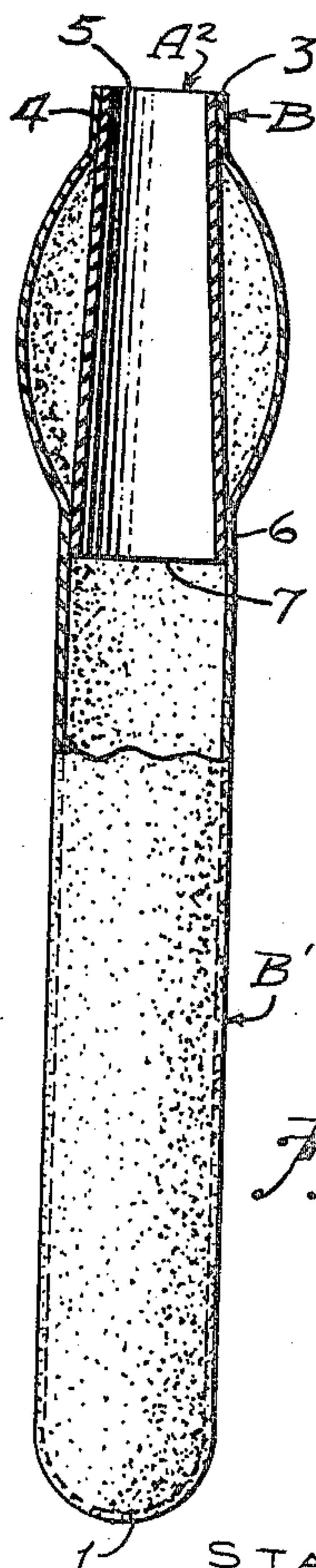
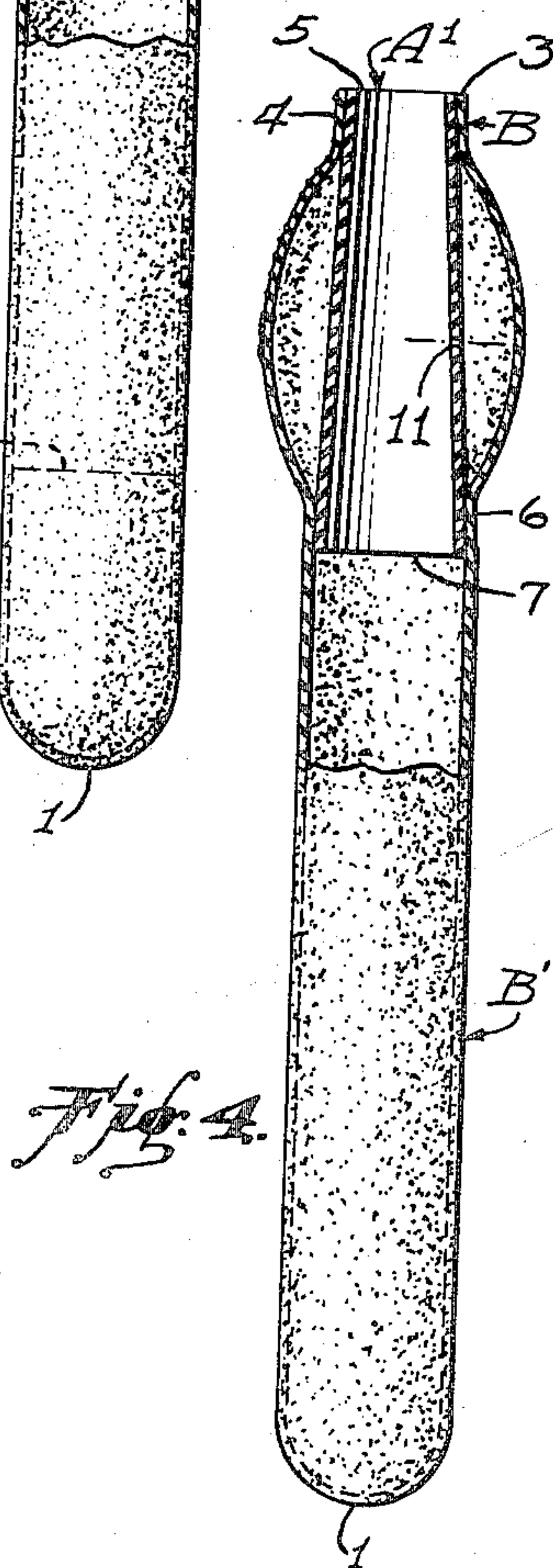
