

Photocopy of Colonel David Bruce's paper in the Journal of the Royal Army Medical Corps, 1904, re the Military Plague Hospital in Cape Town, South Africa

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MILITARY PLAGUE HOSPITAL, MAITLAND, CAPE TOWN.

By Col. D. BRUCE, F.R.S.
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THE object of these few notes is to place on record in a small way the plan of this hospital, so as to assist others in preparing plans in like cases.

First, a few words in regard to the position and surroundings.

This hospital is built on the Cape Flats, four miles to the east of Cape Town and about three miles north-east of Table Mountain.

The main line of the Cape Government Railway lies one mile to the north, and the two main line railway stations, Montague Bridge and Maitland, are each distant one mile. A quarter of a mile to the north-eastward is the Uitvlugt Civil Plague Hospital, and near that is the Native location.

The country round about is very flat, as the name Cape Flats implies, but from the hospital ground there is a fall of a few feet into the so-called Black River, a sluggish stream which lies about 300 yards to the south-west. The geological formation is very regular hereabouts and consists of a coating of sand, varying from a few inches to a foot or two in depth, lying on an impermeable layer of ironstone. This ironstone is roughly from 3 to 6 feet in thickness and overlies a bed of clay.

The site itself on which the plague hospital is built is very flat and, indeed, somewhat hollowed out or saucer-like, so that at first in the rainy season the water collected in pools and the soil was waterlogged. This state of things has been improved by digging a trench, some 3 feet deep and some 200 yards long, from the centre of the hollow through the rim of the saucer to reach a natural slit draining into the Black River. Since this was done the surface water has disappeared quickly from the hospital grounds.

The water supply of the hospital is conveyed in pipes from Rondebosch and is of good quality. In order to ensure having a supply in hand, four large tanks, holding 1,600 gallons, have been placed on a wooden stand 10 feet above the ground. From these tanks the water is led in iron pipes to the various buildings.

The disposal of used water from the kitchens, wash-houses, &c., was a matter which required some consideration. It was evident that if this was allowed to run into shallow surface drains it would in time create a nuisance. If it had been possible to cement the drains, this way might have been used, but the cost of cementing was not to be thought of, especially as the hospital might only be in use a short time. The only way left then was to run each waste pipe into a tank sunk in the ground. From these tanks the used water is pumped into water carts and carried to a suitable place. This means some native labour, but was the only way out of the difficulty.

The method of disposal of the excreta of plague patients is to take them at once to the destructor shed, mix them with sawdust and burn. A plan of the destructor drawn to scale is given below. The staff use the pail and dry earth system in ordinary use in this colony.

GENERAL GROUND PLAN OF HOSPITAL.

The general ground plan speaks for itself and needs no explanation. As the huts are the common corrugated iron huts so much used in this country for barracks, &c., a detailed description of them would be time misspent. They were taken from the old Yeomanry camp which used to stand near here, and are not always the most suitable for the purpose they are put to in this hospital.

There is always some difficulty in laying out and arranging the position of the wards, &c., of a hospital, hence this plan may be found of some use. The four wards are placed end to end, and run north-west and south-east. This is on account of the gales of wind which seem to be always blowing over the Cape Flats from one or other of these quarters.

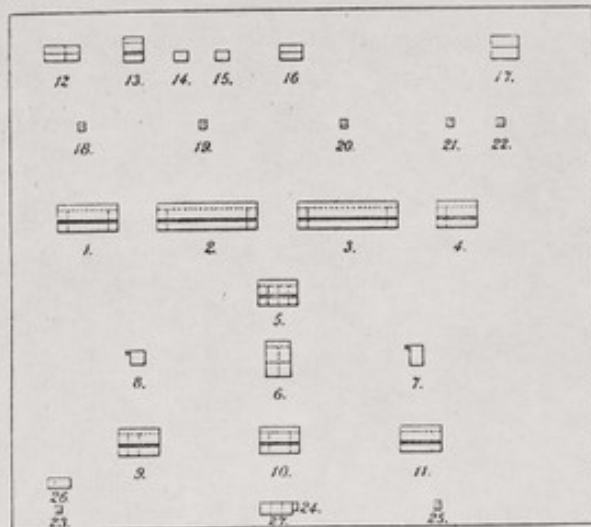
All the huts are raised a foot or eighteen inches above the ground, and this distance might be increased with advantage. They are also supposed to be made rat proof by a screen of wire netting filling up the spaces between the ground and the lower edge of the walls, but this is more apparent than real as there is space left by the corrugations large enough to admit any moderate-sized rat.

THE DESTRUCTOR.

The plan of the destructor given on page 295 is drawn to scale. I think it is too large for a small hospital

such as this, but would be suitable for a stationary or general hospital of from 200 to 1,000 beds.

