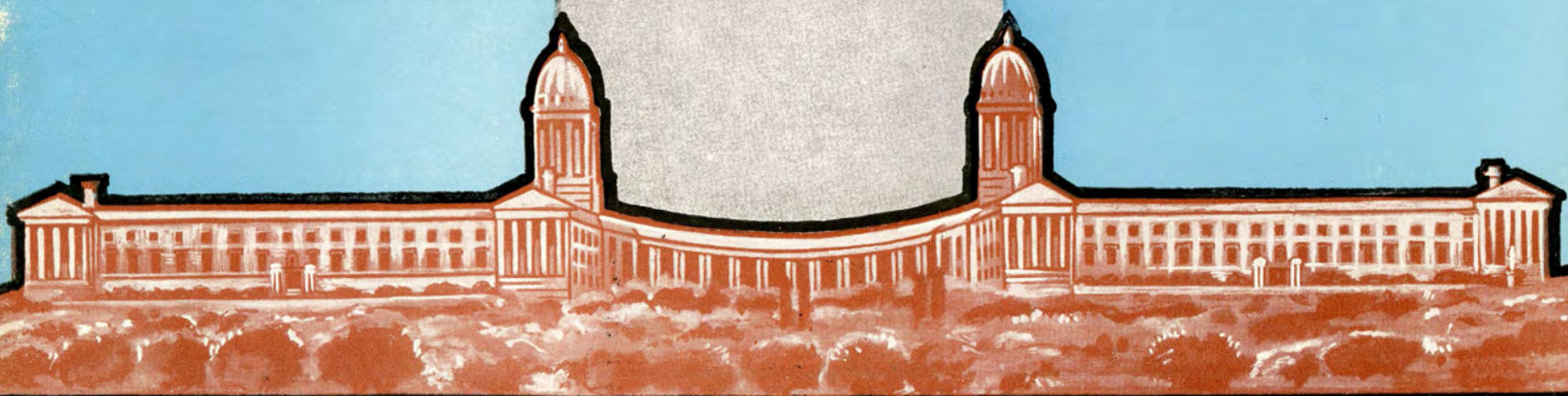
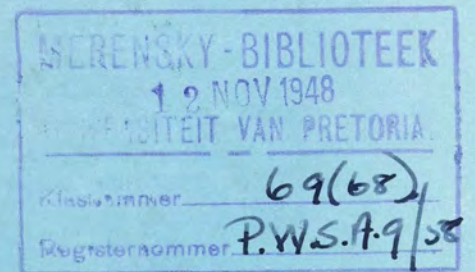


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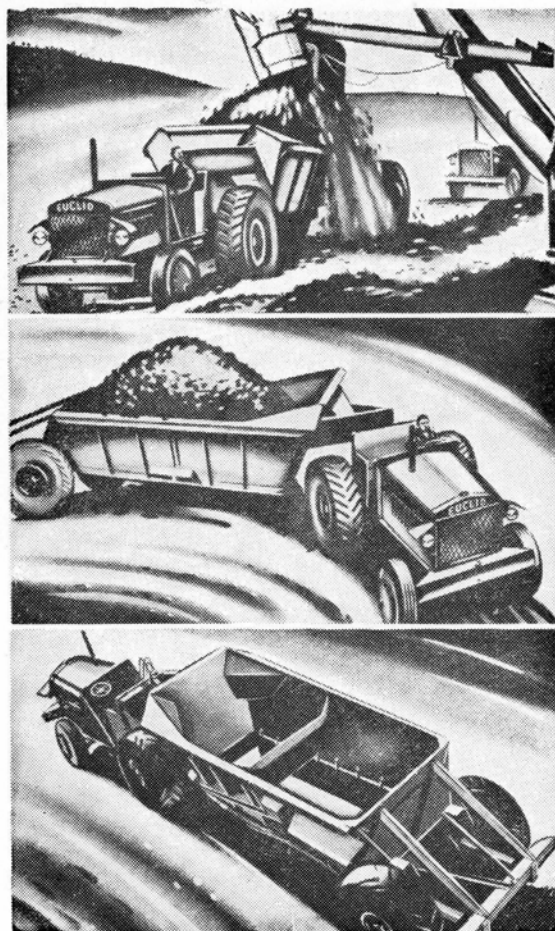
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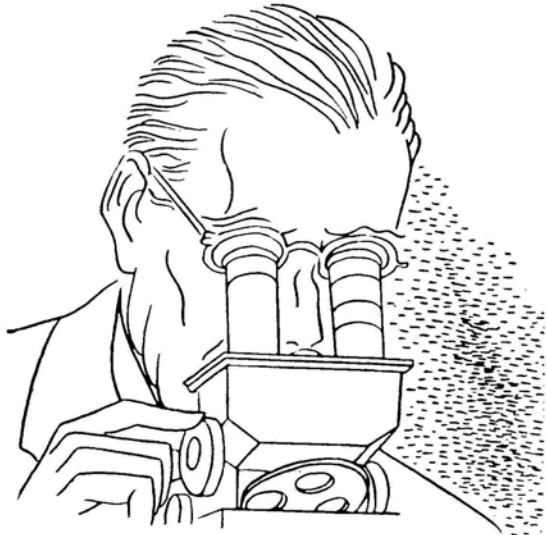
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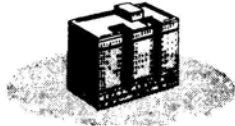
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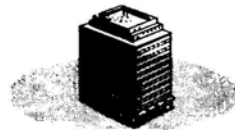
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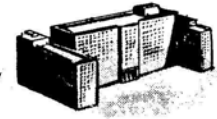
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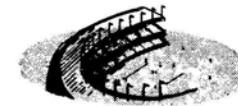
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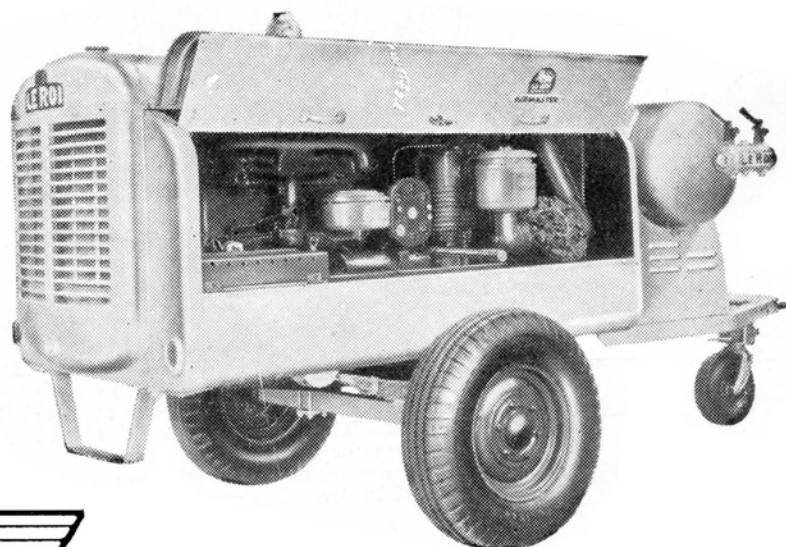
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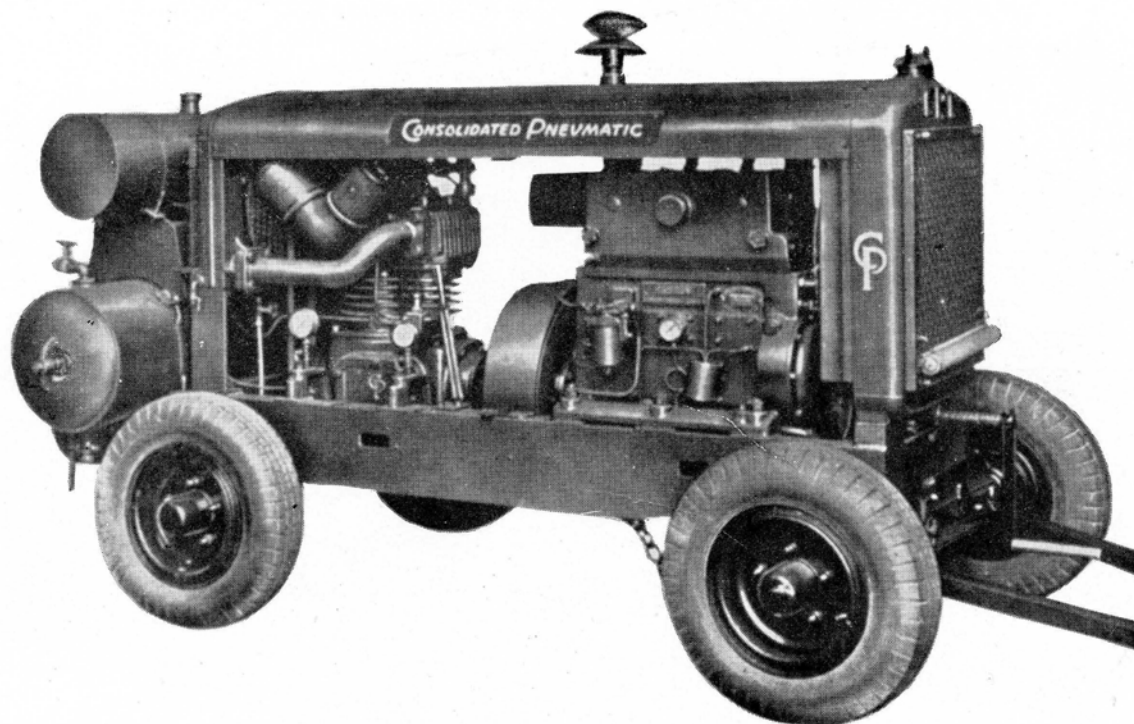
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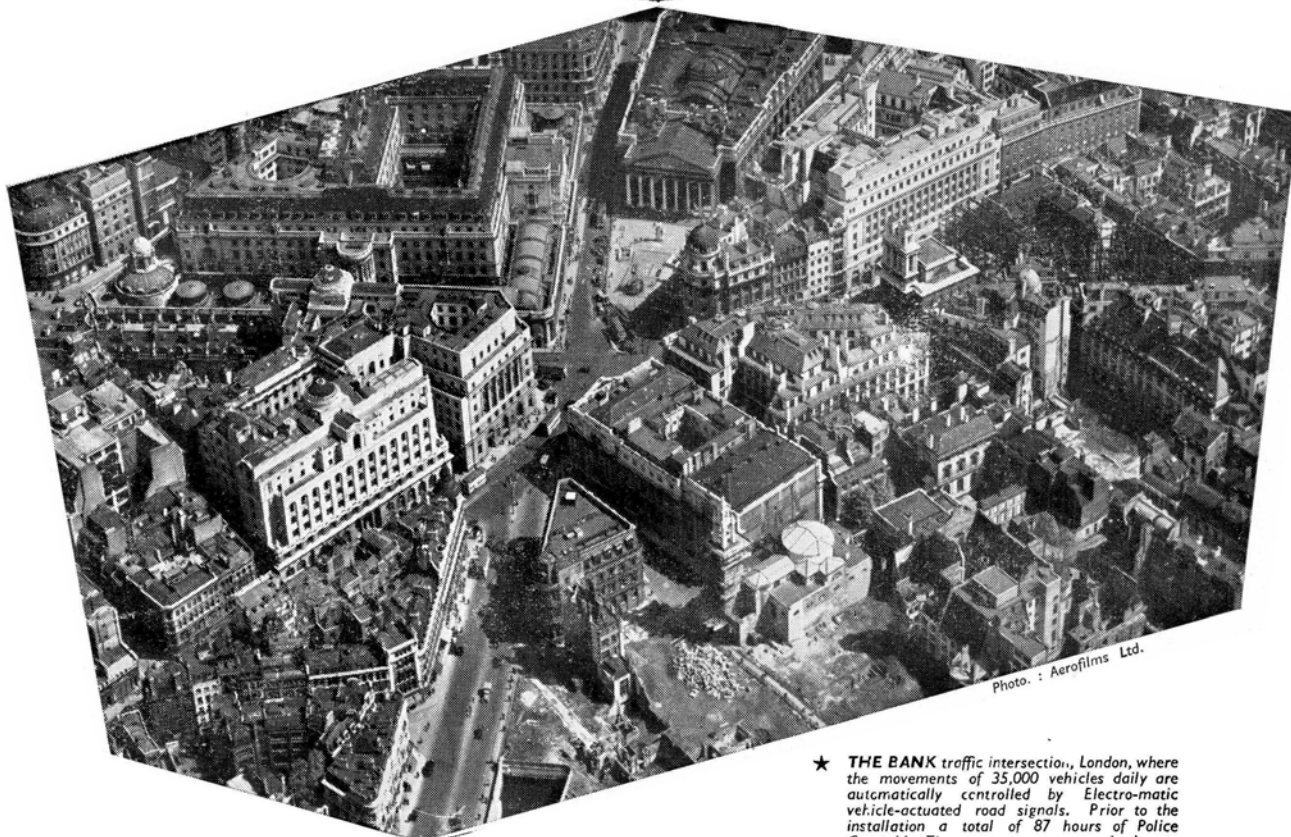


