

No. 693,395.

Patented Feb. 18, 1902.

P. D. HORTON.
 DEVICE FOR BLOWING BUBBLES.

(Application filed Sept. 20, 1901.)

(No Model.)

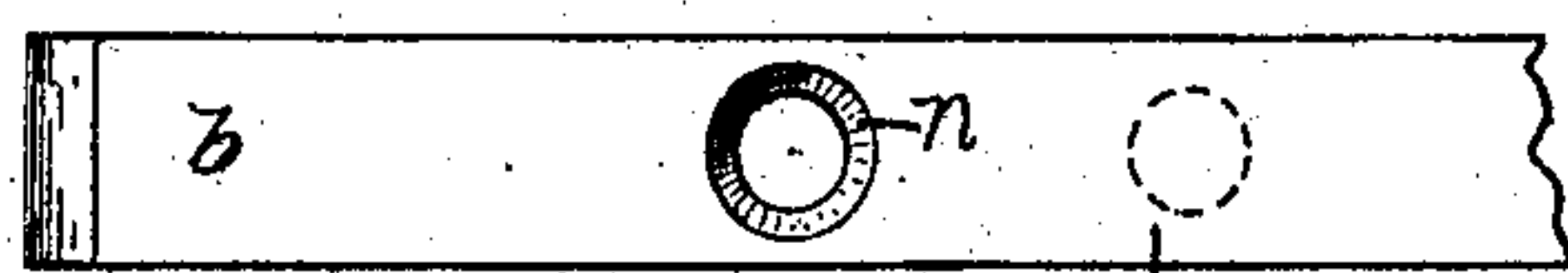


Fig. 9.

