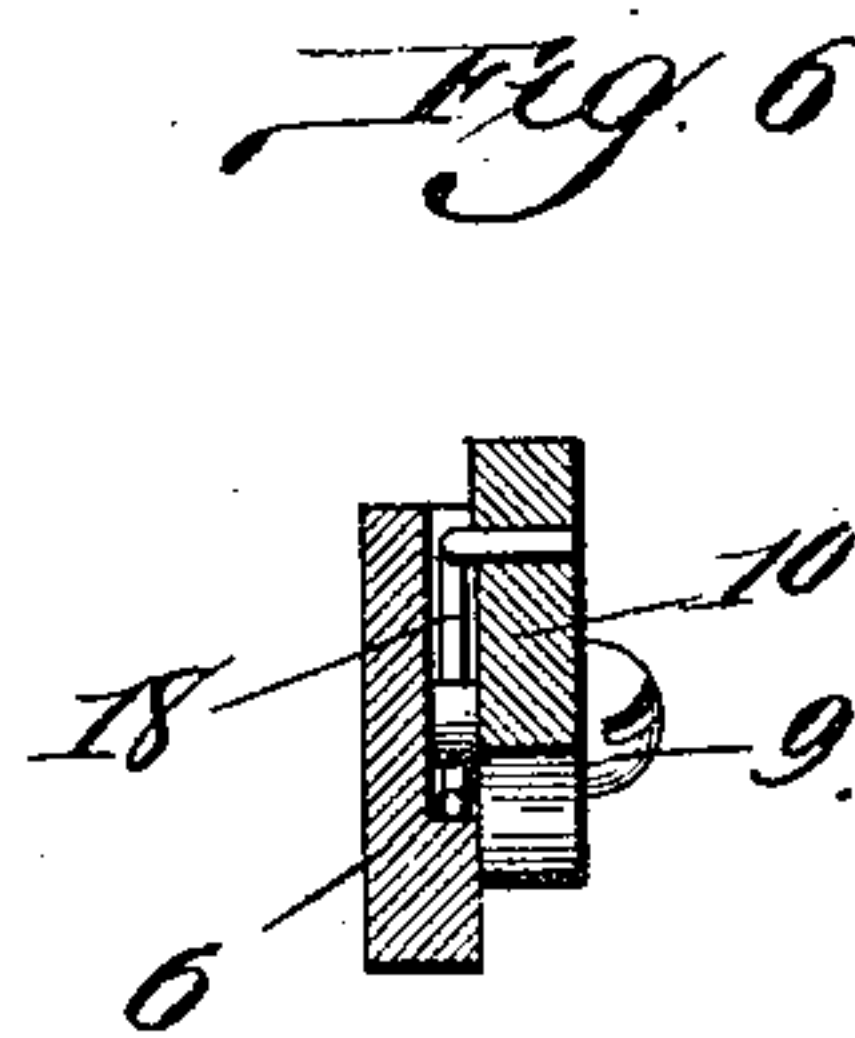
