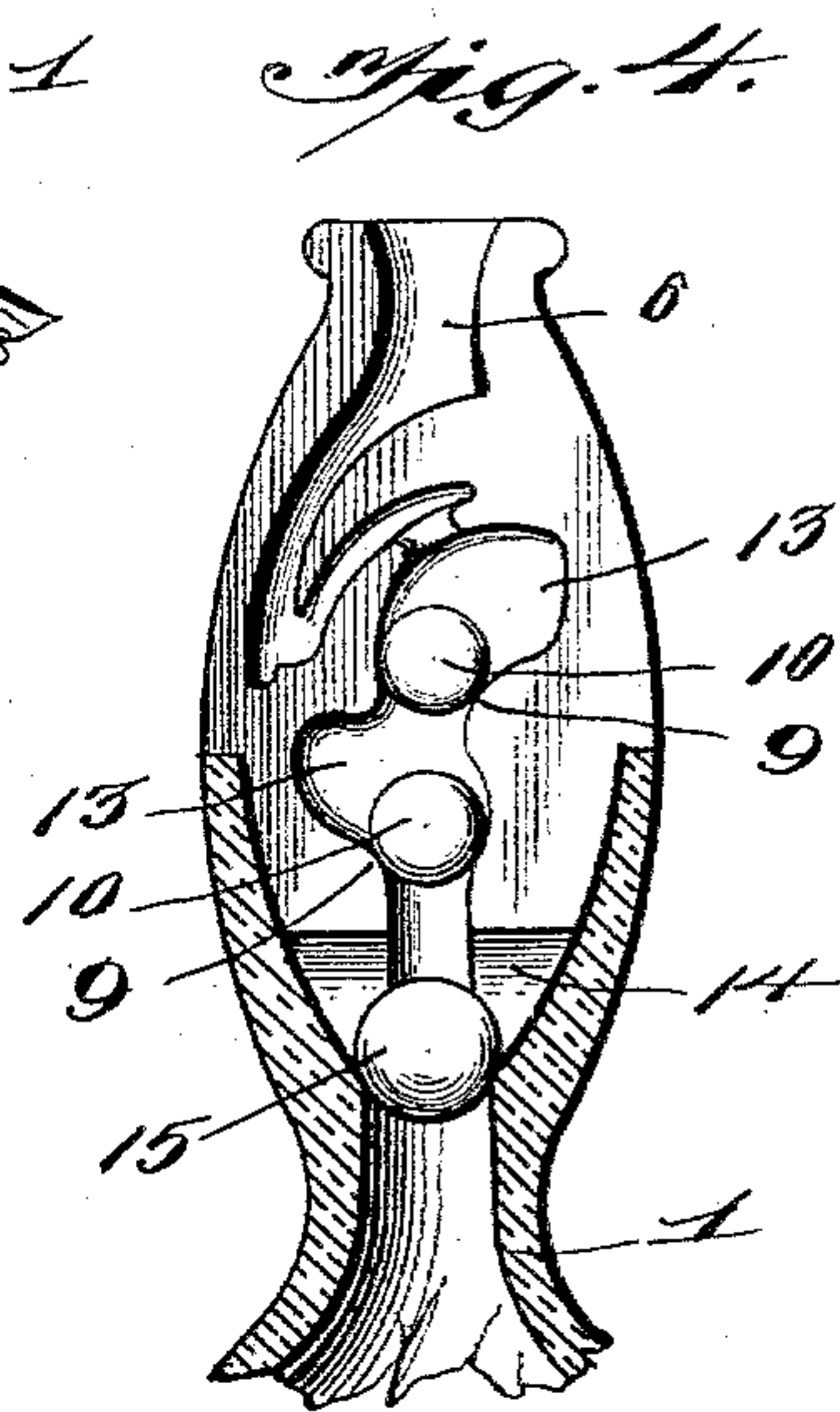
