

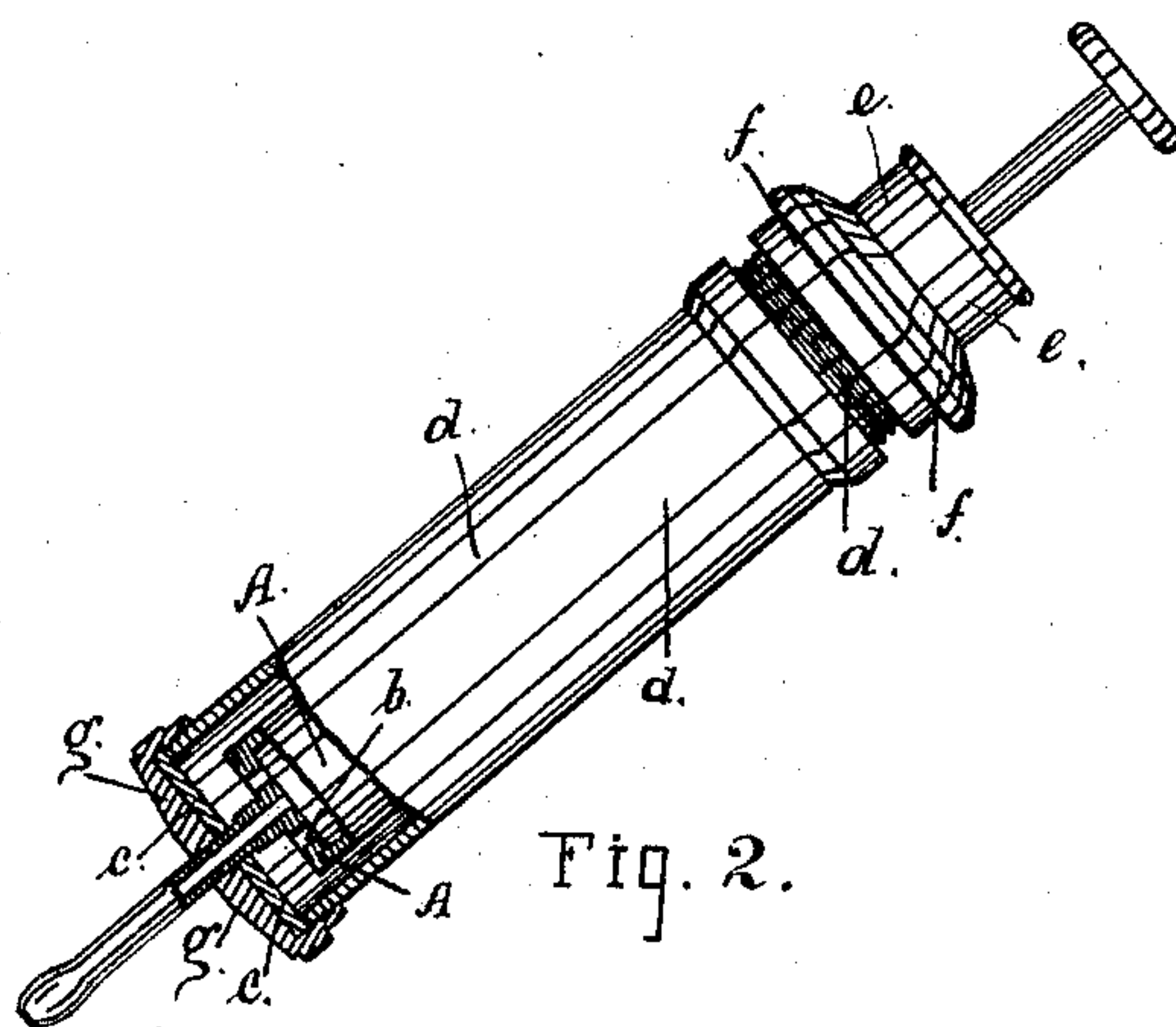
