

Vol. XVII., Part VI. July, 1903. With plates and figures in the text. London: Charles Griffin and Co., Limited. Price 6s.—The following articles are contained in this number.

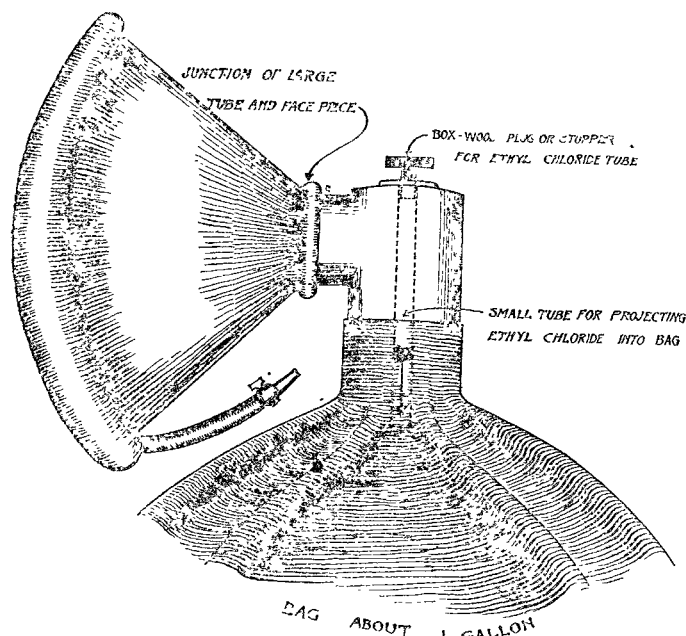
1. On the Meaning of Some of the Epiphyses of the Pelvis, by F. G. Parsons, lecturer on human and comparative anatomy at St. Thomas's Hospital. Mr. Parsons shows that the epiphysis of the tuberosity of the ischium in man corresponds to the hypischium of the reptile, and the epipubic prolongation of the symphysis pubis to the epipubis of the reptile.
2. On the so-called "Gyrus Hippocampi," by G. Elliot Smith, professor of anatomy, Egyptian Government School of Medicine, Cairo. Dr. Smith considers that the "uncinate" or "hippocampal" gyrus is split up into four separate areas: the paradentate gyrus, the area pyriformis, the nucleus amygdalæ, and a hippocampal part, founding his statements on a study of the comparative anatomy of this part.
3. Notes on the Morphology of the Cerebellum, by G. Elliot Smith.
4. A Preliminary Communication on Some Cephalometric Data bearing upon the Relation of the Size and Shape of the Head to Mental Ability, by Reginald J. Gladstone, senior demonstrator of anatomy, Middlesex Hospital, London. Dr. Gladstone gives statistical tables which show a distinct correlation between the large size of the head and a high degree of mental ability, this correlation being both absolute and relative to the general size and weight of the body. In adults the increase in the size of the head appears chiefly in the vertical diameter; in boys the increase is chiefly in the longitudinal diameter.
5. The Form Relations of the Dilated Cerebral Ventricles in Chronic Brain Atrophy, by J. O. Wakelin Barratt, with eight woodcuts in the text showing the extent and position of the enlargement.
6. Abnormalities in the Sacral and Lumbar Vertebrae of the Skeletons of Australian Aborigines, by W. Ramsay Smith of Adelaide.
7. Rudimentary Condition of the Carotid Canal, by G. H. K. Macalister, B.A.
8. Some Peculiar Features in a Temporal Bone, by P. P. Laidlaw, St. John's College, Cambridge.
9. Notes on a case of Feather-bifurcation, by W. J. Rutherford, University of Glasgow. Dr. Rutherford suggests that the largely increased number of rectrices in fantail pigeons was evolved from the bifurcation or trifurcation of these feathers.
10. On the Occurrence of a "Principal Islet" in the Pancreas of Teleostei (preliminary note), by John Rennie, university assistant in zoology, Aberdeen.
11. On a Method of Preparing the Membranous Labyrinth, by Albert A. Gray. Exposure to different strengths of alcohol or xylol, imbedding in paraffin, and decalcification with a mixture of hydrochloric and nitric acids are the chief means employed.
12. Two Hearts showing Peculiarities of the Great Veins, by David N. Nabarro, with several illustrations.
13. The General Characters of the Crania of the People of Scotland, by Sir William Turner, F.R.S. This part contains the index and title-page of the volume and the Proceedings of the Anatomical Society of Great Britain and Ireland.

New Inventions.

ETHYL CHLORIDE NARCOSIS.

