

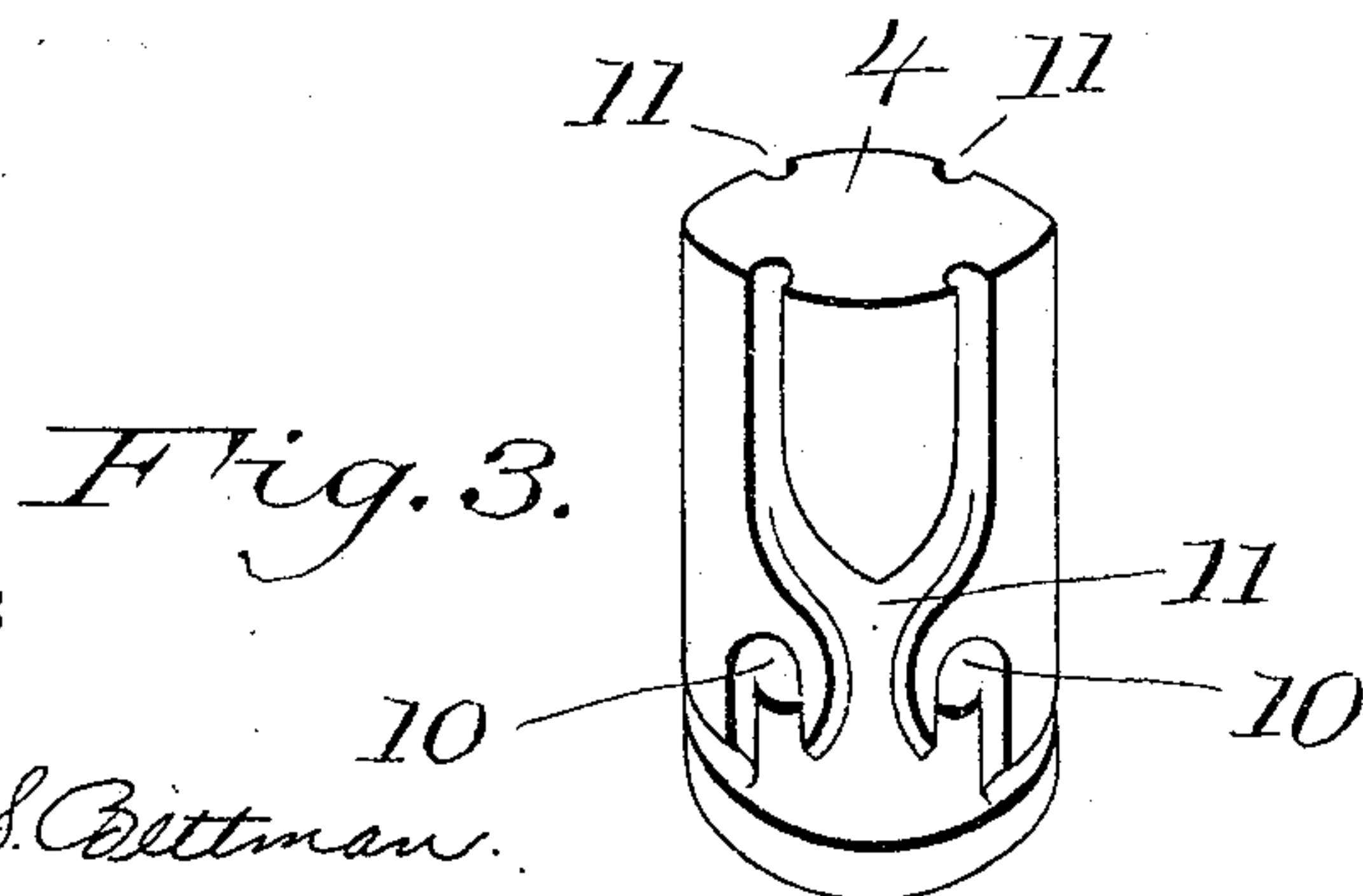
