehousing.

The response of local authorities to the use of alternative methods of construction is, states the Report, very gratifying. At the end of the year, 16 authorities had embarked upon schemes comprising 1,581 timber and 1,002 concrete houses. A number of other local authorities were engaged at the end of the year in making arrangements for construction by alternative methods in supplement of their ordinary programmes in brick and stone. The progress already made with alternative methods promises well for the success of the experiment, and although the proposal to build timber houses in this country had many critics, initial prejudices are being overcome.

In the opinion of the Department timber construction is more suited to the cottage type of house than to the flatted type. Building by those alternative methods now being used in Scotland—mainly poured concrete and timber—makes little demand on the services of the sections of



the building trade in which there is a shortage of labour, and it can therefore proceed concurrently with the ordinary programmes of local authorities with a resulting increase in the output of houses.

## MANUFACTURERS' ITEMS

The British Aluminium Co., Ltd., of Adelaide House, E.C.4, have just issued a four-page leaflet devoted to Imprest Aluminium—a new development whereby aluminium or aluminium alloy panels may be given a wide variety of decorative finishes.

The Aluminium Information Bureau in London, surveying Britain's position in respect of aluminium supplies in time of emergency, states that in normal times about four-fifths of the aluminium used in the United Kingdom is imported in the form of metal, chiefly from Canada, while the remainder is produced from imported bauxite. Of the imports of bauxite in 1938 about 89 per cent. came from France and most of the remainder from British Guiana and Greece. France is the principal producer of bauxite.

As far as structural aspects of air raid precautions are concerned, the immediate problems would appear to be divisible into three distinct groups:—

(a) The provision of completely separate shelter accommodation for personnel. A copy of a bulletin dealing with the design and construction of such shelters will shortly be issued.

(b) The adaptation of portions of existent structures (e.g. basements) to provide a similar degree of shelter; and, what is lost sight of in the demand for personal safety—

(c) the introduction into future construction of structural elements which will ensure that the structure will be tenable by personnel returning from shelter accommodation after an air raid.

After all, one cannot expect the population to live continuously in the confined quarters likely to be provided by any reasonable form of shelter, and it is obviously preferable that sheltering personnel should find their houses and work places still suitable for occupation when they return.

So far the greatest majority of structures in this country have been built in brickwork, and although qualms may have arisen as to the resistivity of ordinary brickwork to the effects of aerial bombardment, the Clay Products Technical Bureau of Great Britain has examined this aspect very carefully and has satisfied itself that the various forms of brickwork construction put forward in its A.R.P. Bulletin No. 1 will provide at an economic cost a reasonable degree of tenability after bombardment, providing the building has not been hit directly.

## THE BUILDINGS ILLUSTRATED

**H.M.V. SHOWROOMS, OXFORD STREET, W.1** (pages 764-767). Architect: Joseph Emberton. General contractor, Griggs and Son, Ltd. Sub-contractors and suppliers included: Demolition and Construction Co., demolition and excavation; Trussed Concrete Steel Co., reinforced concrete engineers, who were also responsible for all the reinforced concrete work; James Clark and Son, glass; Troughton and Young, Ltd., electric wiring; Curtis Lighting Co. of Gt. Britain, Ltd., electric light fixtures; Carrier-Ross Engineering Co., Ltd., electric heating and ventilation; Burn Bros. (London), Ltd., plumbing; Joseph Chater and Sons, Ltd., sanitary fittings; Taylor Pearce & Co., furniture; Crittall Manufacturing Co., Ltd., casements; Haskins, rolling shutters; W. A. Telling & Co., plaster; Fenning & Co., Ltd., granite; Finmar, Ltd., and British Ideal Patents and Furniture,

Ltd., furniture; E. Pollard & Co., Ltd., shop fittings; Bennie Lifts, Ltd., lifts; Eric Munday, lettering; Smith's English Clocks, Ltd., clocks.

**HAMSTEAD INSTITUTE, PAVILION AND SHELTER** (pages 768-777). Architect: J. H. Forshaw. Assistant architect: W. A. Woodland. General contractors, J. F. Hughes, Ltd. Sub-contractors and suppliers included: Matthews and Mumby, reinforcement; Flexo-Plywood Industries, flush doors, folding partitions, and lavatory partitions; Walker and Wood, ironmongery; Lambhill Ironworks, steelwork; Hoskins and Sewell, metal windows; Puttyless Glazing Co., lantern lights; Greenwoods Ventilating Co., skylight vents; Pearce and Cutler, kitchen range, sanitary fittings; S. H. Heywood & Co., electric lighting; Birmingham

Gas Corporation, gas supply and lighting; Seymour, Sweet & Co., heating and hot water; Himley Brick Co., bricks; General Electric Co., Genalex exhaust extra fans running at 900 r.p.m. complete with regulators and Louvre type shutters; Pyrene, Ltd., fire equipment; Jas. Farquharsons and Sons, cleaning equipment; Lion Foundry, rainwater goods; British Patent Perforated Paper Co., toilet boxes; Constructors, Ltd., mirrors; W. Durose, access ladders; Lenscrete, Ltd., pavement lights; F. Clarkson and Sons, floor lino; Gramophone Co., Ltd., radio-gramophone; E. F. Allen & Co., piano; Grindley Hotel Ware Co., crockery; Risboro's Furniture, tables and chairs; Burroughes and Watts, billiard tables; Maple & Co., curtains and hangings.

## BUILDING NEWS

### PROVINCES

**COVENTRY.** *School.* The Coventry Education Committee has acquired a site at the Green Farm estate, Wyken, for the erection of a school. **CRAYFORD.** *Swimming Pool.* The U.D.C. is to construct an open-air swimming pool.

