

F. S. HONSINGER.
SYRINGE.
APPLICATION FILED JAN. 4, 1901.

911,724.

Patented Feb. 9, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

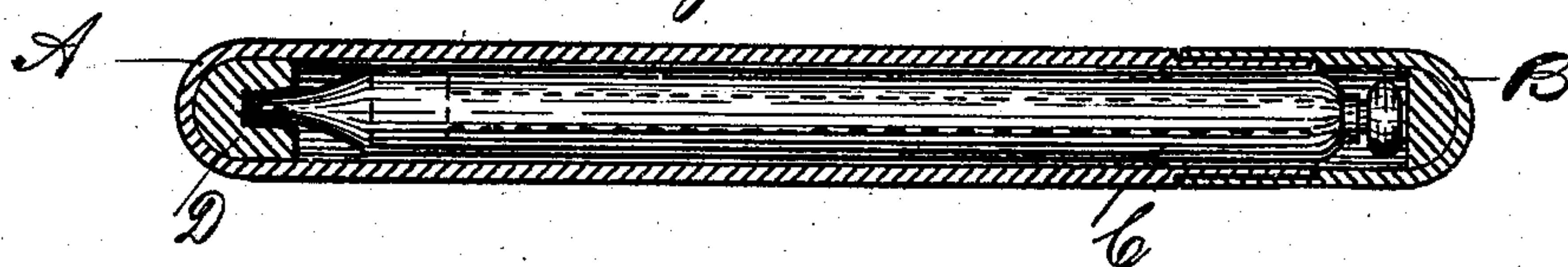


Fig. 2.

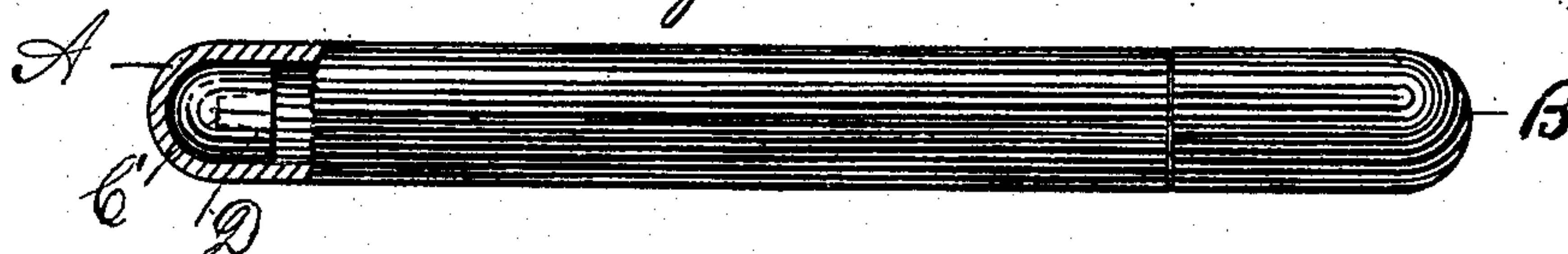


Fig. 3.

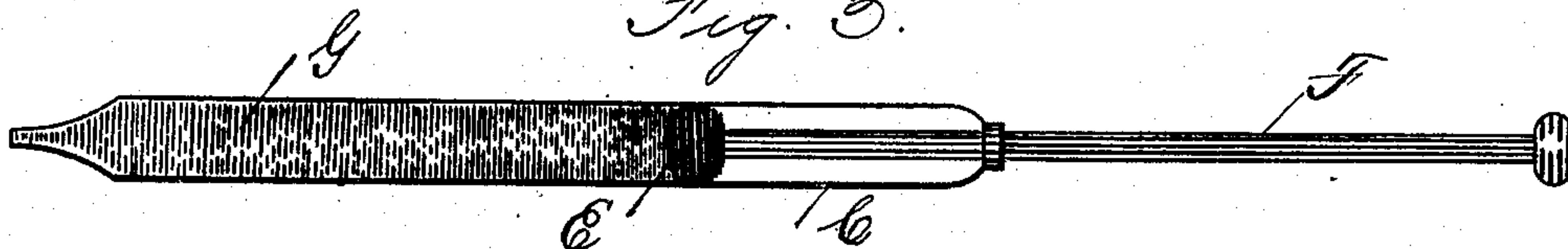


Fig. 4.

