

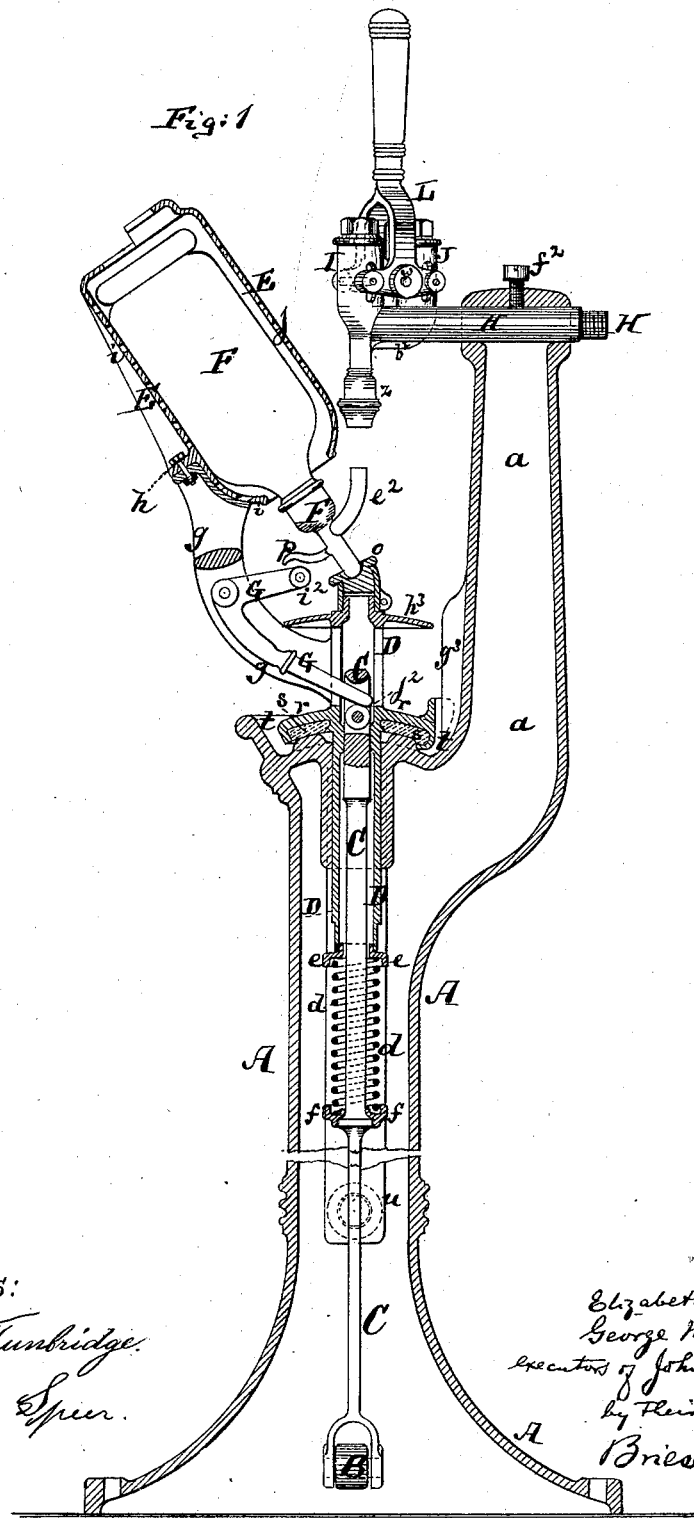
(No Model.)

4 Sheets—Sheet 1.

J. MATTHEWS, Dec'd.,
E. & G. MATTHEWS, Executors.
SIPHON BOTTLE FILLING MACHINE.

No. 305,094.

Patented Sept. 16, 1884.



Witnesses:

John C. Tunbridge.
John M. Spier.