**GATESHEAD.** *Houses.* The Corporation is to erect 66 houses on the Old Ford estate at a cost of £25,118.

**HEBDEN.** *School.* The West Riding Education Committee is to erect a senior school at Hebdon Royd and an elementary school at Queensbury at a cost of £103,000.

**IPSWICH.** *Extension.* The Corporation is to enlarge the nurses' quarters at the isolation hospital at a cost of £5,600.

**IPSWICH.** *Power Station.* The Corporation has approved a scheme for the provision of a new power station at Cliff Quay at a cost of £1,907,125.

**KEIGHLEY.** *Houses.* Plans passed by the Corporation: Six houses, Arnside Avenue, James Wharton; shop, Brunswick Street, Keighley Industrial Co-operative Society; two houses, Park Lane, Mr. W. F. Phillips; three houses, Barley Cote Road, Riddlesden, W. and H. Whitaker; two houses, Oak Bank Avenue, Albert Sharp, Ltd.; out-kitchen, Milking Hill Farm, Stanbury, Mr. G. Greenwood; two houses, Providence Lane, Oakworth, Mr. W. Sharp; 34 houses, Moor View Grove, Mr. D. O'Connell.

**KEIGHLEY.** *Swimming Bath.* The Keighley Education Committee is to construct a swimming bath at the proposed Guard House Council senior school.

**LEEDS.** *School.* The Leeds Education Committee has obtained sanction to borrow £33,900 for the erection of a senior school at Meanwood.

**LEWES.** *Houses.* The Lewes Corporation is to erect 80 houses and four shops on the Landport estate at a cost of £32,230.

**MORLEY.** *Houses.* The Corporation is to erect 54 houses and eight flats on the Hill Top estate Ardsley, at a cost of £22,600.

**RAWTENSTALL.** *Bus Station.* The Corporation has approved plans for the provision of a bus station in Bury Road.

**RAWTENSTALL.** *Extensions, etc.* Plans passed by the Corporation: Extensions, King's Cinema, Booth Street, for Bacup and Rossendale Land and Building Co., Ltd.; extensions, Lovelough Printworks, for Calico Printers' Association; shop, Bank Street, for Union Bank of Manchester, Ltd.; two bungalows, Schofield Road, for Messrs. O. Ashworth, Ltd.

**SCARBOROUGH.** *Houses, etc.* Plans passed by Corporation: Two houses, Potter Lane, Mr. A. C. Wells; alterations, Newborough, Marks and Spencer, Ltd.; two houses, The Oval, Cornelian Avenue, Marsden Builders, Ltd.; four houses, Mount View Avenue, Mr. P. G. H. Fawcett; three houses, Mount Park Avenue, Mrs. Holmes; alterations and additions, Carlton Hotel, Belmont Road, Mr. J. Brown; four houses, Clark Street, Mr. C. Westall.

**SHEFFIELD.** *Church, etc.* Plans passed by the Corporation: House and church, Scarsdale Road, Heeley Woodseats Spiritualist Church; 4 houses, Gleadless Road, Mr. C. Bell; 4 houses, Bawtry Road, Fowler and Marshall; 2 houses,

Dobcroft Road, Mr. S. L. Clark; 4 houses, Abbeydale Road South, Mr. J. V. Auckland; 10 flats, Sheldon Road, Mrs. W. M. Gillott; church and hall, Barnsley Road, Kelham Fathers; 2 houses, Dobcroft Road, E. Walker (Builders), Ltd.; 8 houses, Westwick Road, Mr. R. Jones; 6 houses, Norton Park Drive, Mr. A. Peck; 39 houses, Dudley Road, Mr. G. W. Hird; 6 houses, Mansfield Road, Moorhouse and Brind; 8 houses, Hallam Grange Road, Mr. H. Newton; 2 houses, Heather Lea Avenue, Mr. W. Green; 6 houses off Audrey Road, J. H. Judge & Co. (Builders), Ltd.; 5 houses, Clifford Road, Mr. S. M. Tyzack; factory and stores, Owlerton Green, W. R. Swann & Co., Ltd.; factory, store and offices, Moorfields and Blue Boy Street, Mr. W. Waldenburg; 14 houses, Hurlfield Road, Hancock Bros.

**SHEFFIELD.** *School.* The Sheffield Education Committee is to erect a senior school in Hatfield Lane at a cost of £38,920.

**SMETHWICK.** *Shops, etc.* Plans passed by the Corporation: Three shops, Thimblemill Road, for Mr. I. S. Banks; factory extensions, Oldbury Road, for Alberta Manufacturing Co., Ltd.; works extensions, Foundry Lane, for Messrs. W. and T. Avery, Ltd.; bakery extension, Montague Road, for Messrs. W. Price and Sons, Ltd.; alterations, 72-73 George Street, for Mr. J. Stapleford.

**SPALDING.** *Senior School.* The Lincs (Holland) Education Committee is to erect a senior school at Spalding at a cost of £57,790.

**STOKE-ON-TRENT.** *Houses.* Plans passed by the Corporation: 20 houses, New Inn Lane, Hanford, for Mr. E. Pierce; six houses, off Blurton Road, for Messrs. H. Lees & Co.; six houses, off Uttoxeter Road, for Mr. C. E. Tilstone; two houses, Harcourt Avenue, Meir, for Messrs. Barlow Bros.; two bungalows, West Avenue, Penkull, for Mr. W. Simpson; eight houses, Fremantle Road, Penkull, for Messrs. Holloway & Co.; two shops and houses, Stone Road, for Mr. H. W. Cartledge; ten houses off Chaplin Road, Longton, for Messrs. J. H. Summerfield and Son.