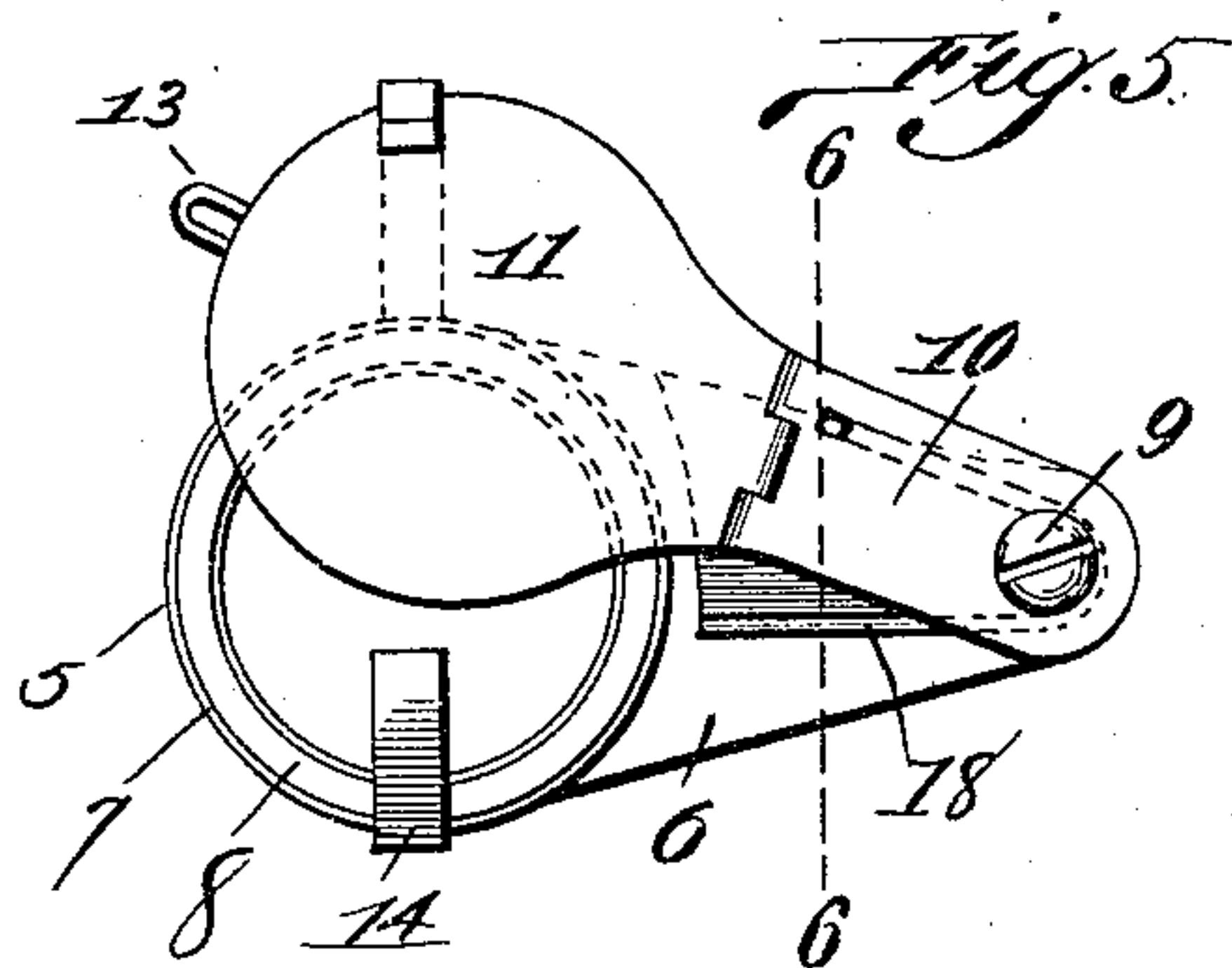