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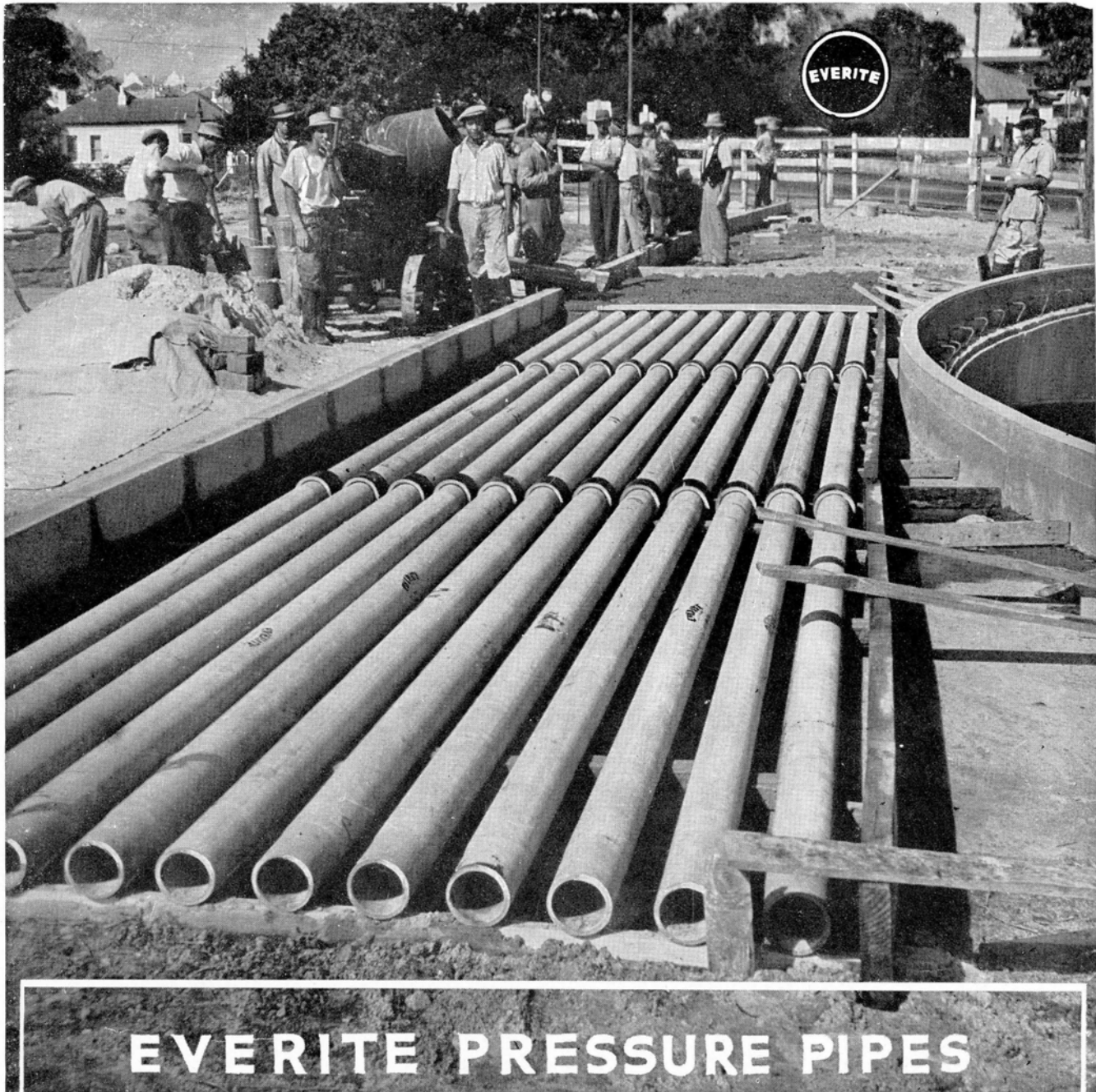
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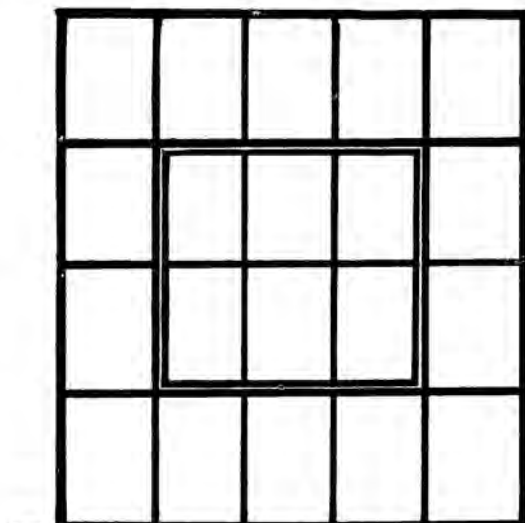


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VOLUME IX • NUMBER FIFTY-EIGHT • SEPTEMBER 1948

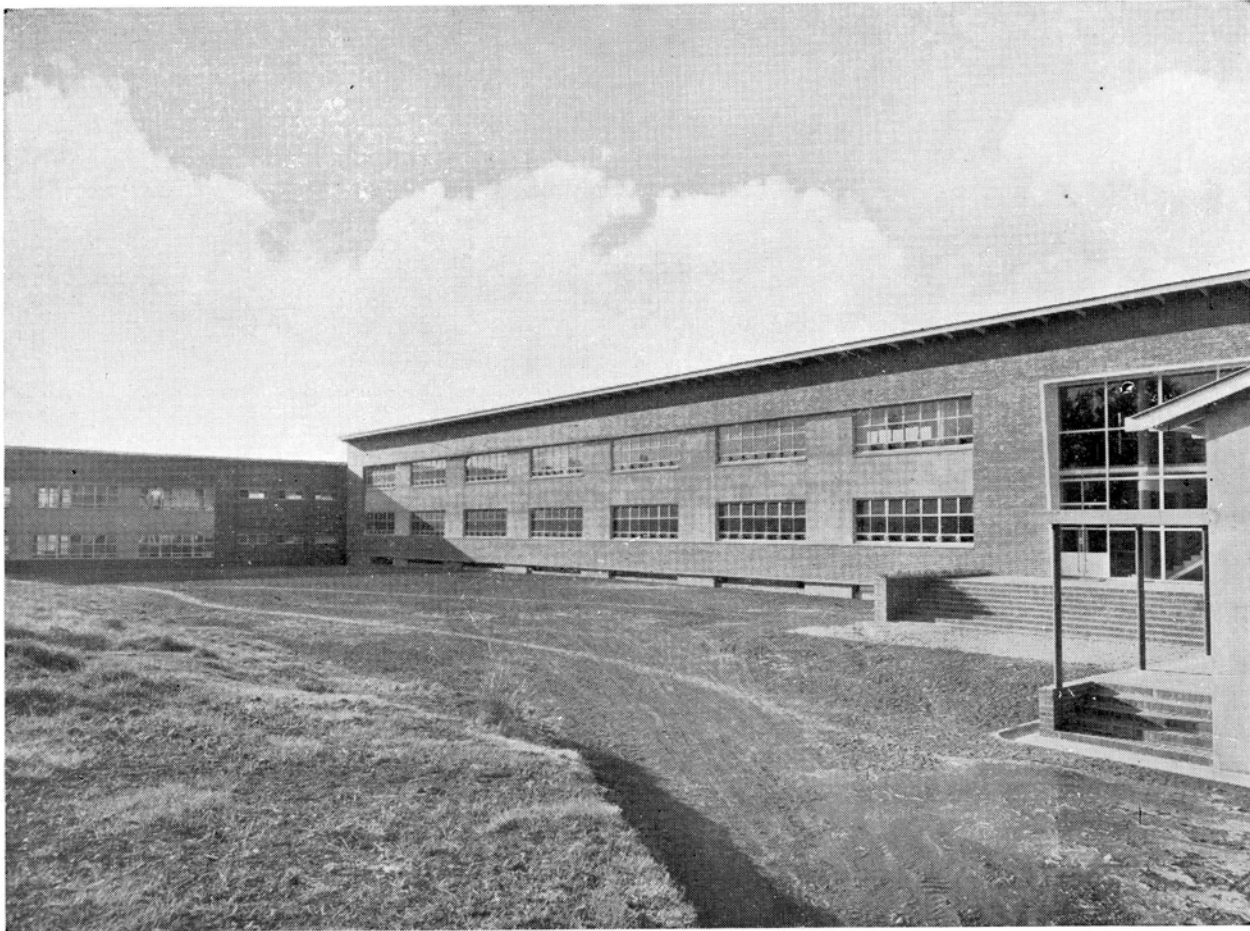
CONTENTS

PRINSHOF JUNIOR HIGH SCHOOL, PRETORIA

DESIGN FOR INLAND REVENUE OFFICES AT
EAST LONDON

THE PLANNING AND CONSTRUCTION OF NEW
TOWNS

TENDERS INVITED



South Façade shewing Laboratory Wing on the left. Main Wing and Assembly Hall on extreme right. Windows on Main Wing recessed in a plaster panel.

PRINSHOF JUNIOR HIGH SCHOOL

PRETORIA

THE Prinshof Junior High School, Pretoria, has just been completed, and the students now settling in for their first term will no doubt be pleased with the amenities provided in their new quarters. This interesting building accommodates the establishment previously known as the "Central Junior High School," which was formerly housed in premises of note in that Mr. Winston Churchill was held prisoner there during the South African War. He, of course, "left school" without a map which he had drawn showing the course of the war and compiled from fragments of information brought in by fellow-prisoners. This map still hangs upon the wall of the school. The new premises are situated close to the Aapies River, east of the Zoo, and adjoin the Riverdale School.

Programme.

At the inception of design work, it was specified that the accommodation should provide for the intake of 600 girls, but it was decided later to adopt a co-educational system, which necessitated several minor adjustments in the design. The accommodation finally decided upon included 14 classrooms, Manual Training Room, Laboratory, Domestic Science Room, Typing Room, Art Room, Library, Cloakrooms and Assembly Hall, together with sundry Administrative Offices.

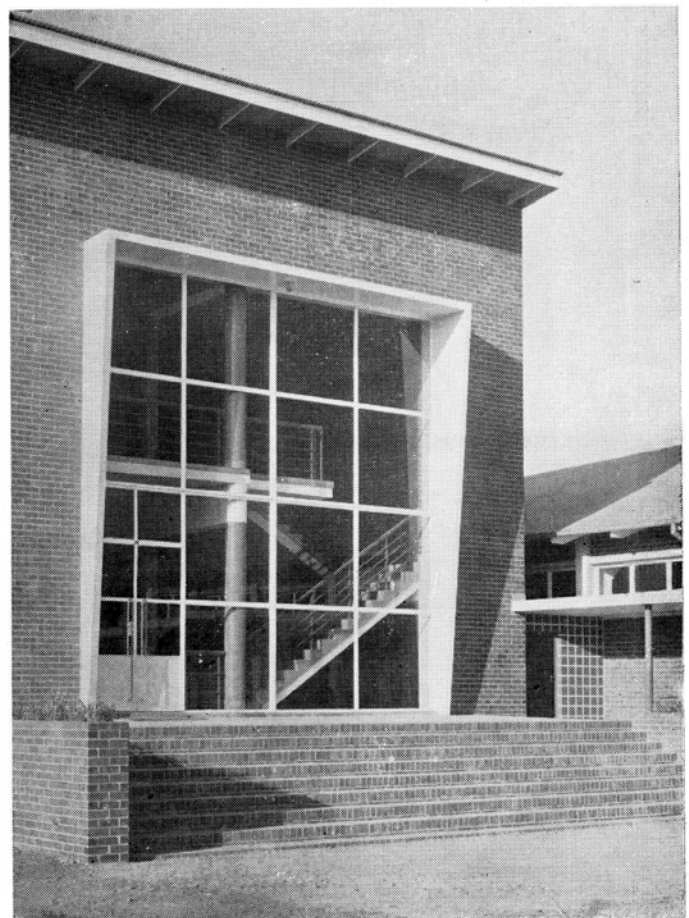
Planning.

The lay-out was governed by the necessity to locate the classrooms so as to provide either a south or west aspect. Due regard had to be paid also to the proximity of the Riverdale School, a building recently constructed in the contemporary manner, and to the contour of the ground, which inclines steeply from the street and flattens out towards the river. The steep fall has been used to advantage and the pupils will have the benefit during the warm Pretoria summer of a cool covered playground, which extends the length of the main block, below the classrooms. In effect, the north-south wing of the new project, which houses classrooms designed for specific purposes, forms a clean definition between the two schools, with a necessary east-west orientation. It was considered advisable to provide two approaches, one from the south for the use of the public and staff, and another from the west for the use of the pupils. The bicycle storage accommodation is a free-standing block strategically placed between the street gate and the west entrance. Situated on the south side is the main entrance which is conveniently located in relation to the Administrative Block, Assembly Hall and the schoolrooms, with the approach to each section radiating from this centre.

