(No Model.)

S. F. YOUNT.

SYRINGE.

No. 525,174. Patented Aug. 28, 1894.

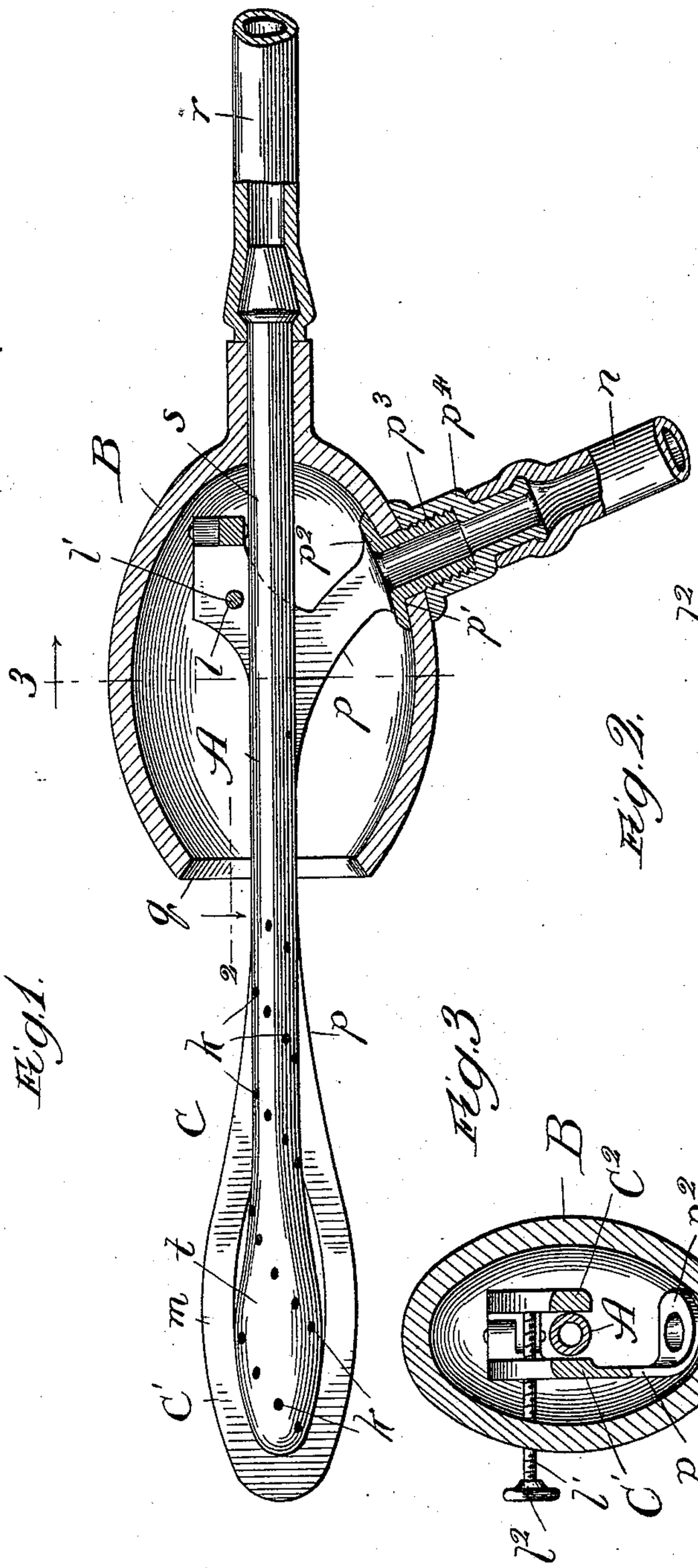

Fig. 1.

