

(No Model.)

C. J. TAGLIABUE.  
SYRINGE PISTON.

No. 546,603.

Patented Sept. 17, 1895.

Fig. 1.

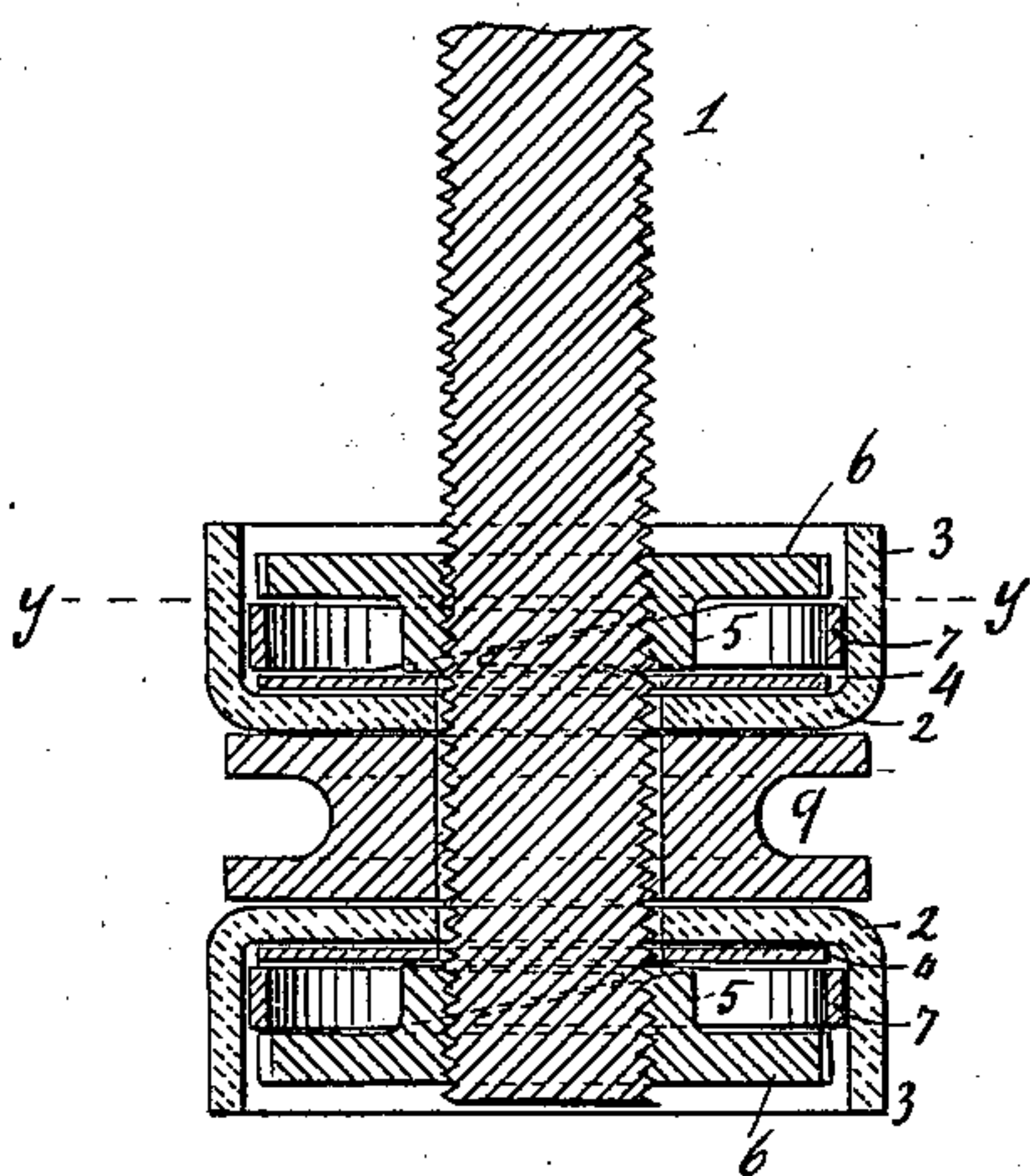


Fig. 4.