Elizabeth Matthews
George Matthews
Executors of John Matthews dec'd.
by their attorneys
Brisson & Steele

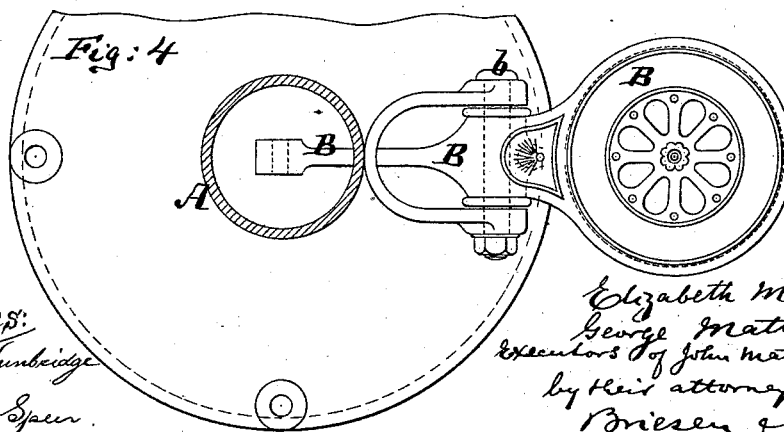
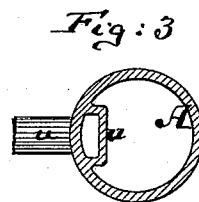
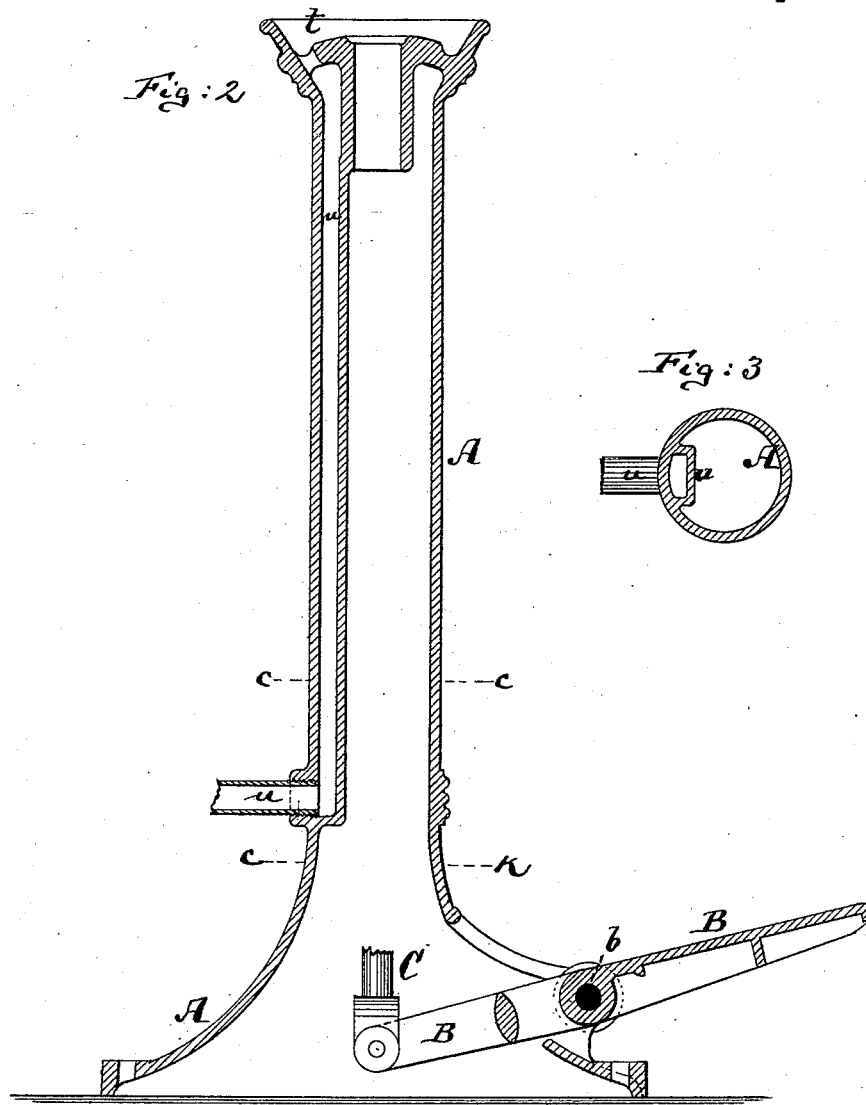
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4 Sheets—Sheet 2.