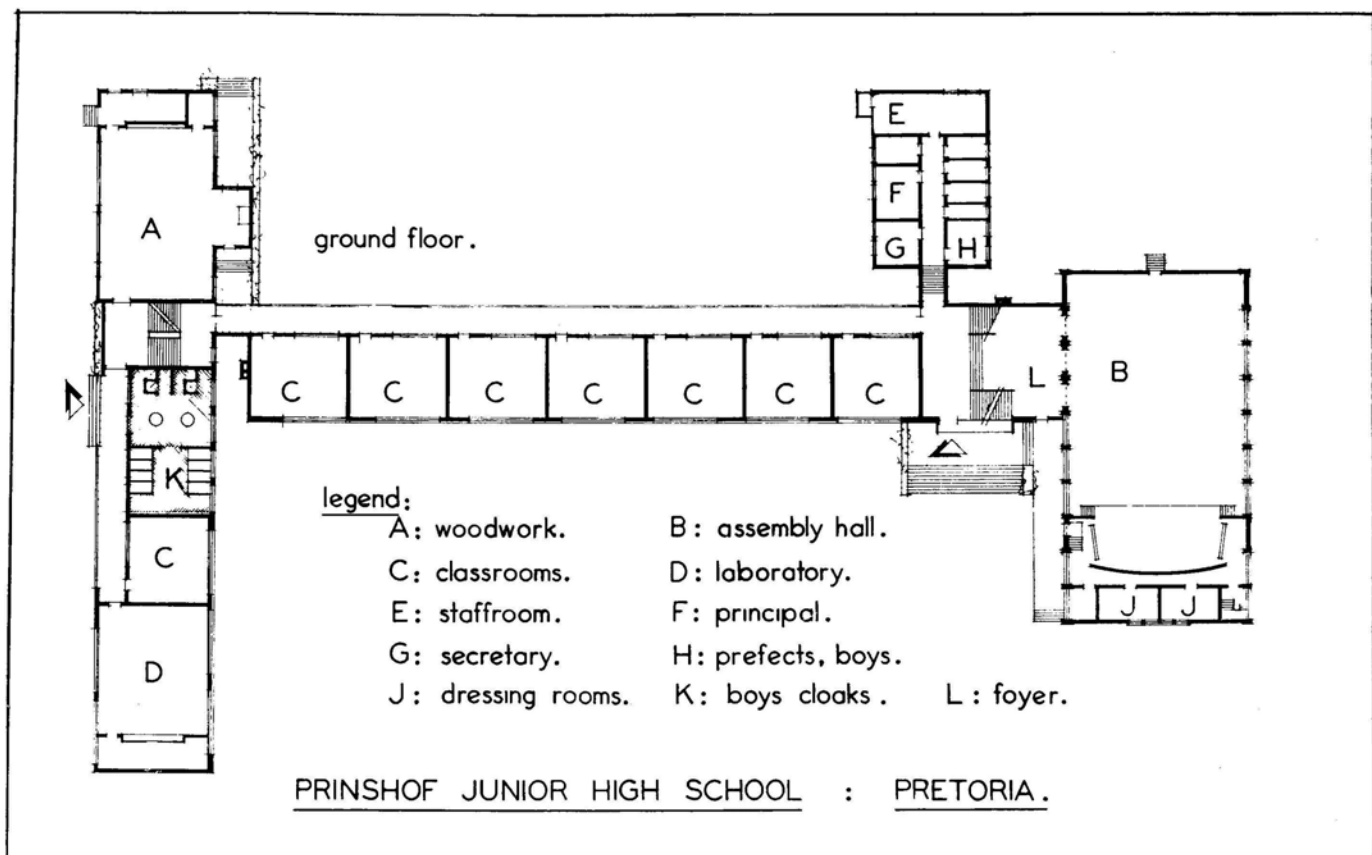
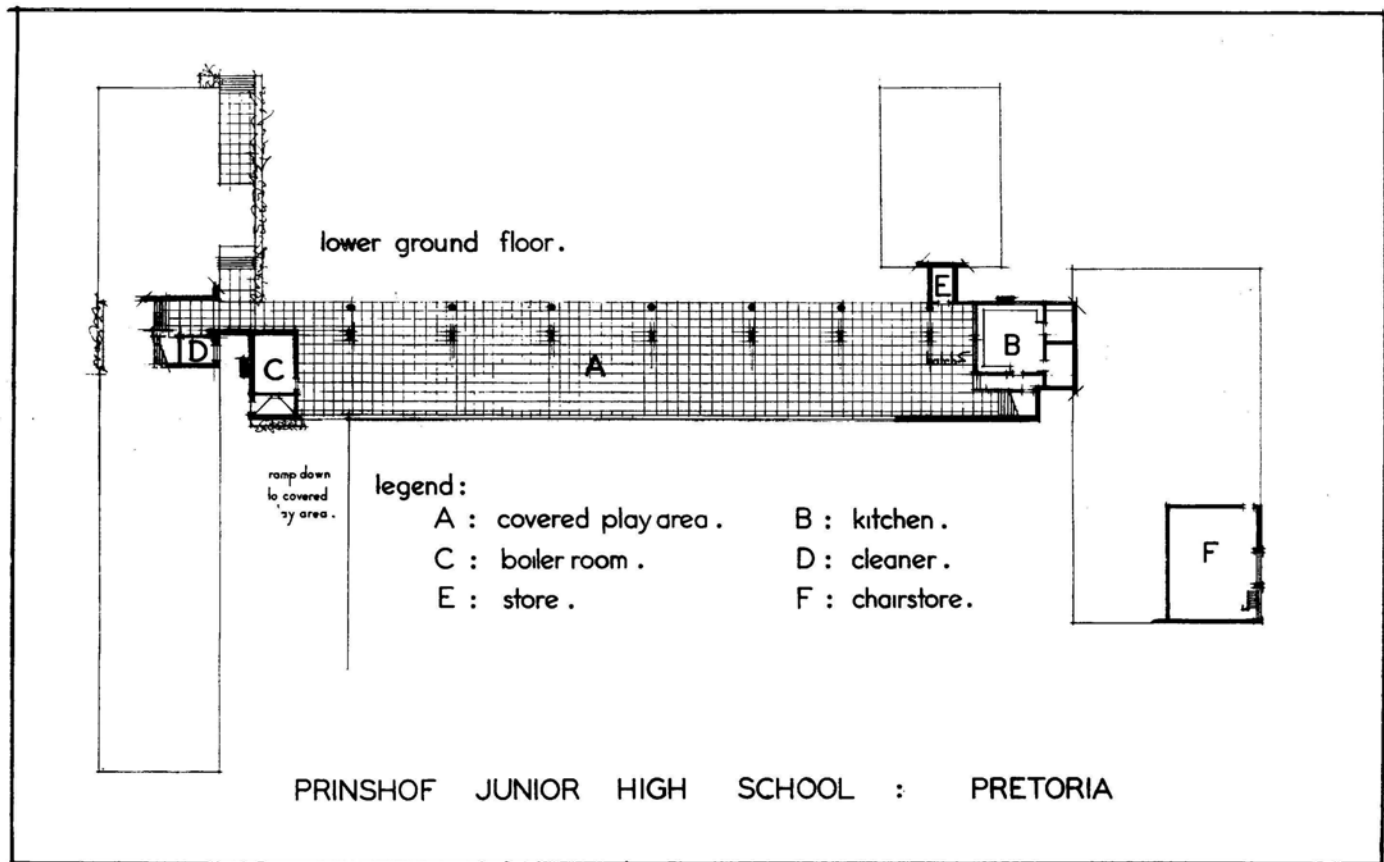
Lower Ground Floor.

This floor is at the level of the grass-covered playing fields, which stretch towards the Aapies River. It consists of a

covered and macadamised play-ground, school kitchen, boiler house and sundry store rooms. The kitchen is equipped with stoves and Soyer cookers to provide hot meals for students during the winter months, and this facility will be envied by many in schools which do their best to provide meals with makeshift equipment. A boiler room is provided to house the central heating equipment, which consists of a coal-fired, sectional Saville boiler, which feeds a pump-assisted circulation system. The coal is passed through a man-hole at street level, into the storage compartment.



Main Entrance shewing surrounding hood and Main Staircase.



Ground Floor.

This floor is approached from approximately street level, and consists of the entrance hall, administrative offices, laboratory, manual training room, classrooms, cloakrooms and Assembly Hall. For reasons of economy, the contours of the site have been followed, which accounts for the differing levels of the floors to the respective sections of the building. This, incidentally, breaks up the long continuous lines of the elevation and, by contrast, renders interesting what might otherwise have tended to appear monotonous. The Assembly Hall is provided with a stage 20 feet in depth extending the full width of the Hall, and will be adequate for plays and orchestral presentations. The proscenium wall is curved on a radius of 80 feet. This Hall is required also to serve as a gymnasium, and hooks have been provided in the concrete trusses, from which ropes and other apparatus can be suspended. There is also a Projection Room, situated at the back of the Hall in an elevated position. This unique feature, by catering for the modern trend towards more and better "movie" instruction, will facilitate a new approach in primary education. Incidentally, this projection room, which is fire-proof, is complete with escape stair and generally conforms with current regulations.

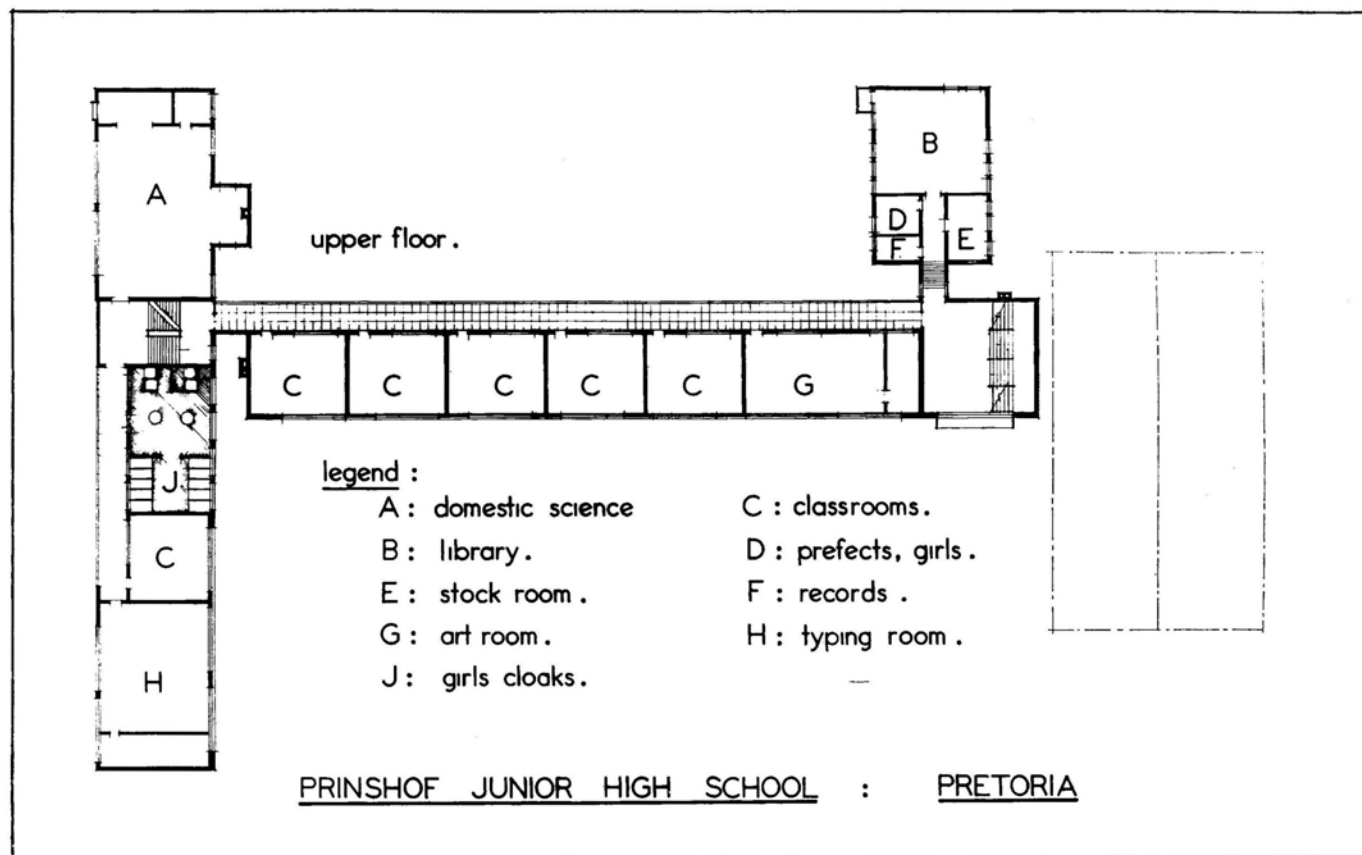
First Floor.

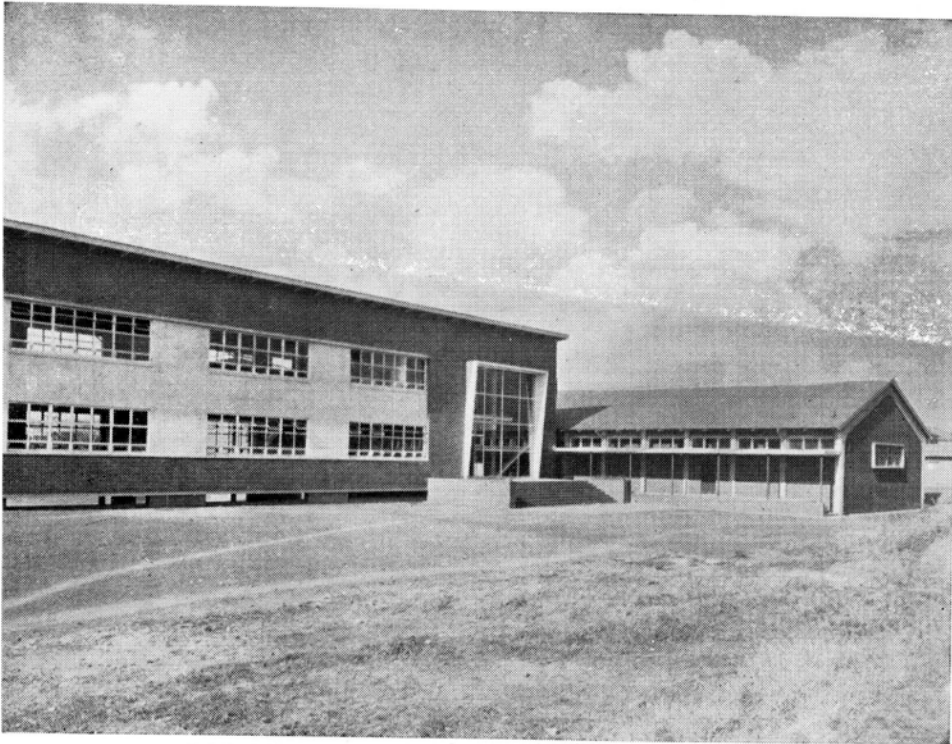
In addition to the classrooms on this floor, there is a Library, Art Room, Domestic Science Room and Typing Room. Although no attempt is being made to form a hard and fast line of segregation, it is anticipated that this floor will, in the main, be used by the girls. When the school became co-educational, one of the laboratories was converted

into a Typing Room, and one of the domestic science rooms was set apart for manual training. Separate cloakrooms for girls and boys are situated more or less centrally and, being on mid-landing level in relation to the main block, are easily accessible from either floor. Whilst on the subject of cloakrooms, it may be mentioned that there are no hand-basins or water-taps available to pupils. Washing is performed at "Bradley" wash fountains, and drinking fountains are fitted in the classrooms and also in the covered play-ground.

Construction.

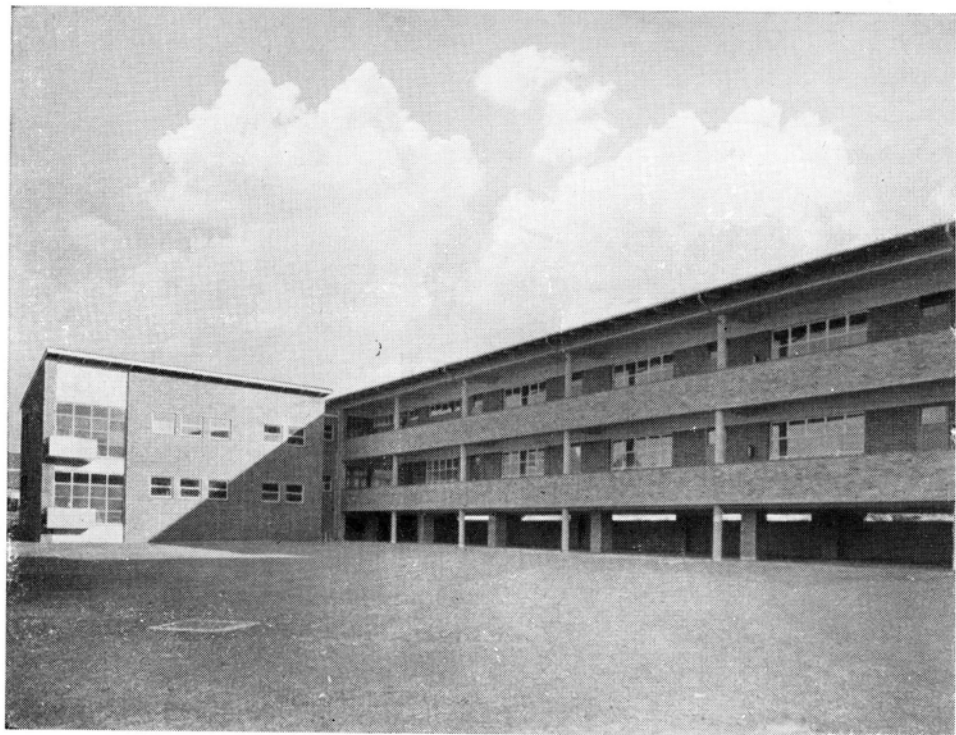
An examination of the site revealed that, while the soil was excellent for agricultural purposes, it was unsuitable for foundations. A top layer of soft black loam was encountered and in parts was 6 feet deep, while below this the ground had a reasonable bearing capacity. It was therefore decided to employ a reinforced concrete frame, with all walls in brick-work, including those at ground floor, which rest upon beams. There are three suspended slabs, and one of these defines the ceiling to the first floor. In general there are no internal beams, the floors being 12 inches thick and packed around hollow tiles in terra cotta, which are readily available in Pretoria. Apart from other advantages, a clean, beam-free ceiling is beneficial psychologically, in that it promotes greater concentration. It was decided to construct the first floor ceiling in concrete because of the high maintenance cost entailed by the use of insulation board. Furthermore, this type of construction retains its pleasing appearance for years. The roof construction is a simple monopitch propped up from the slab, and covered with corrugated iron. By using this method of construction, the cost of the slab was almost

