F. P. BLAIR.

BUBBLE BLOWER.

APPLICATION FILED SEPT. 8, 1913.

1,124,204. Patented Jan. 5, 1915.

Fig. 1.



Fig. 5.

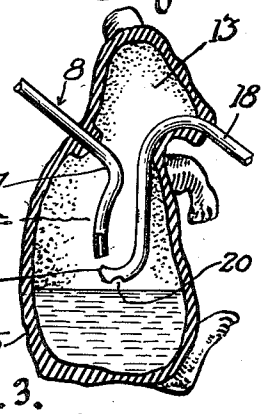


Fig. 2.

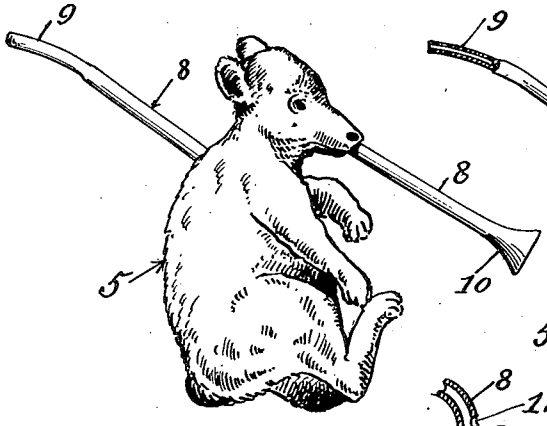


Fig. 3.

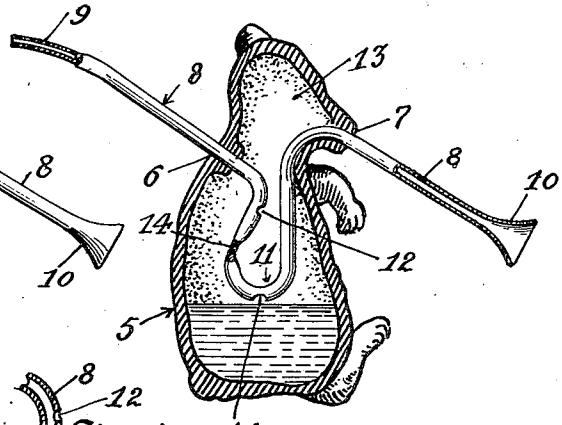




Fig. 4.

Witnesses.

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BUBBLE-BLOWER.

1,124,204. Specification of Letters Patent. Patented Jan. 5, 1915.

Application filed September 8, 1913. Serial No. 788,683.

To all whom it may concern:

Be it known that I, FRANK P. BLAIR, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles, State of California, have invented a new and useful Bubble-Blower, of which the following is a specification.

This invention relates to bubble blowers provided with a combined air pressure and liquid reservoir, and it is the object of my invention to provide a device, whereby soap bubbles may be continuously blown therefrom until the liquid in the reservoir becomes exhausted.

It is a further object of my invention to provide such a bubble blower construction that will render it impossible to accidentally liberate or spill the liquid contained in the reservoir.

I accomplish the above object by means of the device described herein, and illustrated in the accompanying drawings, in which:

Figure 1 is a perspective view of my bubble blower in operation. Fig. 2 is a side elevation of the bubble blower. Fig. 3 is a central vertical section through the bubble blower illustrating the method of ejecting bubbles therefrom. Fig. 4 is a modified form of the air tube. Fig. 5 is a modified form of a bubble blower illustrating a modified arrrangement of the air inlet and outlet tubes.

Heretofore in blowing "soap bubbles," pipes of various kinds have been employed thereby necessitating the employment of a dish of soapy water for the use of the bubble blower. Usually in the case of children the dish is often upset and the contents scattered around, resulting in injury to carpets, draperies, and other furnishings of the room in which the water is being used.

By means of my invention I obviate the above mentioned disagreeable features of bubble blowing by constructing a device in which the bubble forming liquid is contained in a receptacle which is provided with an air inlet thereto, and an air outlet therefrom, constructed in such a manner that it will be impossible to accidentally spill the liquid contained in the reservoir.

Referring more specifically to the drawings 5 designates a hollow figure which may be formed of any configuration, having two bores 6 and 7. This figure may be constructed in two parts of metal pressed into the proper form and crimped or soldered together after the insertion therein of the bubble blowing means, or may be formed of "celluloid" or other similar material.

