

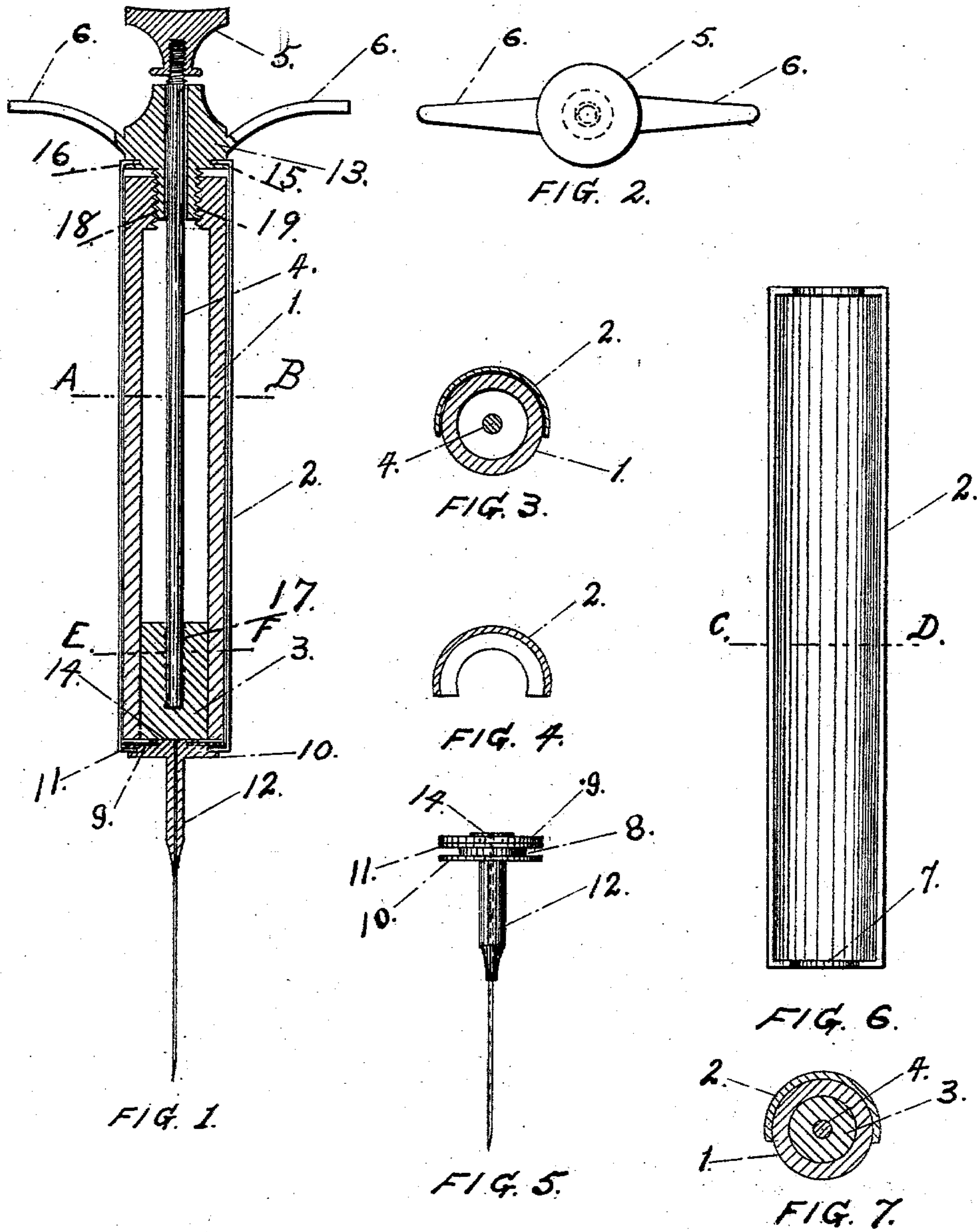
No. 694,813.

Patented Mar. 4, 1902.

**B. T. WINCHESTER.
HYPODERMIC SYRINGE.**

(Application filed Aug. 18, 1900.)

(No Model.)



WITNESSES

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BENJAMIN THOMAS WINCHESTER, OF BALTIMORE, MARYLAND.

HYPODERMIC SYRINGE.

SPECIFICATION forming part of Letters Patent No. 694,813, dated March 4, 1902.

