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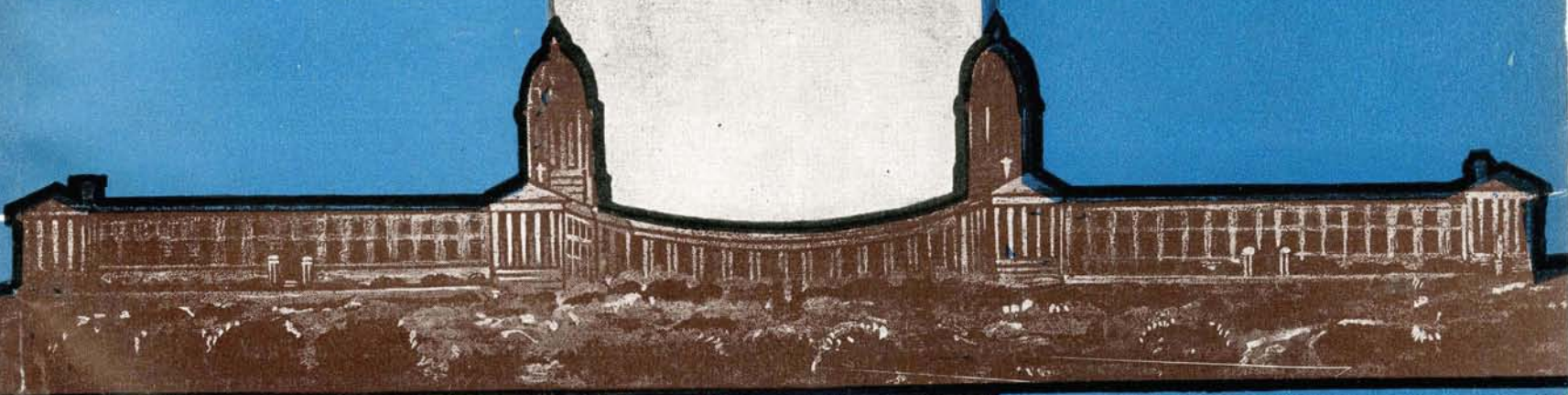
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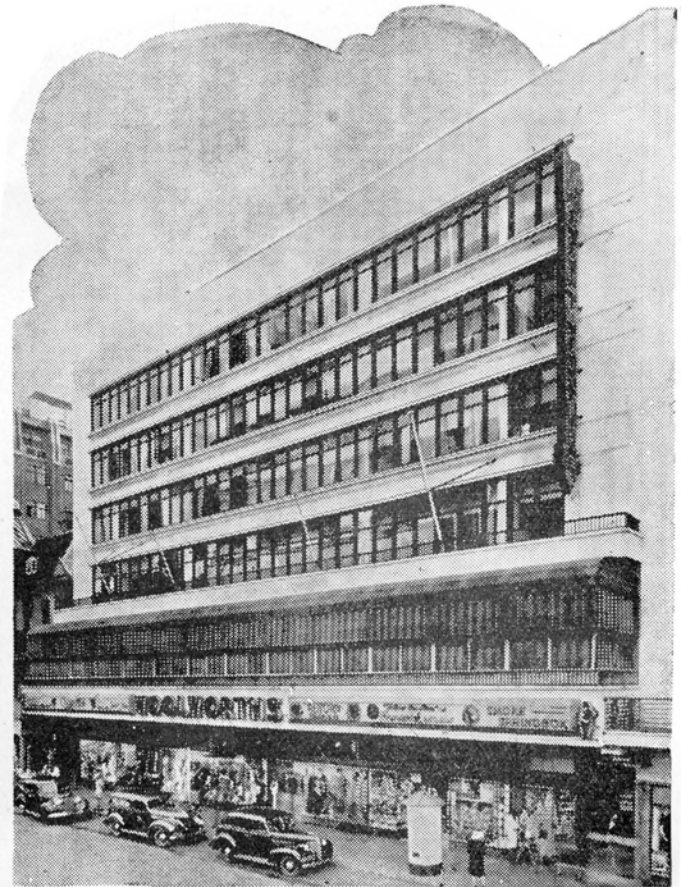
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