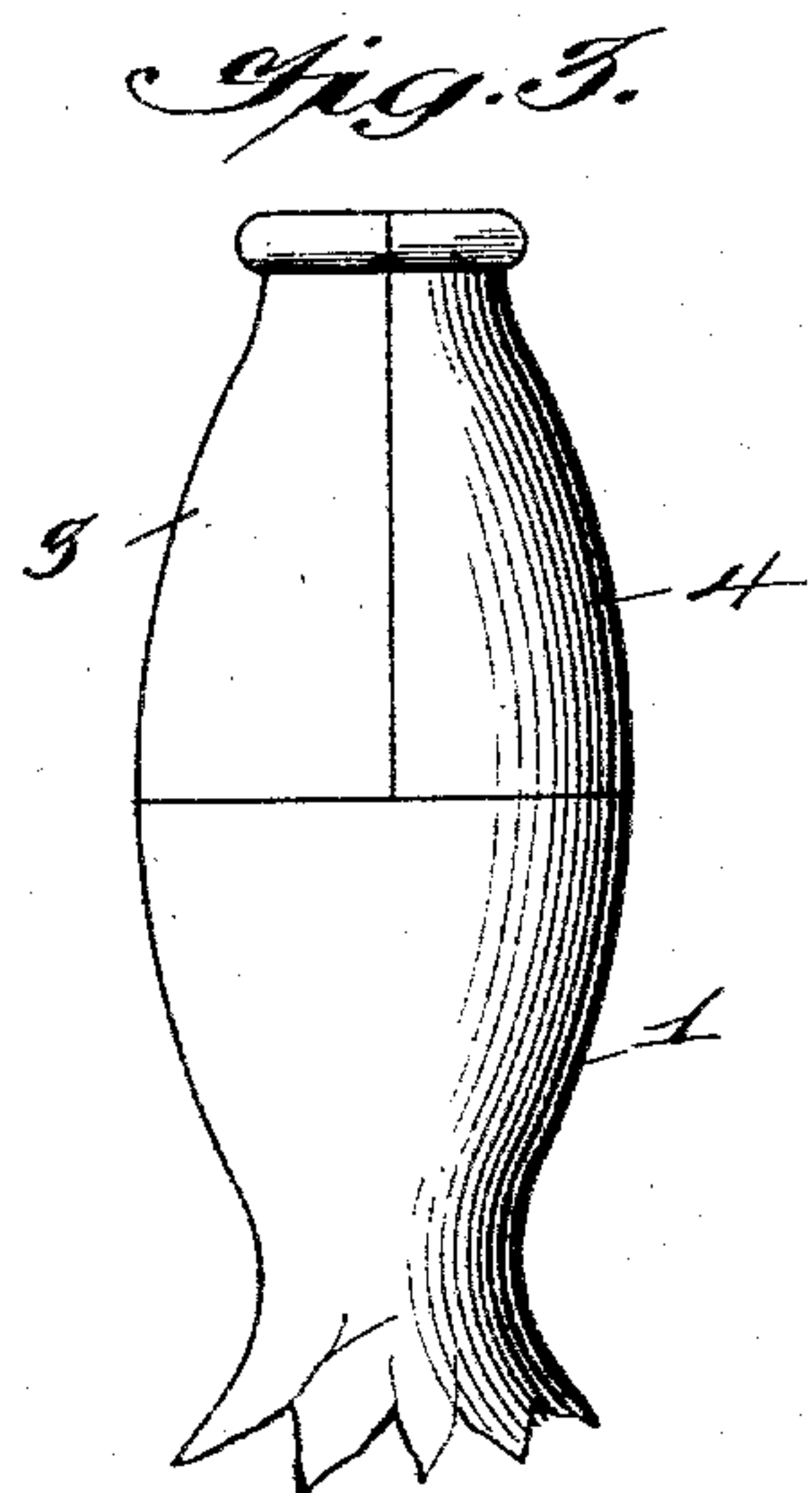