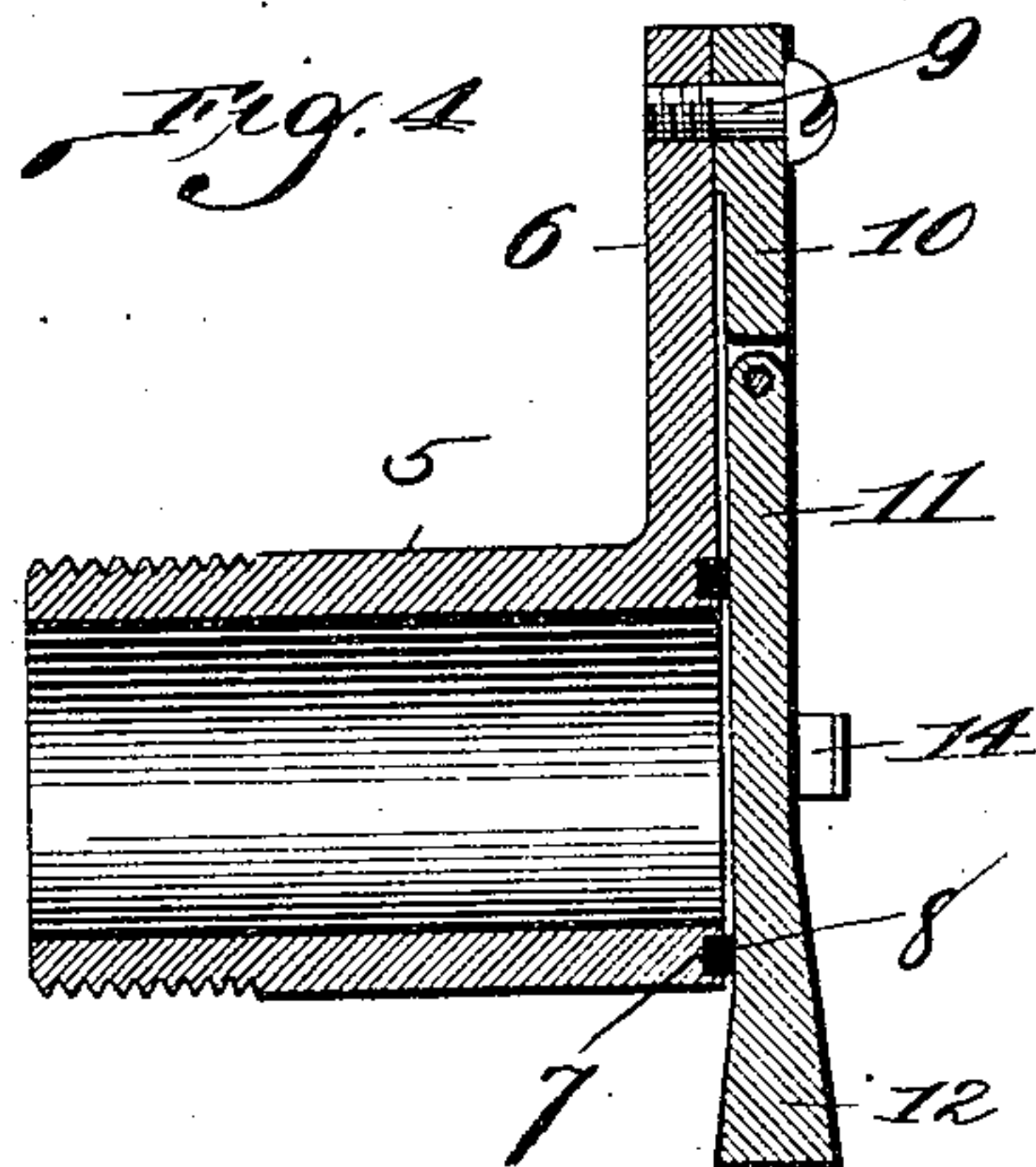
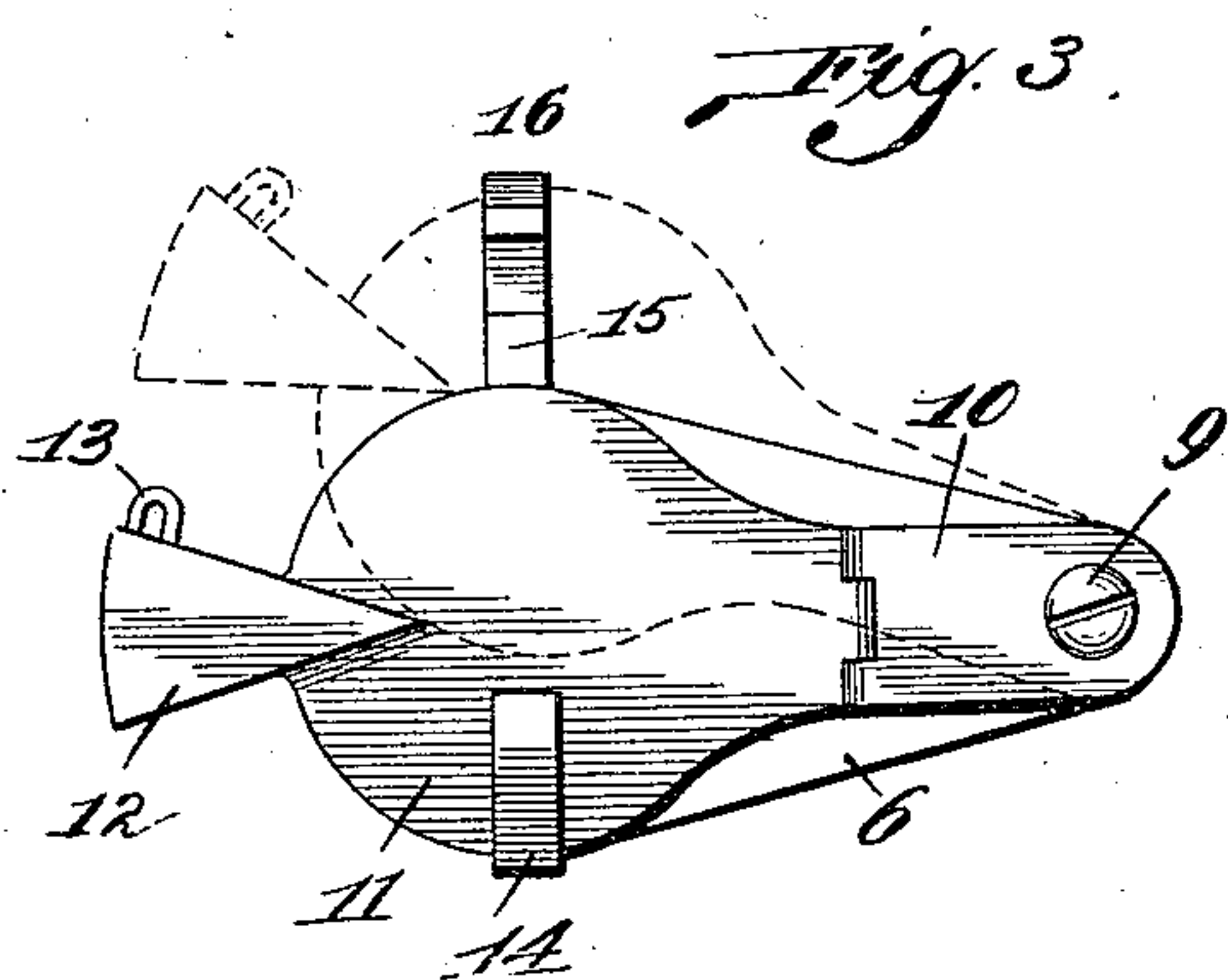
