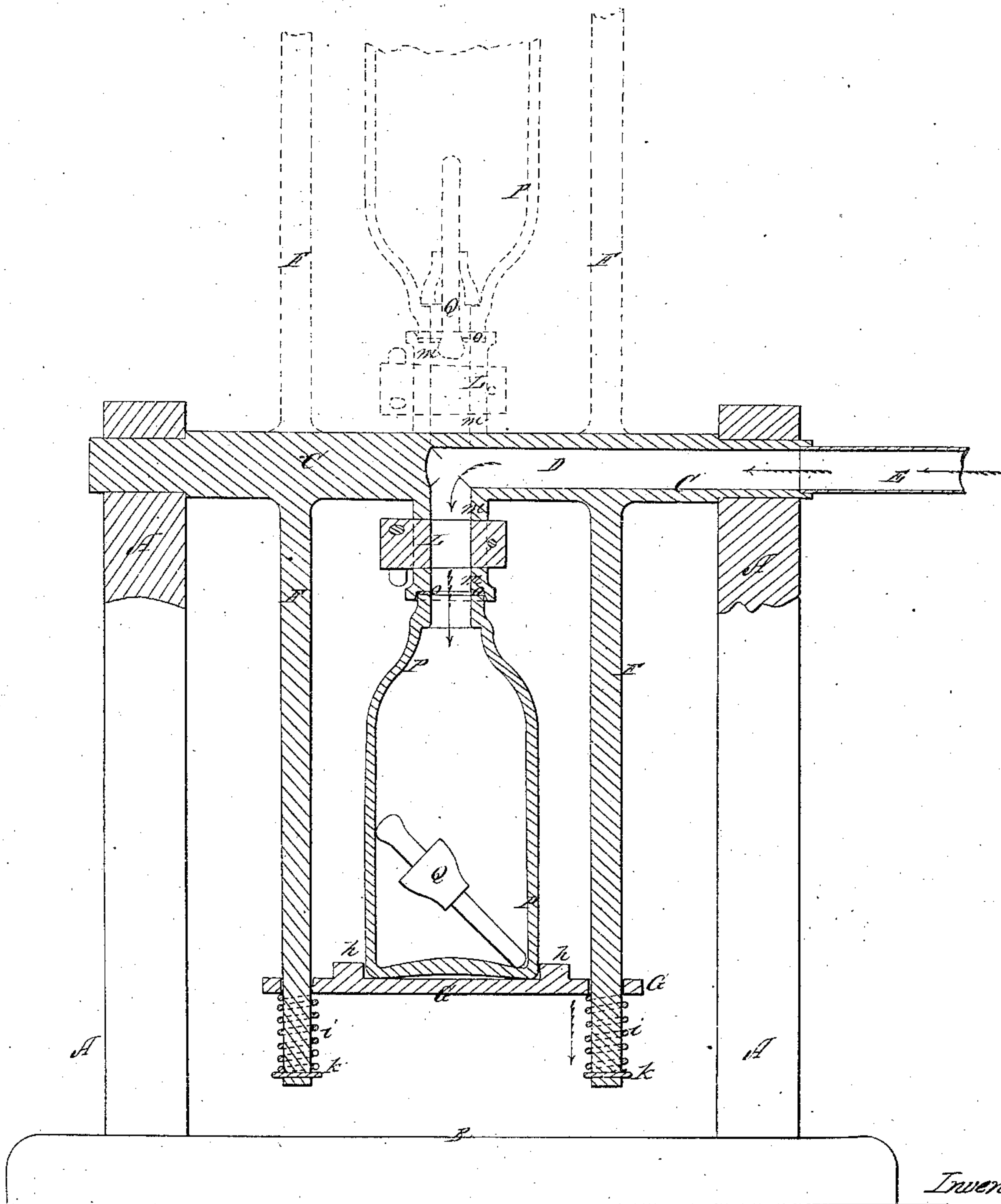


*A. Albertson,
Filling Bottles.*

N^o 44,685.

Patented Oct. 11, 1864.



*Witnesses:
Wm. H. Bishop
O. W. Keller.*

*Inventor.
Albert Albertson.
By his attorney
J. C. McIntire.*

UNITED STATES PATENT OFFICE.

ALBERT ALBERTSON, OF NEW YORK, N. Y., ASSIGNOR TO J. N. McINTIRE, OF
SAME PLACE.

IMPROVED APPARATUS FOR FILLING BOTTLES.

Specification forming part of Letters Patent No. 44,685, dated October 11, 1864.

To all whom it may concern:

Be it known that I, ALBERT ALBERTSON, of New York city, in the State of New York, have invented a new Method of Stopping or Closing Soda-Water and other Bottles; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this application.

Previous to my invention it has been customary in bottling soda-water and other similar liquids to place the mouth of the bottle in close contact with the end of a tube, through which the soda-water and gas were supplied to the bottle. When the proper quantity had been admitted to the bottle, the supply was cut off, and a previously-wetted cork was forced through the said supply-tube down into the mouth of the bottle. The bottle with the cork in was then quickly removed from the filling-machine, the cork held in by the application of an instrument or device for that purpose until it was securely fastened by cords being tied over by the operator.

To dispense with the time and labor involved in tying on the cords to hold the cork in, various kinds of metallic clasps and holding devices have been suggested and employed; but the labor, time, and expense involved in the use of corks proper have, however, been so great as to induce to much thought and numerous inventions, with a view to dispense with the use of the ordinary cork for this purpose.