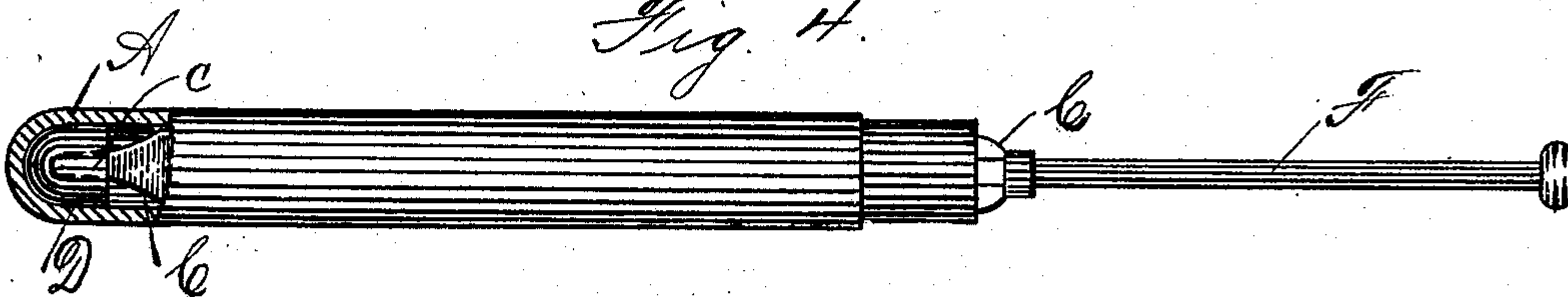
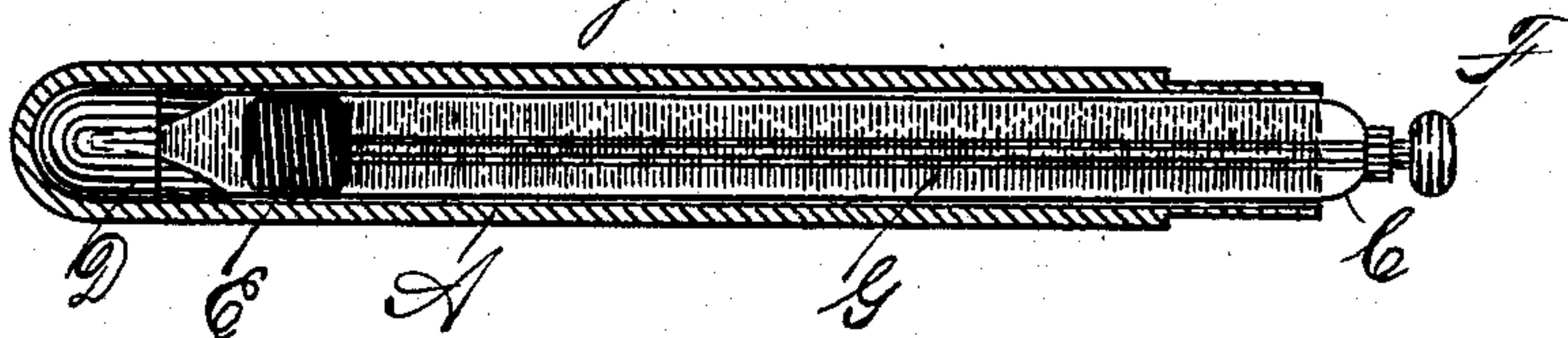


Fig. 5.



Witnesses.

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 2 SHEETS—SHEET 2.

