2 Sheets—Sheet 1

P. SEIBEL, Jr.
Bottle-Washer.

No. 207,311. Patented Aug. 20, 1878.

FIG. 1.

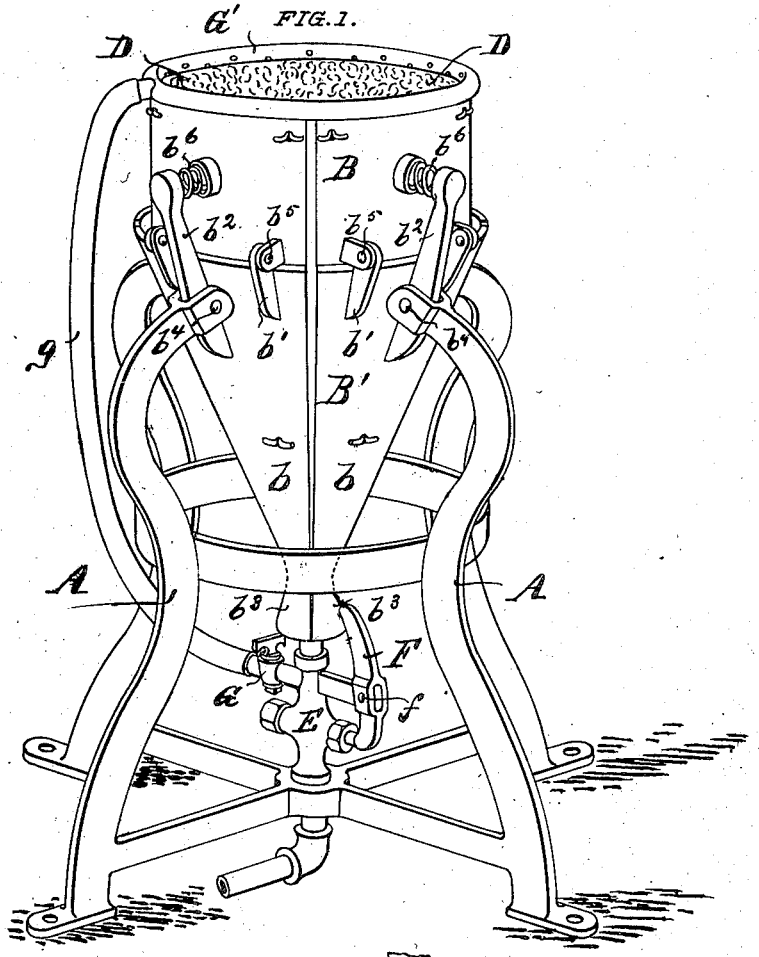
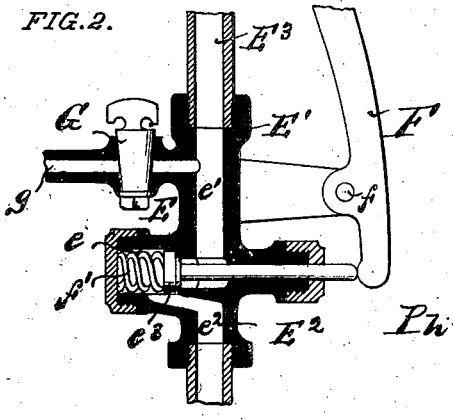


FIG. 2.