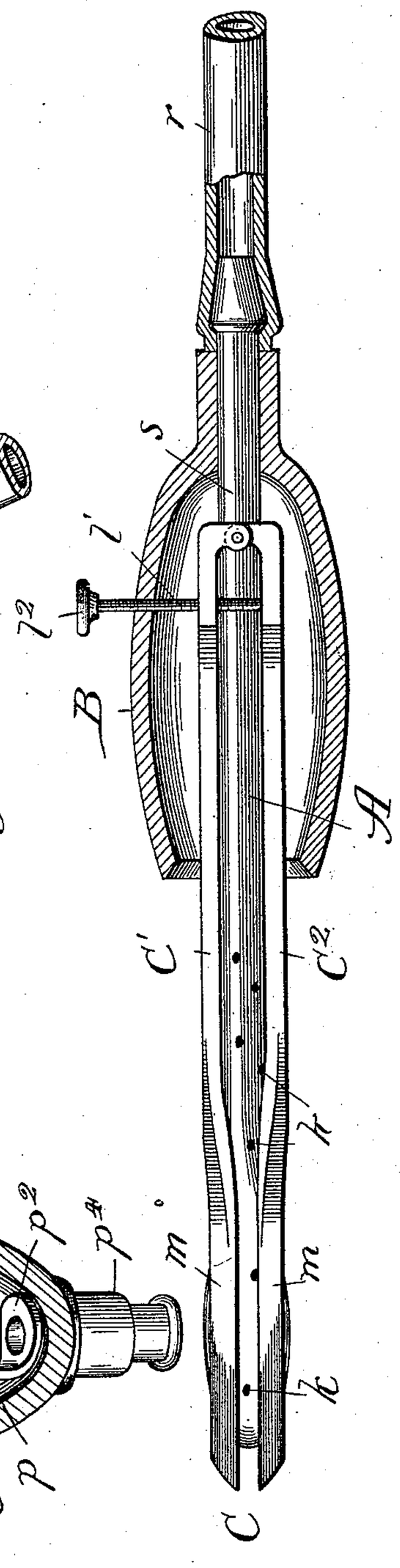

Fig. 2.

Fig. 3.

Witnesses;
Chas. E. Gaylord.
Luther D. Alter.

Inventor;
Silas F. Yount,
By Dyrenforth & Dyrenforth,
Att'ys

UNITED STATES PATENT OFFICE.

SILAS F. YOUNT, OF CHICAGO, ILLINOIS.

SYRINGE.

SPECIFICATION forming part of Letters Patent No. 525,174, dated August 28, 1894.

Application filed January 6, 1894. Serial No. 495,919. (No model.)

To all whom it may concern:

Be it known that I, SILAS F. YOUNT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Syringes, of which the following is a specification.

My invention relates to improvements in syringes of the class designed more especially for employment in the treatment of rectal or vaginal difficulties, for the purpose of cleansing or applying liquid medicament; and my object is, to provide a syringe of improved construction having an injecting-tube, dilators for distending or stretching the walls of the passage, an open mouthed soft-rubber drainage-bulb, to fit into or against the passage, and a drainage-tube to carry off the reflux; the parts being constructed and arranged to produce a device particularly desirable for its purpose, and secured together in a manner to be readily detached and replaced to render thorough cleaning of all the parts easy to accomplish.

In the drawings—Figure 1 is a longitudinal section of my improvement; Fig. 2, a similar section taken on line 2 of Fig. 1; and Fig. 3, a section taken on line 3 of Fig. 1 and viewed in the direction of the arrow.

A is an injecting-tube which may or may not be enlarged, as shown, at the inserting end-portion *t*, and is of any desired form. At the end of its shank portion *s* the tube A may be expanded, in the common manner shown, or provided with any other desired means for attaching thereto a syringe-tube *r*, or other suitable liquid supplier.

Fitting closely around the shank-portion of the inserting-tube is a drainage bulb B, of soft rubber, and having an open mouth *q*. The bulb B extends over the shank portion of the tube, and the part of the tube between the mouth of the bulb and forward end, constitutes the inserting portion *t*.

C is a dilator, formed with expansible and contractible arms C′ C² in pivotal relation, preferably hinged together at their rear ends. The dilator is mounted in the bulb B, by providing the arm C′ with a laterally extending finger *p* terminating in a tubular head *p′* which extends through an opening in the side of the bulb. The head *p′* has a flange p^2 which fits against the inner surface of the bulb around the opening, and an externally threaded tube p^3 which passes through and beyond the wall of the bulb.

