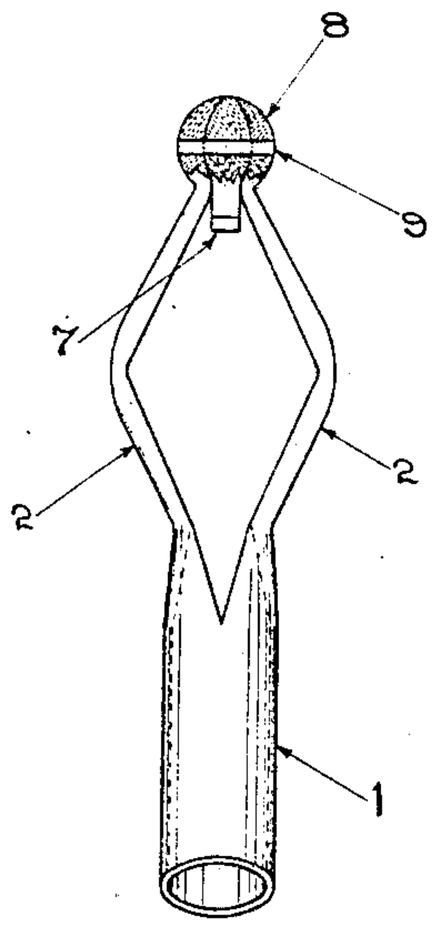
No. 781,763. PATENTED FEB. 7, 1905.

J. J. BOWKER.

DRAINAGE TUBE.

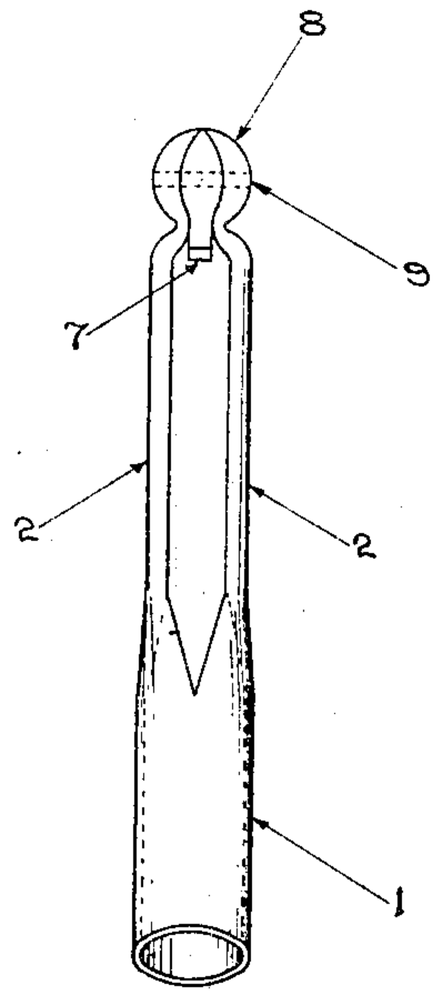
APPLICATION FILED MAR. 7, 1904.

Fig 2.



After Introduction

Fig 1.



Before Introduction

WITNESSES:
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PHOTO-LITHOGRAPHED BY SACHETT & WILHELMS LITHO. & PTG. CO. NEW YORK.

No. 781,763. Patented February 7, 1905.

UNITED STATES PATENT OFFICE.

JAMES J. BOWKER, OF LAOTTO, INDIANA.

DRAINAGE-TUBE.

SPECIFICATION forming part of Letters Patent No. 781,763, dated February 7, 1905.

Application filed March 7, 1904. Serial No. 197,059.

To all whom it may concern:

Be it known that I, JAMES J. BOWKER, a citizen of the United States, residing at Laotto, in the county of Noble and State of Indiana, have invented a new and useful Improvement in Drainage-Tubes, of which the following, together with the preferable construction of the tube itself, is a specification.

