

No. 721,135.

PATENTED FEB. 24, 1903.

W. E. ALLEN.
BUBBLE BLOWER.

APPLICATION FILED OCT. 10, 1901.

NO MODEL.

Fig. 1-

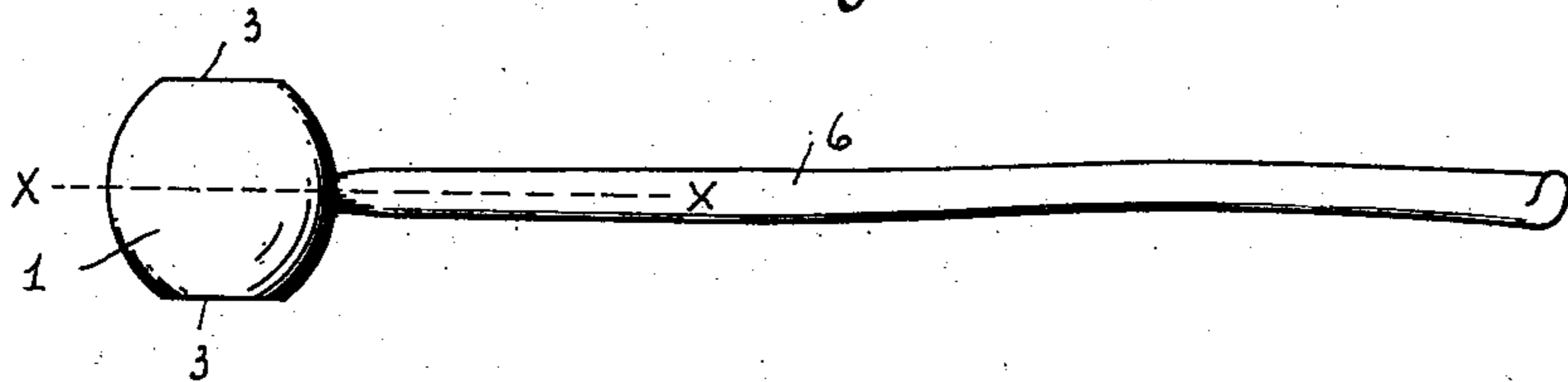


Fig. 2-

