

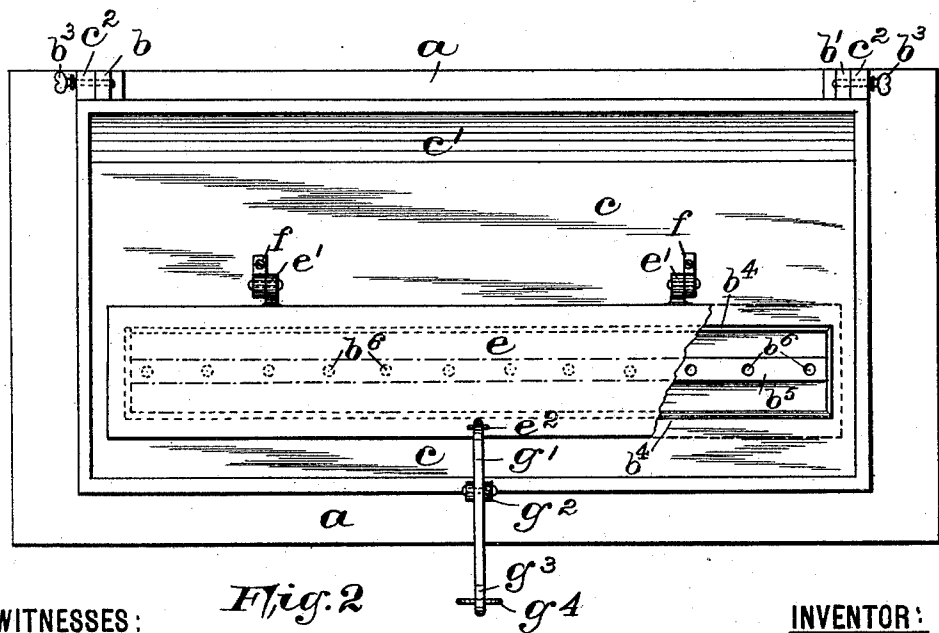
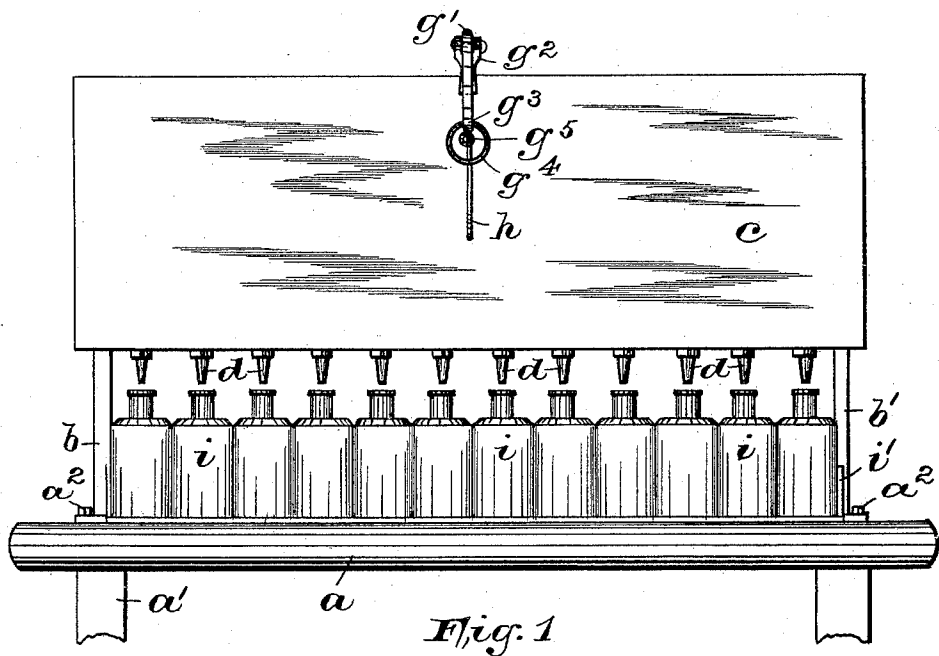
(No Model.)

