

J. M. HICKS.
 MEANS FOR INTRODUCING LIQUID INTO VESSELS THROUGH CLOSED CHAMBERS
 OF FILLING MACHINES.

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Patented Feb. 8, 1910.

2 SHEETS—SHEET 1.

948,762.

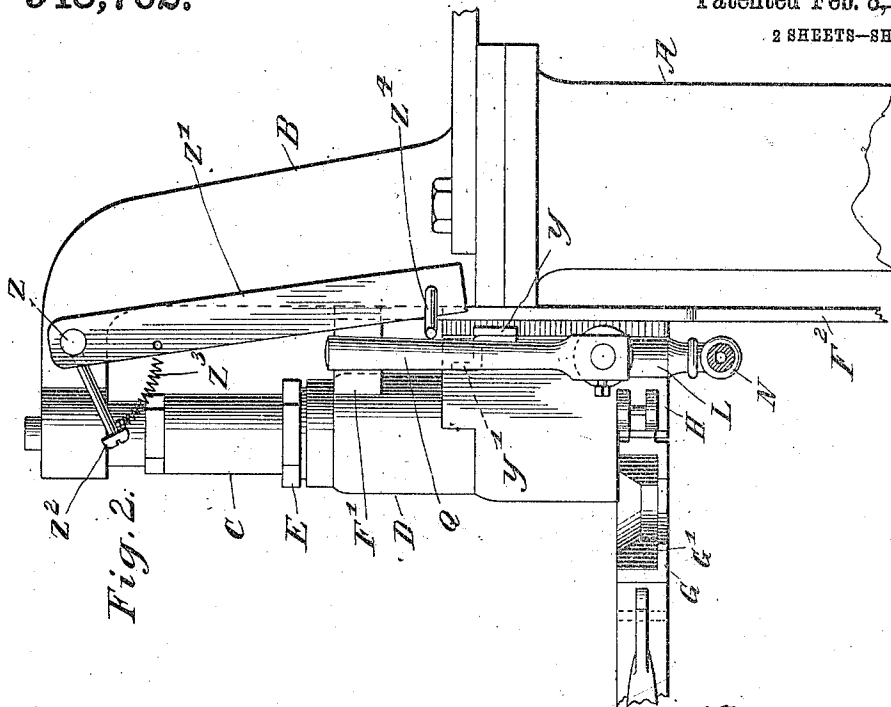


Fig. 2.

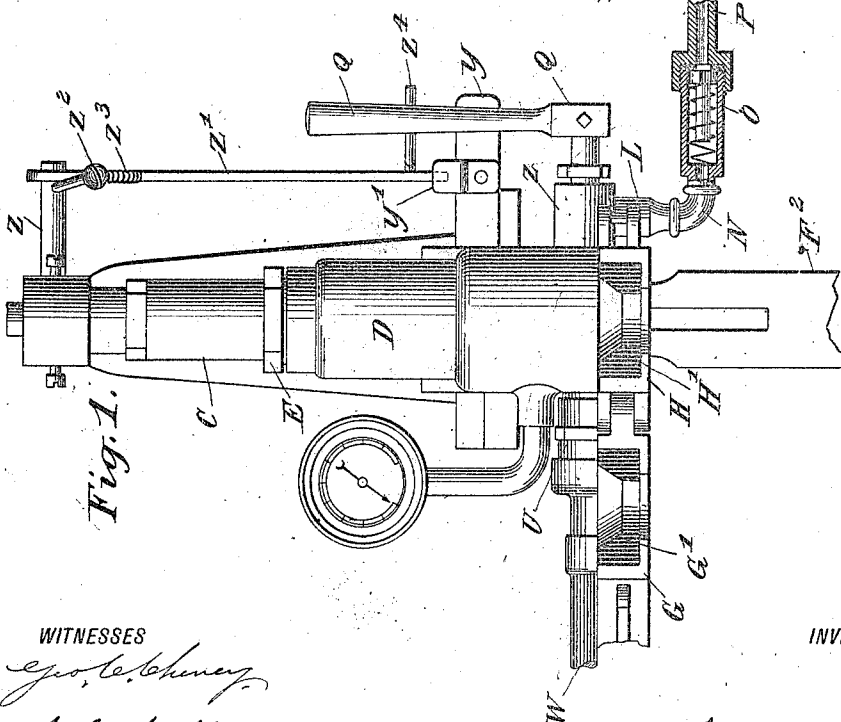


Fig. 1.

WITNESSES

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Fig. 3.

