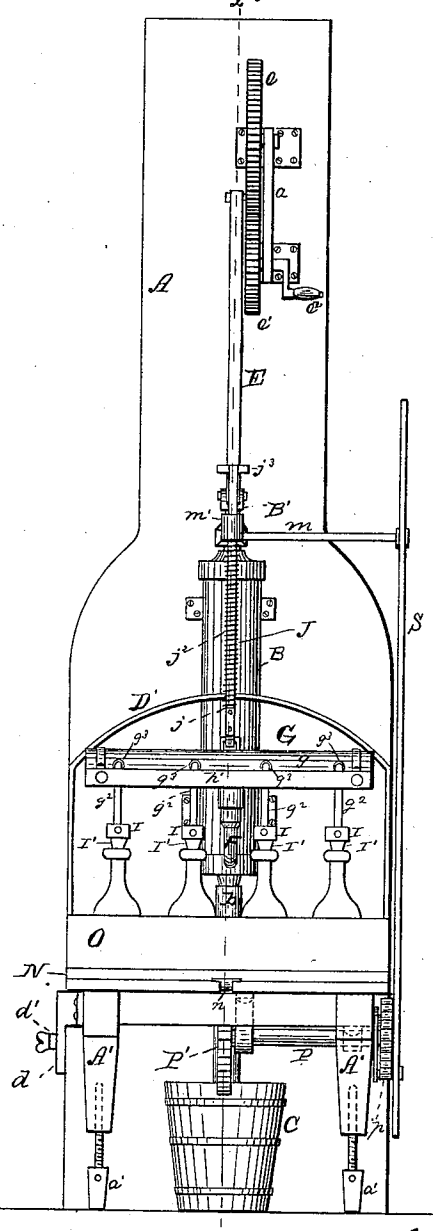
(No Model.) 2 Sheets—Sheet 1.

# J. W. CHEWNING.

## BOTTLING MACHINE.

No. 266,095. Patented Oct. 17, 1882.

Fig. 1.




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## BOTTLING MACHINE.

No. 266,095. Patented Oct. 17, 1882.

Fig. 2.

