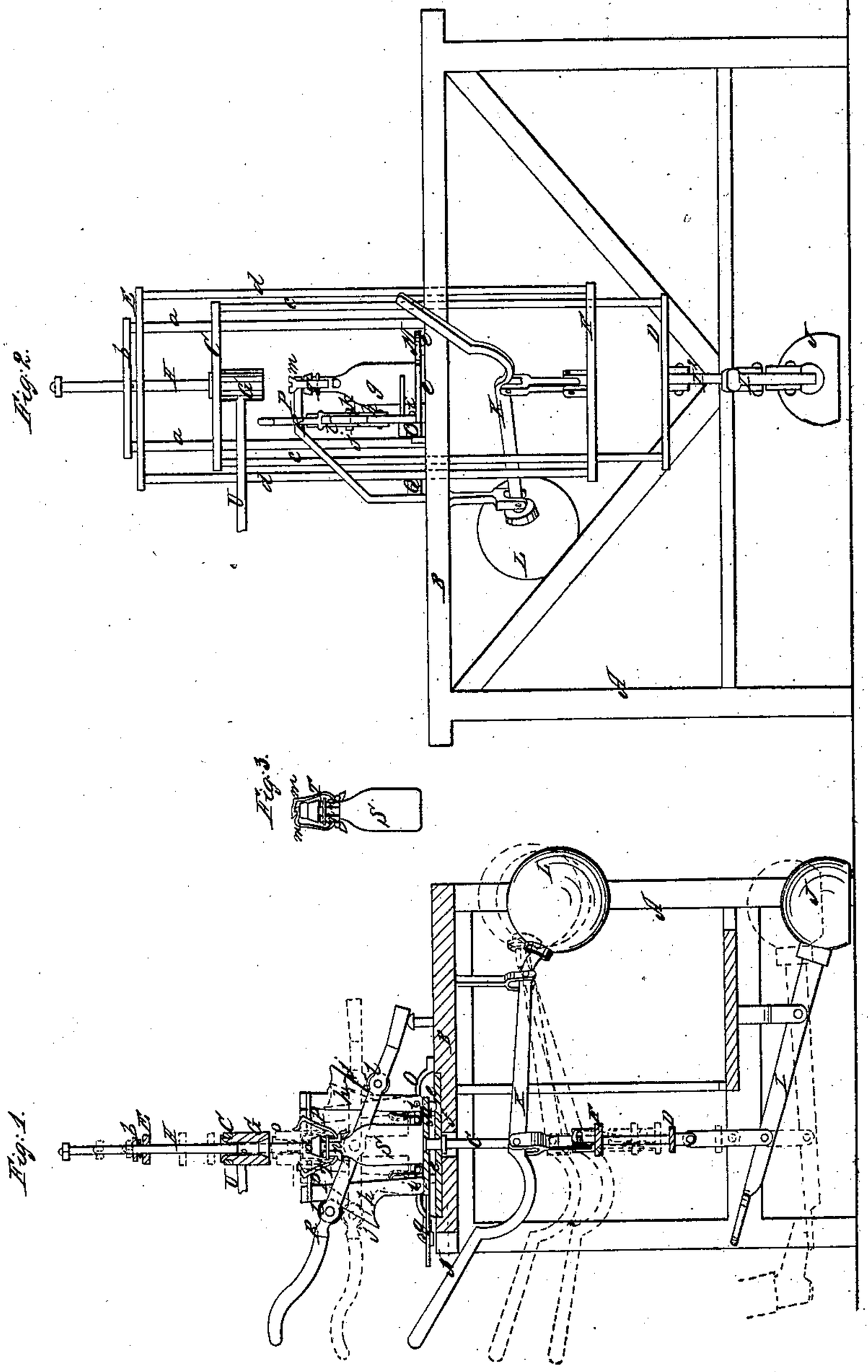
H. N. De Graw,

Corking Bottles,

No. 14,446. Patented Mar. 18, 1856.



UNITED STATES PATENT OFFICE.

H. N. DEGRAW, OF PIERMONT, NEW YORK.

IMPROVEMENT IN MACHINES FOR CORKING BOTTLES.

Specification forming part of Letters Patent No. 14,446, dated March 18, 1856.

To all whom it may concern:

Be it known that I, HENRY N. DEGRAW, of Piermont, Orangetown, in the county of Rockland and State of New York, have invented a new and improved mode of corking bottles and other vessels containing liquids which are charged or impregnated mechanically with carbonic-acid gas; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a transverse vertical section of a device or apparatus, showing my improvement. Fig. 2 is a front view of the same. Fig. 3 is a detached view of a corked bottle. Fig. 4 is a detached plan or top view of the adjustable disk or plate on which the bottles are placed while being corked.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists in closing or securing cork-holders, which are attached to the bottles—one to each—over the corks in the bottles after the bottles have been charged with the necessary amount of gas and the corks forced into the bottles and before the bottles are removed from the bottling apparatus or device, so that the bottles are charged with gas, corked, and the corks secured in them at one operation without removing the bottles from the device or apparatus during the operation, as will be presently shown and described.

A represents a framing, on the upper part of which a bed or platform, B, is secured, said platform having two vertical guide-rods, *a a*, secured to it, the upper ends of the rods *a* being connected by a cross-piece, *b*.

C is a cross-head through which the guide-rods *a a* pass, and the ends of the cross-head have rods *c c* attached to them—one to each end. The lower ends of the rods *c c* are attached to a cross-head, D.

