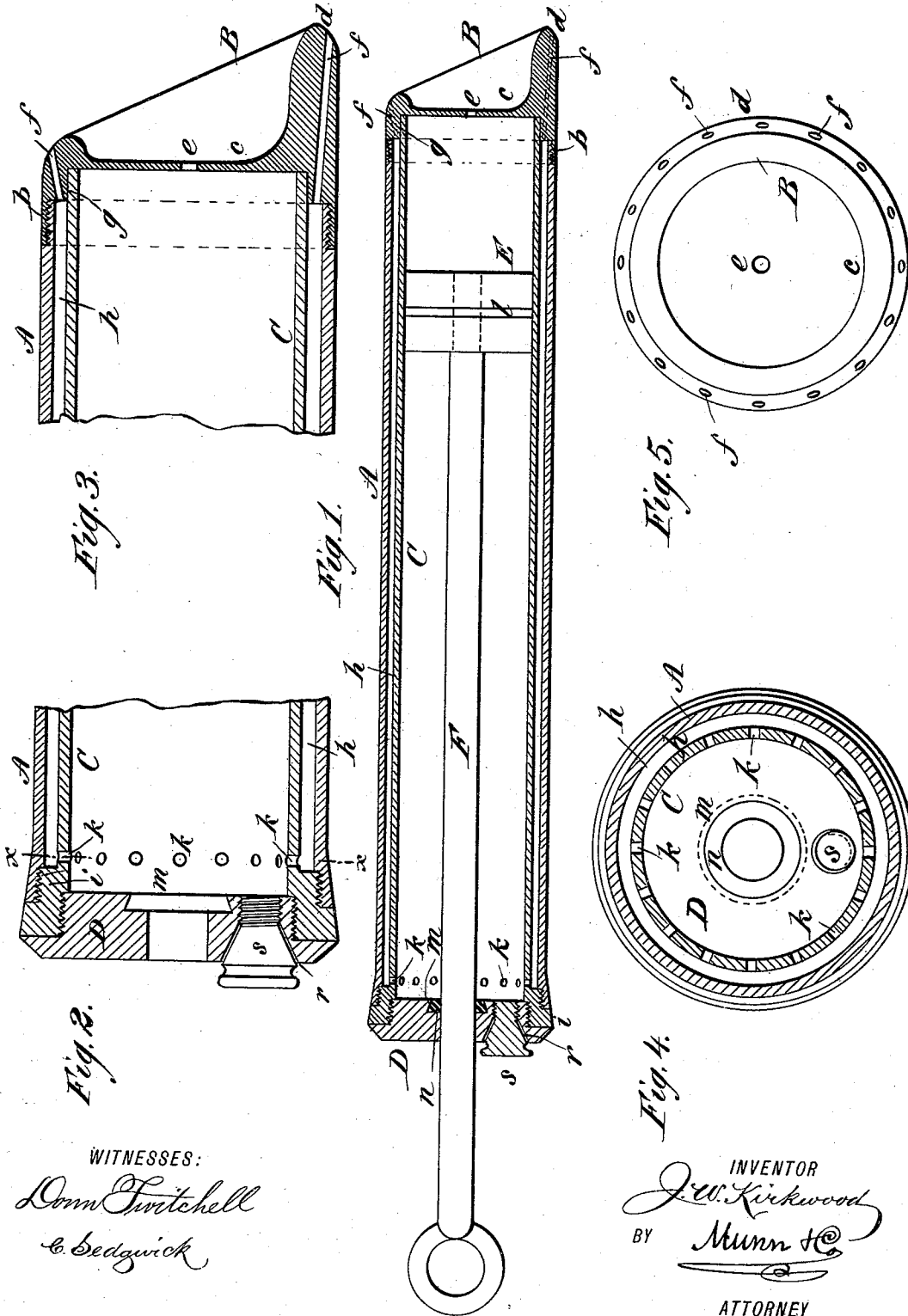


(No Model.)

J. W. KIRKWOOD.
SYRINGE.

No. 407,934.

Patented July 30, 1889.



WITNESSES:
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JAY W. KIRKWOOD, OF SILVER MOUNTAIN, IDAHO, ASSIGNOR TO HIMSELF
AND EDWIN BARTSCH, OF SAME PLACE.

SYRINGE.

SPECIFICATION forming part of Letters Patent No. 407,934, dated July 30, 1889.

Application filed February 26, 1889. Serial No. 301,181. (No model.)

To all whom it may concern:

Be it known that I, JAY W. KIRKWOOD, of Silver Mountain, in the county of Boise, Idaho Territory, have invented a new and useful
5 Improvement in Syringes, of which the following is a full, clear, and exact description.

This invention relates to syringes for the treatment of female diseases; and it consists in certain novel constructions and combinations of parts, substantially as hereinafter described, and pointed out in the claims, the whole forming an instrument which can readily be used by the patients themselves, and by
10 which the following objects are attained:
15 First, it will dispense with the use of forceps, speculum, and absorbent cotton, now commonly used in the treatment of female diseases for the purpose of removing fetid matter, thus doing away with the irritation,
20 pain, and disgust attendant thereon; second, it will insure absolute cleanliness; third, it will save the physician much annoyance; fourth, it will save expense to the patient, who is enabled to use it without the assistance of
25 a physician, and will therefore be less harassing to a patient's feelings; fifth, it leaves the tissues of the parts being treated in the most favorable condition for the application of such remedies as the disease may require; sixth, it
30 serves as a means to apply the necessary medications.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate
35 corresponding parts in all the figures.