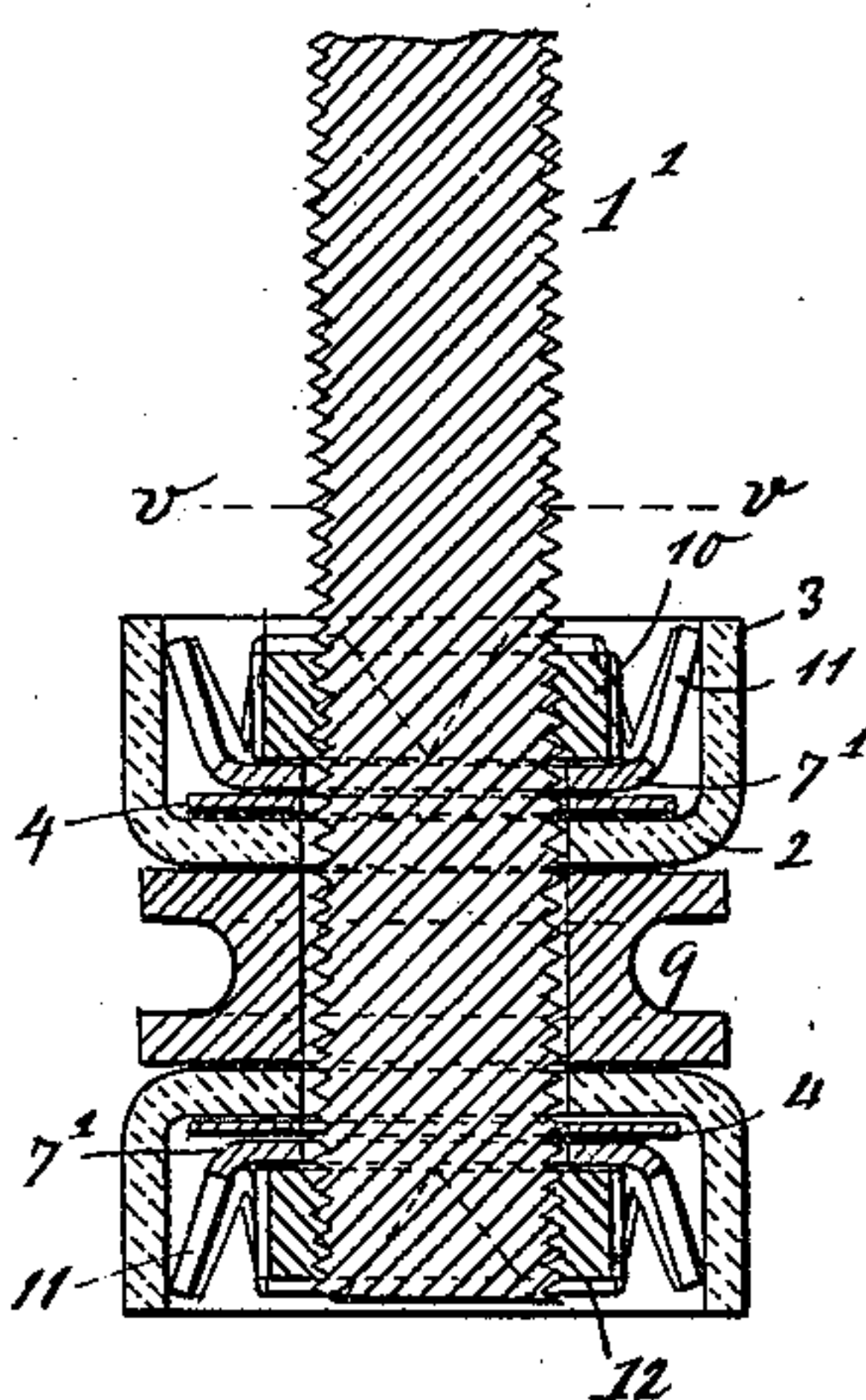


Fig. 2.

