

J. ARMSTRONG & S. MARKS.  
 Improvement in Bottling-Machines.

No. 133,003.

Patented Nov. 12, 1872.

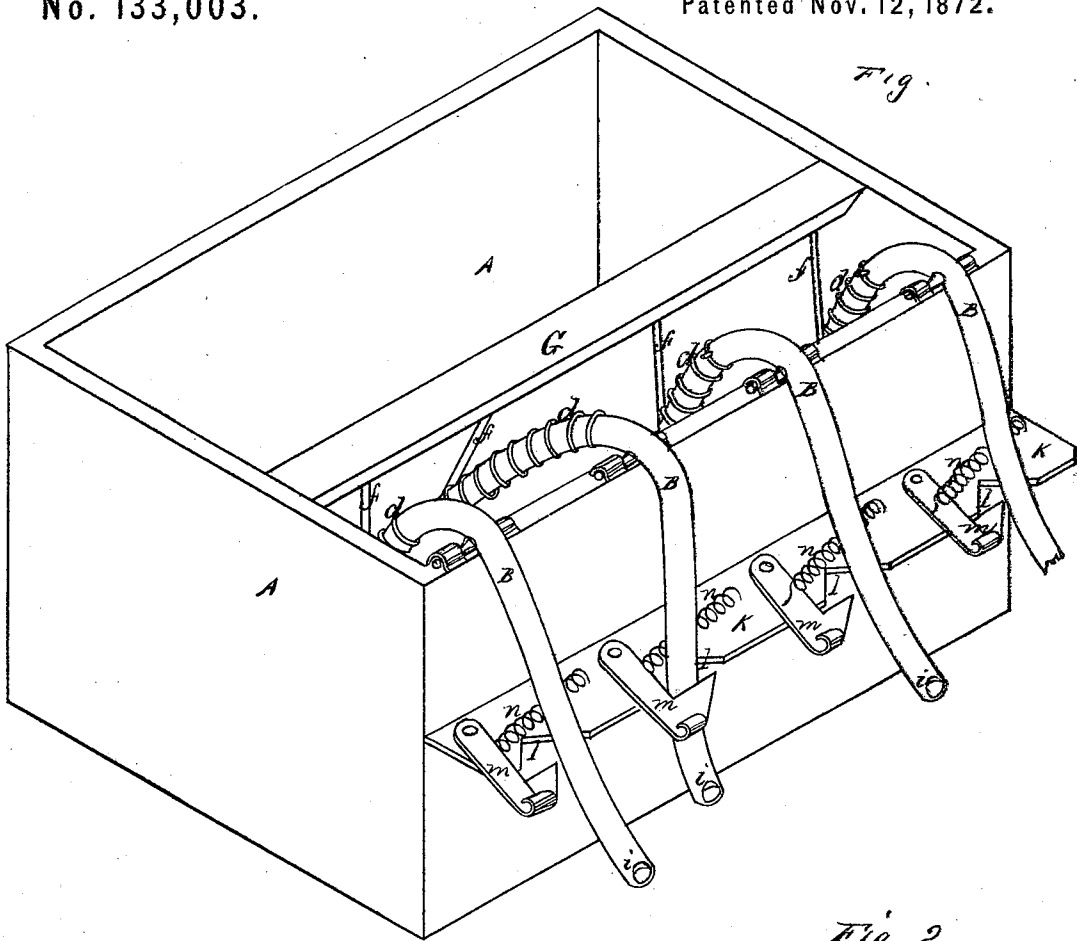


Fig. 1.

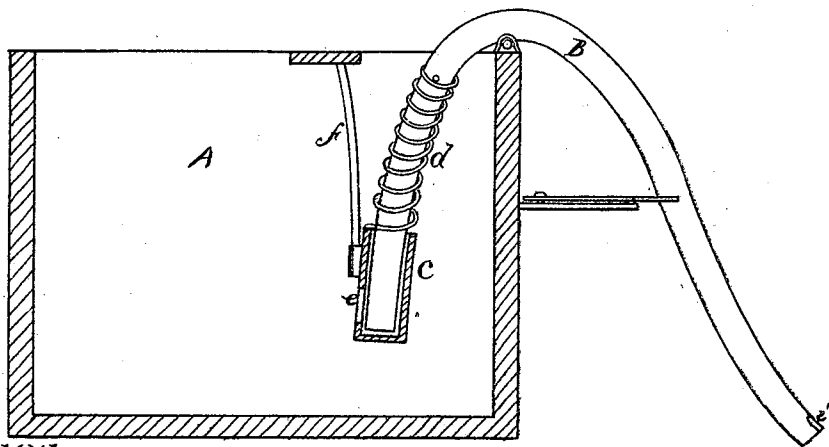


Fig. 2.

