2 Sheets—Sheet 1.

M. E. B. MILLER.

Machine for Filling and Corking Bottles.

No. 214,426. Patented April 15, 1879

Fig. 1

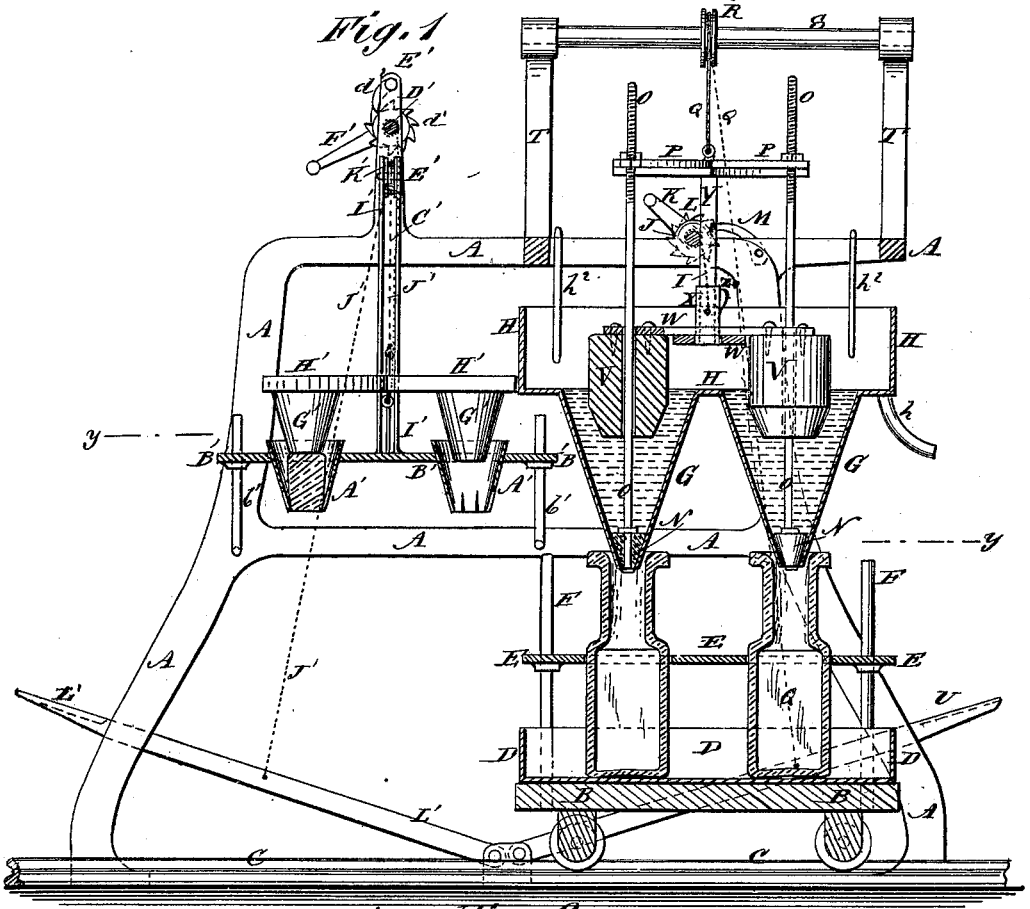
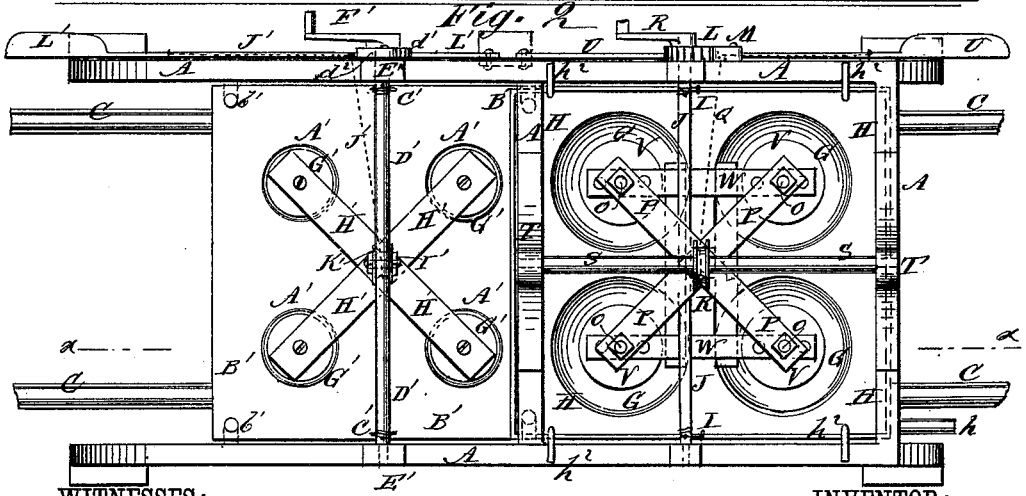