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Witnesses:

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(No Model.)

4 Sheets—Sheet 3.

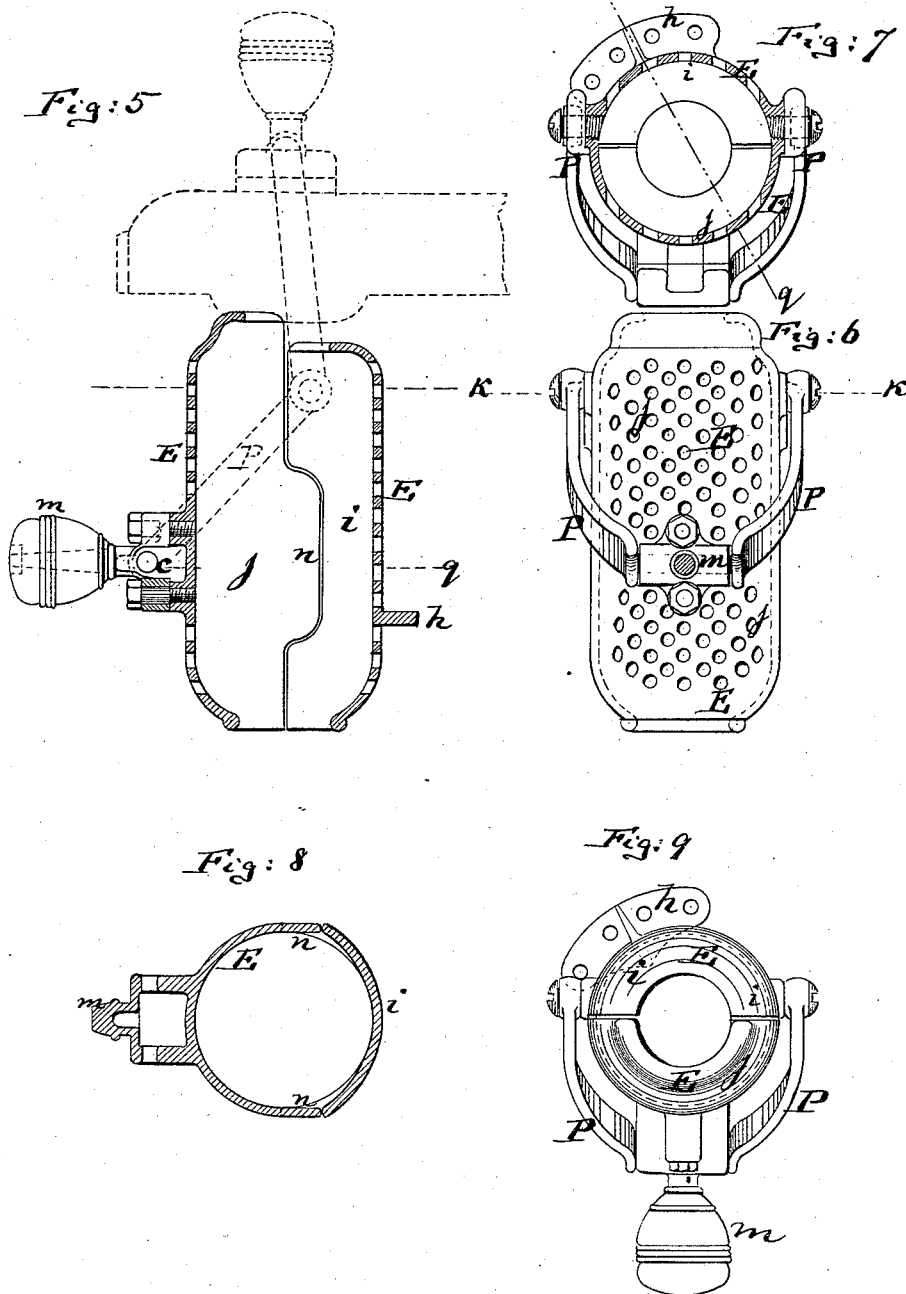
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Witnesses

John C. Tunbridge.
John M. Spurr.

