

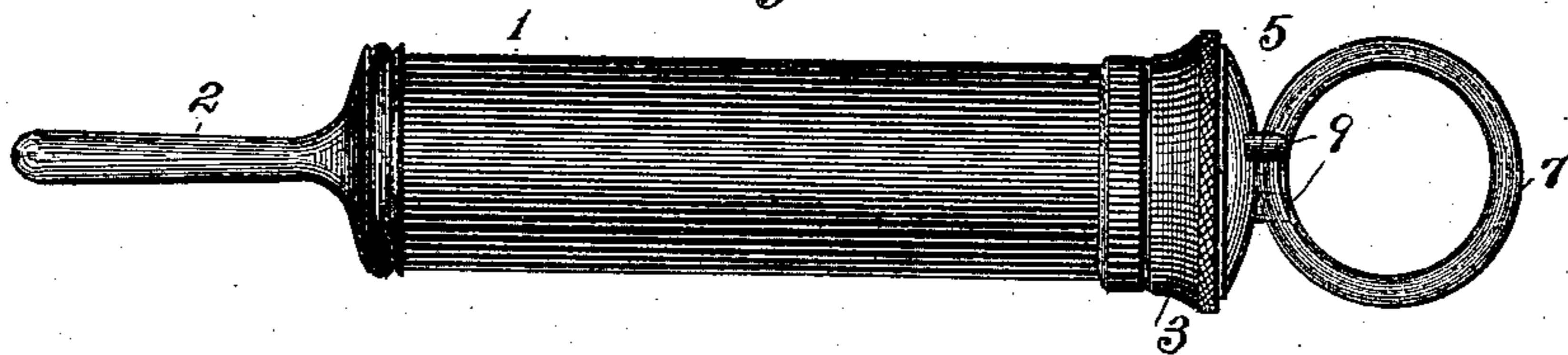
(No Model.)

I. Q. GURNEE.  
SYRINGE.

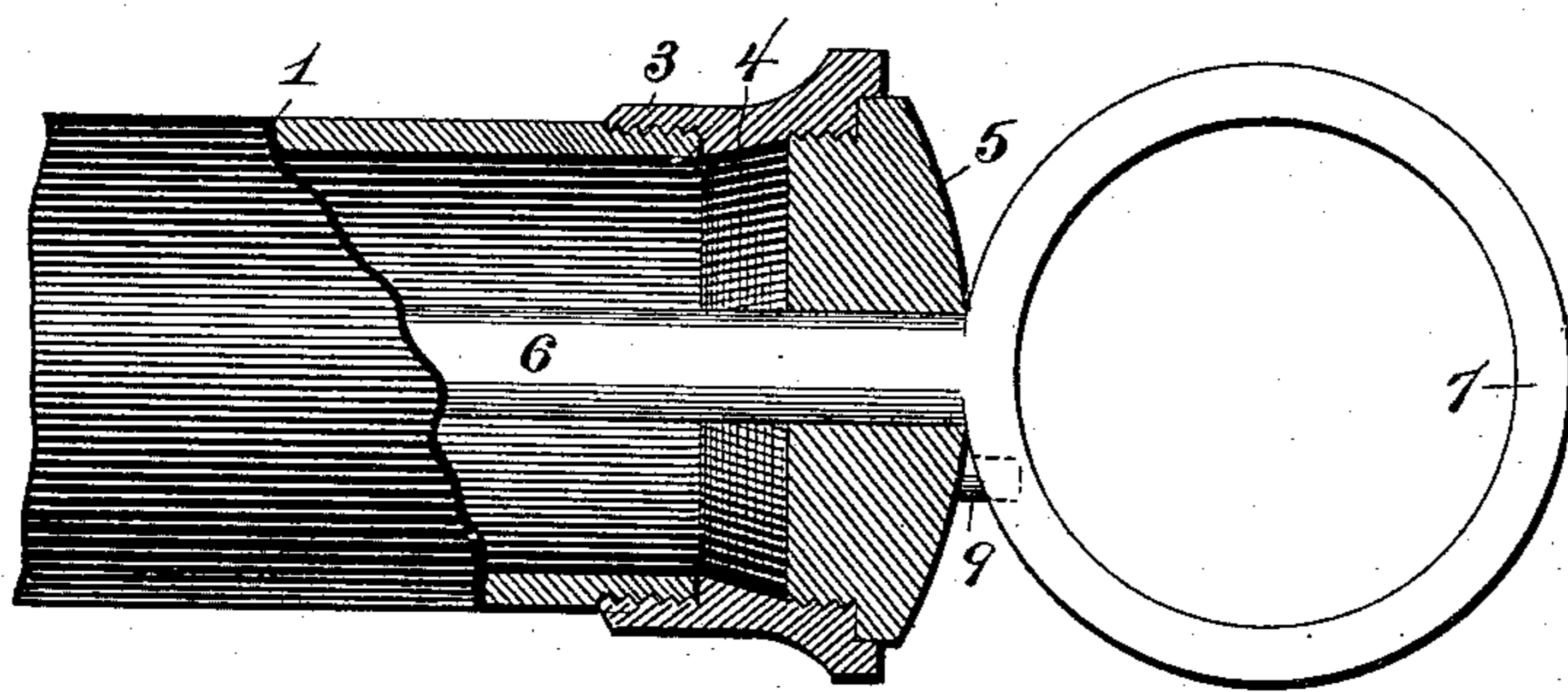
No. 572,506.

