

No. 774,386.

PATENTED NOV. 8, 1904.

E. E. HALL.
VAGINAL SYRINGE.

APPLICATION FILED DEC. 8, 1903. RENEWED OCT. 5, 1904.

NO MODEL.

2 SHEETS—SHEET 1.

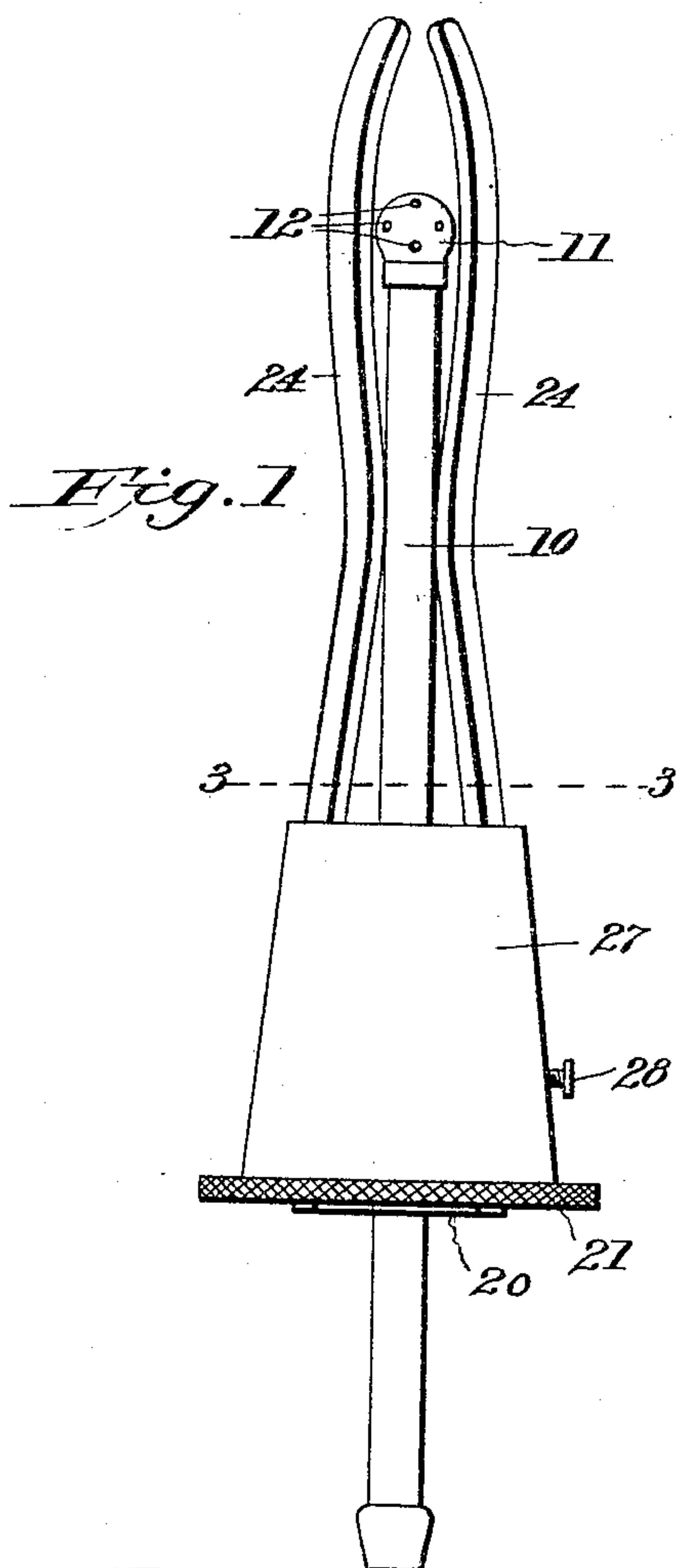


Fig. 1.

