

A. C. MILLS.

SIPHON.

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959,779.

Patented May 31, 1910.

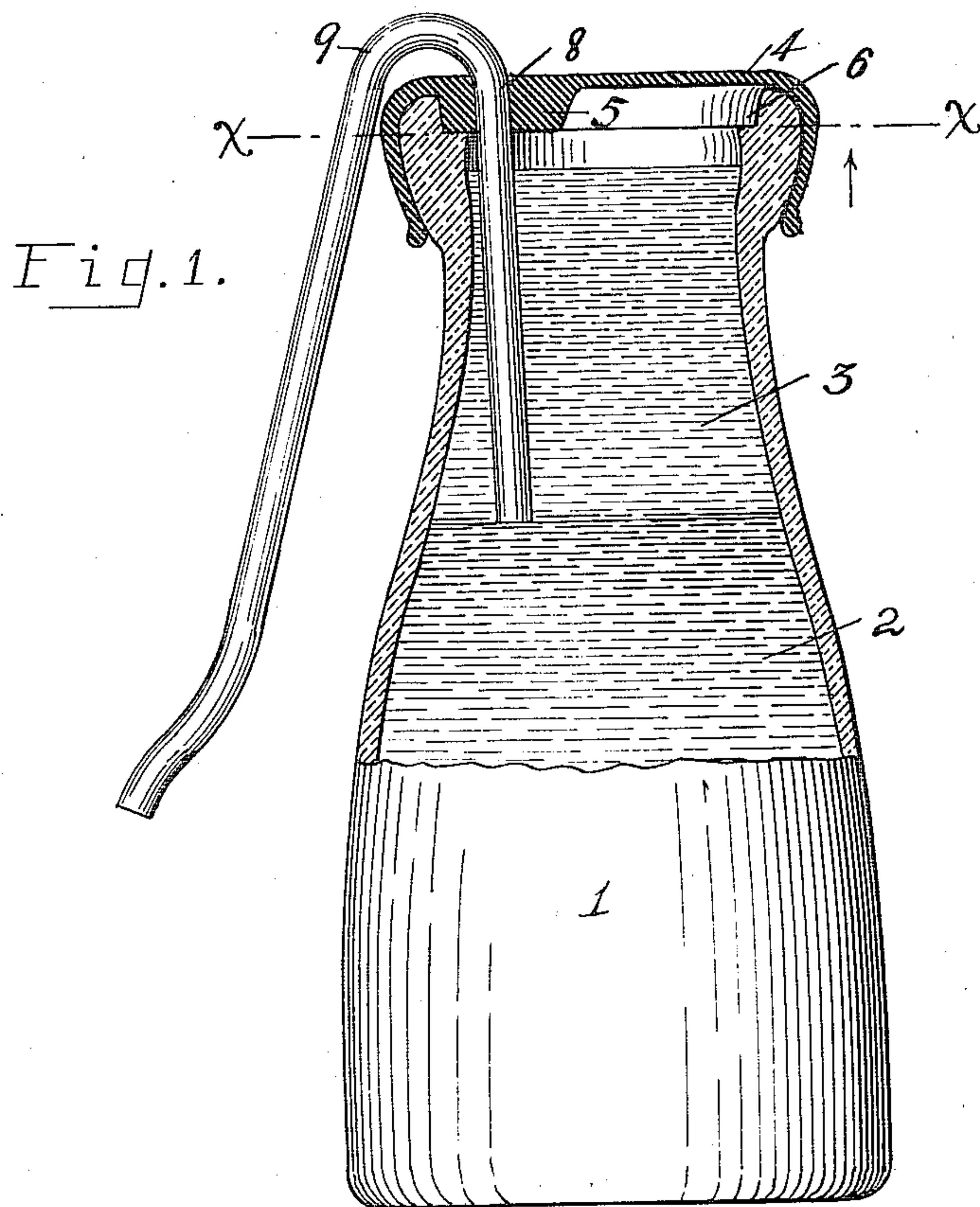
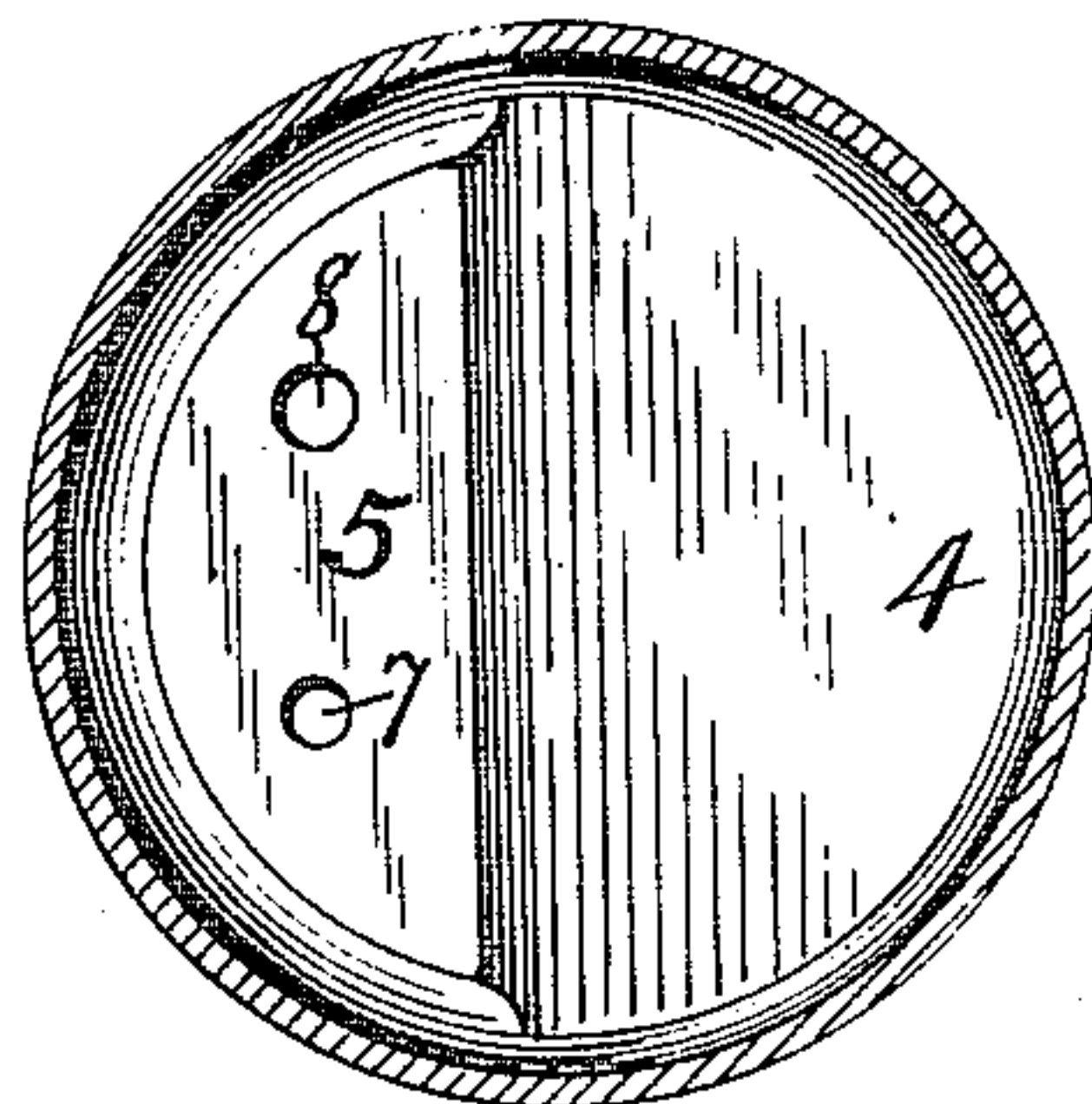