Figure 1 represents a mainly sectional longitudinal view of my improved syringe, and Figs. 2 and 3 longitudinal sections, upon a
40 larger scale, of the rear and forward portions of the syringe, omitting the piston and its operating-rod. Fig. 4 is a transverse section upon the line $x x$ in Fig. 2, and Fig. 5 is a front end view.

Various materials may be used in the manufacture of the syringe, but generally it will be principally made of hard india-rubber or
45 German silver.

The construction of the syringe is substantially as follows: A indicates an outer case or
50 cylinder, which has screwed onto its forward

end, as at b , an inclined-faced nozzle B, provided with a cup-shaped cavity c in front and having an outer rounded and beveled front edge d , central suction-aperture e in its back, and a series of contracted ducts f within its
55 outer walls arranged to diverge from an inner shouldered end part g , through which said ducts open, to and through the outer beveled surface of the rounded or beveled front edge or rim d of the nozzle. 60

C is an inner tube or cylinder arranged concentrically within the outer cylinder A, so as to leave a narrow space h between them, and extending from within the front shouldered end part g of the nozzle to the back
65 end of the cylinder A, where it is provided with a thickened shouldered portion i , having inner and outer screw-threads adapted to receive on or over it the rear end of the cylinder A, and within it a screw cap or head D. 70
The inclined ducts f , at the forward end of the syringe, connect with the channel or space h between the tubes A and C, and the interior of the tube C is in connection in its rear with the channel or space h by a series
75 of perforations k .

E is the piston of the syringe, having a leather or other suitable packing l , and an attached operating-rod F, which passes out
80 through a hole in the cap D, and is provided at its back or outer end with a ring or any other suitable handle. The inner face of the cap D has an enlarged central recess m , preferably of dovetail shape, within which is
85 sprung or fitted a soft-rubber washer or packing n , inclosing the rod F, to prevent the escape of fluid past said rod from the interior of the cylinder C. The cap D is also provided with a funnel-shaped opening r , for charging
90 the cylinder C with medicated fluid when required, said opening r being afterward closed by a stopper s .

When using the syringe, it is charged by inserting its forward end in a basin of water and forcing the piston, which had been previously drawn back, inward or toward the
95 front end of the instrument. This will create a vacuum in the tube C back of the piston and cause the water to be drawn through the ducts f , along the channel h , and through 100

the perforations *k* into the tube C. Such charging action, it will be observed, is directly opposite to that of ordinary syringes, and so is the expelling action of the syringe, 5 as will be hereinafter described—that is, the motion of the piston is a reverse one in both instances, as compared with ordinary syringes; or, especially when applying medicated fluids, the syringe may be charged 10 through the opening *r* in the cap upon removing the stopper *s*, the piston then being adjusted forward.

The charged syringe is inserted into the patient so that the neck of the uterus will lie 15 in or near the perforated cup portion *c* of the nozzle B, and on drawing back the piston it will cause the neck of the uterus to be drawn into said cup portion *c*, and the foreign matter will seek through the aperture *e* the vacuum in the tube C, in front of the piston, 20 thus created by the motion of the latter, while the water or medicated fluid in rear of the piston will be forced out through the perforations *k*, along the channel *h*, and out through 25 the inclined ducts *f*.

From this description it will be seen that there is a conjoint diluting action of water or other cleansing or medicated fluid and a sucking action to remove all foreign matter ad- 30 hering to the neck and mouth of the womb. Such syringe, too, dispenses with a separate vessel, as usually necessary with ordinary syringes, for carrying off the foreign matter, the inner chamber of the syringe serving such

purpose. The ducts *f*, it should be observed, 35 pass outward through the outer beveled surface of the rim *d* of the nozzle, and so direct the jets of the expelled water or fluid away from the cup-shaped cavity in the nozzle.

Having thus described my invention, what I 40 claim as new, and desire to secure by Letters Patent, is—

1. A medical syringe having inner and outer chambers connected with each other at or near their rear ends and both having open- 45 ings through the forward end of the syringe, in combination with a piston fitted to work within the inner chamber, whereby said syringe operates simultaneously to discharge a diluting or medicated fluid and to remove by 50 suction foreign matter adhering to the mouth or neck of the womb, also the inner chamber of the syringe serves as a vessel to carry off the foreign matter, substantially as specified.

2. In a medical syringe, the cup-shaped 55 nozzle adapted to fit the mouth of the womb and provided with a series of discharge-apertures outside of the suction-cavity in the nozzle, and with a suction-aperture in the back of the nozzle, whereby a sucking action 60 is combined with a discharging action of water or other fluid in jets, substantially as specified.

JAY W. KIRKWOOD.

Witnesses:

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