

ber dam—thin, pliable sheet rubber—secure in the center, with free edges. They are not affected by moisture or position, can not easily get out of order, may be renewed quickly, and the resistance they offer to respiration is imperceptible. With the “expiratory valve” it is easy to observe the exact condition of the respiration. The inhaler may be sterilized by boiling. The apparatus has no complicated mechanism, but is regulated entirely by two one-piece valves (Figs. 2, 3 and 4). A second cylinder of either “gas” or oxygen may be attached for use in case one becomes exhausted. Nitrous oxid cylinders are sold in twenty-five, fifty, one hundred and two hundred gallon sizes. The gas is in a liquid state. The one hundred gallon cylinder of nitrous oxid weighs about nine pounds. A cylinder of oxygen is about the same size and contains forty gallons of gas. These can be obtained from any surgical or dental supply house at a cost of \$2.00 per cylinder, each of which will suffice for twelve to twenty anesthetics if the ether sequence is used. The expense is considerably less than the use of ether by ordinary methods. Of course considerable skill is necessary for the proper use of these refinements of anesthesia. However, the construction of the apparatus is such that practically the only accident a novice might encounter would be a failure to obtain a quick and uninterrupted surgical anesthesia.

Not only may the apparatus be used for prolonged anesthesia by nitrous oxid and oxygen or for nitrous oxid and oxygen with the ether sequence, but also for the administration of ether alone. The detail and tech-

nic of this is much simpler than that of any other method. If the “gas” and oxygen is omitted and ether alone used, the induction period and immediate after-effects are but little different from ether given by other methods. We still have, however, the advantages of the thorough mixture of air and ether vapor, the freedom from rebreathing, the decreased refrigeration and the even measured dosage.

The nitrous oxid, oxygen or the ether sequence use of the apparatus makes anesthetic work a pleasure, no struggling or vomiting, quick narcosis, no constant “dropping,” the safety and convenience of knowing the percentages used, and practically no after-effects. It removes the art of anesthesia from the mysticism, fancies and uncertainties of empiricism and places it on an accurate and scientific basis.

Clinical Notes

IMPROVED TECHNIC FOR LIGATING THE APPENDIX WITHIN THE CECUM.

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I recently described¹ a method of setting a snare within the cecum to catch and ligate the appendix

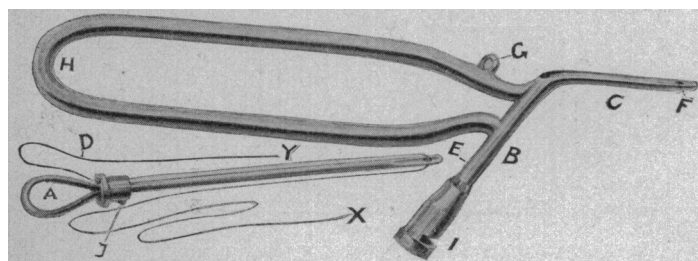


Fig. 1.—Author's compound needle. The needle consists of two parts, A is the straight, blunt-pointed ligature-carrying member with an eye at D and at E. BC is the angular, tapering-pointed, cannulated member, with an eye at its point F, and another, G, in its handle, H. X and Y are the respective ends of the ligature; I is a slot for receiving the pin, J, when locking the bayonet joint. IJ, in Figure 2.

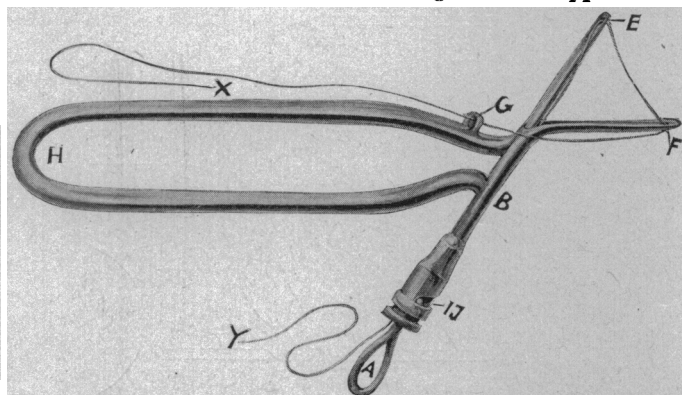


Fig. 2.—This shows the straight ligature-carrying member, A, passed through the cannulated portion, B, and locked at IJ. To thread the instrument the member A is first threaded, as in Figure 1, by passing the ligature through the eye D, and then through the eye E. This member is then carried part way through the cannulated member B, when the end X of the ligature is grasped and pulled through the cannulated member B, then passed through the eye F, and lastly through the eye G. This done, the member A and the ligature Y are withdrawn into the cannulated portion, B, far enough to become concealed. The instrument is then ready for inserting into the cecum as shown in Figure 3.