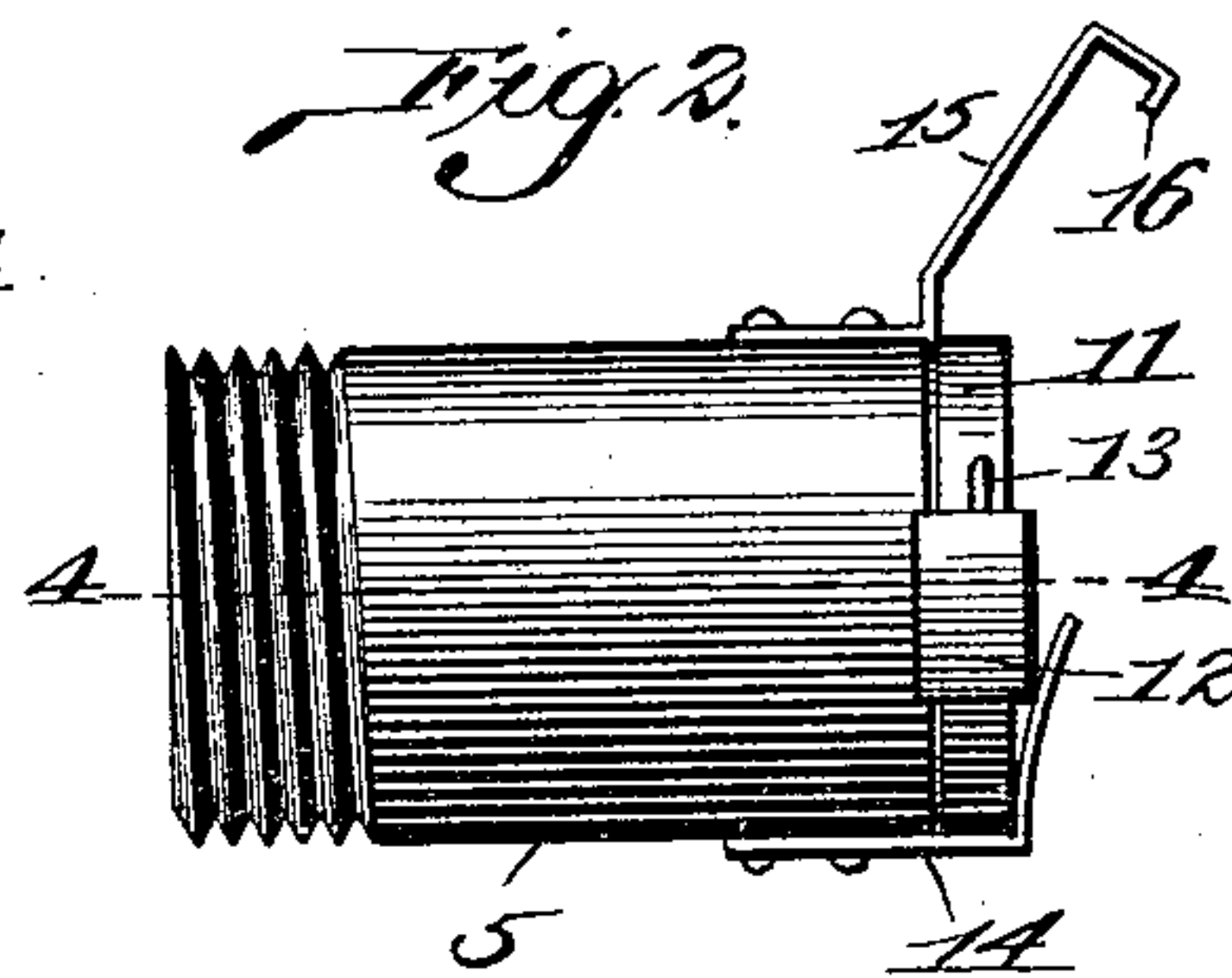