IN THE LANCET of June 13th, p. 1677, Mr. R. H. Jocelyn Swan describes an ingenious apparatus for use in the administration of somnoform. I have been experimenting with ethyl chloride and what might be termed the more volatile anæsthetics for about two years and have come to the conclusion that almost no apparatus beyond an ordinary Clover's inhaler is needed for administering them satisfactorily, and with the face-piece and rubber bag of a Clover minus the ether chamber I have had the very best results. I found that if the

anæsthetic was sprayed through the face-piece itself, however, into the bag some always remained in a fluid state around the inside of the face-piece, and on applying the inhaler patients almost invariably held their breath. Accordingly I began to think of some means of getting the ethyl chloride down into the bag by a separate access and one which could be used whether the inhaler was applied or not. The solution was very simple and consisted in boring a hole on the upper side of the horizontal limb of the elbow tube (joining the bag to the face-piece) and fixing a narrow tube about three-sixteenths of an inch in diameter and one and a half inches long, so as to pass down in the lumen of the larger tube into the bag. A small plug of box-wood or vulcanite was adapted to this and the apparatus was completed. This modification can be carried out at a trifling cost on any ordinary pattern of Clover's inhaler and the



A simple apparatus for the administration of ethyl chloride made by a slight modification of the bag and the face-piece of Clover's inhaler.

advantages of it are great. The *modus operandi* is as follows. The ether chamber having been put aside the face-piece is fixed on to the metal junction-tube of the bag and the plug is removed. The inhaler is then adapted to the patient's face and he is asked to breathe easily to and fro. As soon as his confidence is established the nozzle of the ethyl-chloride cylinder is inserted into the end of the access tube and the anæsthetic sprayed into the bag, from three to eight cubic centimetres being used, according to the length of the anæsthesia desired and the age and the physique of the patient. The plug is again inserted as soon as a suitable dose is supplied. The patient is allowed to inhale the vapour, which is invariably done without any choking or holding of the breath, and probably anæsthesia is rapidly attained, but if the dose be not sufficient and the anæsthesia be not deep enough a further quantity of ethyl chloride may be sprayed in without removing the inhaler or wasting any time. The liquid ethyl chloride falls to the bottom of the bag and there is no possibility of the patient getting any of the drug in a liquid state or any concentrated vapour into the air-tube or face-piece.

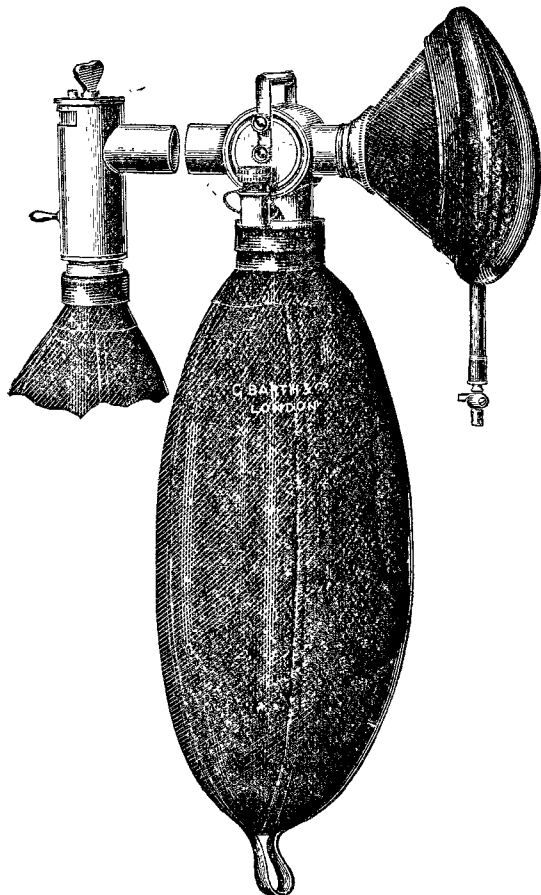
I have used this little arrangement now in a great many cases and with uniform success. It is equally suitable for short operations on the mouth, &c., or for larger operations elsewhere. If a prolonged anæsthesia is desired, however, it is better to put on the ether chamber and to use the ethyl-chloride-ether sequence. I think the use of any lint or cotton fabric in an inhaler for the volatile anæsthetics is to be deprecated for I have found that such fabrics frequently freeze and cause considerable waste of the drug and disappointing results. In conclusion, may I enter a mild protest against the wholesale advocacy of anæsthetic drugs bearing what are really proprietary names, such as "somnoform," "narcotile," "kélène," &c., in articles in medical and scientific journals? Personally I have used them all, but I can find no perceptible difference in results from those

obtained when "pure chloride of ethyl," sold as such, is used. And this drug, which we may call "chlorethyl" for short, prepared by a firm of repute, seems to answer every purpose. Kélène is stated to be nothing more than pure chloride of ethyl by the proprietors. Narcotile is, I believe, a mixture of ethyl and methyl chlorides, while somnoform, which has been boomed more than either, is stated to be chlorethyl, 65 per cent.; chlormethyl, 30 per cent.; and bromethyl, 5 per cent., and is, at any rate theoretically, objectionable from the presence of the last-named unstable substance. The objection may be very largely theoretical, for so far as we know no fatalities have as yet resulted from its use, but it is known that the after-effects on patients vary with different bottles and when "a fag end" is used¹ prolonged stupor and vomiting are more common. I think it may be fairly stated that the anæsthesia produced by the use of kélène, narcotile, or somnoform is simple ethyl chloride anæsthesia and no other and it appears to me to be as little necessary to use these names when treating of anæsthesia in medical literature as to prescribe "pil. ferri" under the soubriquet of "pink pills," &c.

