

W. A. HARWOOD.
Soap-Bubble Toys.

No. 156,923.

Patented Nov. 17, 1874.

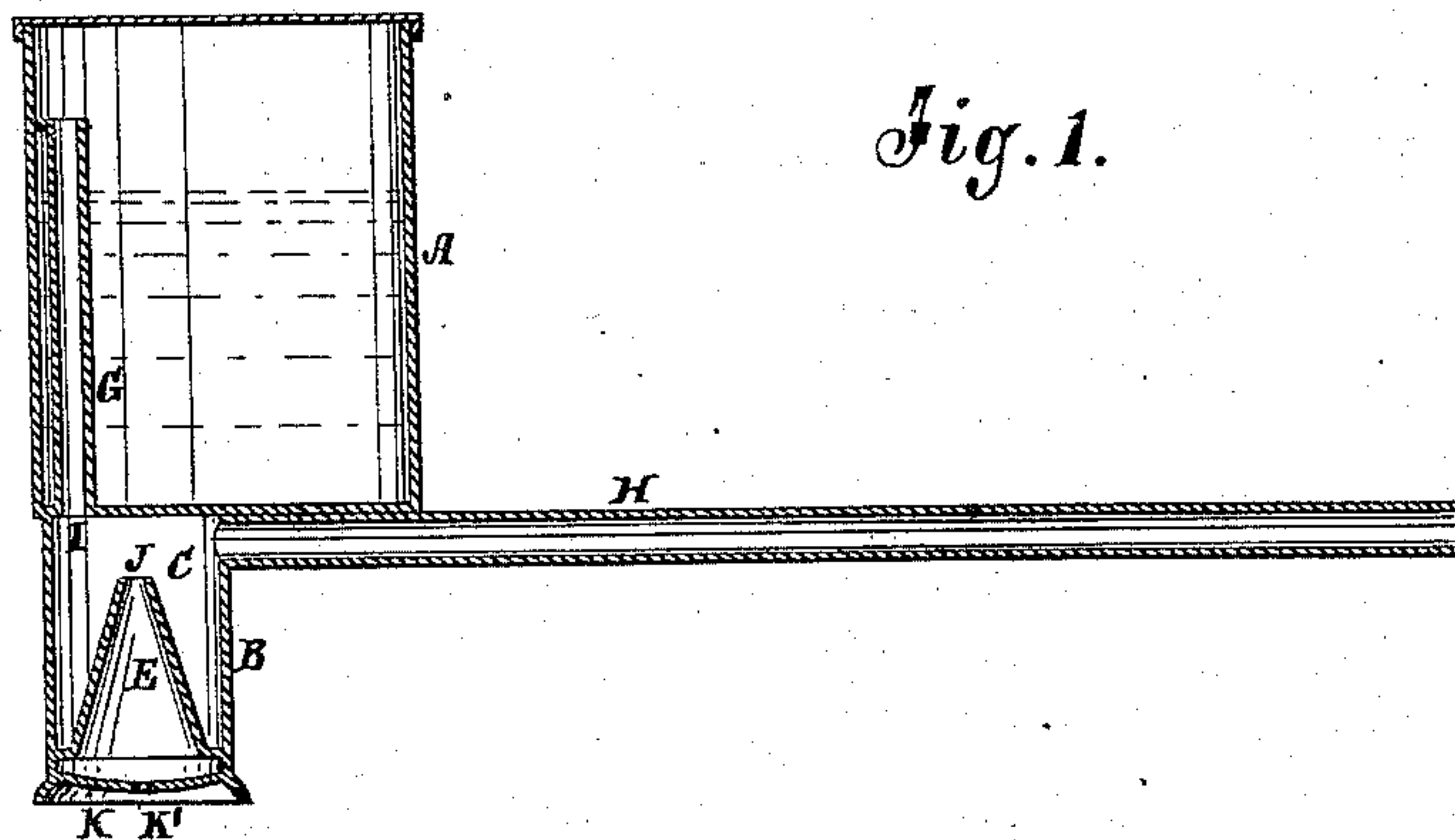


Fig. 1.