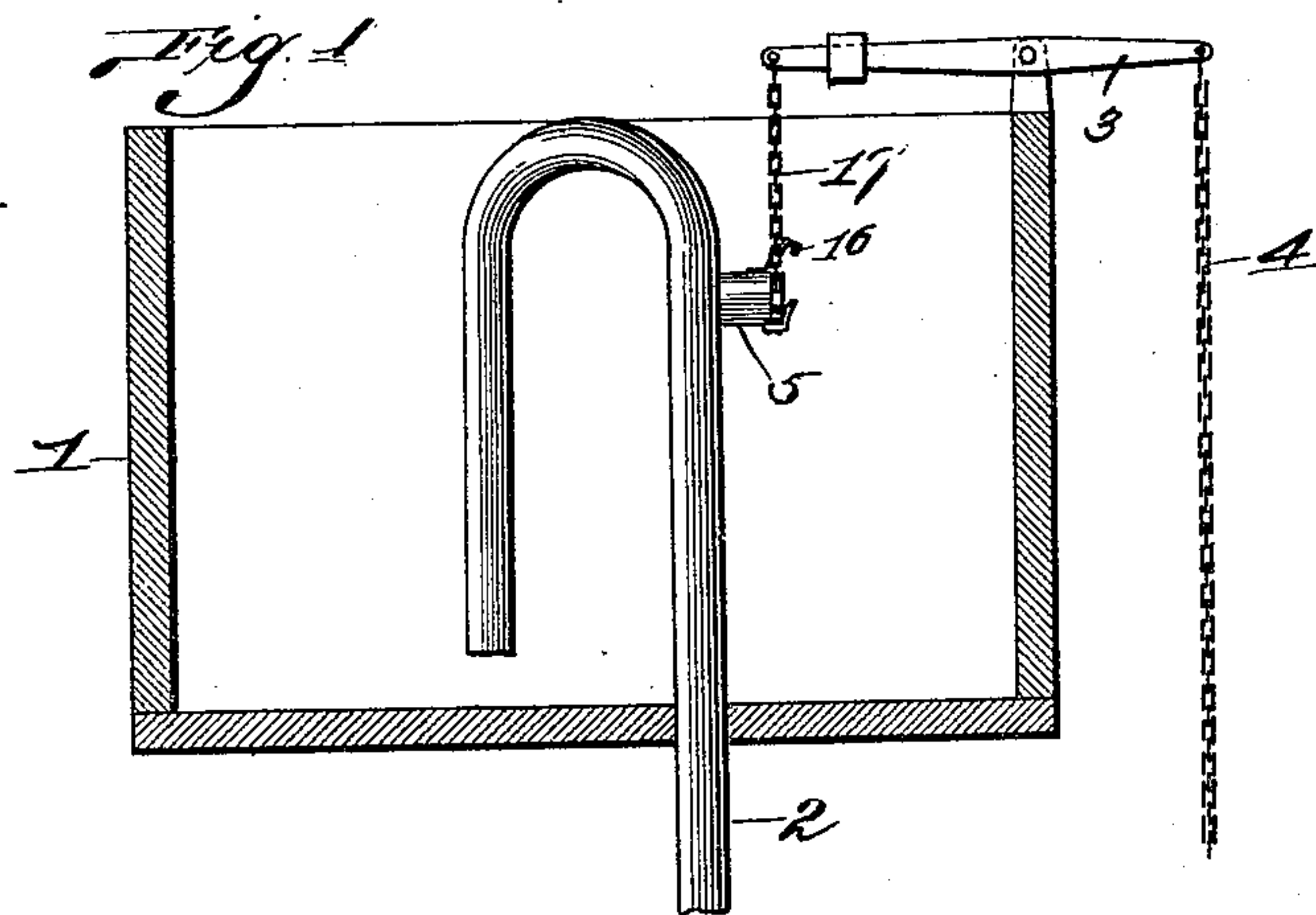