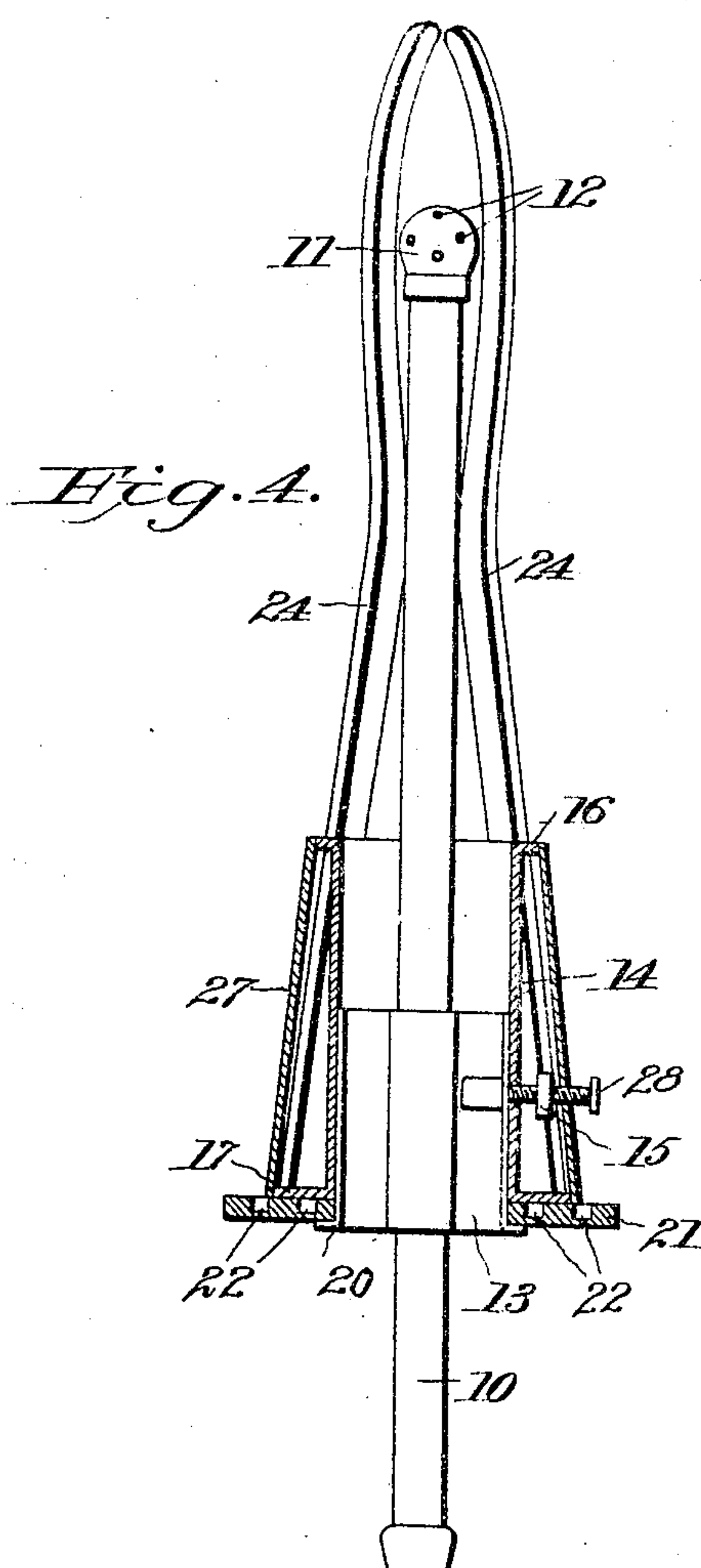


Fig. 4.