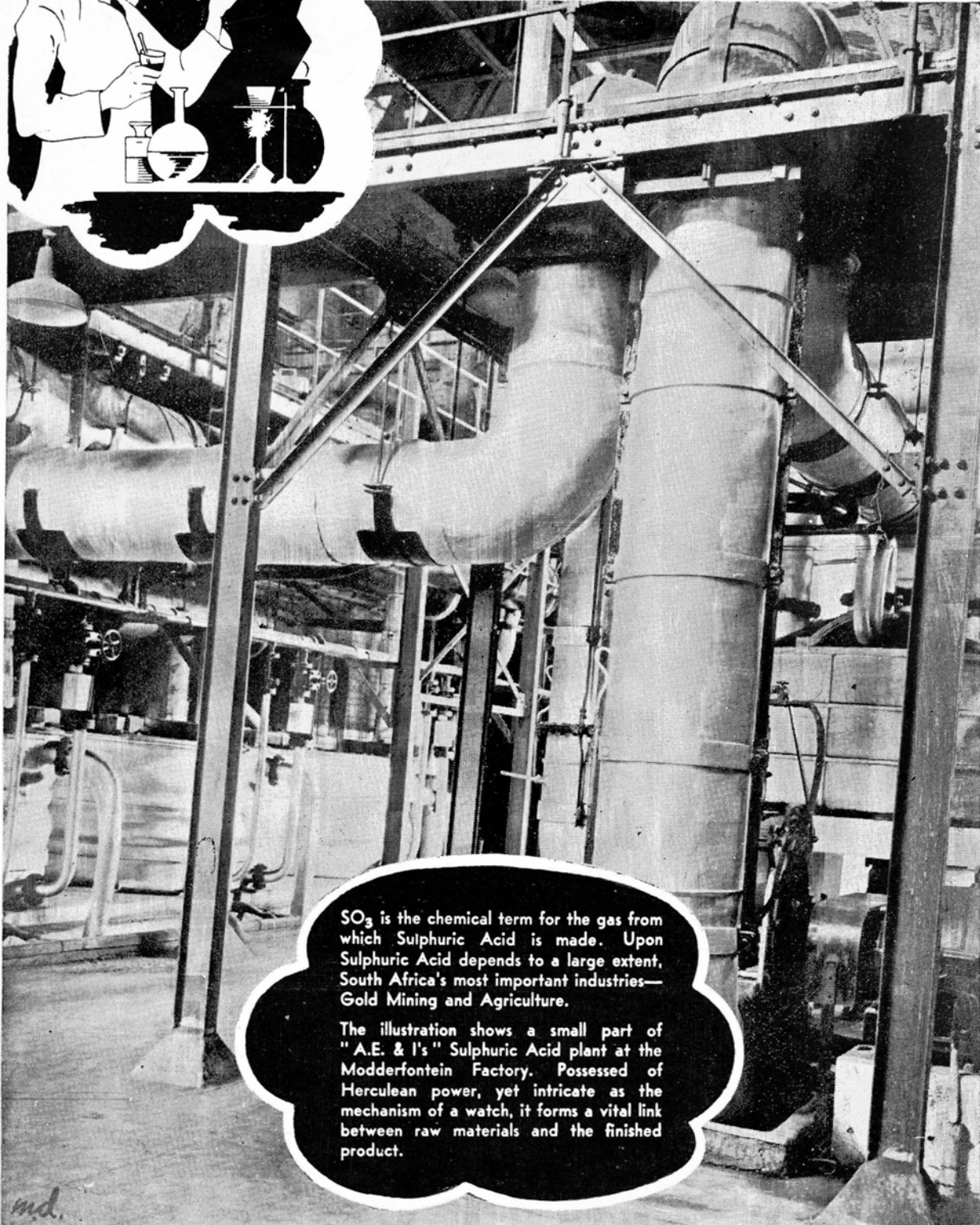
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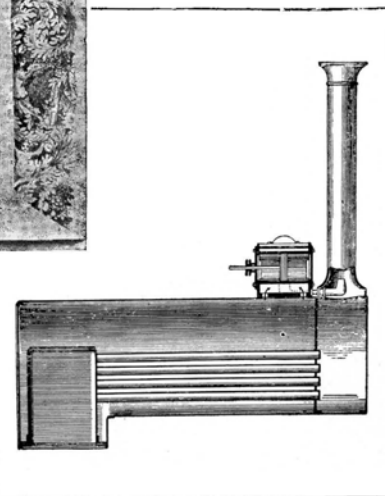
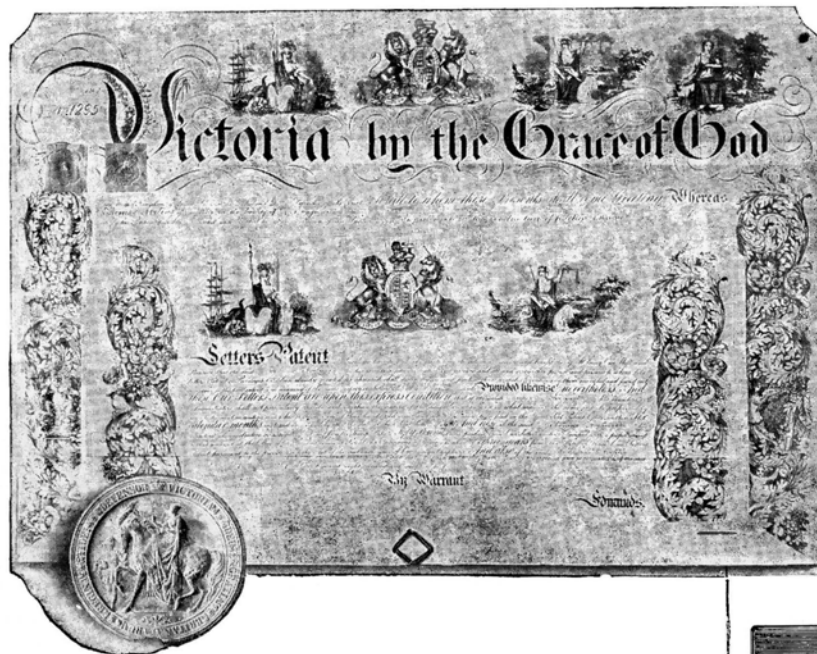
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No. 2.