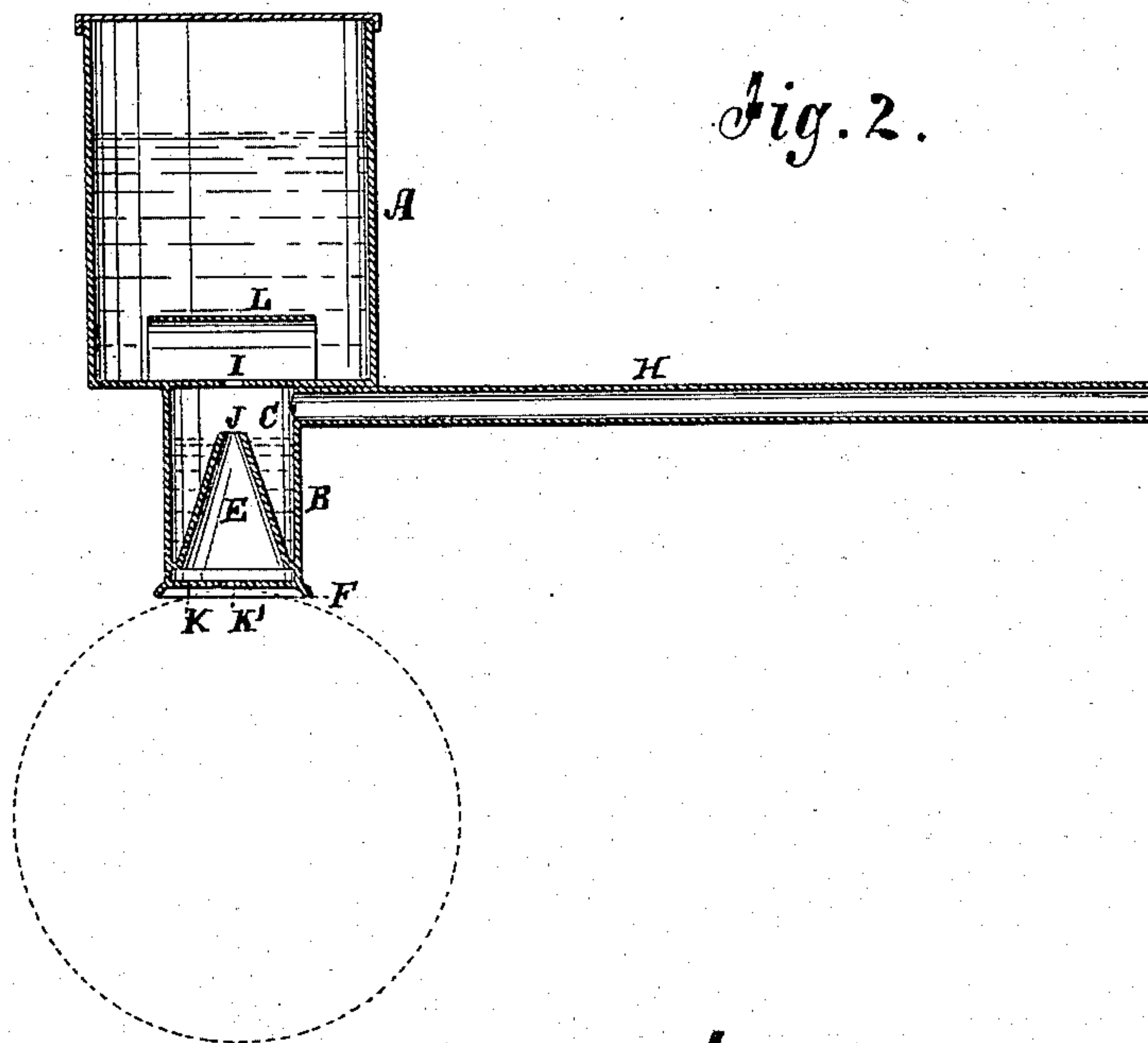


Fig. 2.