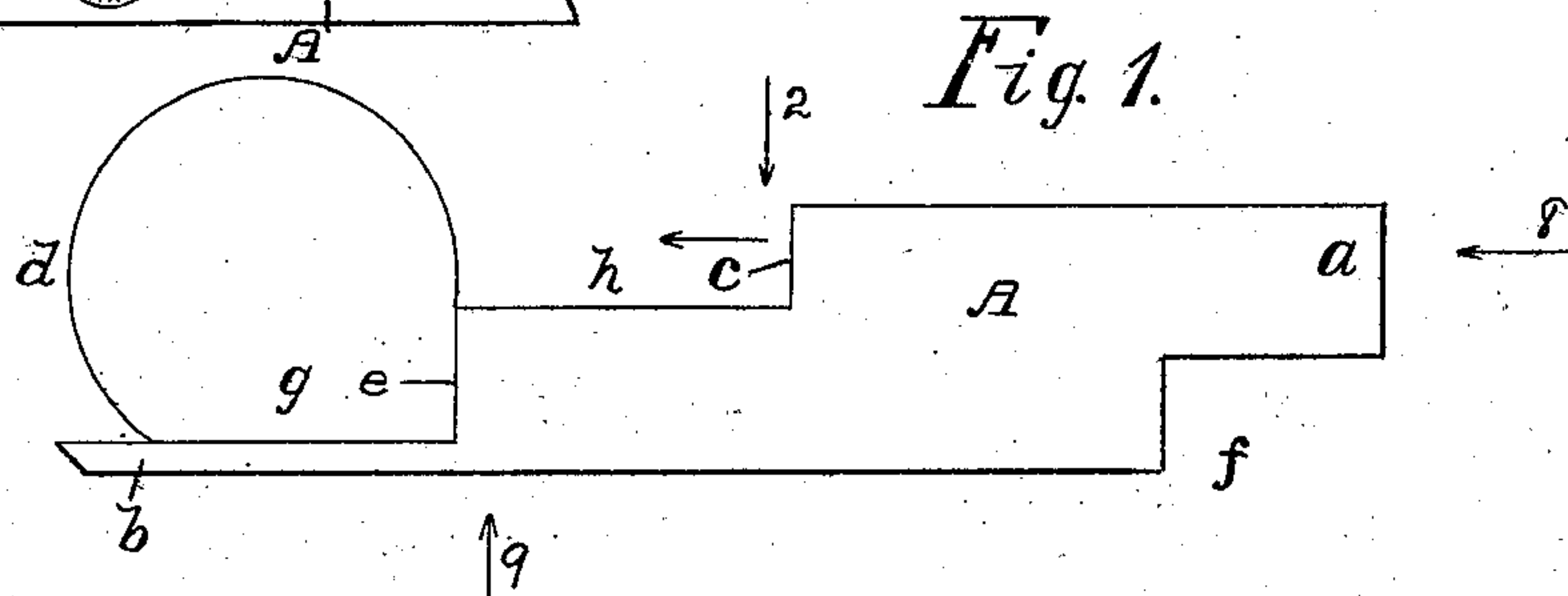


Fig. 1.

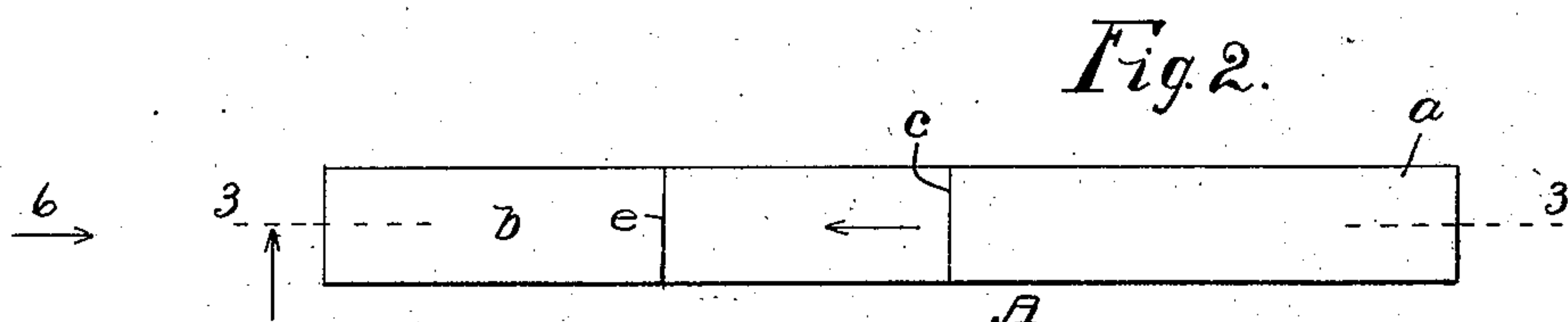


Fig. 2.

