

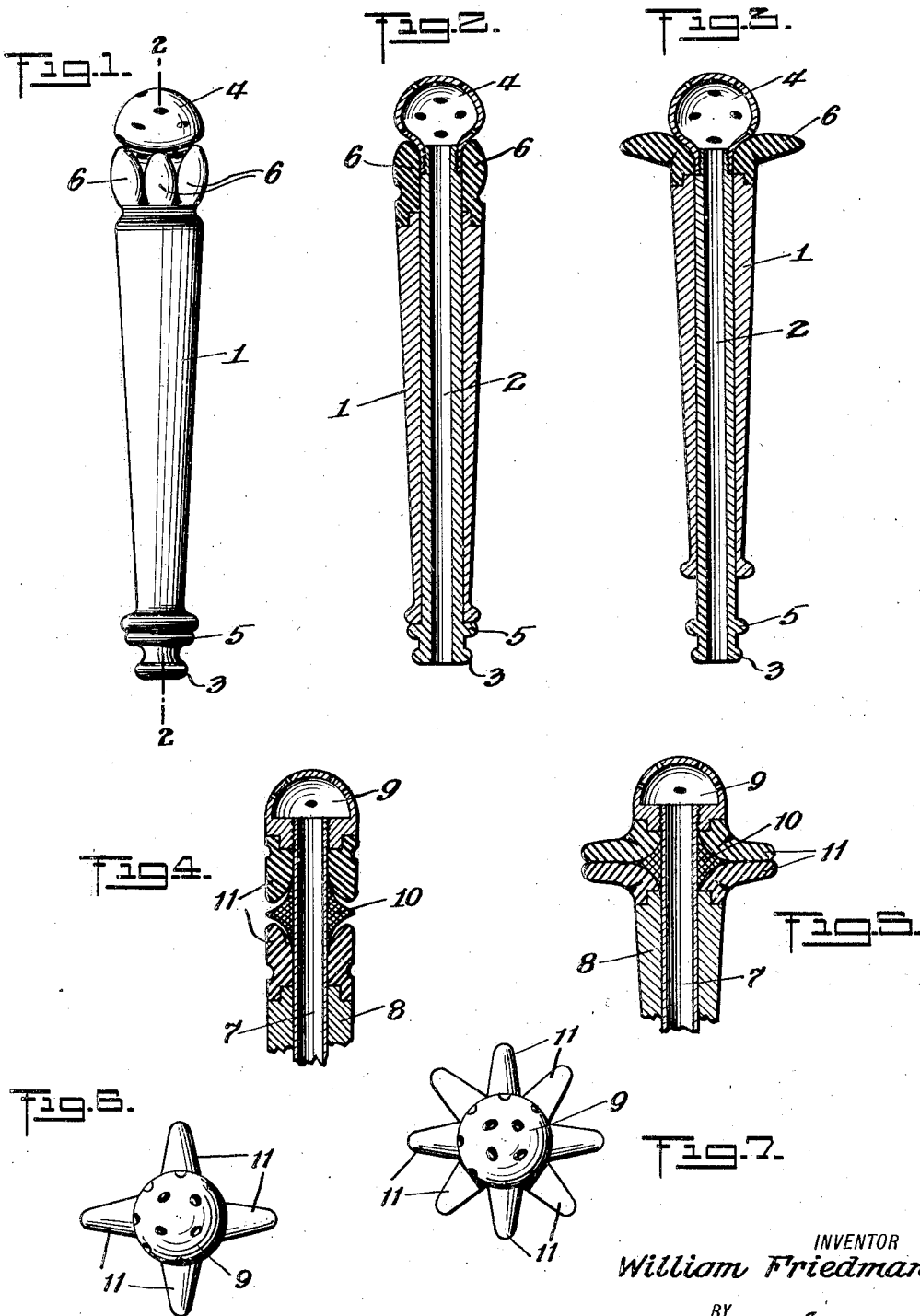
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SYRINGE

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SYRINGE

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This invention relates to syringes and more particularly to mechanically dilated vaginal syringes.

The objects of the invention are to provide
5 a syringe of this character wherein the mechanical dilation may be secured by relative movement of freely slidable parts; to employ flexible fingers for dilation by said movable parts; to employ fingers which may be readily made of such materials as molded rubber;
10 to minimize a number of parts and enable the same to be inexpensively manufactured and assembled; to utilize the resiliency of the fingers to both return them to normal position
15 as well as the sliding part by which they are to operate; to provide a structure wherein said fingers normally assume a position longitudinally of the body of the syringe under the influence of their own resiliency; to secure simplicity of construction and operation
20 and to obtain other advantages and results as may be brought out in the following description.