The bubble forming means consists of a continuous tube 8 flattened at one end as at 9 to form a mouth piece, and expanded into a cone or other suitable shape at the other end as at 10, so that when the soapy film is forced outwardly therefrom it can be blown to a considerable size before detachment from the end of the tube. Tube 8 is preferably bent at approximately the center thereof as at 11, into a U shape, as clearly shown in Fig. 3 of the drawings, and then bent outwardly and downwardly to the expanded end 10. Tube 8 is also provided with an air inlet opening 12 that opens into the interior of a liquid and air pressure reservoir 13. Below opening 12 tube 8 is bent or choked as at 14 to close the air passage therethrough. In place of being bent, a plug 15 may be inserted as shown clearly in Fig. 4 of the drawings. Directly below bend 14 is another opening 16 which is preferably of double the diameter of the air inlet opening 12, through which the soapy film is forced to form the bubble on the end 10 of pipe 8.

In practice the liquid or soapy water for blowing bubbles is poured in through the opening 10 until the reservoir is approximately filled to the lower end of the bend of tube 8, as clearly shown in Fig. 3 of the drawings, or if desired it may be siphoned through pipe 10 by the operator. After the liquid has been drawn into the reservoir the blower is in condition for operation, which is as follows: The figure is first shaken slightly so that the liquid may enter the tube through the opening 16 and form a film thereover. The blower then blows air gently into the reservoir 13 and this will expand the air in the reservoir 13 thereby forcing the film upwardly through tube 8 and outwardly therefrom and expanding it into the form of a bubble. This may be continued repeatedly until all the liquid in the reservoir is entirely exhausted.

In Fig. 5 is illustrated a modified form of my improved bubble blower in which the tube 8 is divided into two parts 17 and 18. Tube 17 enters at the rear of the figure and terminates a short distance from the inner end of tube 18, there being a continuous pas-

sage through tube 17. The inner end of tube 18 is closed as at 19 and is provided with an opening through which the soapy film is forced by air pressure into the form of bubbles.

The modified form illustrated in Fig. 5 will not accomplish any better results than the form illustrated in Fig. 3, but is shown to illustrate that the pipe 8 may be divided into two parts thereby dispensing with the bent portion 14 or the plug 15 shown in Fig. 4 without departing from the spirit of my invention. The action in this form is substantially the same as in the preferred form, the air being forced through tube 17 creates pressure in the reservoir 13 thereby forcing the film of soapy water contained in the reservoir 13 upwardly and outwardly through tube 18 in the form of bubbles.

By bending the tube 8 into a substantially U-shaped form the liquid within the hollow figure 5 will be trapped therein, thus obviating accidental leakage when the generator is not in use.

What I claim is:

1. A soap bubble blower, comprising a hollow body forming a combined liquid receiving and air pressure chamber, and a tube mounted in said chamber, the outlets of said tube terminating exteriorly of said body, said tube being choked intermediate its ends and having an air inlet and bubble outlet aperture one on either side of said choked portion.

2. A bubble blower, comprising a hollow body forming a liquid receiving and an air pressure chamber, and a tube mounted therein, that portion of said tube inclosed within said chamber being provided with apertures, the opening through said tube being closed between said apertures to prevent air from being forced continuously through said tube.

3. A soap bubble blower, comprising a hollow body forming a liquid receiving and air pressure chamber, a tube mounted therein, said tube being bent in an approximately U shape within said chamber, that portion of said tube inclosed within said chamber being provided with a plurality of apertures, the opening through said tube being closed between said apertures, whereby when air is forced into said chamber the pressure created therein will force bubbles from the discharge end of said tube.

4. A soap bubble generator, comprising a hollow body member forming a combined liquid receiving and air pressure chamber, and an air inlet and bubble outlet tube mounted in said chamber, the said tube being bent within said chamber to form a liquid trap.

5. A soap bubble generator, comprising a hollow body member forming a combined liquid receiving and air pressure chamber, and an air inlet and bubble outlet tube mounted in said chamber, said tube being bent within said chamber to form a liquid trap whereby accidental leakage of liquid from the hollow member will be prevented when the generator is not in use.

In witness that I claim the foregoing I have hereunto subscribed my name this second day of September, 1913.

FRANK P. BLAIR.

Witnesses:
EDMUND A. STRAUSE,
MARIE BATTEY.