Patented Dec. 1, 1896.

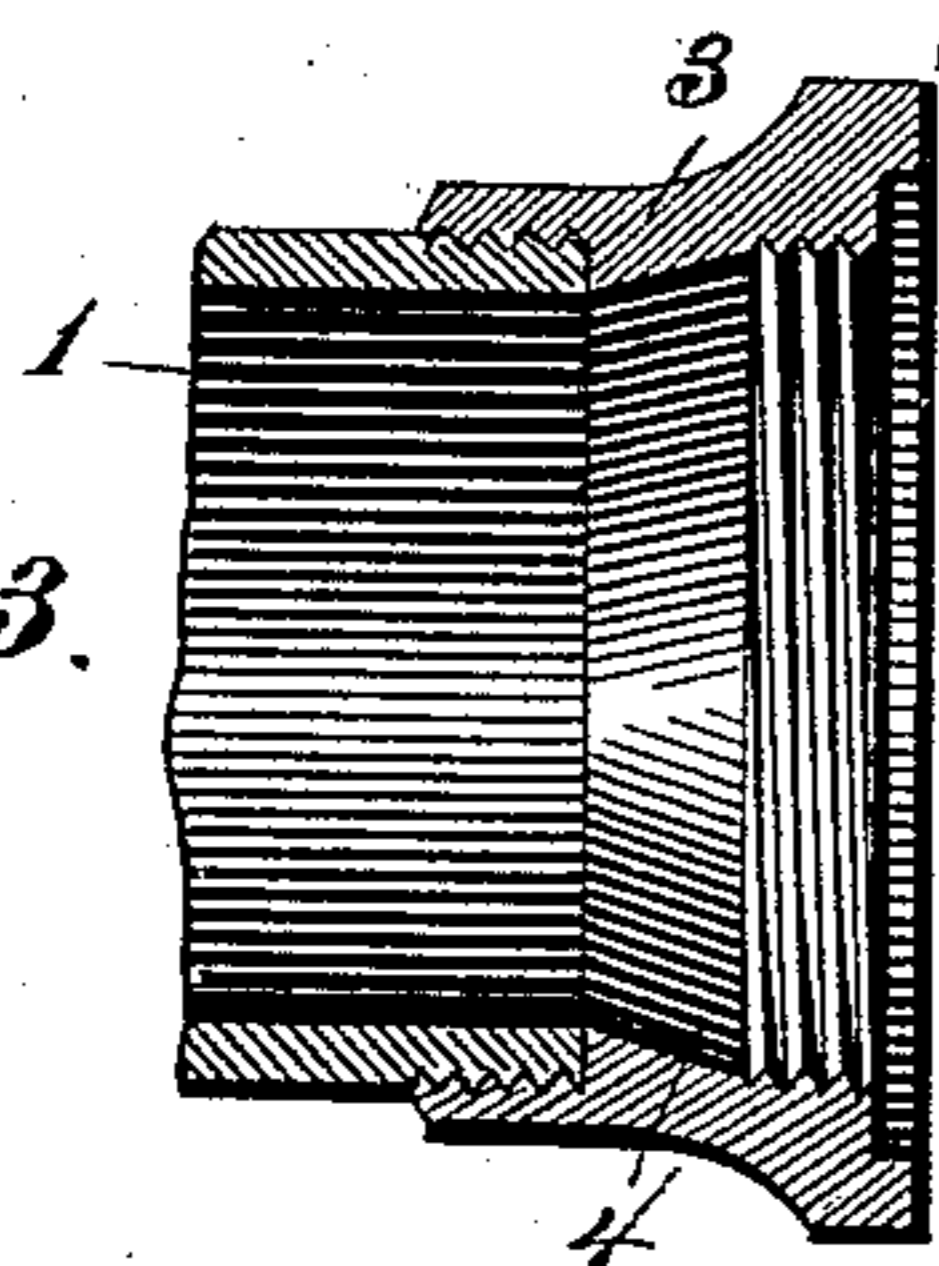
*Fig. 1.*



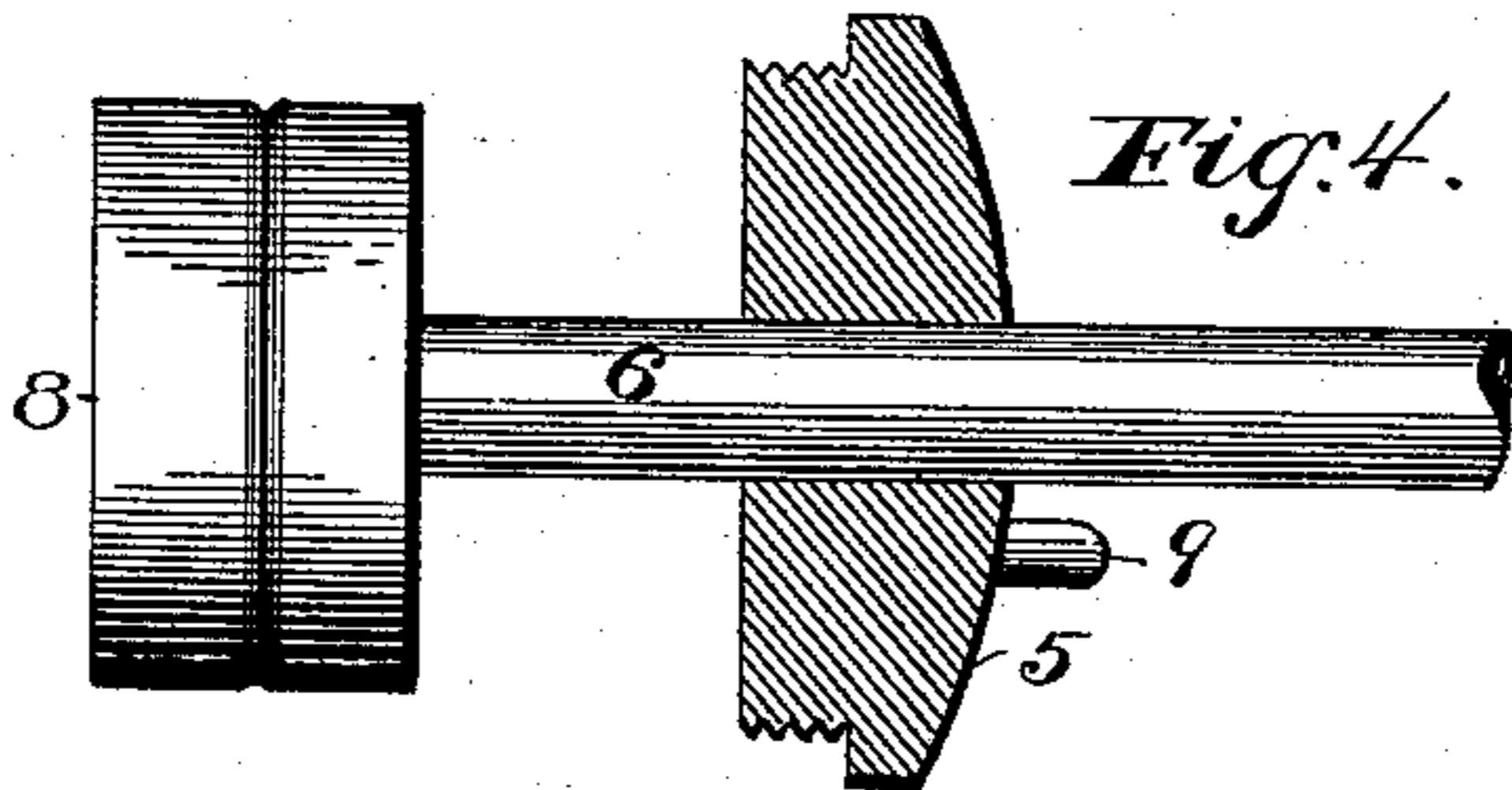