Referring to the accompanying drawing in
25 which like numerals of reference indicate similar parts throughout the several views:

Figure 1 is a side elevation of a syringe and body of my invention;

30 Figure 2 is a longitudinal section through the said syringe on line 2—2 of Fig. 1;

Figure 3 is a similar sectional view showing the fingers dilated;

35 Figures 4 and 5 are sectional views corresponding to Figures 2 and 3, showing a modified construction;

Figure 6 is an end view looking toward the top of Figure 5; and

40 Figure 7 is a similar view with the fingers partially rotated so as to increase the effective number thereof.

In the specific embodiment of the invention illustrated in said drawing reference numeral 1 indicates an outer body portion which is preferably elongated and tubular and slidably mounted upon an inner body portion 2
45 which is likewise tubular and equipped at one end with beads 3 for receiving and holding a water tube (not shown) as to enable a supply of water to be passed through the said inner
50 body member 2 as is usual in syringes. The

other end of said water tube is provided with a fountain head 4 suitably perforated so as to provide for proper spray when the water is passed through it. In the construction shown in the drawing, this fountain head 4
55 is preferably screw-threaded on to the end of said body portion 2. The inner body portion is preferably longer than the outer body portion and in sliding thereon is limited in movement by an outstanding shoulder 5 near
60 the beaded end of said inner body member, and limited in movement in the other direction by said fountain head 4 which is larger than the inner body member or the tubular passage of the outer body member.

65 Mounted on the end of said outer body member adjacent the fountain head are a plurality of fingers 6, said fingers preferably being made of resilient rubber with an integral collar or band which will frictionally
70 slip on to the said outer body member and retain said fingers fixed thereto. The resiliency of the fingers is such as to normally position the same side by side longitudinally against
75 the inner body member or water tube. When the body members are slid with respect to each other so as to force the fountain head of the inner body member toward the end of the outer body member, said fountain head
80 pushes the ends of the fingers outwardly and continued sliding of said body members will cause said fingers to extend radial directions with respect to the said body members, this position being clearly shown in Figures 3, 5, 6
85 and 7, and for brevity being called herein the dilating position.

In Figures 5, 6 and 7 I have shown a construction wherein a double set of fingers may be dilated, and in said figures the reference numeral 7 indicates an inner body member
90 slidable with respect to an outer body member 8. The inner body member 7 is provided with a fountain head 9, and between said fountain head and the end of the outer body members is a rider 10 freely slidable upon
95 the said inner body member. Above and below said rider with their free ends toward the rider are a plurality of fingers 11, having an integral band at their ends away from the rider by means of which said fingers may be
100

frictionally carried by the body members. The fingers carried by the inner body member are shown as mounted upon the fountain head which in turn is threaded or otherwise carried by the inner body member. As the fountain head in this construction is given a relative movement toward the end of the outer body member the fingers on opposite sides of the rider engage said rider and are forced outwardly, the rider centering between the two sets of fingers. In this connection it may be observed that the fingers of the two sets may be in registration as clearly shown in Figures 5 and 6, or one set may be rotated so the fingers of that set will radiate between the fingers of the other set, thereby increasing the effective number of fingers as clearly shown in Figure 7.

In both constructions, the perforations in the fountain head are preferably arranged so as to provide a stream adjacent the fingers when dilating, thereby shooting the spray in a direction somewhat rearward with respect to the body portion so as to cause the water to go backwardly between the fingers as well as radially outward in the direction of the fingers.

Obviously other detail changes and modifications may be made in the construction and use of my improved syringe without departing from the spirit and scope of the invention disclosed, and I do not wish to be understood as limiting myself to the exact construction except as set forth in the following claims when construed in the light of the prior art.

Having thus described the invention, I claim:—

1. A device of the character described comprising inner and outer body members slidable with respect to each other, and resilient fingers carried by one of said body members positioned entirely back from the outer end of the other body member and adapted to be engaged by said other body member and bent outwardly by virtue of the inherent resiliency of said fingers when the said body members are slid with respect to each other in one direction with said bent fingers still positioned entirely back from the outer end of the said body member engaging the fingers.

2. A device of the character described comprising an inner body member having a fountain head, an outer body member slidable on the inner body member, resilient fingers mounted on the outer body member entirely behind said fountain head adapted to be engaged by said fountain head and bent outwardly by virtue of the inherent resiliency of said fingers when said fountain head is slid toward and between the said fingers with said bent fingers still positioned back of the said fountain head.

3. A device of the character described comprising an inner body member having a shoulder at one end and a fountain head at

the other end, an outer body member freely slidable on said inner body member and limited in movement by said shoulder and fountain head, and flexible dilating fingers adjacent said fountain head operated by sliding said members with respect to each other.

4. A device of the character described comprising an inner body member having a fountain head at one end, an outer body member slidable upon said inner body member, resilient dilating fingers mounted on the end of said outer body member next the said fountain head, said fountain head and body member being slidable between said fingers so as to bend the same substantially at the junction thereof between the fingers and the body member thereby causing the fingers to stand outwardly in a substantially radial direction with respect to the body members, the resiliency of said fingers automatically returning the same to a position close to the body member upon return of the body members to the starting position.

5. A device of the character described comprising an inner body member and an outer body member slidable upon said inner body member, resilient dilating fingers mounted on one of said body members and operable by sliding said members from normal position, said resiliency of said fingers operating to normally return the body members to said initial position upon displacement of said members in use.

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