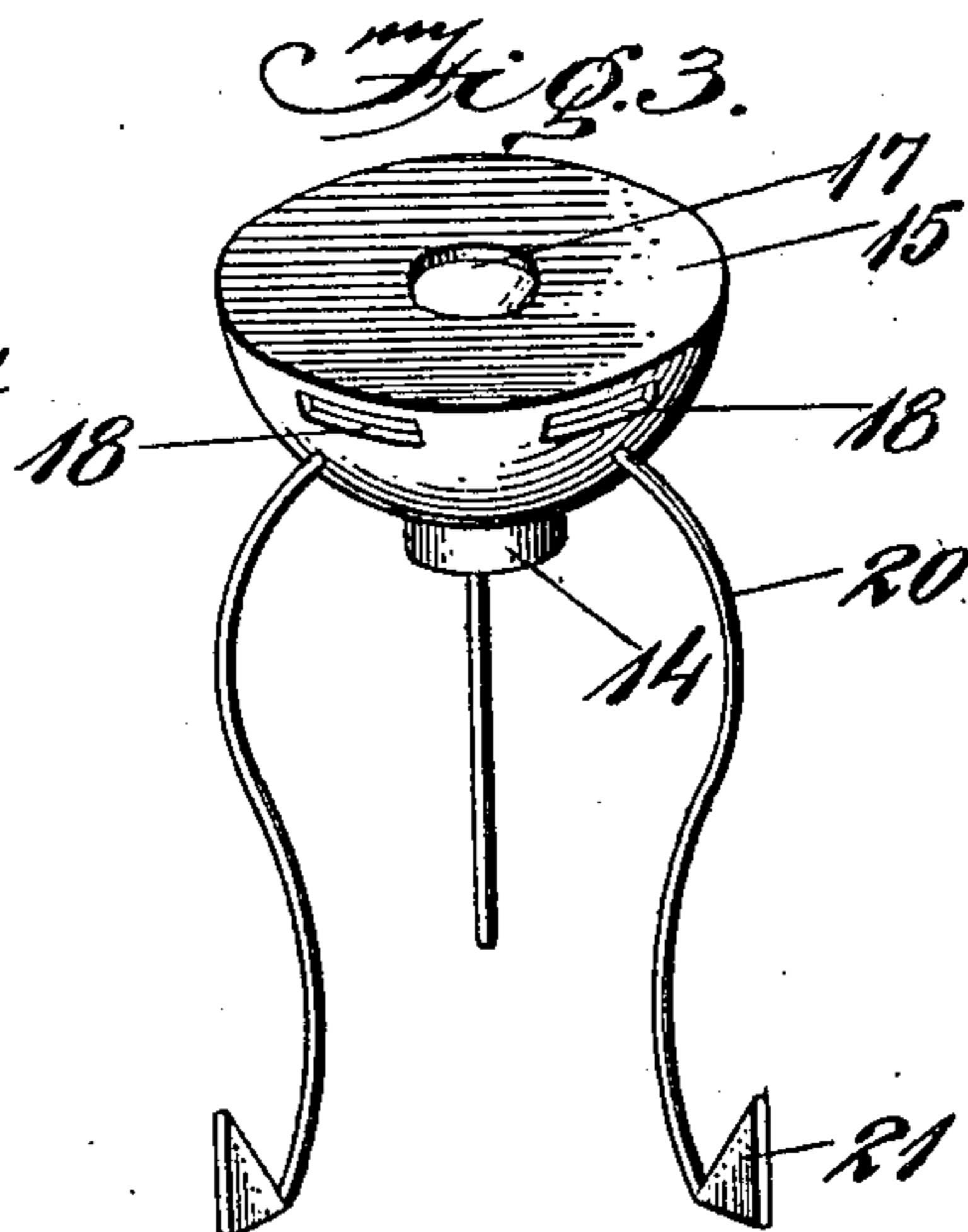