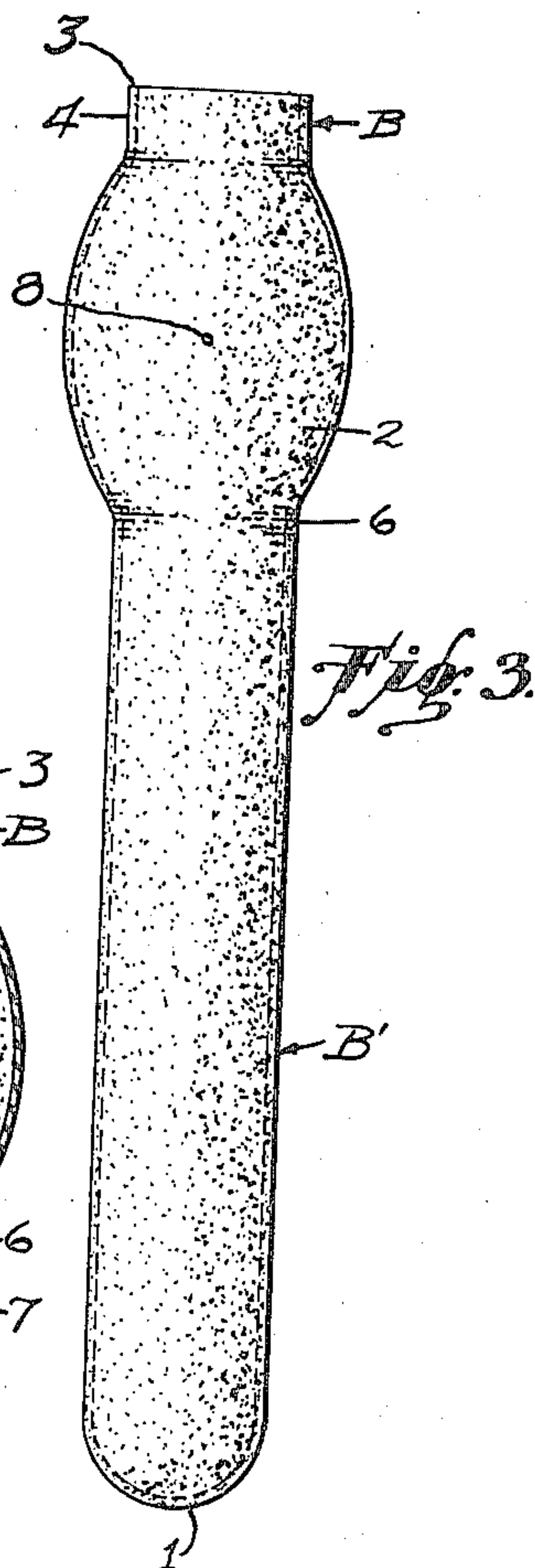