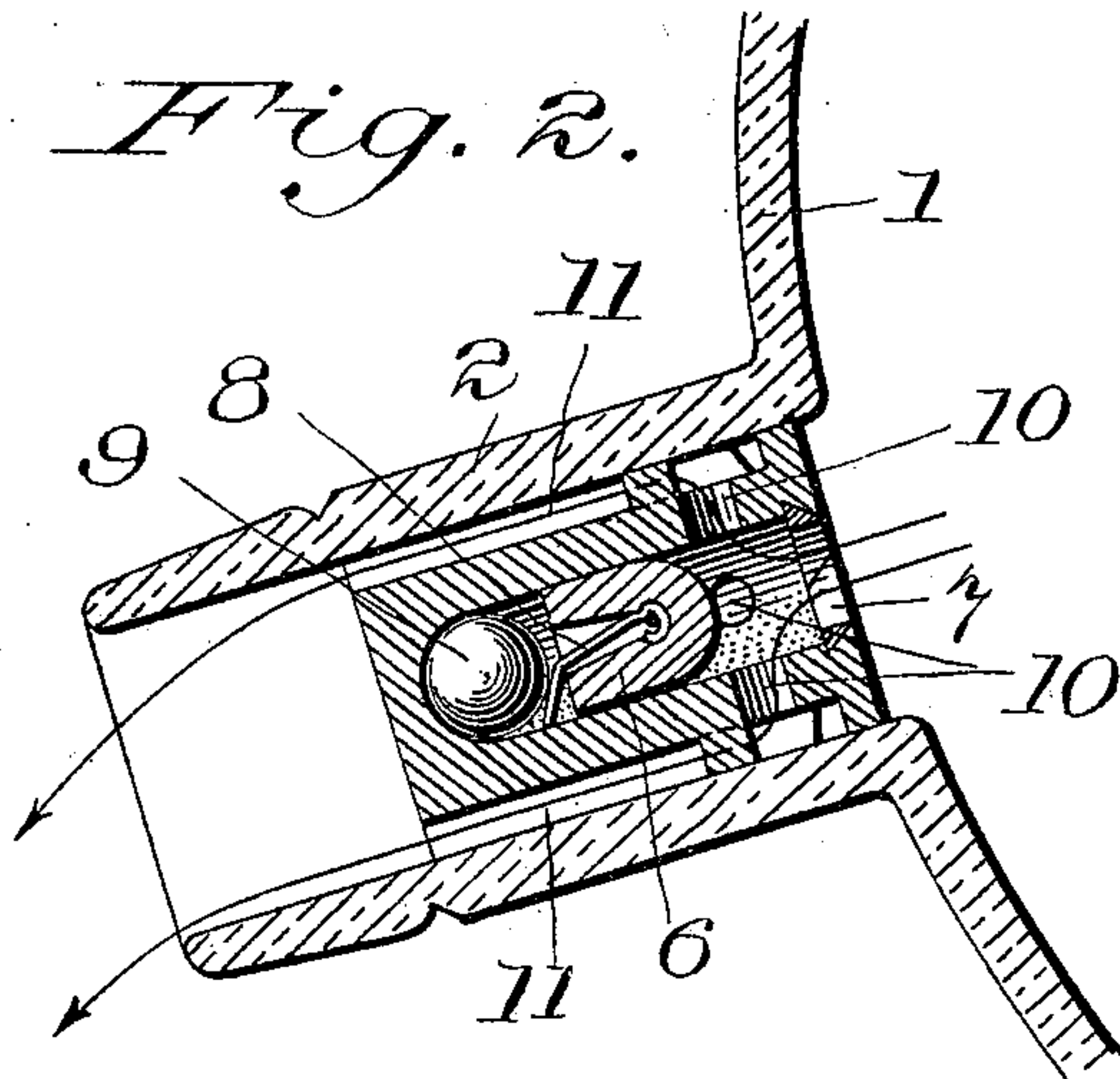
