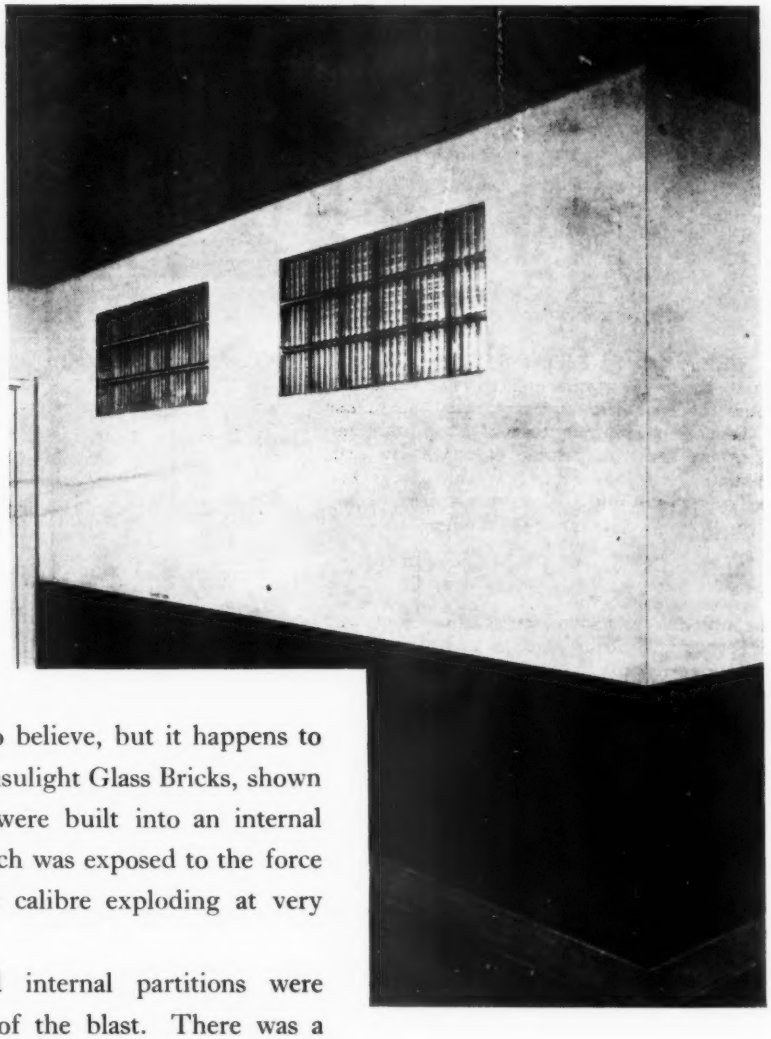
GLASS NEWS STORY

Well, maybe not so marvellous—the heroes of the incident were

INSULIGHT GLASS BRICKS



★ It may seem a bit difficult to believe, but it happens to be a fact that the two panels of Insulight Glass Bricks, shown in the illustration on this page, were built into an internal wall of a building in London which was exposed to the force of a H.E. bomb of very heavy calibre exploding at very close range.

Windows, window frames and internal partitions were severely damaged by the force of the blast. There was a definite indication that the wall which contained these Insulight Glass Brick panels had been displaced by the force of the blast but the Glass Bricks were not affected in any way. The wall had been re-conditioned when this photograph was taken. The Glass Bricks required no such attention.

Complete specifications are available and will be sent upon request. Glass lenses and bricks have been officially tested and found to be highly resistant to blast. (See A.R.P. Handbook No. 5, *Structural Defence*, page 56, and A.R.P. Memorandum No. 12, *Protection of Windows in Commercial and Industrial Buildings*, page 20.)

Issued by Pilkington Brothers Limited St. Helens, Lancashire, whose technical Department is always available for consultation on the use of glass in A.R.P. and in any form of structural work.

BRITISH GLASS P.B.

THE ARCHITECTS' JOURNAL

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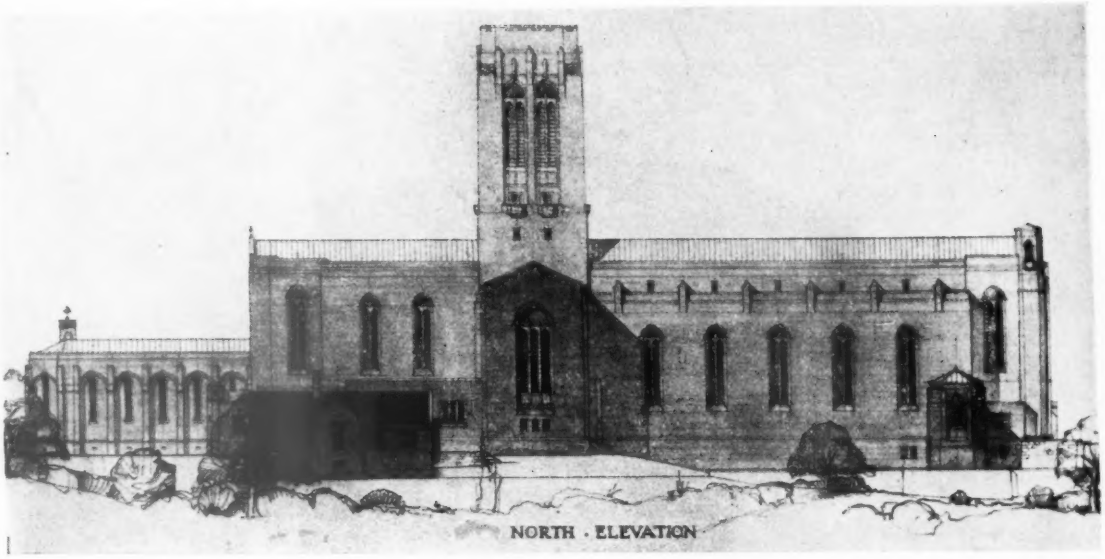
The Editor will be glad to receive MS. articles and also illustrations of current architeture in this country and abroad with a view to publication. Though every care will be taken, the Editor cannot hold himself responsible for material sent him.

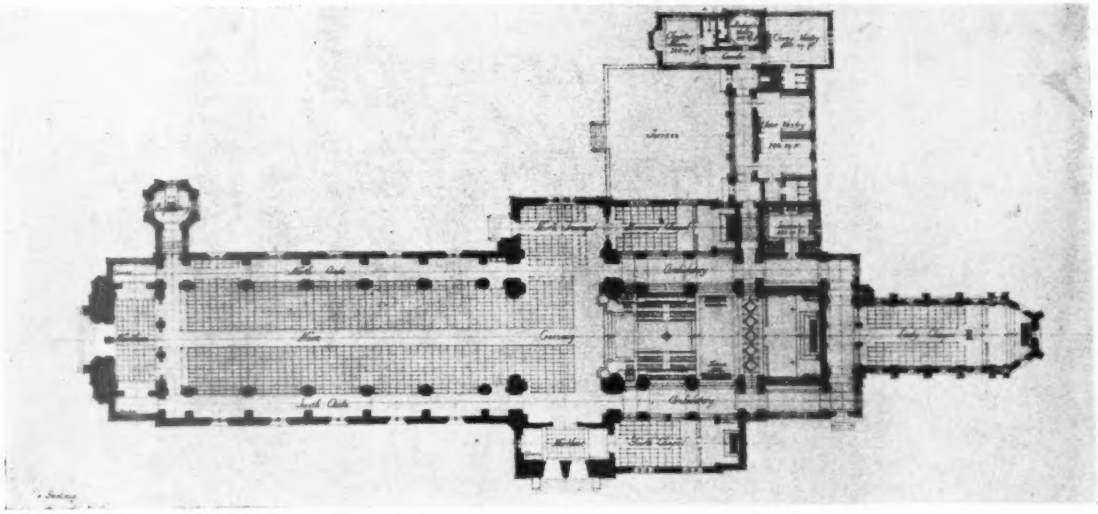
THURSDAY, FEBRUARY 27, 1941. NUMBER 2405: VOLUME 93

PRINCIPAL CONTENTS

Owing to the paper shortage the JOURNAL, *in common with all other papers, is now only supplied to newsagents on a "firm order" basis. This means that newsagents are now unable to supply the* JOURNAL *except to a client's definite order.*

To obtain your copy of the JOURNAL *you must therefore either place a definite order with your newsagent or send a subscription order to the Publishers.*



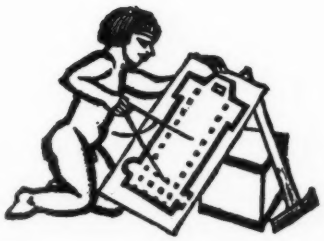


AUCKLAND CATHEDRAL

The first premiated design (£1,000) by Mr. Charles Towle, A.R.I.B.A., of Sydney, N.S.W., in the competition for Auckland Cathedral, New Zealand. Sir Giles Gilbert Scott, R.A., was the Assessor. The second premiated design is reproduced on page 150.

SCOTTISH MINER

One of the miners whose social well-being, recreation and conditions of living are cared for by the Miners' Welfare Commission. The Welfare Fund administered by the Commission was instituted by Act of Parliament and is derived from an output levy on every ton of saleable coal produced and a royalties levy. The Commission consists of an equal number of representatives of mine-owners and mine-workers, all of whom give their services without remuneration. The schemes—recreation, health, pithead baths, pithead welfare (chiefly canteens and cycle stores), education, and aged miners—have cost seventeen and a half million pounds. Some of the pithead baths and other buildings erected by the Architects' Department are illustrated on pages 143-149.



RECONSTRUCTION—PART 2

LAST week the JOURNAL set down the main reasons why, in its belief, architects should examine all preparations for post-war reconstruction and not merely those which will directly affect building construction and æsthetics.

In doing so, the JOURNAL tried to show that Reconstruction, Part 1—political and economic decisions and the mechanism needed for their execution—will so greatly influence Reconstruction, Part 2—the lay-out and design of actual buildings—that it will be essential for architects to understand, at least in broad outline, what form those decisions are likely to take. The JOURNAL went on to state its reasons for thinking that such Reconstruction, Part 1, must include close Government guidance of all large industries for several years, a careful scheme of land utilization, and great changes in the powers and administrative areas of local authorities.

There are good grounds for holding that these main constituents of Reconstruction, Part 1, will have to be carried out in some form whatever the length of the war. But the scale on which they are carried out and their influence on Reconstruction, Part 2, will be determined in great measure by the length of the war.