An Outstanding Invention of 1861

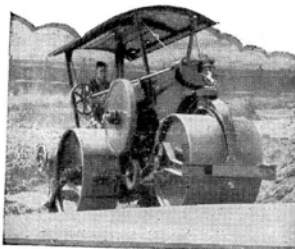


LETTERS Patent No. 1295 of 1861 granted to Thomas Aveling, of Rochester, marked the beginning of a new era in locomotive engine construction.

The specification shows that to prevent condensation of steam in the cylinder, the cylinder was placed within the steam dome in such a manner so as to form a steam jacket. Further, the cylinder was moved from the conventional position over the firebox to a forward point on the boiler, and the steam jacket was brought into direct communication with the boiler by means of ports. The new position of the cylinder prevented priming and avoided the use of steam pipes for supply and exhaust, and this, coupled with the steam jacket, vastly improved the efficiency, economy and durability of the engine.

It also permitted of an improved and stronger construction of the boiler.

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E D I T O R
E R I K T O D D

PUBLIC WORKS OF SOUTH AFRICA, which is published monthly, is intended to keep the public up-to-date in regard to projects of the Public Works Departments of South Africa, Union, Provincial and Local Government, giving expression to the activities of these departments of service

VOLUME VII • NUMBER THIRTY-NINE • JANUARY 1942

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**PERSPECTIVE SKETCH OF ISOLATION HOSPITAL
AT PIETERSBURG, DESCRIBED ON PAGE NINE.**

F O R E W O R D

LOOKING back, the past year has been a necessarily difficult one for architecture. The very character of architectural activity, which can only take place in a normal manner under peaceful and economically stable conditions, renders its continued existence in war time precarious to say the least. All building work has suffered from chronic shortage of certain materials, increasing costs and the usual war risks, and in addition the normal activity of public works authorities has had to be greatly curtailed by Defence priorities, which of course have the first call on the nation's resources.

Nevertheless it has been encouraging to note, in paging through *Public Works of South Africa* for 1941, that the authorities have been fully alive to the necessity of continuing sufficient work of a civil nature to keep pace with the requirements of essential social needs. If it has not been possible to initiate works of great social importance such as slum clearance and rehousing schemes, hospitalization programmes, land reclamation and conservation plans — all of which are badly needed, — at least our country is not being allowed to retrogress by neglect. The lack of many materials after Defence needs have been catered for, and the difficulties of manufacture and importation, set a limit to the amount of public works which may be undertaken, but despite these handicaps every sphere of public works has received its fair share of development during the past year. Much more has been done which cannot be published, for many works of a permanent nature and of architectural merit are being utilised for Defence purposes and cannot therefore be described in detail.