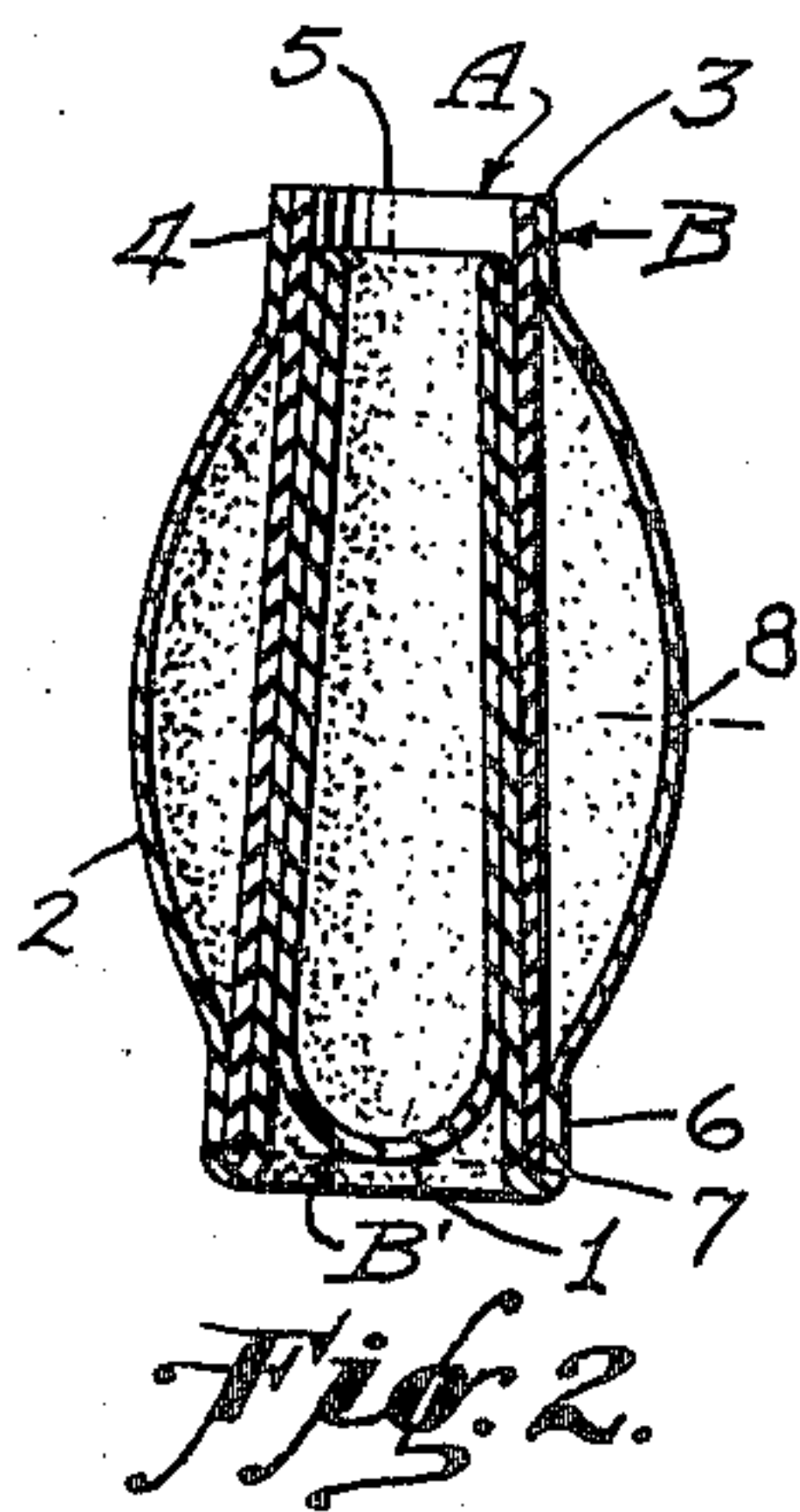
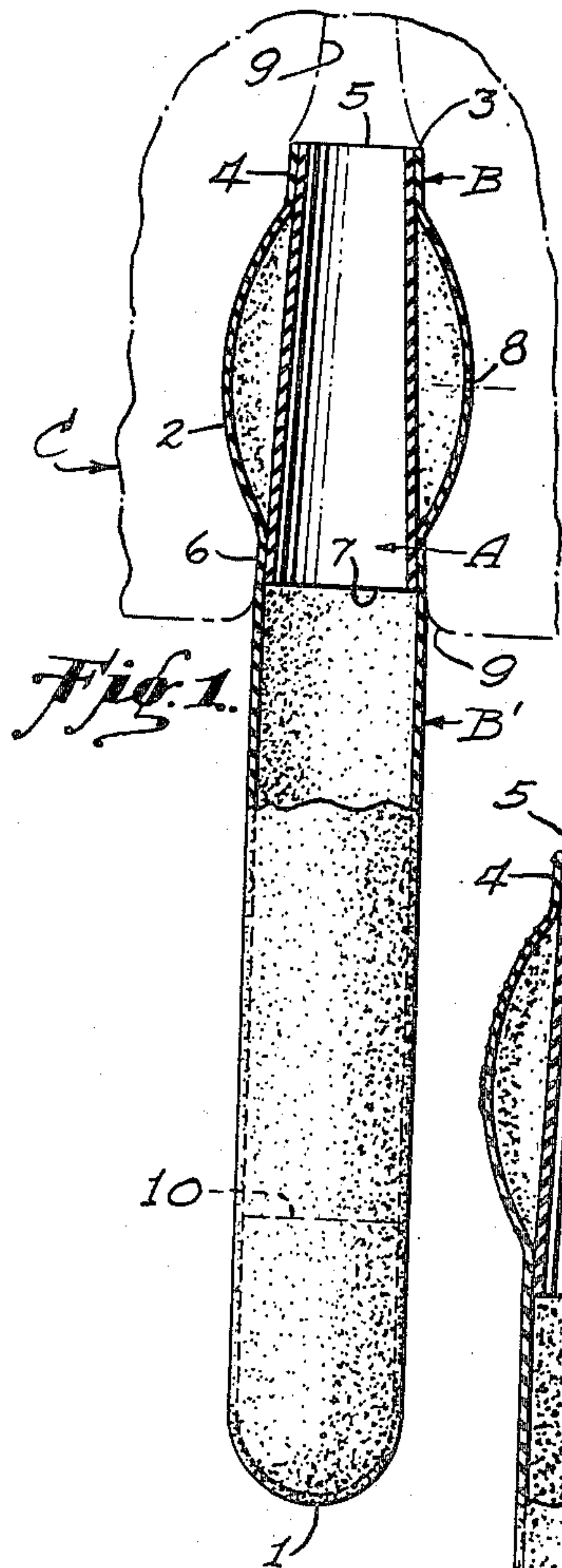