2 Sheets—Sheet 1.

A. L. HATFIELD.
BOTTLE FILLING MACHINE.

No. 476,795.

Patented June 14, 1892.



WITNESSES:

W. B. Fraentzel.
Wm. H. Campfield Jr.

INVENTOR:

Albert L. Hatfield,
BY *Fred C. Fraentzel, ATT'Y.*

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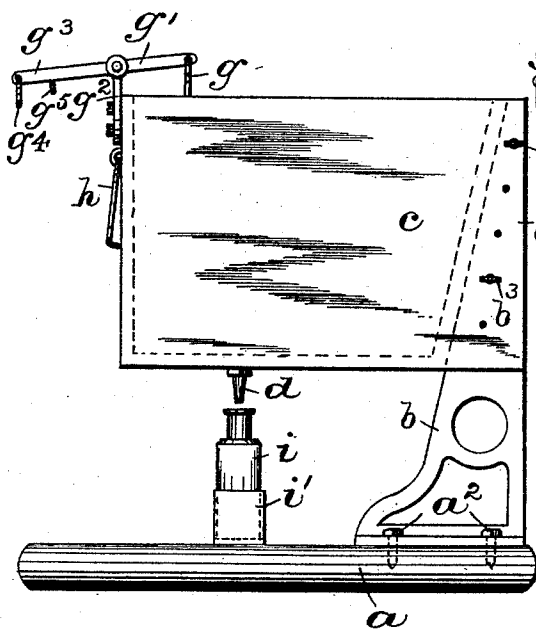


Fig. 3

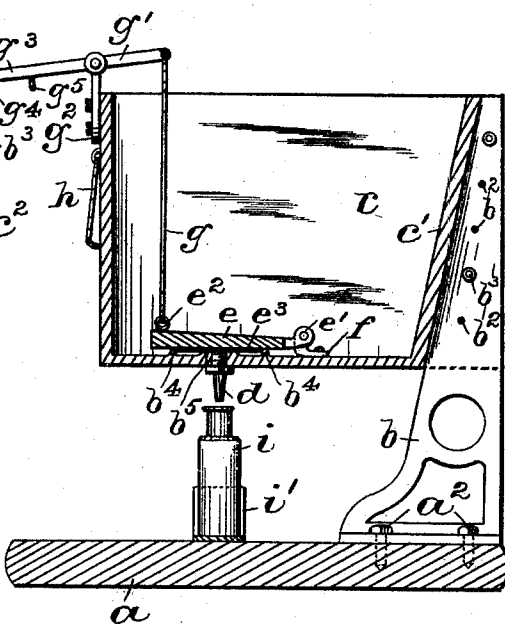


Fig. 4

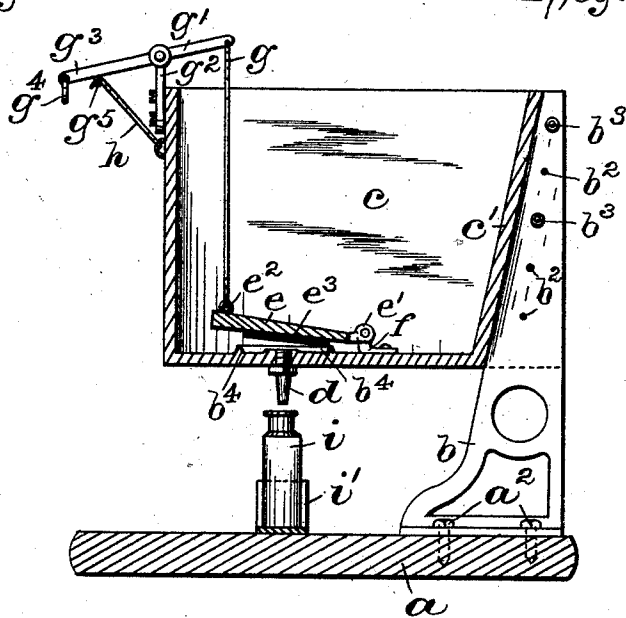


Fig. 5

WITNESSES:

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UNITED STATES PATENT OFFICE.