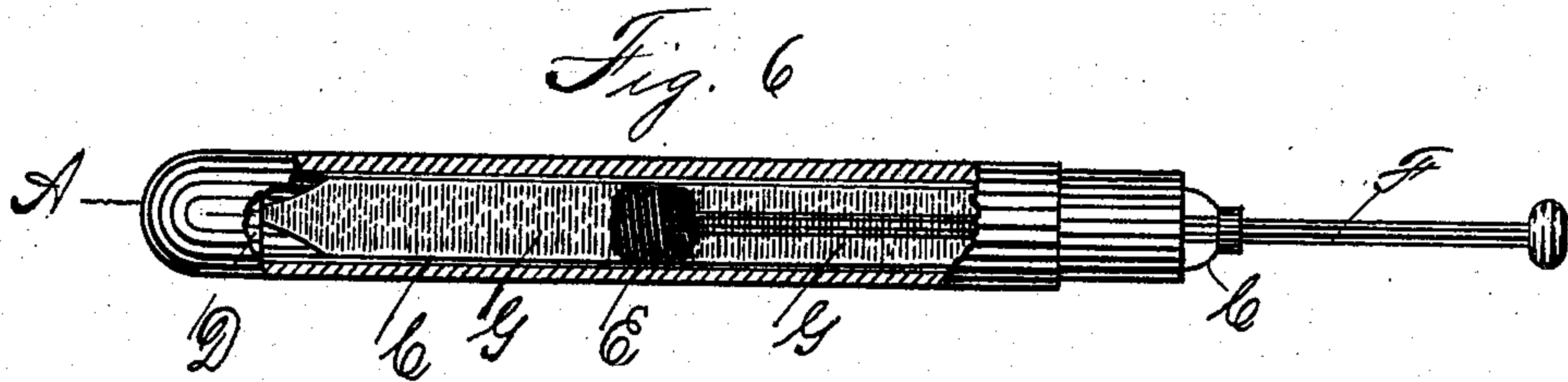


Fig. 7



Fig. 8

