(No Model.)

J. E. LEE.

CATHETER.

No. 390,177. Patented Sept. 25, 1888.

Fig. 1.

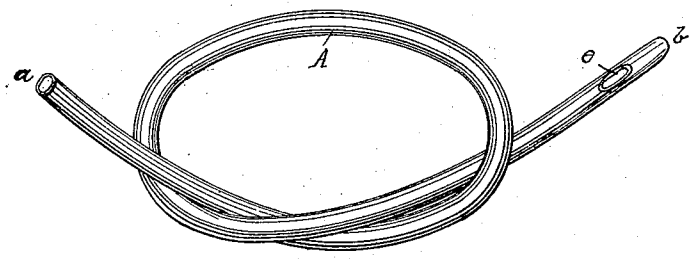


Fig. 2.

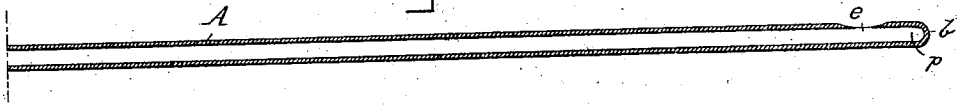


Fig. 3.

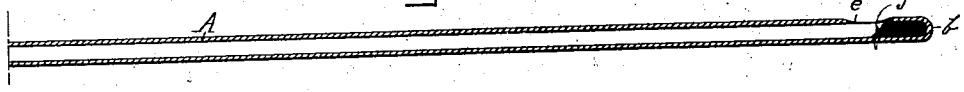


Fig. 4.

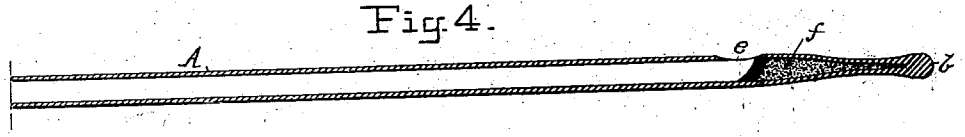
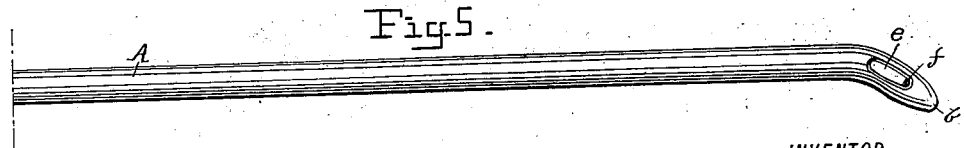


Fig. 5.



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UNITED STATES PATENT OFFICE.

J. ELLWOOD LEE, OF CONSHOHOCKEN, PENNSYLVANIA, ASSIGNOR TO THE J. ELLWOOD LEE COMPANY, OF SAME PLACE.

CATHETER.

SPECIFICATION forming part of Letters Patent No. 390,177, dated September 25, 1888.

Application filed June 22, 1888. Serial No. 277,869. (No model.)

To all whom it may concern:

Be it known that I, J. ELLWOOD LEE, a citizen of the United States, and a resident of Conshohocken, Montgomery county, Pennsylvania, have invented an Improved Catheter, of which the following is a specification.

In catheters for surgical use, more particularly catheters of varnished braided material or of soft rubber, it appears to be a necessity of manufacture to leave a recess or pocket between the extreme rounded end or point of the catheter and the end of the eye through which the fluid passes into the tube. The presence of this pocket or recess is, however, objectionable, for the reason that when the catheter is withdrawn through the urethra or rectum, or in whatever part of the body it may be used, mucus and other matter is collected in the pocket, (which acts as a scoop,) and it is extremely difficult, and indeed impracticable, to thoroughly clear this pocket of mucus. To remove this difficulty, I fill in this pocket or recess, in the point of the catheter between the eye and the rounded end, with some suitable filling, so that if mucus or other matter passes in at the eye of the catheter when the latter is withdrawn from the body it will simply flow into a part of the tube from which it can be removed with comparative ease.

In the accompanying drawings, Figure 1 is a view of an ordinary flexible catheter, of soft rubber or of a braided tube suitably varnished. Fig. 2 is a longitudinal section of a part of the same. Fig. 3 is a similar longitudinal section of part of a catheter provided with my improvement. Fig. 4 is a similar longitudinal section of another form of catheter provided with my improvement. Fig. 5 is a view of still another form of catheter to which my improvement may be applied.

Referring to these figures, A is the tubular body of a flexible catheter, which, as I have said, may be formed of a braided tube suitably varnished, or may be made of soft rubber. One end of this tube, *a*, is left open, while the opposite end, *b*, is closed and formed into a rounded point. In the side of the tube near to the closed rounded end is formed an aperture or eye, *e*, as is usual in this class of instruments.

In Figs. 1, 2, and 3 is shown the most common form of catheter with a simple rounded end of the same size as the body of the tube. In Fig. 4 is shown a catheter known as the "olive" catheter, the end of the tube in this case being tapered beyond the eye, while the extreme end has an enlargement somewhat in the shape of a small olive. The catheter shown in Fig. 5 has the closed end bent for use in certain cases where other forms of catheter are not suitable. As I have already said, the eye *e* in a flexible catheter of these characters has to be formed at a little distance from the extreme closed end, (this being more particularly true of braided catheters,) and this leaves a pocket, *p*, as shown in Fig. 2, between the closed end of the tube and the adjoining end of the eye. In this pocket mucus and other matter collects as the catheter is withdrawn from the body. I fill in this pocket *p* with a suitable filling, *f*, up to the end of the eye, as shown in Fig. 3. This filling may be of any suitable material—such as varnish, for instance, in case the catheter is made of varnished braid. Where the pocket is somewhat large, I prefer to partly fill it in with cotton or some such material, as indicated in Fig. 4, and then to close this cotton filling with a top filling of varnish or other convenient substance which will not allow the mucus or other matter to get into the cotton.

I claim as my invention—

A flexible catheter having the pocket at its closed end filled up to the eye of the catheter, as and for the purposes set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

J. ELLWOOD LEE.

Witnesses:

HUBERT HOWSON,

HARRY SMITH.