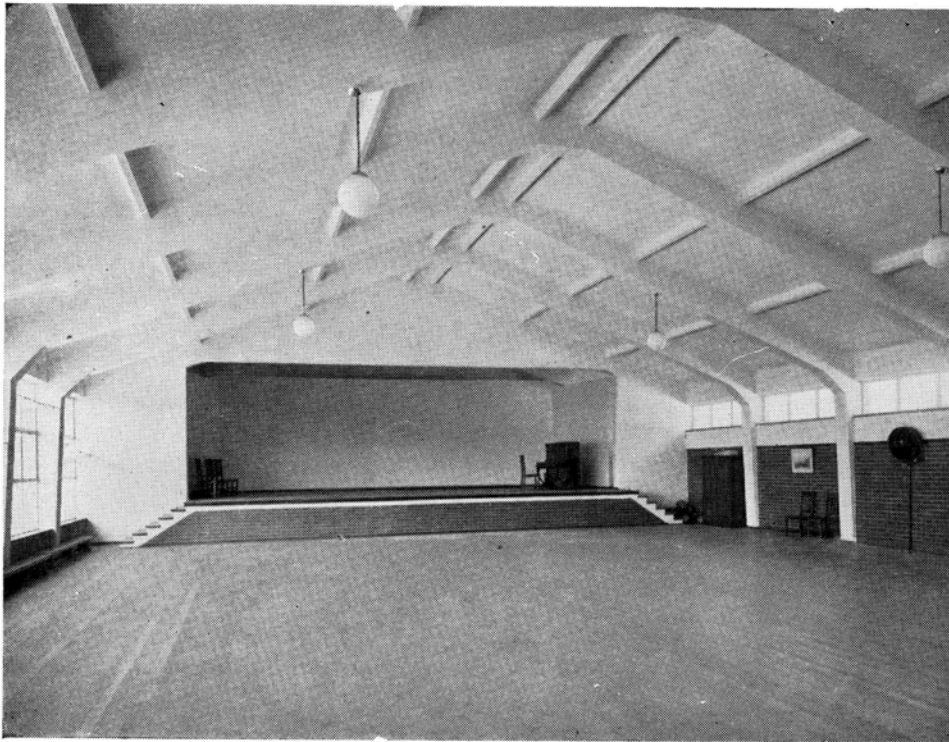




South Façade: Relationship of Assembly Hall to Main Block and Entrance.

North Façade shewing Administration Block and portion of Main Block with covered play area beneath. Kitchen situated on Lower Ground Floor in rear of Administration Block.





Interior Assembly Hall shewing concrete trusses with brick panels and windows between. Stage and curved proscenium wall.

entirely offset. A series of reinforced concrete trusses tied below floor level are incorporated in the Assembly Hall construction, the tie-beams serving the dual purpose of carrying the wood floor construction and stabilising the frame as a whole. The beams carrying the wall panels span from truss to truss. In the upper part of the truss, notches are provided, and these accommodate V-shaped pre-cast reinforced concrete purlins. These purlins carry the common rafters, which are in timber, and to these are secured 3 inch x 2 inch purlins. The ceiling consists of fibrous plaster sheets which blend with the walls and trusses in a clean and unobtrusive manner.

Finishes

The floor of the Hall is in oregon strip, but the classrooms and administration wing are finished with wood blocks. An asphalt tile floor is provided in the Manual Training Room, while the cloakrooms and corridors have cement tiles. The floors in general rest upon suspended concrete slabs, but the floor of the Assembly Hall is supported by means of timber joists. Owing to the prevalence of the ubiquitous white ant, the whole of this sub-floor has been made readily accessible

for inspection. Walls and ceilings, with a few minor exceptions, are finished with distemper. Almost all joinery is in clear oregon, painted externally and stained internally, but the laboratory fittings are painted. In the interests of economy, a local brick was used for the major portion of the external facing. This brick, though excellent in every other respect, is not of the colour specified by the architects for this particular construction. It has, however, been blended with an "iron spot" from the Reef and this, coupled with a judicious use of "Cullamix" plaster, brings relief to a façade which might otherwise have appeared austere. Oil paint on plaster has been used to give emphasis to the elevation where required, as, for instance, the main entrance. Whilst the question of maintenance has not been overlooked, an attempt has here been made to break away from the rather drab "P.W.D." brown as favoured by authority.

The Architects responsible for this structure are Messrs. Ralph Green & Hermer, of Johannesburg; Quantity Surveyors, Messrs. T. Moore & Bell; the Reinforcing Consultant, Mr. D. Thorp; and the General Contractors, Messrs. Engel & Ruyter (Pty.), of Pretoria.

DESIGN FOR NEW OFFICES FOR THE DEPARTMENT OF INLAND REVENUE AT EAST LONDON

THE Public Works Department has recently let a contract for the erection of a new office block to accommodate the Department of Inland Revenue in East London, to be erected on a site over 13,000 square feet in the centre of the City, bounded on the southern side by Terminus Street and on the eastern side by Station Street.

The building will consist of a Basement, Ground, First, Second and Third floors and has been designed with the Main Entrance facing Terminus Street and a subsidiary entrance on Station Street. Special attention has been given in planning the building to eliminate the western aspect as far as was practicable with the particular requirements of the Department concerned. Although the Department of Inland Revenue will occupy the major portion of the accommodation to be provided, rooms will also be available for the Veterinary Branch of the Cape Eastern and Transkei Division of the Department of Agriculture.

The Architectural Branch of the Public Works Department designed the building at an estimated cost of £90,000 and the building contract has recently been let to Messrs. De Kloe and Slingerland of Pretoria.

Foundation Problem.

Preliminary excavations on the site revealed the existence of extensive foundations of mass concrete, the origin of which is somewhat obscure, and the removal of those portions of the foundations which interfere with the work of construction on the new scheme is a major task which will require considerable time and energy.

It is anticipated that sub-soil water will be encountered when the Basement has been excavated; consequently, a system of permanent agricultural drainage will be provided over the whole site and connected to an underground soakage sump with automatic pumps.

Basement.

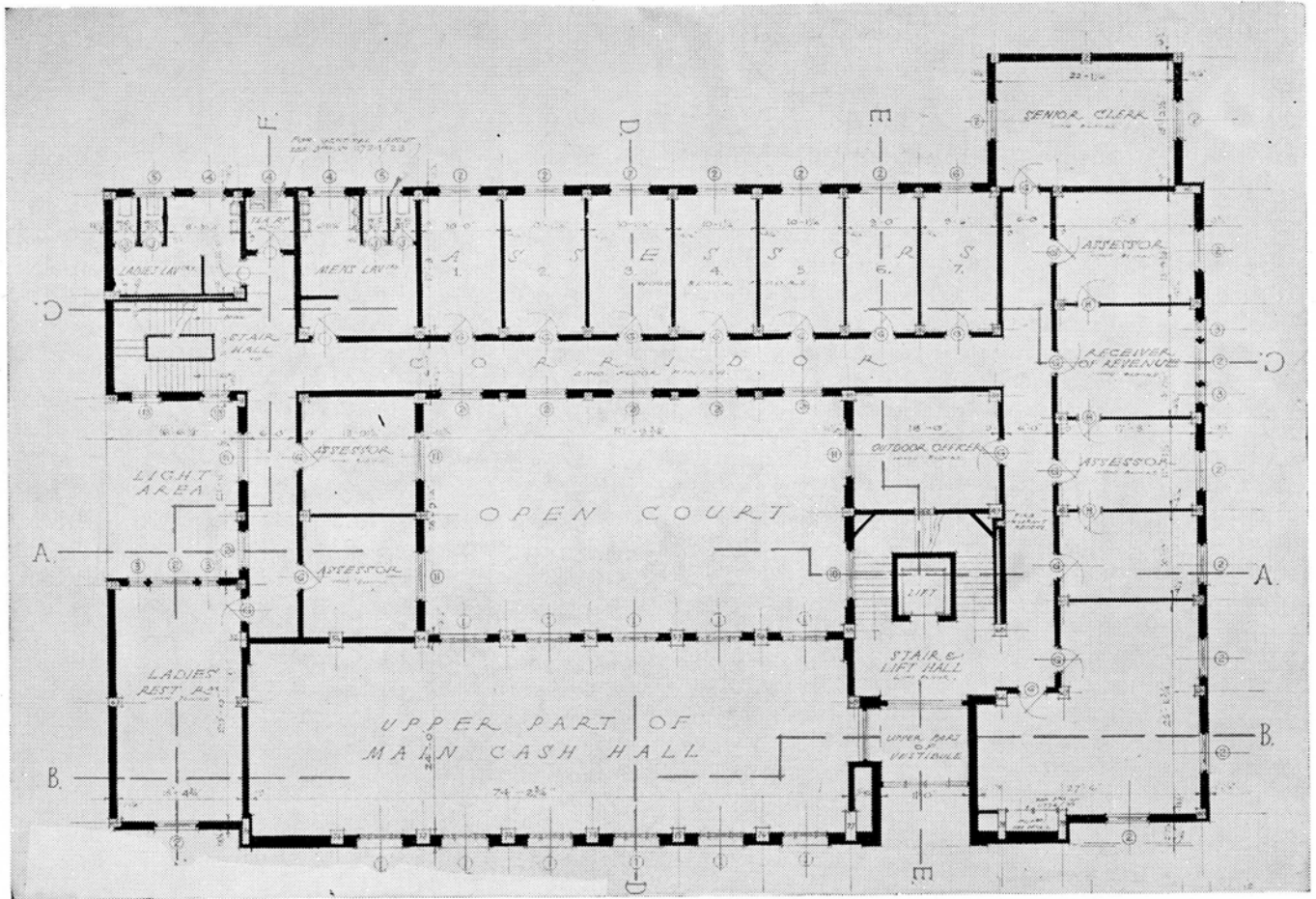
The whole of the Basement area will be used for the filing of records and all rooms will be fitted with wall and island shelving from floor to ceiling for this purpose.

Ground Floor.

The layout of the upper floors is in the form of a hollow square with the main access from Terminus Street, leading



Elevation — Station Street.



First Floor Plan.

directly to the Stair and Lift Hall and to the Main Cash Hall which occupies practically the entire frontage along Terminus Street. A subsidiary exit leading directly from the Main Cash Hall to Terminus Street will provide free circulation and will facilitate traffic flow in this Hall at peak periods. Tellers' cubicles are provided behind the main counter and from these direct contact is maintained with the Records staff operating the card system common to all branches of Inland Revenue, and contact is also maintained with the Accounts Branch in a similar manner to that adopted in an ordinary bank.

The main Registry, Typists' Offices, etc., are conveniently placed on the northern side of the square, connected with a corridor giving access to the slate-paved Courtyard with central fountain, which provides a pleasing outlook from all the surrounding rooms.

Leading directly off the right side of the Stair and Lift Hall is the public access to the Motor Licences Office, where a traffic flow can be provided when necessary by adopting a through-run to the Station Street entrance.

On the western boundary an additional light court, defined by the Strong Room, Accounts Office and Service Stair, amplifies the lighting while cutting down the western outlook to the absolute minimum.

First Floor.

With the exception of the female staff Rest Room, the accommodation on this floor is given over entirely to offices

for the Receiver of Revenue and Income Tax Assessors, who are directly accessible to the public. The female staff Rest Room has been placed on this floor, conveniently near the Service Stair, to provide easy access for the female staff on both the Ground and Second floors.

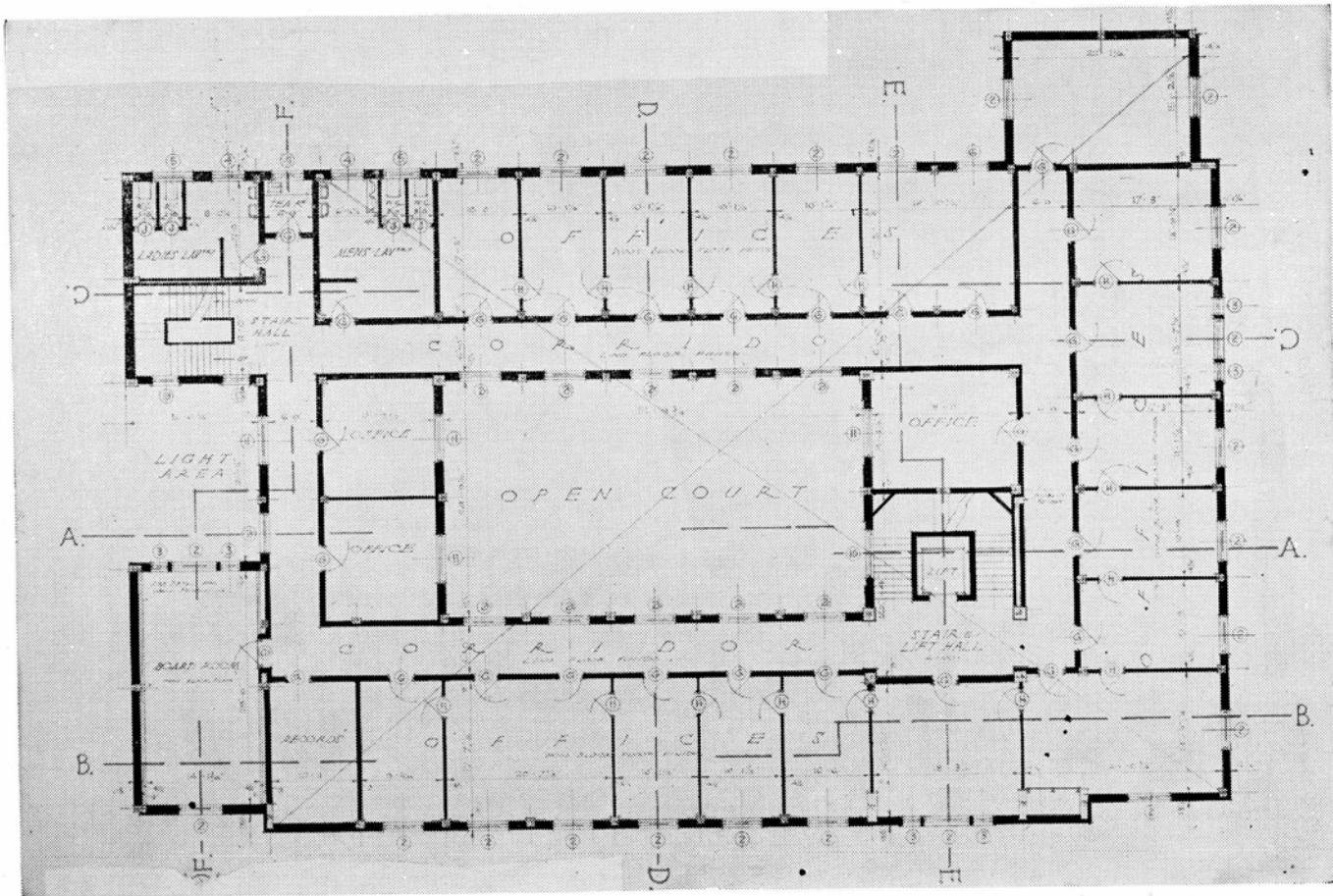
Second Floor.

