Aug. 15, 1933. J. W. GEROW 1,922,084

SELF RETAINING CATHETER AND DRAINAGE TUBE

Filed April 24, 1931

Fig. 1

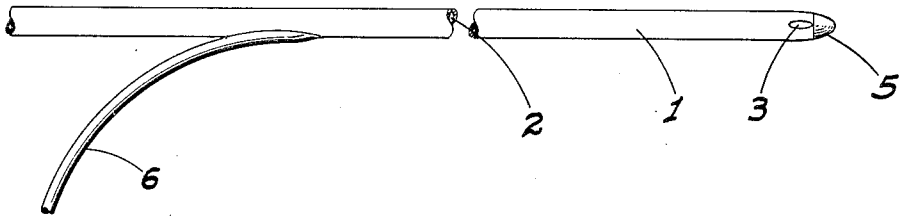


Fig. 2

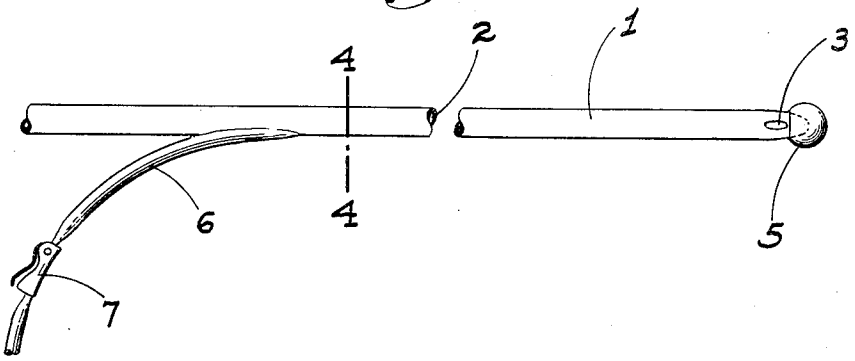


Fig. 3

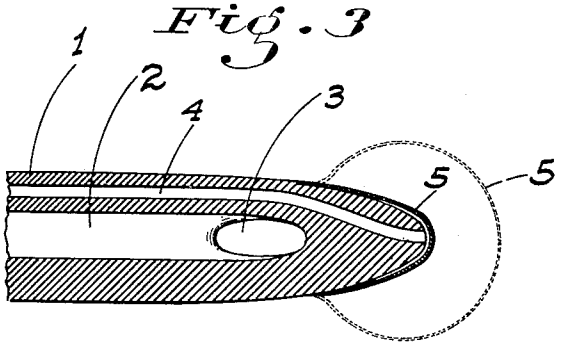
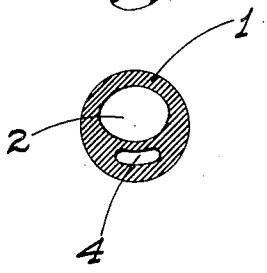


Fig. 4



INVENTOR

J. W. Gerow

BY

ATTORNEY

Patented Aug. 15, 1933 1,922,084

UNITED STATES PATENT OFFICE

1,922,084

SELF RETAINING CATHETER AND DRAINAGE TUBE

James W. Gerow, Reno, Nev., assignor of one-half to Charles A. Stephens, Reno, Nev.

Application April 24, 1931. Serial No. 532,408

2 Claims. (Cl. 128—349)

This invention relates to surgical appliances and particularly to instruments used for the drainage of any part of the anatomy that is surgically accessible, such as catheters and the like. As these devices are now constructed, there is a tendency for them to slip out of place. Since it is sometimes necessary that the instrument shall remain in its operative or functioning position for some time, this slipping from place retards its action as will be evident.

The principal object of my invention is to provide a means built into or formed as an attachment to a catheter or drainage tube, whereby the latter when once inserted in place may be quickly and easily held from being removed until it is actually desired to do so.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawing similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is a side elevation of an improved drainage tube of the catheter type, as normally disposed, or before being inserted into place.

Fig. 2 is a similar view showing the expansible bag extended or expanded.

Fig. 3 is an enlarged fragmentary section of the catheter at its nose or inner end.

Fig. 4 is a cross section of the same.

Referring now more particularly to the characters of reference on the drawing, the catheter itself as usual comprises a flexible rubber tube 1, the longitudinal drainage passage 2 of which terminates in a slot like outlet 3 in one side of the tube at its nose or inner end as shown. Formed with or attached to the catheter tube and extending lengthwise of the same is an air passage 4, which terminates at the inner end of the tube under the outlet 3. At said end, the air passage communicates with a small expansible and normally contracted bag 5. This bag is arranged so that when contracted, it substantially follows the contour of and covers the nose of the tube beyond the outlet, as shown in Fig. 3. Said bag therefor offers no interference with the insertion of the catheter into place.

Intermediate the ends of the tube 1, the air passage emerges therefrom in the form of a separate tube 6, to the outer end of which an air inflating bulb or bellows of suitable character may be connected. In operation, the catheter is inserted into place in the usual manner with the air bag contracted.

When the catheter is thus in place, air is forced into the tube 6, which expands the bag to a size as much greater than the diameter of the tube 1 as may be desired. In this manner the object of the invention, namely, to prevent the catheter from being withdrawn, is accomplished without inconvenience to the patient, as will be evident. In order to hold the bag in its expanded condition the tube 6 may be provided with a suitable air valve. In the present instance, this is shown as being a squeeze clip 7 such as is commonly used in connection with flexible rubber tubing of this general character.

It is to be understood that while I have shown this device as being formed with a catheter or drainage tube of the plain rubber tube type, it may be obviously also incorporated or attached to catheters of that type in which the rubber tube is encased in a fabric sleeve; it being only necessary of course that in any case the circular form of the catheter or tube be not departed from to any material extent.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

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

1. A device as described comprising a soft rubber tube having an expansible sheath normally fitting over the nose of the tube and presenting with the tube an uninterrupted smooth surface for entry into the cavity to be drained, and means to uniformly expand the sheath relative to the tube, the tube having a drainage outlet behind the sheath.

2. A device as described comprising a soft rubber tube having an expansible sheath normally fitting over the nose of the tube and presenting with the tube an uninterrupted smooth surface for entry into the cavity to be drained, the tube having an air duct in the wall thereof opening into the space between the nose of the tube and the sheath whereby the latter may be subjected to air pressure to expand it relative to the tube, the tube having a drainage outlet behind the sheath.

JAMES W. GEROW.