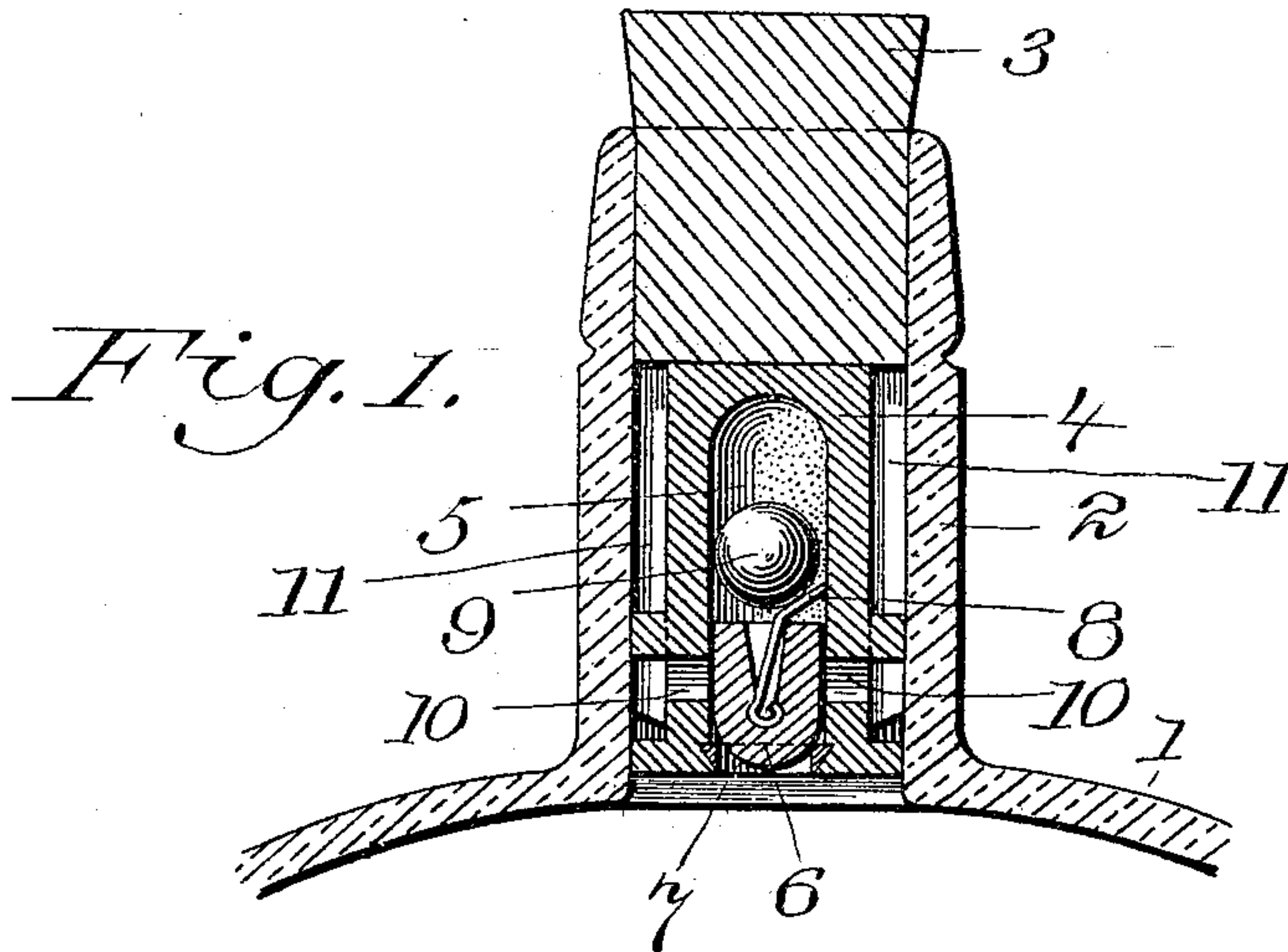
No. 624,092.