One great difficulty in the production of a successful permanent bottle-stopper has been in making it simple enough.

I have invented a stopper (which is made the subject of another application now before the Patent Office) which I believe to involve in its use the greatest possible degree of simplicity, since it operates to close the bottle from within simply by gravitation; but to successfully employ such a stopper on a large scale of operations it is necessary to make a change in the mode of operation and construction of the filling-machines heretofore in use, and to effect this necessary change, to admit of the successful introduction into practice of a gravitating stopper, is the object of my present invention; and to this end my invention consists in a machine or apparatus for

filling or supplying the bottle so constructed that the bottle, when supplied, will be held in the machine in an inverted position to enable the stopper contained within the bottle to descend by gravitation into its seat in the neck of the bottle, substantially as hereinafter more fully explained.

To enable those skilled in the art to make and use my invention, I will proceed to describe the construction and operation of a machine embodying my invention.

In the accompanying drawings, forming part of this application; I have represented in sectional elevation a filling-machine constructed so as to operate according to my invention. B is the base or bed-plate of the machine, which may be secured on the top of a table or otherwise suitably supported at a proper height from the floor of the apartment from which extend upward two vertical stands, A A, in the tops of which is mounted in suitable bearings a horizontal shaft, C. This shaft C is arranged so as to turn freely in its bearings, (in the tops of stands A A,) and is made hollow during about one-half of its length, and its hollow end is connected to a flexible tube, E, which communicates with the supply-fountain, and through which the soda-water is conducted to the interior of the hollow shaft C. This hollow D of shaft C communicates with a short tube or nozzle, m, in which is a stop-cock, L, and the lower portion or extremity of which is so shaped as to receive the mouth of the bottle, and is provided with a rubber or other packing, o, against which the mouth of the bottle is pressed (as will be presently explained) so as to form a tight joint. From the shaft C, on either side of the nozzle m, and equidistant from it, there extend two arms, F F, near the extremities of which is arranged a platform or holding-plate, G, in such a manner as to be capable of sliding on or around said arms F. This platform G is formed with an annular rim, h, within which is left a dish-like hollow of the proper size and shape to accommodate the bottom of the bottle P. This dish may be lined with some flexible or soft material to press against the bottom of the glass bottle. Between the platform or plate G and the ends of the arms L are arranged two spiral springs, i i, one on each of the said arms, which are retained on said arms by pins k,

and which are compressed some (in the direction indicated by the black arrow) by the bottle P being placed between the plate G and nozzle *m*.

The bottles before they are put into the filling-machines are supplied with stoppers, as seen at G, made in accordance with my invention in gravitating stoppers, made the subject of an application for a separate patent.

The operation of the machine shown and so far described may be thus explained: The flexible tube E being connected to the fountain of supply, and the cock L turned into a position opposite to that shown in the drawings, a bottle provided with a gravitating stopper of any kind which will close the mouth from within is placed on the platform G, and the latter pressed down against the springs *i i* until the mouth of the bottle will go under the nozzle *m* and in contact with the packing-ring *o*, as shown, when the platform G is released and the bottle P held firmly up against the packing *o* by the pressure of the springs *i i*. The cock L is now turned, as seen, to admit the soda-water to the bottle P. As soon as the proper quantity of water has been supplied to the bottle the supply is cut off by again turning the cock L and the bottle-platform, and all is turned up by rotating the shaft C in its bearings into the position shown in red lines in the drawings, whereby the stopper Q is caused to gravitate into the position seen in red and close the mouth of the bottle. The bottle is then removed while in this inverted position, and the moment it is withdrawn from the machine the pressure within the bottle insures the forcing of the valve or stopper perfectly tight into its seat or bearing in the neck of the bottle. Another bottle is placed in the machine while its parts are thus turned up, brought down into position, and the operation of filling and turning up repeated, and so on. The bottles are filled and closed very rapidly and effectually. It is better to insert the empty bottle while the nozzle *m* is turned up, as seen in red, as then the small quantity of water which remains in the nozzle each time

after taking away the filled bottle will not be wasted.

It may be found necessary to provide the machine with a vent for the escape of the air in the bottle during the filling. This may be arranged as in the ordinary filling-machine, or in any other manner.

Though I have shown a stopper, Q, made in accordance with my invention made the subject of another patent, it will be understood that the peculiar form or character of stopper has no particular connection with my present invention so long as it is placed previously within the bottle and will gravitate through the contents of the bottle into its seat and close the mouth. For instance, a simple ball may be employed if it be so made as to gravitate into its seat when the bottle is turned up, and be held in its seat by the pressure within the bottle, or otherwise.

I wish it to be understood that my invention is not limited at all to the mode of construction of the machine or apparatus employed so long as it involves the mode of operation invented by me—namely, filling the bottle and then gravitating the stopper into its seat. My invention may be employed with advantage where the contents of the bottle do not exert any pressure when confined by using in connection with it some other means of holding or retaining the stopper in position after it has been gravitated into its seat.

Wishing to be understood as not limiting my claim of invention to any particular form or construction of machine or apparatus for carrying it out, or to any peculiar form of stopper, what I claim as new, and desire to secure by Letters Patent, is—

Filling and closing the filled or supplied bottle, substantially as set forth, by the gravitation of the stopper.

In testimony whereof I have hereunto set my hand and seal this 31st day of August, 1864.

ALBERT ALBERTSON.

In presence of—

ANDREW I. TODD,
J. A. MCINTIRE.