Fig. 2.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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SIPHON.

959,779.

Specification of Letters Patent.

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*To all whom it may concern:*

Be it known that I, ARTHUR C. MILLS, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have invented a certain new and useful Siphon; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to siphon starting devices of the class in which a flexible cap is placed over the mouth of a bottle or the like and a siphon tube projected through such cap and into the bottle, the siphoning action being started by a pressure on the cap.

The object of my invention is the provision of an improved device of this character which is simple and efficient in its operation and construction, and in which the tube, while carried by the cap, is held practically stationary relative to the bottle when the cap is being compressed, thus preventing an agitation of the contents of the bottle due to the movement of the tube therein when the cap is compressed as is the case with the forms heretofore used, and enabling the inner end of the tube to be maintained in any desired position in the bottle during the starting and operation of the siphon.

The operation, construction and arrangement of the parts of the invention are fully described in the following specification, and a preferred embodiment thereof illustrated in the accompanying drawings, in which,—

Figure 1 is a central vertical section of a portion of a milk bottle with my invention associated therewith, and Fig. 2 is a section of the cap on the line  $x-x$  in Fig. 1.

Referring to the drawings, 1 designates a milk bottle of any suitable size; 2 the body of milk within the bottle, and 3 the superimposed layer of cream.

In carrying my invention into practice I provide a cap 4 of rubber or other suitable material, which fits closely over the mouth of the bottle to prevent the escape of air therefrom, and forms a flexible diaphragm across the same, as shown. Provided on the inner side of the diaphragm contiguous to one side of the bottle mouth is a thickened portion 5, which is preferably of the shape

shown and shoulders against the rim of the bottle, or fits down into the annular internal recess 6 thereof, which recess is usually provided to form a seat for the disk stopper customarily employed.

The thickened portion 5 of the cap is provided near the bottle rim with two holes 7 and 8, the former serving as an air-vent opening, while the short leg of the siphon-tube 9 is projected through the other into the bottle. The short leg of this tube may be of a suitable length to project any desired distance within the bottle, while the long leg is necessarily longer to have the siphoning effect, as indicated.

In the operation of my invention the cap 4 is first placed over the mouth of the bottle and the short leg of the tube 9 projected through the opening 8 therein with its end extended down into the liquid contents of the bottle. If the bottle contains milk and cream and it is desired to extract all of the cream without disturbing the milk or mixing it with the cream, the inner end of the tube is extended to the bottom of the cream strata, as shown. The tube being positioned the operator presses down on the thin portion of the cap diaphragm with one finger and at the same time closes the vent opening 7 with another finger so that the air pressure on top of the liquid forces it up into the tube. This being done the finger is removed from the air-vent 7 before relieving the pressure on the diaphragm so as to admit air to the receptacle to facilitate the siphoning action. On a depression of the diaphragm the tube 9 is held substantially rigid relative to the bottle due to the thickened portion 5 of the cap bearing against the rim of the mouth and the close proximity of the tube to such rim. This rigidity of the tube is an important feature in siphons of this class as it prevents an agitating of the liquid, which is otherwise occasioned by the tube moving up and down therein when the cap is compressed and released to start the siphoning. This movement of the tube within the bottle would also prevent the liquid being drawn from a particular point therein, as is possible with the present device.

It is thus apparent that I have provided a siphon device which is simple, efficient and accurate in its operation, and which prevents an agitating of the liquid in the bottle when starting.



I wish it understood that my invention is not limited to any specific construction or arrangement of the parts except in so far as such limitations are specified in the claims.

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

1. A siphon device, comprising a cap adapted to fit air-tight over the mouth of a receptacle and having a flexible diaphragm, said diaphragm having a vent opening and being thickened contiguous to one side of the receptacle mouth and provided with an opening, and a siphon-tube projected through such opening.

2. A siphon device, comprising a member of resilient material adapted to fit air tight over the mouth of a receptacle and having a vent opening therein, said member having a thickened portion at one side thereof adapted to coact with the receptacle rim, and a siphon-tube projected through such thickened portion.

3. In a siphon device, the combination with a bottle, of a cap adapted to fit air-tight over the neck of the bottle and having

an air-vent therein, said cap having a compressible portion over the bottle mouth, a firm portion disposed at one side of the compressible portion and adapted to retain its normal position relative to the bottle neck when said compressible portion is compressed, and a siphon tube projected through the firm portion of the cap, substantially as described.

4. In a siphon device, the combination with a bottle, of a cap of flexible material fitted air tight over the neck of the bottle and having its diaphragm formed at one side thereof with a thickened portion which shoulders against the bottle rim to maintain it substantially rigid relative to the bottle, said thickened portion having two openings therethrough, and a siphon-tube projected through one of such openings.

In testimony whereof I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

ARTHUR C. MILLS.

Witnesses:

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L. D. MERRICK.