**SUTTON COLDFIELD.** *School.* The Education Committee has acquired "The Anchorage" for the purposes of a new technical school.

**SUTTON COLDFIELD.** *Licensed Premises.* Plans passed by the Corporation: Licensed premises, Boldmere Road, and alterations, New Oscott Tavern, Chester Road, and Boot Inn, Rectory Road, Ansell's Brewery, Ltd.; 2 shops, Boldmere Road, Miss F. Burgess; 9 houses, Carnwath Road, H. Lee and Sons; house, Darnick Road, Mr. A. Ball; 24 houses, Bakers Lane, A. Walker and Son; 2 houses, Lindridge Road, James and Son; 2 houses, Little Sutton Road, Horco, Ltd.; house, Pilkington Avenue, Mr. A. Edmonds; 2 houses, St. Bernard's Road, Mr. E. R. Martin; 4 houses, Westwood Road, Mr. F. Batchelor; almshouses, Whitehouse Common Road, Hook Memorial Homes; 6 houses, Slade Road, Allen and Edge Estate; 4 houses, Crown Lane, Mr. T. Morgan; 4 flats, Queslett Road, Mr. T. A. Glynn.

**WALTON GRANGE.** *School.* The Bucks Education Committee is to erect a school at Walton Grange at a cost of £26,290.

Copies of the loose supplement containing the labour rates for the principal towns and districts throughout the country can be obtained from the JOURNAL, price 2d. to cover postage.

# P R I C E S

ON the following pages appears Prices of Materials—Part I, with the prices, last published on April 13, brought up to date.

Immediately below, Messrs. Davis and Belfield mention the principal changes which have occurred in the last month. Similar notes will be published on this page each month.

## ★ ANSWERS TO QUESTIONS

While the JOURNAL, naturally, cannot presume to undertake the responsibilities of a quantity surveyor, it has arranged with the authors of this Supplement to answer readers' questions regarding any matter that arises over their use of the Prices Supplement in regard to their work, without any fee. Questions should be addressed to the Editor of the JOURNAL, and will be answered personally by Messrs. Davis and Belfield. As is the normal custom, publication in the JOURNAL will omit the name and address of the enquirer so that it is unnecessary to write under a pseudonym.

## NOTES ON PRICE CHANGES

Prices generally remain at about the same level. Such changes as have occurred are marked as indicated below.

O. A. DAVIS, F.S.I.

● Items marked thus have risen in price since last quotation on April 13.

\* Items marked thus have fallen in price since last quotation on April 13.

The complete series of prices will consist of four sections, one section being published each week in the following order:—

1. Current Market Prices of Materials, Part I.
2. Current Market Prices of Materials, Part II.
3. Current Prices for Measured Work, Part I.
4. A.—Current Prices for Measured Work, Part II.  
B.—Prices for Approximate Estimates.

# PART 1

## CURRENT MARKET PRICES OF MATERIALS—I

BY DAVIS AND BELFIELD

### CONCRETOR

#### Cements

All delivered in paper bags (20 to the ton) free and non-returnable.

			4 Tons and over	In 80-ton freights F.A.S. Safe Wharf in River Thames, London Area.
Portland .. .. .	per ton	42/-	39/6	
Rapid hardening .. .. .	per ton	48/-	45/6	
Water repellent .. .. .	per ton	72/-	—	
Atlas White (1 barrel 376 lbs.) .. .. .	per barrel	44/-	1 ton upwards	10 tons over
Colorcrete rapid hardening, Buff and red .. .. .	per ton	69/-	69/-	69/-

Colorcrete Rapid hardening khaki .. .. .	per ton	90/-	70/-
Colorcrete Rapid hardening blue .. .. .	per ton	113/-	103/-
Colorcrete non rapid hardening .. .. .	per ton from	139/-	to 309/-
Snowcrete .. .. .	per ton	175/-	175/-
		1-10 cwt.	11-15 cwt.
		16-20 cwt.	21 tons and upwards

Ciment Fondu, delivered Central London area .. .. .	per cwt.	7/9	7/3	6/-	6/-
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#### Aggregate and Sands (Full Loads)

2" Unscreened ballast .. .. .	per yard cube	5/9	
1" (Down) Washed, crushed and graded shingle .. .. .	per yard cube	6/-	
3/4" (Down) Ditto .. .. .	per yard cube	7/3	
2" Broken brick .. .. .	per yard cube	10/6	
1" Ditto .. .. .	per yard cube	11/9	
Washed pan breeze .. .. .	per yard cube	5/3	
Coke breeze 1" to dust .. .. .	per yard cube	12/6	
1/2" Sharp washed sand .. .. .	per yard cube	8/-	
White Silver Sand for white cement (one ton lots) .. .. .	per ton	25/-	

(For Sands for Bricklaying and Plastering see respective trades)

#### Pavings

Brick hardcore .. .. .	per yard cube	2/9	
Concrete ditto .. .. .	per yard cube	3/9	
Clean furnace clinker and boiler ashes .. .. .	per yard cube	3/3	
Coarse gravel for paths .. .. .	per yard cube	6/9	
Fine ditto .. .. .	per yard cube	9/6	
Clean granite chippings .. .. .	per ton	18/6	
Red quarry tiles, 6" x 6" x 7/8" .. .. .	per yard super	6/-	
Ditto 6" x 6" x 3/4" .. .. .	per yard super	5/-	
Buff ditto, 6" x 6" x 3/4" .. .. .	per yard super	6/6	
Ditto 6" x 6" x 3/8" .. .. .	per yard super	5/6	
Hard red paving bricks .. .. .	per 1,000	150/-	

#### Reinforcement

Basis price for mild steel rods, 1/2" diameter and upwards, from London stocks .. .. .	per ton	£13 0 0	
Extras for:—			
1/2" and 3/4" diameter .. .. .	per ton	10/-	
7/8" diameter .. .. .	per ton	15/-	
1" diameter .. .. .	per ton	20/-	
1 1/4" diameter .. .. .	per ton	30/-	
1 1/2" diameter .. .. .	per ton	40/-	

★ The previous complete Supplement is contained in the issues of the JOURNAL for April 13, April 20, April 27 and May 4.

