DRUM PORTABLE DISINFECTOR.

BY MAJOR J. T. WYBOURN,
Royal Army Medical Corps.

Current pressure steam disinfection with downward displacement has been shown, by experience, to be the most reliable method.

Field Hygiene Sections are provided with disinfectors able to deal with 1,000 blankets a day, transported on a 3-ton lorry, which disinfectors are admirable in dealing with the routine disinfection of blankets, bedding and kits of large units.

It is neither practicable nor economical to despatch such apparatus to large units for the occasional disinfection necessary following isolated cases of scabies or other infection. Neither are they suitable to meet the requirements of units comprised of several scattered detachments, viz.: L.A.A. Regiments, S/L units and V.P.s, to mention a few.

What is required for these purposes is a disinfecter which is reliable, cheap, easily and speedily assembled, conveniently transported on a light van or 8-cwt. P.U. truck and finally requiring no highly technical knowledge to carry out the work.

This disinfecter, it is claimed, meets all these requirements.

The materials necessary for its construction are detailed hereunder:

1 50-gallon drum; 1 5-gallon drum; 38 feet 2 inch by 2 inch deal or other seasoned wood; 2 1/2 feet of 1 inch iron piping; 4 1 inch by 1 1/2 inch bolts; 16 3/8 inch by 1/8 inch rivets; 18 2 inch by 12 inch screws; 12 3 inch by 12 inch screws; 8 3/4 inch by 1/2 inch nuts; 4 5/8 inch by 1/2 inch nuts.

Briefly the details of the constructional technique are as follows:

(1) 50-gallon Drum.—(a) One end of the drum is removed, 1 inch rim of this end is taken away and with a fitted handle is converted into a removable lid with 4 bolts and brackets (fig. 1).

(b) One 6 inch length piping is supported by a cone and fixed to each side of the drum, thus keeping it in position on the brackets.

A further 6 inch length piping is fitted to the closed end of the drum, into the collar already present in drum which is the steam entry of the disinfecter.

(2) 5-gallon Drum.—This is the proposed boiler. First it is assured that it is watertight. Two holes are then bored in one side and fitted with:

(a) 6 inch pipe—which acts as steam exit. (b) 1 foot piping—which becomes filler and safety valve.

(3) Wooden Stands.—Two stands are constructed, each consisting of two triangles held together by crossbars. The crossbars are half jointed to the triangular ends with 3 inches protruding at each end, as shown in diagram, which gives details of the size.
Excluding labour the total cost of all materials used has been found to be 25s. When packed ready for transport the total weight is 182 pounds.

Fig. 3.—Showing shape of stand and position of crossbars. Shaded parts show joints. Joints are screwed together.

Fig. 4.—Showing bed for spindle, attached for drum to rest into. Lined with tin and screwed to crossbar.

The average time from removal from transport until complete assembly is seven minutes.
Drum Portable Disinfector

During the experimental stage with this model, the time taken for steam to percolate from the entry at the upper end of the drum to the exit at the lower end was estimated to be about twenty-five minutes, due to great loss of heat from the surface of the drum.

By placing a blanket around the disinfector the loss of heat is reduced and it is found in this way that steam is emitted from the bottom of the drum within six minutes of entry. A coal fire or alternatively a Hydra burner is used.

The estimated capacity of the drum is eighteen blankets or six complete kits. It has been tested several times with Temoine tubes and has given completely satisfactory results after three to four minutes' issue of steam, i.e. within ten minutes of entry of steam so disinfection can be conducted three to four times an hour.

Several models of this type have already been distributed to units where they have all proved efficient—being constructed by two carpenters and one tinsmith in one and a half days.

This model has been devised by a Field Hygiene Section and particular indebtedness is paid to the workshop staff who have been responsible for the constructional details under the supervision of the foreman, Corporal B. Stevens, R.A.M.C.

Figs. 1 and 2 show the disinfector packed ready for transport and assembled.

Figs. 3 and 4 show the details of construction of the wooden stands.