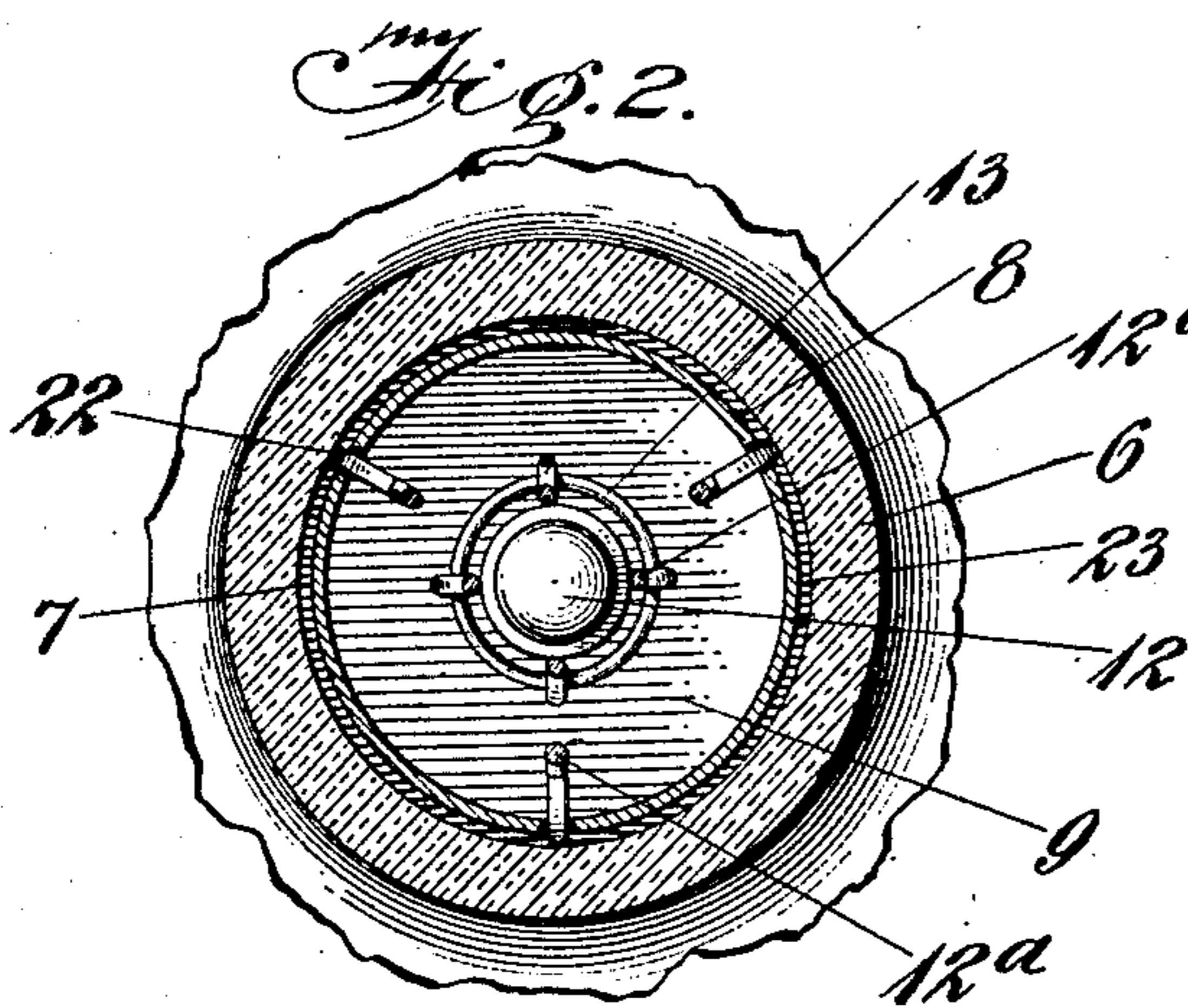
