and, if firmly bandaged, the knee-joint is securely fixed. The patient will lie comfortably on his back or on either side with the limb supported on pillows, or suspended by cords from the knee and ankle to a cradle or Balkan frame.

This splint need not be removed until the joint has cleaned up, and the limb is ready to be straightened out and placed on an ordinary dorsal splint.

A SUGGESTED LATRINE SYSTEM FOR THE USE OF TROOPS IN THE FIELD, ON L. OF C., AND AT THE BASE.

By Captain K. P. Mackenzie.

Royal Army Medical Corps.

(With Diagrams.)

To those interested in the sanitation of camps, etc., the accompanying "System of Latrinage" may prove of use.

The main points in its favour are:

1. No ground soiled, or used up in any way.
2. No chloride of lime necessary.
3. Absolute exclusion of flies (i.e.) a "sealed system."
4. Urine and feces never mix, nor come in contact with each other (i.e.) a "separator system."
5. Portable method and can be used at any time.
6. Minimum of paper used.
7. So far as known it is the only system in use that at the same time combines the above points.
8. It is a system specially suitable for universal use, is capable of being used in the open or in buildings, on active service, and in standing camps in time of peace.

This system has been specially designed to comprise a certain number of sine qua nons. It is as simple as possible and is comfortable and convenient, even on active service. It is easily and quickly made of easily procurable materials and is easy to comprehend by even the dullest Thomas Atkins.

It affords the sanitary men on duty the easiest and most accessible means of disposing of excreta. There is a minimum risk of soiling the hands or ground, and within limits the system is unoffending and cleanly and capable of meeting all contingencies of weather, and needs a minimum sanitary staff.

Materials required.—(a) An empty wooden ration biscuit box for preference, or other box complete with lid, or a thick square piece of wood (two or three inches thick) with a circular opening in it to serve as a seat, and an automatically closing lid to cover whole; (b) an empty
The Apparatus Complete.

Without Box. Section through Top Rim of Drum, showing Tray in situ.

The Apparatus Complete.

Leather hinges
-Envelope

Flush
Straw
Urine level

FRONT

SIDE

TOP VIEW

Tray

(a) (b) (c)

FRONT VIEWS OF TRAYS

Protected by copyright.

six-gallon drum (lubricating oil); (c) two empty five-gallon cresol drums; (d) a small piece of thin wire.

Construction.—The box is utilized to serve as a seat and a circular opening of suitable size is cut out of one side. The diameter of the opening is about one inch less than that of cresol drum. Two reinforcing bars of wood may be nailed on the inner aspect of this opening, so far apart as to permit of the oil drum brim fitting between them. This prevents lateral movement of seat.

A lid is made from the opposite side of the box of such a size as to cover the greater part of the seat (to prevent its getting wet in rainy weather); it is hinged on by leather or other hinges and should be so fitted as to drop automatically over the seat.

The top of the six-gallon drum is cut out and any rugosities of the brim filed down.

The seat rests on this brim and thus prevents access of flies from without. Two “V” shaped notches are cut on each side of the drum diametrically opposite, 2 inches apart and ½ inch deep, i.e., just sufficient to admit the wire handles of the inner drum.

The two cresol drums are cut in half or a little deeper. The top parts are discarded and bottom parts are used to serve as inner or faeces trays which are slung by means of wire handles.

The cresol drums are of a special form. A part of the side is bent in, so that the upper brim presents a “reniform” instead of a circular outline (as in fig.). From the brim to the bottom of the tin this part, which is bent in by thumb or hammer, is moulded to form what is called the “urine flush,” as it is down the outer side of this tin that the urine passes to the drum beneath.

Two wire handles are made for each inner drum and should fit exactly into notches cut in the outer or urine drum.

The large drum (six-gallon) is now placed on the ground (it need not be dug into the ground) and one of the cresol trays slung inside it and the seat with lid, or box with lid, placed on top.

Two tin envelopes made from an empty biscuit or petrol tin, of such a size as to hold only Army Form O.O. or paper cut a similar size, are attached to the sides of the box.

These prevent paper blowing about, and by a special over-lapping tongue prevents its getting wet. Four such can be made from any petrol tin or biscuit tin and can be cut by scissors.

The cresol tray or faeces tray should fit the posterior half of the outer or urine drum very closely and should be slung so as to be not more than 2 inches to 2½ inches from the level of the brim of the outer drum.

Straw, dry leaves, sawdust, paper or oil may be placed in the bottom of the faeces drum.

A few drops of pure cresol solution are placed in the bottom of the urine or outer drum.
Clinical and other Notes

Two mops of sacking or cloth should be always at hand with a little cresol solution for cleansing the drums and trays.

Two trays should be made for each latrine, and when one set is in use the other should be stacked in one corner of the latrine ready to replace the first trays when these are full.

A list of directions may be placed in the latrine, but is not necessary, viz.:

1. See that lid always covers the seat on leaving.
2. The stream of urine should be so directed as to pass down the flush of the tray into the drum beneath.
3. Only toilet paper to fit the envelopes on the side of seat should be used.
4. Any offence will be severely dealt with.

The trays for faeces according to depth will be sufficient for 15, 20, 30, 40 or 60 successive users. Those cut a little deeper than half the depth of cresol drum answer best as they pack inside the drum when moving camp.

Several kinds of seats may be made, but all should have a "lid" whether made from boxes or not.

Various kinds of trays have been made and experimented with, some deeper, some shallower, some with perforated bottoms and no urine "flush"; some with angular bottoms, but these latter were not so satisfactory to use.

When oil and cresol drums are not available, empty biscuit tins and petrol and desiccated vegetable tins may be used instead. It will be found that the petrol tins and vegetable tins fit inside the biscuit tins, but do not stand so high off the ground and are not so durable nor watertight as the drums, also instead of working with circular receptacles, one works with square and angular ones.

Disposal.—Faeces trays may be emptied into an incinerator in convenient quantities so that continual incineration is established, or the full tray may be suspended till completely incinerated by its handles on a transverse rod let into the incinerator.

Urine in the outer drum is emptied into a urine absorption pit.

This system has been in continuous use in several places since February last, and has given the utmost satisfaction.