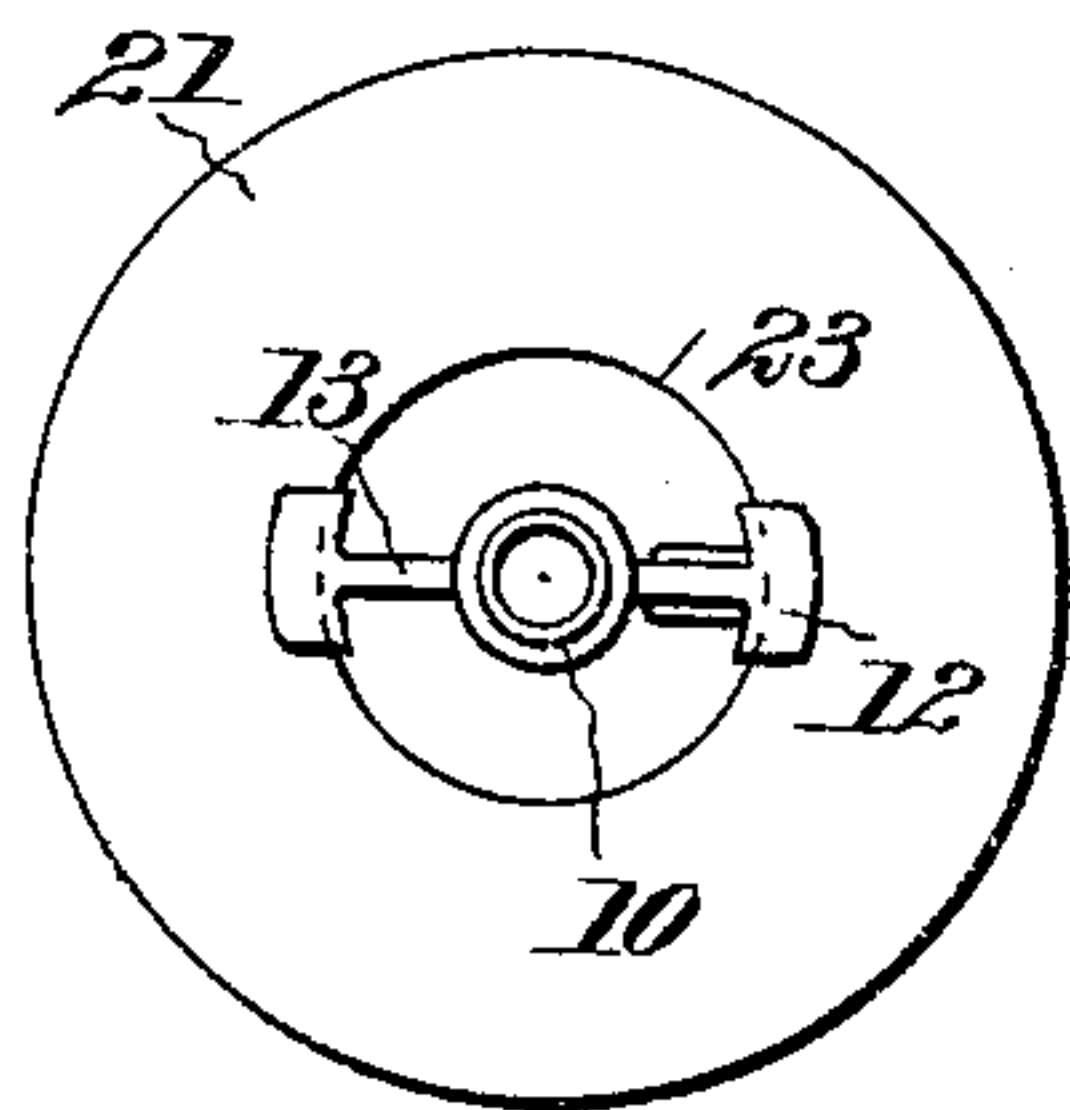


Fig. 2.

