

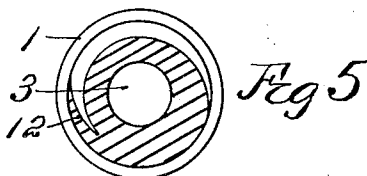
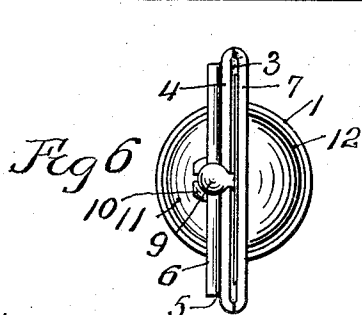
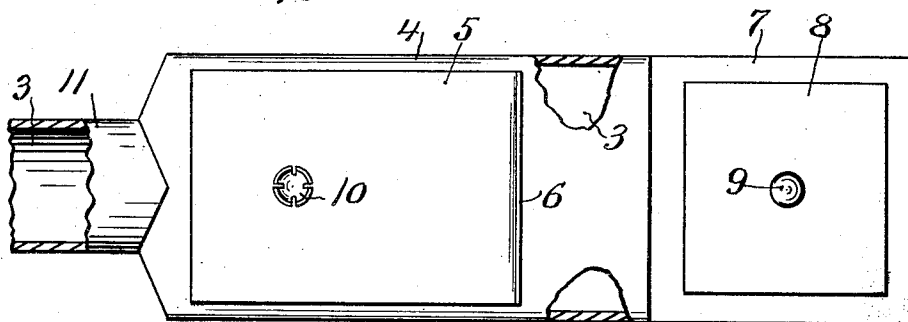
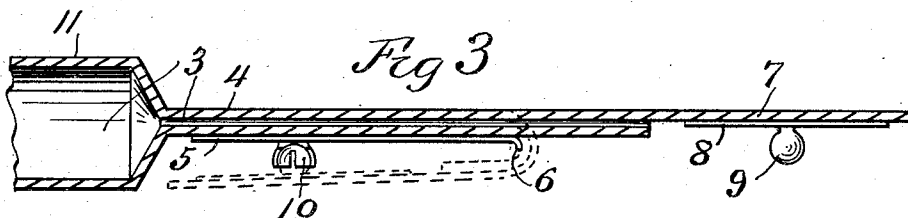
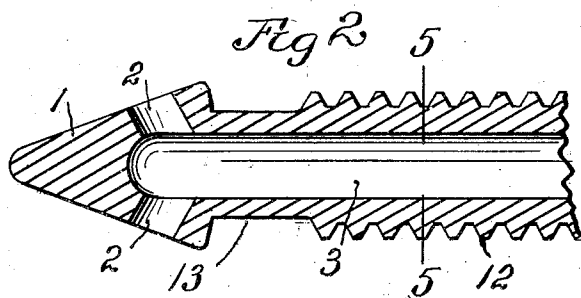
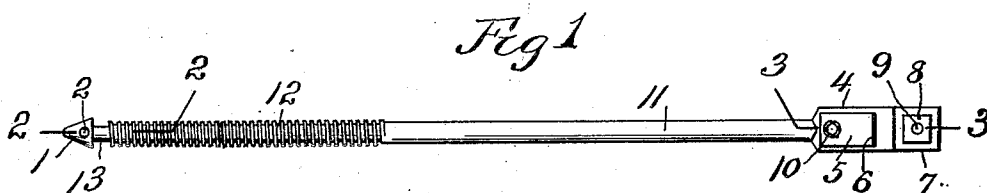
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1,888,349

CATHETER

Filed Feb. 15, 1932



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# UNITED STATES PATENT OFFICE

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## CATHETER

Application filed February 15, 1932. Serial No. 593,017.

My invention relates to improvements in catheters. It is particularly adapted for use in withdrawing liquid from the bladder, or other cavity in the body, and for retaining the liquid until it is desired to have it discharged. It is also adapted to be carried in the urethra or other canal into which it is inserted, so as to prevent leakage from the cavity and to retain the canal and sphincter muscle or the prostate gland expanded.

One of the objects of my invention is to provide a novel catheter of the kind described, which is simple, cheap, light, easily inserted or withdrawn, worn without irritation or discomfort, and which embodies a novel, easily operable and efficient closure for the discharge end of the catheter. It provides further novel means for retaining it in proper operative position.

The novel features of my invention are hereinafter fully described and claimed.

In the accompanying drawing which illustrates my improved catheter,

Fig. 1 is a reduced side view of my improved catheter, showing the closure in the open position.

Fig. 2 is an enlarged section on the line 2—2 of Fig. 1.

Fig. 3 is an enlarged section on the line 3—3 of Fig. 1, the closure being shown in dotted lines in the closed position.

