W. P. CLOTWORTHY.

Combination Syringes.

No. 166,967. Patented Aug. 24, 1875.

Fig. 1

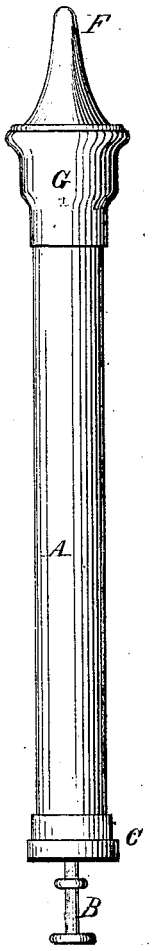
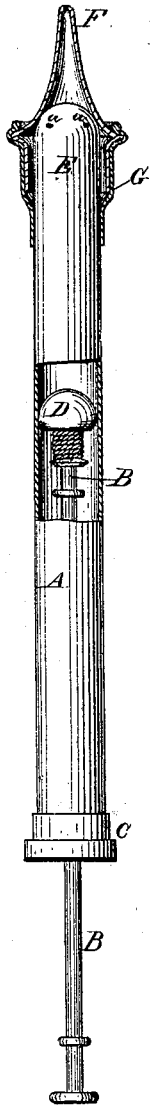


Fig. 2



WITNESSES

Grenville Lewis

L. A. Brook.

By

INVENTOR

Wm. P. Clotworthy,

Stansbury & Munn.

Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM P. CLOTWORTHY, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN COMBINATION SYRINGES.

Specification forming part of Letters Patent No. **166,967**, dated August 24, 1875; application filed August 12, 1875.

To all whom it may concern:

Be it known that I, WM. P. CLOTWORTHY, of Baltimore, in the State of Maryland, have invented a new and useful Improved Combination Syringe; and I do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of my improved syringe with small nozzle attached. Fig. 2 is a similar view with the nozzle in section, and the side of the syringe partly cut away to show the bulbous piston.

The same letters indicate the same parts in both figures.

My improvements consist, first, in the application to an ordinary vaginal syringe made of glass, gum, or other suitable material, of a removable nozzle covering the rounded end of said syringe, and converting it into an instrument adapted for use in the male urethra, or other small passages, and for hypodermic injections, the attachment between the nozzle and syringe being preferably made by a contractile tube of rubber, which will clasp the syringe-barrel snugly and be fluid-tight, and at the same time be readily removable. They further consist in making the piston of the syringe of a hollow rubber bulb of a spheroidal form, which will fit the barrel of the syringe perfectly in all parts, be non-absorbent, always ready for use, and effectually prevent the admixture of air with the injected fluid, all as hereinafter more particularly set forth.

In the drawings, A marks the barrel of a vaginal syringe, of ordinary form and size, having one end, E, rounded and perforated with holes *a a*, and the other covered by a cap, C, through which the piston-rod B works. The piston D is formed of an elastic hollow bulb of rubber, spheroidal in form, and attached tightly to the piston-rod B, so as to prevent the escape of air from the bulb. The bulb, when driven to the end E of the syringe, enters and completely fills its concavity. Over the rounded end E of the vaginal syringe I place, when I desire to adapt the instrument to use in the smaller passages, the nozzle F, holding it in position by the resilient rubber tube G, which tightly clasps both the base of the nozzle and the barrel of the syringe, as clearly shown in Fig. 2.

The advantages of my improvements are numerous. In ordinary syringes, the packing of the piston is usually made of cotton, leather, wool, or chamois-skin, and before the instrument is ready for use it is necessary that the packing should absorb part of the liquid and swell to fit the barrel. By its material, form, and elasticity my bulb avoids this objection. The ordinary packing often swells irregularly, and fits the barrel imperfectly, allowing a portion of the liquid to pass back of the piston. This cannot happen where the piston is a hollow, elastic spheroidal bulb.

The common pistons are flat on the end, while they tube in which they work is concave at the end, leaving a space filled with air, which mingles with the liquid medicament, and is injected with it, which is, in many cases, a serious objection. My rounded piston fits the rounded end of the barrel and leaves no air-space.

The absorbent quality of the common packing is objectionable, because it interferes with the purity of the preparation used, and when incompatible substances are employed it is necessary to change the packing, an inconvenience which is remedied by a non-absorbent piston.

The convenience of an instrument which can be used either for the large or small passages is obvious, and this advantage has not been attained, to the same extent, in the syringes heretofore made for the delicate operations to which my improved instrument is applicable.

I claim—

1. In combination with a syringe having a rounded and perforated end, as described, the nozzle F, constructed to receive and fit the barrel of the syringe, and held to it by an elastic tubular collar, G, in the manner and for the purpose set forth.

2. In combination with the barrel and piston-rod of a syringe, the bulbous hollow spheroidal rubber piston D, constructed and operating in the manner and for the purpose specified.

The above specification of my said invention signed and witnessed at Washington this 11th day of August, A. D. 1875.

WM. P. CLOTWORTHY.

Witnesses:

C. M. PARKS,

CHAS. F. STANSBURY.