My invention relates to improvements in drainage-tubes of a purely medical class, which are designed to remain in place, so that effete and noxious matters may continually pass out of the cavity, the drainage of which is desired.

The objects of my improvement are as follows: First, to provide a drainage-tube with integral arms extending from its inner end, said arms being capable of adjustment within a cavity in such a manner as to hold the tube in position for an indefinite time; second, to provide a smooth attachment to a drainage-tube, which will make it possible to easily introduce the tube without irritation to the walls of the cavity; third, to provide a means of securing the tube to the instrument used for its introduction while that operation is being accomplished.

Figure 1 is a front view of my device with the arms in position for the insertion of the tube into the cavity which it is desirable to drain. Fig. 2 is a front view of my device as it would appear after its introduction into the cavity had been accomplished.

The drawings are made double size in order that the construction can be shown to better advantage.

Similar numerals of reference designate similar parts throughout both views.

The tube 1 is metallic, preferably of aluminium, and of any suitable dimensions, usually about one-fourth of an inch in diameter and long enough to project outside the cavity into which it has been introduced. The upper part of the tube 1 is provided with arms 2, which are preferably made integral with the tube and tapering from it. The arms are thin, narrow, and of sufficient compliance to be easily bent into place. This will more fully appear in the description of the mode of operation. The upper ends of the arms 2, having been flattened into disk form, are attached to and separated by a flattened ball with a downward projection 7. The attachment is preferably made by a rivet 9. In process of riveting the enlarged disk-like ends of the arms 2 are compressed around the flattened ball in such a manner that the entire mass forms the rounded ball 8 with the downward projection 7. The ball 8 provides the "smooth attachment to a drainage-tube which makes it possible to introduce the tube without irritation to the walls of the cavity," while the downward projection 7 provides a "means of securing the tube to the instrument used in its introduction while that operation is being accomplished."

The preferable mode of operation is as follows: The device is closed as shown in Fig. 1. The instrument designed to accomplish the introduction of the tube into the cavity is passed up through the tube and engages it at the projection 7. The tube having been placed on the instrument used for its introduction and being firmly held to it by the projection 7 is now pushed as far within the cavity as desired and the arms spread as follows: By means of a plunger which is within the instrument used for introduction lateral pressure is exerted at the middle points of the arms 2, which being compliant bend outward easily. The ball 8 is thus depressed and the arms 2 extended until they respectively assume the position desired. This position would, with perhaps some slight variation, coincide with the outline of the device in place as shown in Fig. 2.

From the mode of operation the two last-named functions of my device will be evident—*i. e.*, the ball 8 thus provides a smooth attachment at the end of the tube, which enables the operator to introduce it into the cavity without irritation, and the projection 7 thus engages the instrument used for introduction, holds the tube firmly in position during the operation, and by keeping the ball 8 in line of the longitudinal diameter of the tube insures an equal lateral distention of the arms 2.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A drainage-tube consisting of the tube of any suitable length, as 1, provided with

arms 2 connected to said tube at its inner end preferably integrally, and tapering from it, said arms 2 being thin and pliant, and whose loose ends, having been flattened into disk form, are riveted to a flattened ball with a downward projection 7, forming with it the rounded ball 8, with the downward projection 7.

2. In a drainage-tube of any suitable length, as 1, provided with arms extending from the inner end thereof, said arms being pliant in a degree that will adapt them to be spread apart into a position such as will retain the tube in place within the cavity into which it has been introduced.

3. In a drainage-tube of any suitable length, as 1, the combination of the tube and a rounded ball such as 8, attached to its inner end, for the purpose hereinabove specified.

4. In a drainage-tube of any suitable length, as 1, the combination of the tube, a projection such as 7, and means for its attachment to the inner end of the tube, for the purpose hereinabove specified.

Signed by me at Laotto, in the county of Noble, State of Indiana, on this 12th day of February, 1904.

JAMES J. BOWKER.

Witnesses:

ALBERT ROSENBERGER,

MABEL BILGER.