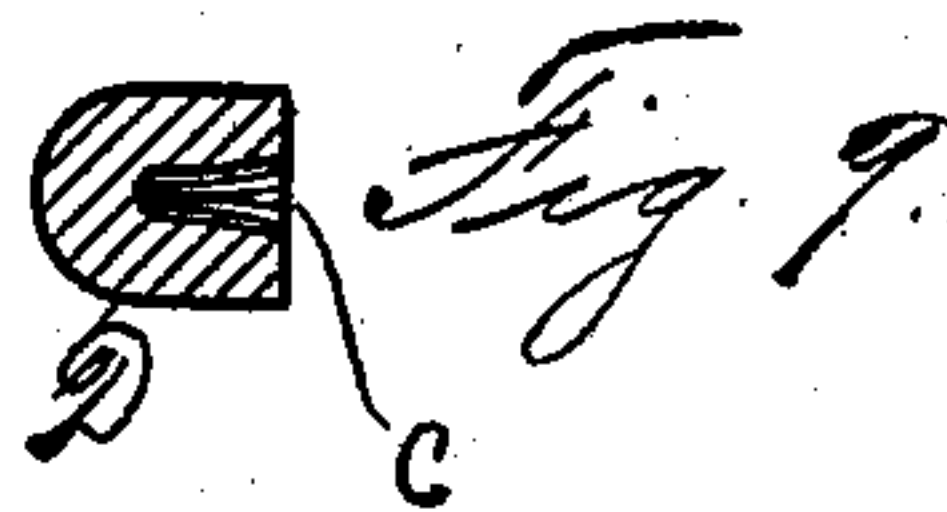


Fig. 10

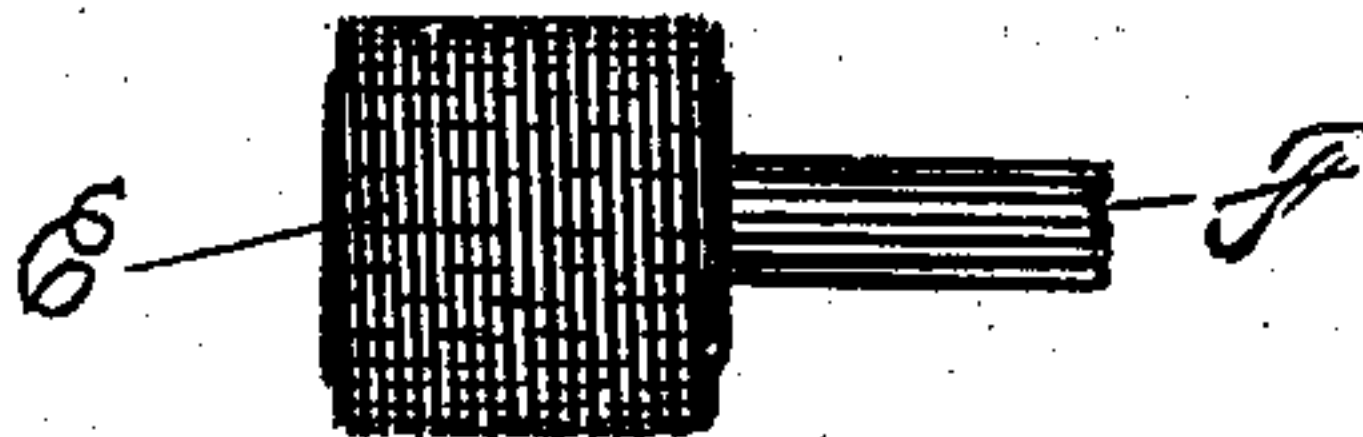