It is this that makes prophecies about that second part, about the exact form of post-war building construction and æsthetics, very hazardous. But after the war builders will bat first. Other professions and industries may be able to do some hard thinking about big problems after peace comes. Builders—and architects—will not. If they have not already made up their minds on the largest problems of post-war building before the end of the war, they will have no opportunity of doing so afterwards, and may lose by this failure all power to decide whether the mass of post-war building is good or bad. And therefore it seems worth while, even at this very early stage, to try to forecast the main elements of the post-war building situation in such a way that nothing which happens between February 27, 1941, and the end of the war can seriously invalidate our conclusions.

It is clear, first of all, that the war must accelerate the changeover from wet to dry construction and the process of standardization of all building units and equipment which have been taking place for many years. And it is certain that the longer the war lasts the faster will become the pace of these changes and the more unlikely will become any change back. Let us face the worst, and assume that the war will end on February 27, 1944—and thereafter make any allowances we like for its longer duration or speedier end.

In this event there will be no possibility of the building industry or its professions going on where they left off. Whether they like it or not, an entirely new situation will confront them.

First, for a period of from three to seven years building will be the pivot on which all politics and all economic or industrial policies will turn. Stringent Government supervision, stringent rationing of materials, and a huge expansion in building labour and materials will be unavoidable. The standardization of building materials and equipment and reduction in the number of types which are now being carried out as war measures will be continued. It is probable, however much brick and cement manufacturers may expand their output, that the use of these materials on any one building will be limited for a period, and that the temporary or semi-permanent constructional methods now being used for war buildings will also be used for purposes of reconstruction.

Lastly, it seems extremely probable that there will be an attempt to turn over many plants now producing war materials to the manufacture of building materials and equipment—and that the nature of these post-war products will be largely dictated by the existing capacity of the plants. Metal windows, steel and aluminium trim, clips, fixings and light framing for other building units, pressed steel and aluminium panels, and various categories of building equipment, are some of the products which it would appear war factories could produce in quantity with small preparation.

The total effect of these changes on building methods and building design will be vast. On the one hand, the enormous range of fittings, equipment, and finishes amongst which architects floundered before the war will be drastically reduced. On the other hand, the range of constructional methods which they will be encouraged, if not compelled, to use will be greatly enlarged—and much of it will involve the assembly of dry prefabricated units.

Today we do not know whether the war will last until February, 1944, or longer—whether post-war changes in building will be much larger or not quite so large. But changes, and great changes, there certainly will be.

Architects can either prepare themselves, as best they can, for these changes before the war ends, or wait till the storm of building bursts and hope to ride it, unprepared, with completely open minds. The first is wisdom's, the second opportunism's, course.

But one course is impossible for architects—that they should attempt to retain pre-eminence in post-war building by crying aloud in *The Times* for new Neo-Georgian drapery and lamenting that standardization is a death-blow to their Art. Such a course can only result in architects losing the leadership in rebuilding after this war even more quickly than they lost it in 1919.

The Architects' Journal
45 The Avenue, Cheam, Surrey
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NOTES & TOPICS

UNIVERSAL IMPROVISERS

AMONG the memorials that will be built after the war it is improbable that any will be dedicated to the officials of local authorities who stayed at their desks during hostilities. Yet no memorial will be more deserved.

*

Local authorities are a very British institution and in normal times we don't think much of them and have only a moderate admiration for their permanent officials. Before the war we were, of course, improving in this matter and beginning to believe that running a large town could be interesting, was very important, and did in fact attract a large number of able men. But we had a long way to go before we gave local officials their due.

*

The war should improve our judgment. The problems it has posed to the central government have resulted in a steady downpour of additional duties for local authorities. Think of some of them: all A.R.P. to begin with—including police, fire, ambulance, and rescue and all organization connected therewith. All public and household shelters, evacuation (incoming and outgoing), and the manifold worries of billeting, education, and health.

*

These are all large and complicated problems. But they are a fleabite to those which had to be tackled when bombs begin to fall in earnest. No one—not even the far-sighted L.C.C. — had realized that for every person wounded by a bomb ten or twenty would lose the use of their houses. So rest centres, temporary housing and repairs became new responsibilities for local authorities.

Each of these new responsibilities had multitudinous knotty problems tied up with it. Consider one of them. It is part of a local authority's duty to rescue and store at small cost furniture from damaged houses. It has to label every bit of it and prevent theft; it has to make sure that a person who wants to take a bed to his sister's is, in fact, the bed's owner; it has to find accommodation for the furniture —no easy matter these days; finally, it has to decide *how long* it ought to keep the furniture of an individual who may, on the one hand, be trying to get safe storage on the cheap and, on the other, may be quite unable to find an inch in which to put it in a badly hit area.

Those are some of the extra duties which have been imposed on local authority officials by the war. Each new duty has been accompanied by a shower of pamphlets and memoranda from Departments of State, and each has its own financial procedure behind which looms a reluctant, humourless Treasury. It seems, therefore, possible that local officials must pull wry faces as they glance, before staggering to their beds, at statements of awful conditions in shelters, billets, rural schools, rest centres, and all the rest.

*

It is quite true that the position as regards evacuation, shelters, and after-the-raid services of all kinds is unsatisfactory. It is quite true that it would be possible to solve each of these problems perfectly—at the price of a diversion of labour and man-power which the country cannot possibly contemplate. But it would be possible to improve each of these war services very greatly if local authorities were allowed to multiply the number of their officials by three or four and were allowed to choose, and reserve, able and active persons for the new jobs.

*

Until this is allowed criticism should be diluted by wonder that the universal local improvisers who have had to handle all those problems should have found it possible to do what they have already done.

MILITARY ARTS

The personnel of the Northern Command recently held a Military Art and Crafts Exhibition which I managed to see. About 150 persons contributed 225 exhibits. From the character of the display, the arts are more practised than the crafts: the file more enthusiastic than the rank; the men than the women. These last, a mere handful, confine their activities to knitting and embroidery.

*

But the men splash about with oil paints, portraits, landscapes and interiors; or draw with watercolour in many techniques, or sketch in ink, pencil, crayon the scenes and people that have taken their fancy. The impression they convey is one of lively interest in the job. Many of the exhibitors are accomplished artists—even though in civil life they have not been professionals—and others belong to the estimable body of persistent amateurs. These suggest that Mr. Herbert Read's abolition of the artist after the war is unlikely.

*

The civil occupation of many of the soldiers is stated—architects figure among the prize winners in several sections. One for a rehousing scheme in Northgate, Huddersfield, another for a contour model map made of strips of coloured red paper ingeniously representing the Yorkshire Wolds, and a third for a photograph of a canoe being lifted over a weir. The war has not made much impression. It is true that some of the water-colours represent the billet or mobile workshop, the return from the route march, and the like. But the warlike " mine laying " and excitement of bombing is confined to an imaginative few.

*

A lively drawing, " The Revellers," by Gnr. Paul Wyeth, shows the scene in a hut on New Years' Eve, 1940. It is the sort of thing there should be more of, for it fixes permanently, in the manner of a Rowlandson, an incident to which time can only add interest and for which the moment could only provide the model.

MR. PICK AND THE CANALS

Since Mr. Frank Pick, to the sorrow of architects, left London Transport his abilities have been variously employed. He has looked into the turn-round organization at ports and docks and he has looked into the Ministry of Information too literally for many of his admirers: for a former manager of an organization as famous for its publicity as for its efficiency seemed particularly well placed at the M. of I. But there it is. A few months ago Mr. Pick left.

*

Now he is back again in the news as Chief Investigator of Canals. This time one hopes that he will stick or let us all know the reason why. I know nothing about canals or inland waterways except that I once saw a map of those which were navigable for boats of quite reasonable size, and I was astonished at their extent and the number of "through," though not very direct, routes.

*

Now that coasting traffic has been cut down, railways overburdened and road transport is being combed for drivers and spare gallons of petrol, the full use of every suitable boat and every suitable waterway seems of considerable importance.

*

What is more, we have been told that war service for everyone is to be the rule in the near future. And it would be a happy proof of patriotism if the retired and rotund gentlemen who use to man the helms of smart cruisers at Marlow were to re-emerge on the bridges of tugs on the Grand Union or be spotted gently leading a horse through East Anglia.

*

FORGOTTEN MEN

I have received a letter from an architect now serving in a Government Department. Here it is:

SIR,

In your Review of the Year a week or two ago you paid many tributes—all, I do not doubt, just. But as I watched you doffing your hat in so many directions I did hope that before you quit a passing nod—it is a little thing I hoped for—would have come the way of the Temporary Servants of the State.

*

We do not ask for your tears because we have given up our homes, offices and such practice as we had. These were in parlous case before we went. We do not plead service of great moment to the State. But we do ask the tribute of a sigh for the loss of our identity. We are ciphers—screened from public gaze by a screen of buff paper, than which no screen is more opaque. Sometimes, as we turn the pages of the JOURNAL, full of other people's work, it seems we have never existed.

*

Yet, Sir, we have done quite useful things. Let me review *my* year:

*

I arrived at the scene of my exile in the middle of the Big Freeze Up. The search for rooms in a blackout encumbered with four-foot snowdrifts is still memorable to me. My office was and is an ex-hotel bedroom, and clamped securely to the wall is a notice telling me where to be bathed in pine needles and that if I don't quit my room by twelve noon I will get what's coming.

*

The first month of a Government Department from the inside is like seeing for the first time a policeman without his helmet—only it lasts longer. You find that humanity *is* there, beneath the drapery of schedules and procedure. Next, after two months, comes the discovery that forms mean something, even have a sensible purpose behind them, and that, in default of a personal interview for which both sides have prepared the relevant information, a great deal of time could be saved by all if they were filled up properly. And one learns how stupid one's erstwhile fellow-laymen really are.

*

But these are not all our achievements. We have done something for our profession. When we arrived, the Department we serve was dealing, for the first time in its history, with building work. Drawings and estimates were piled on every chair—and it had occurred to those who matter that the presence of one or two people who knew about these things might be justifiable. We came, we saw, and straightway broke the news that those sheets of paper were Plans and not Maps, and that some distinction between the meanings of the words "Estimates," "Specifications" and "Quantities" would add to the clarity of inter-departmental Memos.

*

Architects, Sir, are notoriously unpractical, touchy and unbusinesslike people. Yet all further recruits to our division have so far been architects. Is not this something? More, I have examined, redesigned and given advice on drawings of every shape, size, texture, smell and degree of decipherability, and when at a standstill my advice has always been: "Employ an architect." At times I have felt like George Arliss in *The Man who Played God.*

And I trust that when I and others like me re-emerge from our obscurity, our fellows will remember only this of us: we did our best to smooth their path during our spell behind the bars.

—IN 1884

The many thousands who are now crouching about on floors and slopping water over their feet in mastering that most efficient anti-aircraft weapon, the stirrup pump, may think that it, like the Luftwaffe, is a comparatively new invention. But my illustration (from the *Illustrated London News*) shows that it is not so. Merryweathers, who still make the best fire engines in 1941, had thought of it in 1884.