*Fig. 2.*



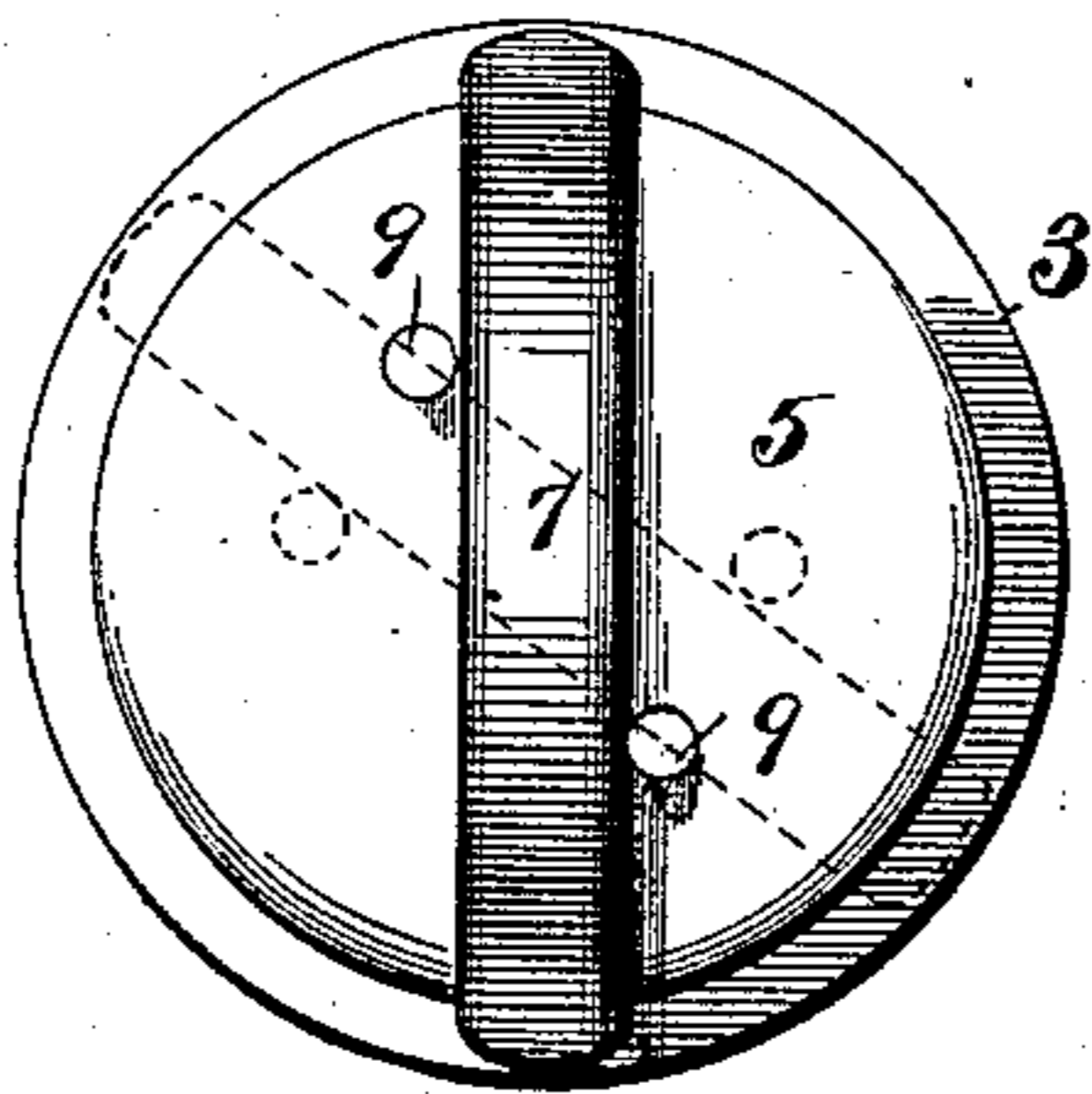
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



Witnesses  
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# UNITED STATES PATENT OFFICE.

ISAAC Q. GURNEE, OF BUTLER, NEW JERSEY.

