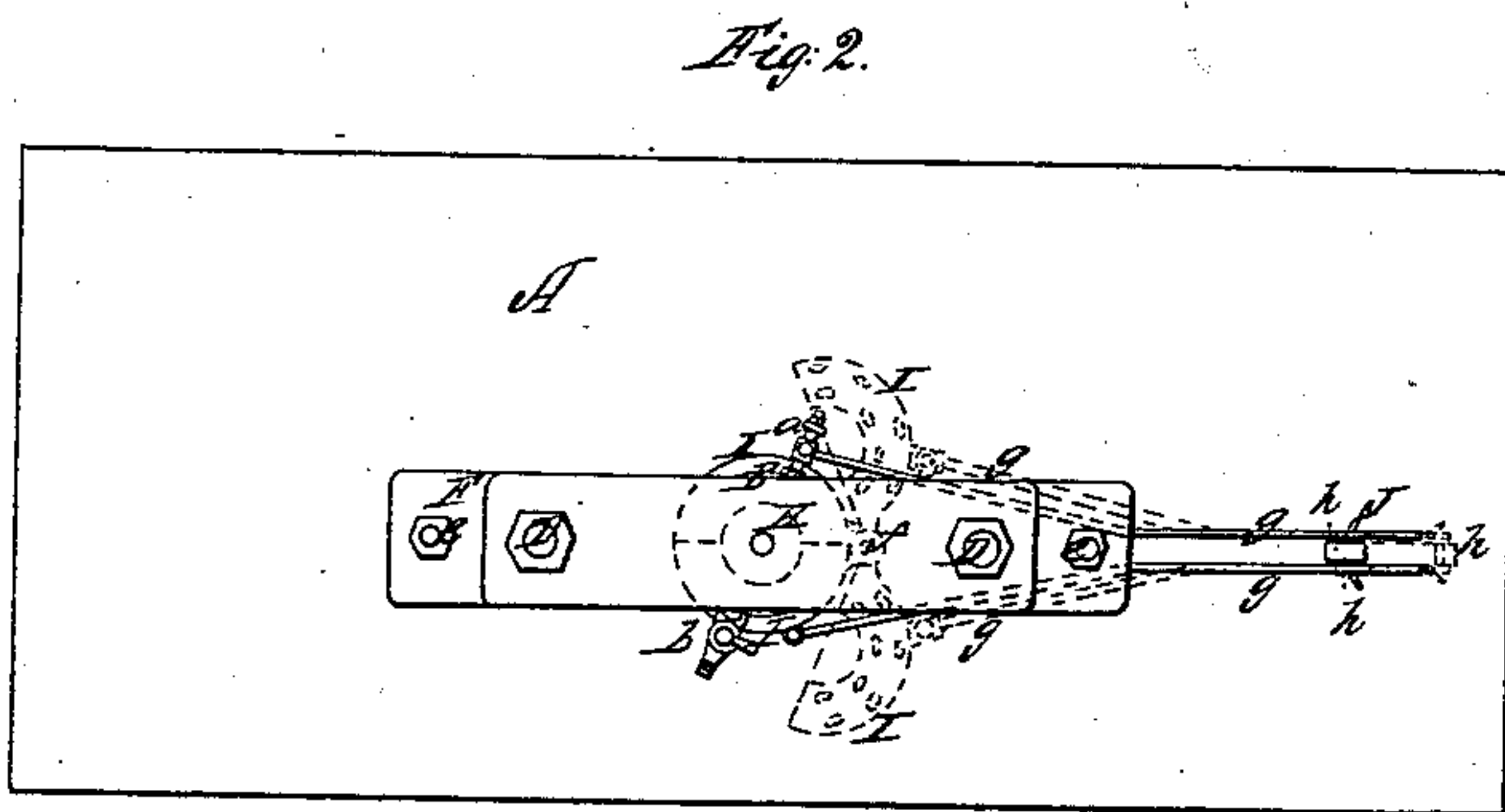
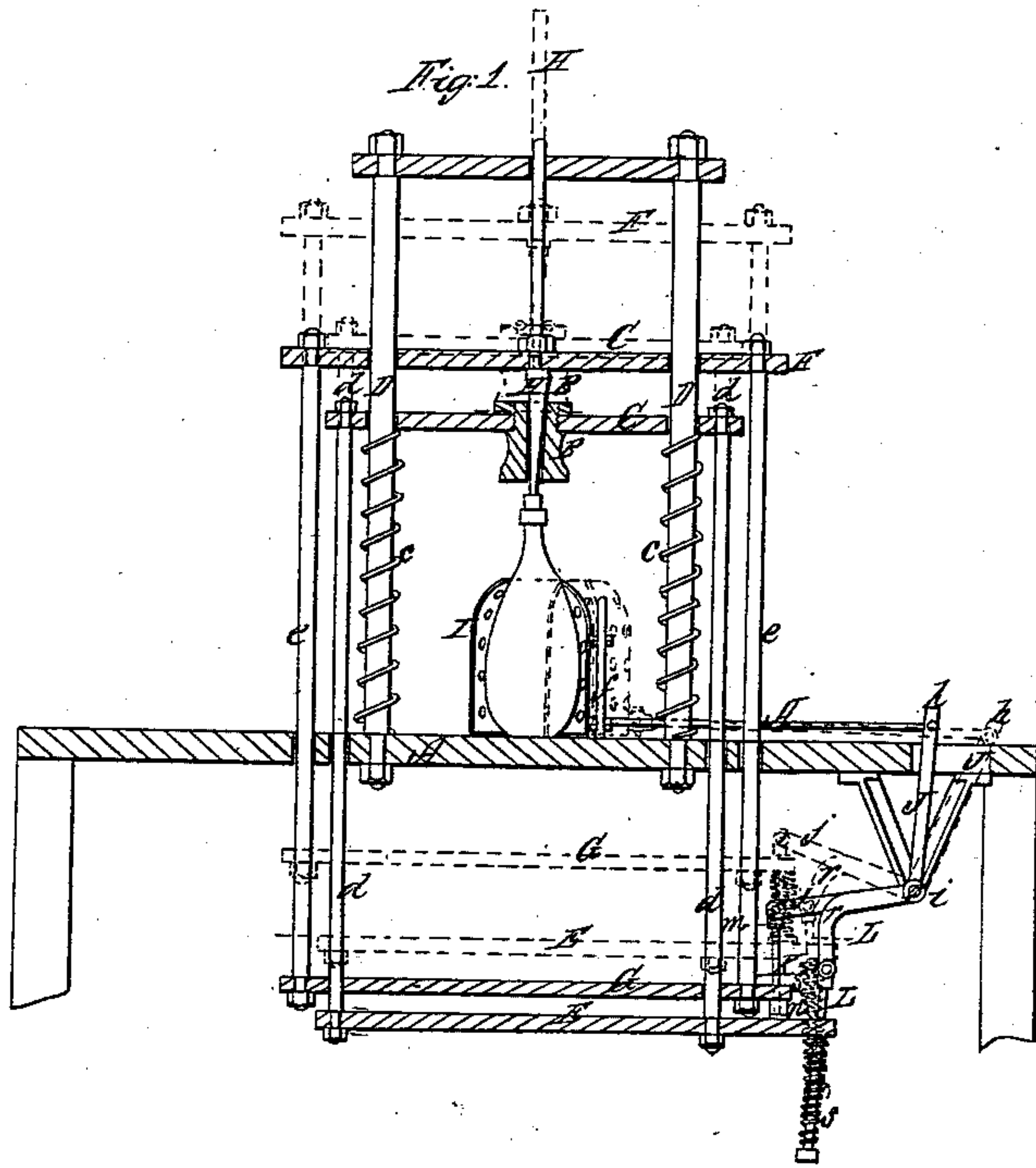