This floor plan generally conforms to the layout for the First floor, with the added advantage of establishing free circulation by means of the main corridor now forming a full circle around the Central Court. The regularity of the wall spacing on this floor gives some indication of the "grid" upon which the plan is based, and the structure has been designed to allow of the erection or removal of cross partitions to enable rooms to be sub-divided as required to suit the future requirements of the occupants. Cross partitions are of the semi-permanent type with inter-communicating doors.

The offices on this floor will be occupied by the general administrative staff, with the exception of the Board Room, which will be available to all Departments occupying the building, and will also be available by special arrangement to all other Government Departments in East London.

Third Floor.

The northern and eastern sides of the hollow square are projected up to form the third floor of the building. Accommodation on this level is almost identical to the lower floors,



Second Floor Plan.

but special arrangements have been made to suit the particular requirements of the Veterinary Division. The Laboratories for the examination of "smears" collected throughout the district are specially fitted to accommodate the technical equipment for carrying out the work of the Division in a more up-to-date manner than hitherto, and provision has been made for the packing and despatch of serums produced by the Department of Agriculture for the benefit of the farming community of the district.

Roof.

Over the Lift shaft, at a level above the Third floor ceiling slab, is the Lift Machinery Room and Tank Room for the water reticulation. Access to these rooms is by a circular stair arranged directly off the Third floor corridor but cut off from public approach, and access to the roof over the Third floor offices is provided by a doorway leading off the Tank Room.

All ceiling slabs are of reinforced concrete and the lean-to trusses over these slabs are to be covered with corrugated asbestos sheets.

Finishings.

The building will be a reinforced concrete-framed structure with brick in-filling, and the general external finishings will provide a polished red granite-faced plinth to the height of the Ground floor window-sills on both street fronts, with a harmonising precast stone facing to a similar height on all other external walls. Above this level on the street fronts

the finish will be brindle face brickwork in a selected tone with special rebated dark brindle bricks forming a deep colour contrast on the main façade to Terminus Street. The street entrances will be faced with freestone dressing and similar stone archivtraves will surround the large windows to the Main Cash Hall and other Ground floor windows.

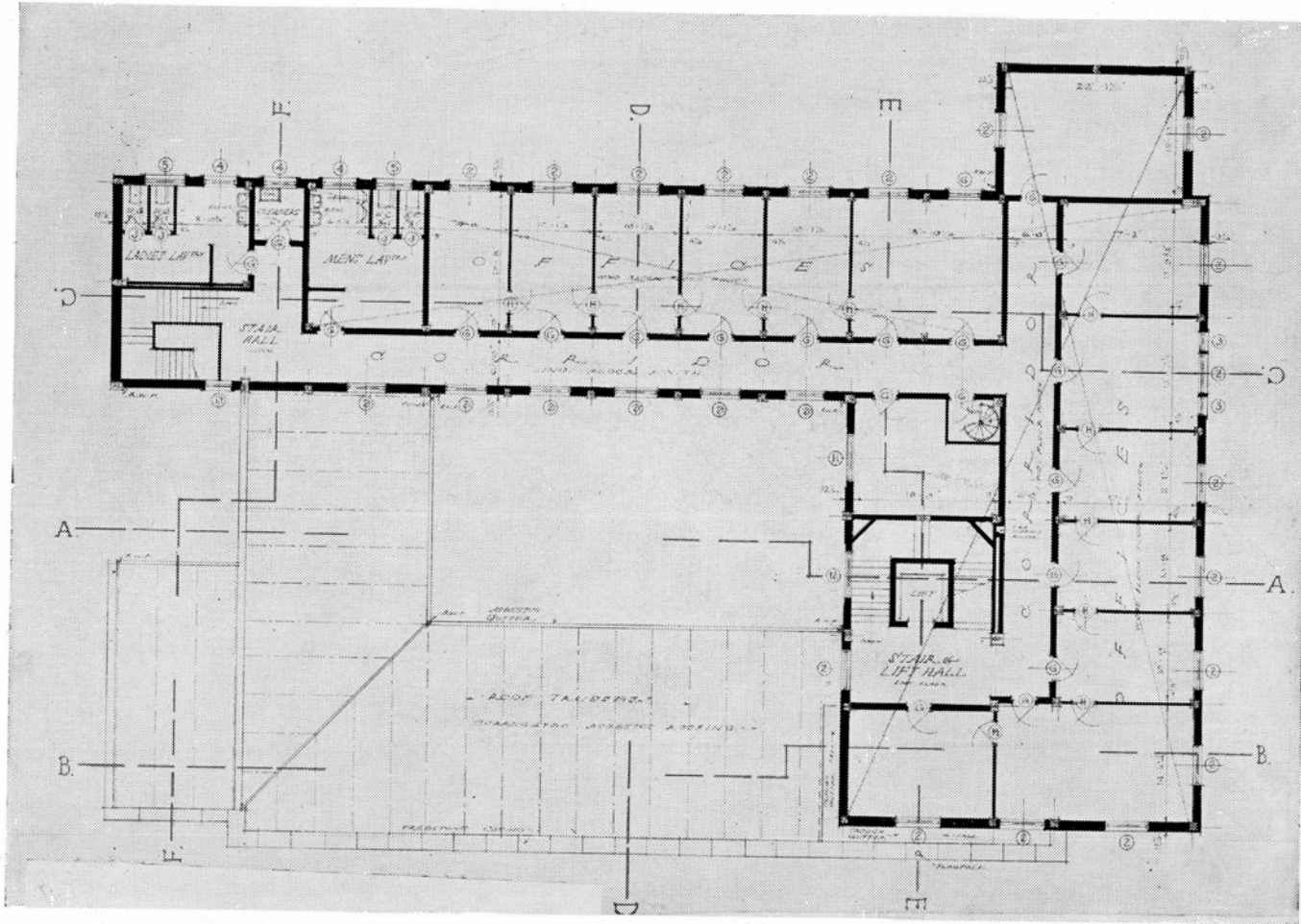
Attractive wrought-iron yard gates and grilles to Basement windows will carry a theme of design specially suited to East London, and this theme will be reflected in the ironwork employed on certain internal decoration.

Internally, the floors and walls of the Entrance Hall, Stair and Lift Hall and the Main Cash Hall will be lined with South African marble to the full height of these rooms, and the ceilings are to be acoustically treated for sound absorption. Special lighting effects will be introduced in all public spaces.

The counter and cubicles in the Main Cash Hall, and the light fittings over the public writing slopes are to be finished in bronze, and mural decorations will be provided in specially arranged wall panels in the public space.

The Board Room, on the second floor, is to be finished with specially selected South African wood block flooring and wall panelling, whilst the ceiling will be acoustically treated in a similar manner to that specified for the main Ground floor rooms.

Offices generally will have wood block flooring and the walls will be finished with hardwall plaster. Doors generally are to be the solid laminated flush-panel type.



Third Floor Plan.

A special feature of particular interest in this design will be the method evolved by the Public Works Department, and used for the first time in this service, of a completely concealed telephone circuit throughout the building. The main telephone cable will enter the Basement through a 3-inch steel pipe leading to a Cable Chamber situated under the Main Entrance, and here the main cable will be divided into two feeder cables, one of which will be carried up a specially designed vertical duct rising directly from the Cable Chamber to serve each floor of the building on the southern and eastern sides; the other feeder cable will be drawn through a subsidiary pipe, cast in concrete, immediately below the Ground Floor slab, and by means of an easy bend, will reach a second vertical duct at the diagonal corner of the Courtyard, and will be carried up this duct to serve the northern and western sides of the building. At each floor slab level, a removable panel in the duct will provide access to the feeder cables

to allow for tapping off the necessary number of lines required for telephone connections on each floor. These connections will then be threaded through $\frac{1}{4}$ -inch bore conduit, cast in the concrete floor slabs and fanning out from the vertical ducts in all directions, and rising to the surface at the junction of external wall and each alternate cross partition, from where the required lines are led along behind a hollow skirting, which is removable on three sides of each room, to provide a direct connection to the telephone in the most convenient position to suit the occupant of any particular office. Any desired change in the telephone position can be simply and quickly accomplished by adjusting the lines behind the removable skirting.

Preliminary site work has already been put in hand by the Contractors, and it is anticipated that the building will be available for occupation early in 1950.

THE PLANNING AND CONSTRUCTION OF NEW TOWNS

by

P. R. ANDERSON, B.Sc. (Eng.), A.M.I.C.E.,
A.M.T.P.I. (Associate Member).

*This paper was presented at the 27th Annual Conference of
the Institution of Municipal Engineers (South African
District), held in August at Pietermaritzburg.*

(Continued from August, 1948, issue).

D. Some Details of the General Development Plan of the Town.

IN planning the details of the town the guiding principle has been to break up the whole into districts for ease of comprehension and for ease of construction.

With the Residential Areas this has naturally led us to the now well established "Neighbourhood Unit" principle which we have applied to both European and Non-European areas. These areas or districts are marked or bounded in every case by major roads which are the key transport routes of the town. The site at Vanderbijl Park is without marked topographical features to assist towards this division into districts. Indeed this was to be expected of a site chosen primarily for Heavy Industry with its onerous contour requirements.

The layout of the Town Centre, shown on the attached Plan No. 4, follows orthodox lines, it being considered that the simple grid-iron layout best suits this development. The two features we have introduced are ample parking facilities and a Central Pedestrian way. This plan, though simple in its final form, is the result of considerable thought and a number of trial layouts. The requirements of the Central Government for space for Post Offices, Magistrates Courts, Revenue Offices, came as rather a shock and brought home to us yet once again what a large part Government plays in our lives.

Plan No. 5, attached, shows one of our earlier layouts of European Residential Areas based on the "Neighbourhood Unit" principle. Our early planning was at fault in making our Neighbourhood Units or Residential Districts too small. They were designed on the requirements of one Primary School which meant a population of from 1,500 to 2,000 persons. We have since realised that this number of persons is inadequate to support a proper range of suburban shops and such social facilities as sports clubs, health clinics, suburban libraries, cinemas, community centres, etc., and our efforts of recent months have been directed towards enlarging our districts to include at least 5,000 persons. Flexible as we have endeavoured to keep our planning, these alterations are proving difficult to bring about satisfactorily.

One of our districts erred badly in this respect, having a population of under 1,000 as the stands were largely an acre

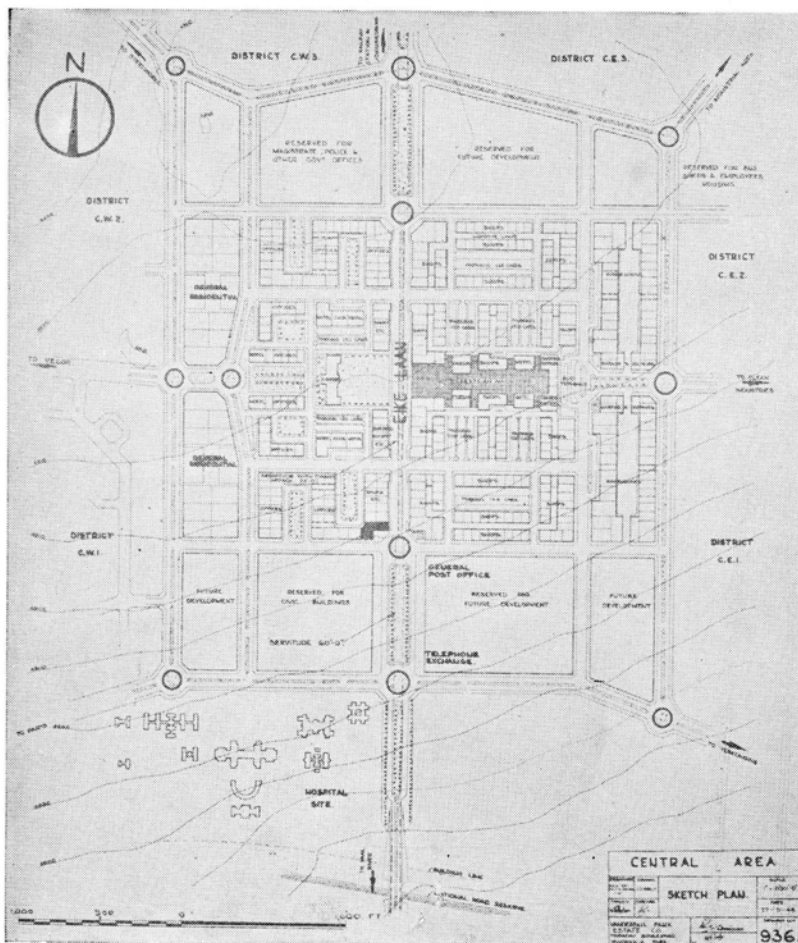
in extent. Plan No. 6, attached, shows the extension which has been added to this area in an endeavour better to provide those features necessary if the social purpose of the Neighbourhood Unit is to be met.

We were unable to substantiate our arguments at the time against the facing of houses directly on to our major roads. With a close eye needing to be kept on expenditure, it was a very natural desire to justify the cost of roads by fronting development upon them. Our experience with the traffic already upon these major roads is such that we propose locating future major roads in park development in order that traffic should have a clear and uninterrupted run, and that we should not fear for the safety of children, and even of adults, unfortunate enough to reside directly upon such major roads.

In our construction programme every effort was made to concentrate initially about certain key sewers and certain key roads. With the decision that the town should be sewered from the beginning and that all roads should be fully constructed, allied with the necessary provision of water and electricity, it was a matter of first importance that these expensive services should be limited but when laid down that they should be fully utilised and as quickly as possible.

