J. S. PARSONS.

SYRINGE.

No. 191,775. Patented June 12, 1877.

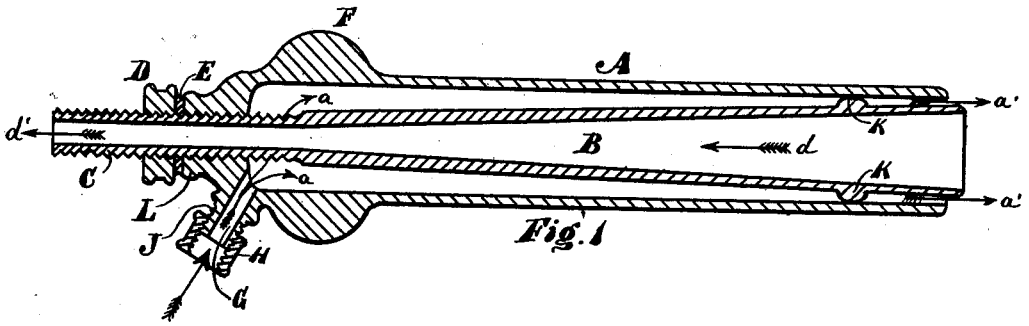


Fig. 1

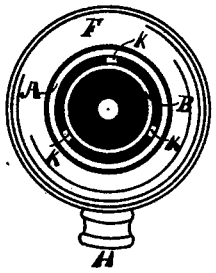


Fig. 2

Witnesses

Inventor,
John S. Parsons.
Per E. C. Kent
his Atty

# UNITED STATES PATENT OFFICE.

JOHN S. PARSONS, OF INDIANAPOLIS, INDIANA, ASSIGNOR OF ONE-HALF HIS RIGHT TO J. H. YUNDT, OF SAME PLACE.

## IMPROVEMENT IN SYRINGES.

Specification forming part of Letters Patent No. **191,775**, dated June 12, 1877; application filed September 19, 1876.

*To all whom it may concern:*

Be it known that I, JOHN S. PARSONS, of Indianapolis, county of Marion, State of Indiana, have invented certain new and useful Improvements in Syringes, of which the following is a description, reference being had to the accompanying drawings.

My invention relates to certain improvements in the construction, arrangement, and operation of my syringe patented July 18, 1876, No. 179,950, in which patent my invention consisted "of the construction and arrangement of the outer and inner tubes of the syringe; the manner in which the inner tube is supported at equal distance from the outer tube at all parts thereof, and made adjustable endwise; the manner in which the two tubes are united by the flexible bulb, leaving the inner tube projecting beyond for the purpose of discharging all fluids that are injected through the annular space that is between the inner and outer tubes;" and my invention now consists of providing the inner tapering tube with a screw-thread to operate in a screw-thread cut in the contracted end of the outer tube, so as to make a better and more permanent means of adjustment of the inner tube, which can then be adjusted by means of the screw-thread, so that the nozzle end can be projected beyond the nozzle end of the outer case, and cause the fluids to diverge; or it can be adjusted so as to have its nozzle end inside of the nozzle end of the outer case, and thus cause the fluids to converge.

The contracted rear end of the outer case or tube, provided with the screw-thread, and the screw-thread formed on the inner tube, give a positive means of adjustment as desired, and when so adjusted it will remain so, and can be then secured by means of a lock-nut, which could not be accomplished by my first device, as above referred to; and my invention further consists in providing the large end of the inner tapering tube with lugs of the shape substantially as shown, which will always hold the inner tube in the center of the outer tube, thus leaving an annular space between them of the same thickness on all sides.

This improvement over the springs, as shown in my patent above referred to, is of great advantage, as the springs were expensive and liable to become deranged, so as to make the annular space between the two tubes wider on one side than the other, thus preventing an even flow of the fluids, and by my improvement of the lugs these difficulties are overcome.

Figure 1 represents a sectional view of a syringe embodying my improvements. Fig. 2 is an end view of the same.

A represents the outer tube, having its rear end L contracted or reduced sufficiently to receive the screw-threaded end C of the inner tube B, the screw C operating in a thread cut in the contracted end L in such a manner as to allow the nozzle end of the inner tube to be projected beyond or drawn inside of the nozzle end of the outer tube A. The screw-threaded end C of the inner tube B is also provided with a lock-nut, D, and washer, E, to secure the two tubes and prevent leakage at the joint.

The large end of the inner tapering tube B is provided with lugs K K K, arranged by preference triangularly, and are designed to act as guides to keep the inner tube B in the center of the tube A, thus leaving an annular space equal on all sides.

At or near the contracted end L of the outer tube A is attached an induction-tube, G, through which fluids are allowed to enter the annular space between the two tubes, and the fluids then pass out of the annular space at the nozzle, and are allowed to pass back through the inner tube B, in the same manner as described in my former patent, above referred to. The induction-tube G is so constructed as to attach rubber either to the screw-thread J or to the nipple H, according to the style of the coupling used.

I do not, broadly, claim any of the features claimed in my former patent No. 179,950; but

What I claim as new, and wish to secure by Letters Patent, is—

1. The outer tube A of a syringe, formed with its rear end contracted, and provided with a screw-thread in which operates the screw-threaded end C of the inner tapering tube B, in the manner and for the purposes specified.

2. The inner tapering tube B, provided at its large end with lugs K K K to guide said inner tube B in the center of tube A at its nozzle end, and having its small end provided with a screw-thread, C, which operates in the contracted end L of the outer case A, in the manner set forth, and for the purposes described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN S. PARSONS.

Witnesses:
E. O. FRINK,
E. C. WHITNEY.