# H. Carse, Filling Bottles.

N<sup>o</sup> 84,795.

Patented Dec. 8, 1868.



Witnesses:

J. M. Gomb.  
a. tellere

Inventor:

H. Carse  
per J. M. Gomb.  
att'y



# United States Patent Office.

HENRY CARSE, OF PITTSBURG, PENNSYLVANIA.

Letters Patent No. 84,795, dated December 8, 1868.

## IMPROVEMENT IN BOTTLING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, HENRY CARSE, of Pittsburg, in the county of Allegheny, and State of Pennsylvania, have invented a new and useful Improvement in Bottling-Machines, of which the following is a clear, full, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 represents a sectional elevation of a bottling-machine constructed in accordance with my improvement, and

Figure 2, a plan view of the same.

Similar letters of reference indicate corresponding parts.

This invention has reference to machines for bottling aerated water, and other gaseous liquids, under pressure, and in which, after the filling has been effected, it is necessary to tie down or otherwise secure the cork, after it has been driven home in the neck of the bottle, said machines employing, or having combined with them a screen, to protect the operator against injury from the scattering fragments, in case of the bursting of a bottle while being filled or corked, which screen is made to open and close, to provide for the reception and removal of the bottle.

In previous machines of this character, it has heretofore been usual to control the opening of the screen by the action of the filling-head in rising, and irrespective, as it were, of the corking-piston. To this there is an objection, as, in order to secure the wire or other fastening on or over the cork, it is necessary that the filling-head should first be raised out of the way before the corking-piston is lifted, and, to save time, or in the hurry of work, this is not unfrequently done before the corking-piston has completed its work of forcing in the cork, so that the bottle-screen, having both its actions controlled by the filling-head, opens prematurely, and whilst there is considerable danger of the bottle bursting.