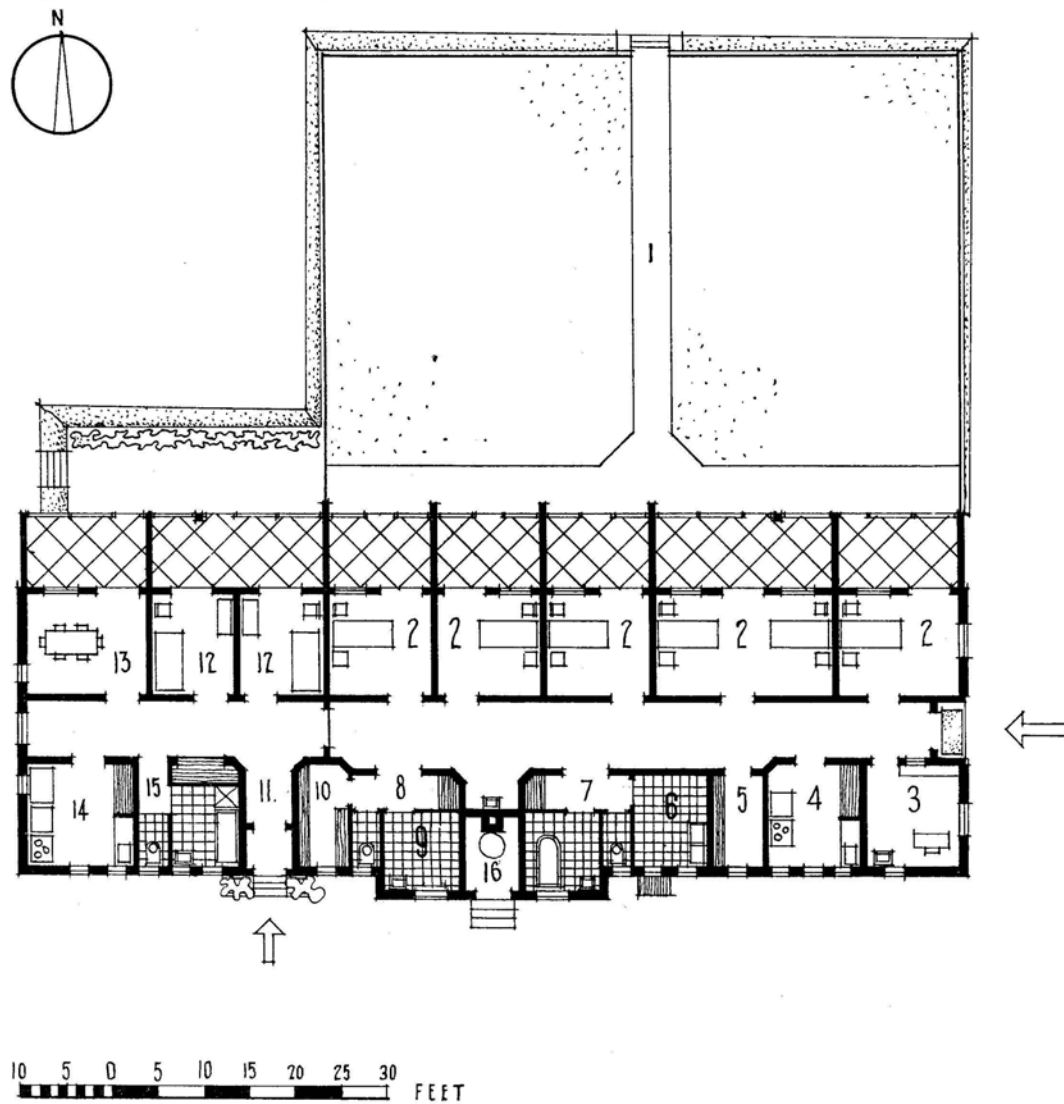
There is every indication that this rational state of affairs will continue, and that our essential needs will be adequately looked after during this year. It is too much to hope for vast improvement schemes to be put into operation in the present circumstances — the time for that is the reconstruction period immediately following the war — but the policy of endeavouring to provide as many social services as possible for our people is fundamentally correct. It is too big a risk

to let everything slide. Even hard-worked and hard-pressed Britain is spending huge sums on rebuilding during the war.

It has been interesting to note the infiltration of modern architectural influence in most of the work produced recently, in some instances with marked success. Evidently our architecture is undergoing a period of transition, and it would be interesting to record the views and controversies of our public architects on this pertinent matter. For this reason it has been decided to widen the scope of *Public Works of South Africa* during this year, and while preserving its descriptive content, it is intended to introduce more controversial and educative matter, discussions on problems of planning and construction, philosophical and aesthetic issues which are encountered every day in the architect's life. The public architect has to tussle with the same problems, only his responsibility to his public, and to posterity, is perhaps greater than that of his colleague in private practice.

In our first issue, Mr. J. S. Cleland expressed the hope that these pages should serve as a "medium for the interchange of views and experiences between the technical officers of the various Public Works Departments (Union, Provincial and Municipal) throughout South Africa, as well as architects and engineers in private practice." He said that the result of such interchange would be of value to everybody concerned, and especially to young architects and engineers.