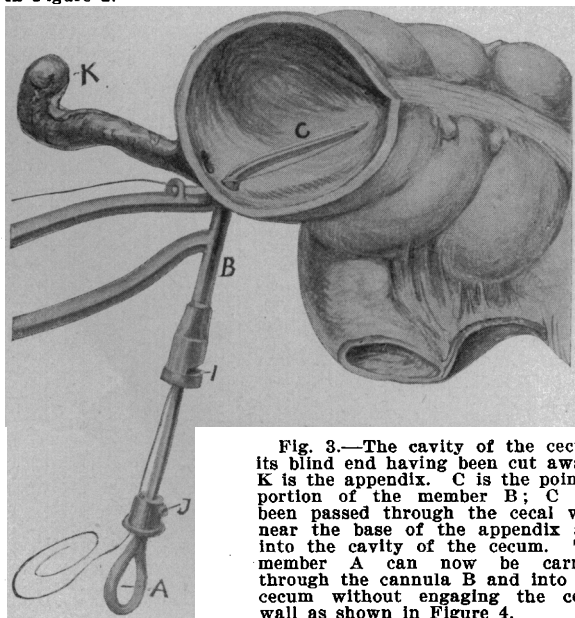


Fig. 3.—The cavity of the cecum, its blind end having been cut away; K is the appendix. C is the pointed portion of the member B; C has been passed through the cecal wall near the base of the appendix and into the cavity of the cecum. The member A can now be carried through the cannula B and into the cecum without engaging the cecal wall as shown in Figure 4.

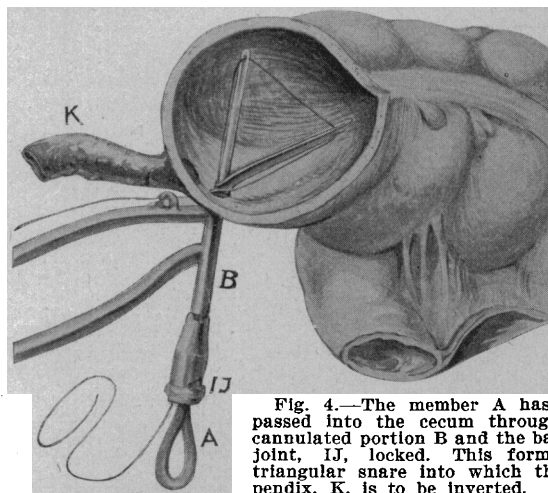


Fig. 4.—The member A has been passed into the cecum through the cannulated portion B and the bayonet joint, IJ, locked. This forms the triangular snare into which the appendix, K, is to be inverted.

therein. That method necessitated three needle punctures of the cecum. Dr. Paul Gronnerud, head of the department of operative surgery, Chicago Polyclinic, said that the operation would be ideal if it could be accomplished with only one needle puncture. I have done this and the accompanying illustrations, with their legends, fully explain, without further comment, how this may be done; the procedure is exceedingly simple and easy.

The members, A and C, of the instrument and the needle puncture in Figure 8 have been magnified for the purpose of clearness.

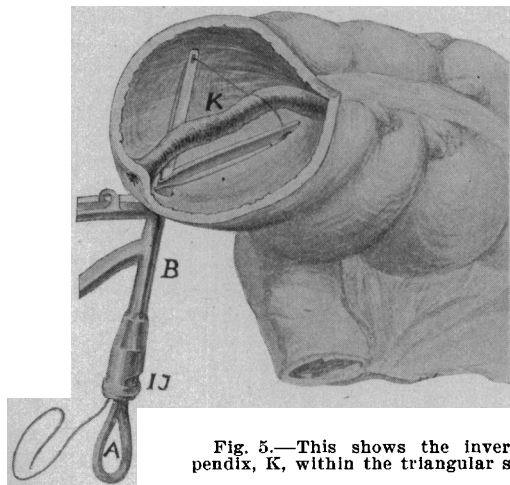


Fig. 5.—This shows the inverted appendix, K, within the triangular snare.