Prices vary according to quality and the quantity ordered.

Those given below are average market prices and include delivery in the London area, except where otherwise stated, but do not include overhead charges and profit.

### CONCRETOR—(reinforcement continued)

1/2" diameter .. .. .	per ton	60/-
Lengths of 40 ft. to 45 ft. .. .. .	per ton	10/-
Lengths of 45 ft. to 50 ft. .. .. .	per ton	15/-

#### Sundries

Retarding liquid, in 5-gallon drums (for exposing aggregate) .. .. .	per gallon	20/-	Ex Warehouse, Southwark Bridge. Drums chargeable and credited, if returned.
Ditto. (for obtaining a bond) .. .. .	per gallon	12/6	

### BRICKLAYER

#### Common Bricks

Rough stocks .. .. .	per 1,000	67/6
Third stocks .. .. .	per 1,000	52/6
Mild stocks .. .. .	per 1,000	69/6
Sand limes .. .. .	per 1,000	50/-
* Phorpres pressed Flettons .. .. .	per 1,000	46/3
* Phorpres keyed Flettons .. .. .	per 1,000	48/3
Blue Staffordshire wirecuts .. .. .	per 1,000	160/-
Lingfield engineering wirecuts .. .. .	per 1,000	95/-
Breeze fixing bricks .. .. .	per 1,000	57/6
Firebricks, best Stourbridge 2 1/4" .. .. .	per 1,000	155/-
Firebricks, best Stourbridge 3" .. .. .	per 1,000	190/-

\* At King's Cross. For delivery in W.C. district add 4/3 per 1,000.

#### Facing and Engineering Bricks

Sand Limes, No. 1 .. .. .	per 1,000	85/-
Sand Limes, No. 2 .. .. .	per 1,000	70/-
* Phorpres rustic Flettons .. .. .	per 1,000	66/3
Midhurst Whites .. .. .	per 1,000	75/-
Hard stocks, firsts .. .. .	per 1,000	93/-
Hard stocks, seconds .. .. .	per 1,000	86/-
Sand-faced, hand-made reds .. .. .	per 1,000 from	115/-
Sand-faced, machine-made reds .. .. .	per 1,000 from	110/-
Red rubbers (9 1/4-in.) .. .. .	per 1,000	300/-
Hunziker (white) .. .. .	per 1,000	67/6
Hunziker (creams, light greys etc.) .. .. .	per 1,000 from	85/- to 100/-
Dunbricks (concrete), multi reds, ex works .. .. .	per 1,000	72/-
Dunbricks (concrete), multi lavender, ex works .. .. .	per 1,000	75/-
Southwater engineering No. 1 (first quality red pressed) .. .. .	per 1,000	145/-
Southwater engineering No. 2 (second quality red pressed) .. .. .	per 1,000	125/-
Blue pressed .. .. .	per 1,000	180/-

\* At King's Cross. For delivery in W.C. district add 4/3 per 1,000. Discount if accompanied by order for pressed 2/- per 1,000.

**BY DAVIS AND BELFIELD**

**BRICKLAYER—(continued)**

The following prices are subject to 2½ per cent. trade discount and 2½ per cent. cash discount, and include delivery to any railway station (minimum 4-ton loads). Add 10/- per 1,000 for delivery in London area.

Prices per 1,000	White, Ivory and Salt Glazed			Buff, Cream and Bronze		Other Colours		All Colours	
	Best		Seconds		Best	Best		Seconds	
Stretcher, glazed one side .. ..	£ 24 0 0	s. 22 0 0	d. 26 0 0	£ 29 10 0	£ 23 0 0	s. 23 0 0	d. 23 0 0	£ 23 0 0	s. 23 0 0
Header, glazed one end .. ..	£ 23 10 0	s. 21 10 0	d. 25 10 0	£ 29 0 0	£ 22 10 0	s. 22 10 0	d. 22 10 0	£ 22 10 0	s. 22 10 0
Double stretcher, glazed two sides	£ 32 10 0	s. 30 10 0	d. 34 10 0	£ 38 0 0	£ 31 10 0	s. 31 10 0	d. 31 10 0	£ 31 10 0	s. 31 10 0
Double header, glazed two ends	£ 29 10 0	s. 27 10 0	d. 31 10 0	£ 35 0 0	£ 28 10 0	s. 28 10 0	d. 28 10 0	£ 28 10 0	s. 28 10 0
Quoin, glazed one side and one end	£ 30 10 0	s. 28 10 0	d. 32 10 0	£ 36 0 0	£ 29 10 0	s. 29 10 0	d. 29 10 0	£ 29 10 0	s. 29 10 0