It is hoped that by branching out into this wider field of discussion, these pages will become a literary forum to which technical officers, architects, engineers and students will contribute, for the collective good of all, to the end that a body of designers, well-informed, conversant with modern thought and culture, and understanding modern technics, will be formed: designers who will carry public architecture in this country a further stage along the road of progress.



LEGEND :

- | | |
|-------------------|----------------------|
| 1 Enclosed Garden | 9 Sterilizing Room |
| 2 Ward | 10 Linen Room |
| 3 Duty Room | 11 Staff Entrance |
| 4 Duty Kitchen | 12 Staff Bed Room |
| 5 Kit Room | 13 Staff Dining Room |
| 6 Sluice Room | 14 Staff Kitchen |
| 7 Ablution | 15 Staff Toilet |
| 8 Lobby | 16 Boile Room |

PIETERSBURG ISOLATION HOSPITAL

THE new Isolation Hospital now being erected in the grounds of Pietersburg Hospital is a welcome addition to the town's amenities. The new block is being built under the auspices of the Public Health Department of Pietersburg Municipality under a grant-in-aid. The enterprise has been largely due to the enthusiasm and initiative of Dr. I. Z. G. Nel, Medical Officer of Health, and Mr. L. Altenkirk, of Pietersburg Public Health Department. The architect is Mr. J. E. T. Day and the contractor Mr. J. T. Loubscher. The contract price was £4,940. The new block is situated on the west side of the present hospital buildings, having a northerly aspect and facing an enclosed garden.

Many interesting features can be observed in the new building, which incorporates the most up-to-date equipment and appliances. The plan has been dictated by its special character as an isolation unit, and differs from a normal ward block in that visitors are not admitted to the interior of the building, but approach through the enclosed garden on to the verandahs. They are then able to communicate with patients through the ward windows. In this way the danger of infection is minimised as far as possible.

EQUIPMENT AND FINISHES

The building is self-contained and all the necessary services have been provided. Staff quarters for the nursing staff are placed at the western end of the wards, and are equipped with dining room, bedrooms, verandahs, small kitchen and bathrooms. Patients' food is prepared in the main hospital kitchen, and a small duty kitchen is included in the new block for light requirements. A duty room, sterilizing room and sluice room are provided, and the usual patients' bathrooms. An unusual feature in the sluice room is the special ventilated bed-pan cupboard. This cupboard projects into the open beyond the external wall, and is fitted with louvre ventilators. The floor of the cupboard is finished in white glazed tiling, laid to a slope so as to drain off to a soil drain. The pans after being washed are placed on a rack of chromium-plated steel bars and can drain off with no possibility of causing infection. Above the bed-pan rack a specimen shelf of armourplate glass has been provided. This type of ventilated cupboard was evolved by the hospital Superintendent and has proved very satisfactory.

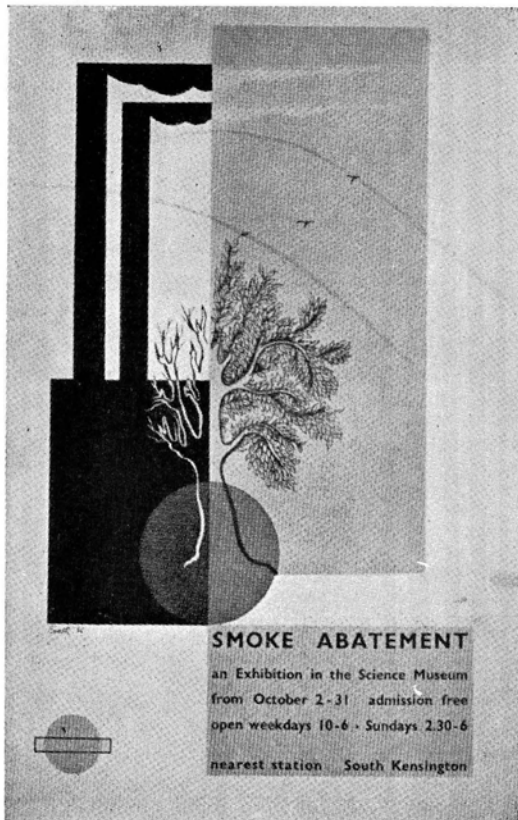
The wards have been finished internally in two-coat plaster and oil paint in eggshell finish, in a pale duck-egg green colour. The walls of the corridors have been similarly finished, but with a darker green dado. Internal doors are flush and painted to match the walls. The doors to the wards are equipped with special sliding inspection panels consisting of a Masonite panel the same colour as the door, sliding in a neat chromium-plated frame. These doors have no locks, but are provided with door checks on the inside, and hook handles for the convenience of the staff. All internal woodwork is painted to match the walls. All salient angles are constructed with 7in. radius sheet steel corner guards. Ceilings are gypsum plaster board with cove cornices, finished flat white. The floors are wood block, and black granolithic to verandahs and service rooms.