Elizabeth Matthews
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(No Model.)

4 Sheets—Sheet 4.

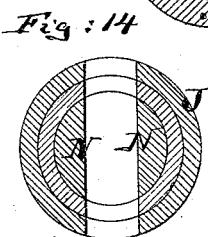
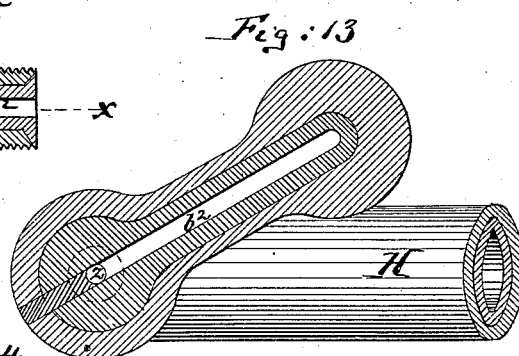
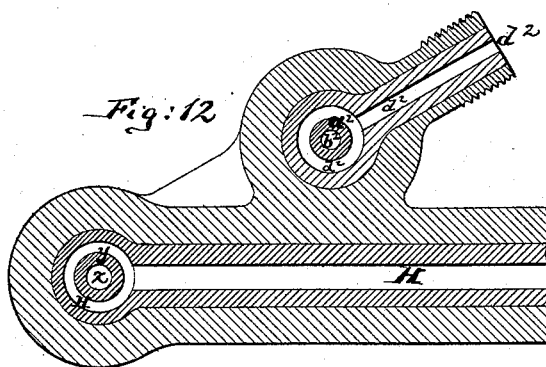
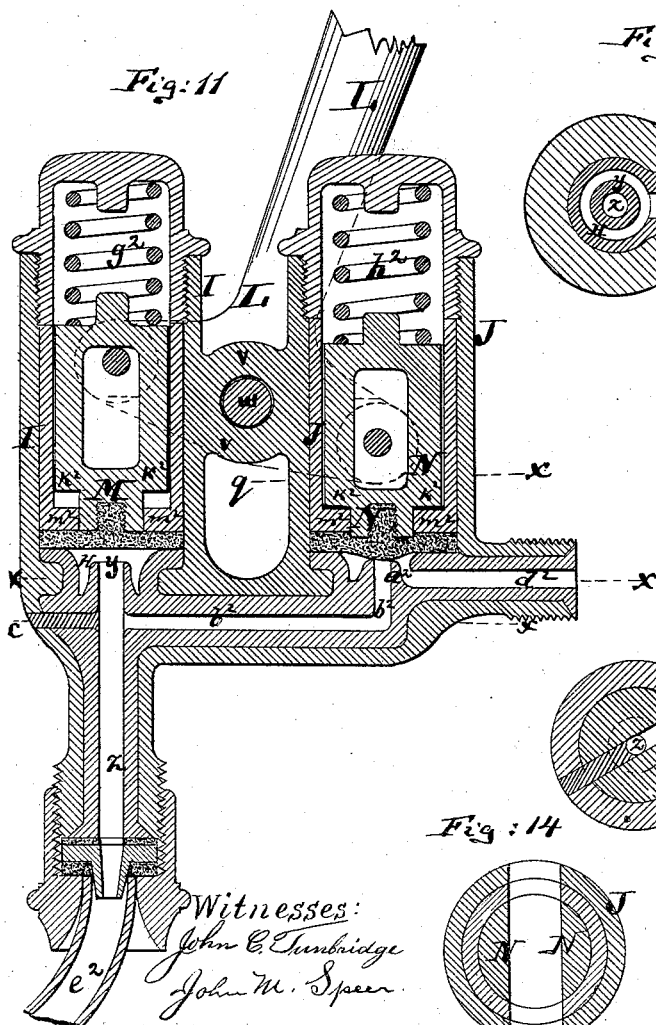
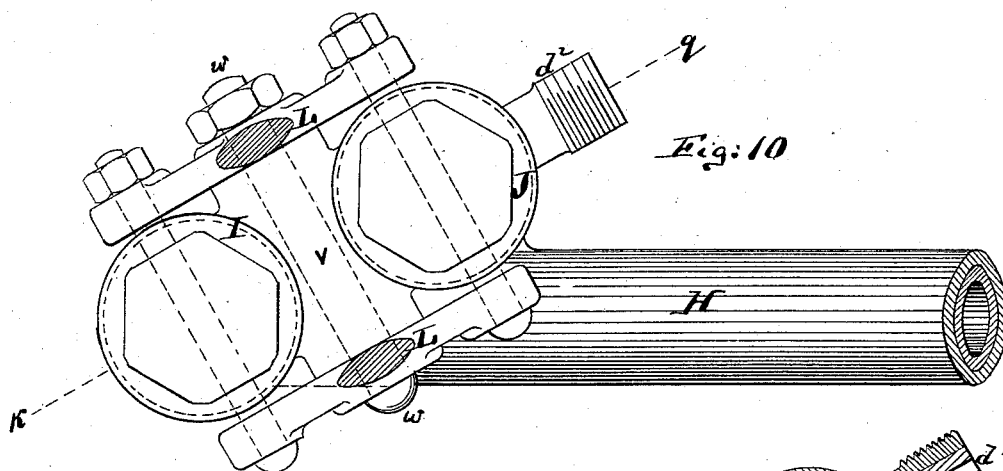
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George Matthews
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UNITED STATES PATENT OFFICE.

