

(No Model.)

C. A. CHAPMAN.  
CATHETER.

No. 419,926.

Patented Jan. 21, 1890.

Fig. 1.

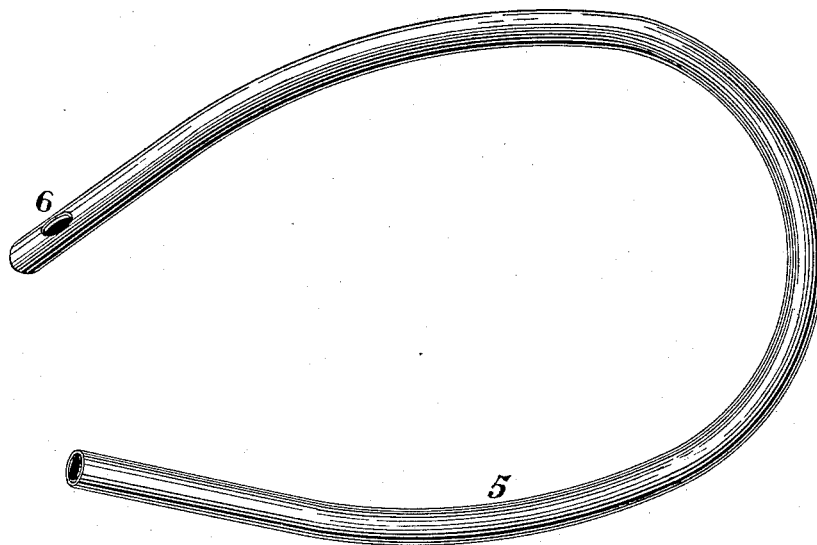
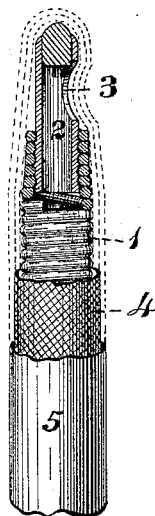


Fig. 2.



Witnesses.

*Lillie Hanna*  
*Geo. H. Knight, Jr.*

*Charles A. Chapman*  
Inventor  
By *Knight Bros.*  
Attorneys

# UNITED STATES PATENT OFFICE.

CHARLES ARTHUR CHAPMAN, OF LONDON, ENGLAND.

## CATHETER.

SPECIFICATION forming part of Letters Patent No. 419,926, dated January 21, 1890.

Application filed March 19, 1889. Serial No. 303,864. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES ARTHUR CHAPMAN, a subject of the Queen of Great Britain, residing in London, in the county of Middlesex, England, have invented a new and useful Improvement in Catheters, of which the following is a specification.

My invention is an improvement in catheters or bougies intended to increase the efficiency and safety of such instruments.

In the accompanying drawings, Figure 1 is an extended view of a catheter. Fig. 2 is a greatly magnified view of the head of my catheter, from which a portion of the covering has been removed, so as to expose a part of the helical-wire lining and its terminal nipple.

1 is a closely-coiled wire helix, of some highly-elastic metal—such as spring-steel—of suitable caliber, say about one-sixth of an inch. Permanently joined and soldered with in one end of this helix is a nipple 2, of suitable metal—such as silver—and having an orifice 3 on one side of it. To prevent oxidation, the said helix-wire may be nickel or silver plated or “galvanized.” The entire metallic lining, as above, is tightly incased in a sleeve or wrapper 4, of a fine-woven fabric—

such as cambric or Irish linen—which in turn is saturated with and enveloped in any suitable elastic and insoluble substance or composition—such as caoutchouc or celluloid—which composition constitutes the outer covering 5. Finally, an orifice 6 is made, corresponding to the orifice 3 in the nipple.

The described construction secures a perfectly smooth and elastic tube, which cannot become dangerous or ineffective in use, either by breaking, collapsing, or buckling.

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

A catheter or bougie having a lining or bushing composed of a helical-wire spring 1, to one end of which is permanently secured a metallic nipple 2, said lining being inclosed in a woven sleeve 4, and said sleeve saturated and enveloped in an insoluble and elastic covering 5, having an orifice 6, which corresponds to the orifice 3 of the nipple, substantially as set forth.

CHARLES ARTHUR CHAPMAN.

Witnesses:

EDMUND S. SNEWIN,  
I. TOWNSEND THOMPSON.