The idea was taken from one at No. 2 General Hospital, Pretoria, where Col. Keogh, R.A.M.C., said it was found to be very useful. For my part, I think a destructor such as this should be in every military hospital, where fuel is to be had,



SCALE
0 80 160 240 FT

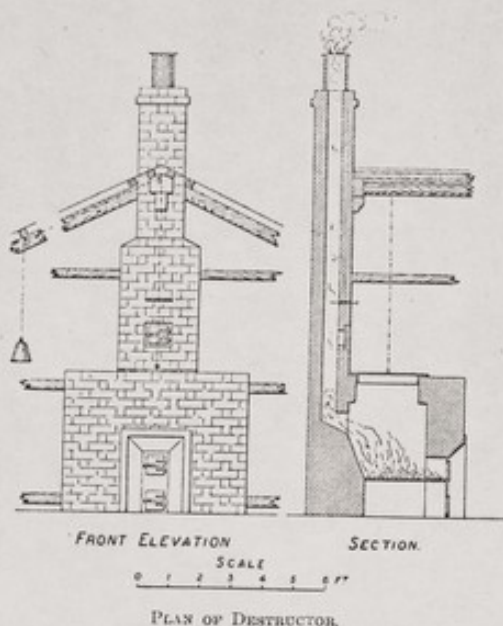
PLAN OF HOSPITAL BUILDINGS.

- | | | |
|-------------------------|--------------------------|--------------------------------|
| 1, 2, 3, 4. Wards. | 10. S.M.O.'s Quarters. | 16. Laundry. |
| 5. Offices and Stores. | 11. Orderlies' Barracks. | 17. Native Servants' Quarters. |
| 6. Laboratory. | 12. Mortuary. | 18 to 25. Latrines. |
| 7. Hospital Cook-house. | 13. Destructor. | 26. Sisters' Quarters. |
| 8. Staff Cook-house. | 14. Disinfesting Shed. | 27. Stable. |
| 9. Sisters' Quarters. | 15. Soiled Linen Store. | |

and I would go so far as to say that the experiment of destroying all hospital excreta should be tried and, if found economical enough, brought into general use. Then we would be certain that *materies morbi* were destroyed, which we cannot be very sure of with our present disinfecting methods. The recent teaching in regard to enteric fever is that the patient may

remain a source of danger to others for a long time after he is up and about.

If a destructor is within a short distance of the wards the excreta can be taken directly from the patient the instant they are passed and destroyed at once, so as to run no risk of fouling the ground or being carried about by flies, &c. The more usual plan of boiling in a large boiler and after-



wards carting away is an ugly, roundabout method, and probably not so cheap as the more thorough and simpler way of immediate destruction by fire. It must be remembered that the excreta themselves when dried act as a fuel.

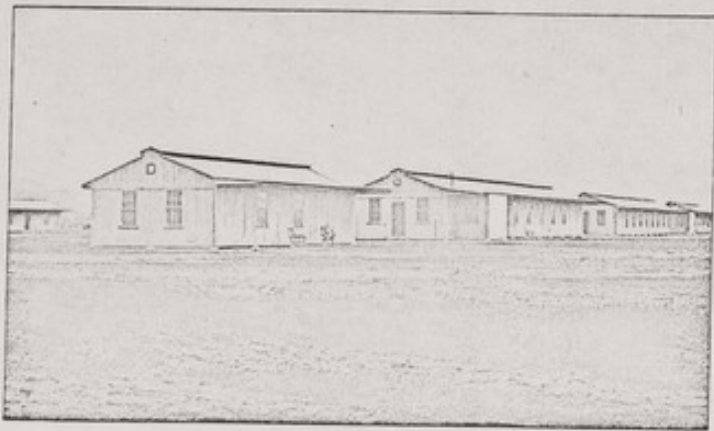
As the plan explains itself, no further description need be given, except to note that the heavy iron lid is raised by a counterpoise.

THE LABORATORY.

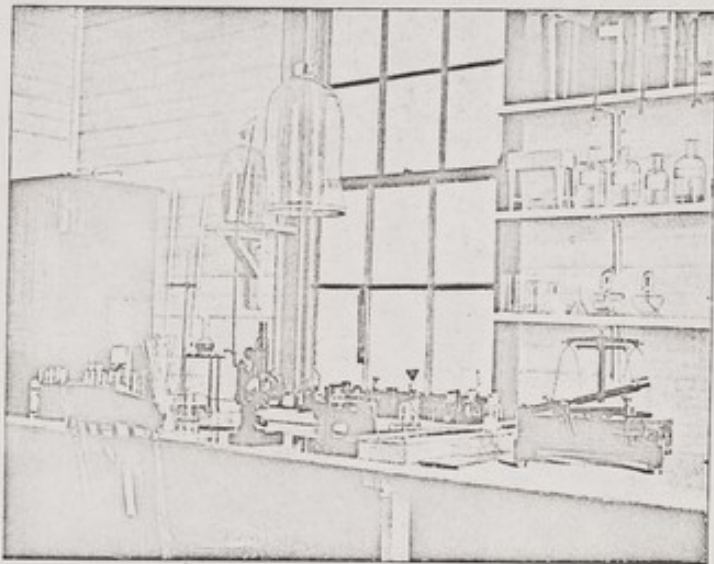
This consists of a hut 30 × 24 feet in size, divided into four equal-sized rooms.

The lower photograph shows part of one of the working rooms; the only point to be noted is that a large sheet of plate glass is let into the table opposite the window. This is easily kept clean and is pleasant and smooth to work on.

The fourth room is used as a room for infected animals. Here the floor, sides and shelves are covered with zinc, the joints of which are carefully soldered, so that no absorption of diseased products can take place, and the room is easily cleaned and disinfected.



VIEW OF THE FOUR WARDS.



LABORATORY.