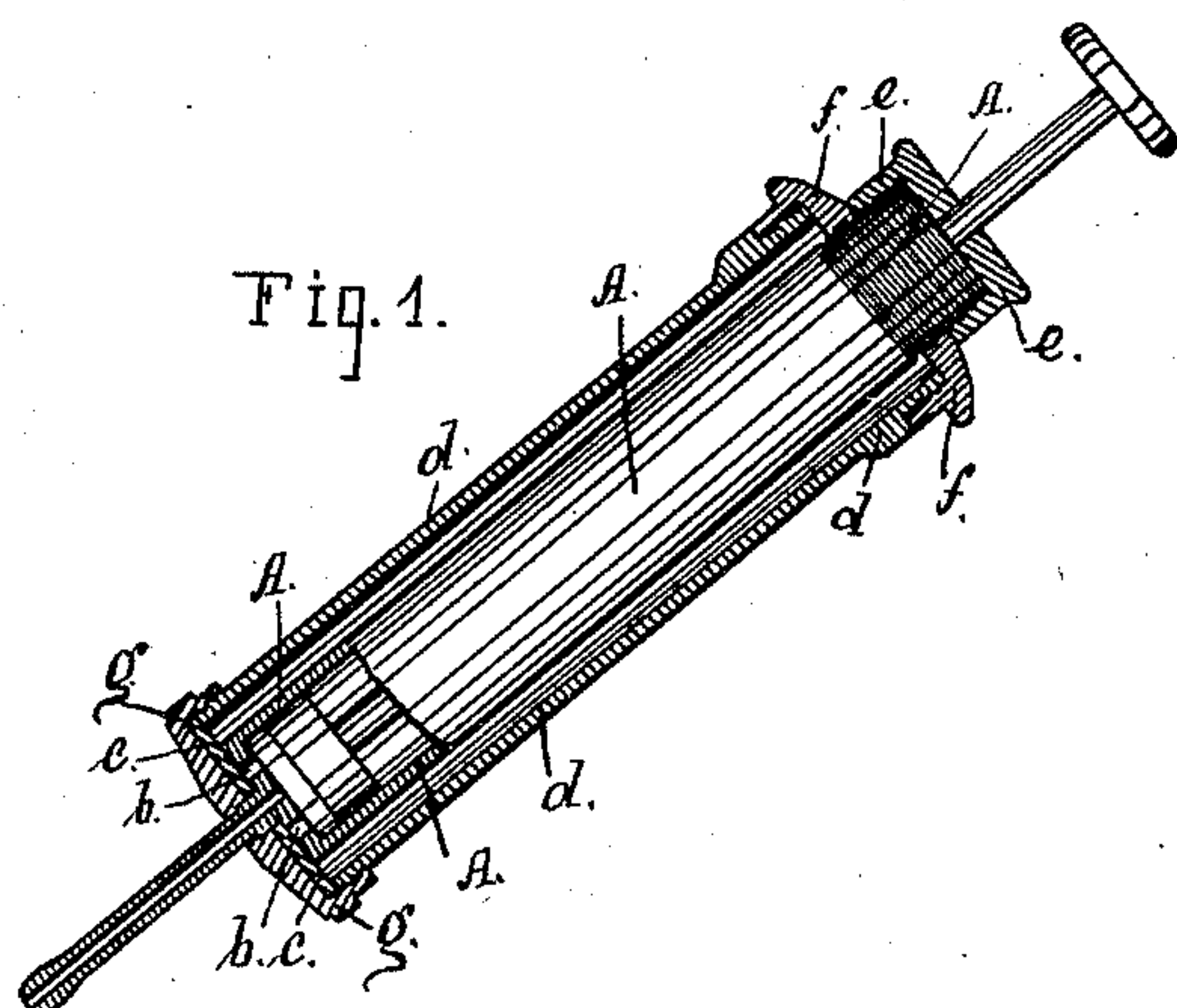
(No Model.)

