R. SLEE.

ANTITOXIN SYRINGE.

APPLICATION FILED NOV. 4, 1913.

1,155,012. Patented Sept. 28, 1915.

Fig. 1

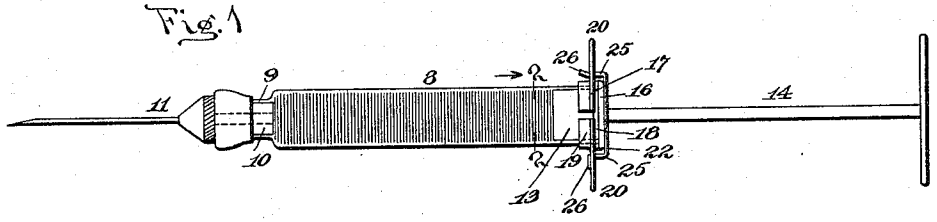


Fig. 2

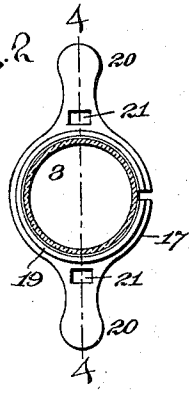


Fig. 3

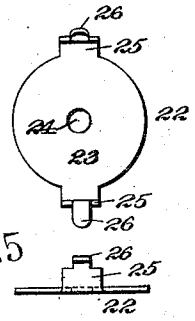


Fig. 5

Fig. 4

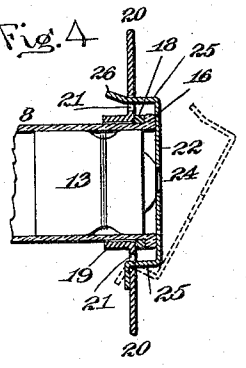


Fig. 6

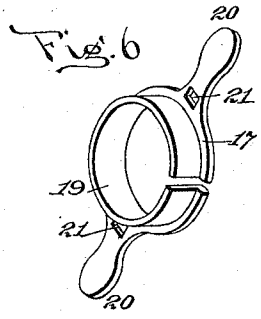
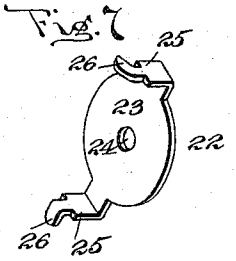


Fig. 7



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UNITED STATES PATENT OFFICE.

RICHARD SLEE, OF SWIFTWATER, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO F. S. BANKS & COMPANY, OF NEW YORK, N. Y., A COPARTNERSHIP COMPOSED OF FREDERIC S. BANKS, OF NEWARK, NEW JERSEY, AND GEORGE ZIMMER, OF YONKERS, NEW YORK.

ANTITOXIN-SYRINGE.

1,155,012. Specification of Letters Patent. Patented Sept. 28, 1915.

Application filed November 4, 1913. Serial No. 799,062.

To all whom it may concern:

Be it known that I, RICHARD SLEE, a citizen of the United States, residing in Swiftwater, county of Monroe, State of Pennsylvania, have invented a certain new and useful Improvement in Antitoxin-Syringes, of which the following is a specification.

My invention relates to the construction of that type of syringe in which anti-toxin is shipped ready for use, and which is of so cheap a construction that it is thrown away after the anti-toxin which it contains has been used.

My object is to produce a simple, efficient cover for the open end of the syringe; which can be readily snapped in place; which will guide the piston rod, limit the motion of the piston and retain it in place; and will afford a practical and convenient grip for the fingers.

In the drawings: Figure 1 is a side elevation of a device embodying my invention. Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1. Fig. 3 is a bottom view of the cap which closes one end of the syringe. Fig. 4 is a sectional view taken on the line 4—4 of Fig. 2, showing in dotted lines how the cap is snapped in place. Fig. 5 is a side view of the cap. Fig. 6 is a perspective view of the finger grip. Fig. 7 is a perspective view of the cap.

I employ a glass chamber 8 of the conventional type for storing the anti-toxin. One end has a neck 9, in which a plug 10 is inserted. The shank of the hypodermic needle 11 is held by the plug. A suitable piston 13, with a detached piston rod 14, is inserted in the glass chamber.

The large end of the glass chamber has a flange 16. A collar 17 slips over the small end of the glass chamber 9 and rests against a rubber washer 18, which is held in place by the flange 16. This collar has a flange 19 and is split in order to accommodate the inequalities in size of the glass chambers and to cause a springing engagement with the glass chamber. Finger grips 20, 20 are made integral with the collar. Openings 21, 21 are provided at the base of the finger grips. Engaging with these openings is a cap 22. This cap is composed of a circular top 23, with a hole 24, for the admission of the piston rod 14, bored through its center. Integral arms 25, 25 are formed on its edges and are bent downward. These arms are flexible and are provided with tips 26, 26, for engaging with the openings 21, 21. One tip is bent sharply at right angles, while the other tip is not bent so sharply. This allows the cap to be easily snapped into position.

The syringe is shipped filled with anti-toxin, and with the piston rod and hypodermic needle detached. This facilitates shipping and makes a compact package. The syringe is not assembled until it is about to be used. During that time the anti-toxin is prevented from escaping from the glass chamber by the plug at one end and the piston at the other. The plug has the usual temporarily obstructed passage, and the piston is held in place by the cover which I have specifically described.

I claim:

1. In a syringe, the combination with a body or barrel, a piston in the body, a shoulder at one end of the barrel and a washer encircling the barrel and resting against the shoulder, of a cylindrical collar surrounding the barrel, a peripheral flange on the collar, said flange having openings therein, finger pieces projecting from the flange, and a plate covering the end of the barrel and retaining the piston in place, said plate having fingers which project through the openings, said fingers being bent over to prevent withdrawal of the fingers from the openings.

2. In a syringe, the combination with a body or barrel, a piston in the barrel, a removable piston rod and means for engaging the same with the piston, a shoulder on the barrel, a washer engaging the shoulder, of a collar carried on the barrel, a flange on the collar, said collar and flange being split, finger pieces on the flange, the said flange having openings therein, a plate covering the end of the barrel and retaining the piston in place, said plate having a circular opening for the passage of the piston rod and acting as a bearing therefor, axially extending arms on the plate, said arms entering the openings and being bent to secure the barrel, collar and plate together.

3. In a syringe, the combination with a body or barrel, a piston in the barrel, a removable piston rod and means for engaging the same with the piston, a shoulder on the barrel, a washer engaging the shoulder, of a

collar carried on the barrel, a flange on the collar, said collar and flange being split, finger pieces on the flange, the said flange having openings therein, a plate covering the end of the barrel and retaining the piston in place, said plate having a circular opening for the passage of the piston rod and acting as a bearing therefor, axially extending arms on the plate, said arms entering the openings and being bent in such a manner as to prevent the removal of the plate by direct pull.

This specification signed and witnessed this 29th day of October, 1913.

RICHARD SLEE.

Witnesses:
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