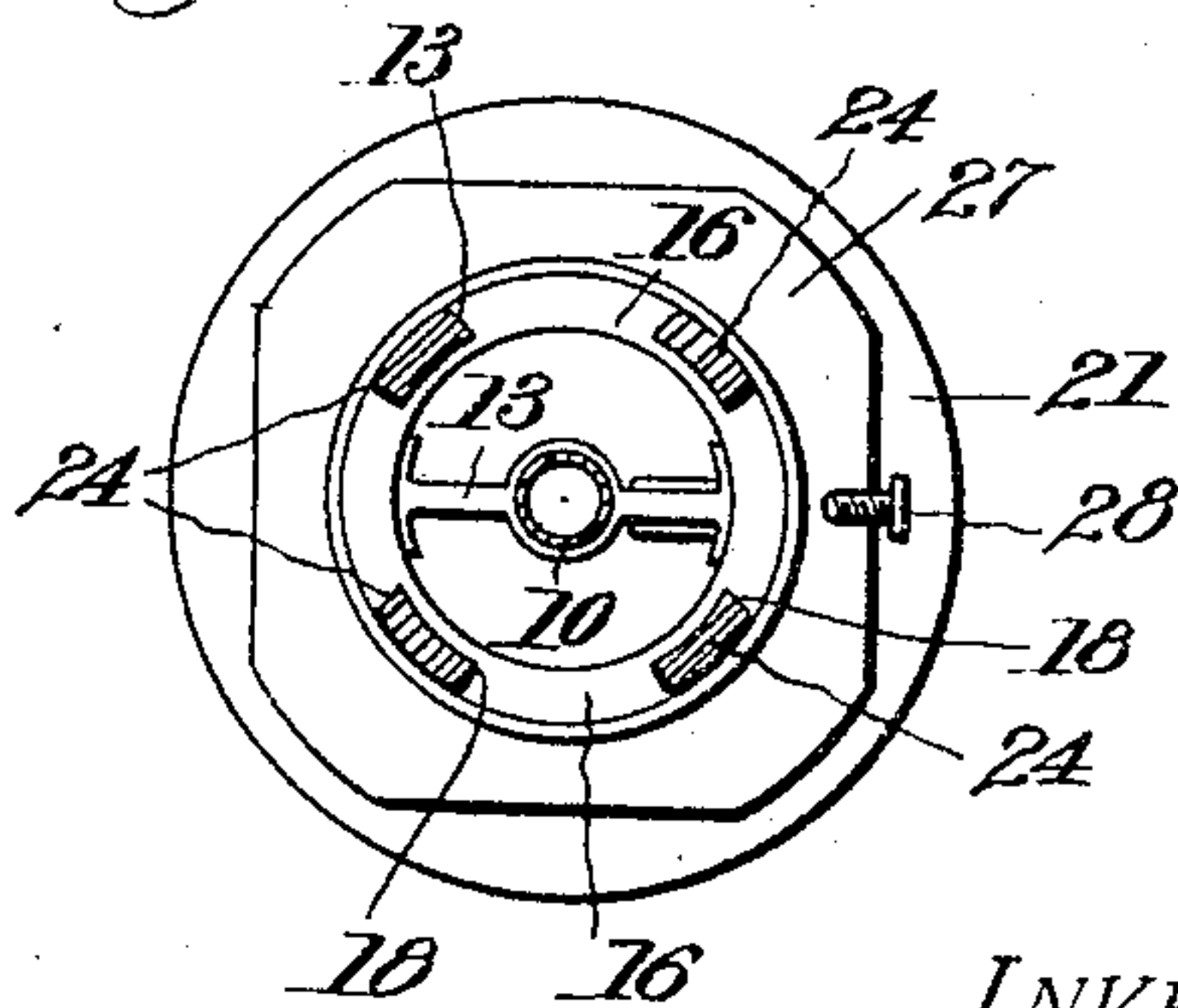


Fig. 3.

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2 SHEETS—SHEET 2.

Fig. 5.