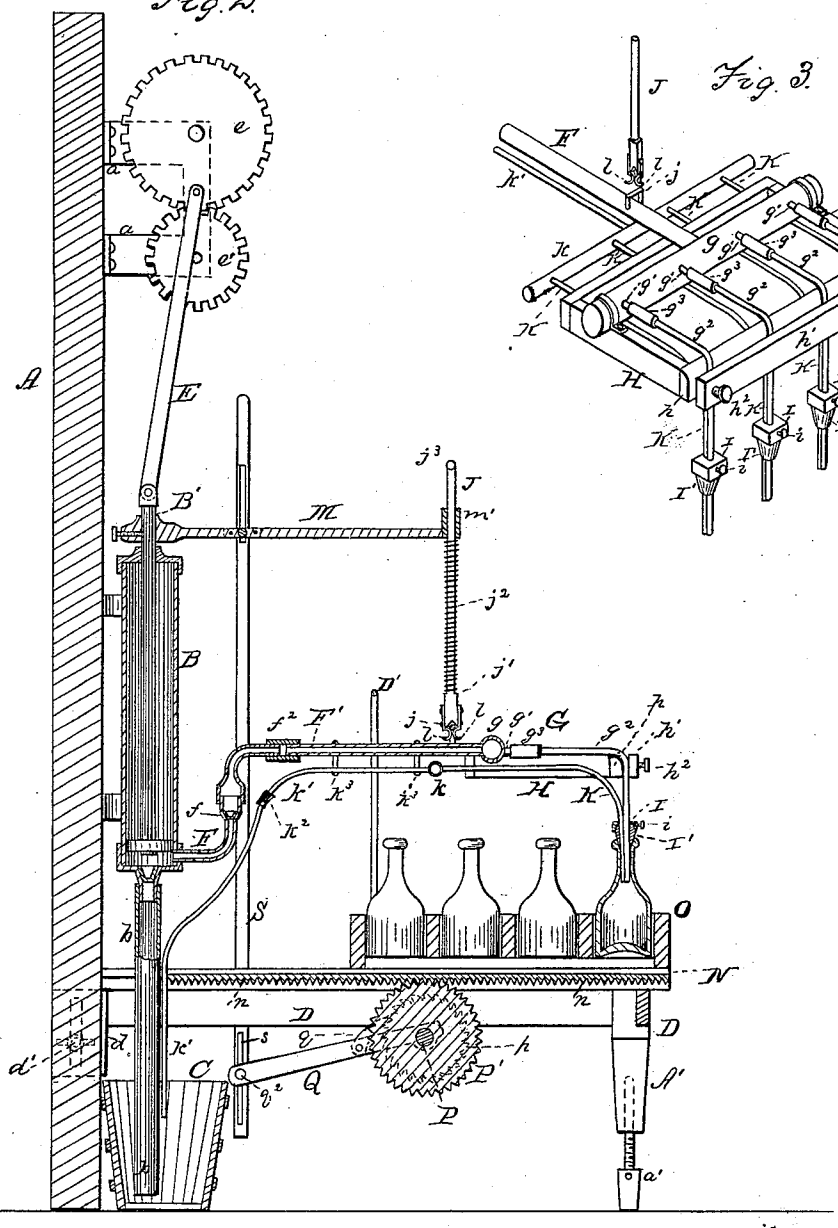


Fig. 3.



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# UNITED STATES PATENT OFFICE.

JOHN W. CHEWNING, OF PHILADELPHIA, PENNSYLVANIA.

## BOTTLING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 266,095, dated October 17, 1882.

Application filed July 20, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. CHEWNING, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Bottling-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a machine for filling a number or series of bottles simultaneously and in rows consecutively; and it consists in certain novel constructions and combinations of devices, which will be hereinafter fully described, and pointed out in the claims.

In the drawings, Figure 1 is a front view of a machine constructed according to my invention. Fig. 2 is a vertical section of the same on line *x x* of Fig. 1. Fig. 3 is a perspective view of the distributer.

The letter A designates a vertical support or broad standard, to which is secured the pump B, which has a suction-pipe, *b*, extending down into the tank C, which is under the table D.

B′ indicates the pump-plunger, which has its projecting upper end pivoted to a pitman, E, the upper end of which is pivoted to a crank-pin of the cog-wheel *e*, which is journaled on one side in a bracket, *a*, secured to the support A. This wheel derives its rotary motion from a similar wheel, *e′*, with which it meshes, and which is provided with a crank, $e^2$.

The construction of the pump need not be particularly described, as it is obvious from the drawings, and any ordinary forcing-pump will answer.

From the lower end of the pump extends the discharge-pipe F, which is provided with a check-valve, *f*, and has connected to it an extension, F′, to which it is joined by a flexible joint, $f^2$—in the present instance a rubber sleeve. The outer end of the extension F′ is firmly connected to a horizontal cylinder, *g*, which forms a portion of the distributer G. This cylinder is provided in the present instance with four nipples, *g′*, to which are connected four bent nozzles, $g^2$, by means of rubber couplings $g^3$. The cylinder may have any convenient number of nipples and connected nozzles. The nozzles are supported by a frame, H, secured to the cylinder, said nozzles resting upon the front bar, *h*, of the frame, and being held in proper position by a clamping-bar, *h′*, connected to the front bar by shouldered thumb-screws $h^2$.

To each of the nozzles is removably secured a metal cap, I, held in place by a clamp-screw, *i*, and under each of the caps is a double conical rubber stopper, I′, bored to fit around the nozzle.

Alongside the downwardly-extending portion of each nozzle is a small pipe, K, which passes through the stopper and cap, and is then bent inwardly and leads to a somewhat larger pipe, *k*, to which all the small pipes K are connected. From this larger pipe *k* a pipe, *k′*, leads to the tank C, and serves to carry back to said tank the surplus fluid flowing from the bottles through the pipes K in the process of filling. The pipes K pass through apertures in the back bar of the frame H, and the pipe *k′* is provided with a flexible coupling, $k^2$, and is supported by arms $k^3$, extending from pipe F′. A vertical rod, J, is forked at its lower end, and rests normally upon a loop, *j*, which projects upward from the pipe F′, and from the forks of this rod two finger-springs, *l l*, extend and meet under the loop *j*, having their tips flaring or curving back from each other.

Intermediately of the rod J is formed a shoulder, *j′*, upon which rests a spiral spring, $j^2$, which surrounds the rod. The top of the rod J is provided with a cross bar or head, $j^3$.

The upper projecting end of the pump-plunger B′ has firmly clamped to it an arm, M, the outer end of which is provided with a sleeve, *m′*, which fits loosely around the rod J above the spiral spring.