		1-ton lots	6-ton lots
Lime, greystone . . . .	per ton	42/-	37/6
Lime, chalk . . . . .	per ton	42/-	37/6
Lime, blue Lias (including paper bags)	per ton	47/6	42/6
Lime, hydrated (including paper bags)	per ton	47/-	42/6
Washed pit sand . . . .	per yard cube		7/6

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

Wall ties, self coloured .. .. .	per cwt.	19/-
Wall ties, galvanized .. .. .	per cwt.	24/6
Hoop iron, black .. .. .	per cwt.	25/-
D.P.C. slates, size 18" x 9" .. .. .	per 1,000	150/-
D.P.C. slates, size 14" x 9" .. .. .	per 1,000	117/6
D.P.C. slates, size 14" x 4½" .. .. .	per 1,000	59/-
*Ledkore D.P.C. Grade A .. .. .	per foot super	5d.
*Ledkore D.P.C. Grade B .. .. .	per foot super	6d.
*Ledkore D.P.C. Grade C .. .. .	per foot super	8d.

	9"×3"	9"×6"	9"×9"	12"×9"	14"×9"
Earthenware airbricks :					
red, blue, vitrified and					
buff terra cotta each	-/8	1/4	2/4	4/-	6/8

	9" × 3"	9" × 6"	9" × 9"	12" × 6"	12" × 9"
Black cast iron, School Board pattern airbricks					
per doz.	3/-	5/6	11/-	11/-	20/-
Galvanized ditto	5/6	11/-	22/-	22/-	40/-
Black hit and miss cast iron ventilators					
per doz.	12/-	15/-	21/-	21/-	36/-
Galvanized ditto	24/-	30/-	42/-	42/-	72/-
	1' 0"	1' 6"	2' 0"	2' 6"	3' 6" 5' 0"
Buff terra cotta chimney pots .. .. each	2/6	3/-	4/4	5/9	13/4 22/6
Fireclay .. .. per ton	45/-				

Wall reinforcement supplied in standard rolls containing 25 yards lin.		
2" wide black japanned	per roll 2/1	Greater widths pro rata 2½" price carriage paid on orders of £5. Discounts for quantities.
2" wide galvanized ..	per roll 3/2	
2½" wide black japanned	per roll 2/7½	
2½" wide galvanized ..	per roll 3/10½	

		2'	2½'	3'	4'
Breeze	.. per yard super	1/3½	1/5½	1/8	2/3
Clay tiles	.. per yard super	2/3	2/6	2/9	3/1
Pumice	.. per yard super	2/8	3/-	3/6	4/-
Plaster	.. per yard super	2/3	2/9	3/3	4/-

*Shepwood Partition Bricks size 9" x 2 $\frac{7}{8}$ " and 2 $\frac{1}{2}$ " on bed. Terms, as for Glazed Bricks*

Prices per 1,000 except where stated per brick	White, Ivory and Salt Glazed		Buff, Cream and Bronze		Other Colours		All Colours	
	Best		Seconds		Best		Best	
Double stretcher, glazed two sides	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Single stretcher, glazed one side	32 10 0	30 10 0	34 10 0	38 0 0	31 10 0	24 0 0	22 0 0	26 0 0
	Each	Each	Each	Each	Each	Each	Each	Each
Round end glazed two sides and one end ..	-/10½	-/10	1/0½	1/0½	-/10½	-/10½	-/10½	-/10½

<i>Gas Flue Blocks</i>					Single Flues	Double Flues
Straight blocks	..	..	..	each	1/1	1/11
Building in set	..	..	..	per set of 3	2/8	4/10
Cover blocks	..	..	..	each	1/5	3/-
Raking blocks 45°	..	..	..	each	2/9	3/11
Raking blocks 60°	..	..	..	each	1/11	2/10
Offset blocks	..	..	..	each	3/4	4/10
Closer blocks	..	..	..	each	1/1	1/11
Closer flashing blocks	..	..	..	each	1/-	1/8
Straight flashing blocks	..	..	..	each	1/-	1/8
Terminal and cap	..	..	..	per set	6/9	11/6
Middle terminal and cap	..	..	..	per set	6/3	10/9
End terminal and cap	..	..	..	per set	6/6	11/3
Corbel block	..	..	..	each	4/10	3/2
Gathering block	..	..	..	each	—	9/8

### Agricultural Pipes

		2"	3"	4"	6"
Pipes in 12' lengths	per 1,000	67/6	92/6	120/-	210/-
(Delivered in full loads Central London Area.)					

		4"	6"	9"
Pipes (2' lengths) .. .. .	each	1/8	2/6	4/6
Bends, ordinary .. .. .	each	2/6	3/9	6/9
Single Junction, 2' long .. .. .	each	3/4	5/-	9/-
Yard Gully, without grating .. .. .	each	6/3	6/10½	11/3
Ordinary round or square Grating, painted .. .. .	each	-7½	1/3	2/6
Ordinary round or square Grating, galvanized .. .. .	each	1/0½	2/1	4/4½
Extra for Inlets, horizontal .. .. .	each	1/6	1/6	1/6
Extra for Inlets, vertical .. .. .	each	2/3	2/3	2/3
Intercepting Trap with Stanford Stopper .. .. .	each	17/6	22/6	37/6
Grease and mud interceptor with bucket for removing silt and grease for 6", 9" and 12" drains, with iron grating, painted .. .. .	each	20/-	20/-	20/-
Ditto, with iron grating galvanized .. .. .	each	21/10½	21/10½	21/10½

The above prices to be varied by the following percentages for the different qualities given. All subject to 2½ per cent. cash discount.