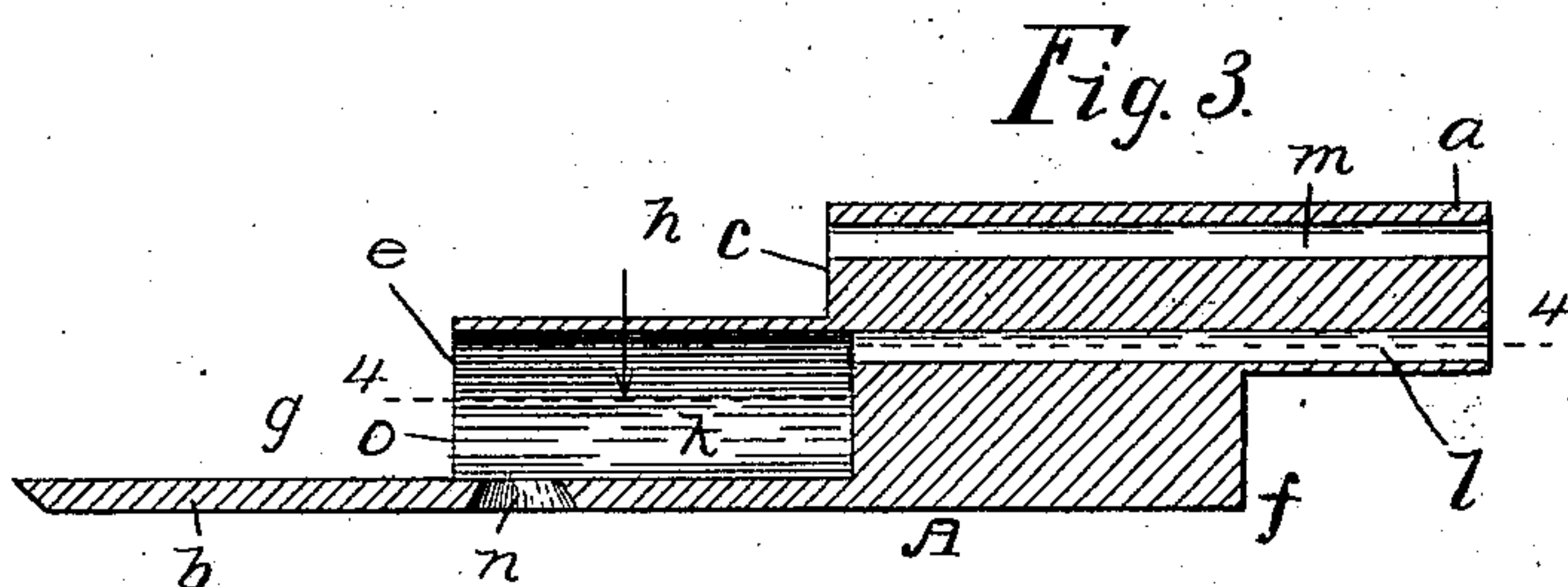


Fig. 3.

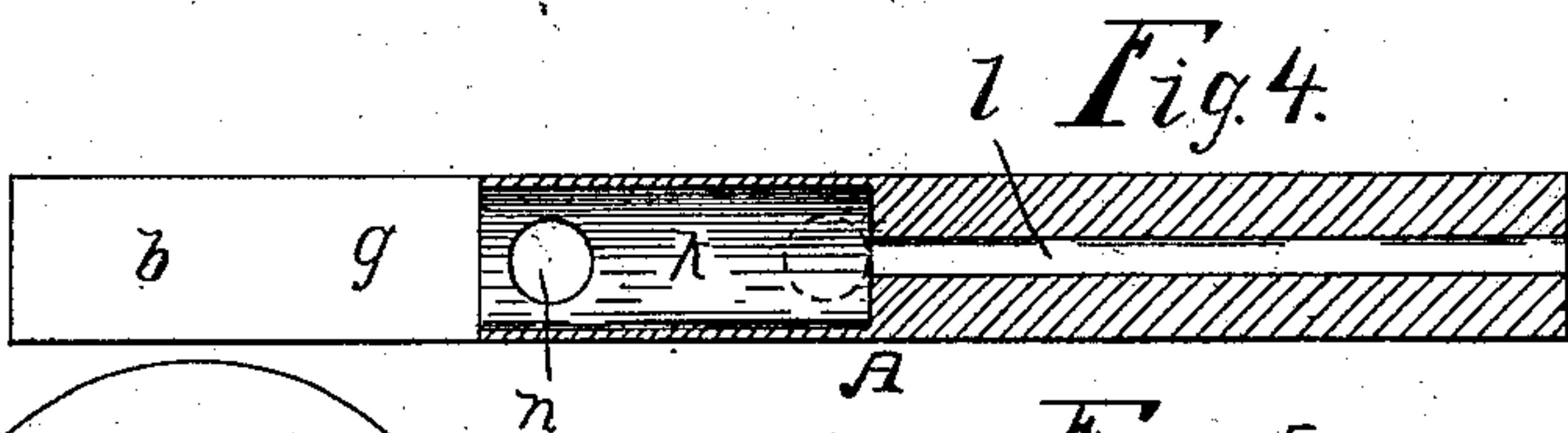


Fig. 4.