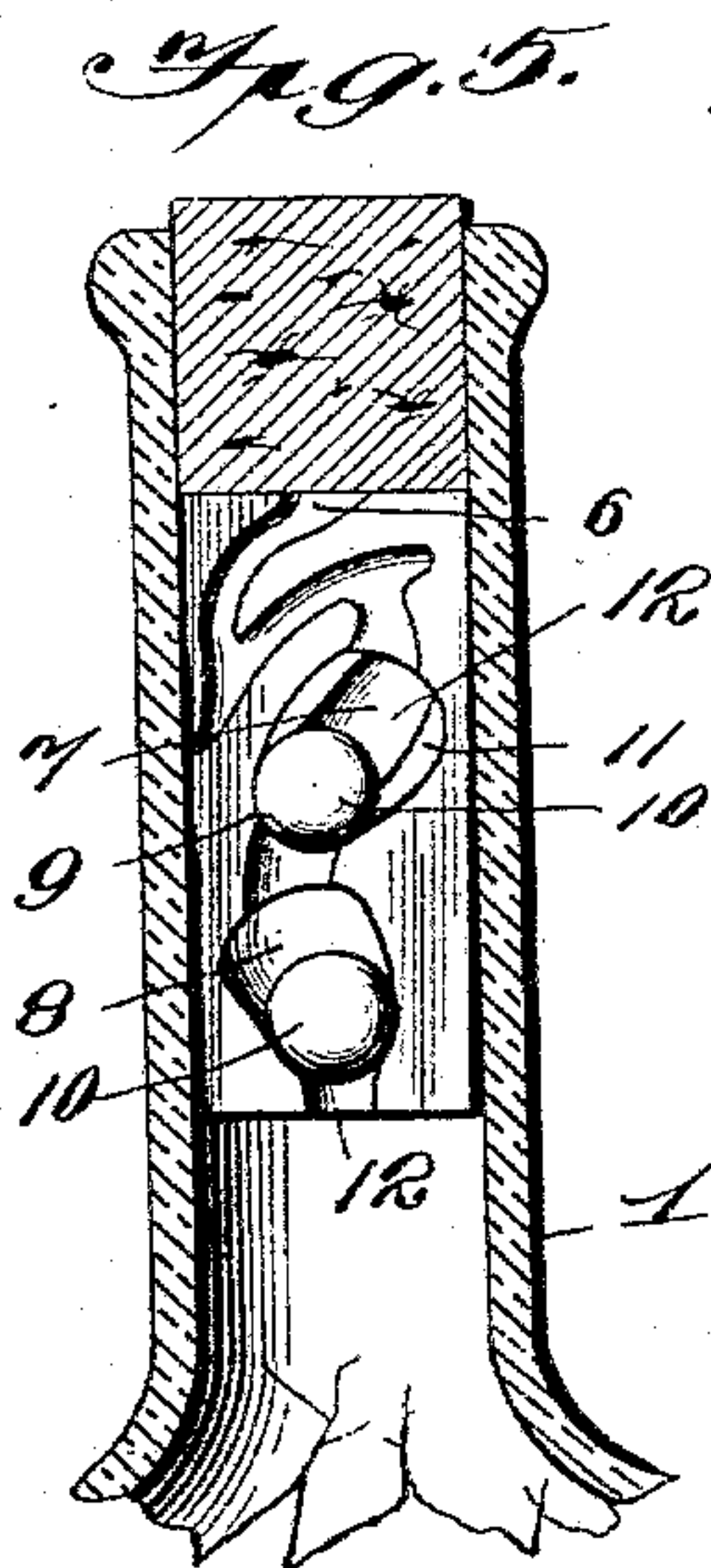