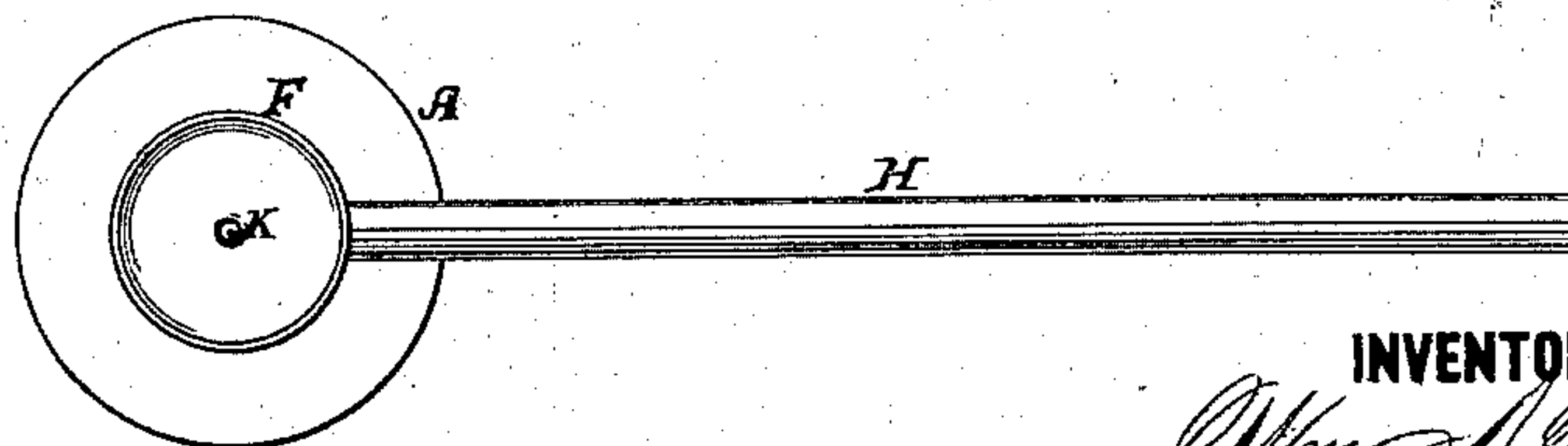


Fig. 3.

WITNESSES:

A Benneker & Co.
E. L. Topliff

INVENTOR:

Wm. A. Harwood
BY Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM A. HARWOOD, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN SOAP-BUBBLE TOYS.

Specification forming part of Letters Patent No. **156,923**, dated November 17, 1874; application filed September 26, 1874.

To all whom it may concern:

Be it known that I, WILLIAM A. HARWOOD, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Soap-Bubble Toy, of which the following is a specification:

This invention consists of a little tin cup with another small cup attachment on the bottom, forming an inclosed chamber, in which is a hollow cone with a hole in the top. A small tube like a pipe-stem enters the chamber at the top, and there is a passage from the cup into the chamber, either directly through the bottom or a small pipe extending nearly to the top of the cup; and there is also a small hole through the bottom of the chamber containing the cone, and around the outer edge of the bottom of this chamber is a flange projecting downward a short distance, all as hereinafter more particularly described.

Figure 1 is a sectional elevation of my improved toy, showing a tube extending upward in the water-cup from the passage through the bottom into the chamber below the cups. Fig. 2 is a section of the toy without the tube, and Fig. 3 is a plan of the toy inverted.

A is the cup for holding the soap and water; B, the cup attached to the bottom, and inclosing the chamber C, in which is the hollow cone E. F is the flange on the bottom of A; G, the tube in cup A; and H is the air-tube. The bottom of cup A has a small passage, I, to allow the water to drip through into the chamber C in small quantities. The cone also has an opening, J, at the top, and the bottom plate K of the attachment B has a small passage, K', through which the bubble is expelled by air blown into the top of chamber C through the tube H. The tube G, extending upward from the passage I, is employed in case of need to prevent the water from dripping through the bottom into chamber C too fast; but it is not very essential. When it is used the water will be thrown up into it, as needed from time to time, by shaking the cup by

the hand. The pipe H enters the chamber C on the level of the top of the cone, or slightly above it, so as to blow along the surface of the water, and carry small quantities along with it down through the exit-passage to form the bubble.

The bottom plate of the attachment—which may be convex or flat—is extended horizontally from the exit-orifice, to allow the bubble to expand a certain distance while forming, and terminates with a vertical flange, which terminates the expansion laterally, and diverts the bubble into a downward direction, so that it is discharged. L is a little guard over the hole I in the bottom of the cup A, to prevent the soap from settling in the hole and stopping it up.

By proper care in making the orifices the right size the apparatus of this contrivance will work very efficiently without the aid of any valves or stoppers to be actuated by the operator. It is thus considerably cheapened in cost, as well as more simple and applicable to the requirement for use by children.

The cup A may be dispensed with and the chamber C supplied by hand with water from time to time, if desired; but the cup makes the apparatus more desirable.

The essential features of the invention, which make up the bubble-forming apparatus, are the cone, with the bottom plate of the cup B, and its flange, together with the blowing-tube, and good bubbles can be made by them alone, the other parts—that is, the cups—being merely to hold and deliver a supply of water. The pipe might, therefore, be connected directly to the cone with an opening into it, the other parts being dispensed with.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An improved soap-bubble toy, consisting of the cup B, cone E, and pipe H, the said cup having a perforated bottom, all combined and arranged to operate substantially as specified.

2. The combination of the cup B, cone E, pipe H, and the flange F, all substantially as specified.

3. The combination of the cup A with the cup B, cone E, and pipe H, substantially as specified.

4. The combination of the tube G with the cups A and B, cone E, and pipe H, substantially as specified.

5. The combination of the pipe H, cup B, cone E, perforated bottom K, and flange F, substantially as specified.

WM. A. HARWOOD.

Witnesses:

T. B. MOSHER,
C. L. TOPLIFF.