AN APPARATUS FOR INCREASING THE SPEED OF THE HAND CENTRIFUGE.

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The hand centrifuge supplied in the mobilization equipment of a 600-bed General Hospital, although suitable for obtaining urinary deposits, was found to be inadequate for separating the corpuscles from whole blood quickly. It was also found to be unsuitable for packing the corpuscles and for obtaining a good deposit of organisms from sputa treated by the antiformin technique. Sputa showing scanty acid-fast bacilli in the direct smears sometimes failed to grow tubercle bacilli on the Lowenstein-Jensen medium. It was suspected that the centrifuge was not fast enough to deposit sufficient organisms for cultural purposes.

It was only possible to spin a pathological material at a high enough speed to obtain a suitable deposit for about two minutes at a time and the process was very fatiguing and unreliable. A high speed therefore was only possible for very short periods.

In order to overcome this difficulty, an attempt was made to attach a geared drive to the centrifuge which would increase the speed and at the same time make the process easier. This was fortunately made easy as there was an old bicycle available. The free-wheel was removed completely from the rear wheel by means of a hack-saw, the wheel hub being included. The diameter of the spindle hole of the hub was greater than that of the driving spindle of the centrifuge, but this difficulty was overcome by finding a piece
of metal tubing which fitted tightly both into the free-wheel and on to the driving spindle of the centrifuge. A piece of this tubing about one and a half inches long was soldered into the spindle hole of the hub and the whole tapped firmly on to the driving spindle of the centrifuge.

The crank and bearing of the cycle was removed by sawing through the frame close to the crank bearing and through the rear fork about eight inches from the bearing. The right-hand crank and pedal was then removed. The crank and bearing was clamped on to the edge of the bench and the centrifuge adjusted to the correct distance and clamped firmly also. The chain was then adjusted.

It was found that the centrifuge could now be driven at a high speed by hand very easily and kept at a fairly high speed for a considerable time with little or no fatigue.

By means of the free-wheeling device, the centrifuge could be brought to a halt gradually and gently without the risk of a sudden jolt.

It is further suggested that an improvement could be made by utilizing a small electric motor to supply the driving power through the bicycle crank and chain.

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A diagram of the apparatus is shown.

Reviews.


To have run into a second edition two years after its birth indicates that this book has met with the success it deserves. The first 60 pages deal with the general management of air-raid casualties. It contains a good deal of interesting information and is completely up to date. The latter part covers the whole question, in principle and detail, of the treatment of the type of casualty most frequently met with.

The book is highly practical: redundancy in words is largely avoided (except possibly with Thomas's splint drill) and the descriptions and recommendations are clear and precise. The work is clearly the outcome of a very great practical experience and should continue to prove popular amongst medical officers both in the Forces and the E.M.S.