Witnesses

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# UNITED STATES PATENT OFFICE.

JAMES ARMSTRONG AND SAMUEL MARKS, OF SAN FRANCISCO, CALIFORNIA.

## IMPROVEMENT IN BOTTLING-MACHINES.

Specification forming part of Letters Patent No. 133,003, dated November 12, 1872.

*To all whom it may concern:*

Be it known that we, JAMES ARMSTRONG and SAMUEL MARKS, of San Francisco city and county, State of California, have invented an Improved Bottling-Machine; and we do hereby declare the following description and accompanying drawing are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use our said invention or improvement without further invention or experiment.

Our invention relates to improvements in that class of bottle-filling machines in which siphons are used for the purpose of conveying the liquid from the tank or reservoir into the bottles.

In order to describe our invention so that others will be able to understand its construction and operation, reference is had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a perspective view of our invention, and Fig. 2 is a transverse section.

A represents the tank or reservoir in which the liquid to be bottled is contained. One or more siphons, B B, are secured at their middles to the edge or sides of this tank by means of arms or trunnions, so that one leg will pass down inside of the tank, while the other hangs outside. A cap, *c*, fits over the inside end of the siphon, to the upper end of which a spiral spring, *d*, is secured. This spring coils around the tube upward and is secured to it at some point between the cap and bend of the siphon. The cap *c* has an opening, *e*, at one side a short distance above the end of the tube through which the liquid passes when the cap is in position.

It will thus be seen that the spring *d* will draw the cap upward, so that its closed end will be against the open end of the tube, but when the cap is forced downward, the open end of the tube comes opposite the opening *e* and the liquid enters the siphon.

In order to operate this cap a rod, *f*, which has its lower end secured to the cap, extends upward to a sufficient distance to strike the under side of a bar, G, which passes across the tank A just back of the siphons. Now, when the leg of the siphon, which is outside of the box, is forced toward the box, the leg

inside of the box is raised so as to cause the rod *f* to open the inner end of the siphon, and when it is again freed the force of the spring *d* will again throw the siphon to its former position and close the inner end.

In order to cause the siphon to retain its charge when not in use, the outside extremity or end of the outer leg is closed and an opening, *i*, made in the side of the pipe just above the closed end. This opening should not be as large as the hole through the siphon-tube. This, we have discovered, will cause the siphon to hold its charge until the inner end is opened and the liquid allowed to flow through it, thus rendering the siphon automatic and perfectly under control.

Secured horizontally to the outside of the tank A is an outward-projecting flange, *k*, in which a recess, *l*, is made opposite each siphon. A latch, *m*, is hinged to this flange, and a spring, *n*, draws it across the opening, in the manner shown.

To fill the bottles, the outer leg of the siphons is introduced into them until the bead around the upper end of the bottle rises above the flange *k*. The bottle and outside leg of the siphon are then forced toward the tank until the neck of the bottle enters the recess *l* in the flange; the latch *m* then embraces the outside of the neck below the bead and holds it in this position. This same movement lowers the cap on the opposite or inside leg of the siphon and allows the liquid to run through until the bottles are filled.

By keeping the liquid in the tank at the proper level the bottles will not overflow, and the work of filling can be accomplished without waste.

By this means we provide a bottle-filling machine which is simple and effective, and which cannot easily get out of order.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The suspended siphons B B, with their sliding caps *c* operated by a spring, *d*, rod *f*, and cross-bar G, said sliding caps being perforated as described, substantially as and for the purpose specified.

2. The siphon B, constructed with the mouth of the outer leg closed, and an opening, *i*,

smaller than the inner diameter of the siphon, made in its side, in combination with the cap *c*, as described.

3. The flange *k*, with its recesses *l l*, in combination with the latch *m* and spring *n*, substantially as and for the purpose above described.

In witness whereof we hereunto set our hands and seals.

JAMES ARMSTRONG. [L. S.]  
SAMUEL MARKS. [L. S.]

Witnesses:

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