	British Standard	British Standard Tested
Orders for 2 tons and over . . . .	Less 20% <sub>0</sub>	Plus 5% <sub>0</sub>
Orders under 2 tons, 100 pieces upwards	Less 2% <sub>0</sub>	Plus 22% <sub>0</sub>
Orders under 2 tons, less than 100 pieces	Plus 7% <sub>0</sub>	Plus 32% <sub>0</sub>

	Best	Seconds
Orders for 2 tons and over . . . .	Less 27½%	Subject to 15%
Orders under 2 tons, 100 pieces upwards	Less 10%	off the price of
Orders under 2 tons, less than 100 pieces	Nett	best quality for all sizes



## CURRENT PRICES

BY DAVIS AND BELFIELD

## DRAINLAYER AND MASON

## DRAINLAYER—(continued)

## Cast Iron Drain Pipes and Fittings

Socket and Spigot Pipes :—		9 fts.	6 fts.	4 fts.	3 fts.
Weight	Size			each	each
(per 9 ft.)					
1.1.8	4" per yard	6/2	6/11	11/-	8/4
1.1.20	4" per yard	6/5	7/1	11/3	8/7
2.0.6	6" per yard	9/6	11/4	18/3	14/7
4.0.2	9" per yard	17/3	22/7	39/2	29/10

Socket and Spigot Pipes :—		2 fts.	18 ins.	12 ins.	9 ins.
Weight	Size				
(per 9 ft.)					
1.1.8	4" each	6/11	6/2	5/5	4/11
1.1.20	4" each	7/-	—	—	—
2.0.6	6" each	10/11	—	—	—
4.0.2	9" each	—	—	—	—

## Tonnage Allowances :—

Orders up to 2 tons nett.  
Orders 2 to 4 tons less 2½%  
Orders 4 tons or over less 5%

	4"	6"	9"
Bends .. .. .	each 6/1½	12/7	39/10
Single junctions .. .. .	each 10/9	22/-	69/6
Intercepting traps .. .. .	each 36/9	47/2	134/6
Gulleys ordinary trapped .. .. .	each 14/3	—	—
Extra for inlet 4" .. .. .	each 4/-	—	—
Grease Gully trap .. .. .	each 115/2	—	—
H.M.O.W. large socket gully trap with 9" gully top and heavy grating and one back inlet .. .. .	each 23/3	42/-	—

## Cast Iron Inspection Chambers

The larger figures below refer to the main pipes and the smaller figures to the branches

	4" x 4"	6" x 4"	6" x 6"	9" x 6"	9" x 9"
Straight chambers with one branch one side, each	36/9	47/2	52/8	110/3	124/11
Straight chambers with two branches one side, each	55/1½	65/6	77/2	150/8	194/4
Straight chambers with three branches in all, each	64/11	75/4	89/5	162/11	—
Straight chambers with four branches in all, each	74/9	85/2	101/8	175/2	—
Straight chambers with three branches one side each, each	69/10	87/-	99/3	—	—
Straight chambers with four branches in all, each	79/7½	96/9	111/6	—	—
Straight chambers with five branches in all, each	89/5	106/7	123/9	—	—
Straight chambers with six branches in all, each	99/3	116/4½	136/-	—	—
Straight chambers with four branches one side each, each	91/10½	109/-	131/4	—	—
Straight chambers with five branches in all, each	101/8	118/10	143/4	—	—
Straight chambers with six branches in all, each	111/6	128/7½	155/7	—	—
Straight chambers with seven branches in all, each	121/3	138/5	167/10	—	—
Straight chambers with eight branches in all, each	131/9	148/8	180/1	—	—

The branches to the above are at 135°

	4"	6"
Extra for branches between 135° and 180° each	7/4	7/4
Extra for branches between 90° and 135° other than standard angles .. .. .	each 6/1½	6/1½

	4" x 4"	6" x 4"	6" x 6"
Curved chambers, no branch 90°-112½° .. .. .	each 26/4	—	37/4
Curved chambers, no branch 135° .. .. .	each 26/4	—	37/4
Curved chambers, one branch 135° .. .. .	each 33/1	47/9	53/11
Curved chambers, two branches 135° .. .. .	each 39/10	64/4	74/9

## Channels in White Glazed Ware (Unselected Quality)

	4"	6"	9"
Half round straight channels, 6" long .. .. .	each 2/4	3/2	5/3
Half round straight channels, 12" long .. .. .	each 3/3	4/5	6/11
Half round straight channels, 18" long .. .. .	each 4/-	5/3	8/5
Half round straight channels, 24" long .. .. .	each 4/8	6/4	10/6
Half round straight channels, 30" long .. .. .	each 5/10	7/11	13/2
Half round straight channels, 36" long .. .. .	each 7/-	9/6	15/9
Half round ordinary or long channel bends .. .. .	each 8/5	12/11	21/-
Half round ordinary or short channel bends .. .. .	each 6/-	8/5	—
Three-quarter round ordinary branch bends .. .. .	each 8/1	11/8	—
Three-quarter round ordinary branch bends, midgates .. .. .	each 7/3	—	—
Half round taper channels 24" long .. .. .	each 7/10	11/3	—
Half round taper channel bends .. .. .	each 10/3	17/9	—

These prices are subject to 20% discount.