*

But there is more in this 1884 fire than a stirrup pump. It is plain that the young operator is a pupil at one of the best schools, and that in order to show his skill he has knocked over a chair, thrown five books on the ground, and set fire to the bookcase with a candle. I trust he was suitably dealt with.

*

The whole boyish incident recalls to me vividly my own first fire-fighting experience. It was Sunday evening in a gaunt neo-Gothic wing of studies. Flames burst from behind a door. I won the rush to the fire equipment and staggered flamewards with a ponderous copper cask of chemicals on my back. Someone kicked open the door, someone else smashed a glass knob on my burden, I swung the rubber tube and nozzle towards the inferno. It was a gorgeous moment.

*

The tube came away in my hand, and from the orifice behind my hip there came a little stream of white powder and an unlimited quantity of the most appalling smell I ever remember.

ASTRAGAL

NEWS

REGENT STREET POLYTECHNIC

On the recommendation of the officers of the Board of Architectural Education the five years' evening course at the School of Architecture of the Polytechnic, Regent Street, London, has been recognized for exemption from the R.I.B.A. Intermediate Examination.

RESERVATION

Sir Percy Hurd is to ask the Minister of Labour for what reason he rejected the request of the R.I.B.A. that architects over 33 years of age should be placed in the schedule of reserved occupations; and if, seeing the shortage of architects to deal with damage by enemy action, he will reconsider his decision.

I.A.A.S.

A lunch-time meeting of the Incorporated Association of Architects and Surveyors was held at 75, Eaton Place, S.W. 1, last Thursday, and Mr. Wilfred Salter (the Editor of the *Parthenon*) delivered an address which he entitled "A Vital Element of Reconstruction." Captain Shore (Deputy Chairman of the Branch) presided, and in opening the proceedings said that Mr. Wilfred Salter was rather diffident as to the title of his paper, but the preservation of decency and beauty in life was a matter on which all present felt the deepest interest.

The address was a lengthy one.

Among other things, the lecturer said that we must try to remove the common fear that art was an esoteric mystery available only to the few. We must bring back the realization that in everything we did, and certainly in everything we made, was the opportunity for æsthetic expression. This brought up the question of decoration. "Why," an architect sometimes asked, "should I not use half-timbering, for example, as a decorative feature?" The answer was that the half-timbering was not a part of the building—it was something added afterwards. It was not intrinsic in the design as were the orders in Greek and Renaissance architecture with the capitals growing out of the columns.

MINISTRY OF BUILDING: NEW APPOINTMENTS

Lord Reith, Minister of Works and Buildings, has made the following appointments in the Building Priority Departments:

Mr. Paul Gilbert.—Director of Building Programmes.

Mr. R. G. Cromwell.—Director of Roofing.

Dr. Guthlac Wilson, A.M.I.C.E., A.Am.Soc.E.—Director of Constructional Design.

Under the Director of Bricks

Mr. W. Henderson Cleland, M.C.—Commercial Adviser.

Mr. George Gee.—Assistant Director in charge of Brick Stocks.

Mr. E. H. Palmer, F.S.I.—Deputy Director of Bricks (London).

In accordance with the policy for the closer co-ordination of the brick industry, Deputy Directors of Bricks have been appointed for various areas as follows:

Mr. Lockhart W. Hutson, Scotland; Mr. Spencer Silcock, North-Western and North Wales; Mr. Arthur J. Phillips, Central Midlands; Mr. O. Cattlin, South-Western and South Wales; Mr. W. E. Watson, South-Eastern.

LETTERS

Architects' War Service

SIR,—Astragal, in his notes in the issue of February 6, comments upon the question of Reservation of Architects and the whole position of how architects are to be dealt with or employed in the immediate future.

He quotes a composite case of X, and has touched the vital spot. The 32-year-old may be a salaried member of a local authority whose job will be open for him on his return from Active Service. He may further have his Service pay made up to his usual salary out of the local authority's rates. To the 32-year-old the war has made no financial difference and his future is secure.

X, as is pointed out, is in private practice and makes headway slowly against local competition.

He has to provide his own superannuation, and, by way of rates, help to support the 32-year-old. His practice has already dwinded, and his "salary" is less than half of his peace-time earning. The job offered is at the salary of the 32-year-old, without security of tenure, a "temporary assistant," no superannuation, and involves removal from his home, maintenance in lodgings, maintenance of his home, and loss of his practice and goodwill. At the end of his temporary service he will be faced with age against him, "Too old at 40 or 50," and no practice or job to go to. There is little wonder, therefore, that older men, remembering the lessons of the last war, are not as eager as some think they should be to accept temporary jobs under the Government or local authorities.

There is another aspect of the situation. The Central Register was thought by many to be a register of the right man for the right job, and many filled in the cards with that idea in mind. It is, therefore, unfair to say that all those who did so were in dire need of a job, or that the offer of one at £6 or £7 per week should be accepted by anyone to whom it might be offered, as a national effort sacrifice.

Let us be fair about the whole business of sacrifice. I do not know of any profession which has been as badly handled by the Government and local authorities as has that of architecture. The setting up of departmental staffs on housing by local authorities took away from the general practitioner much of his means of livelihood, and the failure of legislation to grant a measure of protection to the public and practitioner beyond mere protection of the use of the word "architect" was responsible for all that followed from speculative housing development, and staff work stamped "municipality" over vast acres of the last post war housing. Thus was the architect of the last war era treated and private practice lost and diverted to bureaucratic control.

The medical profession, despite clinics and other forms of medical welfare work, is assisted by the Government with panel patients. This is a sound common-sense way of dealing with the health problem, but as good (or bad) a case might be made out for National Health Insurance to be administered by a local authority's Medical Officer of Health, municipal medical staffs and central clinics. Or again, in dentistry and optical treatment.

What is the wartime position of these professions? Doctors are on a reserved list. They are placed in charge of First Aid Posts and given a retainer for their services with a reasonable fee for each hour of attendance following air raids. If taken into the Services, they are granted commissions and rates of pay and allowances commensurate with their status and learning.

Architects may obtain commissions, but many are taken into the ranks in branches of service where their skill and knowledge can never be utilized.

Those at home, eager and willing to place their skill and knowledge at the service of the country, find the terms offered so hard that only sheer necessity drives some to accept.

The Minister of Labour and National Service when speaking on the probable need of more women workers stated that it may be necessary to find ways and means of taking the work to the worker rather than the other way round, on account of home ties and billeting difficulties. Surely the same idea can be readily applied to the architectural profession and all the work required of it be done from existing established offices. Among recent appointments for which architects were required was that of technical officer. Qualification required—that of an architect, able to design factory buildings and supervise their erection. Willingness to fly. The job was under the Home Office.

Now that job could have been handled by a practitioner from his own office. The requirements appear to be those of any practitioner: the site to survey, unless another department has already made a survey; a conference with the Ministry at which instructions would be given of the purpose of the factory, and such information as clients give of their requirements. Thereafter the job is drafted in the office and a further conference with client or ministry for approval or amendments. Then the work is purely office routine until the building starts on site. Now any building work in the north can be dealt with more readily by a northern practitioner who may fly to London for conference than by a man sitting in a Whitehall office who will require more frequent flights to site to supervise subsequently.

Another job, Regional Technical Intelligence Officer. Qualifications: knowledge of building construction; possession of a motor-car.

This would appear to be a job requiring ability to determine whether a damaged building could be repaired or not. Probably a report would be required upon which another department might decide to act. Alternatively, it may be left to the Regional Intelligence Officer to prepare in full a repairing scheme. This is one of the full-time jobs offered at £300-£350. One, in my opinion, which could well be put on the basis of retainer and fee per job or remuneration by the hour when needed, as in the case of the first-aid-post doctor.

These are the type of job X may have been offered, and could have undertaken, had the Ministry concerned adopted the lines I suggest.

Now about the local authority jobs. Most of those are capable of being carried out "off the premises." Some of the local authorities engaged local architects on domestic basement strengthening under the terms of A.R.P. Circular 110/1939. Those authorities got a big job done quickly and well, and enabled their local rates to be maintained by their subscribing practitioners.

Others did not proceed on those lines and attempted to add to their list of "temporary appointments," and they are among the local authorities seeking architects willing to make "some" (enormous) sacrifice in the national interest.

Architects in private practice are quite willing to make some sacrifice by reduction in scale of fees or by a fixed fee appointment, but they cannot be expected to throw away a lifetime struggle for establishment.

Let the Government and the local authorities, who are, after all, the servants of the community, get down to brass tacks, cut out the form-filling and other bureaucratic wastes, adopt the well-known dealings of practitioner and client in their approach, and they will solve their difficulties and have the support they require from X and thousands like him.

"A NORTH COUNTRY ARCHITECT."

