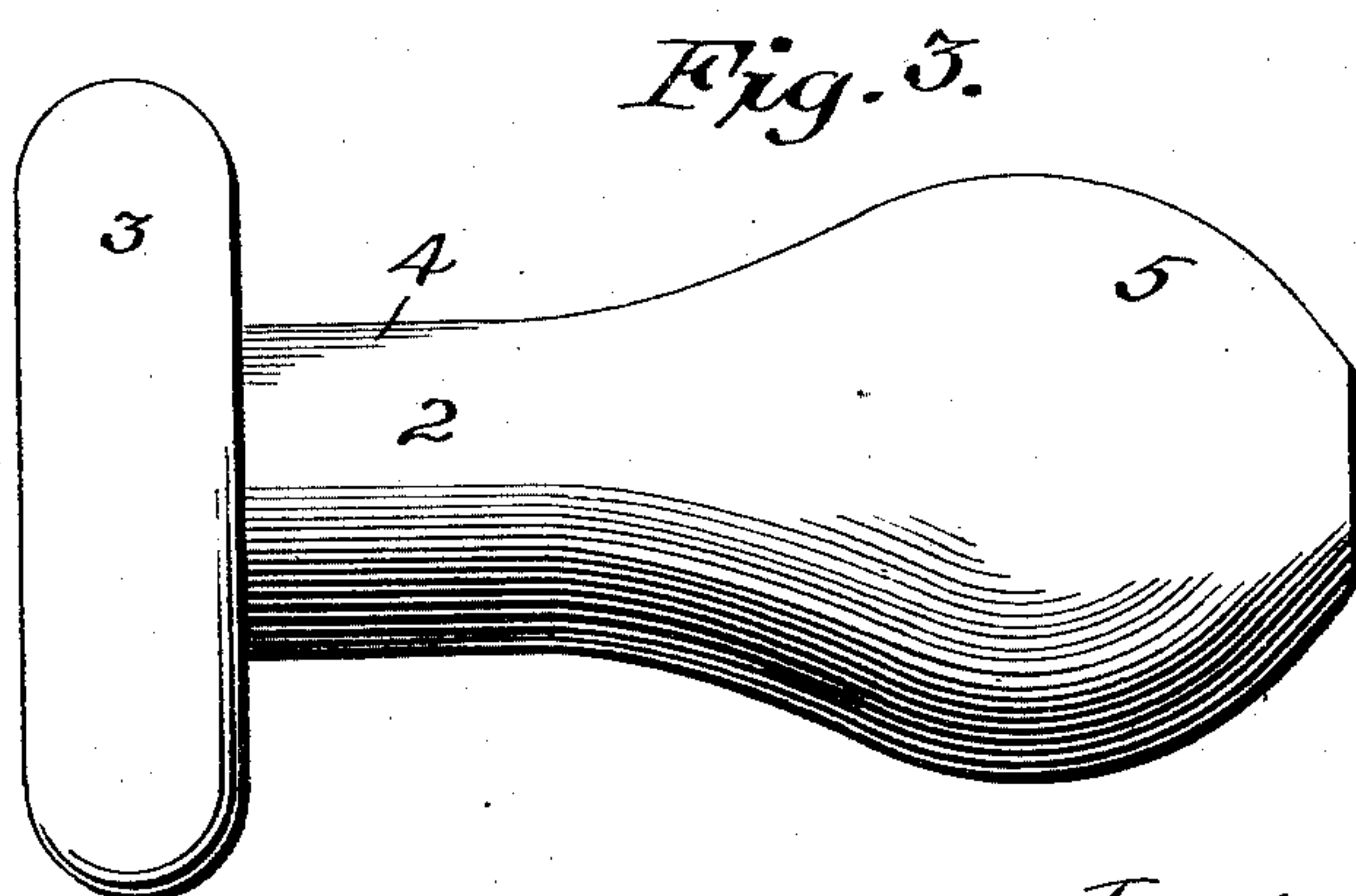