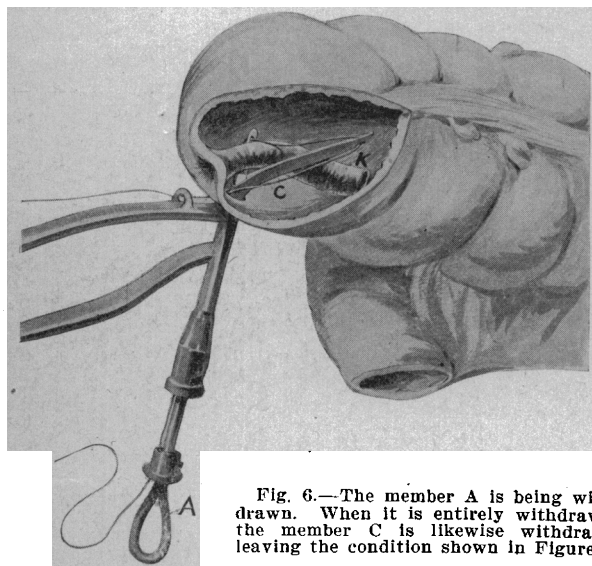


Fig. 6.—The member A is being withdrawn. When it is entirely withdrawn, the member C is likewise withdrawn leaving the condition shown in Figure 7.

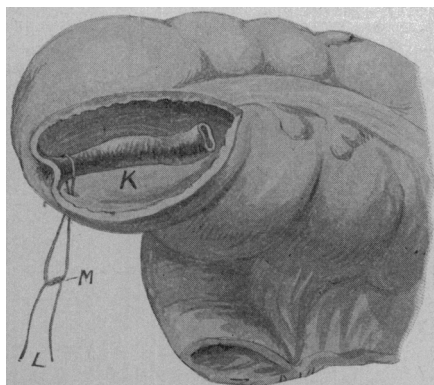


Fig. 7.—This shows the relation of the appendix, K, and the ligature, L, after the withdrawal of the needle, also the formation of the first loop, M, of the knot.

THE OPERATIVE TREATMENT OF PULMONARY TUBERCULOSIS.

REPORT OF AN EXCISION OF OVER ONE-HALF OF THE RIGHT LUNG.

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In no region of the body does a deposit of tubercles invariably indicate surgical treatment. For the most part the treatment of localized miliary tuberculosis is non-operative. Most of the cases of Pott's disease, a large proportion of tubercular joints, many superficial types of tuberculosis, and many cases of tuberculosis of internal organs are best treated without recourse to the knife. In nearly every situation, however, there is a residuum of cases in which other measures fail, and in which operative intervention is desirable.

Heretofore a marked exception has been made in regard to pulmonary tuberculosis, and, in general, surgical treatment is here considered dangerous, unwarranted and harmful. If one compares the forms of surgical procedure that have been brought to bear against tuberculosis of the lungs with those operations used for tuberculosis of other organs, it becomes evident that the methods that have failed in pulmonary surgery are precisely the methods that have proven ineffective in treating tuberculosis elsewhere in the body.

The operations that have been used in the treatment of pulmonary tuberculosis comprise chiefly the incision and drainage of abscesses, caseous areas, tubercular or bronchiectatic cavities, or imperfect resections of portions of diseased tissue, especially at the apices of the lungs. These operations have been followed by drainage, permitting an added mixed infection and the invasion of the adjacent tissues of the chest wall by the tubercle bacillus.

The results have been almost uniformly bad, just as they have been after incision or incomplete excision with drainage for tuberculosis of the kidney, intestine or other organs. On the other hand, excellent results have been obtained by nephrectomy for tuberculosis of the kidney, and by thorough excision without drainage for tuberculosis of the intestines, testicles and other parts of the body. In cases in which the recognized forms of treatment prove effective against the smaller tuberculous areas, but impotent against associated massive lesions of the lungs, operative measures, bolder and more thorough than those heretofore used may, in selected cases, be

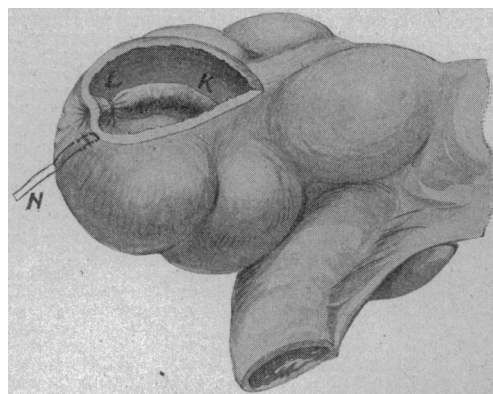


Fig. 8.—This shows that the appendix has been ligated and the knot slipped into the cecum. N is a mattress suture for closing the needle puncture.