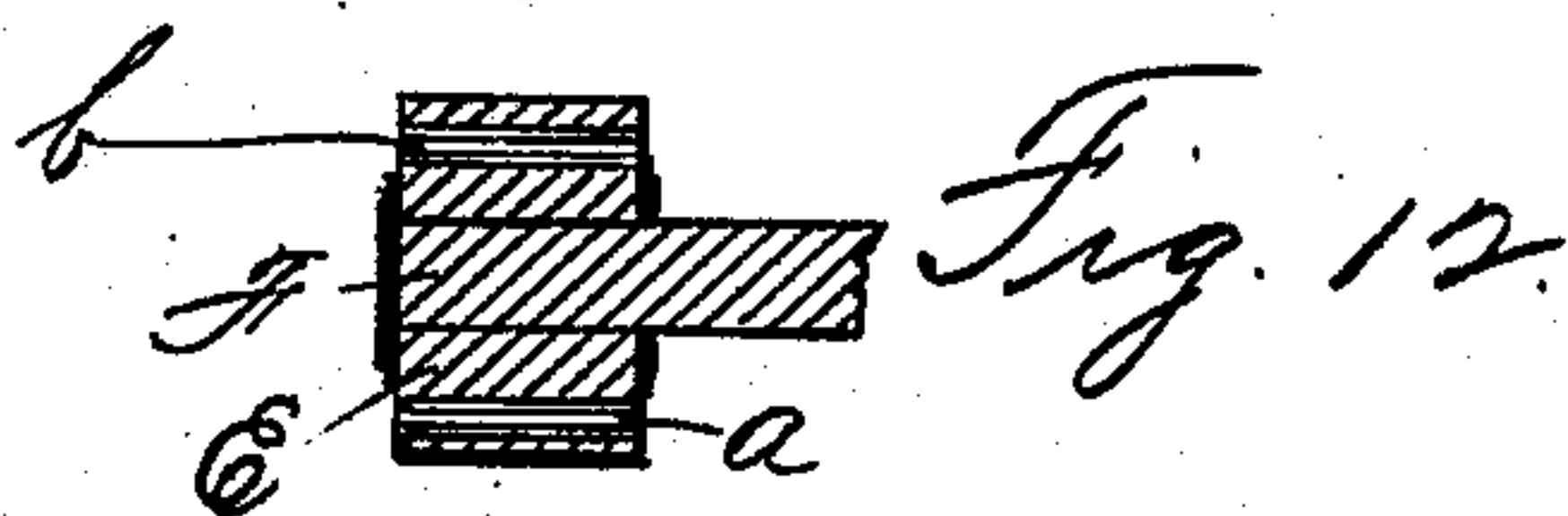
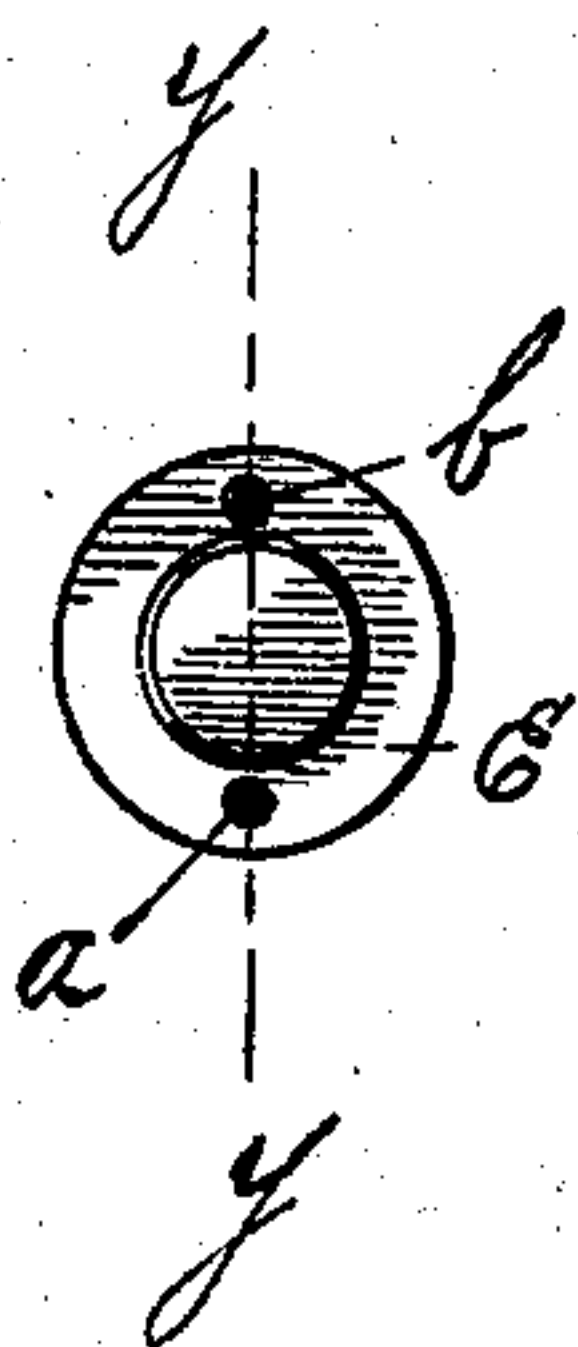