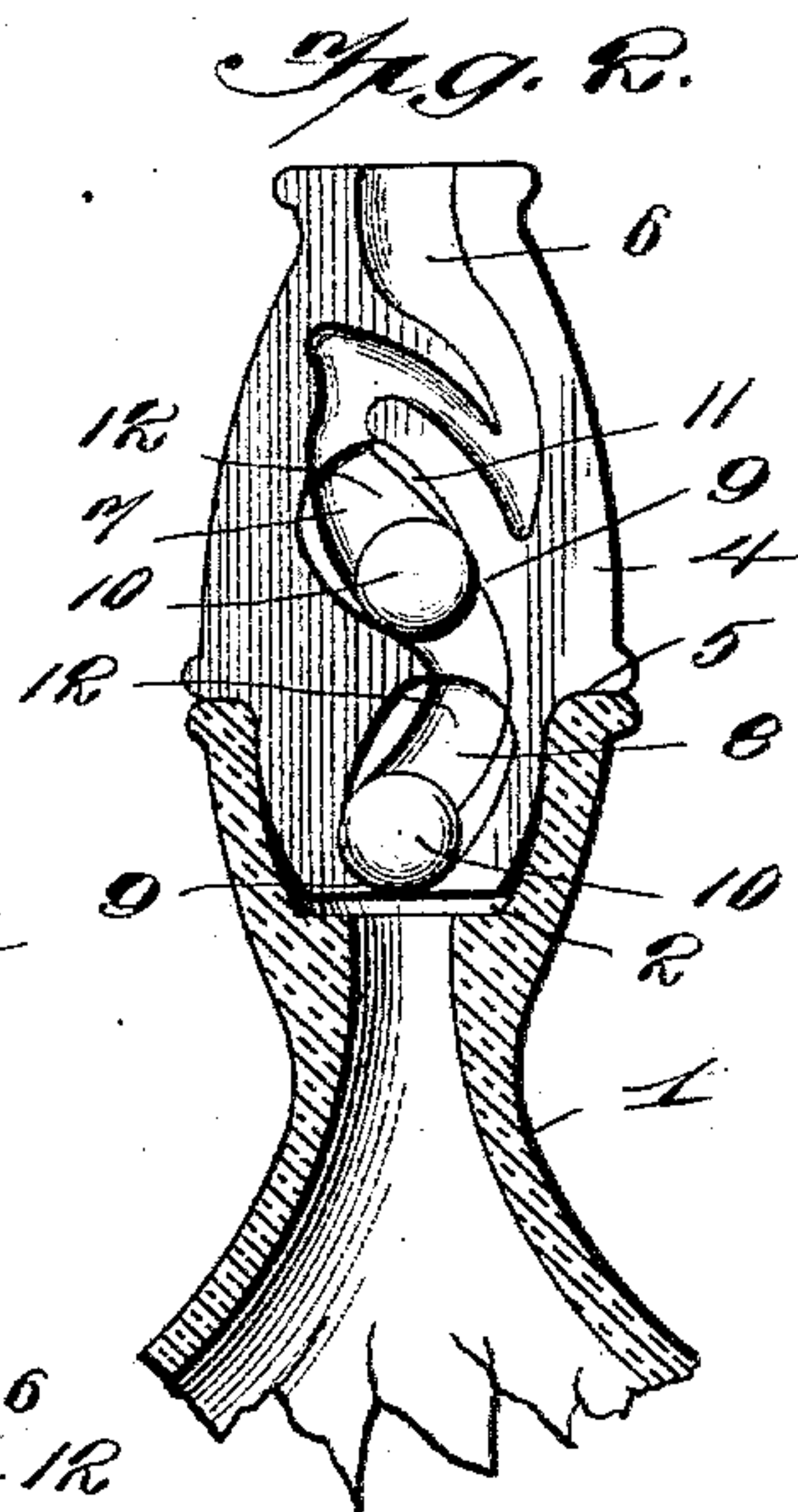