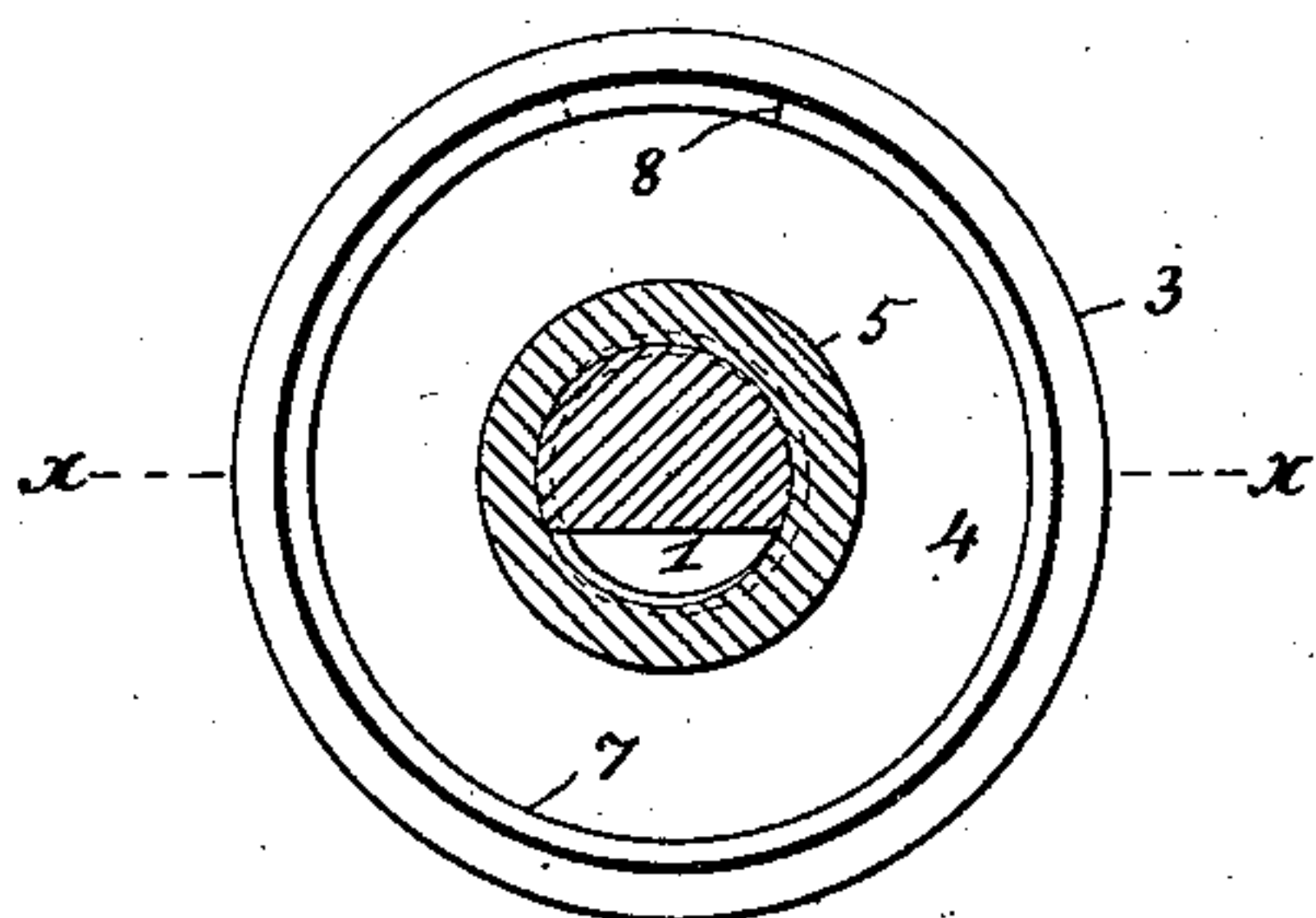


Fig. 5.