PITHEAD

BATHS AND RECREATION BUILDINGS

BY THE MINERS' WELFARE COMMISSION

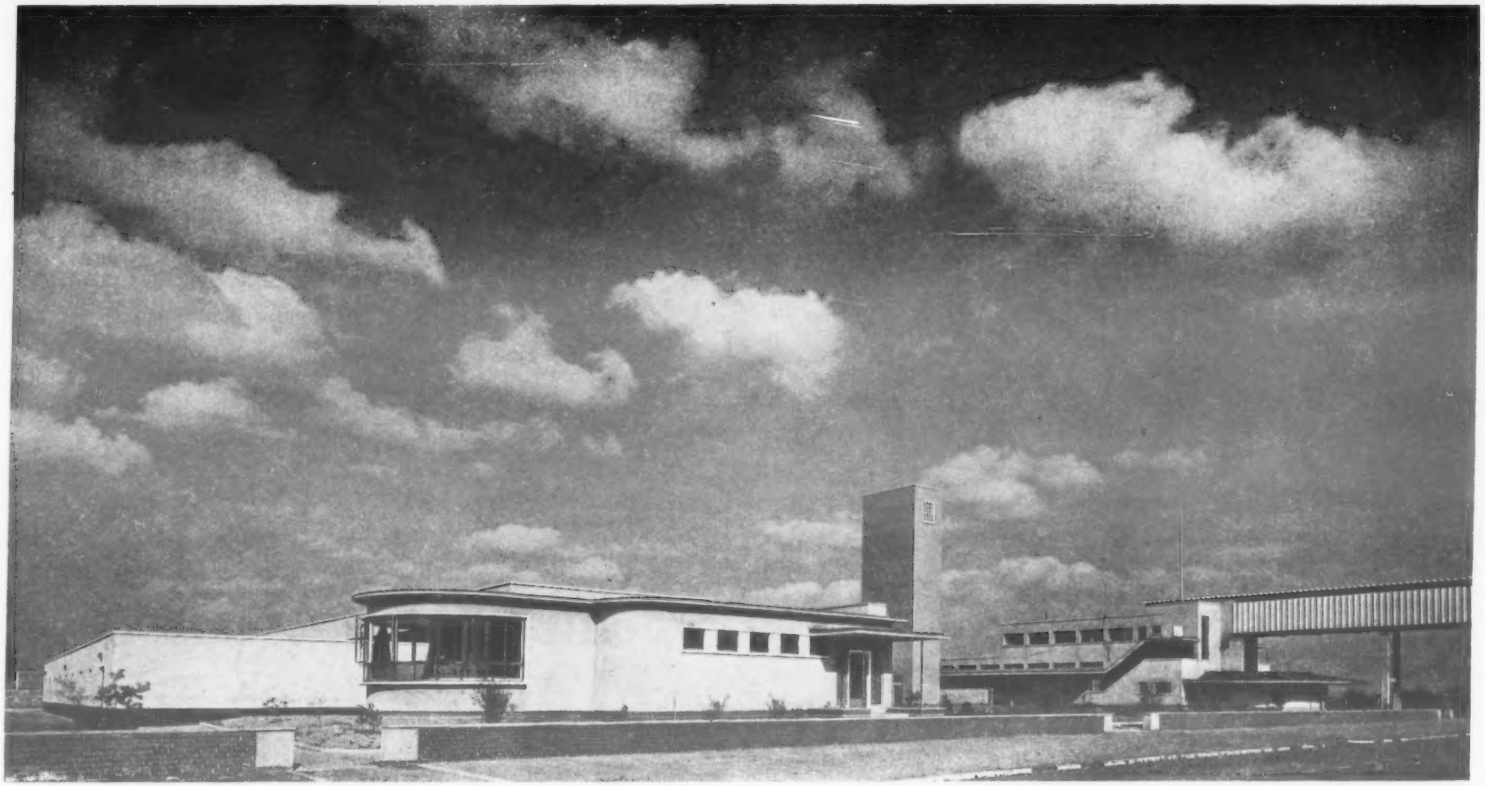
PART ONE

GENERAL—This week we publish Part I of an illustrated review of the work of the Architects' Department of the Miners' Welfare Commission. Part 2 will appear in our next issue.

More urgent calls on building materials and labour have rendered it necessary for the Commission to suspend temporarily its main building programme. Consequently a portion of the staff, of military age, was available for service in the armed forces or to be transferred to architectural work more closely associated with the war effort. A nucleus staff, comprised largely of members of the original team, who from the inception of the work have been responsible for initiating and directing the architectural policy and practice of the Department, will be retained. During the war they will be fully engaged upon the completion of works already under construction, the repair of war damage, works necessary for the proper maintenance of existing welfare facilities and work in preparation for continuing the building programme on an enlarged scale when conditions will permit.

Building work in progress or in active preparation at the end of 1939 amounted to £1,777,000 for pithead baths. Baths had been provided at 345 collieries with accommodation for 430,228 persons. This brought the total grants made since the inauguration of the fund to £5,684,688. The provision of grants for other welfare facilities including buildings and grants for recreational, health and cultural activities totalled £4,763,000 at the end of 1939, and at the outbreak of war far-reaching developments in this aspect of welfare were envisaged, including the establishment of holiday and recreation and welfare centres, catering for miners and their dependents of all ages.

PITHEAD BATHS AND RECREATION BUILDINGS • BY THE MINERS' WELFARE COMMISSION



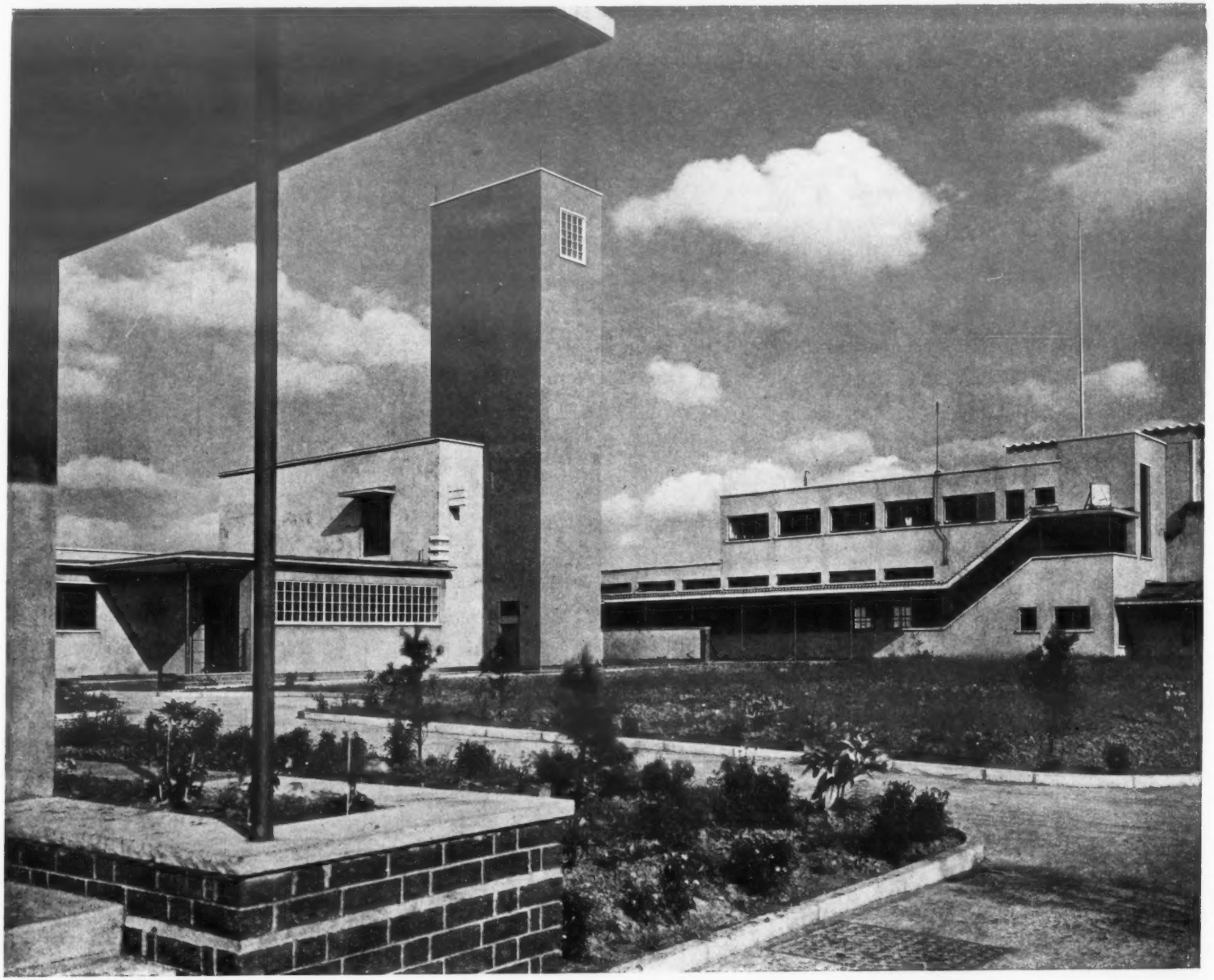
THE ARCHITECTS' DEPARTMENT—The Architects' Department was established under Mr. J. H. Forshaw, M.A., F.R.I.B.A., who was chief architect until he resigned in July, 1939, to take up the appointment of deputy architect to the London County Council. The architects' department is now under the direction of Mr. C. G. Kemp, A.R.I.B.A., who joined the Commission's Staff in 1928, shortly after Mr. Forshaw, under whom he held posts as architect, senior architect and deputy chief architect. The chief quantity surveyor, Mr. H. J. Rayner, F.S.I., who was appointed shortly after Mr. Forshaw at the inception of the work, has been lent temporarily to the Regional Commissioner for London in connection with war damage and Mr. C. J. Bowra, P.A.S.I., is meanwhile acting in his place. The remaining principal members of the architects' department are as follows: senior architects: J. A. Dempster, F.R.I.B.A., and A. J. Saise, A.R.I.B.A.; architects: F. G. Frizzell, A.R.I.B.A., D. D. Jack, L.R.I.B.A., O. H. Parry, P.A.S.I., H. Smith, L.R.I.B.A., W. M. Traylor, F.R.I.B.A., W. A. Woodland, F.R.I.B.A., J. H. Bourne, A.R.I.B.A., and J. W. M. Dudding, L.R.I.B.A.

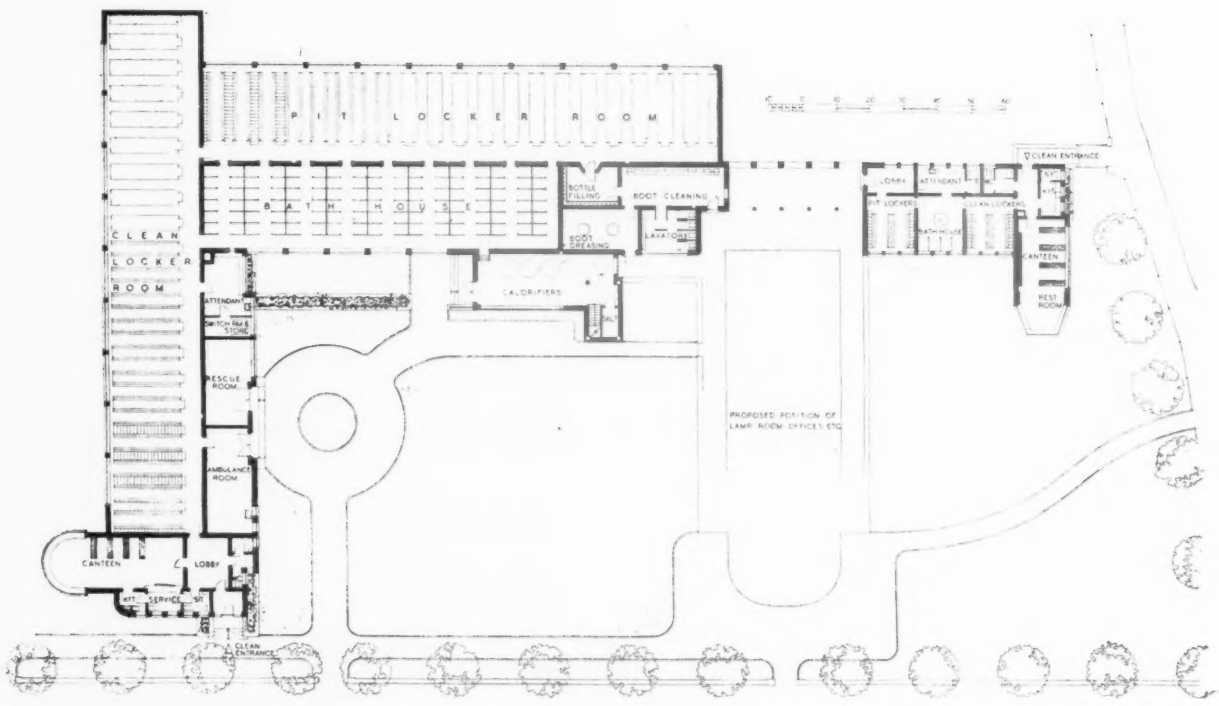
CONSTRUCTION—All the pithead baths illustrated in this issue are built with the following materials: Walls, brick; reinforcement, roofing, and trusses and windows, steel; roof covering, asbestos; floors, asphalt; doors, flush and metal faced; internal walls, tiled and cement glazed dadoes; partitions, glazed bricks.

