

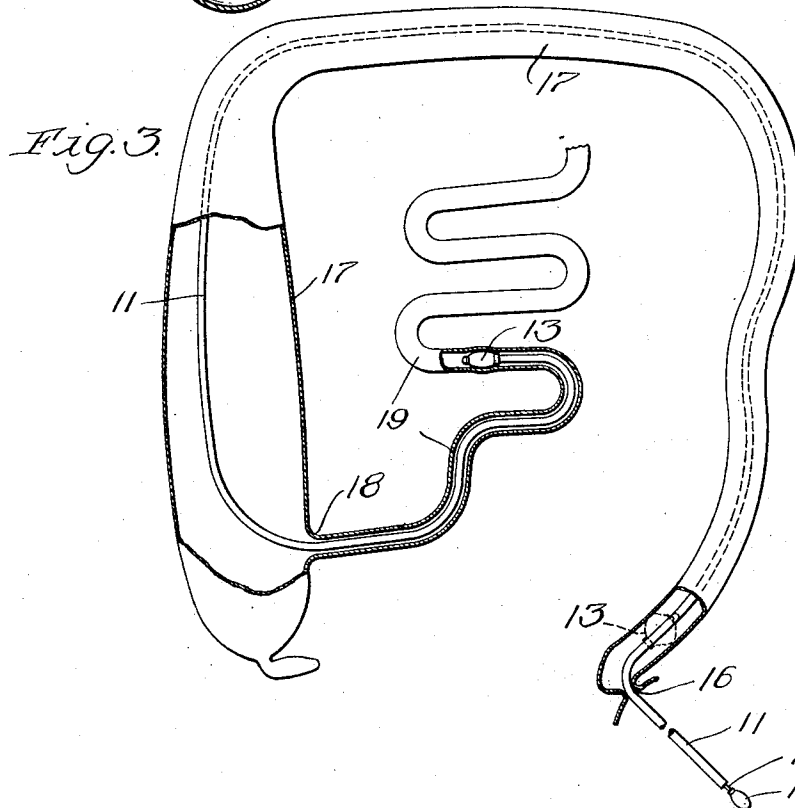
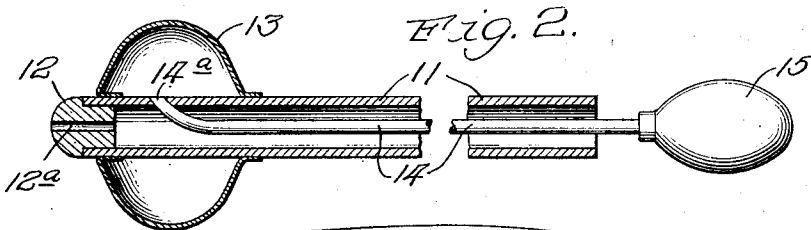
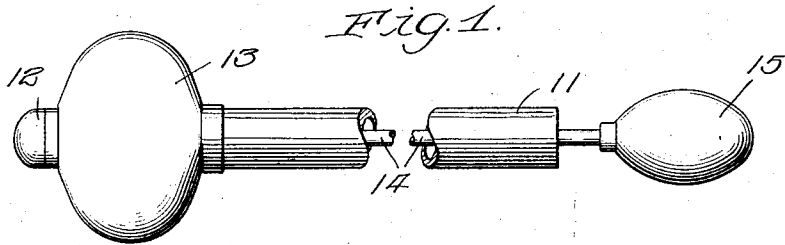
Nov. 8, 1932.

J. B. BACON

1,887,392

SURGICAL APPARATUS

Original Filed July 6, 1931



UNITED STATES PATENT OFFICE

JOSEPH B. BACON, OF MACOMB, ILLINOIS

SURGICAL APPARATUS

Original application filed July 6, 1931, Serial No. 549,021, now Patent No. 1,863,234. Divided and this application filed May 31, 1932. Serial No. 614,544.

This invention relates to improvements in surgical apparatus and, more especially, such apparatus designed for diagnostic purposes.

Among the features of my invention is the provision of surgical apparatus adapted for use in diagnosis of the large and small intestines, more especially for the location of obstructions therein. By the use of my invention, it is possible to insert an exploratory instrument through the large intestine and then into the small intestine without necessitating any incision therein.

This application is a division of my co-pending patent application, Serial No. 549,021, filed July 6, 1931, now Patent No. 1,863,234.

Other features and advantages of my invention will appear more fully as I proceed with my specification.

In that form of device embodying the features of my invention shown in the accompanying drawing—

Figure 1 is a view in side elevation; Fig. 2 is a vertical sectional view; and Fig. 3 is a diagrammatic view showing insertion of the instrument through the large intestine and into the small intestine.

The instrument includes a flexible tube or hose 11 preferably made of rubber and provided with a rounded end-piece 12 which has a central aperture 12^a. The end of the tube 11 carries a distensible, dilatable or stretchable member 13, here shown as being made of thin rubber or similar material adapted to be inflated with air so that the same may be distended as desired.

For the purpose of inflating the member 13, there is provided a smaller air tube 14 inside of the tube 11. The outlet end of this tube, as indicated by 14^a, is inserted through the wall of the tube 11 inside of the member 13. The other end of the tube 14 is provided with a well-known type of rubber bulb 15 with a suitable valved air inlet (not shown) which may be used for forcing air through the tube 14 into the member 13 to distend the same. The bulb 15 may be slipped off of the end of the tube 14 for deflating the member 13 or any suitable air escape may be provided for this purpose.

The distensible member 13 will permit the use of the device as a diagnostic instrument through both the large and small intestines. By inflating or deflating the member 13, as desired, the passage of the instrument through the intestines is greatly facilitated. For example, the instrument with the member 13 in a completely deflated position may be inserted at the rectum 16 (see Fig. 3) and the member 13 then inflated to the desired size to facilitate passage of the same through the large intestine 17. The bulb 13 on the end, when distended, will prevent the end 12 of the instrument from engaging or injuring the wall of the large intestine. After the end of the instrument has reached the point 18 where the small intestine 19 enters the large intestine, the member 13 may then be deflated to the size desired to facilitate entry of the end of the instrument into the small intestine 19 through which it may be forced the desired distance. The end of the instrument may be directed into the opening of the small intestine at 18 manually in any desired manner, making use of an incision in the abdomen or not, as may be necessary.

While I have shown and described certain embodiments of my invention, it is to be understood that it is capable of many modifications. Changes, therefore, in the construction and arrangement may be made without departing from the spirit and scope of the invention as disclosed in the appended claims, in which it is my intention to claim all novelty inherent in my invention as broadly as permissible, in view of the prior art.

What I regard as new, and desire to secure by Letters Patent, is:

1. A diagnostic instrument, including; a flexible member having sufficient length and adapted for insertion through the large intestine into the small intestine; a stretchable member mounted on the end of said flexible member; an air tube leading from said stretchable member to the outer end of the flexible member; and means for forcing air through said air tube into said stretchable member.

2. A diagnostic instrument as claimed in

claim 1 in which the flexible member is tubular and in which the air tube leading from the stretchable member to the outer end thereof extends through the flexible member.

3. A diagnostic instrument as claimed in claim 1 in which the diameter of the stretchable member parallel to the axis of the flexible member is relatively short.

4. A diagnostic instrument as claimed in claim 1 in which the stretchable member at the end of the flexible member is formed by a dilatable ring.

In witness whereof, I have hereunto set my hand this 26th day of May, 1932.

JOSEPH B. BACON.