Fig. 11



Witnesses.

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UNITED STATES PATENT OFFICE.

FREDERICK S. HONSINGER, OF SYRACUSE, NEW YORK, ASSIGNOR TO SOLOMON L. WEISBERG,
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SYRINGE.

No. 911,724.

Specification of Letters Patent.

Patented Feb. 9, 1909.

Application filed January 4, 1901. Serial No. 42,139.

To all whom it may concern:

Be it known that I, FREDERICK S. HONSINGER, a citizen of the United States, residing at the city of Syracuse, in the county of Onondaga and State of New York, have invented a certain new and useful Syringe, of which the following is a specification.

My invention relates to syringes wherein liquid, and especially medical solution ready for immediate use, may with convenience and safety be carried in the pocket and used in definite quantities; and to this end, the invention consists, essentially, in the combination, construction and arrangement of the parts hereinafter set forth and pointed out in the claims.

In describing this invention, reference is had to the accompanying drawing, in which like characters designate corresponding parts in all the views.

Figure 1 is a longitudinal view of my syringe, the inclosing member or case and the stopper being shown in section. Fig. 2 is a longitudinal view of the inclosing member or case, a portion thereof being in section for illustrating the stopper. Fig. 3 is a longitudinal view showing the detached font, partly filled with liquid, and the piston arranged about midway between the ends of the font. Fig. 4 is a longitudinal view of my syringe, a portion of the inclosing member, a case being in section, and the cover thereof being omitted and the font having its port closed by the stopper. Fig. 5 is a view of the part seen in Fig. 4, the piston being illustrated in the same position as in Fig. 1. Fig. 6 is a view similar to Fig. 4, liquid being illustrated on opposite sides of the piston. Fig. 7 is an elevation of the detached stopper. Fig. 8 is a sectional view on line X—X, Fig. 7. Fig. 9 is a longitudinal sectional view of the stopper. Fig. 10 is an elevation of the piston and a portion of its stem. Fig. 11 is a face view of the piston. Fig. 12 is a sectional view on line y—y, Fig. 11.

In the drawings, A represents the inclosing member or case provided with a cap B, and C designates the font or cylinder provided with a port C' at one end thereof, said port C' serving as an inlet and an exit and being normally closed by a stopper D, which is arranged in one end of the inclosing member or case A and formed with a cup c for receiving the end of said port.

E is a piston provided with a rod F movable through the end of the font opposite to the port C'. Said case A and font C are obviously of any desirable form, size and construction.

G designates the liquid within the font A. Said liquid is transferred within the font from either side of the piston to the other, the illustrated means for effecting this result being suitable conduits as capillary tubes a b passing through the piston.

In the use of my syringe, a medicinal solution, or other liquid, is filled within the font through the port C' by moving the piston E from said port. The font A is then inserted into the inclosing member or case until the port enters the cup c and is closed by the stopper D, whereupon said font is held in this position and the piston E is moved slowly in the reverse direction until it encounters an engaging face within the font at the base of the port C' and is thereby prevented from further movement. The cap B is then placed in position and the inner face thereof engages the outer end of the piston rod, and owing to the engagement of said inner face of the font by the piston, the font is firmly held in position with its port closed, and leakage of the solution or liquid is prevented. When it is desired to use a predetermined amount of the solution, the cap is removed, the font is firmly held in position with its port closed by the stopper D, and the piston E is slowly withdrawn until the predetermined quantity of solution has been transferred from the back of the piston to the front thereof. The font is then withdrawn from the member D and the solution in front of the piston is expelled through the port C' by moving the piston toward said font. The parts may be manipulated as described, until the solution is entirely discharged.

The construction and operation of my invention will now be readily understood upon reference to the foregoing description and the accompanying drawings, and it will be noted that more or less change may be made in the component parts thereof, without departing from the spirit of my invention.

I claim—

1. In a syringe, a font, a piston movable within the font, a stem associated with the piston, and means for permitting the liquid to be transferred from either side of the

piston to the other, said means being operable independently of the stem of the piston, substantially as and for the purpose described.

5 2. In a syringe, a font, a piston movable in the font, a stem associated with the piston, and means between the portions of the interior of the font at opposite sides of the piston for transferring the liquid in the font
10 from either side of the piston to the other without passing the liquid out of the font, said means being operable independently of the stem of the piston and being inoperative when the liquid is permitted to pass from
15 the font under pressure of the piston, substantially as and for the purpose specified.

3. A syringe piston for drawing in and expelling liquid from the font of the syringe, provided with a capillary tube extending
20 longitudinally through the piston and adapted to allow the liquid to be transferred within the font of the syringe from one side

of the piston to the other, substantially as and for the purpose described.

4. In a syringe, a font, a piston movable 25 in the font for drawing the liquid therein and expelling the liquid therefrom, said piston having a stem associated therewith, and being provided with means for permitting the liquid to pass through the piston from 30 either side thereof to the other, said means being operable independently of the stem of the piston, and being inoperative when the liquid is permitted to pass from the font under the pressure of the piston, substan- 35 tially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand at the city of Syracuse, N. Y. in the presence of two subscribing witnesses, this 24th day of December, 1900.

FREDERICK S. HONSINGER.

Witnesses:

J. G. STEVENS,
GEO. A. EDES.