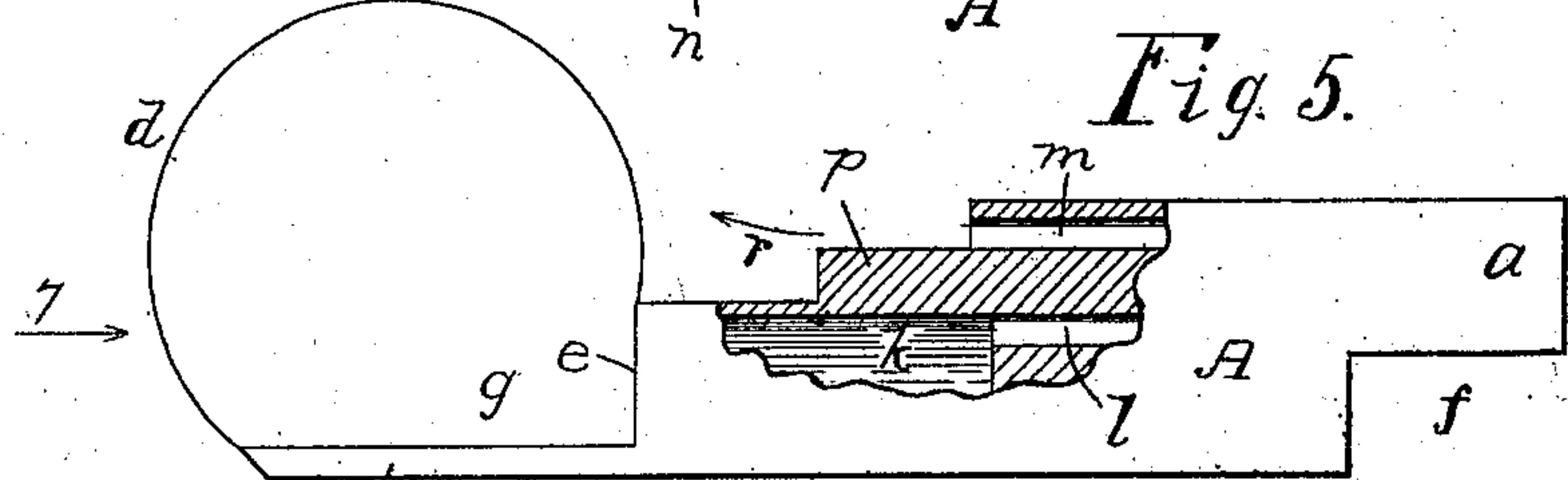


Fig. 5.