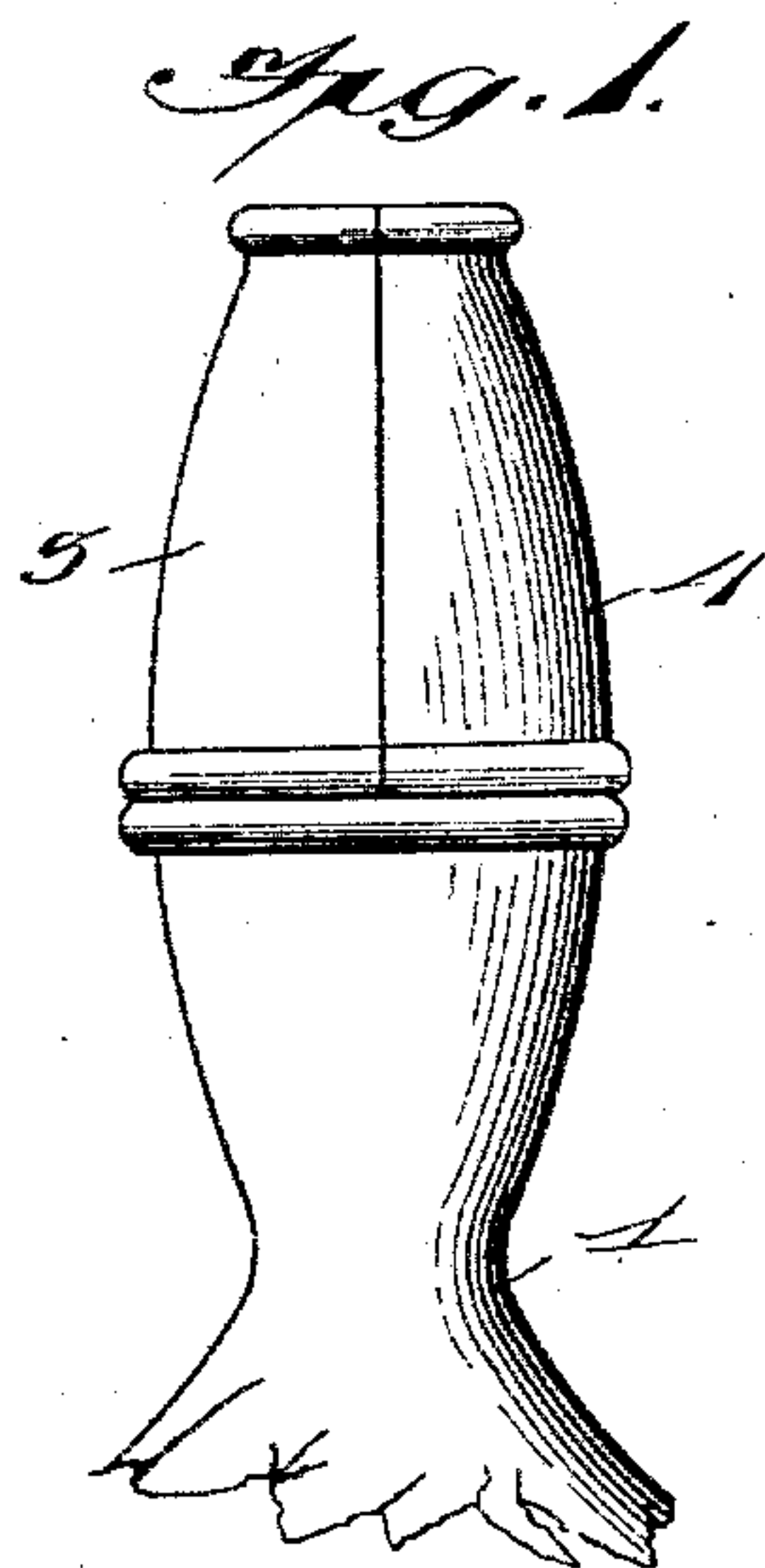