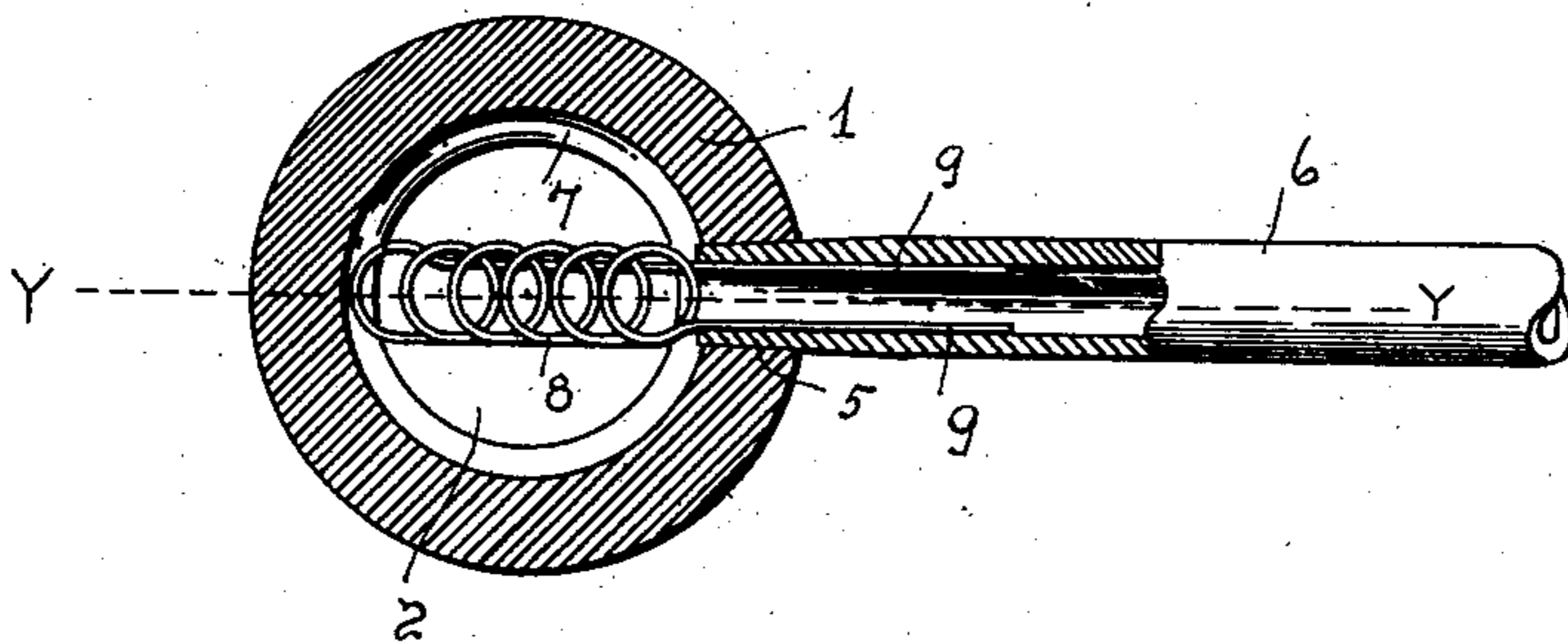
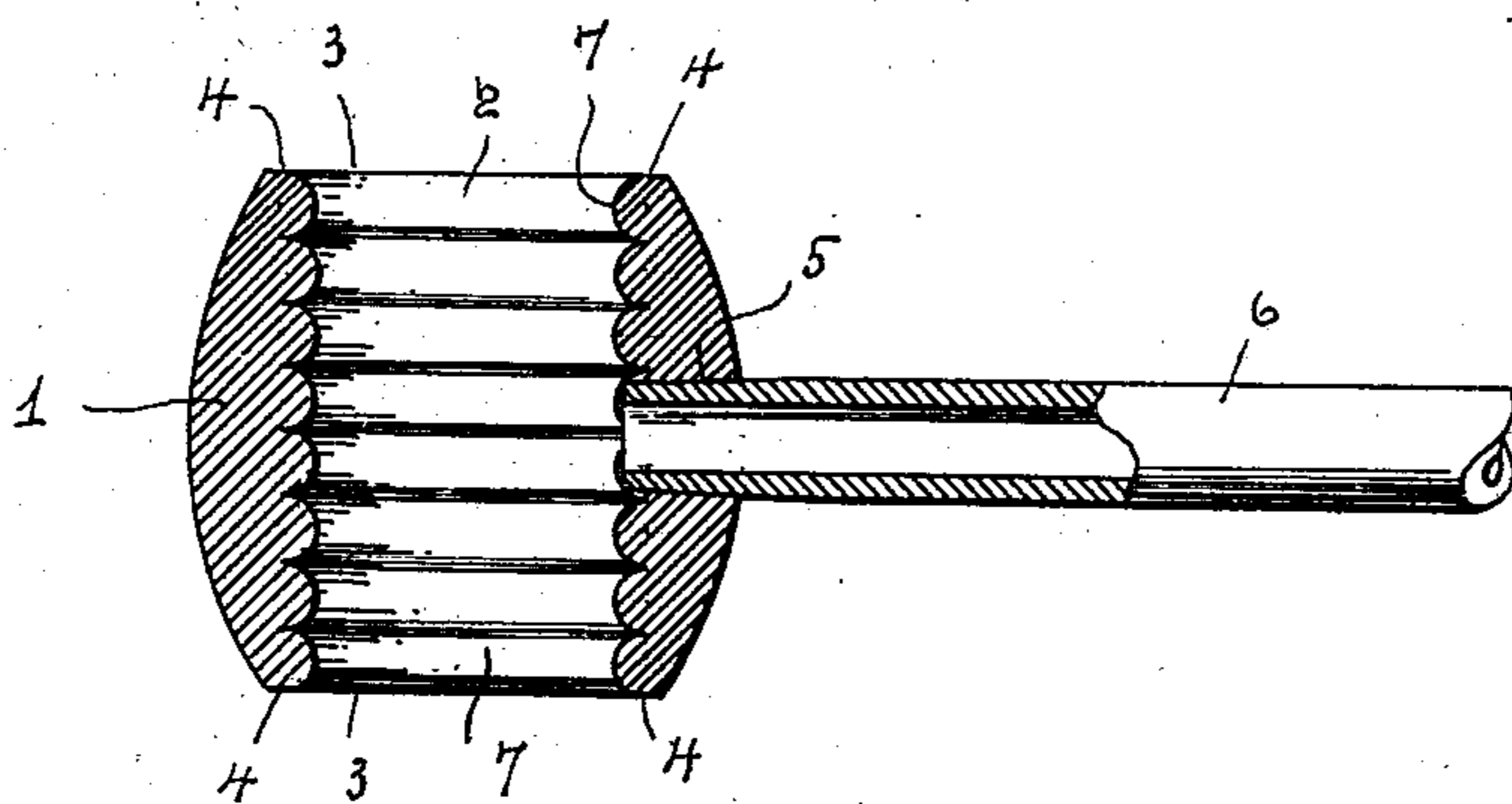


Fig. 3-



Witnesses-
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UNITED STATES PATENT OFFICE.