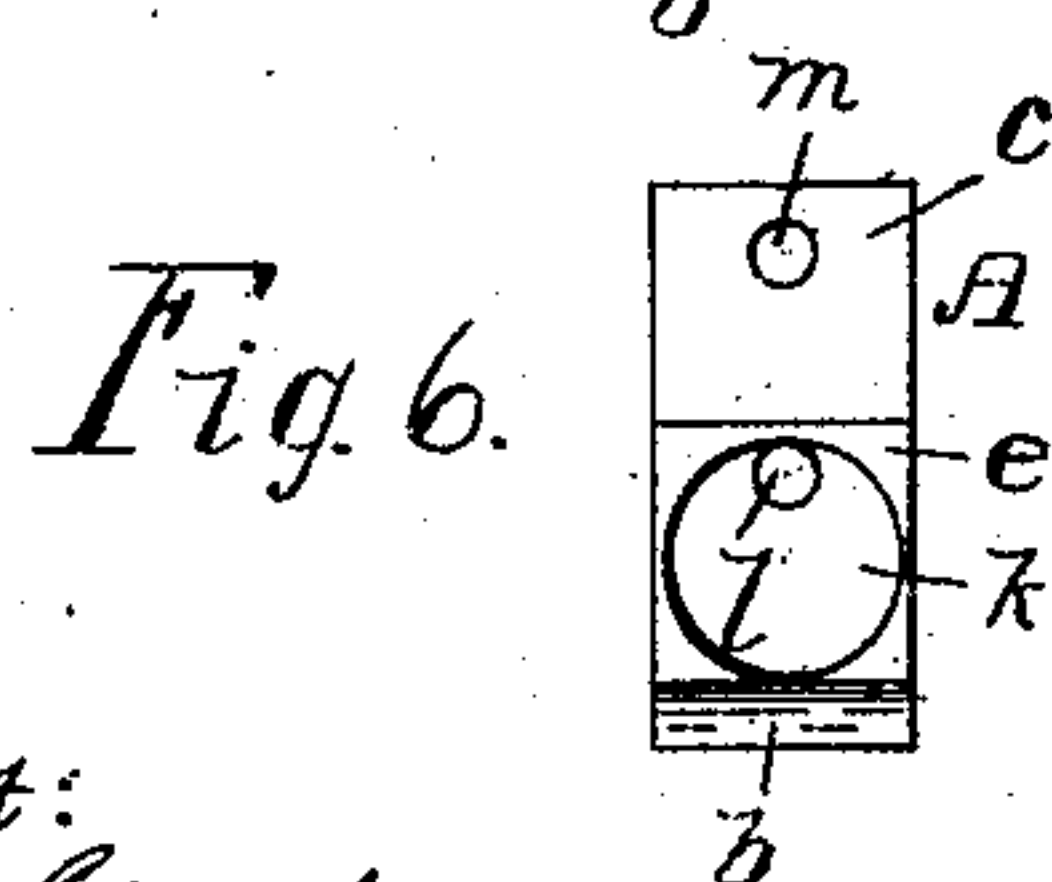


Fig. 6.

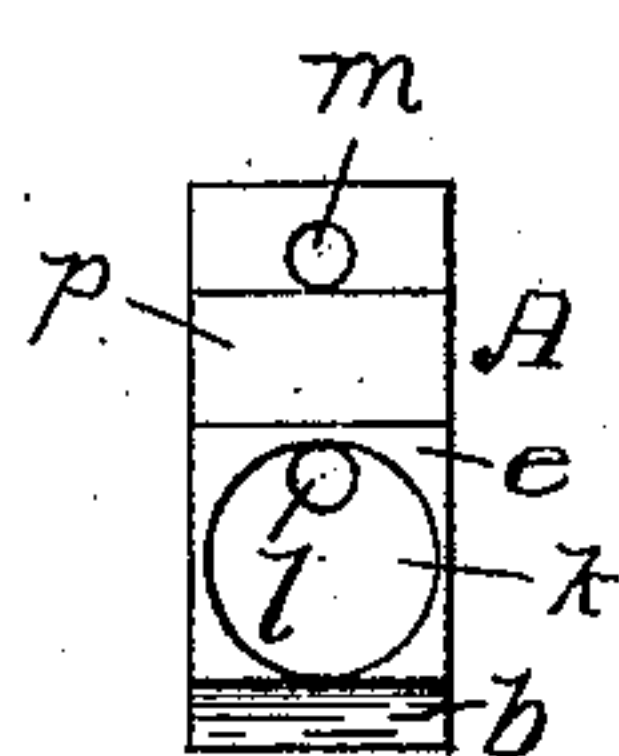


Fig. 7.