## SYRINGE.

SPECIFICATION forming part of Letters Patent No. 572,506, dated December 1, 1896.

Application filed April 9, 1896. Serial No. 586,790. (No model.)

*To all whom it may concern:*

Be it known that I, ISAAC Q. GURNEE, a citizen of the United States, residing at Butler, in the county of Morris and State of New Jersey, have invented certain new and useful Improvements in Syringes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-  
10 pertains to make and use the same, reference being had to the figures of reference marked on the accompanying drawings, which form a part of this specification.

My invention relates to syringes and other  
15 pumps.

The object of the present invention is to provide a means for inserting the plunger or piston of a syringe into the barrel without any tendency or possibility of the piston or  
20 packing thereon sticking or being caught by the end of the barrel.

A further object of the invention is to provide means for locking the plunger to the cap-  
25 piece for the purpose of rotating it.

It is frequently desirable to remove the plunger or piston from the barrel for repairs, lubrication, and other purposes, and great difficulty is encountered in reinserting the  
30 plunger after removal, because the packing is apt to catch upon the edge of the barrel and disarrange the same, so as to prevent its entrance.

For these purposes my invention consists in the following construction and combina-  
35 tion of parts, the details of which will first be fully described and the patentable features then set forth and claimed.

Figure 1 is a side elevation of a syringe embodying my invention. Fig. 2 is a detail en-  
40 larged view, partly broken away, showing the parts both in elevation and in section. Fig. 3 is an enlarged longitudinal cross-section, partly broken away, of the end of the barrel. Fig. 4 is a side elevation of the plunger or  
45 piston and rod, broken away, showing the removable cap in sectional view. Fig. 5 is an end view of the syringe.

In the drawings, 1 represents the barrel of a syringe provided with any of the usual tips  
50 2 at one end and preferably a screw-cap at

the other, having an opening within which the plunger works.

3 is a sleeve upon the rear end of the bar-  
rel 1, provided with a flaring interior opening  
4 therein. This sleeve is shown secured to  
55 the barrel 1, but it may be made integral therewith.

5 is the end cap of the syringe, preferably  
screwed into the sleeve 3 or the end of the  
60 barrel 1.

6 is a piston or plunger rod carrying a han-  
dle 7 at the rear end and a plunger or piston  
8 at the inner end.

The screw-cap 5 may be provided with lugs  
9 or other projections by means of which the  
65 plunger-rod, when the handle 7 is pushed in against the cap, may act as bearings which the handle engages for the purpose of screw-  
ing and unscrewing the cap 5 from the barrel.  
A mill-face upon the cap 5 might be substi-  
70 tuted for this device.

It will be readily seen that when it is de-  
sired to unscrew the cap the handle may be  
brought into the position shown in Figs. 1  
and 5 and the handle turned to the left, as  
75 indicated in dotted lines, Fig. 5, (provided the thread be a right-hand one,) and the cap may be readily unscrewed. The reverse op-  
eration replaces the cap.

After the plunger or piston 8 is withdrawn  
80 for any purpose, such as has been indicated above, the plunger is readily and easily re-  
placed by virtue of the flared or cone-shaped surface 4 on the end of the barrel, and all  
tendency to stick or jam is prevented.  
85

My invention may be applied to other  
pumps, such, for instance, as bicycle-pumps.

I claim—

1. In a syringe, the combination of a barrel  
or cylinder, a cap for closing the barrel, a  
90 plunger and rod, and positive interlocking mechanism between the cap and the outer end of the rod only, whereby the cap can be manipulated by means of the rod only when the latter occupies its innermost position,  
95 substantially as described.

2. The herein-described article of manu-  
facture comprising a barrel or cylinder hav-  
ing a flared opening, a screw-cap for closing  
the flared opening, a plunger and rod, and  
100

positive interlocking pieces carried upon the cap and upon the handle of the rod for the purpose of rotating the cap in either direction.

5 3. The herein-described article of manufacture comprising a barrel or cylinder, a detachable sleeve located upon the end of the barrel and provided with a flaring interior portion, a screw-cap fitting on said sleeve,  
10 and positive interlocking pieces carried upon

the cap and upon the handle of the rod for the purpose of rotating the cap in either direction.

In testimony whereof I affix my signature in the presence of two witnesses.

ISAAC Q. GURNEE.

Witnesses:

GEORGE J. FRITZ,  
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