Above and below: Clock Face Colliery Baths, Lancashire. For 1,600 men and 40 women. Cost, approximately £32,000.

is meanwhile acting in his place. The remaining principal members of the architects' department are as follows: senior architects: J. A.

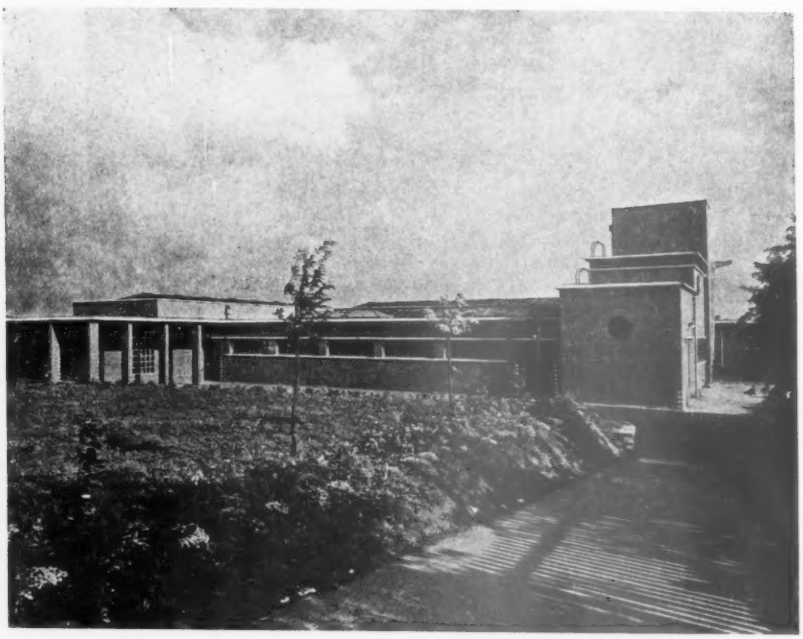
Above and Below: Clock Face Colliery Baths, Lancashire. For 1,000 men and 40 women. Cost, approximately £32,000.



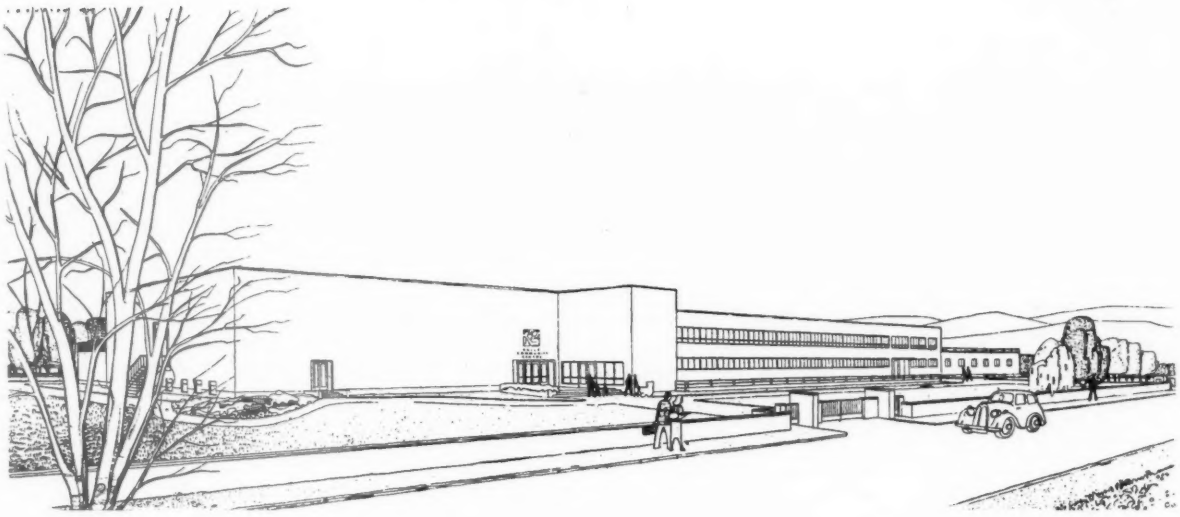


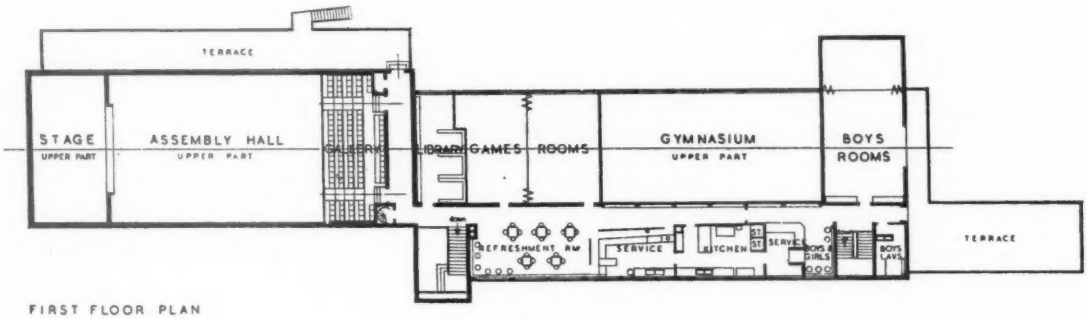
Above : Ground floor plan of the pithead baths at Clock Face Collieries, Lancashire. The principal accommodation is the same in every pithead bath and is approached and used in the same order by the miner when starting work, and in the reverse when knocking off.

Below : Hucknall No. 1 Colliery Baths, Nottinghamshire, for 600 men. Cost, £12,280.

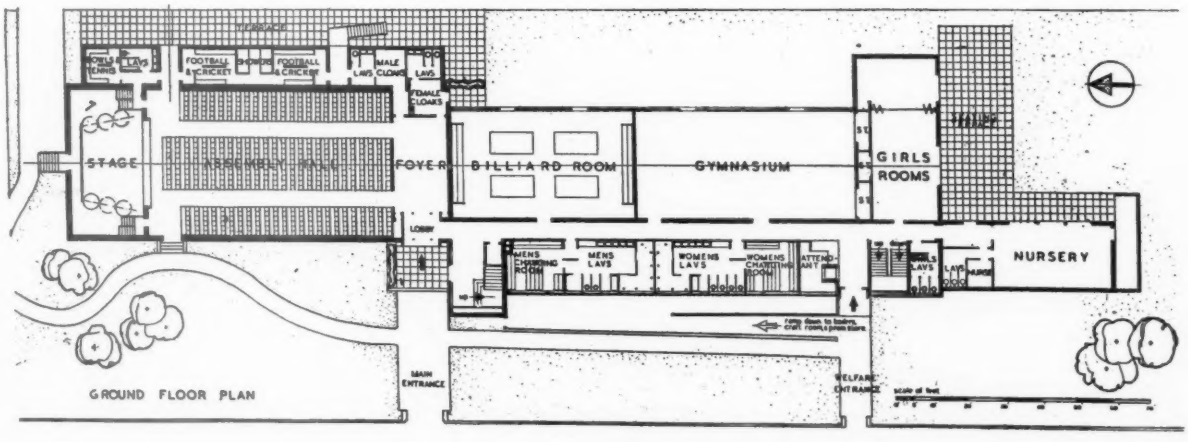


PITHEAD BATHS AND RECREATION BUILDINGS





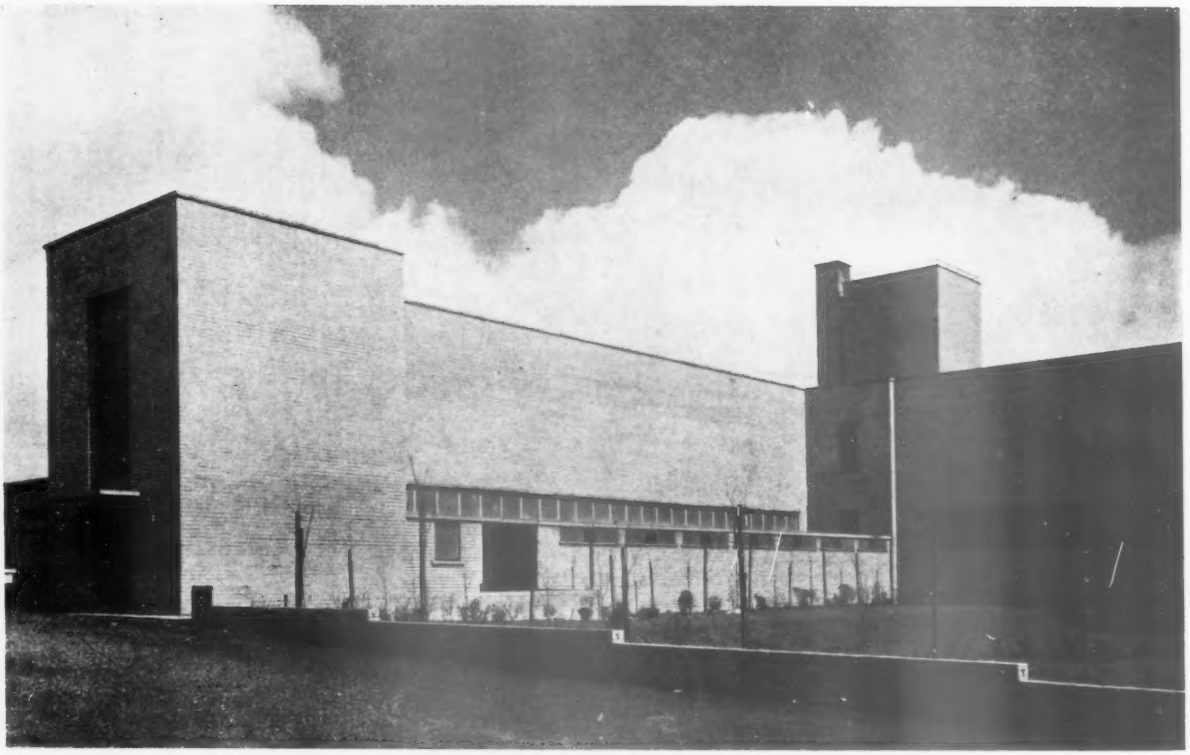
FIRST FLOOR PLAN



GROUND FLOOR PLAN

Kells Community Centre, Cumberland, now nearing completion. In addition to the accommodation shown on the plan there will be a craft room, pram store, staff room and boiler room in the basement, dressing rooms and a chair store beneath the stage, and a cinema projection room above the assembly hall balcony. Cost, including equipment, £28,000.