ALBERT L. HATFIELD, OF NEWARK, NEW JERSEY.

BOTTLE-FILLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 476,795, dated June 14, 1892.

Application filed December 29, 1891. Serial No. 416,422. (No model.)

To all whom it may concern:

Be it known that I, ALBERT L. HATFIELD, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Bottle-Filling Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to a machine for filling a large number of bottles simultaneously, and has for its object to provide novel and efficient mechanism for opening a series of outlets placed at suitable intervals in the bottom of the tank containing the liquid, beneath which the bottles to be filled are placed, and whereby said bottles can be filled in one operation.

To such end my invention consists of certain novel arrangements and combinations of parts, as will be hereinafter more fully described and claimed, and illustrated in the annexed drawings, in which—

Figure 1 is a front elevation of my bottle-filling machine and a row of bottles to be filled placed beneath the nipples ready to be filled. Fig. 2 is a top or plan view of the machine, clearly illustrating the arrangement of a hinged cover for opening and closing the outlets or nipples, said cover being broken away at one end to more clearly illustrate the arrangement of the valve openings or outlets. Fig. 3 is a side view of the machine. Fig. 4 is a vertical section of the same, showing the hinged cover in its closed position above said nipple-openings; and Fig. 5 is a similar view, but illustrating the cover in a raised position to permit the outflow of the liquid through the nipples.

Similar letters of reference are employed in each of said above-described views to indicate corresponding parts.

In said views the main frame of the machine consists of a suitable bed or table *a*, mounted upon suitable supports *a'* and adapted to support the principal operative parts of the bottle-filling machine. Said parts

of the machine consist of a suitable tank or reservoir *c*, as shown more especially in the sectional views in Figs. 4 and 5, provided at the back with a downwardly and inwardly inclined wall *c'*, having backwardly-projecting ribs *c''*, to which are secured the standards or frames *b* and *b'*, which are rigidly secured to the bed or table *a* by means of the bolts or screws *a''*. Said standards or frames *b* and *b'* are provided with a series of threaded holes or openings *b''*, into which screw thumb-screws or bolts *b'''* for securing the tank *b* to said standards, as shown. By this means said tank can be secured adjustably and raised to conform with the height of the bottles, as will be evident. The bottom of the tank may be provided with the ribs or beads *b⁴* and a raised portion *b⁵*, having any suitable number of holes or perforations *b⁶*, into each of which is secured a nipple *d*, which projects down from the under side of the tank, as shown. Above said rectangular space formed by the beads or ribs *b⁴* is arranged a cover *e*, having ears *e'* for pivotally securing said cover to lugs *f*, formed on or secured to the bottom of the tank, as will be seen from Figs. 2, 4, and 5. Any suitable means may be employed for raising said cover, the form shown in the present instance consisting, essentially, of a rod *g*, secured at one end to an eye *e²* on the cover *e* and at the other end to a lever *g'*, fulcrumed in a suitable bearing *g²*, attached to the front of the tank. The free end *g³* of said lever *g'* is provided with a pull-piece or a ring *g⁴* for pulling said lever downwardly and thereby raising said cover, which can be held in said raised position by means of a hook *h*, attached to the front of the tank and which can be hooked into an eye *g⁵* in said lever *g*, as will be seen from Fig. 5, whereby said parts and the cover can be held in this raised position until the bottles are filled.

The cover *e* may be provided on its under side with a piece of rubber *e³* or other suitable material, which is forced between the ribs or beads *b⁴* when the door is closed, thereby acting as a packing for the openings of the valves or spigots and thus closing the same and preventing the escape or discharge of the liquid from the tank *b*.

