

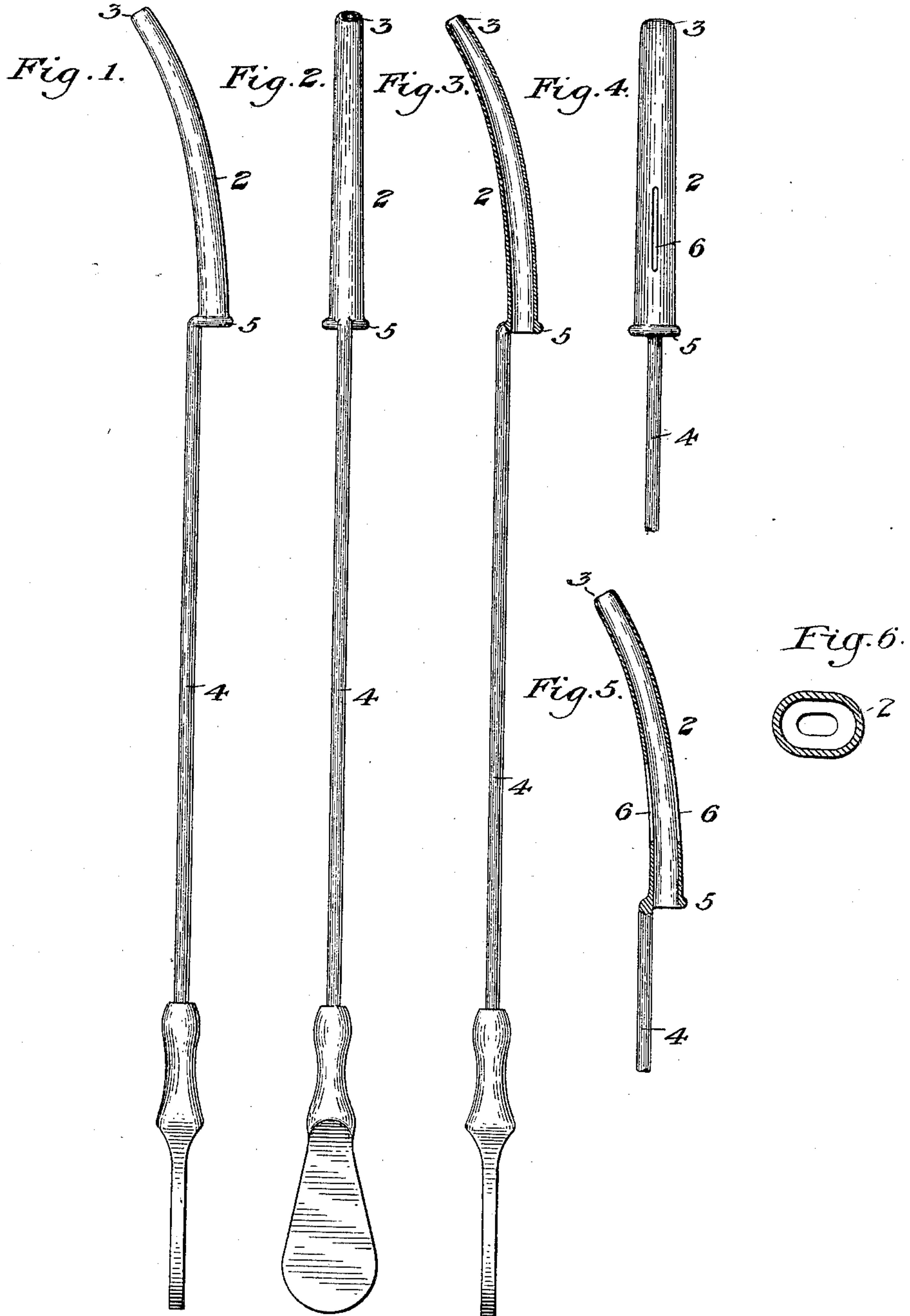
No. 672,377.

Patented Apr. 16, 1901.

W. D. KEARNS.
DILATOR.

(Application filed Mar. 27, 1900.)

(No Model.)



WITNESSES

L. A. Conner
J. M. Corwin

INVENTOR

W. D. Kearns

UNITED STATES PATENT OFFICE.

WILLIAM D. KEARNS, OF PITTSBURG, PENNSYLVANIA.

DILATOR.

SPECIFICATION forming part of Letters Patent No. 672,377, dated April 16, 1901.

Application filed March 27, 1900. Serial No. 10,366. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM D. KEARNS, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Dilators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of one of my improved dilators. Fig. 2 is a front elevation, and Fig. 3 is a sectional side elevation, of the same. Fig. 4 is a partial rear elevation showing my preferred form for the larger sizes. Fig. 5 is a partial sectional elevation of the same, and Fig. 6 is a cross-section showing the flattened tubular form.

My invention relates to the dilators which are employed in cases of sterility, dysmenorrhea, endocervicitis, and metritis, stenosis, and the different flexions. The dilators heretofore employed for gradual dilation in such cases have consisted of graduated solid sounds, and even where used with the greatest care are liable to force fluids, especially muco-pus of the mucosa, on through the Fallopian tubes into the peritoneal cavity, producing attacks of peritonitis. This danger of forcing fluids through dilated oviducts into the abdominal cavity by spasm of the uterine fibers and coarctation of the internal os has often prevented the use of these instruments where they would be of great value.

My invention overcomes the difficulties and dangers incident to the use of such instruments; and it consists in making them of tubular form to allow escape of all contents of the mucosa. It further consists in providing the tubular sound with blunt and rounded front edges, and, further, in providing it with side slots, which aid in allowing a free escape of all liquids.

In the drawings, referring to the forms of Figs. 1, 2, and 3, 2 represents the tubular sound portion of the dilator, this preferably being of curved form, with a blunt and rounded front edge portion 3. This tubular portion is preferably in the form of a flattened tube or of elliptical cross-section, the flattened form aiding in the speedy and easy introduction of the instrument. This feature, together with the rounded front edge, avoids any abrasion or lesion of the mucosa. The

tubular body portion thus formed is secured to a suitable handle 4, the lower edge of the tube preferably having a strengthening-rib 5 at the juncture. The dilators are used in sets of graduated sizes and are preferably made in five or six different diameters. In the larger sizes I preferably form slots 6 in the side portions of the tube, as shown in Figs. 4 and 5, to aid in the free discharge of all contents of the mucosa, the instrument being otherwise substantially the same as in the smaller sizes. The instrument may be formed of different materials, though I prefer metal, such as steel or aluminium. The smallest sizes are so formed that they will readily pass through the internal os and the isthmus uteri of Spudenburg. The instruments are used in the ordinary manner, the successive sizes being used one after the other to gradually dilate the parts.

The advantages of my invention result from the tubular formation of the dilator, which allows escape of fluids and prevents their being forced inwardly with the resulting danger, and, further, from the peculiar shape, which lessens the liability of abrasion or lesion.

Many changes may be made in the shape, size, and material of the tool without departing from my invention.

I claim—

1. A curved metallic dilator having a tapered tubular sound portion of curved form, said sound portion having a cross-section with one axis longer than the other and having a blunt front edge; substantially as described.

2. A dilator having a tapered flattened tubular metallic portion of curved form, said portion being open at both ends; substantially as described.

3. A curved metallic dilator having a tapered tubular sound portion of curved form, and of oval or flattened cross-section, said sound portion having a blunt front edge, and a hole or opening in its side; substantially as described.

In testimony whereof I have hereunto set my hand.

W. D. KEARNS.

Witnesses:

L. A. CONNER, Jr.,
H. M. CORWIN,