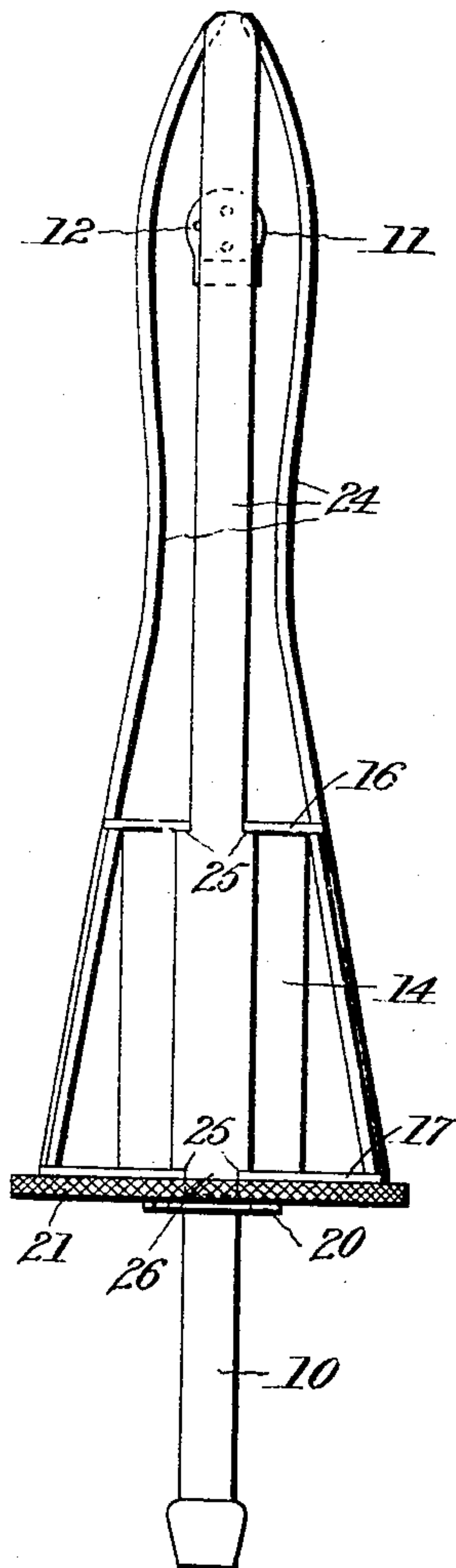


Fig. 6.

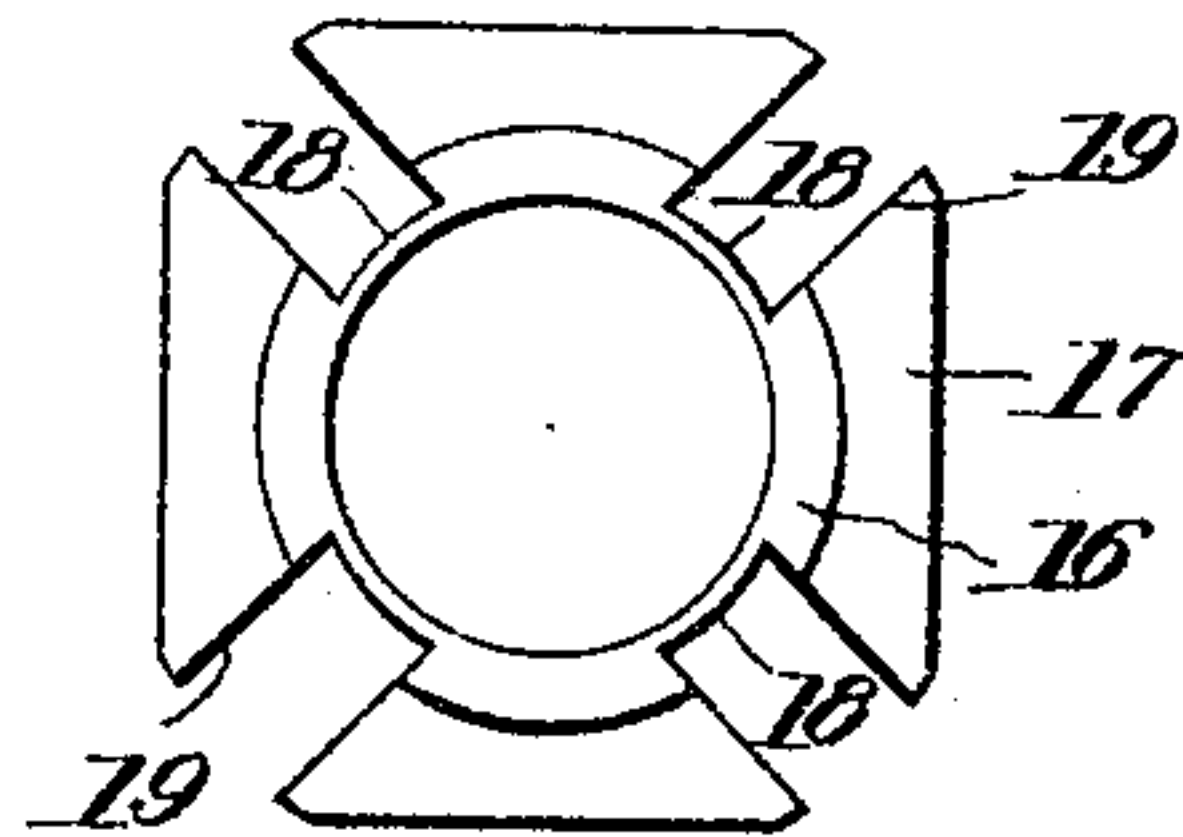


Fig. 7.