Above the table D is firmly supported a bar, D′, which permits the extension-pipe F′ to rise only to a certain height, as will presently be explained.

Upon the top of the table D is a sliding platform, N, for carrying the bottle-trays, as shown at O. This sliding platform is provided on its under side with a rack-bar, *n*, which projects downward through a slot in the top of the table, and under the table is mounted a shaft, P, upon which is fixed a cog-wheel, P′, meshing with said rack-bar. Upon the shaft P, near one end, is fixed a ratchet-wheel, *p*. (Shown in dotted lines in Fig. 2 and in full lines in Fig. 1.) Upon the journal of the shaft is piv-

oted a lever, Q, which is provided with a pawl, *q*, arranged to engage with the ratchet-wheel *p*. The opposite end of the lever Q is connected with a vertical rod, S, by means of a pin, $q^2$, which extends through a slot, *s*, formed in said rod. The upper end of the rod S is similarly connected with a rigid arm, *m*, extending at right angles from arm M.

The table D is supported by the standard A and legs A′, and is vertically adjustable to suit bottles of different heights. The inner end of the table is provided with slotted wing-pieces *d d*, which lap the edges of the standard, and are adjustably secured thereto by bolts *d′*, which pass through the slots and screw into the standard. The legs A′ are provided with extension-screws *a′*. The manner of adjusting the table vertically will be obvious.

The operation of the machine is as follows: On turning the crank $e^2$ the pump-plunger will be drawn up, filling the pump-barrel with the liquid from the tank, and at the same time raising the arm M, which strikes the cross bar or head of rod J and raises the extension-pipe F′ and distributer G, so that the nozzles will be withdrawn from the necks of the bottles into which they have before been inserted, or simply raises the nozzles, if they have not yet been inserted into a row of bottles. At the moment the nozzles are clear of the bottles the rod S, raised by the arm *m*, operates the lever Q, and the pawl *q* gives the ratchet-wheel a partial revolution, turning the shaft P and cog-wheel P′ sufficiently to drive the rack-bar and sliding platform along and bring a fresh row of bottles into position to receive the nozzles. At the moment the bottles reach this position the extension-pipe F′ strikes the bar D′, and the loop *j* is forced from between the spring-fingers *l l*, so that the pipe and distributer fall and the nozzles enter the new row of bottles. As the plunger now descends on the further movement of the crank the liquid is forced from the pump-barrel through the discharge-pipe F, extension-pipe F′, and nozzles into the bottles, and all surplusage will overflow through the small pipes K and run back through pipes *k* and *k′* to the tank C.

In the machine as shown in the drawings the sliding platform N and the bottle-tray move from the standard A outward in the process of filling the bottles, and after the last row of bottles is filled the pawl may be thrown out of engagement with the ratchet-wheel *p*, and the platform N can be then pushed back into position to receive a new tray of empty bottles.

It is obvious that the platform might be arranged to move in either direction during the filling, or by a simple reversing mechanism might be adapted to permit the filling to proceed while it is moved step by step in both directions.

I am aware that in a bottling-machine a pump has been provided with a discharge-pipe connected to a series of nozzles mounted upon a rising and falling support operating in connection with a traveling bottle-support, and I do not claim such a machine or any of its parts, broadly; nor do I claim a distributer composed of a reservoir and a series of attached nozzles, as such a distributer is old and well known.

Having now fully described my invention and explained the operation thereof, I claim—

1. The combination, with the pump and its flexible discharge-pipe, of the distributer provided with a series of nozzles connected with said discharge-pipe, and the distributer lifting and dropping devices connected with and operated by the pump-plunger, substantially as described.

2. The combination, with the pump and the rising and falling nozzles connected therewith, of the adjustable table, substantially as described.

3. The distributer composed of the cylinder *g*, and the attached bent nozzles provided with the adjustable stoppers, in combination with the devices for raising and dropping said distributer, and a bottle-support, substantially as described.

4. The combination, with the pump, of the flexible discharge-pipe, the distributer connected with said flexible discharge-pipe, the rod J, provided with means for lifting and releasing said discharge-pipe, the arm M, secured to the pump-plunger at one end and provided at the other end with an aperture embracing the said rod J loosely below its head, the sliding platform, and mechanism for operating the several parts in proper relation to each other, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN WILLIAM CHEWNING.

Witnesses:
BENJAMIN BROOKE,
H. P. PETCH.