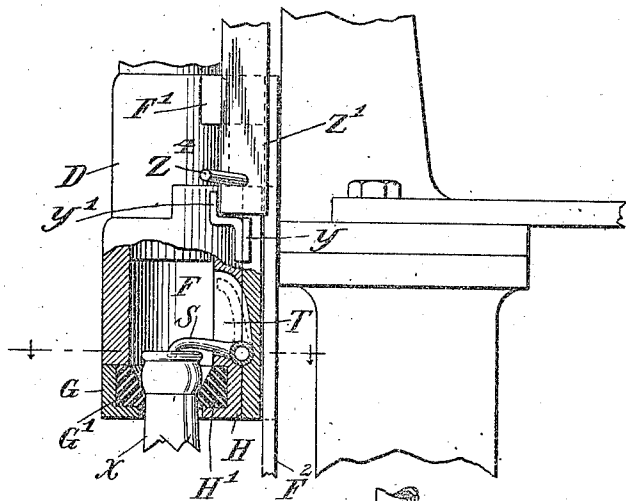
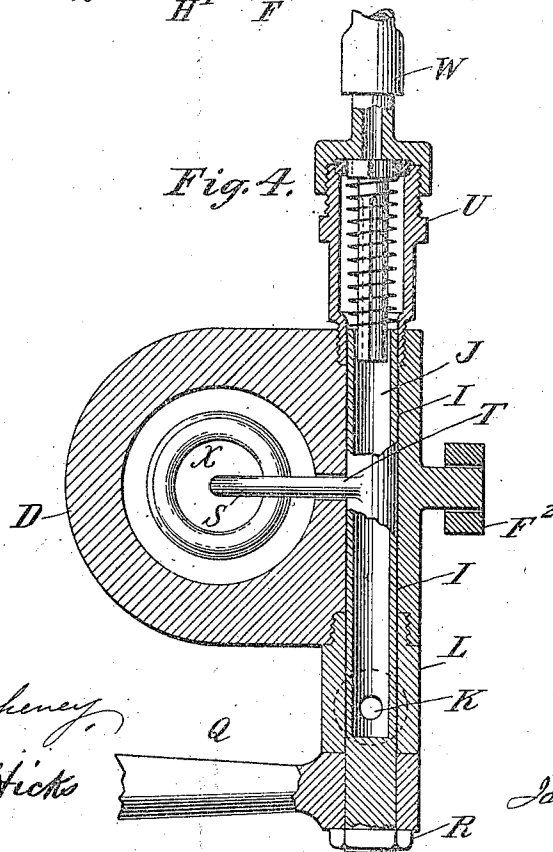


Fig. 4.



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MEANS FOR INTRODUCING LIQUID INTO VESSELS THROUGH CLOSED CHAMBERS OF FILLING-MACHINES.

948,762.

Specification of Letters Patent.

Patented Feb. 8, 1910.

Application filed September 2, 1908. Serial No. 451,290.

To all whom it may concern:

Be it known that I, JAMES MILNOR HICKS, a citizen of the United States, residing at Summit, county of Union, State of New Jersey, have invented certain new and useful improvements in means for introducing liquid into vessels through closed chambers of filling-machines, of which the following is a specification.

My invention relates to means for introducing carbonated and other liquids into vessels through the filling chamber of a filling and capping machine, and it consists in certain elements and combinations, fully set out and claimed in the following specification.

The object of my invention is to inject carbonated or other liquid directly into the vessel without causing any of the liquid to contact with the exterior of the vessel and so keep the vessel clean outside, and to so regulate the movements of the filling tube that it will not interfere in any way with the capping mechanism.

In order that those skilled in the art to which my invention appertains, may understand, construct, and use my invention, I will proceed to describe it, referring to the accompanying drawings forming part of this specification in which—

Figure 1, shows a front elevation of a filling and capping machine having my invention attached thereto, one of the valves being shown in central section. Fig. 2, shows a side view of the same in elevation. Fig. 3, shows a central section of the filling chamber of the machine and my filling goose neck in position to discharge liquid into a bottle held in the closing gate of the machine. Fig. 4, is an enlarged horizontal section of the machine filling chamber on line *x-x* Fig. 3, with the goose neck in position shown in Fig. 3; the valve pipe and its connections to which the goose neck is secured.

A, indicates a standard to which a bracket B, is bolted. Bracket B supports a post C. Around post C a sleeve D slides up and down. A stuffing box E packs the joint between B and C. At the lower end of C a filling and capping chamber F is formed. The front wall of chamber F is cut away and a bottle closing gate G is pivoted to

one side thereof, to swing circumferentially to close upon the rear part H of the chamber walls of F and to be locked thereto in use. Gate G and rear wall H are chambered out to receive each one half of a rubber gasket G¹ and H¹, as shown in section in Fig. 3, to inclose a bottle neck when the gate is closed, as shown in Fig. 3.