This task was made easier by the fact that in the initial stages, the town inevitably had some of the atmosphere of a construction camp and many people were temporarily prepared to accept what accommodation was provided while making financial and other arrangements necessary for a move to a more permanent location. Whereas every endeavour has been made to bring a variety of income groups into each district or township, there is a natural setting out of the lower income groups nearer the industrial areas and the higher income groups nearer to the river. But the development of the townships near the river was delayed until several townships close to the Heavy Industrial Area were firmly established. By thus developing as it were a slice through the town from North to South on the Western boundary, full use was made of the less expensive of the public utility services, and a wide variety of residential townships provided.

The development of the Town Centre has been held over until there are sufficient persons at Vanderbijl Park to justify the construction of larger buildings required in this area.



Plan No. 4.

Meantime shopping and business sites are being provided in the sub-centres within the residential areas. It is from the sale of business stands that the major returns of moneys to the Estate Company are anticipated, and the timing of such sales, which are by public auction, must be most carefully considered.

The construction of the first of the Non-European Townships was undertaken by the Health Committee after many searchings to determine a method of financing such development without imposing too onerous a burden upon the young community. It is now being financed by a Sub-Economic loan the only departure from normal practice being that, as an experiment and for a limited time, the Health Committee is being permitted by Native Affairs Department to run departmentally the major shops within the Non-European Township. As the township is still under construction, no results of this experiment are yet available.

E. Social Planning.

It has been stated earlier in this paper that the Engineer's approach to Town Planning is to lay down the means by which the town, considered as a machine, will function smoothly and efficiently. More, of course, is required in Town Building than can be given by this purely mechanistic approach. The machine must be given life.

Much has been heard in recent years of the stimulation of large towns, the wider opportunities and the keener competition, but much has also been heard of the evil mass hysteria, the overwhelming of the personality of the individual. These bad effects of large towns have been brought about by

partial breakdown in that feeling of Neighbourhood or Community which is one of the fundamentals of social well being.

Recent town building has been directed to the re-creation of this feeling of neighbourliness, to the division of the large town into units comprehensible to the individual and of a size wherein he feels he counts. By gathering the houses about centres of communal activities the aim has been to give some plan and purpose to the grouping of houses. Such centres are the local shops, the schools, the local sports clubs, and perhaps the suburban cinema, but more especially the "Community Centre."

At the same time the opportunity was taken to plan for quiet residential areas and to promote the safety of women and children by removing the main traffic roads away from these centres. This had benefits also in the freer flow of traffic. This new Town Building is called Neighbourhood Unit Planning and has been heralded as the biggest single advance in social planning of recent years.

This system of neighbourhood unit planning has been followed in the construction of Vanderbijl Park, but while the sites for shops, cinemas, community buildings, and health clinics can be provided in the Neighbourhood Unit or District plans, more is required, and the Estate Company has been active in stimulating and supporting the formation of social clubs. These clubs range from the usual Recreation Clubs, through the various activities associated with the churches, to such cultural societies as Gardening Clubs, the Dramatic Society and the Recorded Music Society. The total of clubs and societies at present functioning at Vanderbijl Park must

number nearly 50 and the enthusiastic support given them augurs well for the future success of Neighbourhood Unit planning.

Parallel with this support and encouragement of social activities, the Estate Company has given much attention to the formation of the Vanderbijl Park Medical Benefit Fund. Dr. van der Bijl has maintained that better work is done by the employee who not only himself receives medical attention but who is free from worry and concern about the medical requirements of his wife and family. By providing 100% medical and dental benefits an employee is freed from the nagging responsibilities of doctor's and dentist's bills and is better able to give his attention to his work. A well organised Medical Benefit Fund is able to introduce periodical overhauls and to nip incipient trouble in the bud; it is preventative as well as curative. The Vanderbijl Park Medical Benefit Fund is open to all resident at Vanderbijl Park.

But the pattern of Neighbourhood Unit planning as followed in Great Britain and America is not directly applicable in South Africa because of the different practice with regard to residential densities. Overseas residential densities range from 21 persons per gross acre, in what is termed "open development" to well over 100 persons per gross acre in those areas nearer the town centre. One of our residential districts based on a stand size of 7,000 square feet, with a considerable proportion of the area zoned for flats from 2 to 6 storeys, only reaches a density of 15 persons per gross acre. The greater proportion of South African townships do not even reach this density. Even our Native townships do not exceed, at least officially, a density of 20 persons per gross acre. Overseas practice lays down that Neighbourhood Units should include about 10,000 persons, but never less than 5,000 persons, in order that a proper range of shops and recreation facilities may be supported. With densities at present common in South Africa, such numbers of persons would occupy an area too large to meet the second requirement of Neighbourhood Units, which is, that all residents should be within 10 minutes' walking distance of the centre. Modification of the neighbourhood unit principles are required to meet South African practice with regard to residential densities, but some modification of South African practice with regard to residential densities is also required.

It is still within living memory when our forebears, on viewing a neighbour's smoke rising on the sky line, complained of being crowded, packed their wagons, and trekked. It has been said that South Africans do not know how to live in cities. But if expansion of South African towns is to come about in an orderly fashion and these towns are not to be spread over vast areas of the countryside at considerable expense in services and wasted travelling time, a stiffening up of residential densities is overdue. The only major organisation apparently aware of the necessity of change is the National Housing and Planning Commission which is breaking new ground with its flatted houses.

At Vanderbijl Park endeavours are now being made to plan certain new districts with a density of 30 persons per gross acre. Should we not succeed, then many workers will be compelled to live at great distances from their employment.

F. Conclusion.

The first point which calls for attention in any impartial review of the planning and construction of Vanderbijl Park,



Plan No. 6.

is that it is far bigger than the "New Towns" projects in Great Britain. There the upper population limit appears to be set at about 50,000 to 60,000 persons. The partial answer is that Vanderbijl Park is really a grouping of three towns; two of which are Non-European, and the third European. The rest of the answer is given in the size of the Steel Works and the desire that Vanderbijl Park should not be either a "Company" town or a "one industry" town. The population directly dependent upon the pay-roll of the Steel Works will be such as to constitute a town by itself. The drawbacks of a "Company" town need not be enlarged upon.

The second point which calls for attention is what can be learned from Vanderbijl Park which may be applied with advantage to other towns in South Africa? "New Towns," on the scale of Vanderbijl Park, can only be considered in the

rare instances where some major single industry can supply the stimulus and the confidence to get the town started. The only partial success of such an enterprise as Welwyn Garden City is before us. In comparison is the assured success of the "New Towns" of the Orange Free State centred about the developing gold fields. From the financial angle "New Towns" are only attractive as a long term investment. And yet the possibility exists of the "New Towns" approach in the consideration of Non-European Housing. If we should consider this problem by the creation of complete and self-sufficient towns, infinite possibilities in the clarification of the residential and administrative relations between European and Non-European are opened up.

It has been stated earlier that Town Planning is only capable of satisfactory accomplishment if a definite limit to the size of the town is set so as to avoid the difficulties follow-

ing on "change of use." Towns, however, must grow. If confidence in the continued growth of any certain town can be established, the solution appears of a central town of predetermined size with satellite townships grouped about. If this be allied with the knowledge now available of "Neighbourhood Unit" planning, together with the improvements in transport, an attractive future to Urban Development is opened. Particularly is this so if this certain town under consideration is in fortunate possession of town lands and can lead and control such development through its own initiative.

The criticism that South Africans do not know how to live in towns may yet be the spur to a South African Urban Development peculiar to our own way of life.

(Concluded).

TENDERS INVITED

THE following are particulars of the more important tenders which have been invited up to the time of going to press for public works by Government Departments, Provincial Administrations and Municipalities. In each case the date by which the tender must be submitted is given. While every endeavour will be made to maintain accuracy in these columns it is pointed out that readers using this information do so entirely at their own risk.

Note: S.A.R. & H. Tender Board address is: 715, P.F.A.C. Building, 15, de Villiers Street, Johannesburg.

AIR COMPRESSORS, ETC.:

Durban Municipality: Two 60-ton ammonia compressors for Municipal Abattoir. Electricity Department, Durban. No. E.2183. Due, 19/11/48.

Public Works Department, Pretoria: Awontuur, C.P.-type sub-Post Office. P.W.D. 110. Due, 21/10/48.

BUILDINGS, ETC.:

Natal Provincial Tender Board: Timber movable cottages. Provincial Roads Engineer, Box 417, Pietermaritzburg. Due, 13/10/48.

Public Works Department, Pretoria: Upington, new Government offices. P.W.D. 103. Due, 7/10/48.

S.A. Railways Tender Board: Block of 8 flats at Green Point, Cape Town, Contract W.H. 39. 9 houses at Touws River, Contract W.H. 40. (Deposit of £2-2-0). System Manager, 22, Adderley Street, Cape Town. Due, 21/10/48.

CONSTRUCTIONAL EQUIPMENT, ETC.:

Barberton Municipality: 5-ton travelling crane. Town Clerk, Barberton. Contract No. 5. Extended to 31/10/48.

EARTH-MOVING EQUIPMENT, ETC.:

Divisional Council of Carnarvon: Machinery: Item 1: One only motor patrol grader with the following essential features: Full Diesel engine with oil bath air cleaner, 12-ft. blade; V-scarifier attachment. Weight 14,000 to 16,000 lbs. Mechanical or hydraulic control. Single tandem drive with low-pressure tyres. Canopy top with curtains. Odometer. Full set of operator's tools and 7/8 ton hydraulic jack in lock-up tool box. Quote as extra

for tyre pump and enclosed cab. Early delivery will be a recommendation. Item 2: Two only motor patrol graders with the following essential features: Full Diesel engine with oil bath air cleaner, 12-ft. blade V-scarifier attachment. Weight 18,000 to 20,000 lbs. Mechanical or hydraulic control. Single tandem drive with low pressure tyres. Canopy top with curtains. Odometer. Full set of operator's tools and 10/12-ton hydraulic jack in lock-up tool box. Quote extra for tyre pump and enclosed cab. The Secretary. Due, 12/10/48.

ELECTRICAL EQUIPMENT, ETC.:

Bloemfontein Municipality: E.H.T., H.R.C. electrical switch gear. City Elec. Engineer, Bloemfontein. Enquiry, 12/1948. Due, 30/11/48.

Bloemfontein Municipality: High voltage D.C. cable testing and meter test room equipment. City Electrical Engineer, Bloemfontein. Enquiry 13/1948. Due, 1/12/48.

Boksburg Municipality: Ring main gear, Contract 70/48. High and low tension cable, Contract 71/48. High tension switch cubicles, Contract 72/48. Street lighting fittings and accessories, Contract 73/48. Series street lighting equipment, Contract 74/48. Electrical Engineer, Boksburg. Due, 5/11/48.

Cape Town Municipality: The manufacture, testing, supply and delivery of secondary battery and battery charging equipment. City Electrical Engineer, Cape Town. Specification 1504/1948. Due, 27/10/48.

Cape Town Municipality: The manufacture, testing, supply and delivery of transformers. City Electrical Engineer, Cape Town. Specification 1513/1948. Due, 12/1/49.

Cape Town Municipality: Manufacture, testing, supply and delivery of cable and jointing material. City Electrical Engineer, Cape Town. Specification 1512/1948. Due, 24/11/48.

Department of Posts and Telegraphs, Pretoria: Output meter, signal generator, frequency modulator and cathode ray oscillograph. P.O. 975. Due, 28/10/48.

Department of Posts and Telegraphs, Pretoria: Magneto extension bells, telephones and telephone switch-boards. P.O. 965. Due, 4/11/48.

Durban Municipality : Electric cable, 11,000—6,600 and 660 volts, E. 2175, due 15/10/48. E.H.T. switch gear for 10 sub-stations, E. 2178, due 5/11/48. 33,000 volt cable, etc., E. 2179, due 12/11/48. 720 high rupturing capacity fuses, fittings and spares, E. 2184, due 19/11/48. Electricity Department, Durban.

Durban Municipality : Electrical material : 33 k.v. aid break switches, lightning arrestors and link switches. Electricity Department, Durban. E. 2187. Due, 10/12/48.

Irrigation Department, Pretoria : High and low tension switch board. Controller of Stores, Irrigation Department, P.O. Box 277, Pretoria. Irr. 176. Due, 21/10/48.

Johannesburg Municipality : E.H.T. switch board cubicles, No. 558, extended 14/10/48. Electrical conduit, No. 608, Condensers and chokes, No. 610, due 14/10/48. Stores Department, Johannesburg.

Johannesburg Municipality : Low tension kiosk distribution boards and link cabinets. Stores Department, Johannesburg. Contract 620. Due, 19/10/48.

Keimoes Village Management Board : Supply, delivery on site and complete erection or installation of the following : (a) Two crude oil engines and alternator generating sets, 40/50 k.w., fully installed. (b) One five-panel switch-board, fully installed. (c) The complete distribution system, completely erected. (d) "House wiring" installations. Tenders will not be considered for section (d) only. (Deposit of £2-2-0—extra copies of documents at £1-0-0 each). Consulting Engineer : H. M. S. Muller, "Reflections," Murray Lane, Upington, C.P. Due, 30/11/48.

Montagu Municipality : Electricity supply extension scheme. Town Clerk, Montagu. Extended to 20/10/48.

Newcastle Municipality : Transformers, switch gear, etc. Town Clerk, Newcastle. Extended to 16/10/48.

Pietersburg Municipality : Supply, supervision of erection and setting to work of traffic light signals. City Electrical Engineering and Transport Manager, Pietersburg. (3 copies of documents free of charge—extra copies at 5/- each). Contract 246/T.f.c. Due, 28/10/48.

Port Elizabeth Municipality : 6,600-volt switch gear. City Electrical Engineer, Port Elizabeth. Specification 327. Due, 11/11/48.

Pretoria Municipality : Supply, delivery, off-loading on site, erection, testing, completion and setting to work of : 9-22,000/11,500 volt k.v.a. onload tap changing transformers. Controller of Stores and Buyer, Pretoria West. Specification 325. (Deposit of £2-2-0—refundable up to a maximum of 3 copies). Tenders to be submitted in duplicate and delivered as follows : 1. The original and documents to the Town Clerk, P.O. Box 440, Pretoria. 2. One duplicate and documents to Merz & McLellan, Carloli House, Newcastle-on-Tyne, Northumberland, England. Due, 15/11/48.

Pretoria Municipality : 255,250 feet of 33,000 volt, 3-core power cable, together with accessories. Controller of Stores and Buyer, Pretoria West. Specification 326. (Deposit of £2-2-0—refundable up to a maximum of 4 copies). Tenders in duplicate as follows : 1. The original and documents to the Town Clerk, P.O. Box 440, Pretoria. 2. One duplicate and documents to Merz & McLellan, Carloli House, Newcastle-on-Tyne, Northumberland, England. Due, 22/11/48.