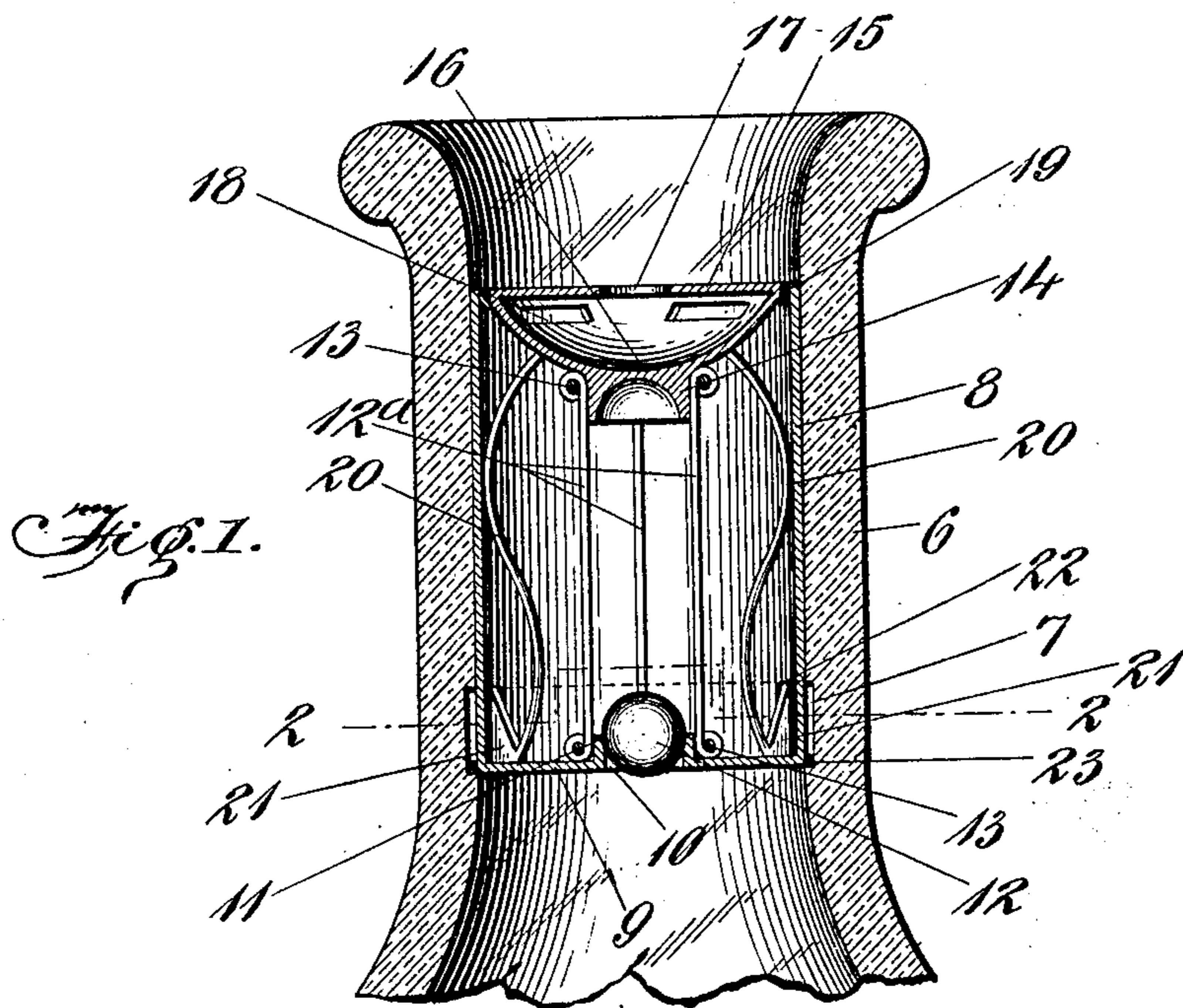


