(No Model.)

A. E. RICH.

BOTTLE FILLING MACHINE.

No. 265,703. Patented Oct. 10, 1882.

Fig. 1.

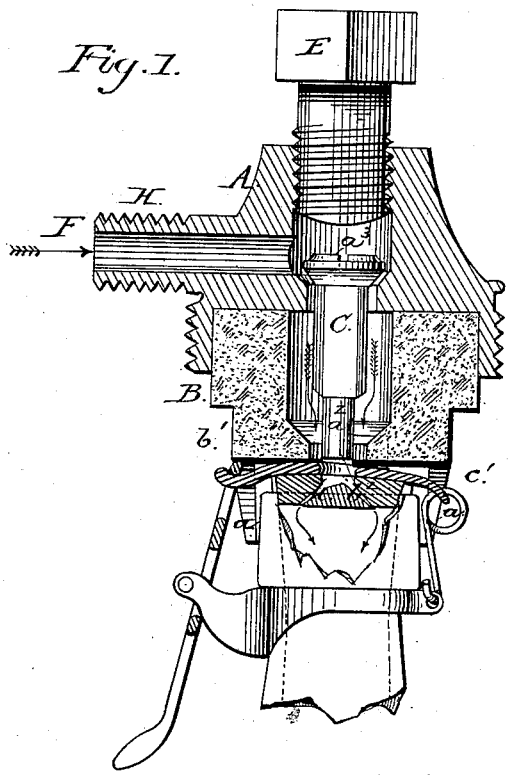


Fig. 3.

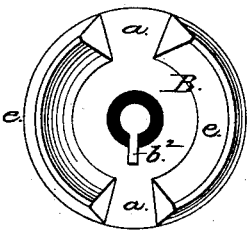
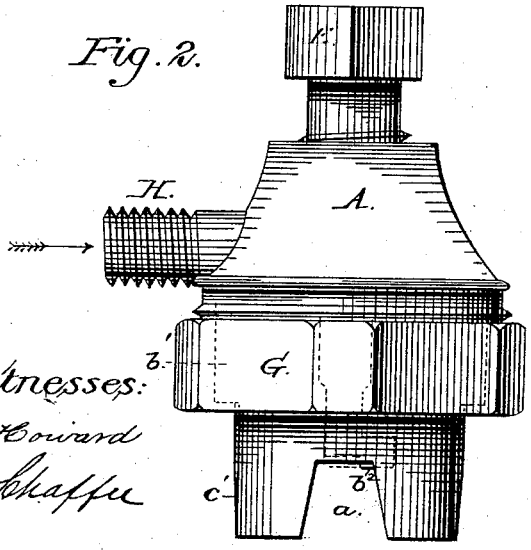


Fig. 2.



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UNITED STATES PATENT OFFICE.

AUGUSTUS E. RICH, OF FALL RIVER, MASSACHUSETTS.

BOTTLE-FILLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 265,703, dated October 10, 1882.

Application filed May 26, 1882. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS E. RICH, a citizen of the United States, residing in Fall River, in the county of Bristol and State of Massachusetts, have invented a new and useful Bottle-Filling Machine, of which the following is a specification.

My invention is an improvement in machines for bottling carbonated drinks and liquids charged with carbonic acid.

It consists in arranging, in connection with the head of a bottling-machine, a rubber housing of peculiar form, which head and housing are provided with cavities adapted to receive a valve and valve-stem which may be lifted by the capping of a bottle-stopper to allow the charged liquid from the pump to flow downward into the bottle through the orifice provided in the stopper of the same. The rubber or elastic housing referred to is fashioned so as to receive the top of the bottle, its stopper, and capping, and when the same are pressed upward in the act of filling a tight joint is formed between the stopper-cap and housing in order that the liquid may find its way directly into the bottle.

In my drawings, Figure 1 is a vertical sectional view, showing the head of a bottling-machine, the housing, and the bottle in the act of filling. Fig. 2 is an elevation of the head and housing. Fig. 3 is a plan showing the housing inverted.

Similar reference-letters indicate like parts in all of the figures.

Referring to drawings, A is the metallic head of a bottling-machine provided with a screw-threaded stem projecting from it laterally, to which may be coupled the pipe leading to a force-pump conveniently located. The lower portion of said head is screw-threaded to receive a threaded nut which holds a rubber housing, to be hereinafter mentioned, close to said head. A cavity is formed in the head A, about its axial center, adapted to receive the head of a valve and form a seat for the same. At the top of said head is a screw-threaded opening adapted to receive a bolt, E, which serves as a fastening for said head to a cross-bar, (not shown,) and also serves to limit the upward movement of the valve beneath it.

B is a housing, formed of rubber or other elastic material, adapted to fit into a cavity provided in the under side of the head A. This housing is provided with an annular rabbet, a cylindrical or conical portion, b', and a conical portion, c', provided with slots a in opposite sides. The portion c' is provided with a conical cavity about equal to the size of the head of a bottle, and the slots a are intended to admit the two ends of the metallic capping of the stopper. Within the housing B is a cylindrical cavity, which terminates at its bottom in a cone-frustum, and an opening to receive the end of a valve-stem and a lug or projection attached thereto.

C is a valve provided with a head, a^3, and a stem, a^2, the latter having a lug or projection, b^2, which fits into a radial groove or slot correspondingly formed in the housing B.

G is a nut which fits snugly over the housing B when driven onto the screw-threaded portion of the head A.

The stopper used with this filling device must be constructed upon the principle of that shown in my Patent No. 252,059, granted January 10, 1882.

My filling device is operated in the following manner: A bottle having a stopper provided with an induct opening or openings and a metallic perforated cap is placed under the housing B, while the bottom of said bottle rests upon a suitable stand, which may be worked by a lever or treadle. The bottle being pressed upward into the conical cavity of the housing B, a close air-tight joint is formed between the capping of the stopper and the under surface of the body of the housing, so that when in the upward movement of the bottle the capping comes in contact with the lug b^2 the valve C is raised above its seat and the charged liquid is allowed to flow down around the valve-stem through the said housing and stopper and into the bottle. When it becomes necessary to exhaust the air from the bottle the pressure which holds the bottle to place is modified sufficiently to allow the valve to find its seat and stop the flow of liquid. The air now finds its way of escape around the stopper of the bottle. It may be understood that when a bottle is being filled the stopper is not clamped to place, but holds a relation to said bottle, as shown in Fig. 1 of drawings. After the air has escaped from the bottle (the bottle being full) the clamping-lever connected with the

stopper is locked to place and the bottle is ready for transportation.

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

1. The housing B, adapted to fit within a suitable cavity in the head of a bottle-filling machine, provided with a conical cavity in its lower portion, and slots *a*, as and for the purpose set forth.

2. The combination, with the head of a bottle-filling machine, of the elastic housing B, nut G, and valve C, provided with lug b^2, as and for the purpose specified.

3. The combination, with a bottle-stopper having an induct-opening and a perforated cap, of the housing B and valve C, the latter having a movement within openings in said housing and the head of a bottle-filling machine, as and for the purpose set forth.

4. The combination, with head A, of valve C and bolt E, substantially as and for the purpose set forth.

AUGUSTUS E. RICH.

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