Public Works Department, Pretoria : Supply, delivery and erection of goods lift, Postal Stores, Braamfontein, Johannesburg. P.W.D. 108. Due, 2/12/48.

S.A. Railways Tender Board : Electrification — overhead equipment. No. 8297. Due, 21/10/48. Train lighting dynamos and cells, No. 7630. Extended, 6/1/49. Electric signalling material, No. 8342. Due, 14/10/48.

S.A. Railways Tender Board : Switch gear. No. 8305. Extended, 21/10/48.

S.A. Railways Tender Board : Electrical cable and copper wire. No. 8234. Due, 9/12/48.

S.A. Railways Tender Board : Electrical cable and copper wire. No. 8234. Due, 9/12/48.

South African Railways Tender Board : Electric cable. No. 2186. Due, 21/10/48.

Southern Rhodesia Government Tender Board, Salisbury : Electric motor, 1 h.p., single-phase, 220-volt, 50 cycles, 1,450 r.p.m. Under-Secretary for Education, Salisbury. No. 2077. Due, 22/10/48.

Windhoek Municipality : Cable and line material : Insulated cable, bare copper conductor and other line equipment. Town Electrical Engineer, Windhoek. No. 50/1948. Due, 11/10/48.

ENGINEERING CONSTRUCTION, ETC. :

S.A. Railways Tender Board : Wheels and axles, automatic couplers and roller bearing axle boxes. No. 7600. Extended, 6/1/49.

LABORATORY EQUIPMENT, ETC. :

Union Tender and Supplies Board, P.O. Box 371, Pretoria. Laboratory equipment to the Western Province Fruit Research Station. S.O. 2903 Stellenbosch. Due, 25/11/48.

Union Tender and Supplies Board : Surgical instruments, etc., to Onderstepoort Laboratory. Union Tender and Supplies Board, P.O. Box 371, Pretoria. S.O. 2933. Due, 21/10/48.

VEHICLES, ETC. :

Bloemfontein Municipality : 8 two-axle type double-deck buses, or, alternatively, 16 two-axle type double-deck oil engine omnibuses to seat 56 passengers. Transportation Manager, Bloemfontein. Extended to 8/11/48.

Johannesburg Municipality : Motor truck, Contract 634 ; Low-loading trailer (15 tons). Contract 635 ; Motor trucks and water tanks, Contract 636. City Treasurer, Room 1, Second Floor, Licensing Buildings, 271, Main Road, Newtown, Johannesburg. Due, 19/10/48.

Johannesburg Municipality : 4/5-ton motor chassis. Stores Department, Johannesburg. Contract 624. Due, 15/10/48.

S.A. Railways Tender Board : Electric motor coaches and plain trailer coaches, No. 7697. Due, 20/1/49. Inter-urban coaches manufactured in South Africa, No. 7471. Extended, 6/1/49.

Walvis Bay Municipality : One 3/4-ton tip truck with 3/4 cubic yards capacity dump body with hydraulic hoist, complete with steel cab. Town Clerk, Walvis Bay. Due, 6/10/48.

WATER SUPPLIES, ETC. :

Bloemfontein Municipality : 30"-bore rising main. 53,000 feet, app., of various classes of 30"-bore protected steel pipes with non-caulked joints, special pipes, bends, 20" sluice valves, electrically operated 12"-bore sluice valves, air valves, alarm system, depth indicators, Venturi-type water meters, recording from 10,000 to 500,000 gallons per hour and certain quantities of special 20"-bore "victaulic" jointed pipes and "victaulic" rubber sealing rings to match existing pipes. City Engineer, Bloemfontein.

(Deposit of £10-10-0—extra complete sets of documents at £3-3-0 per set). Contract 1-48/49. Parts A.B.C.D. and E. Due, 1/12/48.

Newcastle Municipality: 1. Chemical dosing plant; 2. Filtration plant; 3. L.T. switch gear. Contract W. 1/1948. Consulting Engineers: Stewart, Sviridov and Oliver, Balgownie House, 66, Commissioner Street, Johannesburg. (Deposit of £2-2-0—additional copies of documents at £1-1-0 per copy). Due, 3/11/48.

Stanger Township: Hydro-electric scheme: Hydro-electric plant and penstock. Consulting Engineers: Stewart, Sviridov & Oliver, Balgownie House, Commissioner Street, Johannesburg. Contract E. 1/1948. (Deposit of £3-3-0). Due, 1/11/48.

MISCELLANEOUS:

Aluminium arms for telephone poles: Department of Posts and Telegraphs, Pretoria. No. P.O. 960. Due, 28/10/48.

Asbestos cement sheets: S.A.R. Tender Board. No. 8373. Due, 28/10/48.

Bolts and nuts: S.A. Railways Tender Board. No. 8357. Due, 25/11/48.

Centrifugal Pump: One vertical spindle electrically driven. City Electrical Engineer, Cape Town. Specification 1510/1948. Due, 27/10/48.

Chain: S.A. Railways Tender Board. No. 8387. Due, 14/10/48.

Chemicals and apparatus to Grootfontein College of Agriculture. Union Tender and Supplies Board, P.O. Box 371, Pretoria. S.O. 2940, Middelburg Cape. Due, 28/10/48.

Coal during the year 1949 for various Municipal depots: City Electrical Engineer, Cape Town. Specification 1514/1948. Due, 25/10/48.

Coat frocks for health visitors: City Treasurer, Room 1, Licensing Building, 271, Main Road, Newtown, Johannesburg. Contract 640. Due, 19/10/48.

Coin counting machines: Department of Posts and Telegraphs, Pretoria. No. P.O. 969. Due, 14/10/48.

Cotter and taper pins: S.A. Railways Tender Board. No. 8380. Due, 14/10/48.

Cranes: S.A.R. Tender Board. No. 8393. Due, 18/11/48.

Distribution transformers: City Treasurer, Licensing Building, 271, Main Road, Newtown, Johannesburg. Contract 642. Due, 14/10/48.

Electric hand saw filing and setting machine: Stores Department, Johannesburg. Contract 617. Due, 14/10/48.

Engraving machine and accessories. Electricity Department, Durban. No. E. 2185. Due, 19/11/48.

Fabricated steel telephone poles: Department of Posts and Telegraphs, Pretoria. P.O. 958. Due, 14/10/48.

Fire-fighting equipment: 2 motor pumps according to specification. Town Clerk, Cape Town. Due, 25/10/48.

Green leather reviver: S.A. Railways Tender Board. No. 8378. Due, 21/10/48.

Hospital slides, charts, graphs, etc., to King George V. Hospital. Union Tender & Supplies Board, P.O. Box 371, Pretoria. S.O. 2879 Durban. Due, 14/10/48.

Joiner, 6 inch: Under-Secretary for Education, Salisbury, S. Rhodesia. No. 2076. Due, 22/10/48.

Lathes: S.A. Railways Tender Board. No. 8171, 8172, 8173. Due, 2/12/48.