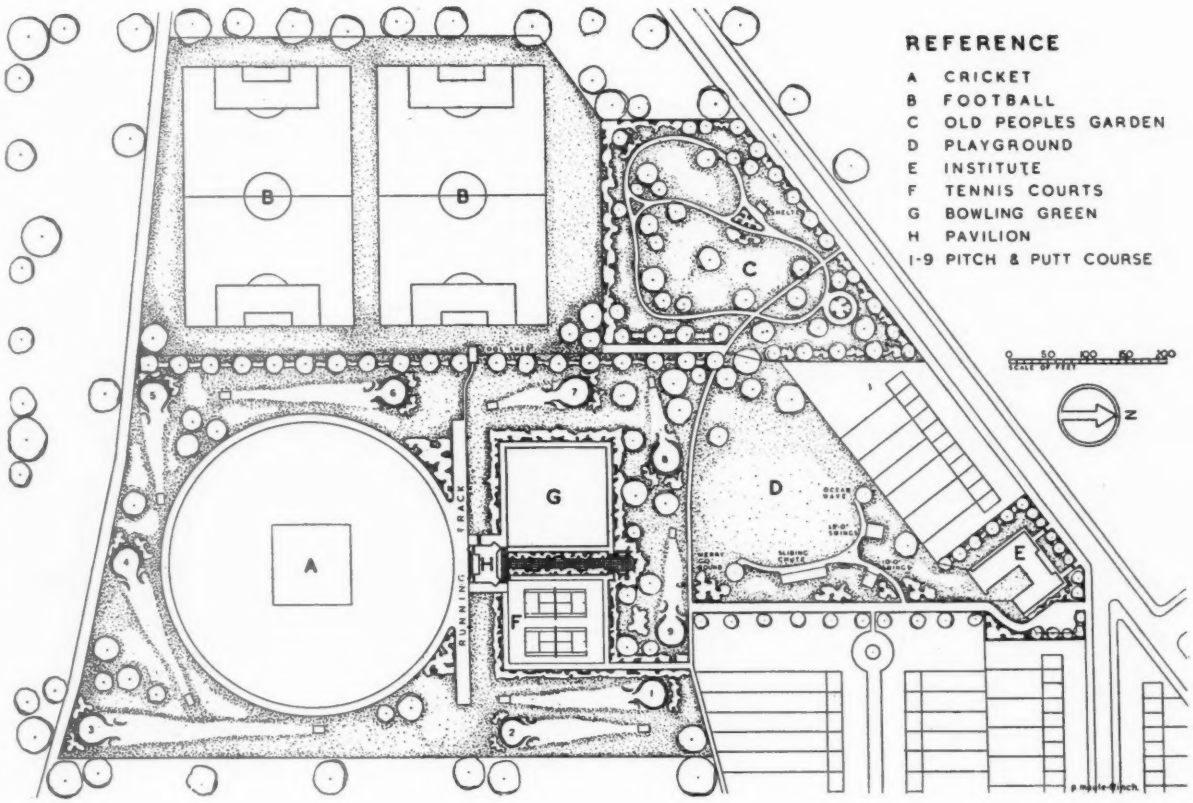
BY THE MINERS' WELFARE COMMISSION



Top: Pithead baths at Murton Colliery, Durham, for 3,200 men. Cost, £32,842.

Below : Lea Green Colliery Baths, Lancashire, for 1,728 men and 52 women. Cost, £26,300.

PITHEAD BATHS AND RECREATION BUILDINGS

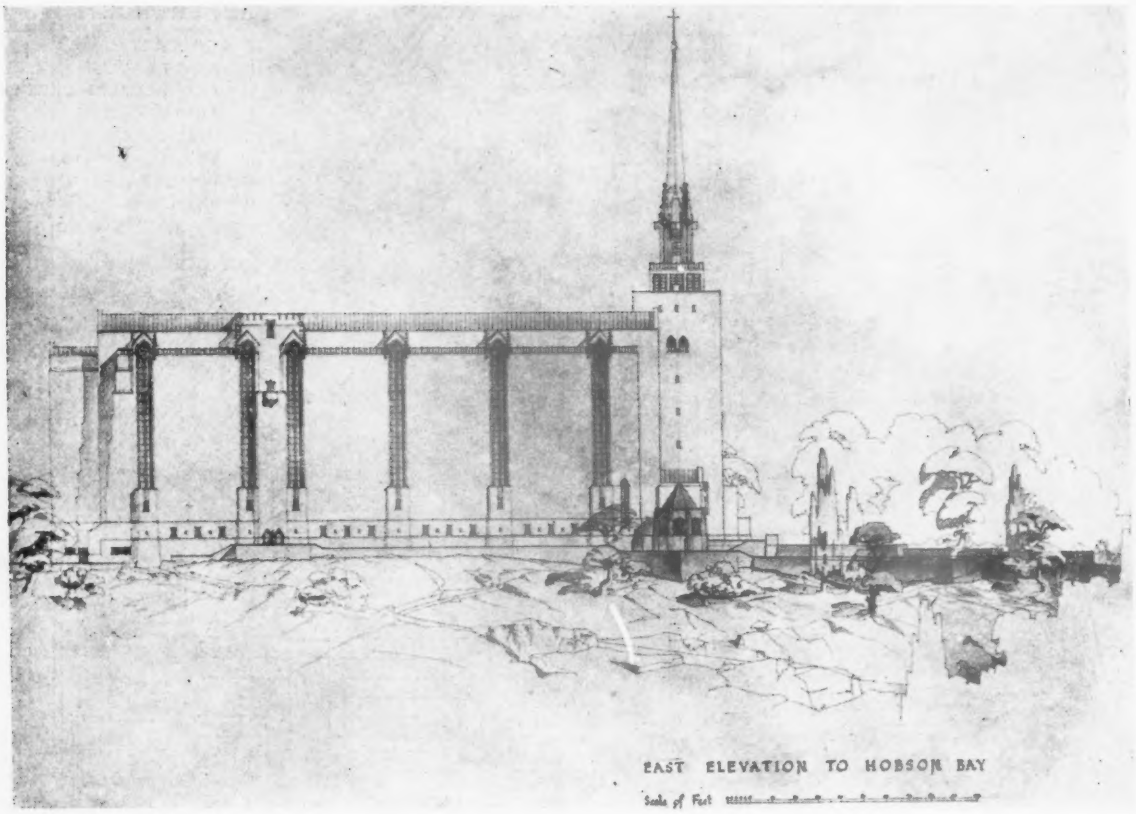


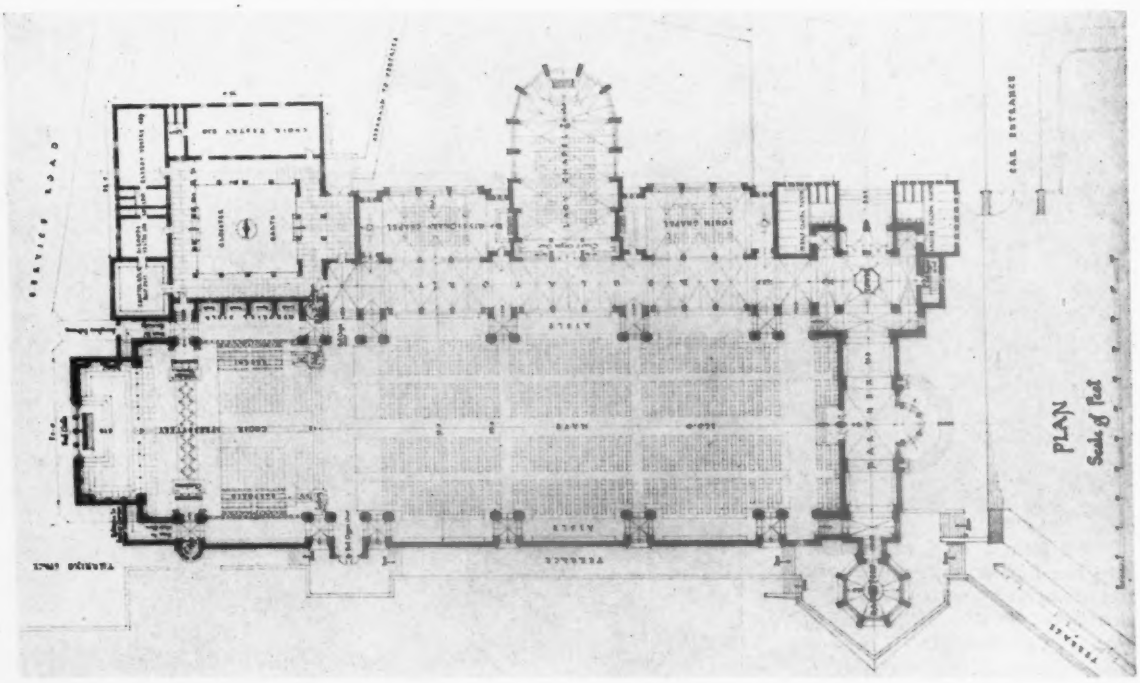
Above: Layout plan of a miners' welfare recreation ground in Yorkshire—the largest and most comprehensive scheme of its kind carried out in the district within recent years. Cost, £8,200.

For list of sub-contractors for the buildings illustrated on this and the preceding pages see page xxii.

BY THE MINERS' WELFARE COMMISSION

AUCKLAND CATHEDRAL: SECOND PREMIATED DESIGN





The second premiated design (£400) by Mr. Amyas D. Connell, A.R.I.B.A., in the competition for Auckland Cathedral, New Zealand. The winning design is reproduced on page 137. Sir Giles Gilbert Scott, R.A., was the Assessor. The third premium (£200) was awarded to Messrs. Fergus G. F. Sheppard and J. R. P. Blake-Kelly, B.Arch., A.R.I.B.A., of Auckland; and the fourth (£100) to Messrs. T. K. Donner, A.R.I.B.A., and H. Bartlett, B.Arch., A.R.I.B.A., of Auckland.

The four premiated designs will be on exhibition at the New Zealand Government offices, 415 Strand, London, W.C.2, until about the end of March.