ELIZABETH MATTHEWS AND GEORGE MATTHEWS, OF NEW YORK, N. Y.,
EXECUTORS OF JOHN MATTHEWS, DECEASED.

SIPHON-BOTTLE-FILLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 305,094, dated September 16, 1884.

Application filed October 22, 1883. (No model.)

To all whom it may concern:

Be it known that JOHN MATTHEWS, late of the city of New York, county and State of New York, during his life-time did invent an Improved Siphon-Bottle-Filling Machine, of which the following is a complete specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a sectional elevation of said JOHN MATTHEW'S improved siphon-bottle-filling machine. Fig. 2 is a vertical central section of the stand or frame and treadle of the apparatus. Fig. 3 is a horizontal section on the plane of the line *c c*, Fig. 2. Fig. 4 is a horizontal section on the plane of the line *c k*, Fig. 2. Fig. 5 is a vertical central section of the bottle-holding screen. Fig. 6 is a side view of said screen. Fig. 7 is a horizontal section on the plane of the line *k k*, Fig. 6, the sectional view of said screen which is shown in Fig. 1 being taken on the plane of the line *q q*, Fig. 7. Fig. 8 is a horizontal section on the line *c q*, Fig. 5. Fig. 9 is a top view of said screen. Fig. 10 is a top view, partly in section, on an enlarged scale, of the valve mechanism for regulating the supply of water to the siphon and the vent therefrom. Fig. 11 is a vertical section of the same on the plane of the line *k q*, Fig. 10. Fig. 12 is a horizontal section on the plane of the line *x x*, Fig. 11. Fig. 13 is a horizontal section on the plane of the line *c x*, Fig. 11. Fig. 14 is a horizontal section on the plane of the line *q x*, Fig. 11.

This invention relates to a new machine for filling the bottles that are known as "siphons" with aerated waters, such as Seltzer waters, Vichy water, and the like.

The invention consists in a new screen or holder for the siphon-bottle, in a new valve mechanism for controlling the inlet and the vent, and in a new general combination of parts for regulating the position of the bottle and its valve, all as hereinafter more fully described.