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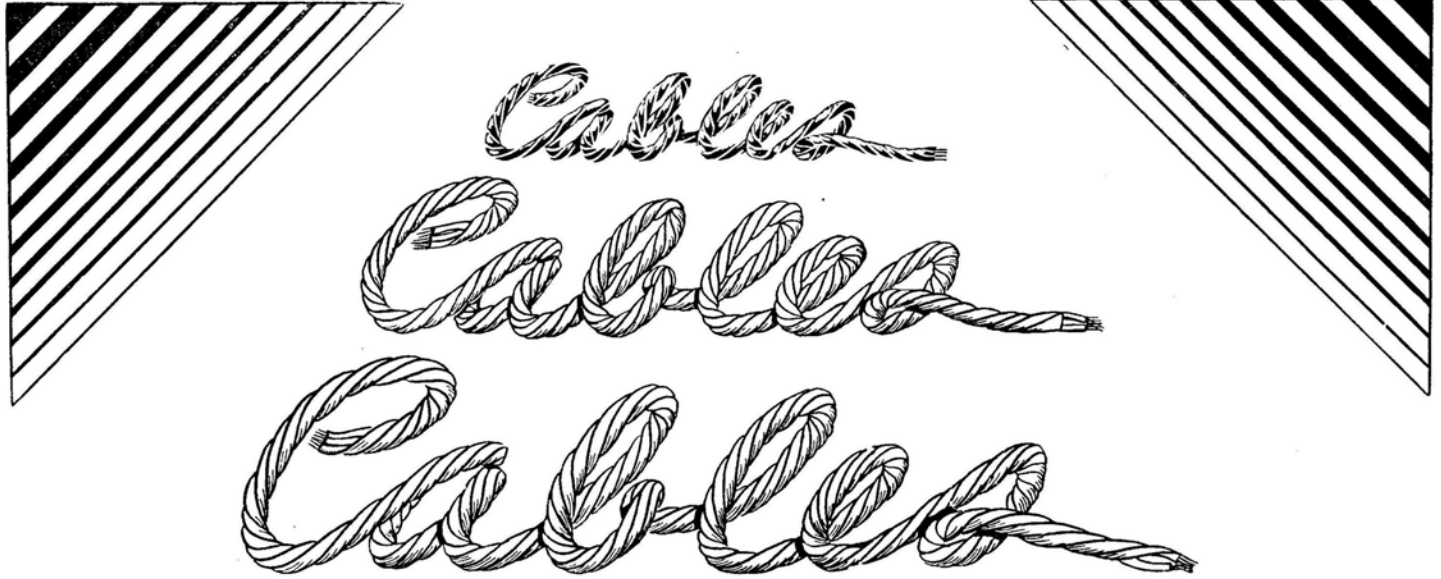
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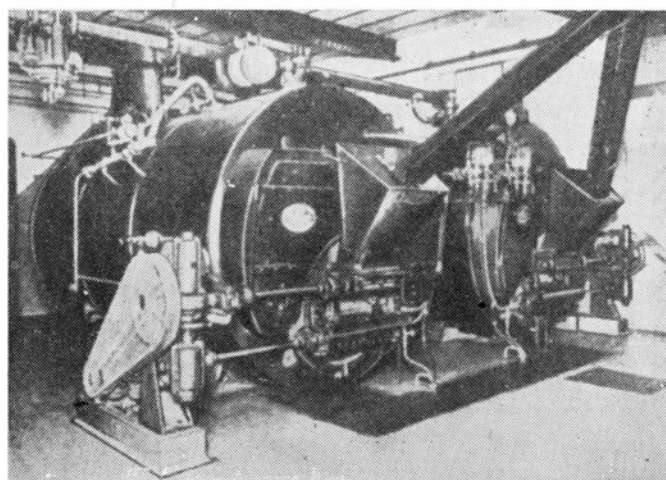
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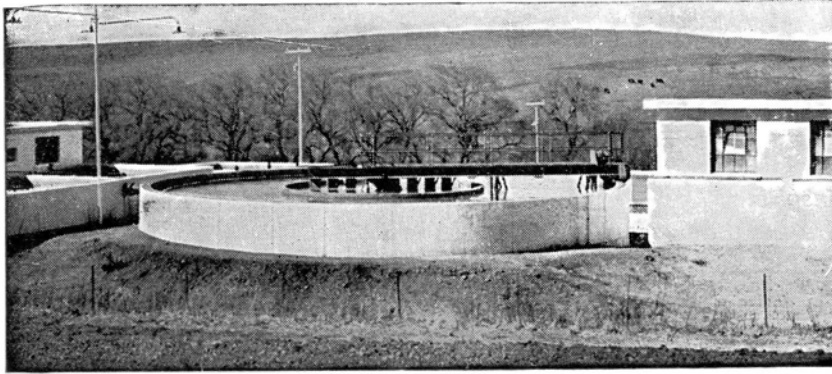
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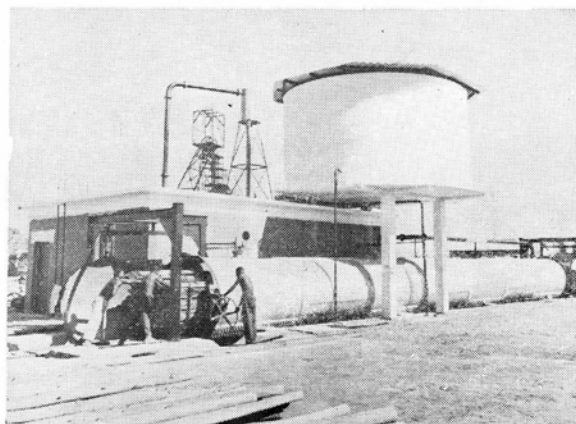
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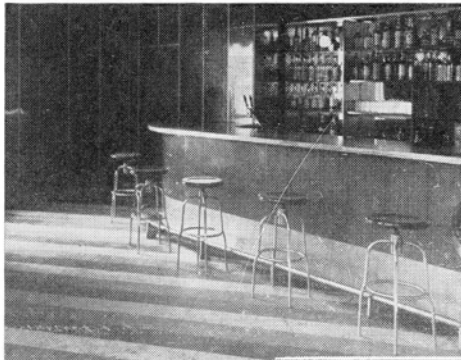
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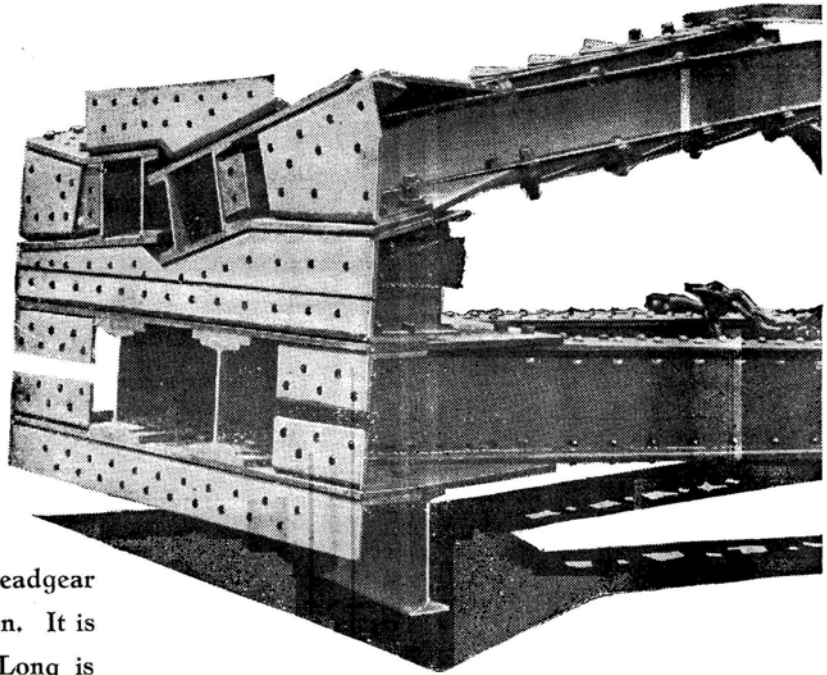
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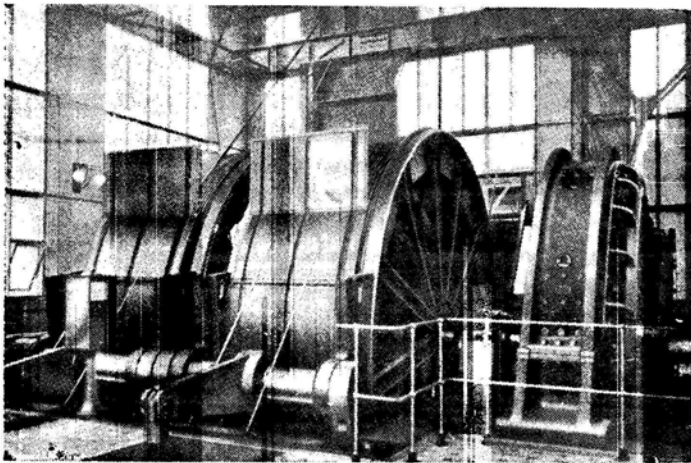
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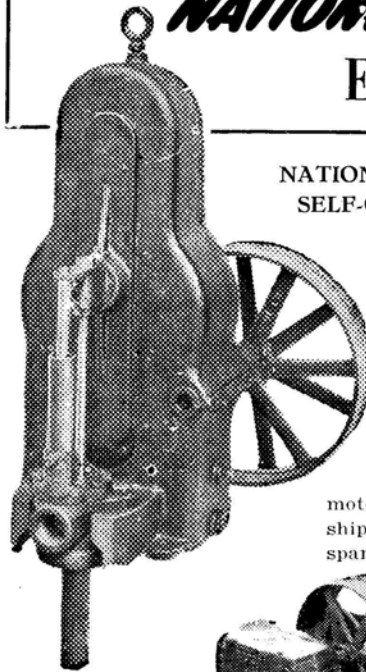
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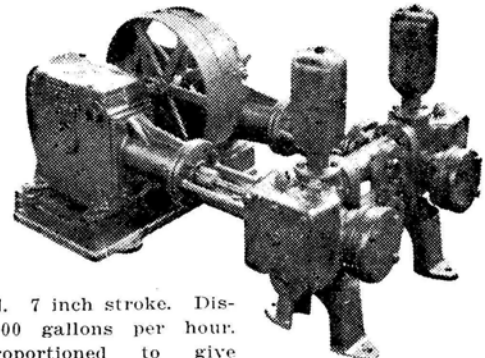
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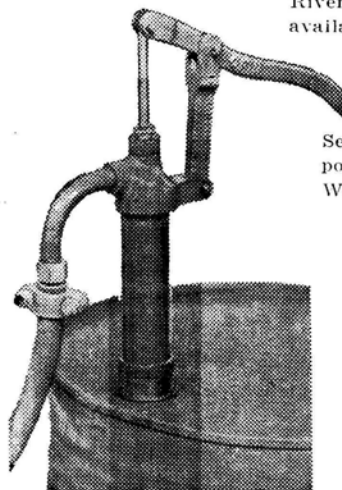
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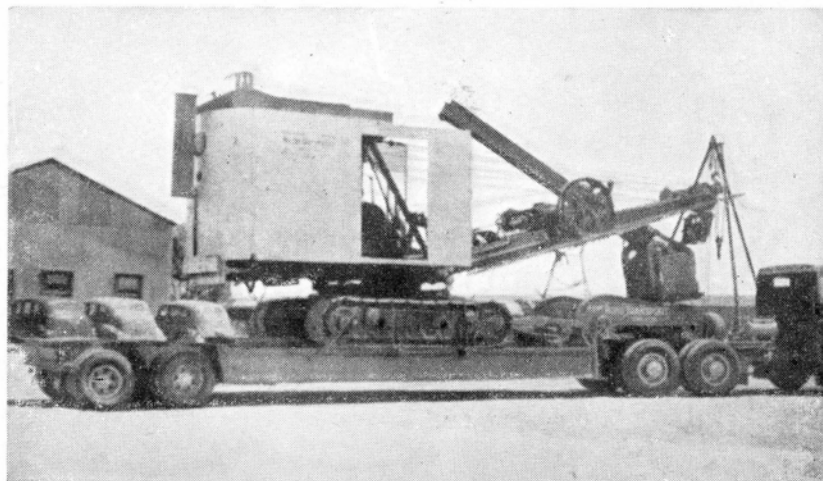
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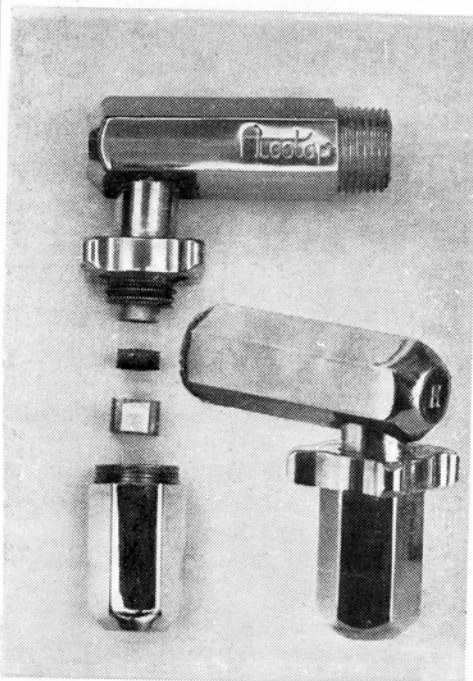
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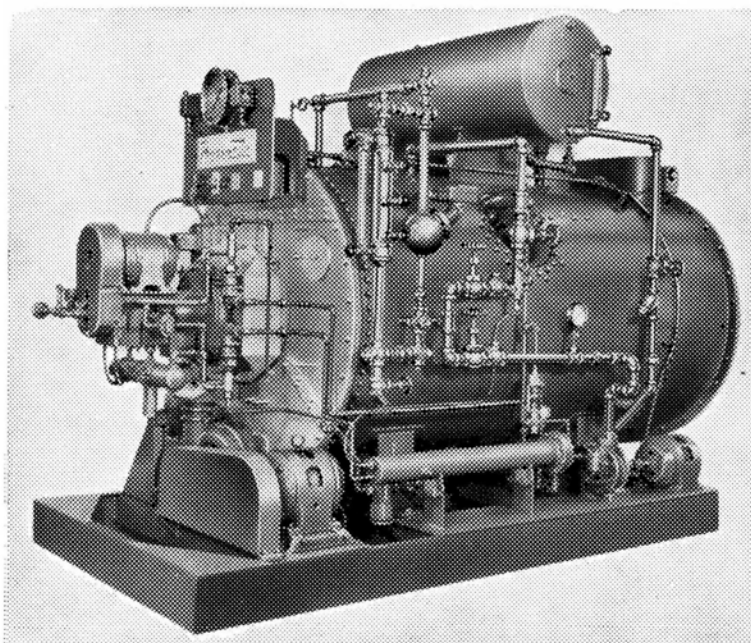
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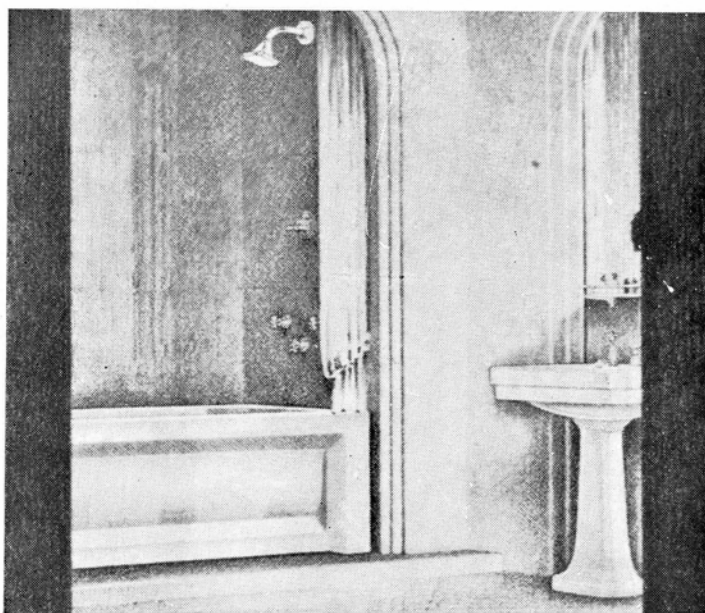
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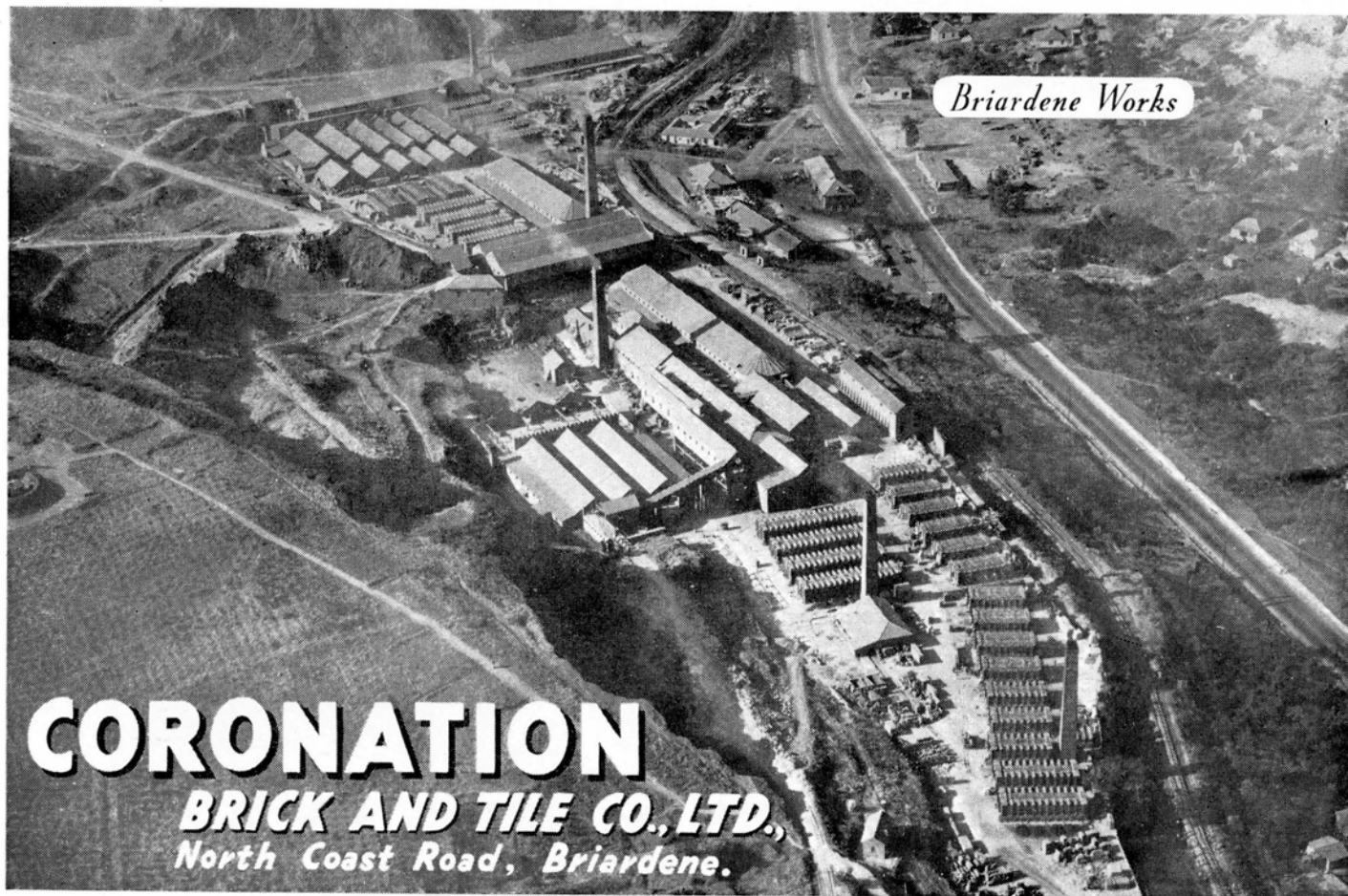
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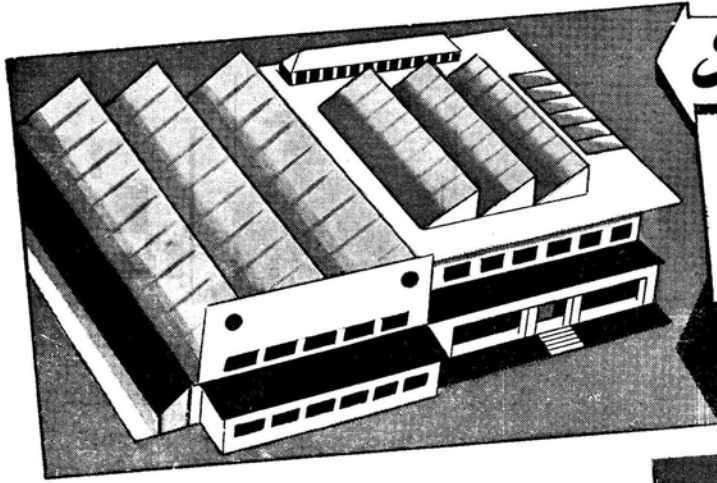
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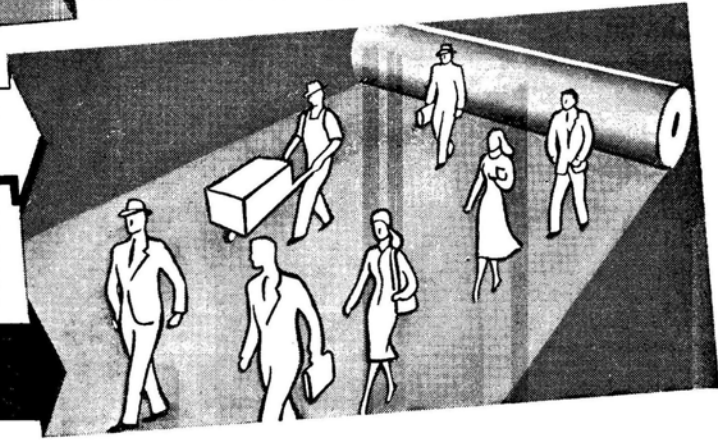
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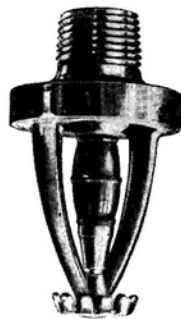
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★ Inset: The Taungs Skull, discovered in 1925.

*Aerial view: Aircraft Operating Co.
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