## DRAINLAYER—(continued)

## Channels in Brown Glazed Ware

	4"	6"	9"
Half round straight channels 24" long .. .. .	each 1/3	1/10½	3/4½
Half round straight channels 30" long .. .. .	each —	—	4/2½
Ditto, short lengths .. .. .	each 1/3	1/10½	—
Half round ordinary channel bends .. .. .	each 1/10½	2/9½	5/0½
Ditto, short .. .. .	each 1/10½	2/9½	—
Ditto, long .. .. .	each 3/9	5/7½	10/1½
Three-quarter round branch bends .. .. .	each 5/-	7/6	—

	6" x 4"	9" x 6"
Half round taper channels 24" long .. .. .	each 3/9	6/9
Half round taper channel bends .. .. .	each 4/8½	8/5½

The above prices are subject to the same discounts as those given for "Best" quality salt glazed stoneware pipes.

## Manhole Covers

	Black	Galvanised
24" x 18" single seal for foot traffic. (Weight 0.3.0 in lots of 24) .. .. .	each 14/6	25/9
24" x 18" single seal for light car traffic. (Weight 2 cwt. in lots of 24) .. .. .	each 38/9	65/3
24" x 18" Wood Block pattern. For road traffic. (Weight 3 cwt.) .. .. .	each Coated 63/-	Fine Cast Galv
Cast step irons, 13½" long, 6" wide, 9" in wall, approximate weight 5½ lbs. each .. .. .	per dozen 14/9	25/6
Galvanized fresh air inlets with cast brass fronts (L.C.C. pattern) .. .. .	each 5/6	20/8

## MASON

## Yorkstone

Building quality Robin Hood and Woodkirk Blue Stone. Blocks scrapped, random sizes .. .. .	per foot cube 4/6
Add for blocks to dimension sizes .. .. .	per foot cube 6d. (each dimension)
Templates with sawn beds, edges rough (up to 4 ft. super and not over 2' 6" long) .. .. .	per foot cube 5/-
Templates with sawn beds, sawn one edge .. .. .	per foot cube 6/-
Templates with sawn beds, sawn two edges .. .. .	per foot cube 7/-
Prices f.o.r. Yorkshire, railway rate to London Station per ton. (Minimum 6-ton loads.)	18/3

## Ancaster Stone

Freestone, random blocks .. .. .	per foot cube 3/6
Brown weather bed stone selected for polishing all brown blocks .. .. .	per foot cube 8/-
Brown and blue weather bed stone selected for polishing .. .. .	per foot cube 7/-
Prices f.o.r. Ancaster, railway rate to London Station approximately 11½d. per foot cube (minimum 6-ton loads.)	—

## White Mansfield Stone

Random blocks (yellow bed) for dressings .. .. .	per foot cube 4/-
Random blocks (hard middle bed) for steps, pads, pavings and copings .. .. .	per foot cube 3/6
Prices f.o.r. Mansfield, railway rate to London station, 6 ton lots .. .. .	per foot cube 1/2

## Bath Stone

Random blocks, delivered railway trucks, Paddington or South Lambeth .. .. .	per foot cube 2/10½

## Portland Stone

Whitbed, in random blocks of 20 feet cube average, delivered railway trucks Nine Elms, South Lambeth or Paddington .. .. .	per foot cube 4/5
Basebed—add to the above .. .. .	per foot cube -/3
For every foot over 20 ft. cube average—add per foot cube .. .. .	-/1
For every foot over 30 ft. cube average—add per foot cube .. .. .	-/0½

## ½" Thick Plain Marble Wall Linings

Roman Travertine .. .. .	per foot super 5/-
Golden Travertine .. .. .	per foot super 6/3
Roman stone .. .. .	per foot super 4/6
Hopton-wood stone .. .. .	per foot super 5/-
Second statuary .. .. .	per foot super 4/6
Sicilian .. .. .	per foot super 4/-

## Artificial Stone

6" x 3" Copings and sills .. .. .	per foot run 1/6
6" x 6" Copings and sills .. .. .	per foot run 2/4
9" x 3" Copings and sills .. .. .	per foot run 2/-
9" x 6" Copings and sills .. .. .	per foot run 3/4
12" x 3" Copings and sills .. .. .	per foot run 2/4
12" x 6" Copings and sills .. .. .	per foot run 3/0
Cornices according to detail, per foot cube (from) .. .. .	6/9

# CURRENT PRICES

BY DAVIS AND BELFIELD

## MASON, SLATER, TILER AND ROOFER, AND CARPENTER

### MASON—(continued)

#### Reconstructed Stone to match Natural Stone

Sills, lintols, coping, cornices, ashlar, etc., average size	per foot cube	11/-
Window sills, 9" x 3" section	per foot run	2/1
" " 7" x 3" section	per foot run	2/-

#### Slate Slabs, cut to size and Planed

Not exceeding 4' 6" long or 2' 3" wide	1" 1½" 1½"	
" " 6' 6" long or 3' 3" wide	per foot super 3/1 3/4 3/11	
Exceeding 6' 6" long or 3' 3" wide	per foot super 3/9 4/1 4/10	
Rubbed faces	per foot super 4/1 4/6 5/2	
" edges	per foot run -/5 -/5 -/6	
	per foot run -/4 -/4 -/5	

#### Combined Slate Cills and Window Boards for Metal Windows

Window Width	Wall thickness	Radius	External reveals
9" 11" 13½"	4/8 5/8 2' 4½"	2' 21/- 24/-	2' 25/6 28/6
8' 3½" 4' 10½"	7/4 8/7 10/4 12/3 14/10	2' 10½"	30/- 33/3

### SLATER, TILER AND ROOFER

#### Best Bangor Slates

		£ s. d.
24" x 12"	per 1,000 actual	33 10 0
22" x 12"	per 1,000 actual	27 19 0
22" x 11"	per 1,000 actual	25 4 9
20" x 12"	per 1,000 actual	24 14 6
20" x 10"	per 1,000 actual	21 15 5
18" x 12"	per 1,000 actual	20 19 8
18" x 10"	per 1,000 actual	17 7 6
18" x 9"	per 1,000 actual	15 11 9
16" x 12"	per 1,000 actual	17 14 9
16" x 10"	per 1,000 actual	15 11 9
16" x 9"	per 1,000 actual	13 19 6
16" x 8"	per 1,000 actual	12 1 11

Prices include for delivery to site in lots of 1,000 and upwards.