Externally the building is faced with pressed facing brick of a light buff colour with dark blue plinth courses and trimmings. The external woodwork is painted dark green. The windows are steel; all doors, windows and verandahs are mosquito-proofed. The roof is corrugated iron.

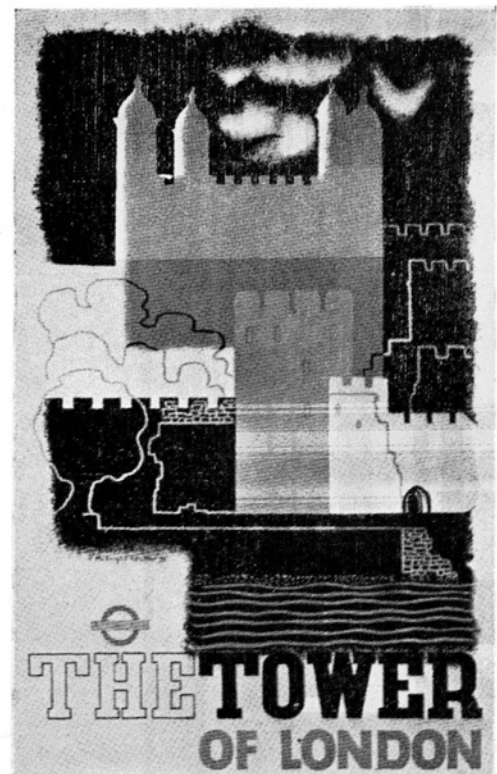
The electrical equipment is very up-to-date and lavishly provided. All corridors and wards have floor lights mounted in the skirtings which illuminate the floor surface without causing a bright point of light. The wards are also provided with bunk lights and the usual ceiling points, and an electric signalling system. The switches beside the ward doors are arranged so that the switch nearest the door operates the floor light, enabling the staff to use the light with the minimum of disturbance to the patients. The verandahs are equipped with ceiling and bunk lights, and may be utilised by patients in hot weather. There is a generous provision of wall plugs for appliances in all parts of the hospital.

Hot water is provided by a small boiler situated conveniently close to the bathrooms. It has not been necessary to provide central heating, for there is little cold weather in Pietersburg and the occasional need for heating can be met by electric radiators.

This small unit is a model of straightforward and economical planning, well conceived and executed. The inclusion of the high standards of hygiene and physical comfort demanded by hospitals to-day has transformed a simple arrangement of sick rooms into a hospital of comfort, convenience and efficiency. The Pietersburg isolation hospital is a very good example of what a small town with limited resources can achieve in the provision of such public amenities.



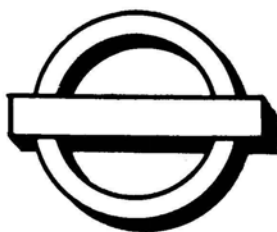
DESIGNED BY BEATH



DESIGNED BY
E. McKNIGHT KAUFFER

POSTERS BY LONDON TRANSPORT

L O N D O N T R A N S P O R T



AN APPRECIATION OF THE LATE FRANK PICK'S INFLUENCE ON MODERN DESIGN

THE death of Frank Pick in November, 1941, at the age of sixty-three, brings to a close the career of a remarkable man, who has probably done more to raise the standard of public taste and to foster the popular appreciation of good design, than any other single individual of his generation.