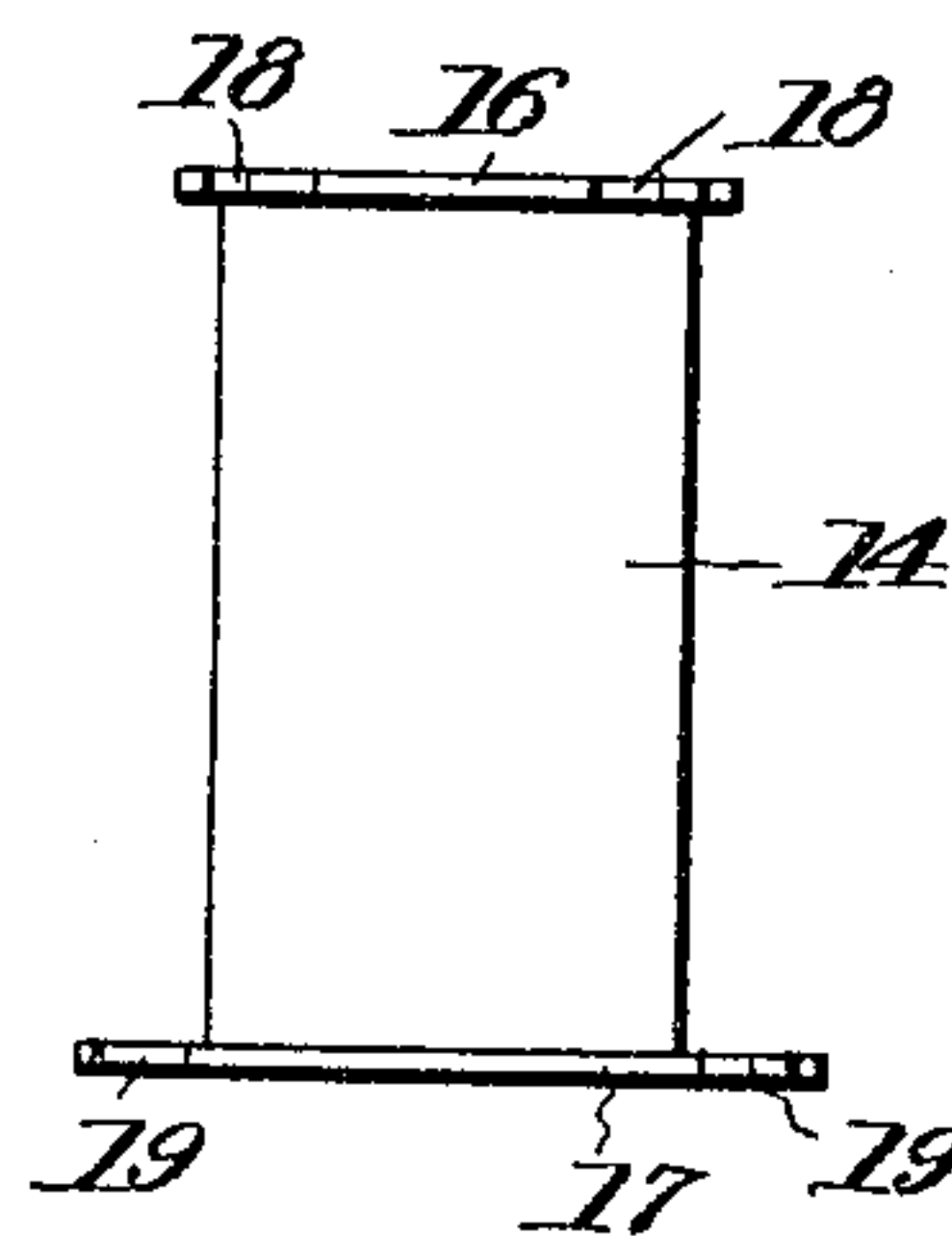
