AN IMPROVED JUNKER'S INHALER.

H. G. DODD, HOVE.

Owing to the occurrence of several accidents, which have sometimes had fatal results, various methods have been devised of rendering Junker's Inhaler safer in use. Perhaps the best known of these is Rigby's device, consisting of a ball-valve fixed to the distal end of the afferent tube, which is turned upwards to open at a level considerably above the bottom of the bottle. In practice this has several disadvantages. At the commencement of the administration, chloroform is vapourised by pumping air through the liquid, but the distance between the valve outlet and the level of the fluid is insufficient to ensure saturation: whereas, when the bottle has become rather more than half empty, the air current no longer passes through but over the chloroform. Vapourisation by means of the "draw over" principle, to be effective, requires a relatively large surface of chloroform, and that afforded by a Buxton's bottle is totally insufficient for the purpose. Thus with this type of apparatus two different methods of vapourisation are employed during a single administration, neither of which, owing to the construction of the machine, can be regarded as really efficient. Moreover, a further difficulty presents itself to the anaesthetist who desires to use ether or a mixture containing ether. After quite a short interval the ether freezes, the small outlets above the valve become choked with ice, the ball-valve itself becomes frozen in its socket, and the pump is put out of action. This can of course be obviated by unscrewing and detaching the valve fitting altogether, but by so doing the whole object of the contrivance is frustrated.

The accompanying sketch shows how Junker's apparatus can be rendered safe without sacrificing its effectiveness. The inlet tube remains straight and runs down close to the bottom of Buxton's bottle, and its lower extremity is tipped with bone, or some other non-conductor of heat, precisely as obtains in the older models. The ball-valve is screwed to the afferent tube outside the bottle, close to the attachment of the rubber tubing from the hand bellows: by this arrangement the inhaler is rendered immune from
the disadvantages enumerated above. The instrument should be supplied equipped with a ball valve so situated as a standard fitting.

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**Ether Inhaler.**

An Adjustable Outer Chamber for Use in Conjunction with an Open Ether Mask.

By R. Schaffer, B.Sc., M.B., Ch.B.

The apparatus provides for an improved and much more economical administration of ether by the "Open Method" and enables all the advantages of the "Closed Method" to be super-added.
By the Open Ether method a vapour strength of 12—14 per cent. is attainable, and whilst this is a safeguard against overdose in the hands of a beginner, it carries with it certain disadvantages. Chief amongst these is the difficulty in inducing anaesthesia and securing adequate muscular relaxation in powerful subjects. There is, in consequence, a tendency to resort to chloroform or chloroform mixtures, at a stage when their use is to be particularly deprecated. The necessary result can be attained by ether alone if provision be made for appropriate concentration of the ether vapour.

In the apparatus about to be described, the induction period is greatly shortened, adequate muscular relaxation is easily attainable, and the amount of ether used in each case is enormously reduced. The carbon dioxide in the patient's expired air is conserved and acts as a stimulus to breathing and prevents shock from acapnia. The chamber can be used in conjunction with the vapour method, or, if desired, be converted into a closed inhaler. Being adjustable, it is equally efficient whether the head be in the median or the lateral position.

**DESCRIPTION OF APPARATUS.**

The apparatus consists of the following parts:

1. An upper metal plate with a central aperture through which the ether is dripped. The aperture can be partially or completely closed by an adjustable cover.

2. A lower base plate made to fit accurately to an ordinary Schimmelbusch mask.

3. A system of tubular bellows attached above and below to the two plates. This enables the upper plate to be kept horizontal irrespective of the angle of the mask and base plate.

   Slotted side-pieces and screws which allow of easy and rapid adjustment of the upper plate.

Anaesthesia is conducted as by the ordinary drop or vapour methods, and the appliance provides an efficient secondary chamber for the concentration of the ether vapour as desired, with appropriate conservation of carbon dioxide. The aperture being always at the top of the chamber, irrespective of the position of the patient's head, and ether vapour being 2½ times as heavy as air, the vapour is retained by its own weight, and complete conservation can be obtained by closing the movable cover.

Great economy is effected in the amount of ether used, for most
of the ether is actually utilised by the patient, and dissemination of the ether vapour into the atmosphere is reduced to a minimum.

The apparatus has been used with perfect success in powerful, muscular and alcoholic subjects in whom the open and semi-open methods had failed to produce adequate muscular relaxation.

Nitrous oxide and oxygen can be used in conjunction with the ether, if desired, by closing the top cover.

The bellows are easily detached and can be renewed if damaged.

ABSTRACTS OF CURRENT ANAESTHETIC LITERATURE.


Olivecrona prefers this drug as a local anaesthetic in intercranial surgery for its more complete and prolonged anaesthesia. In 21 cases where albromin was used, analgesia was satisfactory, although he noted its incompleteness now and then when certain intercranial manipulations were necessary.

The dose ranged from 50 to 130 c.c.m. of a half per cent. solution, and analgesia lasted as long as three or four hours. He observed no unfavourable reactions.


Dr. Wright reports the results of 56 consecutive cases of Brachial Plexus Blocking performed by him at the Isinanfu, China Hospital, with novocain solution, to which he added adrenalin. Half-an-hour before the injection he administered scopolamine, grain one-hundredth and morphia, grain one-sixth. He emphasizes this time relationship because these two drugs combined occasionally produced over-reaction to the slightest stimulus and removed the patients self-control. Of the 56 cases, 50 results were perfect or satisfactory, 2 were indifferent, and 4 failures. In 5 cases ether was used and in six chloroform to produce sleep.

The method finds its most useful application for major operations about the elbow-joint and on the fore-arm.

Caesarean Section under Local Anaesthesia. D. K. Pillai, Caduceus, Hong Kong, May, 1926.

Dr. Pillai declares that in this type of case lumbar anaesthesia is not uniformly successful and nerve-blocking has variable results. 300 to