#### Old Delabole Slates (f.o.r.)

#### Standard sizes.

Prices and computed weights per 1,200.

		20" x 10"	16" x 10"
Grey medium gradings	per 1,200	558/-	366/-
	cwts.	38	30
Unselected greens (V.M.S.)	per 1,200	628/-	413/-
	cwts.	44	36

#### Random sizes.

Prices per ton and computed covering capacities in squares per ton.

		No. 1 Grading
Grey	per ton	128/-
Covering cap.:	per ton (3" lap)	2.37 squares
	per ton (4" lap)	2.19 squares

		No. 2 Grading
Weathering grey greens (V.M.S.)	per ton	139/-
Covering cap.:	per ton (3" lap)	2.25 squares
	per ton (4" lap)	2.08 squares

		No. 2 Grading
Weathering greens (V.M.S.)	per ton	149/-
Covering cap.:	per ton (3" lap)	2.25 squares
	per ton (4" lap)	2.08 squares

		No. 2 Grading
Rustic reds (25%) and weathering greens (V.M.S.)	per ton	174/-
Covering cap.:	per ton (3" lap)	2.25 squares
	per ton (4" lap)	2.08 squares

Railway rate to Nine Elms, London, minimum 4 tons, 21/9, minimum 6 tons per truck, 18/1 per ton.

#### Tiles

		£ s. d.
Hand-made sandfaced 10½" x 6½" red roofing tiles	per 1,000	4 15 0
Machine-made sandfaced 10½" x 6½" red roofing tiles	per 1,000	4 0 0
Berkshire rustic pantiles	per 1,000	18 10 0

• Items marked thus have risen since April 13.

### SLATER, TILER AND ROOFER—(continued)

#### Westmorland Green Slates

	Bests, 24" to 12" long. Proportionate widths	Computed cover in sq. yds. per ton
Random sizes.		
No. 1 Buttermere fine light green	240/-	30
No. 2 " light green (coarse grained)	215/-	27-28
No. 5 " olive green (coarse grained)	197/-	25-27
No. 5 Medium green	197/-	25-26
No. 7 Elterwater fine light green	216/-	27-28
No. 15 Tilberthwaite fine light green	214/-	26-28
No. 16 " light green (coarse grained)	202/-	25-27
Broughton Moor, light sea green, olive green, silver grey green, and mixed shades	227/-	27

Prices include for delivery to any station, minimum 6-ton truck loads.

#### Asbestos-cement

6" corrugated sheets, grey	per yard super	2/11
Standard 3" corrugated sheets, grey	per yard super	2/7½

#### Slates:—

15½" x 7½" grey	per 1,000	£6 16 8
15½" x 15½" diagonal, grey	per 1,000	£12 18 6
15½" x 15½" diagonal, russet or brindled	per 1,000	£16 6 6

#### Pantiles.

Large russet brown	per 1,000	£19 8 6
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Prices are for minimum two-ton loads, and are subject to 5% trade discount.

#### Cedar Wood Tiles

Canadian cedar wood shingles	per square	32/- (normal quantity).
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Prices include for delivery to nearest railway station in England but vary with quantity.

### CARPENTER

#### Carcassing Timber

Prices are for Standards in one delivery; when less than a standard is required, or special lengths, add £1 per standard.

	Per standard	Per foot cube
4" x 11" Scantling	£ s. d. 24 5 0	2/11½
4" x 9"	23 15 0	2/10½
3" x 11"	23 0 0	2/9½
2" x 11"	23 10 0	2/10½
3" x 9"	22 10 0	2/8½
2" x 9"	23 0 0	2/9½
● 3" x 8"	21 0 0	2/7½
● 2" x 8"	21 0 0	2/7½
3" x 7"	20 0 0	2/5½
2" x 7"	20 0 0	2/5½
4" x 6"	24 0 0	2/11
3" x 6"	21 0 0	2/7½
2" x 6"	20 0 0	2/5½
3" x 5"	20 5 0	2/5½
● 3" x 4"	20 0 0	2/5½
2" x 5"	18 10 0	2/8
2" x 4"	18 10 0	2/8
1½" x 11"	(20 ft. lengths and over)	per ft. run -/4½
1½" x 9"	(20 ft. lengths and over)	per ft. run -/3½
1½" x 7"	(20 ft. lengths and over)	per ft. run -/2½

#### Yellow Deal Battens

2" x 1"	per 100 feet run	1/4
1½" x 1½"	per 100 feet run	2/3
1½" x 2"	per 100 feet run	2/9
1" x 2"	per 100 feet run	4/3
1½" x 2"	per 100 feet run	5/6

#### Deal:—

● 3" x 1" x 6" Feather edge	per square	11/6
● 2" x 1" x 4" Feather edge	per square	9/6

#### Western red cedar:—

1" x 6" Drop sidings	per square	32/-
1½" x 1½" x 6" Feather edge	per square	12/6
1½" x 1½" x 4" Feather edge	per square	13/6

#### Deal:—

2" x 6"	per square	16/-
● 1" x 6"	per square	20/-

#### Roof Boarding

TO BE CONTINUED IN NEXT ISSUE