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S. M. WADE  
THERAPEUTIC AGENT  
Filed Aug. 28, 1948

2,544,200



INVENTOR.  
STANLEY M. WADE  
BY  
Munn, Riddy & Glassum  
ATTORNEYS



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2,544,200

# UNITED STATES PATENT OFFICE

2,544,200

## THERAPEUTIC AGENT

Stanley M. Wade, Santa Rosa, Calif.

Application August 28, 1948, Serial No. 46,641

2 Claims. (Cl. 128—275)

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An object of my invention is to provide a therapeutic agent which is an improvement over the device shown in my allowed application, filed November 5, 1945, Serial Number 626,763, Patent Number 2,452,813. In the copending case I disclose an initially closed tube that may be inserted in a body incision or cavity for catching any liquid draining therefrom. The tube is closed by a plurality of wings which open when the device is placed in a cavity and hold the device in place. The pointed wings cause discomfort to the one using the device because they contact the cavity wall.

A further object of my invention is to provide a therapeutic agent in which a conical-shaped and rigid or semi-rigid tube is placed at the entrance end of an elastic bag having a very thin wall. The neck of the bag that encloses the tube has an air-filled portion disposed between the two ends of the tube for providing a cushion of air for this portion of the bag. The insertion of the device in an incision or cavity in the body will cause the air filled bag portion to contact the wall of the opening and this portion will yieldingly conform to any irregularities in the wall and will cause no pain or discomfort to the person using the device. The closed end of the bag can retain any drainage from the incision or cavity and the air filled bag portion will hold the device from accidental removal from the body.

A further object of my invention is to provide a device of the type described in which the bag is elongated and the closed end which extends beyond the tube can be folded within the interior of the tube until the device is used. The tube is made conical in shape for this purpose and the larger end is the one that receives the folded bag portion.

In order to aid in the more ready insertion of the device in an incision or cavity in the body, a small bleed hole may be provided in the bag portion that surrounds the tube or in that part of the tube itself that is enclosed by the air-filled bag portion. Air will be expelled through the bleed hole during the insertion and then the preformed bag portion enclosing the tube will refill with air after insertion. Less pain or discomfort will be felt by the person using the device due to this arrangement.

Other objects and advantages will appear in the following specification, and the novel features of the device will be particularly pointed out in the appended claims.

My invention is illustrated in the accompany-

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ing drawing forming a part of this application, in which:

Figure 1 is a section through the device showing it applied in an incision or cavity of the body;

Figure 2 is a section showing a portion of the bag folded within the tube;

Figure 3 is an elevation of the device with the bag extended;

Figure 4 is a view similar to Figure 1, but shows the bleed hole in the tube rather than in the bag; and

Figure 5 is another modified form of the device in which neither the bag nor the tube is provided with a bleed opening.

While I have shown only the preferred forms of my invention, it should be understood that various changes or modifications may be made within the scope of the appended claims without departing from the spirit and scope of the invention.

In carrying out my invention, I provide a tube A that is the frustrum of a cone and may be rigid or semi-rigid in construction. The tube may be elliptical in shape to fit particular-shaped body openings or incisions. The length of the tube is such as to fit the incision or cavity. It is possible to make the tube out of plastic or any other semi-rigid or rigid material.

A bag B is formed of very thin rubber or latex and it has a closed end 1 with a bulged-shaped preformed portion 2 disposed adjacent to the entrance opening 3 of the bag. The neck portion 4 of the bag disposed adjacent to the bag entrance 3 forms a tight fit with the smaller end 5 of the conical tube A. The friction-tight connection between the neck 4 and tube will form an air-tight seal. If desired the neck may be cemented or otherwise secured to the tube to assure an hermetic seal between the two.

