

M. W. PIERCE.
DEVICE FOR BLOWING SOAP BUBBLES.
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1,284,440.

Patented Nov. 12, 1918.

Fig-1.

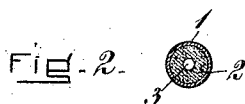
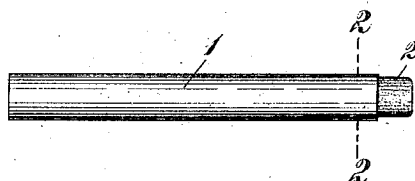
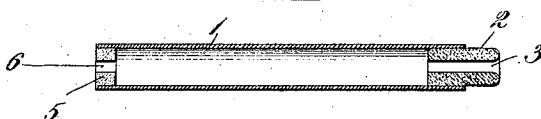


Fig-3.



Fig-4.



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UNITED STATES PATENT OFFICE.

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DEVICE FOR BLOWING SOAP-BUBBLES.

1,284,440.

Specification of Letters Patent. Patented Nov. 12, 1918.

Application filed March 12, 1915. Serial No. 14,021.

To all whom it may concern:

Be it known that I, MELVIN W. PIERCE, of Medford, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Devices for Blowing Soap-Bubbles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

The present invention relates to a device for blowing soap bubbles and one of that type in which the soap forms an inherent part or element of the device.

The essential object of my invention is to provide a soap bubble blower essentially adapted for children and which can be manufactured and sold at a small price.

The invention can best be seen and understood by reference to the drawings in which—

Figure 1 shows the device in side elevation.

Fig. 2 is a section on line 2—2 of Fig. 1.

Fig. 3 is a longitudinal section of the device, and

Fig. 4 is a longitudinal section of the device showing a slight modification in construction.

Referring to the drawings:—

1 represents the body of the device. This body consists simply of a cylindrical paper tube of uniform cross section throughout and preferably three or four inches in length and about $\frac{3}{8}$ of an inch in diameter, that is, the internal diameter of the tube. The tube is made preferably of a waterproofed paper. In practice I employ a tube which is simply a large size of the common paper drinking straw, so called, which I have found most excellent for the purpose.

2 represents the soap tablet or saponaceous element which is inserted in the outer end of the body of the device or tube preferably to project in part from it. In practice the tablet is arranged to project about one half its length beyond the end of the tube. The tablet fits snugly within the end of the tube and closes the same excepting for a small opening 3 extending lengthwise through the center of the tablet from the chamber of the tube. This opening is a relatively small opening, that is, with relation to the bore or chamber of the tube.

With a tube having an internal diameter of $\frac{3}{8}$ of an inch as above referred to the opening through the tablet is made slightly less than $\frac{1}{8}$ of an inch in diameter.

It is most desirable that the tablet fit snugly within the end of the tube, both to form a tight joint so that the air blown into the tube may issue only through the opening in the tablet and also to hold the tablet securely in place and prevent water entering between the tablet and the wall of the tube which, if permitted, would soon dislodge it. For the purpose of securely seating the tablet in the end of the tube I provide that it may be expansible, or be expanded into the end of the tube. For this purpose I employ a tablet which is so made that after it has been inserted into the end of the tube it will absorb moisture from the air and swell, thereby making a very tight joint between it and the tube. Such adaptability of the tablet results from the nature of its composition. In practice I employ as one of the primary elements of the tablet what is called a neutral soap consisting of tallow, caustic soda and some moisture. This neutral soap is artificially dried at a moderate temperature for from 12 to 24 hours. After the drying and while it is kept dry the neutral soap is broken up and made granular. I then combine with it an equal amount by weight of pure olive oil soap containing caustic soda and also an equal amount of powdered sugar. These ingredients are pressed together into the tablet which is inserted into the end of the tube. Owing to the presence of the caustic soda and drying as above referred to the tablet will absorb moisture from the atmosphere and such absorption swells the tablet into the end of the tube as previously described.

The mode of using the device consists in dipping the tablet and end of the tube into either warm or cold water where it is left for a brief interval of time, and then blowing gently through the tube.

The body of the tube being much larger than the opening through the tablet forms practically an expanding chamber for air blown into the tube, which issues through the opening in the tablet with a gentle even flow, thereby forming a bubble.

Until one has become somewhat skilled in

using the device and especially with children the tendency is to blow too hard into the tube. This has the effect of dislodging the bubble at the end of the tablet too soon or before it has become of sufficient size. This tendency I have found may be corrected by placing a plug 5 having a small opening 6 through it in the mouth of the tube as shown in Fig. 4. With such addition the efficiency of the chamber of the tube as an expanding chamber for the air becomes increased and one need use no especial care as to the intensity with which the air is blown into the tube, the air expanding therein to issue through the tablet uniformly with a gentle flow, having no effect to dislodge the bubble.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States:—

- 20 1. A device for blowing soap bubbles comprising a tube and a saponaceous tablet inserted in the end of the tube with a central opening lengthwise through it relatively small compared to the size of the tube.
- 25 2. A device for blowing soap bubbles comprising a tube and a saponaceous tablet inserted in the end of the tube to project in part therefrom, said tablet having a central opening lengthwise through it.
- 30 3. A device for blowing soap bubbles comprising a tube and a saponaceous tablet inserted in the end of the tube and held there-

in by frictional engagement therewith, said tablet having an opening through it.

4. A device for blowing soap bubbles comprising a tube and a saponaceous tablet fixed in the end of the tube to project in part therefrom, said tablet having an opening lengthwise through it relatively small compared to the size of the tube.

5. A device for blowing soap bubbles, comprising a tubular structure having a tubular soap tablet at one end, said tablet being held therein by frictional engagement.

6. A soap bubbler comprising a tube and a subular saponaceous tablet fixed in one end of said tube, said tablet extending beyond the end of said tube.

7. The combination of a waterproof paper tube, a tubular soap tablet expanded in the end thereof, said tablet extending outwardly beyond the end of said tube.

8. A device for blowing soap bubbles comprising a tube and a saponaceous tablet fixed in the end thereof, and projecting in part therefrom, said tablet being held in the tube by frictional engagement therewith, and having an opening lengthwise therethrough, which is of relatively small diameter, as compared to the diameter of the tube.

MELVIN W. PIERCE.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."