In the drawings, the letter A represents the frame or stand of the machine. The same is by preference made in form of a hollow standard made of metal, and provided, as is indicated in Fig. 1, with an upwardly-projecting post, *a*.

In the lower part of the standard A is pivoted at *b* a treadle, B, (see Fig. 2,) which treadle connects with the lower end of a vertical rod, C, that enters with its upper part into a vertical tube, D. (See Fig. 1.) A spiral spring, *d*, surrounds the rod C beneath a shoulder, *e*, of the tube D, and above a shoulder, *f*, that is formed on the rod C. This spring *d* is so stiff that on depressing the treadle B and raising the rod C the said spring will also cause the tube D to be lifted until said tube shall be arrested in its upward movement by a positive stop, when by further depressing the treadle the spring *d* will be contracted and the rod C allowed to move up alone. The upper end of the tube D above the supporting-stand A carries a bracket, *g*, to which is bolted, through a projecting flange, *h*, one half of the siphon-holding screen E. This screen, which is more fully shown in Figs. 5 to 9, inclusive, is made in two parts, *i* and *j*. The part *i* has a flange, *h*, which is bolted, as stated, to the bracket *g*, and immovable, except vertically, with the tube D. To this part *i* the part *j* is joined by a pivoted yoke, P, which is indicated by dotted lines in Fig. 5, and fully shown in Figs. 6 and 9. By a suitable handle, *m*, with which the movable part *j* of the screen E is provided, this movable part can be swung up into the dotted position, in which it is represented in the upper part of Fig. 5. When in this position, the screen is open, and the siphon-bottle F (shown in Fig. 1) can be inserted, whereupon the screen is closed by bringing the part *j* in line with the part *i*, as is indicated in Fig. 1 and by full lines in Fig. 5.

In order to enable the attendant to grasp the bottle in trying to remove it from the screen, the part *i* has recesses in its edge, into which fit projections *n* on the part *j* of the screen E. The screen E is supported on the tube D in an inclined position, so, in fact, that when the siphon-bottle F is inserted in said screen with its head down said head will rest in a bolster, *o*, which is attached to the upper end of the tube D, as is clearly shown in Fig. 1. This bolster is detachable, so that different forms of bottle-heads may be accommodated.

In the bracket *g* is pivoted an elbow-lever, G, of which the short upper arm carrying a friction-roller, *i*², is below the valve-handle *p* of the siphon-bottle when the latter is in place in the screen. The long arm of the elbow-lever G passes through a slot in the tube D into the slotted upper end of the rod C. The lower part of this slot is formed by a friction-roller, *j*².

Below the slotted part of the tube D, which is adapted to receive the elbow-lever G, said tube is provided with an outwardly-extending collar, *r*, which is provided with a cushion, *s*, on its lower face, and which rests in the bowl-shaped upper part, *t*, of the stand A. This collar is guided in its upward motion by a vertical rib, *g*³, on the post *a*. In this bowl-shaped part *t* all drippings from the siphon and from the filling apparatus are received, and from there these drippings pass through an aperture in said bowl (shown in Fig. 2) into a tube, *u*, and thence to a suitable receptacle, so that the apparatus itself is kept dry and clean at all times. Above the slot the tube D has a shield, *h*³, which sheds water drippings into the bowl *t* and protects the rod C and the interior of the tube from contact with the water. The post *a*, which projects upward from the stand A, supports in its upper end a tube, H, which connects by a suitable pipe with the supply-vessel containing the liquid that is to be filled into the siphon-bottle F. The tube H at the other end carries two short vertical cylinders, I and J, which are connected by a short bridge, *v*, in which a T-shaped lever, L, is pivoted by a pin, *w*. The tube H terminates beneath the cylinder I around a nipple, *y*, that extends upward from a vertical tube, *z*, and above this nipple is in the tube I a valve, M, which connects with one wing of the T-shaped lever L, and which normally will be held closed by a spring, *g*², that bears upon its upper end. When this valve M is raised by the lever L, as in Fig. 11, the tube H will communicate with the passage *z*. The other wing of the lever L connects with a valve, N, which normally is forced by a spring, *h*², upon a nipple, *a*², through which a passage, *b*³, extends to the passage *z*, as shown in Fig. 11.