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OCCURRENCE OF HORIZONTAL LOADS AND MEANS OF TRANSFERRING THEM TO THE FOUNDATIONS:

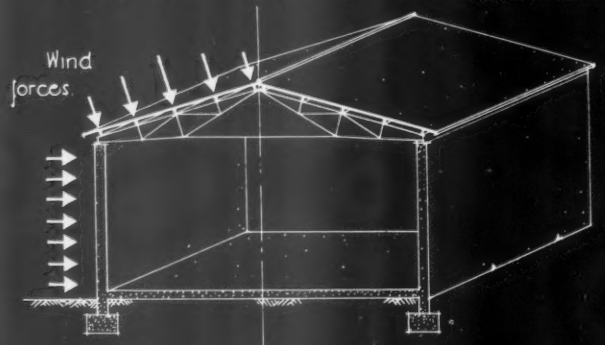

FIGURE 1: OPEN-ENDED BUILDINGS, OR STRUCTURES WITHOUT CROSS WALLS.

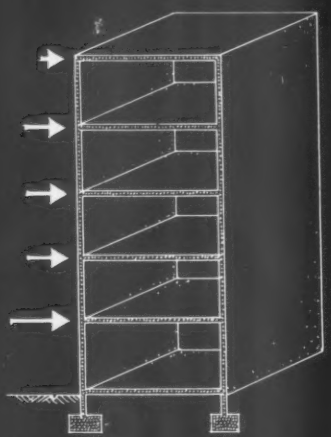

FIGURE 2: TALL & NARROW BUILDINGS. Where the height exceeds half the width, wind forces must be taken into consideration.

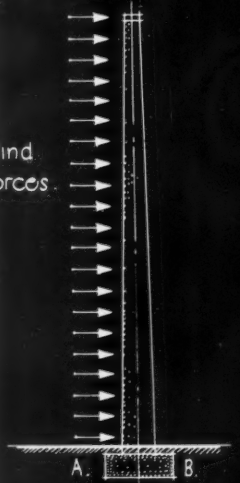

FIGURE 3: EXPOSED STACKS, SPIRES, WATER TOWERS, ETC. The wind forces may cause an uplift at point A, in which case the foundation at B must be heavy enough to counteract this tendency.

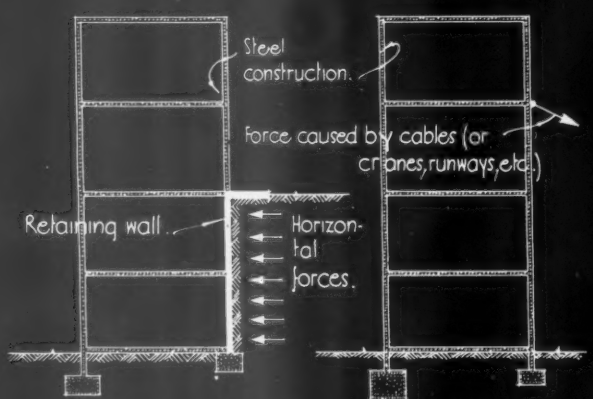

FIGURE 4: BUILDINGS AGAINST UNBALANCED RETAINING WALLS.

FIGURE 5: BUILDINGS CONTAINING MOVABLE OBJECTS.

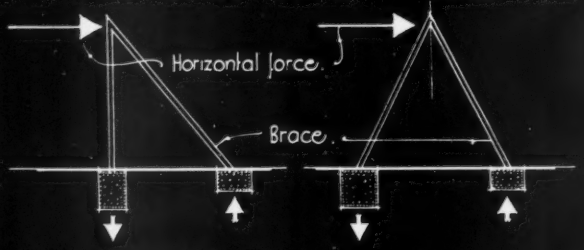

FIGURE 6: LOAD TRANSMISSION BY SIMPLE BRACING.

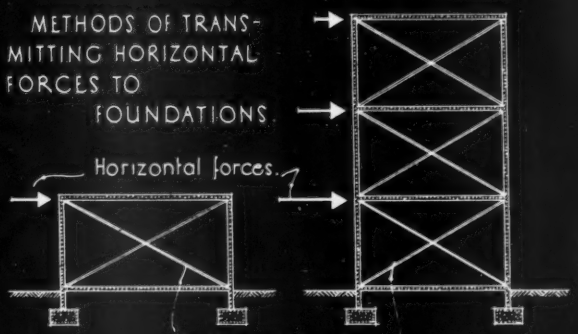

FIGURE 7: LOAD TRANSMISSION BY LATTICED FRAMING.

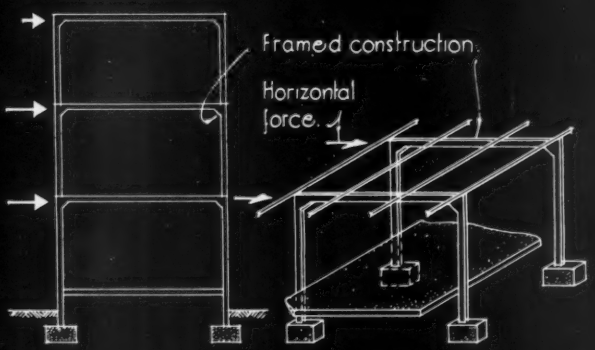

FIGURE 8: LOAD TRANSMISSION BY RIGID FRAMING.

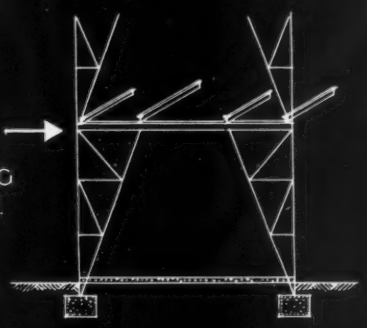

FIGURE 9: LOAD TRANSMISSION BY A COMBINATION OF BRACING, LATTICING & RIGID FRAMING.

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

INFORMATION SHEET: STEEL FRAME CONSTRUCTION: No. 44.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

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INFORMATION SHEET

• 819 •

STRUCTURAL STEELWORK

Subject: Steelwork for Roof Construction, 12: Occurrence of Horizontal Loads and means of Transferring them to the Foundations.

General:

This series of Sheets on steel construction is not intended to cover the whole 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 bearing upon the design of the steelwork.

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

This Sheet is the forty-fourth of the series, and illustrates the occurrence of horizontal loads on steel structures, and means of transferring them to the foundations.

Force Components:

Any steel construction is designed to transmit all forces which may occur, to the ground where they can be dissipated by means of foundations.

Forces can act in all directions and are usually considered as being made up of two components, one vertical and the other horizontal. The vertical component is usually much greater and is due to the weight of the building and its superload. If a building has adequate stiffness and is not too high, the horizontal force can generally be neglected. In other cases, however, and where special horizontal loads occur, these must be transferred to the ground by means of the steel construction.

Horizontal Loads:

The following are the most frequent examples of cases in which horizontal loads cannot be neglected:

1. *Unstable Structure:* Buildings which have no cross walls and are subjected to heavy stresses, although they are not very high. Even low buildings come under this heading if they are open at the ends (Figure 1).

2. *Wind:* If the height of a building is more than twice the width (Figure 2), cross walls, even if they exist, cannot be assumed to be strong enough to transmit the horizontal forces, and the steel construction has to be designed accordingly. Wind forces become more important the higher the building and, therefore, towers, chimneys, water towers, etc. (Figure 3), are particularly subject to wind forces, which cause stresses even exceeding those due to vertical loads. In such cases there can even be an uplift, and the steel construction must be properly anchored to foundations of sufficient weight to resist this force.

3. *Retaining Walls:* Unbalanced retaining walls which lean against a steel construction exert horizontal forces (Figure 4).

4. *Movable Objects:* Any movable object causes horizontal forces whenever it changes velocity, and these forces are greatest when brakes are applied with the object travelling at high speed.

The force exerted by the brakes is, therefore, a measure of the horizontal force which may occur.

For multi-storey garage buildings these forces, which can act in any direction, are not usually calculated exactly but are neutralized by the rigidity of the building. The horizontal forces due to cranes and runways can be determined more correctly, and are usually provided for. If a load moves in a curve, centrifugal forces also occur.

5. *Incidental Loads:* Other incidental horizontal forces may be set up, for instance, due to the tension of cables fastened to the walls of buildings (Figure 5).

Transmission:

Horizontal forces can be transmitted to the foundations in any one of the following three ways:

(*a*) By simple bracing (Figure 6).
(*b*) By the arrangement of a latticed frame (Figure 7).
(*c*) By a rigid frame (Figure 8), or by a combination of the three (Figure 9).

The arrangement of a rigid frame, or a combination as shown in Figure 9, allows free passage way underneath.

Previous Sheets:

Previous Sheets of this series dealing with structural steelwork are Nos. 729, 733, 736, 737, 741, 745, 751, 755, 759, 763, 765, 769, 770, 772, 773, 774, 775, 776, 777, 780, 783, 785, 789, 790, 793, 796, 798, 799, 800, 801, 802, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, and 816.

Issued by: Braithwaite & Co., Engineers, Limited

London Office—*Temporary address :—*

King's House, Haymarket, London, S.W.1

Telephone: Whitehall 3993

SOME QUESTIONS ANSWERED THIS WEEK:

THE ARCHITECTS' JOURNAL

INFORMATION CENTRE

THE Information Centre answers any question about architecture, building, or the professions and trades within the building industry. It does so free of charge, and its help is available to any member of the industry.

Enquirers do not have to wait for an answer until their question is published in the JOURNAL. Answers are sent direct to enquirers as soon as they have been prepared. The service is confidential; and in no case is the identity of an enquirer disclosed to a third party. Samples and descriptive literature sent to the Information Centre by manufacturers for the use of a particular enquirer are forwarded whenever the director of the Centre considers them likely to be of use.

Questions should be sent by post to—

THE ARCHITECTS' JOURNAL
4/5 THE AVENUE, CHEAM, SURREY

—but in cases where an enquirer urgently requires an answer to a simple question, he may save time by telephoning the question to—

VIGILANT 0087

The reply will come by post.

Q657

ARCHITECT, GLOUCESTERSHIRE. — *I should be obliged if you could tell me the PRICES in the London area FOR the following PAINTING in September, 1940. (Reasonably large areas).*

Knot, prime, stop and paint two coats to woodwork.
Clean down, prime, fill and paint two coats to metal work.
Clean down brick walls, prime with neutralizing liquid and give two coats factory white finish.
Clean down brick walls, prime with neutralizing liquid and give three coats oil paint.
All per yard super.
As the matter is rather urgent I should appreciate an early reply.