Fitting the threaded tube p^3 is a tubular flanged cap-piece p^4 which is tightened against the outer surface of the bulb to clamp the latter against the flange p^2. The head *p′* and cap-piece afford an outlet passage for the bulb and an attaching piece, or nipple, for a drainage tube *n*. The free end-portions of the dilator arms form widened or expanded loops bent preferably to a spoon-shape to fit at their concave sides over the inserting portion of the tube. The parts *m*, forming the loops, present, preferably, smooth, outer-convex and comparatively broad bearing surfaces, to guard against injury to the parts with which they come in contact. Near its hinged end, the arm C′ is provided with a threaded opening *l* for the passage of a screw *l′* which bears against the adjacent surface of the arm C² and passes through an opening in the bulb to the outer side of the latter where it carries a thumb wheel l^2. The bulb should fit snugly around the shank of the screw to prevent leakage. I prefer to provide the inserting tube with a series of perforations or outlets *k* extending from near the mouth of the bulb to the end; and the perforations may be arranged in spiral lines, as shown. This construction affords the advantage of causing the liquid to be discharged with equal force, and immediately, against all parts about the inserting tube.

When the device is employed as a vaginal syringe, for example, the dilator is contracted around the injecting tube, as shown, for the insertion. When inserted the dilator may be expanded to the desired extent by turning the adjusting screw *l′*, to distend the folds and tension the membrane of the vagina whereby all the parts of the surface are exposed to the cleansing or healing effect of the injected liquid.

The drainage bulb and tube permit the device to be used while the patient is in a recumbent position, and will receive and carry off the reflux.

A drainage-bulb of soft-rubber, such as described, is more desirable than one of hard material, for the reason that it may, in use,

be made to fit, at its mouth, accurately and at the same time yieldingly into or against a passage, to prevent leakage, with the exertion of comparatively little pressure to hold it in place; while a bulb of hard material would have to be held with comparatively great pressure against the passage.

The advantages, in use, of a soft-rubber bulb, over one of hard material, in cases where the passage and surrounding parts are inflamed and tender, are important. The parts p and p^4, clamped together on opposite sides of the drainage-opening of the soft-rubber bulb, prevents leakage around the said opening; and the cap p^4 affords a handle in rigid relation to the dilator, outside the bulb, whereby the gentle and accurate insertion of the latter into a passage, which operation, in particular cases, requires great delicacy and skill, is rendered more easy to accomplish than were the dilator unsteady with relation to the part employed as the handle.

For sanitary reasons, especially when the device is employed by doctors and nurses in their practice, all the parts of the syringe should be thoroughly cleansed and dried after use; and my construction renders the separation and replacement of the parts quick and easy to accomplish. Thus, by unscrewing and withdrawing the screw l', and removing the screw-cap p^4, the dilators may be taken out of the bulb, the latter turned inside out, and all the parts washed in a disinfectant liquid and thoroughly wiped.

What I claim as new, and desire to secure by Letters Patent, is—

1. In combination, a syringe injecting-tube, a drainage-bulb of soft-rubber fitting the shank of said tube and having an open mouth, q, a removable attaching-piece, for a drainage tube, extending through one side of the bulb, an expansible and contractible dilator, provided with means for operating it, mounted inside the bulb upon the said attaching-piece and extending through the mouth of the bulb, substantially as and for the purpose set forth.

2. In combination, a syringe injecting-tube, a drainage-bulb of soft-rubber, fitting the shank of said tube and having an open month, q, a dilator, extending through the mouth of the bulb, and comprising expansible and contractible arms, a supporting-piece p, for the dilator, having a threaded tube p^3, extending through an opening in the side of the bulb, and a shoulder, p^2, and a cap-piece p^4 upon the said tube, clamping the bulb against the shoulder p^2, and affording an attaching-piece for a drainage-tube, substantially as and for the purpose set forth.

SILAS F. YOUNT.

In presence of—
W. U. WILLIAMS,
M. J. FROST.