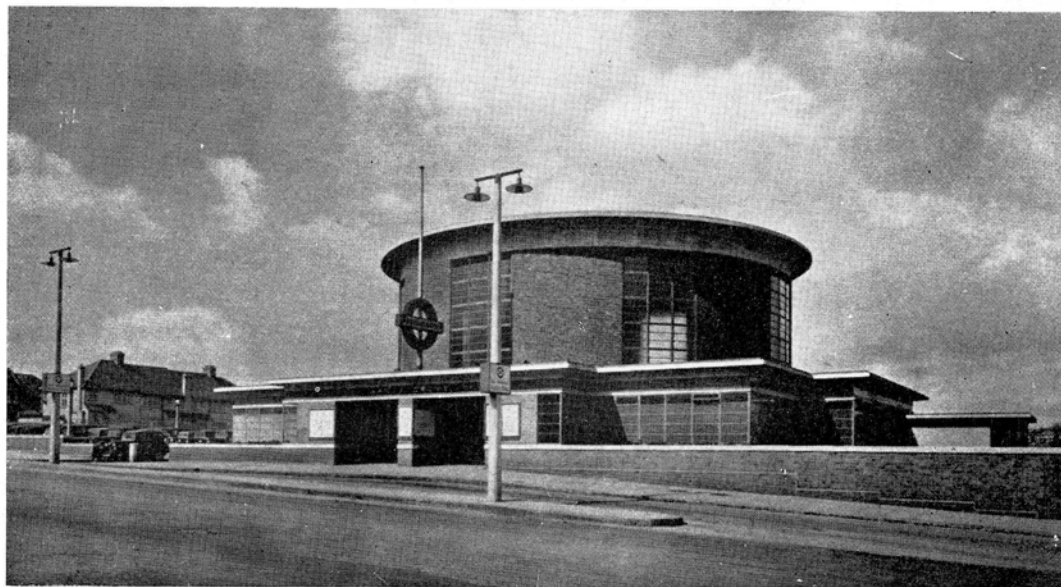
His position at the head of the London Transport organizations, later united under the title of London Passenger Transport Board, enabled him to exercise an influence which came to be felt in every corner of the Metropolis, and in late years this has spread over a considerable area comprising the rural districts and small towns adjoining the perimeter of Greater London.

Londoners, and indeed the whole of our generation, have been truly fortunate in securing the services of such an organizer, for Frank Pick never regarded his occupation as a merely technical problem demanding a mechanical solution, but saw in the Transport Organizations a means of enriching the amenities of the City in the fullest sense — economic, social, communal, and aesthetic. Not only has he built up, during the last twenty years, a vast and complex system with all its parts ingeniously dovetailed together so as to make travel in London a delightful and instructive experience despite the appalling urban agglomeration of the City, but the elements of the transport system — the buses, trains, stations, posters and indicator signs themselves are examples of good design which well repay study.

Throughout his career, Frank Pick has shown a consistent appreciation of art, and conception of the artist's problems, and his particular genius expressed itself in his understanding of the rôle of applied art in the design of everyday objects and utilities. He always related his interest in the arts to the needs of contemporary urban life, and regarded design as a means of

improving the town, helping to create a pleasant and agreeable urban environment. Every phase of his activities was bent to this task; first to the improvement of poster design and display, which led him to the problem of standardized, easily legible lettering, a subject which he studied personally. The beautiful sans-serif lettering which gives such individuality to L.P.T.B.'s publications, posters, stations and indicator boards is the outcome. The posters and literature of London Transport have provided an outlet for the activities of many young artists, and it is symptomatic of Frank Pick's whole attitude to design, that he has chosen those of the contemporary period, whose work is born of the tumult and stress of modern life. The immediate response of the public to this popular art confirms the wisdom of his choice. He understood the use of symbols as a means of saving the tired eyes and brains of city workers, by reducing the number of stimuli to bother about on the homeward journey. London's buses and tubes never employ a word where a symbol or number will do, or a sentence where a single word is sufficient. The device at the head of this article, which has become one of the "ingredients" of the London scene, is an example of this use of the symbol.

The improving and refinement of signs and posters was followed by the rebuilding of old stations and the design of new stations to conform more closely to the ideal of civic improvement. For this purpose Frank Pick took up the study of architecture, and together with Adams, Holden and Pearson, and later with S. A. Heaps, architect to the L.P.T.B., evolved the new type of Underground station which represents the architectural triumph of this most progressive organization. Arnos Grove is a typical example of one of these stations. This particular unit was built



ARNOS GROVE UNDERGROUND STATION
Architects: Adams, Holden and Pearson

1932

in 1932 and it is therefore an early example of the new type of station.

In the design of these stations the influence of the modern attitude to architectural problems is very definitely manifested. The arrangement of entrances and exits, booking office, automatic ticket and change machines, escalators and lifts to platforms are designed to promote smooth uninterrupted transition from street to trains and back to street. The skilful placing of notices and direction boards materially helps the easy flow of traffic. Every element has obviously been placed with great care and forethought, and the sense of well-being and mental tranquillity experienced by the traveller through being relieved of most of the annoying checks and delays usually associated with travel elsewhere, is the natural product of this good planning. It is virtually impossible to lose one's way or to be kept waiting at a barrier on the Underground, and nearly all the indications and directions are automatic.

