

Society McBride (420) described a case of cephalic bruit and deafness of sudden onset.

Numerous other interesting communications will be found in the index to the volume under their appropriate headings.

**SOME NEW INSTRUMENTS FOR REMOVING FOREIGN
BODIES FROM THE BRONCHI BY DIRECT
BRONCHOSCOPY.**

By WM. CUTHBERT MORTON, M.A., M.B., CH.B. EDIN.

IN the course of special study in Germany during the last year it was my good fortune to be in Freiburg visiting Professor Killian's clinic, when there was sent in for treatment a case, of which, as Professor Killian will be publishing it in due course, I give only the following brief summary: The patient was a boy, aged ten, who was found to have a collar-stud lying in the left bronchus, with the plate uppermost. In addition to this extremely unfortunate position of the stud, the mucosa on the near side of the plate was much swollen.

Although the ordinary hook, the instrument best adapted to the case in hand, slipped with comparative ease between the edge of the plate and the wall of the bronchus, yet, if the least upward pressure were applied, it glided off with a distinctly audible sound. After an hour's unceasing effort, all hope of being able to remove the stud through the mouth was given up, and, tracheotomy having been performed, the attempt was renewed through this wound, but with no better result, so that the operation had to be abandoned. On the following day the temperature was down, and the child was given time to recover his strength. On the morning of the second day, the condition again becoming urgent, he was again anaesthetised, and a further effort made to recover the stud. For some time it could not be dislodged from its position; ultimately it was removed, not, however, before it had slipped off the hook into the right bronchus, and again into the trachea just at the level of the wound. The tracheotomy tube was taken out the same evening, and after a week the patient was discharged from the clinic.

That so much could be done with the hook was striking, but the thought was inevitable whether an instrument could not be devised by which a stud in such a position might be firmly grasped and safely drawn through the stricture and up through the air-passages. I laid a model of such an instrument before Professor Killian, who at once asked me to work it out at the expense of the

University Clinic. This work resulted in the following instruments, all of which met with Professor Killian's approval, and in reference to the first of which he stated that had he had it at the time of the first operation the safe removal of the stud through the mouth without tracheotomy would have been the work of but a few minutes.

To understand these instruments, let us look at any pair of tubular forceps. It consists of—

(1) An outer part, one piece, made up of the outer part of the handle or grip, from which runs the tube, the tube carrying on its free end the forceps.

(2) An inner part, made up of the inner part of the handle or grip, screwed into which is the rod, the rod carrying on its free end the ring to encircle the legs of the forceps.

(3) The spring.

The instrument being put together, pressure on the inner part of the grip forces the rod down through the tube and the ring down over the legs of the forceps, which are thus compelled to close. Now, instrument "A" consists of—

(1) An outer part, one piece, made up of (*a*) the outer part of the grip, from which runs (*b*) the tube, the tube carrying on its free end (which is solid) (*c*) the hook. At the point where the lumen of the tube ends the wall of the tube is perforated opposite to and not far from the hook. The hook is inserted into the end of the tube at a slightly obtuse angle, its near edge is toothed and only slightly concave.

(2) An inner part, made up of (*d*) the inner part of the grip, screwed into which is (*e*) the rod, the rod being somewhat curved towards its point, and the point being sharp, so that the whole rod forms a long needle.

(3) The spring.

Pressure on the inner part of the grip forces the needle down through the tube, out of the end of which it passes through the perforation on the face of the tube in such a way that the point of the needle is driven to meet the toothed near edge of the hook some distance from the insertion of the hook into the tube, *i. e.* towards the point of the hook. The curve in the end of the needle allows its point to come well towards the point of the hook; it also eases the work of the spring. Even in the tube the needle lies with the curve in the same plane with the hook, being kept in this position by the proper adjustment of the needle to the inner part of the grip, which again is adjusted to the outer part of the grip by means of a guide.

The instrument can thus be manipulated like the ordinary hook until the hook is in position on the far side of the plate of the stud. Then pressure on the inner part of the grip forces the point of the needle (which so far has been lying concealed within the tube) against the near side of the plate, which is thus secured between the needle and the hook. Within these limits the stud cannot move, otherwise its movement is free, and yet so perfectly is it under control that it can be drawn upwards with any reasonable amount of force. Resistance against the opposite wall of the bronchus is diminished by the slight obtuse angling of the hook and by the slightness of the concavity of its toothed edge. Stability of the stud is favoured by the needle not being too slender and by its not being long enough quite to reach the hook, as well as by the perforation being near the point of insertion of the hook. As this makes the passage forwards of the needle more difficult, the end of the needle must be curved. Further, the hook must not be so long as to reach the neck of the stud.

Instrument "B" is like "A," except that the end of the needle is split into two points, which come down one on each side of the toothed edge of the hook, thus affording a very firm grasp.

Instrument "C" is like "A" and "B," but the hook is deeply concave and the needle comes well forward to the point of the hook, which, however, it must not touch, so as not to nip the mucosa. A stud can be fairly grasped by the neck, and any such foreign body as the eye of a "hook and eye" perfectly secured.

Instrument "D," a fenestrated hook-shaped forceps for grasping the head of a stud, etc., the hook shape admitting of better oversight of the blades of the forceps, while fenestration allows gracility of build.