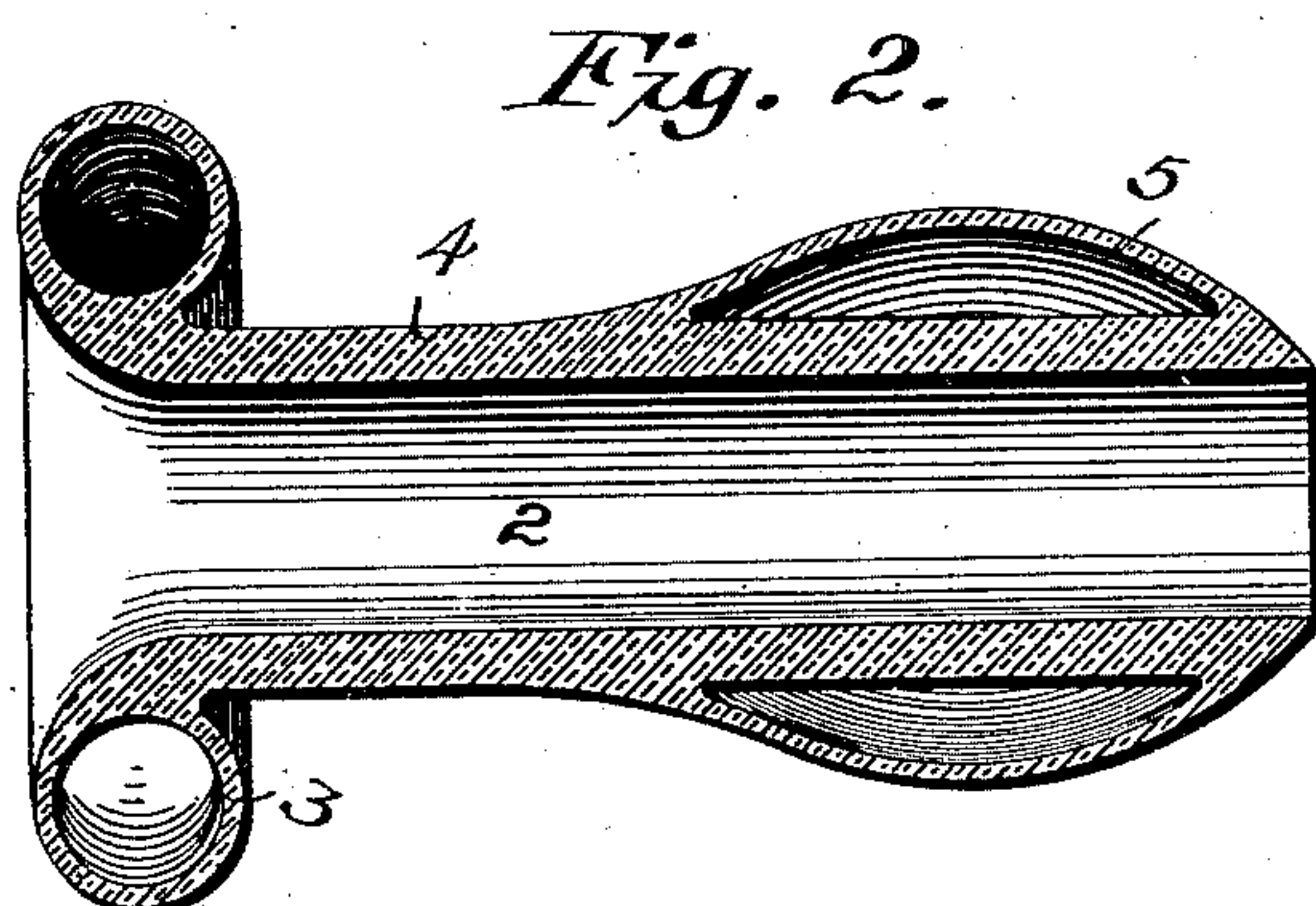