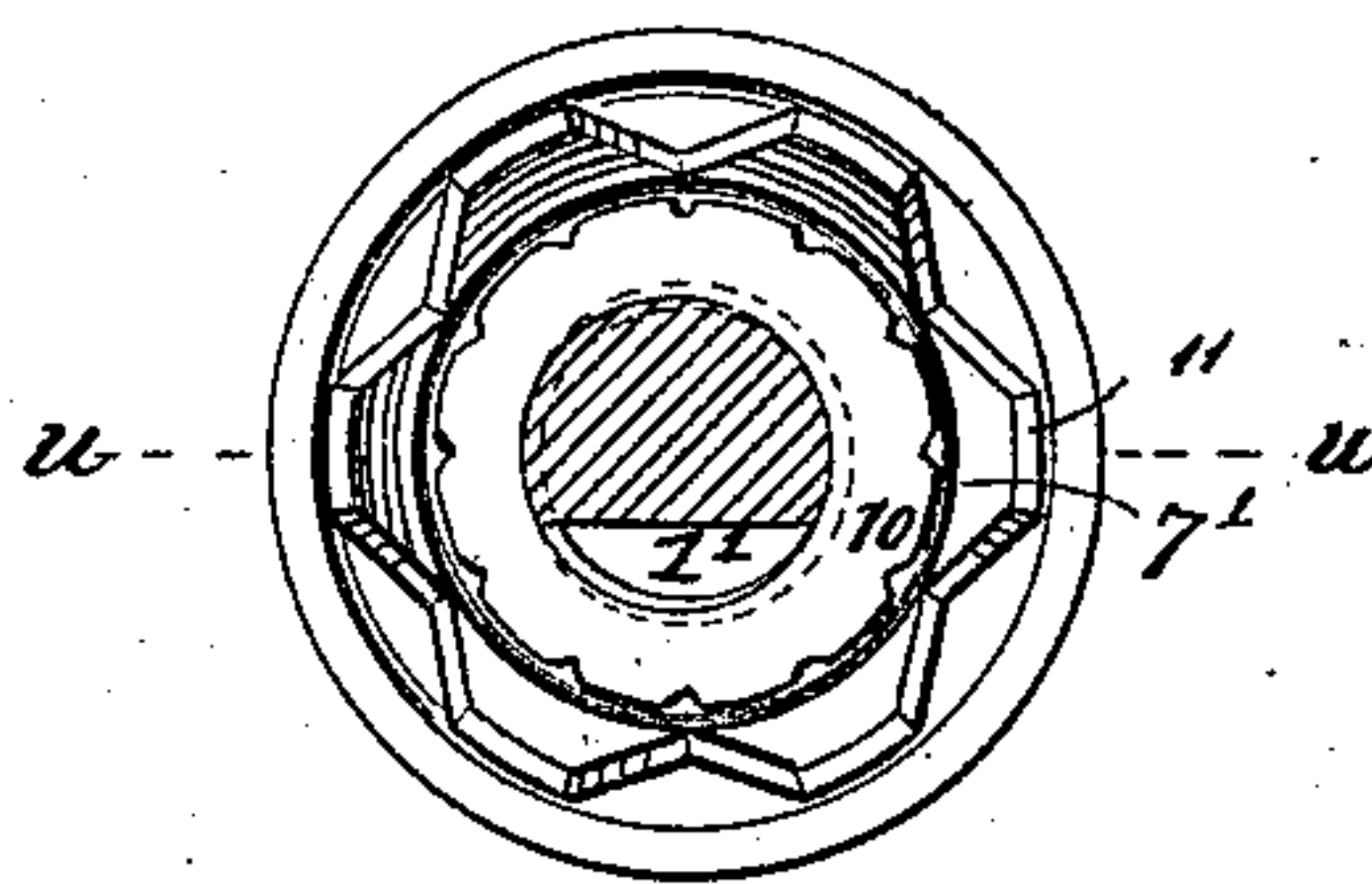
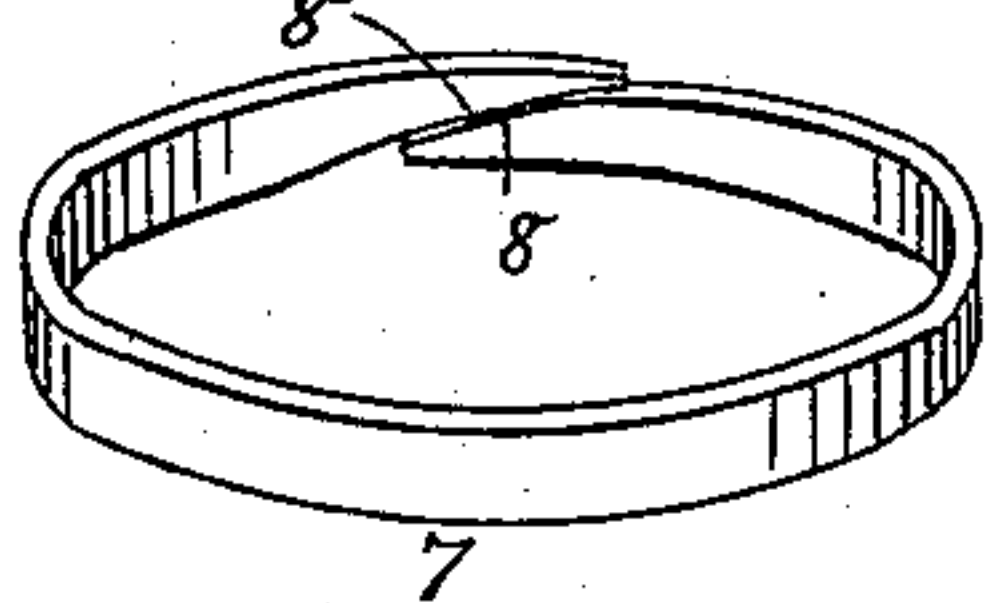


Fig. 3.