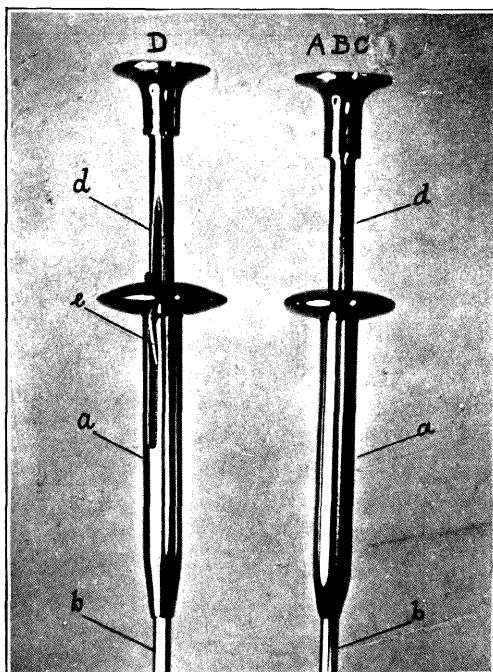
The above forceps are fitted with an "inverted grip," which suits any other tubular forceps equally well, and consists of—

(1) An outer part, made up of (*a*) the outer part of the grip, a piece by itself, with a longitudinal slit, and with a hole into which (*e*) the rod is screwed; (*b*) the tube, which, with (*d*) the inner part of the grip, forms one piece.

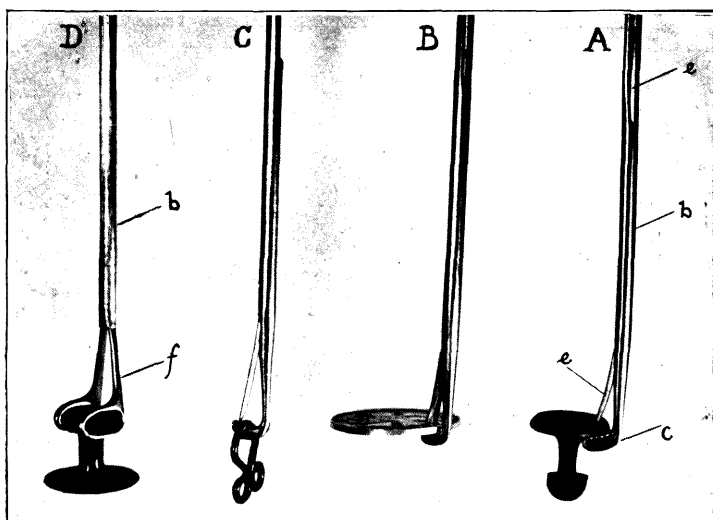
(2) An inner part, made up of (*d*) the inner part of the grip which with (*b*) the tube forms one piece; (*e*) the rod with a thread at one end to be screwed into (*a*) the outer part of the grip; (*f*) the forceps at the end of (*e*) the rod, with which they form one piece.

(3) The spring.

Take the piece made up of (*d*) the inner part of the grip and (*b*) the tube. Slip (3) the spring over (*b*) the tube up to (*d*) the



A B C.—*a*, Outer part of grip; *b*, tube; *d*, inner part of grip.
D.—*a*, Outer part of grip; *b*, tube; *d*, inner part of grip; *e*, rod.



A, B, C.—*b*, tube; *c*, hook; *e*, rod. D.—*b*, tube; *f*, forceps.

In A B C, *a*, *b*, *c*=one piece; *d*, *e*=one piece (after adjustment). In D, *a*=one piece; *d*, *b*=one piece; *e*, *f*=one piece. (Actual length of instrument about sixteen inches; reproductions about natural size.)

To illustrate Mr. Cuthbert Morton's paper on "Some New Instruments for Removing Foreign Bodies from the Bronchi by Direct Bronchoscopy."

inner part of the grip. Then slip (a) the outer part of the grip over (b) the tube till it rests against (3) the spring. Pass (e) the rod up (b) the tube until it reaches the level of (a) the outer part of the grip. Here (b) the tube has a slit on one side corresponding to the slit in the outer part of the grip, through which slits (e) the rod is so guided that its threaded end slips into the hole in (a) the outer part of the grip, into which by a few turns it is screwed. Pressure on the inner part of the grip forces the tube freely through the distal end of the outer part of the grip, so that the distal end of the tube passes down along the rod over the legs of the forceps, which are thus compelled to close. This grip dispenses with the ring, which not only interferes with the field of vision, but also renders the instruments difficult to take to pieces and to clean. It also completely avoids the fault common to so many forceps in which the closing is effected by the end of the tube. With this grip the forceps remain *in situ* and do not on being closed run upwards towards the operator's hand. Instability of the forceps through torsion of the rod is overcome by the free end of the tube being oval in cross-section to correspond with the spreading out of the legs of the forceps.

In all the above instruments the tube throughout the greater part of its length is only half complete, being semicircular in cross-section. At intervals narrow rings of wall are left which safely confine the rod within the tube. That the cleaning of the tube is thus much simplified is obvious.

SOCIETIES' PROCEEDINGS.

PROCEEDINGS OF THE BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.

Annual General Meeting held on Friday, November 10, 1905, at the Medical Society's rooms, 11, Chandos Street, Cavendish Square, W.

Mr. CHICHELE NOURSE, *and subsequently* Dr. R. H. WOODS,
occupied the Chair.

THE following officers were elected for the session 1905-6 :

President: Dr. R. H. Woods (Dublin). *Vice-Presidents:* Dr. W. H. Kelson (London), Dr. John Macintyre (Glasgow), Dr. Walton