(No Model.)

M. H. WILCOX.  
SIPHON VALVE FOR WATER TANKS.

No. 565,314.

Patented Aug. 4, 1896.



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# UNITED STATES PATENT OFFICE.

MYRON H. WILCOX, OF CHILLICOTHE, MISSOURI, ASSIGNOR OF ONE-HALF  
TO CHARLES KAUTZ, JR., OF BERGER, MISSOURI.

## SIPHON-VALVE FOR WATER-TANKS.

SPECIFICATION forming part of Letters Patent No. 565,314, dated August 4, 1896.

Application filed February 6, 1896. Serial No. 578,268. (No model.)

*To all whom it may concern:*

Be it known that I, MYRON H. WILCOX, of the city of Chillicothe, Livingston county, State of Missouri, have invented certain new and useful Improvements in Siphon-Valves for Water-Tanks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to an improved siphon-valve for water-tanks; and it consists in the novel construction, combination, and arrangement of parts hereinafter described and claimed.

In the drawings, Figure 1 is a longitudinal sectional view of a closet-tank, showing the siphon-pipe therein with my improved valve applied to said siphon-pipe. Fig. 2 is a side elevation of my improved siphon-valve. Fig. 3 is a front elevation thereof. Fig. 4 is a horizontal sectional view taken approximately on the indicated line 4 4 of Fig. 2. Fig. 5 is a front elevation of a modified form of my improved siphon-valve. Fig. 6 is a vertical sectional view taken approximately on the indicated line 6 6 of Fig. 5.

Referring by numerals to the accompanying drawings, 1 indicates the closet-tank, the same being provided with the usual siphon-pipe 2 and the weighted lever 3, to which is secured the operating-chain 4.

Tapped into the main leg of the siphon-pipe at a point just below the turn at the upper end of said pipe is the valve-cylinder 5, to one side of the outer end of which is formed integral a laterally-projecting arm 6. Formed in the front face of the valve-cylinder 5 is an annular groove 7, in which is seated a packing-ring 8 of rubber, leather, or analogous material, the same projecting a slight distance beyond the face of said valve-cylinder.

Tapped into the end of the arm 6 is a screw or pin 9, to which is pivoted one end of a link 10. To the free end of said link 10 is hinged a plate 11, approximately circular when viewed in elevation, said plate being of such size as to completely close the end of the valve-cylinder 5, there being formed integral with the side of said plate 11 opposite from

the side which is pivoted to the link 10 a weighted lug 12, carrying a hook-eye 13.

Fixed to the under side of the forward end of the valve-cylinder 5 is a rectangularly-bent stop 14, the upturned end of which extends outwardly from the end of said valve-cylinder. The plate 11 normally rests upon this stop 14 when the valve is closed.

Fixed to the top and outer end of the cylinder 5 is one end of a stop 15, the same extending upwardly and outwardly from the end of the valve-cylinder 5, said stop terminating in a hook 16. A chain 17 is secured at one end to the eye 13 and at its upper end to the weighted end of the operating-lever 3 of the tank.

In the construction of the device shown in Fig. 5 the weighted lug 12 is done away with and a spring 18 made use of to close the plate 11 upon the end of the valve-cylinder, said spring passing around the screw or pin 9 and having its ends attached, one to the arm 6 and the other to the link 10. In some forms of the valve the hinge between the link 10 and the plate 11 is done away with and a ball-and-socket joint made use of between the end of the plate 11 and the arm 6.