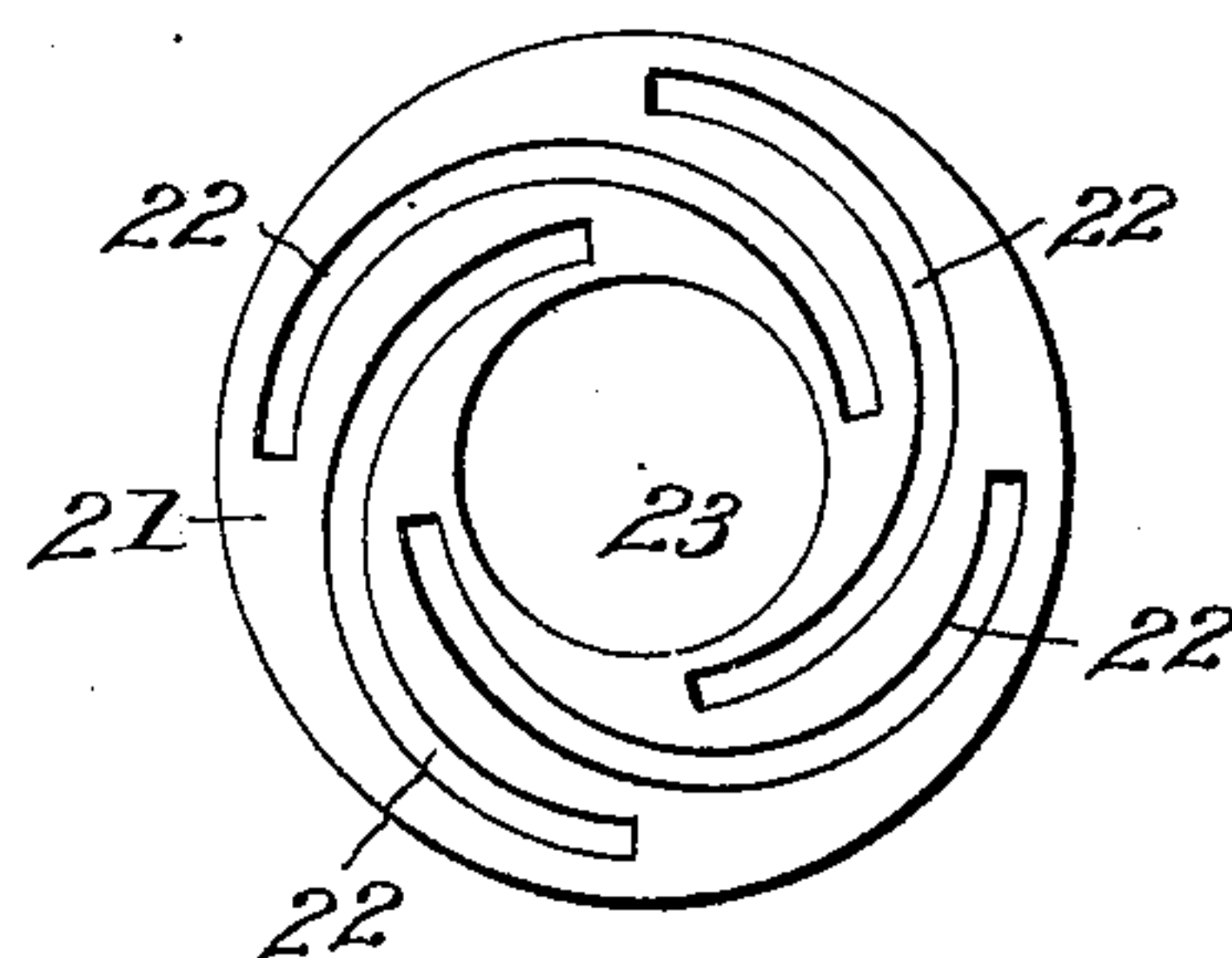