At the other end of the preformed bulge 2, i. e., the end furthest removed from the bag entrance 3, the bag is reduced in diameter at 6 so as to frictionally contact the larger end 7 of the conical tube A. The portion 6 may be cemented to the tube if desired to assure an hermetic seal with the tube. The bag extends beyond the end 7 of the tube a considerable distance and the extending portion may be cylindrical in shape as shown in Figure 1, or it may be any other shape such as cone-shaped with the closed bag end 1 being of a smaller diameter than that disposed adjacent to the end 7 of the tube.

One purpose for making the tube A conical in shape is to provide an enlarged end 7 into which



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the extended portion of the bag may be folded. In Figure 2, the extended portion B' of the bag is shown folded within the tube. The tube protects this portion of the bag and the device is far less bulky when thus folded.

A small bleed or capillary hole 8 is provided at any place desired in the bulged portion 2 of the bag as shown in Figures 1 to 3, inclusive. The device may be inserted in an incision or cavity 9 of a human body indicated generally at C. During the insertion of the device, the bag portion B' remains folded within the tube. If the entrance of the incision or cavity is small, then the bulge 2 will collapse, the air escaping through the opening 8. The bulge will try to regain its former shape after it is received in the body cavity and air will reenter the hole 8 to permit this.

The bag is made of very thin latex or rubber and the bulge 2 will space the wall of the incision or cavity from the tube which is less yielding than the bag wall. The bulge portion 2 will also prevent the device from accidental removal. Any drainage from the incision or cavity will flow through the tube and into the bag. The bag portion B' will be distended from the tube and the drainage will be retained in the closed end, as shown at 10 in Figure 1. The rubber tube or bag may be of a thicker rubber at the inserting end, i. e., at the entrance end 3.

In the modified form of the invention shown in Figure 4, the bleed hole 11 is provided at any place desired in the tube A1, within the enclosed portion of the bulge, rather than in the bulge 2 of the bag. This form will function like the first form except that air will pass from the bulge into the tube during the insertion of the device. No further description need be given and corresponding reference numerals will be applied to like parts.

In the form of the device shown in Figure 5, both the bulge and the tube A2 are not provided with a bleed hole. In this device the air filled bulge will contract sufficiently to permit the insertion of the device into the incision or cavity.

The device is especially designed for receiving drainage or excretion from an incision, cavity or any orifice in the human body; for frequent micturition, for catching the discharge of acute venereal infection. The device can also be used for the female menses, as well as incontinence of urine. The bag B may be made of very thin rubber and attached to the end 7 of the tube A. The bulged part 2 may be of a thicker rubber and placed over the tube with its end 6 enclosing the top of the thin portion B.

I claim:

1. In a therapeutic agent of the character described: a frusto-conical shaped tube having a uniform taper throughout its length; the tube

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having smooth interior and exterior walls; the upper and lower ends of the tube being entirely open, and the smaller being disposed uppermost; a flexible impervious bag provided with an open top and a closed bottom; the tube being positioned entirely within the bag and covered exteriorly thereby, with the top of the bag disposed substantially in registry with the upper end of the tube; the upper portion of the bag having a preformed outwardly-bulged flexible rotund-section surrounding the tube, and extending substantially the greater length of the tube; the rotund-section defining an air space extending circumferentially around the tube, and this section being yieldable to pressure; the bag portion above and below the rotund-section having a fluid-tight fit with the exterior wall of the tube; the lower portion of the bag depending below the tube, and being foldable upwardly into the confines of the tube.

2. In a therapeutic agent of the character described: a frusto-conical shaped tube having a uniform taper throughout its length; the tube having smooth interior and exterior walls; the upper and lower ends of the tube being entirely open, and the smaller being disposed uppermost; a flexible impervious bag provided with an open top and a closed bottom; the tube being positioned entirely within the bag and covered exteriorly thereby, with the top of the bag disposed substantially in registry with the upper end of the tube; the upper portion of the bag having a preformed outwardly-bulged flexible rotund-section surrounding the tube, and extending substantially the greater length of the tube; the rotund-section defining an air space extending circumferentially around the tube, and this section being yieldable to pressure; the bag portion above and below the rotund-section having a fluid-tight fit with the exterior wall of the tube; the lower portion of the bag depending below the tube, and being foldable upwardly into the confines of the tube; and minute venting means placing said air space in communication with the atmosphere through which air may pass automatically with restricted flow upon contraction and expansion of the rotund-section.

STANLEY M. WADE.

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