This is obviated by my invention, which consists in controlling the opening of the bottle-screen by means of the corking-piston, or attachment thereto, so that, though the filling-head is lifted out of the way to put on the cork-fastening, the screen continues closed till the corking-piston is lifted from its work, there being no necessity to raise the latter until the cork has been fastened. Thus the screen affords the necessary or desired protection until the completion of the work.

Referring to the accompanying drawings—

A represents the bed or table of a bottle-filling apparatus, of the character hereinbefore referred to.

B is the filling-head, provided with the usual inlet-branch *a*, under control of a tap or cock, for the aerated water, or other gaseous liquid, and with a similar surplus-gas or blow-off connection, *b*.

This filling-head is carried by an upper vertically-sliding board, C, working up and down stationary guide-rods D D, and forced or held up by springs *c c*.

E is a lower board, connected by rods *d d* with the upper board C, said boards and rods forming a vertically-sliding frame, which is or may be operated in the usual manner, to bring down the filling-head on the bottle, and afterwards to lift it therefrom.

A similar vertically-sliding frame, consisting of upper and lower boards F G, and connecting-rods *e e*, serves to carry and operate the corking-piston H, which, as usual, works through the filling-head B, and independently of it, said secondary frame being, as is customary in such machines, separately driven by treadle or other appropriate means, and being guided in a similar manner to the filling-head frame.

I I is the divided or opening and closing bottle-screen, working on a hinge or joint at *f*, and provided with rear arms or rods, *g g*, pivoted to the upper arm *h* of a bell-cranked lever, J, which has its fulcrum at *i*, and the horizontal arm *j* of which is connected to a rod, K, that, passing in a free manner through the lower board G of the corking-piston frame, rests upon but is not attached to the lower board E of the filling-head frame.

This rod is formed with a shoulder, *m*, against which the upper surface of the board G bears at intervals, and, constructed also with a shoulder at its lower end, has wound around it a spiral spring, *n*, that bears or presses up against the under surface of the board G.

Furthermore, the bell-cranked lever J is made with an arm or limb, *r*, that has pivoted to it a rod, L, provided with shoulders at either end, and arranged to pass freely through the lower board E of the filling-head frame, with a spiral spring, *s*, wound around said rod below the board E.

This combination of devices, it will be obvious to any skilled person or mechanic, may be variously changed or modified, to produce the same action or effect, which is, or may be, described as follows, said devices serving to illustrate how my invention is, or may be, carried into practice, and it not being here necessary to describe equivalents for producing the like effect in substantially the same manner.

Thus, the bottle being put in proper position on the table, the filling-head B is brought down, by the descent of the frame which carries it and the bottle-filler, in the usual manner. This descent of the filling-head frame causes the lower board E, by its action on the rod L, through the spring *s*, to work the bell-crank J, so as to close the screen I I about or around the bottle, and, at the same time, it may be, to slightly bring down with it, by the action of the shoulder *m*, of the rod K, on the board G, the corking-piston frame, which, however, is operated independently of the filling-head frame, and is worked down by a separate motion to press the cork that is inserted through the filling-head, in the usual manner, into the bottle.

This separate descent, of the corking-piston frame, while the filling-head is down and the screen closed, causes the board G, which slides freely on or over the rod K, to compress the spring *n*, that serves to hold the



screen closed, while, after the cork has been inserted, the filling-head B is raised, through its frame, out of the way, to permit of the wiring or fastening of the cork, during which the corking-piston H remains down on the cork. After the cork, however, has been wired or secured, the corking-piston frame is allowed to rise, and, in due time after commencing its ascent, causes its board G to strike the shoulder *m* of the rod K, and, through the bell-crank J, to open the screen, the filling-head frame, in previously rising, simply sliding, by its board E, on the rod L, and exerting no tendency to open the screen, in which way the desideratum sought to be obtained is secured.

In illustration of the action of the apparatus, as herein described, the filling-head and corking-piston frames, with accompanying parts in different positions, and open and closed condition of the bottling-screen, are represented in the drawing by black and red lines, the filling-head frame being represented as partially raised, to admit of the fastening of the cork, and the corking-piston frame as down, in black lines, and both frames as fully raised, in red lines, the bottle-screen

also being represented as closed, in black, and as open, in red lines.

In conclusion, it may be here observed that the springs *n* and *s*, in addition to the functions specified for them, serve to secure an elastic action to the screen, and adapt the latter to different-sized bottles.

I am aware that the screen has heretofore been operated, in both its motions, by the motion of the same part of the apparatus. This, therefore, I do not claim; but

What I claim as my invention, and desire to secure by Letters Patent, is—

The screen I, when the closing thereof is controlled by the downward motion of the filling-head, and its opening by the receding motion of the corking-piston or its carrying-frame, through suitable mechanism, substantially as herein set forth.

HENRY CARSE.

Witnesses:

ERASTUS D. DUNCAN,  
GEORGE MATTHEWS.