parasites in their peripheral blood.) It will be seen that the one No. 8, table B, showing parasites also had the second highest large mononuclear percentage.

I consider, both from the above cases and from many others that I examined, that the differential leucocyte count is a very valuable method in helping towards the diagnosis of malaria.

There is one point that should be remembered, namely, that in a malarial district the presence of malarial parasites or a high large mononuclear percentage in the blood of a sick man does not invariably mean that he is suffering solely from malaria; he may be suffering from some intercurrent illness. Another man may be infected with malaria and may appear to be in good health.

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A SMALL, PORTABLE, LOW-PRESSURE CURRENT STEAM DISINFECTOR.

By LIEUTENANT-COLONEL A. R. ALDRIDGE.

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The portable steam disinfectors on the market for the most part weigh from $\frac{1}{2}$ to $2\frac{1}{2}$ tons, and cost £100 and upwards. For small hospitals and camps there seems to be a considerable opening for a small and inexpensive apparatus.

With a large disinfecting chamber the cooling from the surface is so rapid that it is necessary to heat the walls with a water, steam, or hot air jacket, and the large quantity of steam required necessitates some form of furnace. If, therefore, the weight and cost are to be kept low, the size must be strictly limited.

The machine described will take the complete clothes and bedding of one soldier, including the mattress in three pieces, or eight field service kits. If a mattress in one piece has to be dealt with it is necessary to remove the stuffing and to put this in the chamber separately from the case.

The disinfecting chamber consists of a rectangular deal box, tongued, dovetailed and strengthened with iron corner pieces. Its internal dimensions are 2 ft. 9 in. by 2 ft. 9 in. by 1 ft. 6 in. deep. The inside is lined with hair felt covered with zinc sheeting. It is provided with a lift-off lid similarly lined and fitting on an edging of felt, on to which it is clamped by eight brass, hinged, screw fasteners. Handles are provided on the outside of the box.

A wire cage with lid fits the inside of the box; the capacity of this is 10 cubic feet.

Steam is admitted through an inlet at the bottom of one side of the box, protected by a baffle plate on the inside. The outlet, provided with a sliding shutter, is on the opposite side, where also there is a thermometer.
Steam is generated in a wrought iron boiler holding 7 gallons of water, and provided with a feed box at one end, which serves not only for filling the boiler, but also as a gauge and safety valve.

A bent, wrought iron, 1 in. pipe conducts the steam from the boiler, and on to the farther end of this pipe a flexible metal tube is screwed, which carries the steam to the box.

In the field the boiler is placed across a 1 ft. trench splayed at each end, and a wood fire is lighted beneath it. For hospital use a simple grate can be made of bar iron.

The disinfecting chamber can be filled with steam—the thermometer registering 210° to 212° F., at ordinary altitudes—in from thirty to forty-five minutes. Half an hour is allowed for disinfection, and the clothes when removed dry very quickly if placed in dry warm air. About 60 lb. of wood are required for the first disinfection, and 20 lb. for each subsequent one if carried out continuously. After the first operation each disinfection, including emptying, recharging the chamber, and filling up the boiler, takes somewhat less than one hour.

The boiler, tubes, and thermometer pack inside the box, and arrangements are made for securing them for travelling. The apparatus complete weighs 2 cwt. 19 lb., and costs about £10.

For temporary use a disinfector can easily be extemporized on the same lines from a packing-case lined with felt or flannel, a 10-gallon oil drum, some metal tubing, and a thermometer. The early trials which led up to the machine now described were made with such an improvised arrangement and satisfactory results were obtained. The clothes, when removed, are somewhat wetter than with the complete machine.
Clinical and other Notes

The following experiments were carried out to test the efficiency of the apparatus:—

Experiment 1.—A soldier's mattress in three pieces, stuffed with coir, was put in the disinfecter. An electrical contact thermometer set at 100° C. and a self-registering maximum thermometer were placed in the interior of the centre-piece of the mattress.

- Fire lighted... 10.45 a.m.
- Temperature in box, 100° C... 11.30
- " in interior of mattress, 100° C... 12.00 noon.
- Maximum thermometer registered 100° C.

Experiment 2.—Contents arranged as in experiment 1.

- Fire lighted... 9.00 a.m.
- Temperature in box, 99° C... 9.35
- " in interior of mattress, 100° C... 9.42
- Maximum thermometer registered 99° C.

Experiment 3.—A soldier's mattress, two blankets, and a service kit were placed in the disinfecter with a maximum thermometer in the interior of the centre-piece of the mattress. Cultures of Bacillus anthracis, B. mesentericus (both containing spores), and B. typhosus were mixed with sterile feces, silk threads were soaked in the emulsion, dried for twenty-four hours in the incubator, enclosed in glass tubes, and these in envelopes, and placed in the interior of the centre-piece of a mattress.

- Fire lighted... 11.50 a.m.
- Temperature in box, 100° C... 11.43
- Disinfection stopped... 12.13
- Maximum thermometer registered 94° C.

The cultures were planted in broth and plated on lactose-litmus-agar. No growths resulted. The controls of all three showed growths.

Experiment 4.—Contents as in experiment 3, but without cultures.

- Fire lighted... 9.55 a.m.
- Temperature in box, 99.4° C... 10.35
- Maximum thermometer in mattress, 98° C.
- Weight of a blanket when put into disinfecter... 4 lb. 4 oz.
- " removed from... 4 lb. 6 oz.
- " after half-hour's exposure to sun... 4 lb. 1½ oz.

CASE OF STREPTOCOCCUS INVASION BEGINNING IN THE TONGUE. TREATMENT WITH ANTISTREPTOCOCCIC SERUM.

By Lieutent-Colonel C. C. Reilly.

Royal Army Medical Corps.

G. C. T. reported sick about 11 a.m. on February 16th, complaining of a sore tongue. He said that he first noticed it the previous evening, and thought he must have bitten it. On inquiry no definite history of a bite could be elicited, and his statement only seems to have been put forward as a tentative solution and explanation of the condition.