The locking device is the same as shown in application of J. A. Hicks, May 5th, 1908 No. 430,988. Through the rear walls of chamber F a hole I, is bored from side to side horizontally and a pipe J^o is inserted fitting the hole I closely. A valve port K is made through the walls of pipe J. The outer end of pipe J is solid and a tee L is passed over it and screwed into the face of the casting of the rear wall of chamber F, the angular part of the tee L drops downward and to it is secured by an elbow N, a check valve O, opening toward the valve port K. A pipe P connects check valve O to the carbonator or source of fluid supply. A handle Q is secured to the outer solid end of pipe J by a nut R. About midway of pipe J a pipe S is secured opening into it, and pipe S which I call a goose neck, extends through a slot T in the casting, or rear wall of chamber F to center of chamber F when discharging fluid into a vessel, and when not, it is turned upward to the position shown in dotted lines in Fig. 3, by turning pipe J by handle Q. At the other end of pipe J a check valve U is placed, screwed into face of the casting or wall of chamber F and embracing the pipe J, a pipe W joins the check valve U to the syrup supply reservoir and pump.

X is a bottle in position to be filled. On the outer side of the wall of chamber F bracket Y is fastened, projecting sideways and on this bracket Y is fixed a stop Y¹. At the top of the bracket B, a shaft Z is fixed, and on this shaft Z is pivoted a lever Z¹ on shaft Z, a pin Z² projects from shaft Z and a spring Z³ is fixed. Spring Z³ also is connected to lever Z¹ and pulls the lever Z¹ forward. An arm Z⁴ is fastened to Z¹ at its lower end and lies in the path of the swing of handle Q. F¹ is a lug on the outer wall of sleeve D, and to this lug F¹ a rod or plate connection F² is attached which connects sleeve D to the table of the machine

which supports the vessel to be filled, so that table and sleeve move together vertically in capping the vessel only.

The operation is as follows:—Pipe P is connected with the source of liquid supply under pressure, usually a carbonator. Pipe W being connected to the syrup supply and the vessel being held in the gaskets of gate G, and rear wall H as shown in Fig. 3, the pipe J having been turned to the position shown in Figs. 3 and 4 with the port K matching the bore of tee L, the pressure from the carbonator will open check valve O and liquid under pressure will pass to goose neck S and so directly into the vessel X. Check valve U will be closed at the same time by the pressure of inflowing liquid as well as by its own spring. When the vessel has been filled to the proper point, a syrup pump forces a measured amount of syrup from the syrup tank through pipe W and check valve U into the vessel, through goose neck S, at the same time closing the check valve O, because no syrup can flow through check valve U until the pump pressure exceeds the carbonator pressure, or the pressure within pipe J and chamber F. The vessel having been thus charged by carbonated liquid and syrup, lever Q is thrown back to its vertical position shown in Fig. 2 closing valve opening K and shutting off the carbonator flow and throwing the goose neck S into the position shown in dotted lines in Fig. 3. The sleeve is then thrown upward by pitman F² until the nose of the vessel X charged with pressure enters a sealing cap held in jaws on post C within chamber F to seal the vessel. The sleeve D then is drawn downward and the gate opened and the vessel removed fully charged. It will be seen that lever Z¹ when the lever Q is thrown downward, is drawn forward by

spring Z³ until its bottom is over the bracket stop Y, so that while the goose neck S is delivering liquid to the vessel X the sleeve cannot be accidentally thrown up to injure the goose neck S. The part Y¹ prevents the spring Z³ from pulling the lever Z¹ too far.

Having now fully described my invention and the manner in which I have embodied it what I claim as new and as my invention and desire to secure by Letters Patent is—

1. Means for introducing liquid into a vessel mouth, through a filling chamber closed by the vessel being filled, consisting of a pipe located and arranged to turn in the wall of said filling chamber; a nozzle extension fixed on said pipe, and arranged to extend into the mouth of the vessel to be filled, when said pipe is turned in one direction, and when turned in the opposite direction to lie within the wall of the filling chamber; means to admit liquid into said pipe and to cut off the flow, whereby the liquid may be entered directly into the vessel mouth substantially as specified.

2. In a machine for filling and capping vessels having a filling chamber, the combination of a filling pipe located in the wall of the filling chamber and arranged to turn circumferentially, of a nozzle projecting from said pipe adapted to be moved into and out of said filling chamber by revolving said pipe in its seat, whereby liquid may be directed into a vessel mouth located in said chamber, substantially as specified.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses, this 1st day of September 1908.

JAMES MILNOR HICKS.

Witnesses:

W. H. ROSE;

JOHN A. HICKS.