A. L. RUDOLPH, JR.
NON-REFILLABLE BOTTLE.
APPLICATION FILED MAR. 23, 1908.

920,184.

Patented May 4, 1909.



Witnesses:

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UNITED STATES PATENT OFFICE.

ALBERT LEON RUDOLPH, JR., OF CAMDEN, NEW JERSEY.

NON-REFILLABLE BOTTLE.

No. 920,184.

Specification of Letters Patent.

Patented May 4, 1909.

Application filed March 23, 1908. Serial No. 422,850.

To all whom it may concern:

Be it known that I, ALBERT LEON RUDOLPH, Jr., a citizen of the United States, residing at Camden, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention relates to non-refillable bottles of that type having a valve within the neck of the bottle, protected by a guard which prevents access to the valve, but which, nevertheless, will allow the liquid to flow out when the bottle is inverted.

The object of the invention is to form a simple and cheap device of the kind, which can be readily formed of sheet metal and fastened in the neck of the bottle so that it cannot be removed, at least without wrecking the stopper and thus indicating that the bottle has been tampered with.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a central vertical section of a bottle neck provided with the device. Fig. 2 is a horizontal section on the line 2—2 of Fig. 1. Fig. 3 is a perspective view of the guard for the valve.

Referring specifically to the drawings, the bottle neck is indicated at 6, and it has therein a circular groove 7 extending around the same and preferably located near the base of the neck. A cylinder 8, made of sheet metal or the like, is fitted within the neck of the bottle, being made of proper size and shape for that purpose. It has a bottom 9 with a valve opening 10 at the center, a rim or edge being turned up around the hole to form a valve seat, as indicated at 11. The ball 12 rests upon the seat and normally closes the valve opening.

The ball is retained in a cage consisting of vertical bars 12^a connected at opposite ends to rings 13, these bars and rings being conveniently made of wire. The lower ring fits over the rim 11 around the valve seat, and the upper ring fits over a projection 14 on the under side of the guard member. This guard member is a hollow body having a flat top 15

and a concave bottom 16, the former being provided with a central hole or outlet 17 and the latter being provided with slots 18 located near the outer edge thereof. The guard member fits within the cylinder 8 at the top thereof, a rubber ring 19 being placed at the joint to make the parts liquid-tight.

The guard member is provided with spring arms 20 extending downwardly therefrom, and these arms terminate at their lower ends in hooked pieces 21 which extend through vertical slots 22 formed in the side wall of the cylinder 8 near the bottom thereof, and said hooks are adapted to and do engage in the groove 7 in the bottle neck and act to hold the guard in place and also to hold the cylinder in the neck of the bottle, preventing removal thereof. A rubber ring 23 is placed at the bottom of the groove to prevent leak of liquid around through the groove.

The ball 12 is free to move in the cage to and from the valve seat. When the bottle is in upright position the valve closes against the seat. When the bottle is inverted the valve rolls to the other end of the cage and the liquid can flow out through the hole 10 and then through the openings 18 and 17 in the guard. Said openings being out of alignment prevent tampering with the valve from the outside. The arms 20 have a spring action which allows the device to be placed within the neck of the bottle, and when the hooks reach the groove 7 they spring out and engage therein and thus hold the device in position.

The device will be inserted after the bottle is filled and will thereafter prevent refilling or adulteration.

I claim:

1. A bottle valve comprising a sheet metal cylinder fitting in the neck of the bottle and having a valve opening in the bottom and a raised rim and valve seat around said opening, a guard in the top of said cylinder, a cage consisting of spaced bars and rings at the ends thereof, the ring at one end extending around said rim and the ring at the other end resting against the guard, and a valve in the cage, movable to and from the seat.

2. The combination with a bottle neck
having an internal groove around the same,
of a cylinder fitting closely in the neck and
having vertical slots in the sides and a valve
5 in the bottom, a guard extending across the
top of the cylinder and having upper and
lower perforated plates, and spring arms ex-
tending downwardly from the lower plate

and having hooks extending through the
slots and into the groove.

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

ALBERT LEON RUDOLPH, JR.

Witnesses:

A. LEON RUDOLPH, Sr.,

C. ALECK RUDOLPH.