Fig. 2



WITNESSES:

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INVENTOR:

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ATTORNEYS.

2 Sheets—Sheet 2.

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Fig. 3

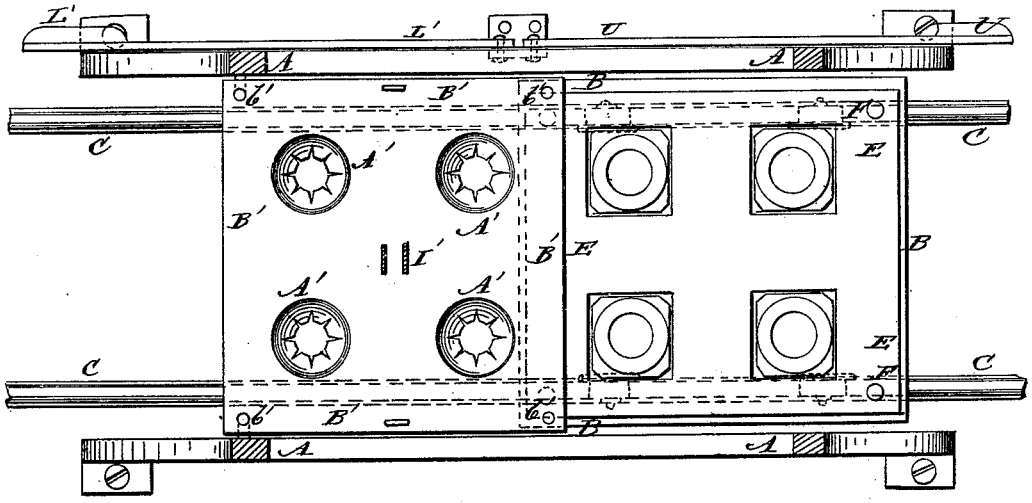
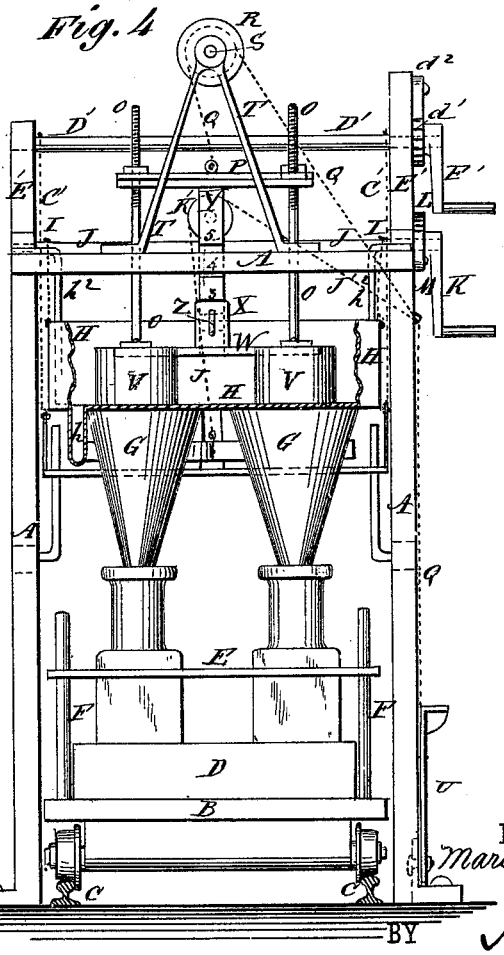


Fig. 4



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UNITED STATES PATENT OFFICE.