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A REGULATING INHALER FOR GAS AND ETHER.

FOR many years it has been obvious that in teaching the use of ether as a general anæsthetic, especially in combination with nitrous oxide gas, a simpler form of regulating apparatus was required with larger breathing channels than those in former use. Lightness and portability, combined with a greater adaptation to the needs of powerfully built patients—namely, a large yield of ether vapour mixed with air when required—were some of the desiderata to be secured. Messrs. G. Barth and Co., of 54, Poland-street, Oxford-street, London, W., have made for me a form of stopcock of wide calibre with a collar and inhaling bag to hold an ether sponge which is capable of fitting the face-pieces sold by them for both Clover's ether inhaler and



for Hewitt's gas apparatus. This latter also fits into the stopcock for the administration of nitrous oxide with ether during the induction of anæsthesia. The new stopcock and bag only are therefore required to convert the gas apparatus into a regulating ether inhaler suitable for every type of patient for whom ether is an appropriate anæsthetic. I have

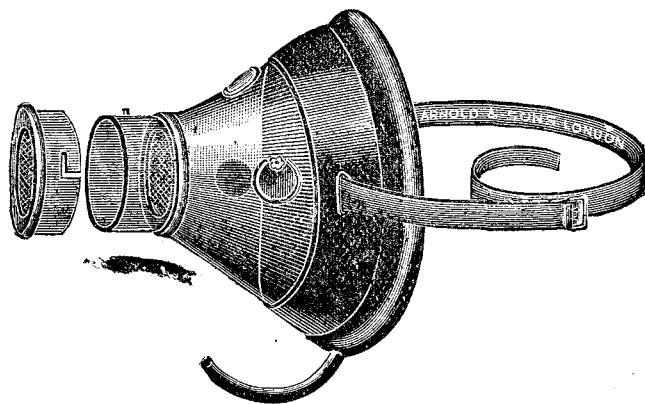
myself used the apparatus in over 100 surgical and dental cases and regard it as capable of overcoming many of the drawbacks of Clover's and Ormsby's inhalers by combining their valuable qualities in the smallest workable size. To administer nitrous oxide and ether, the metal collar of the inhaling bag having been detached from the stopcock, a honeycomb sponge (of the size of an orange) which has been wrung out of warm water, should be arranged inside the sponge-cage and, for an adult patient, one and a half ounces of ether should then be poured upon it. The handle of the stopcock is now turned to "E off" and the bag-collar is attached to it by its bayonet catch. A suitable face-piece is then fitted to the proximal side of the stopcock and Hewitt's gas apparatus two-thirds full of nitrous oxide is fitted to the distal side. The apparatus is now ready for the patient. When the face-piece is applied five breaths of nitrous oxide should be given through the valves of the gas apparatus which should then be thrown out of action and re-breathing commenced by turning the upper tap round on its axis. Next the handle of the ether stopcock should be gently and very slowly moved towards the face-piece. This movement closes the gas orifice as it opens the ether bag, so that the patient receives a very gradual increment of ether vapour, whilst his tidal respirations gradually pass from the one bag to the other. When the patient is breathing entirely into the ether the gas bag is detached and laid aside. Additional ether, when required, can be poured into the filler at the side of the stopcock. Air can be admitted in any amount by moving the stopcock handle back again so as partially or completely to open the orifice to which the gas bag was first attached. The inhaler can also be used for ether alone, without nitrous oxide, in the same way as a Clover's apparatus; but during the induction air is freely mixed with ether vapour until the respirations pass entirely into the ether bag. I am greatly indebted to Messrs. Barth and Co. for the care and courtesy with which they have carried out my instructions.

Mansfield-street, W.

H. BELLAMY GARDNER.

A NEW RESPIRATOR.

THIS respirator consists of a hollow cone of celluloid cut away so as to fit the bridge of the nose. This is rimmed with a pneumatic indiarubber tube, which can be blown out or deflated to fit the contour of every face. Valves on the upper surface of the cone opening outwards allow the escape of the expired air but close on inspiration, thus preventing the entrance of unfiltered air. A filtering chamber is formed at the apex of the cone, separated from the interior by a perforated diaphragm and closed at the outer end by a perforated and removable cap which fits on to the cone by a bayonet slot. Between the perforated diaphragm and the cap cotton wool, medicated or otherwise, sponge, charcoal, &c., is placed and the air inhaled has to pass through the filtering medium before it can reach the nose or mouth of the wearer. There is also a valve made of indiarubber which hangs over the inner face of the perforated diaphragm which divides the cap from the cone. This is so fitted that on



inhalation it flies back and allows unimpeded ingress of air, but on expiration it is forced back upon the diaphragm and prevents the filtering cap from contamination by the expired breath. Breathing is not in the least interfered with and the respirator can be used for hours without discomfort. It allows the wearer to converse without hindrance. The apparatus can be used in many more ways than in the

¹ See article by Mr. Collum in the Journal of the British Dental Association.