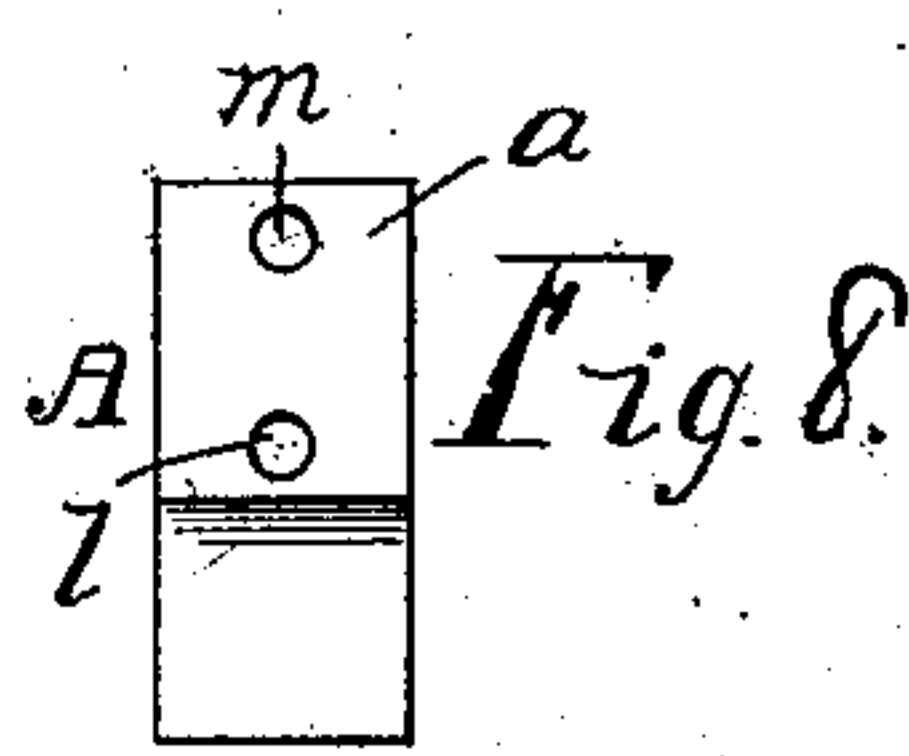


Fig. 8.

Attest:
 M. B. Smith.
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 Peter D. Horton
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UNITED STATES PATENT OFFICE.

PETER D. HORTON, OF NEWARK, NEW YORK, ASSIGNOR OF TWO-THIRDS
TO JOHN M. ESPENSCHIED, OF NEWARK, NEW YORK, AND JOHN COOPER,
OF NEW YORK, N. Y.

DEVICE FOR BLOWING BUBBLES.

SPECIFICATION forming part of Letters Patent No. 693,395, dated February 18, 1902.

Application filed September 20, 1901. Serial No. 75,955. (No model.)

To all whom it may concern:

Be it known that I, PETER D. HORTON, of Newark, in the county of Wayne and State of New York, have invented a new and useful Improvement in Devices for Blowing Bubbles, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

My invention is a bubble-blower or an improved device for blowing bubbles, as out of water charged with soap, and for conveniently detaching the bubbles from the blower, the same being hereinafter fully described, and more particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a side elevation of the device as in use. Fig. 2 is a plan seen as indicated by arrow 2 in Fig. 1. Fig. 3 is a central longitudinal section taken on the dotted line 3 3 in Fig. 2. Fig. 4 is a longitudinal section taken on the broken dotted line 4 4 in Fig. 3. Fig. 5 is a side elevation, partly in central longitudinal section, showing a slight modification in the construction of the device. Fig. 6 is an end view of the device seen as indicated by arrow 6 in Fig. 2. Fig. 7 is an end view seen as indicated by arrow 7 in Fig. 5. Fig. 8 is an end view seen as indicated by arrow 8 in Fig. 1. Fig. 9, partly broken away, is a view of the under side of the device seen as indicated by arrow 9 in Fig. 1.

A in the drawings is the body of the bubble-blower, it being in a single piece, which may be made of any suitable material, as wood, and rectangular in cross-section. At one end the body is formed with an extended part *a*, constituting the mouthpiece of the device, and at the other end with an extended horizontal ledge or part *b*, constituting a rest or floor for the bubble *d* while being formed. The upper side of the body is formed with rectangular indentations or notches *g h*, Figs. 1 and 3, having vertical end faces or ends *e c*, as shown, there being also a single notch or recess *f* formed in the lower side of the body under the mouthpiece *a*.