The operation of the machine is as follows: The bottles *i* to be filled are placed in posi-

tion in a row beneath the spigots, as shown in Fig. 1, and by means of a downward pull on the pull-piece or ring g^4 the lever g' causes the rod g to move upwardly and raise the hinged cover e , which assumes the position indicated in Fig. 5, thereby opening the valves or spigots and allowing the liquid contained in the tank to flow from all spigots simultaneously and in one operation fill all the bottles. The mechanism for raising the hinged cover can be held in its operative position by the hand of the attendant to the machine or by means of the hook h , heretofore mentioned. In order to readily place all bottles upon the table a and to remove them at one time, they may be arranged on suitable trays i' , as indicated in the drawings.

By my form of operative device it will be seen that I have devised a machine which is of great advantage in filling bottles with medicines, wines, or beer or any other liquid, as I am thereby enabled to fill many bottles in one operation with very little labor and expense.

It will be evident that I can use any number of outlets and nipples arranged therein, and the positions of the same can be changed, and several rows of such openings and nipples can be employed, if desirable.

I do not wish to limit myself to the specific form of device for raising and lowering the hinged cover e , for the same can be differently arranged in connection with the tank b , and other operative forms may be used without departing from the scope of my invention.

Having thus described my invention, what I claim is—

1. In a machine for filling bottles, the combination of a tank or reservoir provided with a series of holes or openings, a nipple in each opening, a rigid cover above said openings in said tank normally closing said openings, and means for raising and lowering said cover for operating all of said nipples simultaneously, consisting, essentially, of a rod pivoted to said cover and a fulcrumed lever to which the opposite end of said rod is attached, substantially as and for the purposes set forth.

2. In a machine for filling bottles, the combination of a tank or reservoir provided with a series of holes or openings, a nipple in each opening, a rigid cover hinged to the bottom of said tank, a packing secured to said cover on the under side thereof, and means for rais-

ing and lowering said cover for operating all of said nipples simultaneously, consisting, essentially, of a rod pivoted to said cover and a fulcrumed lever to which the opposite end of said rod is attached, substantially as and for the purposes set forth.

3. In a machine for filling bottles, the combination of a tank or reservoir provided with a series of holes or openings and beads or ribs b^4 , arranged substantially as set forth, nipples in said openings, a hinged cover in said tank, a packing secured to said cover on the under side thereof and adapted to fit in the space formed by said beads b^4 , and means for raising and lowering said cover for operating said nipples simultaneously, substantially as and for the purposes set forth.

4. The herein-described bottle-filling machine, comprising therein a bed or table, standards or frames secured to said table, a tank c , having backwardly-projecting ribs c^2 for securing said tank to said standards, a series of holes or openings in said tank, and beads b^4 , surrounding said openings, nipples in said openings, a hinged cover in said tank, a packing secured to said cover on the under side thereof and adapted to fit in said space formed by said beads b^4 , and means for raising and lowering said cover for operating all of said nipples simultaneously, substantially as and for the purposes set forth.

5. The herein-described bottle-filling machine, comprising therein a bed or table, standards or frames secured to said bed or table, a tank c , having backwardly-projecting ribs c^2 for securing said tank to said standards, a series of holes or openings in said tank, and beads b^4 , surrounding said openings, a hinged cover in said tank, a packing secured to said cover on the under side thereof and adapted to fit into said space formed by said beads b^4 , a rod g , pivoted to said cover, a fulcrumed lever g' , to which the opposite end of said rod is secured, and means for operating said lever and holding the same in its tilted position, substantially as and for the purposes set forth.

In testimony that I claim the invention set forth above I have hereunto set my hand this 24th day of December, 1891.

ALBERT L. HATFIELD.

Witnesses:

FREDK. C. FRAENTZEL,
WM. H. CAMFIELD, Jr.