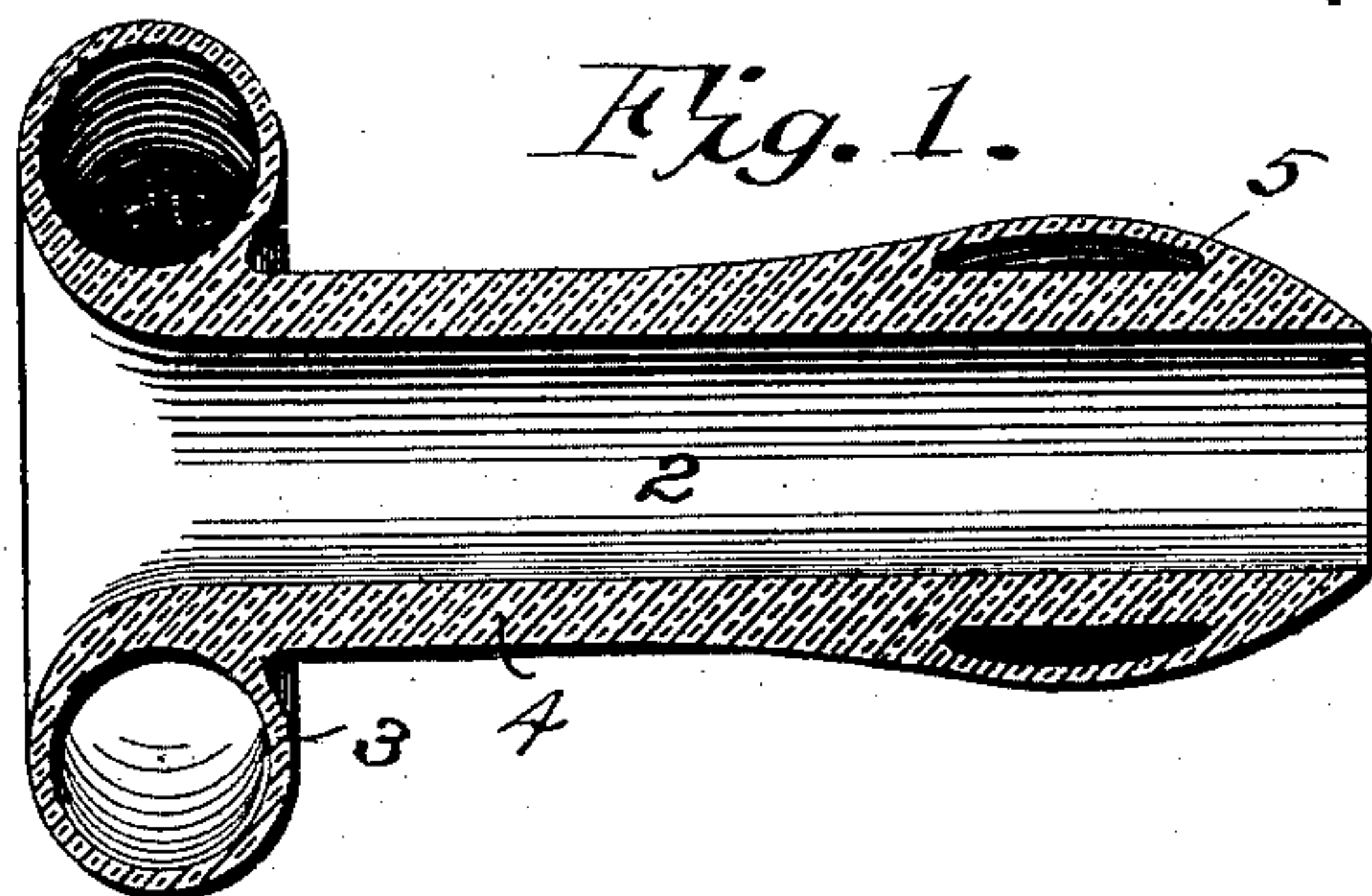