Estimating prices for painting is a difficult matter even in normal times, as this work is often sub-contracted and painting sub-contractors are often able to buy paint very cheaply; also spray painting may reduce costs considerably where large areas are involved. At the present time it is, of course, even more difficult to estimate the cost, as prices are fluctuating and in certain districts there is an extreme shortage of labour, which may affect the cost considerably.

Taking pre-war prices as a basis and adding the increased cost of materials and labour, we consider that average prices for painting in the London area in September, 1940, should have been as follows, but we would again emphasize that these can give little indication of the range of prices which could have been obtained in practice.

	Per yd. Super.
Knot, prime, stop and paint two coats on woodwork	1s. 9d.
Clean, prime and paint two coats on metalwork	1s. 9d.
Clean, prime and paint two coats factory white on brick walls	1s. 3d.
Clean, prime and paint three coats of oil colour on brick walls	3s. 0d.

The above prices are for new work and for reasonably large surfaces.

Q658

ARCHITECT, WALES.—*Will you kindly supply me with the following information about building and BUILDERS' PRACTICE in connection with a projected labour scheme.*

1. The amount of hardcore, presumably weight, required per cubic yard when rammed into position under concrete floors. Material to be of either broken stone, brick or rubble to usual gauges.

2. The amount of time to smash up old bricks AND concrete to the usual gauges—labourer's time.

3. The amount of time required, given in separate detail, to wheel, tip and ram hardcore into position—labourer's time.

4. The approximate percentage allowed by the average builder who undertakes contracts of £20,000 or so for overheads and for profit, given separately. I appreciate that this is a difficult question to answer.

Another point, not technical, but which you may be able to answer from your apparently inexhaustible fund of information. We have in this town a rather high-handed BILLETING Officer of bucolic tendencies, who is rather intent on filling every house with all sorts and varieties of evacuees, and I am wondering if there are in existence any regulations as to what a Billeting Officer, and the Local Authority, may and may not do. Has anything been published? For instance, what happens in the case of the tenant of premises having young children who must have very full attention, or, again, in the case of invalids and sick persons? If a house has already billeted upon it evacuees and the tenant wished to accommodate her own bombed-out relatives, what steps can she take? Also what must be supplied in the way of furniture? The majority of people with whom I come into contact have no idea as to the powers of a Billeting Officer and naturally neither the Local Authority or the Citizens Bureaux are disposed to help.

It appears to me that what is necessary, if not already in existence, is a set of regulations issued by the Government and accessible to the public.

The answers to your questions are as follows:

1. Up to 1½ yards of hardcore may be required to give 1 yard when consolidated, but no definite ruling can be given as it depends entirely on the material used. In many cases "shrinkage" by consolidation may be considerably less. The weight also depends upon the materials used.

2. No information can be given. Breaking old soft bricks in lime mortar is not comparable with large lumps of cement concrete, and "usual gauges" is rather a vague term. Theoretical or text-book knowledge is of little value for such work, and you would be advised to consult someone with experience, locally, or to carry out a test.

3. Wheeling from convenient dumps tipping and ramming should take approximately one and a half hours per yard cube. In 6 in. layers, where the amount of ramming per yard cube is increased, the operation would probably take 2½ hours per yard cube.

4. 10 per cent. or 12½ per cent. on builders' work and from nothing to 7½ per cent. on p.c. sums was usual before the war. The percentage on p.c.'s varied most, but this would only be reduced to nil when work was scarce and rendering keen—2½ per cent. and 5 per cent. were both common practice.

5. There is no document published which gives you all the information you require about billeting powers. The position is briefly that billeting officers have very wide powers and are entitled to use their discretion, but that complaints can be laid before a Tribunal. These powers are given to Billeting Officers under Reg. No. 22 of the Defence Regulations 1939 (obtainable from H.M. Stationery Office, price 1s.). Sundry orders have since been issued in connection with the price payable in respect of accommodation, amendment rules for billeting Tribunals, etc.

Q659

ARCHITECT, CAMBRIDGE.—*I should be grateful if you could recommend a book dealing with the provision of WATER SUPPLY for domestic, industrial and other types of buildings. You have already recommended H. F. Adams' book*—Waterworks for Urban and Rural Districts. *This book I found rather expensive and treats the subject in too detailed a manner for my needs. Is there a book dealing with the subject in a less detailed manner, and perhaps less expensive?*

This enquiry is a little difficult to answer satisfactorily without knowledge of the particular problems which require solution. The following books can be recommended. If these are unsatisfactory the Centre will try to obtain further information if more detailed information is given.

The Supply of Water, by J. H. Veal (1931 Edition), published by Chapman and Hall. Price 15s.

Architectural Hygiene, by Bannister Fletcher (1939 Edition). Price 10s. 6d.

Drainage and Sanitation, by E. H. Blake (1936 Edition), published by B. T. Batsford, Ltd. Price 15s.

Q660

ARCHITECTS, YORKSHIRE.—*We shall be much obliged if you can recommend manufacturers of satisfactory FIRE-PROOF FELT, for incorporating in partitions and floors.*

The fire-resisting materials mentioned below* can be used in hollow floors and partitions and the manufacturers will supply full particulars. Normally, in the case of floors, they are laid on wire netting.

Q661

ENQUIRER, HERTS.—*I shall be pleased if you can inform me whether the Housing Acts, 1936, part 4, dealing with overcrowding, applies to evacuated firms. The problem I have is that my firm has evacuated and we have taken on additional staff, and under the present arrangements have three or four adults in a room about 14 feet square. I might add that the rooms are used only for sleeping.*

The section of the Housing Act of 1936 dealing with overcrowding does apply to evacuated firms, and no emergency legislation has been passed relaxing the provisions of the Act.

As you are probably aware, the Local Authority is empowered, under

* Slag Wool: *Fredk. Jones & Co., Ltd., Shobnall Road, Burton-on-Trent;* Slagbestos: *F. McNeill & Co., Ltd., Pixham Firs, Pixham Lane, Dorking, Surrey;* Stillite Insulating Blanket: *Stillite Productions Ltd., Stillington Station, County Durham.*

Alternatively the Dry Rot and Fire Prevention Co., Ltd., of 20 Harp Lane, London, E.C. 3, can supply a compound which will render ordinary felts fire-resisting.

the Act, to authorize excess over the permitted number of persons, in exceptional circumstances, and you should apply to the Local Authority, who may grant you a temporary licence.

TRADE NOTES

Asphalt in Underground Shelter Construction

How to combat dampness and water pressure in existing underground shelters and in new construction underground is a problem of concern, no doubt, to many readers of this JOURNAL, and it is therefore useful to record that the Limmer and Trinidad Lake Asphalt Company have recently issued an emergency bulletin setting out recommendations based on their recent experience and research. In a preface to the bulletin it is sensibly explained that the notes and diagrams given must be regarded mainly as a guide and preliminary step to investigation since shelter types vary considerably and such considerations as the character of subsoil, the location, access, and areas to be treated, all have to be taken into account. Attention is particularly given to the adoption of the more economical forms of bituminous construction, such as gunned asphalt and the special flexible bituminous types of elasto-proof treatment; where the state of the internal walls in existing shelters precludes the use of asphalt, a non-asphaltic damp-proofing agent is recommended. Requests for copies of this bulletin should be addressed to the Company's Emergency Service at 19 Grosvenor Place, London, S.W. 1.

THE BUILDINGS ILLUSTRATED

PITHEAD BATHS (pages 143-149). ARCHITECTS' BRANCH OF THE MINERS WELFARE COMMISSION. Subcontractors and suppliers included: Etna Brickworks, Auchenlea Brick Co., bricks; Crittall Manufacturing Co., Ltd., Hoskins and Sewell, Ltd., Gardiner Sons and Co., Ltd., Russell Edwards and Co., steel windows; Grip Steel Bar Co., Ltd., Johnsons Reinforced Concrete Engineering Co., Ltd., Liversedge Reinforced Concrete Engineering Co., Ltd., F. A. MacDonald and Partners (Glasgow), Ltd., Ferrocon Engineering Co., Ltd., Matthews and Mumby, Ltd., steel reinforcement; Reid Ferens and Co., Ltd., S. H. Heywood and Co., Ltd., Muir Goodfellow and Co., Ltd., McLennan and Co. (Mansfield), Ltd., Woolman Electrical Contractors, Ltd., R. Algar and Sons, Ltd., T. S. Bell and Co., electrical work; British Challenge Glazing Co., Ltd., Henry Hope and Sons, Ltd., Puttyless Glazing Co., Ltd., W. H. Heywood and Co., Ltd., patent glazing; Lenscrete, Ltd., Girlings Ferro-concrete Co., Ltd., pavement lights; Dunwoodie and Co., Ltd., Shanks and Co., Ltd., Southhook Potteries, Ltd., Adamsez, Ltd., sanitary fittings; Donald Clark and Son, Ltd., Edward Wood and Co., Ltd., Lambhill Ironworks, Ltd., roofing and trusses; Turners Asbestos Cement Co., Ltd., Universa Asbestos Manufacturing Co., Ltd., Permutit Co., Ltd., asbestos roof covering; Brightside Foundry and Engineering Co., Ltd., Young, Austen and Young, Ltd., Hope's Heating and Lighting Co., Ltd., heating and ventilation; Nobel Chemical Finishes, Ltd., J. and D. Hamilton, Ltd., Cement Marketing Co., Ltd., paint manufacturers; W. A. Baker and Co., Ltd., Lion Foundry Co., Ltd., R. N. F. Ramsay and Co., Ltd., ironwork; Parker Winder and Achurch, Ltd., ironmongery; Western Trinidad Lake Asphalt Co., Ltd., Scottish Speedwell Co., Ltd., asphalt; Rubrey Owen and Co., Ltd., Speedwell Gear Case Co., Ltd., lockers; Hoyle Robson Barnett and Co., Ltd., cement glaze dadoes; Venesta, Ltd., flush doors; Flexo-Plywood Industries, Ltd., metal-faced doors; A. Odoni and Co,. steel cycle racks; Cox and Co., canteen equipment; Gummers, Ltd., Bell and Smart, Ltd., boot-cleaning machines; S. G. B. (Dudley), Ltd., James Woodward, Ltd., wall tiling and glazed brick partitions; Eric Munday, Esq., signs and lettering; A. L. Hawkins and Co., Ltd., first-aid equipment.

CHANGE OF ADDRESS

The British Aluminium Co. Ltd., temporary head office, Oakley Manor, Belle Vue, Shrewsbury, Shropshire, announce the following changes in branch office addresses. The Birmingham office has been moved from Lawley Street to Lansdowne House, 41 Water Street, Birmingham, 3 (Telephone: Birmingham Central 3053-4). The Bristol office and warehouse are closed temporarily. The London office has been moved from Norfolk House to Trafalgar House, Waterloo Place, London, S.W.1 (London telephone: Abbey 1365).