T. THRELFALL.

SYRINGE.

No. 368,627.

Patented Aug. 23, 1887.



Witnesses:

Wm. Mayer

Joseph C. Ford

Inventor:

Thomas Threlfall

By *Chas. M. Smith*

Atty.

UNITED STATES PATENT OFFICE.

THOMAS THRELFALL, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF ONE-HALF TO ADOLPH MACK, OF SAME PLACE.

SYRINGE.

SPECIFICATION forming part of Letters Patent No. 368,627, dated August 23, 1887.

Application filed December 3, 1886. Serial No. 220,622. (No model.)

To all whom it may concern:

Be it known that I, THOMAS THRELFALL, residing at San Francisco, in the county of San Francisco and State of California, have
5 invented a new and useful Improvement in Syringes, of which the following is a specification.

My invention relates especially to that class of syringes employed for injecting medical
10 compounds for treating diseases.

To attain this end my invention consists, essentially, in two barrels and one piston or a syringe proper contained within a surrounding cylinder and of peculiar construction, as
15 set forth in the claim.

The lower end of the inner cylinder or syringe is pierced for a valve and the valve packed with an elastic packing, the tip of the syringe passing through it, in which position
20 it is held by a cap screwed to the lower end of the outer cylinder, the tip of the syringe also passing through the screw-cap, which latter forms a seat for the elastic packing. A screw-thread is formed upon the upper end
25 of the outer cylinder, which receives a screw-cap connected to the syringe proper near the upper end thereof, the construction and arrangement of the parts being such that the fluid is drawn into the syringe and then forced
30 into the outer cylinder, to be forced back into the syringe in suitable volume when required for use, the outer cylinder acting in the capacity of a reservoir or bottle.

In the drawings forming a part of this specification, Figure 1 is a longitudinal section through my improved bottle-syringe. Fig. 2 is an elevation of syringe with part in section.

Let A represent the syringe proper, constructed in the ordinary manner with barrel,
40 piston, tip, and screw-cap.

The lower end of the barrel of the syringe is pierced with a hole, *b*, opposed to which is an elastic packing, *c*, the latter having its seat in a screw-cap connected to the lower
45 end of an outer cylinder, with the tip of the syringe extending through the cap and packing.

The syringe proper is inclosed by the outer cylinder, *d*, as shown, and held in position between the screw-caps *e*, *f*, and *g*, the former
50 being movable on the screw-thread upon the

barrel of the syringe and end of the outer cylinder, while the latter, or screw-cap *g*, is screwed to the threaded lower end of the outer cylinder, leaving a chamber of sufficient capacity between it and the barrel of the syringe. 55

In practice the liquid or fluid is drawn into the syringe or inner barrel through the tip, in the usual manner, by raising the piston, and the syringe-barrel drawn upward or backward by unscrewing the screw-caps *e*, *f*, which releases the elastic packing from the holes or valve *b*. Then by a downward stroke of the piston the fluid is forced through the holes or valve *b* into the outer cylinder, *d*, after which
60 the caps *e*, *f* are screwed back to their seat. Thus the fluid is drawn into the syringe and forced out and held in the chamber or cylinder *d* with the piston of the syringe down its full-stroke. 65

In order to draw a sufficient quantity of fluid from the cylinder or reservoir back into the syringe for ejection, the finger is again placed over the tip of the syringe and the caps *e*, *f* again unscrewed and the piston drawn
70 back, which draws back by suction into the syringe the desired quantity of fluid, to be forced out in the usual way when the finger is removed from the tip and the caps *e*, *f* turned back again upon their seat upon the end of the cylinder. 75 80

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination of the ordinarily-constructed syringe A, having in its lower end a hole, *b*, the outer cylinder, *d*, surrounding the syringe A, and the screw-caps *e*, *f*, and *g*, for holding the outer cylinder in position, said cap *e* being movable on the screw-threaded
85 barrel A, said cap *f* being movable on barrel A and cylinder *d*, and said cap *g* being screwed to the threaded lower end of cylinder *d* and forming a seat for an elastic packing, *c*, all arranged and operated substantially as described. 90 95

In testimony that I claim the foregoing I have hereunto set my hand and seal.

THOMAS THRELFALL. [L. S.]

Witnesses:

C. W. M. SMITH,

CHAS. E. KELLY.