Patented May 2, 1899.

R. R. REYNOLDS.
NON-REFILLABLE BOTTLE.

(Application filed Aug. 15, 1898.)

(No Model.)



WITNESSES:

Blanche S. Pittman.

W. H. Pumphrey.

INVENTOR

Robert R. Reynolds

BY

Clatton & Pearles
ATTORNEYS.

UNITED STATES PATENT OFFICE.

ROBERT RANDOLPH REYNOLDS, OF NEW YORK, N. Y.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 624,092, dated May 2, 1899.

Application filed August 15, 1898. Serial No. 688,649. (No model.)

To all whom it may concern:

Be it known that I, ROBERT RANDOLPH REYNOLDS, residing at New York, in the county of New York and State of New York, have invented a new and useful Improvement in Non-Refillable Bottles, of which the following is a specification.

My invention relates to a class of valved stoppers adapted to be permanently applied for the purpose of rendering bottles non-refillable, the object being to prevent unauthorized use and misrepresentation.

The novelty of the invention lies in the construction and arrangement of the parts forming the device, as hereinafter described and claimed.

The invention is illustrated in the accompanying drawings, forming part of this specification, wherein like numerals of reference indicate similar parts throughout the several views, in which—

Figure 1 is a central vertical sectional view illustrating the application of one embodiment of my invention. Fig. 2 is a similar view showing the bottle tilted at an angle to permit the contained liquid to flow therefrom, and Fig. 3 is a detail view in perspective of the valved stopper.

In the drawings, 1 represents a portion of a bottle, 2 the neck, and 3 the cork. The inner surface of the neck is ground to insure accurate and secure seating for a valved stopper 4, which latter is also ground and forced in position. The stopper has an interior chamber 5 opening downward in the bottle, in which an automatic gravity-valve 6 is slidingly seated, its downward movement being limited by a split spring-ring 7, forming a flange at the base of the chamber. A self-disengaging locking dog or pawl 8, formed of spring-wire or other material, is suitably attached to the valve to have a limited movement in the direction of the wall of the chamber, the latter being roughened to facilitate a ready engagement therewith.

9 represents a follower-weight confined within the chamber between the valve and the upper closed end thereof. This weight is designed to retain the valve closed by forcing the free end of the arm or dog into engagement with the roughened wall of the chamber, as indicated in Fig. 1. It will be apparent that upon inclining the bottle, as shown

in Fig. 2, the weight will fall, allowing the arm to free itself by springing inward, thereby releasing the valve, which in moving downward opens the outlet-ports 10 10 for the escape of the liquid. Outside the chamber communication is established between these ports by way of an annular surface groove formed adjacent to the base of the stopper, and from this common passage two or more approximately Y-shaped surface grooves lead upward and afford ready escape for the liquid. By reason of the peculiar shape given these last-mentioned passages access to the valve, as by the introduction of a tool or piece of bent wire, is rendered impossible.

The operation of the device will be obvious from the foregoing description.

Having thus fully described my invention, what I claim as new is—

1. A stopper, comprising a casing having a chamber opening into the bottle and provided with outlet ports and passages, a gravity-valve having requisite movement within the chamber to control the ports, a self-disengaging dog carried by the valve and a follower-weight normally retaining the dog in locked position and the valve closed, as specified.

2. A stopper, comprising a casing having a cylindrical chamber opening into the bottle and provided with outlet ports and passages, a gravity plug-valve fitting the cylindrical chamber and having requisite movement therein to control the ports, a self-disengaging spring-dog carried by the valve, and a spherical follower-weight movable within the chamber and normally retaining the dog in locked position and the valve closed, as specified.

3. A stopper, comprising a chambered casing provided with outlet-ports, an automatic valve controlling the ports, an annular passage exterior to the chamber and common to the ports, and approximately Y-shaped outlet-passages leading from the annular passages, as specified.

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

ROBERT RANDOLPH REYNOLDS.

Witnesses:

EUGENE PEARL,
BLANCHE S. BETTMAN.