Around the nipple *a*² is the termination of a pipe, *d*², which is termed the "vent-pipe." By bringing the lever L into the position shown in Fig. 11 the valve M is opened, so that the vent-connection with the passage *z* is interrupted and the supply-connection between the passage *z* and the pipe H established; but when the lever is turned the other way, so that it opens the valve N and allows the valve M to be forced by the spring *g*² upon the nipple *y*, the vent-passage will be opened and the supply-pipe closed.

The operation of the machine as described is as follows: The siphon-bottle F being secured in the screen E, so that its head rests in the bolster *o*, its nozzle *e*² will be directly be-

neath the passage *z*, while its handle *p* will be directly above the short arm of the lever G. The lever L is to be held at this stage in the position shown in Fig. 1, so that both valves N and M will be closed. The attendant now depresses the treadle B, and thereby lifts the tube D and rod C until the nozzle *e*² strikes the lower end of the pipe *z*, which is cushioned for the purpose, as indicated in Fig. 11, whereupon by such contact the upward movement of the pipe D is arrested; but the attendant on further depressing the treadle B lifts the rod C, contracting the spring *d*, and swings the lever G on its pivot, so that the handle *p* of the siphon-bottle will be moved to open said siphon-bottle. Now, the valve M is raised to fill the bottle. Any surplus of water can be let out by opening the vent-passage and lifting the valve N, also superfluous gas.

The pipe H can be adjusted in the supporting-post *a*, and secured in the proper position by a set-screw, *f*², so that the position of the passage *z* may be regulated according to different forms of nozzles *e*² on the siphon-bottles F. The valve M has a shoulder, *h*², on its metallic stem, which, when the valve is on its seat, is in contact with a metallic base-ring, M². This prevents the flexible valve-disk being injured by pressure. The valve N has the same construction.

The pipe *d*² may be connected by a short piece of tubing with the bowl *t*, so that all drippings may be saved at the lower end of the tube *u*.

We claim—

1. The combination of the frame A with the sliding tube D, sliding rod C, spring *d*, lever G, and siphon-bottle holder E, substantially as described.
2. The frame A, combined with the sliding tube D, siphon-bottle-holding screen E, collar *r*, and cushion *s*, substantially as described.
3. The combination of the tube D, having shield *h*³, with the rod C, frame A, collar *r*, and cushion *s*, substantially as herein shown and described.
4. The metallic valve-stem M, having shoulder *h*², in combination with metallic base-ring *m*², flexible valve-disk, annular valve-seat *y*, and with the supply-pipe H and discharge-pipe *z* of a bottle-filling machine, substantially as specified.
5. The screen E, constructed of the fixed part *i* and swinging part *j*, in combination with the yoke P and handle *m*, substantially as described.
6. The screen E, constructed of the fixed piece *i*, having recessed edge, and of the movable piece *j*, having projection *n* to enter into said recess, substantially as specified.
7. The combination of the supply-pipe H, with the valves M N, lever L, passages *z*, *b*², and *d*², and nipples or seats *y* and *a*², substantially as described.
8. In a machine for filling siphon-bottles, the combination of a vertically-movable bot-

tle-holder, with means, substantially as described, for opening the bottle, with a fixed pipe, z, against which the nozzle of said bottle is placed, and with the two valves M and N,
5 means of operating the same, and supply-pipe and vent-pipe, substantially as herein shown and described.

9. The vertically-movable tube D, provided with the bolster o, and combined with the
10 screen or bottle-holder E and rod C, all adapt-

ed to support, lift, and open a siphon-bottle, substantially as herein shown and described.

This specification of the invention of the said JOHN MATTHEWS, deceased, signed by us this 30th day of August, 1883.

ELIZABETH MATTHEWS.
GEORGE MATTHEWS.

Witnesses:

EMILY MATTHEWS,
GEORGE HEALY.