The body A is further formed near one end with a longitudinal cavity or bubble-cham-

ber *k*, preferably cylindrical in form, from the open end or mouth *o* of which the ledge *b* extends longitudinally outward, as shown in Figs. 3, 6, and 7, the upper or operating face of the ledge being in line with the bottom of the chamber. Two parallel longitudinal ducts or air-passages *l m* are formed in the body A independent of each other, extending inward from the end of the mouthpiece *a*, one opening into the upper part of the chamber *k* and the other opening into the recess *h* through the end *c* above the bubble-chamber, as appears in Figs. 3 and 5. An opening *n*, Figs. 3, 4, and 9, is also usually formed in the under part of the body A, communicating with the chamber *k* from beneath, which when well forward, as shown, aids in supplying the liquid to the chamber *k*. Also when made farther back, near the inner end of the chamber *k*, as appears by dotted circles in Figs. 4 and 9, this opening serves to produce bubbles of greater diameter. This occurs on account of the air induced upward through the opening into the chamber *k* mingling with that blown through the passage *l*, thus increasing the volume of air entering the bubble. The bubble is formed by the pressure of the breath blown through the opening *l* against a film of the liquid crossing or covering the mouth *o*.

The bubble when formed is detached from the body of the blower by the force of the breath through the passage *m*, which, impinging against the bubble, forces it free from its position on the floor *b*. While the bubble is yet small and forming the breath through the passage *m* strikes it near the top and obliquely and glances away without disturbing it, the bubble being unseated only when it assumes a large size, and the current of breath through the passage *m* strikes it centrally or more directly in the middle.

I sometimes find it desirable to form the body A with a part *p*, Figs. 5 and 7, extending from the end *c* below the passage *m*, as shown. This extended part acts as a deflector for the current of air flowing through the passage *m* and tends to deflect it slightly upward, as indicated by arrow *r*, and so al-

lows the bubble to assume a larger diameter before it is forced off or detached from the blower.

As appears in the drawings, the body A of the device is in the form of a notched or indented right parallelepipedon, every cross-section throughout its length being rectangular, and as the two vertical or broad sides of the body are parallel all the rectangles formed by vertical transverse sections have a common horizontal dimension or width.

The two broad vertical sides of the body are sometimes used upon which to place advertising matter.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A device for blowing bubbles, consisting of a single piece having a longitudinal chamber near one end, and two independent air passages or ducts through the body, one leading into said chamber the outlet of the other duct being in line with the blown bubble for the purpose of detaching the same, substantially as shown and described.

2. A device of the kind described consisting of a body in one piece, having a bubble-chamber near one end, a detaching-duct leading from one end and an air-duct parallel therewith leading into the chamber from the other end of the body, the latter being formed to have cross-sections of different sizes all rectangular, substantially as set forth and shown.

3. A device of the kind described consisting of a body formed with a bubble-chamber, and parallel air-ducts one leading into the chamber and the other terminating in line with the blown bubble, the body having the form of a notched or indented parallelepipedon, substantially as shown and described.

4. A device for blowing bubbles, consisting of a body formed with a bubble-chamber,

and air-ducts parallel for their entire length, one leading into the chamber and the other terminating in line with the blown bubble, the body being formed to have cross-sections of different areas, all rectangular and having a common horizontal dimension or width, substantially as shown and set forth.

5. A bubble-blower having a body formed with a bubble-chamber near one end, and a floor or ledge extending lengthwise of the body beyond said chamber, and an air-duct leading from the opposite end of the body into the bubble-chamber and an independent parallel duct disposed above said ledge, substantially as and for the purpose specified.

6. A device for blowing bubbles consisting of a body having a longitudinal bubble-chamber, and a floor or ledge extending beyond the mouth of said chamber with the plane of its upper or operating surface in line with the bottom line of the chamber, and an air-duct leading from the opposite end of the body into the chamber, substantially as shown and described.

7. A device of the kind described, consisting of a body having a bubble-chamber near one end, and air-ducts leading from the opposite end of the body one into the bubble-chamber, and the other opening out above the bubble-chamber and parallel therewith and with the other duct, and a deflector integral with the body above the bubble-chamber for the current of air above said chamber, substantially as shown and described.

In witness whereof I have hereunto set my hand, this 14th day of September, 1901, in the presence of two subscribing witnesses.

PETER D. HORTON.

Witnesses:

ENOS B. WHITMORE,
MINNIE SMITH.