Application filed August 16, 1900. Serial No. 27,033. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN THOMAS WINCHESTER, a citizen of the United States, residing at Baltimore city, in the State of Maryland, have invented certain new and useful Improvements in Hypodermic Syringes, of which the following is a specification.

My invention relates to improvements in hypodermic syringes which have removable barrels; and the objects of my improvement are, first, the construction of a syringe easily taken apart for cleaning; second, simplicity of construction, and, third, cheapness of manufacture. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of the entire syringe; Fig. 2, a top view of the syringe; Fig. 3, a sectional view taken through the barrel and retaining-case at A B; Fig. 4, a sectional view through the retaining-case at C D; Fig. 5, view in elevation of the hollow needle and its mountings; Fig. 6, a view in elevation of the retaining-case; and Fig. 7, a sectional view of the syringe, taken at E F.

Similar numerals refer to similar parts throughout the several views.

1 is the barrel; 2, retaining-case or syringe-frame; 3, piston; 4, piston-rod; 5, piston-rod cap; 6, arms of adjusting-yoke; 7, flanged ends of retaining-case 2; 8, annular recess into which fits flanged end 7 of retaining-case 2.

9 is a pliable gasket; 10, annular flange adjoining annular recess 8; 11, annular flange adjoining annular recess 8 and forming a backing for pliable gasket 9.

12 is a hollow needle; 13, adjusting-yoke and piston-rod guide; 14, annular flange on head of needle; 15, flanged end of retaining-case tube; 16, annular recess of yoke 13.

17 is ragged end of piston-rod 4; 18, threaded portion of yoke 13 for engaging threaded portion 19 on upper end of barrel 1.

Barrel 1 may be made of glass, brass, or other suitable material, and has secured to its upper end threaded portion 19, into which screws threaded portion 18 of adjusting-yoke 13. The object of this when the syringe is assembled is to advance barrel 1 against pliable gasket 9 and head of hollow needle 12, thus making a tight fit. Retaining-case 2 is

made out of metal, such as spring-brass, and is shaped so that barrel 1 and recesses 8 and 16 slip into it and are held by spring-contact, it being slightly narrower across its face on account of being slightly more than a semicircle in cross-section.

Hollow needle 12 is secured to retaining-case 2 by means of a flanged end 7 and annular recess 8. Adjusting-yoke 13 is revolvably secured to retaining-case 2 by means of flanged end 15 and annular recess 16. Piston 3 is preferably solid, being cast in position onto ragged end 17 of piston-rod 4 and is preferably made out of Babbitt metal. Pliable gasket 9 is preferably made out of soft rubber and fits over annular securing-flange 14.

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

1. In a syringe, a retaining-case made of spring material which is slightly narrower across its face on account of being slightly more than a semicircle in cross-section thereby enabling parts placed therein of substantially the same diameter being held thereby.

2. In a syringe, the combination of, a retaining-case made of spring material which is slightly narrower across its face on account of being slightly more than a semicircle in cross-section thereby enabling parts placed therein of substantially the same diameter being held thereby, a barrel with its necessary operating piston and mechanism for working the same secured in said case, a hollow needle secured by a flange to one end of said case and adjusting mechanism secured by a flange at other end of said case and means for bringing the various parts together so that they may be made tight at their joints when the said barrel is in communication with said hollow needle.

3. In a syringe, a hollow needle detachably secured to the case of said syringe by means of a flange on one end of said case which flange fits into a groove on the head of said needle, a barrel secured in contact with the head of said needle by pressure longitudinally applied, an adjusting-yoke secured in said case by means of a flange on end of said case fitting into a groove in the said adjusting-yoke operating to force the said barrel against the head of the said hollow needle, and a piston operated in said barrel by means

of a piston-rod attached thereto operating through said adjusting-yoke.

4. In combination, in a syringe, a barrel, a piston operating therein, means for operating the piston, a hollow needle, and a retaining-case made of spring material which is slightly narrower across its face on account of being slightly more than a semicircle in cross-section.

5. In combination, in a syringe, a barrel, a piston operating therein, means for operating the piston, a hollow needle, a retaining-

case made of spring material which is slightly narrower across its face on account of being slightly more than a semicircle in cross-section, said case being flanged for securing said hollow needle at one end and for securing an adjusting mechanism at the other end and means for securing the various parts.

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Witnesses:

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