E is a cross-head through which the guide-rods *a a* also pass, and the ends of this cross-head have rods *d d* attached to them—one to each—the lower ends of the rods *d* being attached to a cross-head, F. The rods *c c*, which are attached to the cross-heads C D, pass through the cross-heads E F of the rods *d d*. The cross-head C has a small cylinder, G, attached to its center, and a rod or piston, H, which is attached to the cross-head E, fits and works through the cylinder G. The cross-head D, at the lower end of the rods *c c*, has a treadle, I, attached to it, the treadle having a weight or counterpoise, J, at one end, for the purpose of keeping the cylinder G elevated. The cross-head F also has a lever, K, attached to it, one end of which lever has a weight or counterpoise, L, attached to it, for the purpose of keeping the piston H upward within the cylinder G.

M represents a circular plate or disk, which has two pins, *e e*, attached to its under surface at opposite sides of its center. These pins fit in slots or recesses *f f* in a plate, N, which is fitted in the bed or platform B, the recesses *f f* having inclined bottoms, so that by turning the plate or disk it may be raised or lowered to the desired point, the plate or disk being secured at the requisite height by means of a wedge, *g*, which is fitted between the side of the plate or disk and one of the guide-rods *a*, as clearly shown in Fig. 4.

O is a bar attached to the upper surface of the plate N, and this bar has the lower ends of two levers, *h h*, attached to it by pivots *i i*.

To the upper ends of the levers *h h* there are attached jaws P P—one to each lever—and the outer ends of the jaws are pivoted to a bar, Q, attached to the bed or platform B. The levers *h h* have each an inclined outer edge, *j*, the inclination of one edge being in a reverse position to that of the other, as shown in Fig. 1.

R is a lever having its fulcrum at *k*. This lever is slotted, and the levers *h h* pass through the slot, each end of the slot having a friction-roller, *l*, fitted within it, said friction-rollers bearing against the inclined edges of the levers.

S represents a bottle having a cork-holder, T, fitted to its neck. The cork-holder is formed of two jaws, *m m*, the shanks of which are pivoted or jointed to sockets *n n*, which are fitted firmly to the neck of the bottle by wire or in any proper manner. The jaws *m m* form right angles with the shanks, and when closed lock together, one jaw having a ledge or projection upon it, which fits in a recess in the upper surface of the other jaw, as clearly shown in Fig. 3.

The cylinder G has a flexible tube, U, connected to it.

The operation is as follows: The bottle S, having the proper liquid within it, is placed

upon the plate or disk M, the jaws *m m* of the cork-holder being spread apart, as shown in black in Fig. 1. The cross-head C is then depressed or brought down by operating the treadle I with the foot, and the lower end of the cylinder G is fitted over the mouth of the bottle. (See dotted lines, Fig. 1.) The cork of the bottle is then placed in the upper end of the cylinder G, as shown by dotted lines in Fig. 1, *o* representing the cork. The gas is then allowed to pass through the tube U into the cylinder G and into the bottle S, the tube U leading from the gas reservoir or receiver. The tube U communicates with the cylinder G below the cork *o* of course, and when the bottle is charged with the requisite quantity of gas the gas is cut off by means of a stop-cock, and by depressing one end of the lever K the piston or rod H is made to descend into the cylinder G, and the cork is forced into the bottle S, as indicated in blue, Fig. 1. The foot is then withdrawn from the treadle I, and the cross-head C and cylinder G are elevated to their original position by the weight or counterpoise J, the piston being still kept upon the cork *o*. The outer end of the lever R is then depressed, and the lever, in consequence of the inclined edges *j j* on the levers *h h*, forces the upper ends of the levers toward each other, and the jaws P P force the jaws *m m* of the cork-holder against the piston H, which is then allowed to ascend to its original position by withdrawing the hand from the lever K, and the jaws *m m* are forced together and locked over the cork, which is thereby firmly secured in the bottle.

The above invention is extremely simple and saves a vast deal of labor. At present the bottles are corked by forcing the cork through a cylinder by means of a piston the same as herein shown, and the bottles are then removed by a pair of tongs, the jaws of which grasp the necks of the bottles and the corks so that the corks cannot be driven out by the force of the gas, and the corks are then secured in the bottles by wires or strings. By my improvement the labor and expense of wiring the corks is saved, and the operation of corking rendered simple and efficient.

I do not confine myself to any precise form of the cork-holder T, for other devices may be employed for the same purpose and operated in the same manner.

I do not claim the piston H and cylinder G, operating, as shown, for the purpose of placing the corks in the bottles, for they have been previously used; but

What I do claim as new, and desire to secure by Letters Patent, is—

Securing corks in bottles or other vessels containing liquids charged or impregnated mechanically with carbonic-acid gas by having proper cork-holders T attached to the bottles or vessels, and closing the jaws of the same by the levers R *h h* and jaws P P or other analogous device immediately after the corks are forced into the bottles by the piston H, so that the holders will secure the corks in the bottles as soon as the piston is withdrawn from them, whereby the corks are secured in the bottles without removing the bottles from the bed or platform of the apparatus, and consequently the operation of charging the bottles with gas, placing the corks therein, and securing them in the bottles performed at one operation, as herein described.

HENRY N. DEGRAW.

Witnesses:

PRYER J. PRYERSON,

HENRY QUIDOR.