Fig. 4 is an enlarged view partly in plan and partly broken away of a portion of the discharge end of the catheter, the closure being shown in the open position.

Fig. 5 is a section on the line 5—5 of Fig. 2.

Fig. 6 is an enlarged end view of the catheter.

Similar characters of reference designate similar parts in the different views.

My improved catheter comprises a relatively slender stem having at its intake end a conical head 1 having one or more intake openings 2 which form part of a longitudinal passage 3 which extends through the catheter to the discharge end thereof.

At its discharge end the catheter is provided with a flat tubular portion 4 having thin pliable walls, and having fastened to one of its sides a plate 5, which adjacent to the

end of the catheter has an outwardly turned transverse flange 6 around which the flat portion 4 is adapted to be bent, as shown in dotted lines in Fig. 3 for closing the passage 3.

A flap 7 comprising an integral part of the flat portion 4 has attached to it a plate 8 provided with a knob 9 adapted to be inserted into and releasably held by a socket knob 10 on the plate 5 for releasably fastening the bent flexible flat portion 4 in the doubled or bent closed position, shown in dotted lines in Fig. 3.

Between the head 1 and the flat portion 4, the catheter is provided with a cylindrical portion 11 having relatively thin walls of pliable, and preferably elastic material, such as soft rubber. Intermediate of the cylindrical portion 11 and the head 1, the catheter is provided with a peripherally grooved cylindrical portion 12, preferably spirally grooved or threaded as shown, said portion 12 being slightly smaller in diameter than the head 1 and slightly larger in diameter and having thicker flexible walls than the cylindrical portion 11. This spirally grooved portion 12 is adapted to hold a salve like material which may contain a medicament, and which serves also as a lubricant.

Intermediate of the head 1 and the portion 12 is an annular groove 13 adapted to receive the sphincter muscle at the mouth of the bladder, by which the catheter is held from movement lengthwise in either direction from its proper operative position.

In the use of the catheter, the portion 12 having been coated with a suitable salve, or with vaseline, a steel wire, such as a piano wire, is inserted into the catheter and the latter is inserted with the head 1 in advance through the urethra until the head 1 enters the bladder, at which time the sphincter muscle at the mouth of the bladder will enter the annular groove 13, and will hold the catheter in its operative position.

The wire is then withdrawn. The catheter is inserted with the side of the flat portion 4 having thereon the plate 5 facing downwardly, as does the side of the flap closure 7 having thereon the plate 8. If there is urine in the bladder, it will pass outwardly through the passage 3 and openings 2 in the head 1.

The flat portion 4 may then be doubled on itself or folded around the curved flange 6, thus closing the passage 3, and the knob 9 is engaged with the socket knob 10, as shown in dotted lines in Fig. 3.

Urine collecting in the bladder will pass into and be retained in the passage 3 until the knob 9 is released from the knob 10 and the closure flap 7 is swung to the open position shown in solid lines in Fig. 3.

The spirally grooved portion 12 in addition to serving to retain a salve like material also permits the catheter to be more easily inserted by being screwed into its operative position.

Aside from the plates 5 and 8, the entire catheter may be an integral body of flexible, preferably elastic material, such as soft rubber.

What I claim is:

1. A catheter having a longitudinal passage therethrough and having at its discharge end a flexible portion adapted to be doubled on itself so as to close said passage, means for releasably fastening said flexible portion in the doubled condition, a head at the other end of the catheter, a cylindrical peripherally grooved portion between said head and said flexible portion, and an annular groove between and of less diameter than said head and said cylindrical portion.

2. A catheter having a longitudinal passage therethrough and having at its discharge end a flexible portion adapted to be doubled on itself so as to close said passage, means for releasably fastening said flexible portion in the doubled condition, a head at the other end of the catheter, a cylindrical peripherally spirally grooved portion between said head and said flexible portion, and an annular groove between and of less diameter than said head and said cylindrical portion.

3. A catheter having a longitudinal passage therethrough and having at its discharge end a flat pliable tubular portion, a flap at said end flexibly connected with said flat portion, and two cooperating fastening devices respectively fastened to like sides of said flat portion and said flap and adapted to releasably engage each other to hold said flat portion releasably folded on itself and closing said passage.

4. A catheter having at one end a head and having at its other end a flat pliable portion and provided with a longitudinal passage extending through said head and through said flat portion, a flap flexibly connected with said flat portion, two plates respectively fastened to like sides of said flat portion and to said flap and provided respectively with two cooperating fastening devices, said plate on said flat portion having at its end next to said flap a transverse flange around which said flat portion is adapted to be folded so as to close said passage, said devices being

adapted to releasably engage with each other when said flat portion is so folded for releasably holding said flat portion in said folded position.

In testimony whereof I affix my signature. 70  
CHARLES M. JACOBY.

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