Fig. 8.



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UNITED STATES PATENT OFFICE.

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VAGINAL SYRINGE.

SPECIFICATION forming part of Letters Patent No. 774,386, dated November 8, 1904.

Application filed December 8, 1903. Renewed October 5, 1904. Serial No. 227,235. (No model.)

To all whom it may concern:

Be it known that I, ELMER E. HALL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Vaginal Syringes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in vaginal syringes, more particularly that kind in which the nozzle is surrounded by a series of expansible fingers whereby the walls of the vagina or other parts may be dilated, and thus more effectively treated.

The object of my invention is to provide an instrument of this kind having advantages of construction and operation, as will more fully hereinafter appear.

A further object is to make all the parts readily separable, so that each may be thoroughly cleaned and sterilized.

With this and other objects in view the invention consists in an arrangement and combination of parts hereinafter described.

In the accompanying drawings, Figure 1 is an elevation of the invention. Fig. 2 is a bottom plan view thereof. Fig. 3 is a horizontal section on the line 3 3 of Fig. 1. Fig. 4 is a central vertical section. Fig. 5 is an elevation with some of the parts removed. Figs. 6, 7, and 8 are details.

Referring specifically to the drawings, 10 indicates the nozzle of the syringe, having at its outer end a head 11, provided with the usual discharge-holes 12. The other end of the nozzle is to be connected with a suitable receptacle for the injecting fluid. Fixed to and projecting from the nozzle is a spider 13, to which a tubular casing 14 is secured by a screw 15. The ends of the casing have, respectively, outwardly-extending flanges 16 and 17, each of which has radial guide-slots 18 and 19. The lower end of the spider has a projecting flange 20, and between this and the flange 17 an annular adjusting-disk 21 is loosely held.

The central opening 23 of this disk fits over the spider, and the disk has on its upper face a series of cam-grooves 22. It is loosely held on the spider and may be readily rotated thereon in either direction, its outer edge being milled for greater facility.

The slots 18 and 19 are alined lengthwise of the instrument, and the expansible fingers 24 fit therein. The latter are widened between the flanges 16 and 17, forming retaining-shoulders 25, which abut against the flanges, as shown in Fig. 5. The base of each finger has a stem 26, extending into a cam-groove 22. When the disk 21 is rotated, the engagement of the stems in the cam-grooves causes the lower ends of the fingers to be drawn in or out in the guide-slots 19, according to the direction of rotation of the disk, causing the outer ends of the fingers to expand or contract accordingly, the upper flange 16 of the casing forming the fulcrum on which the fingers turn.

At 27 is indicated a retaining-sleeve, which fits over the flanges 16 and 17 and covers the inner ends of the fingers and holds them in proper position in the slots 18 and 19. The sleeve is prevented from slipping off the flanges by a screw 28, the stem of which engages the head of the screw 15, as shown in Fig. 4. Rotation of the sleeve is prevented by squaring the flange 17, as shown in Fig. 6, and squaring the base of the sleeve accordingly.

When the instrument is in use, the fingers are expanded to the desired extent and flow through the nozzle is returned down the inside of the device and through the tubular central portion thereof. This affords a comparatively large escape-opening, so that a free flow through the parts is assured.

When the instrument is to be cleaned, the retaining-sleeve is first slipped off by loosening the screw 28, after which the fingers can be removed. The casing 14 can then be removed from the spider by taking out the screw 15, after which the disk 21 can be removed. This leaves only the nozzle and the spider together. The instrument can therefore be readily taken apart and thoroughly cleaned, which is important in instruments of this kind. The parts are preferably all made

of metal, whereby they can be effectively sterilized.

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

1. A syringe comprising a nozzle, a spider thereon, a tubular casing supported on the spider and having open ends and slotted flanges, expansible fingers fitting loosely in the slots, a retaining-sleeve around the same, and means for expanding the fingers.

2. A syringe comprising a nozzle, a spider thereon, a tubular casing secured to the spider and open at the ends, a disk rotatable on the spider and having cam-grooves therein, expansible fingers supported on the outside of the casing and having projections in the

grooves, and a retaining-sleeve around the fingers and casing.

3. A syringe comprising a nozzle, a spider thereon, a tubular casing and a rotatable disk supported on the spider, the disk having cam-grooves therein, flanges on the casing having alined radial slots, expansible fingers loosely fitted in the slots and extending into the cam-grooves, and a retaining-sleeve over the fingers between the flanges.

In testimony whereof I affix my signature in presence of two witnesses.

ELMER E. HALL

Witnesses:

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SIGNA FELTSKOG.