The operation is as follows: Previous to a discharge from said tank the water in said tank must necessarily be of such depth as to completely submerge the valve-cylinder 5. When the operating-chain 4 is pulled, the lever 3 will swing upon its fulcrum and the plate 11 will be swung upwardly, during which movement it rides directly upon the face of the packing 8 in the end of said valve-cylinder. During its movement the link 10 and plate 11 are swinging upon the pivot-pin or screw 9, and as soon as the upper edge of the plate 11 strikes the inclined portion of the stop 15 said plate 11 will swing upon the hinge which secures it to the link 10, and thus said plate will swing outwardly simultaneously with its upward movement. As soon as the plate 11 leaves the mouth of the valve-cylinder 5 the water within the tank will discharge through the valve-cylinder 5 and downwardly through the siphon-pipe 2. When the pull upon the chain 4 is released,



the valve-plate 8 will drop to its closed position, and the water passing downwardly through the main leg of the siphon-pipe 2 will cause a siphonic action through the upper end of said pipe and the shorter leg thereof, and the water within the tank as far down as the lower end of the shorter leg of the pipe will be discharged. The plate 11 normally rests upon the packing 8 in the forward end of the valve-cylinder 5 in such a manner as to form a perfectly water-tight joint, and this being the case there will be no leakage from the tank. Said plate 11 moves off from and onto the end of the valve-cylinder with a sliding movement, and for this reason any sediment or deposit upon the inside face of said plate will be removed to wash away with the rush of water as said plate slides upon the flexible packing. When said plate is in a closed position, the water-pressure greatly assists in causing the same to tightly engage against the packing.

In the foregoing description I have alluded to the valve as being located upon the siphon-pipe of a siphon-tank. This is but one of the points where my improved valve is advantageously used, it being equally applicable upon large water-receptacles and railway-tanks where siphon-pipes are not used. Its operation in such tanks or receptacles where siphon-pipes are not used will be readily understood by persons familiar with the art to which my invention pertains.

My improved valve is entirely automatic in its action, is self-cleaning and self-adjustable upon a packing, will not easily get out of order, and by proper manipulation said valve can be opened to any point desired, and in this manner the flow or discharge of water from the tank is regulated. Such a valve is easily applied for use, is inexpensive in construction, and where made use of there will be absolutely no leakage from the tank through said valve.

I claim—

1. A valve consisting of a cylinder, a plate arranged to swing in a vertical plane and close the end of said cylinder, a guide carried by said cylinder and designed to move said plate outwardly as it is moved upwardly.

2. In combination with the siphon-pipe of a tank, a valve-cylinder tapped into the longer

leg of said pipe, and a plate arranged to swing upwardly and outwardly over the open end of said valve-cylinder.

3. In combination with a siphon-pipe of a tank, a valve-cylinder tapped into the longer leg of the pipe within the tank, a weighted plate arranged to swing in a vertical plane and close the end of the valve-cylinder, a guide carried by the valve-cylinder for causing the weighted plate to move outwardly simultaneously with its upward movement, and means for operating said weighted plate.

4. A siphon-valve for closet-tanks, constructed with a valve-cylinder, a packing-ring located in the face of said valve-cylinder, an arm formed integral with and projecting laterally from the forward end of said cylinder, stops arranged on top and on the bottom of the forward end of said cylinder, a link pivoted to the outer end of the integral arm, and a weighted circular plate hinged to the free end of the link and arranged to close upon the packed end of the valve-cylinder.

5. A siphon-valve, constructed with a valve-cylinder arranged to be fixed to the siphon-pipe, an annular packing-ring located in the forward end of the valve-cylinder, an arm formed integral with and projecting laterally from the forward end of said cylinder, a link pivoted upon the outer end of said arm, a weighted plate hinged to the free end of the link, a stop arranged at the bottom and forward end of the valve-cylinder upon which the weighted plate normally engages, and a guide carried by the upper forward end of the valve-cylinder, the same extending upwardly and outwardly from said cylinder.

6. A valve consisting of the cylinder 5, the arm 6 attached to said cylinder, the packing-ring 8 seated in the front face of said cylinder, the link 10 pivotally connected to said arm 6, the plate 11 hinged to the free end of said link, the stop 14 fixed to the under side of the forward end of said cylinder and the guide-stop 15 fixed to the top and outer end of said cylinder.

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

MYRON H. WILCOX.

Witnesses:

CORNMA SMITH,  
JESSIE L. SEAY.