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# UNITED STATES PATENT OFFICE.

CHARLES J. TAGLIABUE, OF BROOKLYN, NEW YORK.

## SYRINGE-PISTON.

SPECIFICATION forming part of Letters Patent No. 546,603, dated September 17, 1895.

Application filed January 3, 1895. Serial No. 533,763. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES J. TAGLIABUE, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Pistons for Syringes, of which the following is a specification.

In the manufacture of syringes difficulty is at times experienced in consequence of the barrel possessing inequalities in the bore or caliber, so that the piston-packing will not effect a uniform tight closing, and to overcome this difficulty the piston is made expansible or adjustable, so as to fit or adapt itself to the variations in caliber, as set forth in the following specification and claims, and illustrated in the annexed drawings, in which—

Figure 1 is a side elevation of the piston, sectioned along *xx*, Fig. 2. Fig. 2 is a section along *yy*, Fig. 1. Fig. 3 is a detail view of a spring. Fig. 4 is a side elevation of a modification sectioned along *uu*, Fig. 5. Fig. 5 is a section along *vv*, Fig. 4.

The piston-rod 1 has placed thereon cup-shaped packings of leather or other suitable material, each comprising a base portion 2, from which extends the annular flange portion 3. Against the packing portion 2 is seated a disk or plate 4. The nut 5 is screwed onto a suitable thread on rod 1 and sits against the plate 4. This nut has a flange 6, between which and the plate 4 is seated a radially-expansible spring 7. The packing part 3 is made to overlap the spring, so as to be yieldingly or adjustably pressed by the latter against the barrel, said spring, with packing part 3, giving inward or outward as the bore of the barrel varies, so that the packing part 3 always effects a tight closing or seat against the barrel. The spring 7 is seated loosely about the nut 5 between the plate 4 and the flange 6, so as to be held in place while left to act freely upon the packing. The spring is readily formed from a piece or strip of flat spring material, and by suitably tapering or inclining the meeting edges 8 of the spring overlapping of the meeting portions of the spring is avoided, so that no unevenness or disturbing thickening of the spring will occur.

The piston-rod is shown provided with two

packings 2 3, arranged as above described. By placing an oil-well or chambered collar 9 between the packings, as shown, a proper lubrication can be effected to secure easy working.

In the modification shown in Fig. 4 the piston-rod 1' has a nut or shoulder 10, against which is made to sit the head 7' of a spring 7' 11, the radially-expansible spring-fingers, or part 11, of which act upon the part 3 of the cup-shaped packing 2 3 to press said part 3 radially outward against the barrel of the syringe. The nut 12, screwed against the second spring 7' 11, holds the packings and their adjacent parts together and against the shoulder 10. If desired, the packing part 3, instead of being exposed to the pressure of but one spring 7, may be exposed to the pressure of several springs.

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

1. The combination of a screw-threaded piston-rod, a cup-shaped packing mounted thereupon, a nut screwed upon the piston-rod and located within the cup-shaped packing, and a radially expansible spring interposed between the nut and the base of the cup-shaped packing and acting to press the latter radially outward against the internal surface of the barrel in which the piston operates, substantially as described.

2. The combination with a screw-threaded piston-rod, a cup-shaped packing mounted thereupon, a metallic plate arranged within the cup-shaped packing and bearing against the base portion thereof, a nut engaging the screw-threaded piston-rod, and a radially expansible spring mounted on the piston-rod within the cup-shaped packing, and located between the said plate and the said nut for pressing the cup-shaped packing laterally outward against the internal surface of the barrel in which the piston rotates, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CHARLES J. TAGLIABUE.

Witnesses:

J. W. TRASSAUER,  
E. F. KASTENHUBER.