WILLARD E. ALLEN, OF TOLEDO, OHIO.

BUBBLE-BLOWER.

SPECIFICATION forming part of Letters Patent No. 721,135, dated February 24, 1903.

Application filed October 10, 1901. Serial No. 78,189. (No model.)

To all whom it may concern:

Be it known that I, WILLARD E. ALLEN, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented a new and useful Improvement in Bubble-Blowers, of which the following is a specification.

My invention relates to improvements in bubble-blowers, and has for its object to provide a toy of the kind that is adapted to readily produce a succession of bubbles and form them into a chain of bubbles depending from the blower. I attain this object by constructing a bubble-blower as hereinafter described, and illustrated in the drawings, in which—

Figure 1 is a view in elevation of my invention. Fig. 2 is an enlarged view in cross-section through line X X of Fig. 1, showing wire loop in position in the bowl and supported by the stem; and Fig. 3 is a longitudinal section through line Y Y of Fig. 2, showing corrugations of the bowl.

In the drawings, 1 designates the body portion or bowl of the blower, which is preferably in the form of an ellipsoid truncated at the foci and provided with a longitudinal bore 2 through the truncated ends 3 and of slightly less diameter, leaving thin rims 4 at each end. Central between the ends 3 the wall of the body portion 1 is provided with a radial orifice 5, extending through the wall to the bore, into which is inserted the hollow stem 6. Preferably the blower body or bowl is provided with the interior annular corrugations 7; but where it is formed of a soft and porous wood these corrugations may be omitted, it being found that similar results are obtained thereby, both operating to retain an increased quantity of the viscous soap solution when the body of the blower is dipped therein. The efficiency of the blower is further increased by providing the bore of the bowl with the looped wire 8, which is retained in a central position therein across the bore by inserting the straight end portions 9 of the wire into the inner end of the stem, the loops tending to increase the retention of the fluid and aiding the formation of bubbles. Thus constructed after dipping the bowl of the blower into a suitable mixture of soap and water by blowing through the stem with the bore of the bowl horizontal bubbles will be started at

each end of the bowl. When these are started, by inclining the bore of the bowl the bubble at the lower end will grow in size, while the upper end will not. When the lower one has reached a desired size, by turning the bowl gradually over the lower bubble will remain stationary, and as the bowl slowly turns the bubble clinging to the outer surface of the bowl is gradually transferred to the opposite end of the bowl, (now the lower end,) where it attaches itself to the incipient bubble there formed, which then in turn begins to grow. When the second bubble has grown to a desired size, the bowl is again turned over until in like manner the two bubbles linked together are attached to the third, and so continuing at each revolution of the bowl a bubble is added to the chain of bubbles thus formed. This operation may be continued until the weight of the chain breaks the connection at the bowl.

While the ellipsoidal or spherical form of bowl facilitates the formation of a chain of bubbles, such chain formation may be effected with another outward form of bowl having a longitudinal bore extending entirely through it. I therefore do not limit myself to the specific outward form of bowl shown and described. It is apparent, also, that the bore of the bowl may be centrally enlarged to conform it to the outline of the outer surface and making the walls of one thickness throughout without departing from the principle of my invention, and for bubble-blowers constructed according to my invention from glass, clay, or hard rubber it may be readily constructed in this form with the stem integral with the bowl, the form illustrated in the drawings being more especially designed for its ready construction from suitable wood, with cane stems.

What I claim to be new is—

1. In a bubble-blower, the combination of a truncated prolate spheroidal body portion having an axial bore extending through the truncated ends, with a hollow radial stem intersecting the bore midway between the truncated ends.

2. In a bubble-blower, the combination of a body portion having a cylindrical bore extending longitudinally through it from end to end, and provided with interior annular corrugations, and a hollow stem intersecting the

bore of the body portion, substantially as shown and described.

3. In a bubble-blower, the combination of a body portion, outwardly barrel-shaped and
5 having a cylindrical bore extending longitudinally through it from end to end, and having a stem-hole intersecting the bore at the bulge of the body portion; a hollow stem adapted to fit into the stem-hole of the body
10 portion, and a looped wire supported cen-

trally within and across the bore of the body by the ends of the wire inserted within the bore of the stem.

In witness whereof I have hereunto set my hand this 7th day of October, A. D. 1901. 15

WILLARD E. ALLEN.

Witnesses:

FRED E. MCCARLSEY,
EDITH SCHAEFER.