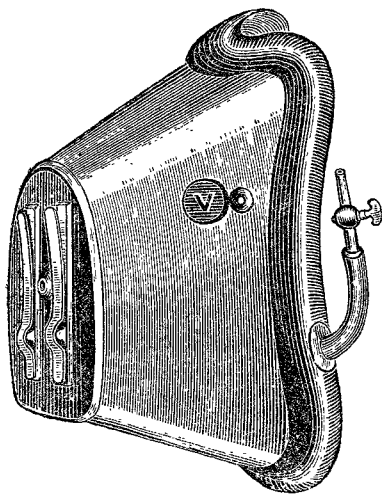


AN
INSTRUMENT FOR COLLECTING MORBIFIC
GERMS EXHALED WITH THE BREATH.

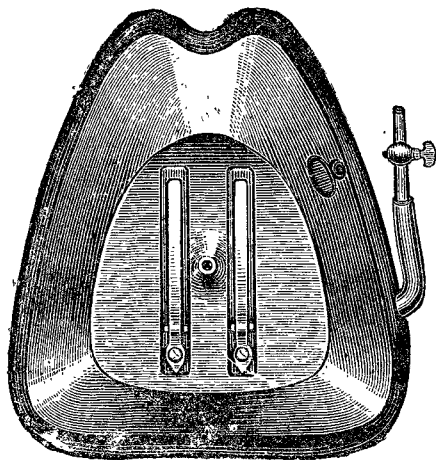
By FRANCIS VACHER, F.R.C.S. ED.

IN 1880 I devised a simple apparatus for filtering off particles of dust, carbon, &c., from the air admitted to rooms, and at the same time depriving it of noxious vapours; and last year I exhibited at Manchester an instrument for collecting some of the grosser impurities. Latterly I have given attention to the solution of the problem how best to collect specific particles expired by infectious patients, and the result is the instrument here figured. The sketch from which the woodcut is taken is drawn to about half size linear, and shows the form of the instrument so well that very little explanation will be required. The instrument is a hard metal cap, to fit over the nose and mouth, the border



touching the face being lined all round with an india-rubber air-cushion, fitted with a tap. *V* is a hole protected by a rubber valve opening inwards; and the only other hole in the cap is in the centre, on either side of which is a metal clasp.

The instrument is used as follows. First the cushion is inflated and the whole cap is placed in warm water and Condry's fluid, and dried; then a glass slip or cover, having in the centre a small drop of moist albumen, is inserted in the clasps, so as to be immediately over the hole, but not touching it. The cap is then placed *in situ*, and the patient



told to inflate the lungs and breathe five or six times. The moisture from the breath will not condense on the warm metal, and a considerable proportion of the organic impurities in five or six exhalations will be deposited on the albumen-charged glass. The glass is immediately withdrawn and dried, face upwards, over a spirit lamp, and the instrument is again cleansed with warm water and permanganate of potash, or other disinfectant. It is advisable at the same time, in an adjoining room, to take another sample of exhaled breath from a member of the family who is not

sick, to serve as a control sample. The two samples should then be put in separate pill-boxes lined with wool, and marked and dated. They may be stained with vesuvian brown and mounted in Canada balsam at any convenient time.
Birkenhead.

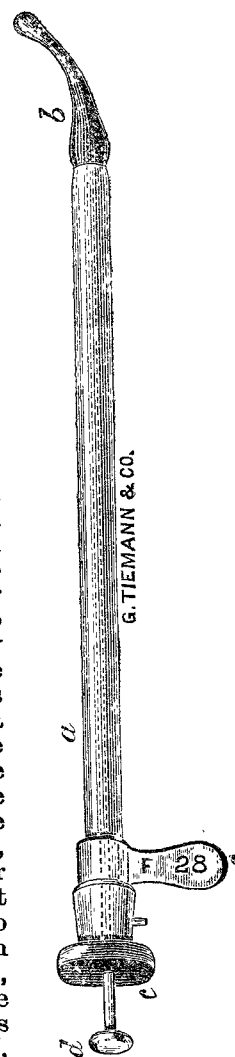
AN EVACUATING STRAIGHT TUBE FOR USE
IN RAPID LITHOTRITY.

By E. L. KEYES, M.D.,
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IT is well known to those who practise modern lithotripsy that, as a rule, a straight tube delivers better returns to any washing bottle than does a curved tube. It is also well known that the eyes of all tubes devised up to the present time occasionally detain a fragment and subject the urethra to dangerous rasping as the tube is being withdrawn. Some difficulty may be experienced in introducing the ordinary straight tube, due to a rebellious membranous urethra or a rigid prostate, and this notwithstanding the use of a rotary motion while introducing the straight tube, and in spite of the vermicular attachment of Warren of Boston. In view of these facts it occurred to me to devise a straight tube that should be easy to introduce, and could not detain a fragment in its vesical orifice. The result is here shown. The outer tube is a straight cylinder of metal of uniform calibre, open at both ends. Through this passes a rod, *c b*, composed of one continuous piece of rubber, but vulcanised from *c* to *b*, so that the straight portion of the rod is as solid as iron, while the tip, not being vulcanised, remains soft and pliable like the red rubber catheter in common use. This end, moreover, possesses the fixed curve shown in the plate, and is solid only in its last inch. At the point, *b*, the soft rubber tube is hollow, and by the natural elasticity of the soft rubber, when at rest contracts into a bulk which bulges over the end of the metal tube, forming an excellent obturator. In order to efface this hollow bulb and to make it possible to introduce the rubber rod within the metal tube, or, indeed, to withdraw it, for the projecting hollow rubber bulb is a serious obstacle, the vulcanised part of the rubber rod is perforated, to allow the passage of a metal stylet, *d*, which passes through the hollow bulb up to the solid part of the soft rubber tip. Now, by placing the thumb upon *d*, and two fingers upon the distal side of the button-like termination, *c*, of the vulcanised part of the rubber rod, and pressing them together, the soft bulb, *b*, is elongated and narrowed, so that it readily passes back and forth through the tube, *a*, while the bulb, *b*, instantly regains its size, through the natural elasticity of the soft rubber, as soon as the pressure upon the button, *d*, is let up.

Practically I find this tube to be as easy of introduction as a Mercier catheter. In some cases it acts admirably in returning fragments to the washing bottle, in others not so well. It cannot retain a fragment in its opening so as to scratch the urethra during withdrawal. It is sometimes of signal service in evacuating a last fragment. Any stone that enters it will pass, and that, too, the largest stone the calibre of the tube can accommodate. Not for the whole sitting, but as an adjuvant to the tubes in ordinary use, I consider it capable of rendering important service in some cases of litholapaxy.

New York.



THE Cambridge Workhouse Infirmary, including the nurses' apartments, has been entirely destroyed by fire. The inmates, however, escaped without serious injury.