

S. B. BLISS.

Toy Devices for Making Soap-Bubbles.

No. 143,432.

Patented Oct. 7, 1873.

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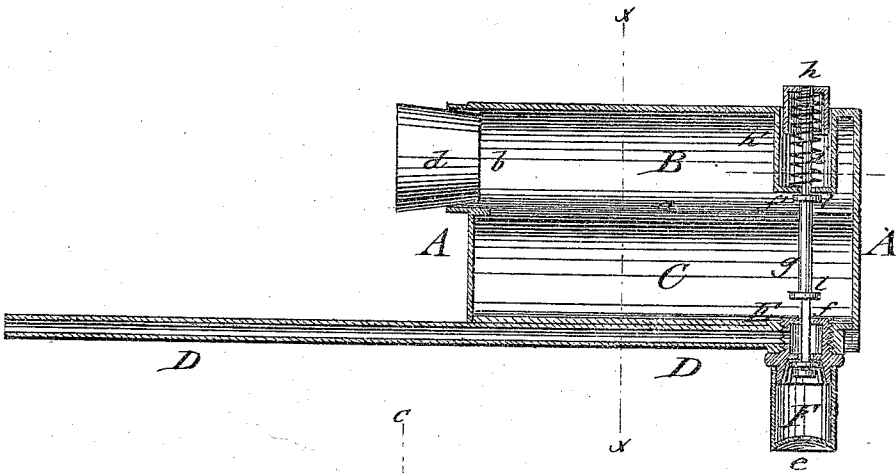
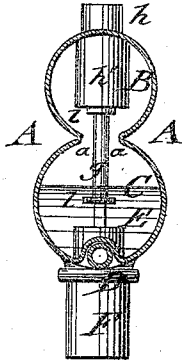
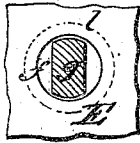


Fig: 2.



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Witnesses :

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UNITED STATES PATENT OFFICE.

SAMUEL B. BLISS, OF NEW YORK, N. Y.

IMPROVEMENT IN TOY DEVICES FOR MAKING SOAP-BUBBLES.

Specification forming part of Letters Patent No. **143,432**, dated October 7, 1873; application filed July 5, 1873.

To all whom it may concern:

Be it known that I, SAMUEL B. BLISS, of the city, county, and State of New York, have invented a new and Improved Toy, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical longitudinal section of my improved toy for producing soap-bubbles, on the line *c c*, Fig. 2; Fig. 2, a vertical transverse section of the same on the line *x x*, Fig. 1; and Fig. 3, a detail section through the valve-rod, showing method of admitting the soap-water to the exit-tube.

Similar letters of reference indicate corresponding parts.

The object of my invention is to furnish, for the amusement of children, a toy instrument by which soap-bubbles may be easily and quickly produced, without the spilling of soap-water and other inconveniences. My invention consists, mainly, in the arrangement of a double tubular casing for soap and soap-water, with an air-pipe and exit-tube, in which latter the quantity required is regulated by a suitably-constructed valve arrangement.

In the drawing, A represents the double tubular casing, consisting, by preference, of two hollow cylinders, B and C, which are connected by a longitudinal slat, *a*. The soap is placed in the upper tube B, and the water in the lower, by means of an opening, *b*, of tube B, which is then closed by a cork, *d*.

On turning the instrument so that the tube B forms the lower part, the water will come in contact with the soap, and give, on shaking it, soap-water of the consistence required for forming the bubbles. On turning back, the soap-water is ready for use, and the soap thereby economized, as it does not come in contact with the water when blowing the bubbles.

A long air-pipe, D, is applied at the lower side of tube C, and connects, through cylindrical receptacle E, with the exit-tube F, which is provided with a concave face having a small central hole, *e*, for the formation of the bubbles. The small receptacle E is screwed into tube C, at end of air-pipe D, and

is of such size that one or two drops of soap-water may collect therein, which is sufficient for producing a bubble. By means of small round apertures *f*, receptacle E connects with tube C and exit-tube F. The valve-rod *g* passes through these apertures *f* and tubes B C to the upper part of the latter, being provided with a cylindrical head or cap, *h*, which slides in a casing, *h'*, of tube B. The bottom of casing *h'* is perforated at *f'*, in the same manner as receptacle E for valve-rod *g*, and serves as rest for spiral spring *i*, which acts on cap *h*, and forces the same upward to project above tube B. The valve-rod *g* is flattened at those parts of it which slide along the apertures *f* of receptacle E, and *f'* of casing *h'*, and provided, also, with three rubber disks, *l*, for closing these apertures. The upper and lower disks *l* close the apertures *f'* of casing *h'*, and the lower one *f* of receptacle E, when in readiness for blowing, so that the soap-water may enter through the upper aperture *f*, along the flat part of rod *g*, into receptacle E, and fill the same.

By pressing on cap *h* with the finger, the valve-rod *g* descends and closes, by middle disk *l*, the upper aperture *f*, allowing the soap-water to pass out through the lower one into exit-tube F, where, by blowing gently at the same time through pipe D, the soap-bubble is produced. Each downward pressure of the valve permits the blowing of a bubble, as receptacle E is refilled on each upward motion of the valve-rod, and producing the bubbles with great rapidity and continuity till the soap-water is exhausted, to be replenished in the manner described.

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

1. The instrument or toy for producing soap-bubbles, consisting of double tubular casing A, air-pipe D, receptacle E, valves *g h l*, and exit-tube F, arranged substantially as and for the purpose described.

2. The casing A, provided with the parts B C, communicating, by slat *a* and opening *b*, for introducing the soap and water, and the cork *d*, as set forth.

3. The receptacle E, having apertures *f* and opening for air-pipe, for the purpose described.

4. The exit-tube F, having concave face, with perforation *e*, as set forth.

5. The upper tube B, having guide-casing *h*, with aperture *f'*, for the purpose described.

6. The valve arrangement described, consisting of valve-rod *g* with flattened parts, cap *h*, spring *i*, and disks *l*, as specified.

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Witnesses:

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