(perchloride of mercury and other substances), but I am convinced, as is also Dr. Cobbold, that this is a mere delusion; because it is not possible to reach and kill with these injections the worms which live principally in the different branches of the portal system. The natural course of hæmaturia is not continuous; the cessation of it for some time is not cure; and it is not possible to obtain really a cure without getting rid of the worms from the organism. I do not say that it is impossible that we may find a substance that, introduced into the blood, may kill the worm without endangering the life of the host; yet I entertain the belief, expressed long ago, that the worms circulating with the blood, when dead, may prove more dangerous than when alive, as they may become more easily the point of formation of clots and embolisms. But, apart from this, no substance can be of avail if it be not absorbed and diffused through the blood; and that very probably is not the case with substances introduced through the urinary bladder.

Whoever has seen the *post mortem* alterations often produced in the walls of the bladder by the dispersion of the ova in their tissues, cannot believe in the usefulness of medicated injections to cure them. Medicated injections, and above all washing out the bladder, can be only useful in certain cases to alleviate the complicating catarrh of the bladder and prostate; that is all. Medicated injections, it is true, may kill the embryos in the ova poured into the cavity of the bladder; but that has no real importance, because the embryos, when free, soon die by themselves, not being able to live long in the urine. Surgical measures may, in certain cases, be required by alterations of the bladder consequent on infection by Bilharzia, such as growths like papilloma, or incrustations on the mucous membrane; but by surgical measures we cannot deal directly and radically with the infection.

I, therefore, think that, as yet, we have no means of curing the infection of Bilharzia better than is done by nature. The best thing of all is to avoid receiving the worm into the body, and for this I think I have been the first to have indicated the true prophylaxis in suggesting that only well filtered water should be drunk. I have the conviction that the larval form of the worm enters the human organism generally with drinking water, and, being too large, cannot pass with filtered water.

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AN INSTRUMENT FOR THE TRANSFUSION OF DEFIBRINATED BLOOD.¹

By T. W. CARMALT JONES, M.A., F.R.C.S. Edin.

THIS instrument is intended to be used for transfusing defibrinated blood. It could be equally well used for injecting milk or any other fluid into a vein. It consists of a holder (A), into which the defibrinated blood is to be poured; a tightly-fitting metal cap (L), in the centre of which is a hole; a pipe leading from this hole communicates, by means of an India-rubber tube, with a valved hand-ball (T). When the cap is in position on A, air can pass easily to A; but pressure on the hand-ball will force air into A, and compress it on the surface of the fluid in A. At the lower end of A is a piece of India-rubber tubing (B), which can be compressed by the clip (D); and at the other end of the tubing is a hollow coned metal plug (C), which fits into the silver nozzle (M). The instrument, with its accessories, as supplied in the case, provides all that is required for the performance of the operation of transfusion of defibrinated blood, with the exception of a clean ordinary tumbler, or, preferably, a small milk-jug, and a basin of hot water.

The steps of the operation are as follows.

1. Bleed the donor, in an adjoining room, if possible, to five or six ounces, into the measured vessel (H).
2. Whip the blood with the whip (P), and strain through the strainer (F) into the tumbler or milk-jug.
3. See that the India-rubber tube (B), plug (C), and clip (D), are in place. Pour the defibrinated fluid into the holder (A), and put the cap (L) on firmly; then place the holder in the basin of water at 100° Fahr.
4. Open a vein in the patient's arm, and insert the silver nozzle (M, K, or I)—three sizes of nozzles are provided; and block up the open end of the nozzle with the finger.
5. Have the holder brought to you; ease the clip until the fluid flows out of the plug; then tighten the clip again. Take the finger away from the end of the nozzle, and insert the plug, and remove the clip. Note the height of the fluid in A. The fluid in the holder is

now in free and direct communication with the blood in the patient's vein. If any force is required, squeeze the hand-ball gently.

6. After the operation is over, again note the height of the fluid in A, remove the short piece of India-rubber tubing (B), and burn it. The other parts can then be easily and thoroughly cleansed.

The instrument is very simple in action; has no delicate or complicated parts that can get out of order, so as to cripple it; has

H Vessel marked in ounces for donor to be bled into. P Whip to be used in H. F Strainer of lawn muslin on wire frame. A Holder to receive defibrinated fluid. B India-rubber tube about three inches long. C Coned plug (hollow). D Clip. L Metal cap for A. T Hand-ball. M Nozzle. K I Additional nozzles. E Blood-director.

no taps to puzzle the operator; and can be thoroughly cleaned and inspected. Supposing anything were to happen to the hand-ball, an assistant could supply all the force required by blowing, though not so conveniently as the hand-ball.

The piece of India-rubber tubing at B is to be a clean new piece each time the instrument is used, and is to be burnt directly after use, so that no danger may arise from dried blood not removed after previous use. The inside of India-rubber tubing is rough, and not easily cleansed, and cannot be inspected to see if it is clean. This piece of tubing allows sufficient play, and breaks the rigidity, but is purposely kept short. The amount of blood taken from the donor, and the exact amount injected into the patient, will be known.

The instrument is made for me by Mr. Hawksley, of Oxford Street, to whom I am indebted for several practical suggestions.

ON A NEW METHOD OF TESTING FOR ALBUMEN IN URINE.¹

By G. P. BEST, B.A., M.B., Cantab.

I NEED not dwell at length on the ordinary methods of testing for albumen. Suffice it to refer to the observations of an expert in this line, who sums up all that I need insist upon. Speaking of the diagnosis of granular kidney—the disease in which this matter of the contents of the urine is most veiled and most important—he urges what every one will admit, “the great importance of the early detection of the disease,” and further, the fact of which every one is aware, that its only certain pathognomonic sign is the “constant slightly albuminous” character of the urine. (*Clinical Reports on Renal and Urinary Diseases*, by Wm. Carter, M.B. London: J. and A. Churchill. 1878.)

¹ Read before the Harveian Society of London.

¹ From a paper read before the Midland Medical Society.