There is a general characteristic flavour common to all these stations, a flavour shared by the omnibus shelters, but no standard types are used, each unit being considered on its own merits in relation to its site and approaches and preserving a delightful individuality. Uniformity is achieved by the use of similar finishes and by the standard symbols and lettering.

The architectural quality of this work is an expression of the organic approach to the problem which the L.P.T.B. has achieved under the leadership of Pick. Following from the correct statement of the problem, first in a general way, and then in each individual case, a new type of public utility building has been evolved, a statement of the emerging urban order which has yet to be woven into the general pattern of existence. The appropriateness of the form which has resulted from Pick's desire to improve the city through his utilities has obtained world-wide recognition. There is no false monumentality here, no "prestige" seeking expression in archaic forms bearing no relation to our present civilization, but a simple yet dignified statement of a social function, scaled to the human being who uses the system, enclosed in straightforward long-lasting finishes—pressed brick, reconstructed stone, metal windows—and annotated with the ubiquitous London Transport symbol and Frank Pick's elegant lettering. The windows, too, are in all cases most carefully designed, and the relation of proportion of panes to the general wall surfaces is well considered. It is to be hoped that work of this nature, carried out on such a large scale, will eventually persuade the window manufacturers (and other makers of building accessories which are not all they might be) to revise the proportions of their standard types and bring them more into line with best standards of modern design.

The architectural work of London Transport is in the best tradition of modern architecture and is equalled in few places elsewhere in the world, save perhaps in Sweden, in the new state highways in the United States of America and in a few instances in Italy. Work of this standard commends itself to the study of all those interested in the development of Public Works as a vital social force, playing a living part in the building up of better cities.

The achievement of a new and valid type of public architecture was a great advance indeed, but London Transport, with a laudable sense of public responsibility, has gone further than this and turned its attention to the parallel evolution of good design in its secondary furnishings — platform furniture, bus stop signs, slot machines — and to the redesigning of its omnibuses, trams and rolling stock. In branching out into this field of industrial design, Frank Pick again showed he had no faith in half-measures. He became a member of the Design and Industries Association. His influence on design standards became immediately apparent in this new medium. London was the first city to introduce the "limousine" tramcar, with enclosed and rounded driver's compartment, and properly upholstered seats for the passengers. Rapid strides were made in the perfection of the form of the omnibus, resulting in the clean design which has become the standard all over the world to-day. The impressive functional appearance of the trains on the London Electric Railway are another instance of his insistence on good design in every detail of his vast organization.

Throughout the development and growing up of this great contribution to the amenities of London, we see the inspiring leadership of Frank Pick. He built up an executive which was enterprising and at the same time creative, enlightened, and in tune with modern life and thought. He elevated the business of public transport from utility to amenity, from a mechanical aid to civilization to a civilizing influence in modern life. The effects of this broad policy are experienced every day by the London traveller who not only enjoys safe, rapid and regular transport to and from the city, but obtains in the process a high degree of aesthetic satisfaction and visual stimulation coupled with an undefined sense of delight, no doubt deriving as much from the excellent design and arrangement of lettering, posters, signboards and all the other paraphernalia of travel, as from the superb feeling of ease and bodily comfort experienced in the effortless functioning of the mechanical devices — escalators, automatic indicators, train doors and the like — and the regular and dependable arrival and departure of the trains and buses themselves.

Frank Pick's contribution to modern architecture was recognized in 1932, when he was made an honorary A.R.I.B.A. In 1934 he became the first Chairman of the Council for Art in Industry. He left London Transport in 1939, and after a short period as Director-General at the Ministry of Information, he was engaged

up to the time of his death in preparing a report on the canals of Great Britain as a wartime transport utility.

Pick was neither artist nor architect, but he understood the true rôle of both in modern life — controlling and directing agencies whose work, penetrating every field of design, communal, municipal, educational, industrial, is the expression of a new cultural imagination which carries the promise of the biologically and psychologically balanced environment in which a fuller life can flourish, which is emerging even now out of the legacy of ugliness and confusion left us by the past century's crude preoccupation with purely material gain and material possessions.

The example of Frank Pick is an inspiration and encouragement to modern architects, and indeed to all workers in the field of pure and applied art, and an object lesson to all public bodies whose work places them in a position to influence the physical and psychological surroundings of their fellow men. Let us hope that his lead will be followed in our generation, so that the reconstruction which is to take place after the war will be fruitful work contributing to the welfare and happiness of the generations to come.

P.H.C.

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