MARIA E. B. MILLER, OF OMAHA, NEBRASKA.

IMPROVEMENT IN MACHINES FOR FILLING AND CORKING BOTTLES.

Specification forming part of Letters Patent No. **214,426**, dated April 15, 1879; application filed December 23, 1878.

To all whom it may concern:

Be it known that I, MARIA E. B. MILLER, of Omaha, in the county of Douglas and State of Nebraska, have invented a new and Improved Machine for Filling and Corking Bottles, of which the following is a specification.

Figure 1, Sheet 1, is a vertical longitudinal section of my improved machine, taken through the line *x x*, Fig. 2. Fig. 2, Sheet 1, is a top view of the same. Fig. 3, Sheet 2, is a detail section of the same, taken through the broken line *y y*, Fig. 1. Fig. 4, Sheet 2, is an end view of the same.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved machine for filling and corking bottles which shall be so constructed as to fill the desired number of bottles at the same time, and with exactly the same quantity of the liquid, which may be easily and quickly adjusted to put any desired amount of the liquid into the bottles, which will force the corks into all the bottles at the same time, and which shall be simple in construction and convenient in use.

The invention consists in the combination of the funnels, the filling-box, the corks, rods, and frame, and the gage-blocks, frame, sleeve, and upright, with each other and with the frame of the machine; in the combination of the slitted spring-funnels, the plate or frame, and the plungers, frame, and slotted standard, with each other and with the frame of the machine; and in the combination of the car, the box or tray, the guide plate or rack, and the guide-rods with the filling device, the corking device, and the frame of the machine, as hereinafter fully described.

A represents the frame of the machine, the lower part of which is so formed as to allow the car B to be run through it to introduce the bottles, carry them from the filling to the corking device, and to remove them when corked. The wheels of the car B run upon rails C at the base of the machine, and which extend to any desired distance in either direction. Upon the top of the car B is placed a shallow box or tray, D, in which the bottles are placed to be operated upon. The bottles are kept in their proper relative positions upon the tray D by a guide plate or rack, E, which has holes formed through it, corresponding in shape, size, and number with the bottles in the said tray D, and which is kept in place by guide-rods F, attached to the corners of the car B, and passing through holes in the corners of the said plate E.

The liquid is introduced into the bottles through the funnels G, the bases of which are secured in holes in the bottom of the box H. The box H is suspended by cords I, attached to the centers of its side edges, and the other ends of which are attached to and wound around shaft J. The shaft J revolves in bearings attached to the top of the frame A, and to one of its ends is attached a crank, K, for convenience in turning it to raise and lower the filling-box H as required. To the end part of the shaft J is attached a ratchet-wheel, L, with the teeth of which engages a pawl, M, pivoted to the frame A, to hold the filling-box H securely in any position into which it may be adjusted.

The discharge-openings in the funnels G are closed by corks N, fitting into the lower parts of the said funnels G, and attached to the lower ends of the rods O, the upper ends of which are adjustably attached to a frame, P. To the center of the frame P is attached the end of a cord, Q, which passes over a pulley, R, attached to the shaft S. The shaft S revolves in bearings in brackets T, attached to the top of the frame A. From the pulley R the cord Q passes through guide-eyes or around guide-pulleys attached to the frame A, and its other end is attached to a foot-lever, U, pivoted to the floor or the base of the frame A, in such a position that it can be conveniently operated by the attendant with his foot to raise the corks N and allow the liquids contained in the funnels G to flow into the bottles, the frame P being made sufficiently heavy to force the corks N into place in the funnels G when the pressure is removed from the foot-lever U.