(No Model.)

E. M. SPINING.
NON-REFILLABLE BOTTLE.

No. 596,969.

Patented Jan. 4, 1898.



WITNESSES
[Signature]
[Signature]

INVENTOR
Edward M. Spining
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UNITED STATES PATENT OFFICE.

EDWARD M. SPINING, OF CINCINNATI, OHIO.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 596,969, dated January 4, 1898.

Application filed March 1, 1897. Serial No. 625,469. (No model.)

To all whom it may concern:

Be it known that I, EDWARD M. SPINING, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Non-Refillable Bottles; and I do hereby 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 appertains to make and use the same.

This invention relates to a novel construction in non-refillable bottles, and has for its object to provide a device of this character wherein it is impossible to refill the bottle after once being sealed.

The invention consists in the features of construction herein fully described and specifically claimed.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation of a bottle constructed in accordance with this invention. Fig. 2 is a central vertical section. Fig. 3 is a side elevation of a modified construction embodying this invention. Fig. 4 is a central vertical section of the same. Fig. 5 is a central vertical section showing the manner in which the invention is applied to a bottle of ordinary construction.

Referring now to said drawings, 1 indicates the neck of the bottle having a cup-shaped seat or socket 2 at the upper end thereof. This socket 2 receives the lower end portion of the sections 3 and 4 of the sealing valve-casing. The said sections when placed together are circular in cross-section and are provided with a downwardly-facing shoulder 5 to rest upon the upper end of the socket 2. The said casing consists of two sections that are separated longitudinally and in the center. The inner faces of these sections are provided with the circuitous passage 6, through which the liquid passes in emptying the bottle, said passage being made circuitous to prevent the insertion of a wire or other flexible instrument for the purpose of tampering with the valves. The said passage is made up of grooves in the inner face of each section of the casing, and in the construction shown in Figs. 1 and 2 the grooves are provided with

two valve-chambers 7 and 8. At the lower end of each of these valve-chambers is a valve-seat 9 to receive the ball 10, which acts as a valve, while in each of the valve-chambers are the inclined tracks 11. It is thus seen that between the inclined tracks is a passage 12, through which the liquid can pass. These valve-chambers and inclined tracks rise upwardly and to one side and are so situated that it is necessary to hold the bottle in one position to bring the ball-valves to the correct position wherein both valves are away from their seat. This is clearly seen from the drawings, and it is noted, consequently, that should the bottle be brought to any other position one or both of the ball-valves will move against their seats and thus close the same.

In Fig. 4 is shown a slightly-modified construction in which the parts are practically the same, with the exception that the passage 6 is provided with the pockets 13, into which the valves pass when the bottle is held in the correctly-tilted position. In this construction also the socket or seat 2 in the neck of the bottle is deeper and receives the fingers 14 on one of the sections of the valve-casing. Another ball-valve 15 is placed between the lower end of the valve-casing and the upper end of the bottle and is guided by the said fingers to and away from its seat. It is seen, therefore, that in this construction the same effect is obtained as described with relation to Figs. 1 and 2.

In Fig. 5 is shown a modification wherein this invention is applied to an ordinary bottle—that is to say, the valve-casings 3 and 4, when placed together, form a cylindrical body which can be placed within the bottle-neck.

In all these forms it is understood, of course, that after the valves are placed in position within the valve-chambers of the passages the said sections are then cemented together, and when placed within the seat or socket in the neck of the bottle are cemented in place therein. It is thus impossible to remove the sections without fracturing some of the parts, and, furthermore, it is obvious that the bottle cannot be refilled through the circuitous passage, since the valves effectually close the same, except when the bottle is in a certain

tilted position, and when it is in this position the liquid cannot be forced upward into the same.

5 In the form shown in Fig. 5 it is understood, of course, that the casing is cemented within the bottle-neck, and for this purpose it is preferable to make the upper end of the casing of slightly larger diameter than the lower end to prevent it from dropping into
10 the bottle.

Having thus described the invention, what is claimed as new is—

15 1. A bottle having a seat or socket at its upper end, and a casing fitting within said seat or socket and consisting of two sections, in the inner face of each of which are corresponding circuitous passages embodying valve-chambers having inclined tracks on the sides thereof, and ball-valves situated within
20 said valve-chambers.

25 2. A bottle having a seat or socket at its upper end, and a casing fitting within said seat or socket and having an exterior downwardly-facing shoulder to rest upon the upper end of the same, said casing consisting of two sections, in the inner face of each of

which are corresponding circuitous passages embodying valve-chambers having inclined tracks on the sides thereof, and ball-valves situated within said valve-chambers. 30

3. A bottle having a casing at its upper end, said casing being provided with a circuitous passage, valve-chambers in said passage, inclined tracks on the sides of said valve-chambers, and ball-valves situated within
35 said valve-chambers and resting upon said tracks.

4. A bottle having a casing at its upper end provided with a circuitous passage, oppositely-inclined valve-chambers situated
40 within said circuitous passage, inclined tracks within said valve-chambers, passages between said tracks, and ball-valves situated within said chambers.

In testimony whereof I have signed this
45 specification in the presence of two subscribing witnesses.

EDWARD M. SPINING.

Witnesses:

CHARLES M. CIST,

H. L. SPINING.