(No Model.)

C. C. LYFORD.  
VETERINARY IMPREGNATOR.

No. 473,632.

Patented Apr. 26, 1892.



Witnesses.  
C. E. Van Doren,  
J. H. Lyon

Inventor,  
Charles C. Lyford.  
By Paul M. Merwin Attys.



# UNITED STATES PATENT OFFICE.

CHARLES C. LYFORD, OF MINNEAPOLIS, MINNESOTA.

## VETERINARY IMPREGNATOR.

SPECIFICATION forming part of Letters Patent No. 473,632, dated April 26, 1892.

Application filed September 18, 1891. Serial No. 406,160. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES C. LYFORD, of Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain  
5 Improvements in Impregnators for Veterinary Use, of which the following is a specification.

My invention relates to means for use in breeding mares. Heretofore much trouble  
10 has been experienced in getting mares into foal, owing to the contraction or displacement of the female parts so as to close the opening through the cervix, thus preventing the passage of the male semen into the uterus when  
15 it comes into contact with the female ovum, which must take place before impregnation can result. It has been found by experience that less than fifty per cent. of the attempts at breeding are successful, nearly every mare  
20 requiring several services, and notwithstanding repeated services of the stallion many valuable mares remain barren season after season, thereby causing the owner much expense and also great pecuniary loss, owing to  
25 his being deprived of colts which would otherwise have been raised. In addition to the loss occasioned by the inability of the mare to conceive is the detrimental sapping of the vitality of the stallion, thus greatly limiting  
30 the number of pregnant mares each season.

The object of this invention is to provide means for insuring impregnation; and my invention consists, generally, in the devices hereinafter described, and particularly pointed  
35 out in the claims.

My invention will be more readily understood by reference to the accompanying drawings, in which—

Figure 1 is a longitudinal section of a device embodying my invention. Fig. 2 is a similar view of another form of my impregnator. Fig. 3 is a side elevation of a device embodying my invention.

In the drawings, 2 represents the main portion of the device, which is in the form of a tube open at both ends and having a rounded or funnel-shaped opening in its center corresponding to the opening through the tube 2. The tube 2 is provided at its opposite end  
45 with the bulb 5, preferably made hollow, so as to make it flexible and capable of being compressed while being inserted, while the

tube itself is possessed of considerable rigidity. The disk 3 is preferably in the form of a hollow ring surrounding the open end of  
55 the tube 2. This ring is flexible, but possesses considerable spring, which makes it easily put in place and causes it to closely engage the surrounding parts when the device is in use. This hollow ring forms a cushion, against  
60 which the end of the male organ is brought when the device is in use, thus preventing the device from interfering with the natural action of the organs when it is being used. The hollow bulb at the end of the tube may  
65 be of any preferred form or size, as shown in Figs. 1 and 2.

As above spoken of, the entire device is preferably formed of rubber, so as to be flexible and at the same time possess sufficient  
70 rigidity to prevent its being collapsed when in position.

The funnel shape of the opening in the disk end of the device renders the same an assistance when in use in creating a vacuum in  
75 the uterus by the action of the male organ against the disk as a valve, thereby causing a suction through the tube and into the uterus. After copulation the impregnator should be  
80 immediately removed to prevent straining.

The principal advantages of the impregnator are ease of insertion, non-compressibility, and the advantage set forth in the preceding paragraph.

When the device is used, it is carried in  
85 through the vagina and the end of the tube pushed through the cervix or neck of the uterus, the same being first somewhat dilated to make the insertion of the tube easy. After being forced through the neck of the womb  
90 the disk comes in contact with the posterior end or vaginal surface of the os uteri. The tube is firmly held in position by the closing of the neck of the womb about the portion 4 of the tube.

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

1. The herein-described veterinary instrument, consisting of a tube 2, provided with a  
100 flexible bulb at one end thereof and with a hollow flexible ring surrounding its opposite end.

2. The herein-described veterinary instru-

ment, consisting of the tube 2, having a hollow flexible ring surrounding one end thereof.

3. The herein-described veterinary instrument, consisting of the tube 2, provided with  
5 a bulb or rounded end and with a hollow flexible ring surrounding its opposite end.

4. The herein-described veterinary instrument, consisting of the tube 2, having a flexible bulb at one end, a funnel-shaped opposite

end, and a flexible ring surrounding said funnel-shaped end, substantially as described.

In testimony whereof I have hereunto set my hand this 8th day of September, 1891.

CHARLES C. LYFORD.

In presence of—

F. S. LYON,

A. C. PAUL.