Upon the rods O are placed gage-blocks V, the lower ends of which are so formed that the said blocks may be lowered to any desired point in the funnels G. The upper ends of the gage-blocks V are attached to a frame, W, to the center of which is attached a sleeve, X. The sleeve X fits and slides upon an upright,

Y, the upper end of which is attached to the frame P, that carries the rods O and the corks N. The sleeve X is provided with a spring-catch, Z, or other suitable device, to engage with the upright Y, and support the frame W and the gage-blocks V at any distance above the corks N.

With this construction, by raising and lowering the gage-blocks V in the cavities of the funnels G, each of the said funnels may be made to hold any desired quantity of the liquid.

Upon the upright Y is formed a scale of division-marks, so that the gage-blocks V may be readily adjusted to cause each funnel G to hold a half-ounce, an ounce, or any other desired quantity.

The box H is provided with a discharge-pipe, *h*, so that no more of the liquid can remain in the said box H than enough to exactly fill the funnels G. To the box H, at or near the ends of its sides, are attached rods h^2, which pass up along the top side bars of the frame A, or through guides attached to the said frame, and their upper ends are bent outward to strike upon the said top bars of the frame A, and prevent the box H and its attachments from being lowered too far. The rods h^2 also serve as guides to cause the box H to move up and down vertically.

When the bottles have been filled the box H and its attachments are raised from the bottles and the car B is run forward, bringing the bottles beneath the funnels A′, which are secured in holes in the plate or frame B. To the middle part of the side edges of the plate or frame B′, or to supports attached to the said side edges, are attached the ends of cords C′, the other ends of which are attached to and wound upon a shaft, D′. The shaft D′ revolves in bearings attached to standards or brackets E′, attached to the top bars of the frame A; and to one of its ends is attached a crank, F′, for convenience in lowering the plate or frame B′ and the funnels A′ to or raising them from the bottles.

To the shaft D′ is attached a ratchet-wheel, d^1, with the teeth of which engages the pawl d^2, pivoted to the brackets E′, so as to hold the plungers G′ and the frame H′ in any position into which it may be adjusted. The frame B′ is made to move up and down vertically by guide-rods *b*′, attached to the frame A, and which pass through guide-holes in the corners of the said plate or frame B′.

The funnels A′ are made of steel or other spring metal, and are slotted longitudinally from their lower ends, to adapt them to hold corks of various sizes, and allow the said corks to be pushed through them and into the bottles by the hammers or plungers G′, which are made of such a shape and size as to allow them to be pressed down into the lower parts of the said funnels A′. The plungers G′ are attached at their upper ends to a frame, H′, which slides up and down upon a slotted upright, I, attached to the center of the plate or frame B′. To the center of the frame H′, between the parts of the slotted standard I, is attached the end of a cord, J′, which passes over a pulley, K′, pivoted to and between the upper ends of the parts of the upright I′. From the pulley K′ the cord J′ passes through guide-eyes or around pulleys attached to the frame A, and its lower end is attached to a foot-lever, L′, pivoted to the floor or to the base of the machine, in such a position that its free end may be readily operated by the operator with his foot to raise the frame H′ and the plungers G′ away from the funnels A′, to allow another set of corks to be placed in the said funnels.

The frame B′ and the funnels A′ are raised from the corked bottles by operating the crank F′, so that the car and its load can be run out of the machine.

The machine may be made of such a size as to operate upon any desired number of bottles at a time, filling them and corking them at the same time.

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

1. The combination of the funnels G, the filling-box H, the corks, rods, and frame N O P, and the gage-blocks, frame, sleeve, and upright V W X Y, with each other and with the frame A, substantially as herein shown and described.

2. The combination of the slitted spring-funnels A′, the plate or frame B′, and the plungers, frame, and slotted standard G′ H′ I′, with each other and with the frame A, substantially as herein shown and described.

3. The combination of the car B, the box or tray D, the guide plate or rack E, and the guide-rods F with the filling device, the corking device, and the frame of the machine, substantially as herein shown and described.

MARIA ELIZABETH BARRETT MILLER.

Witnesses:
ANDREW J. MILLER,
JOHN R. PORTER.