ATTEST:
John W. Herthel.
Chas. Herthel

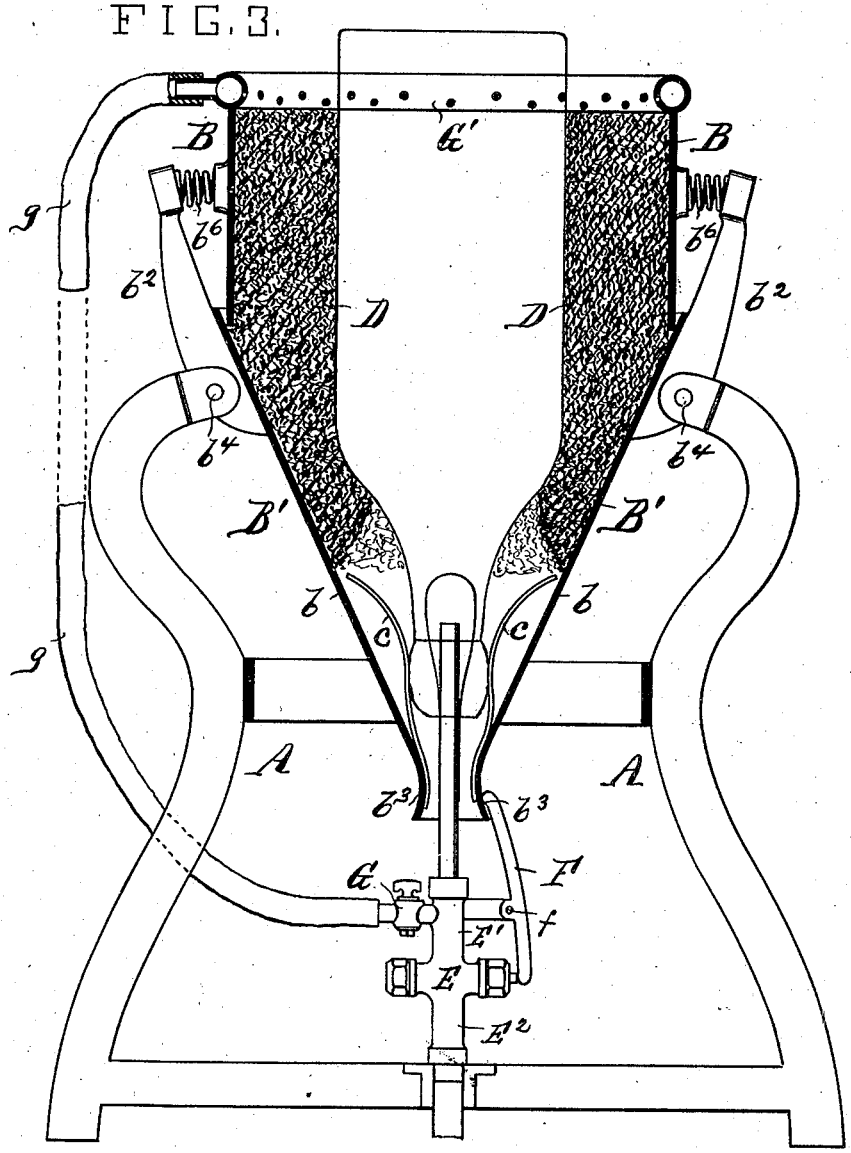
INVENTOR:
Phillip Seibel Jr
per Herthel & Co

2 Sheets—Sheet 2.

P. SEIBEL, Jr.
Bottle-Washer.

No. 207,311. Patented Aug. 20, 1878.

FIG. 3.



ATTEST.
John. W. Herthel.
Chas Herthel

INVENTOR.
Phillip Seibel Jr
per Herthel & Co.

UNITED STATES PATENT OFFICE.

PHILLIP SEIBEL, JR., OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN BOTTLE-WASHERS.

Specification forming part of Letters Patent No. 207,311, dated August 20, 1878; application filed July 17, 1878.

To all whom it may concern:

Be it known that I, PHILLIP SEIBEL, Jr., of St. Louis, Missouri, have invented an Improved Bottle-Washer, of which the following is a specification:

This invention relates to apparatuses for washing and cleansing bottles internally and externally at one and the same operation.

The invention will first be fully described, and hereinafter pointed out in the claims.

Of the drawing, Figure 1, Sheet I, is a perspective view of my improved bottle-washer. Fig. 2 is a sectional elevation of the valve parts below, used to control the streams of water. Sheet II, Fig. 3, is a sectional elevation of the bottle-washer chamber, the valve parts below being shown in side elevation.

A is a suitable frame. My bottle-washer consists of a chamber of two parts, the stationary cylinder B and the movable funnel B′, both parts made of metal. The cylinder and funnel parts conjointly form the corresponding-shaped internal chamber indicated in Fig. 3. The funnel B′, further, is made to consist of duplicate plate-sections *b*, each having the lugs b^1 and arms b^2, while the lower end of each plate *b* flares outwardly, in manner shown at b^2 in Figs. 1, 3. Each section or plate *b* is placed alongside of the other in funnel-shape order, and each is hinged at b^4 to the top of the frame. The cylinder B is supported by the funnel B′, and is connected to the top of said funnel by pivots, as shown at b^5. b^6 are springs, each being interposed between the arms b^2 and the sockets of the cylinder, as shown in Figs. 1, 3. These springs restore the sections constituting the funnel to their original position.

The outward flare of the lower end (mouth) of the funnel prevents the head of the bottle from being held fast in the act of withd rawal also acts as a guide for the insertion of the head of the bottle to a proper position with relation to the nozzle.

The funnel shape, as a constructive feature, enables me to place the sponges in closer proximity, to suit the different sizes of bottles, and especially to achieve the operation on parts of each section, hereinafter to be described.

Each of the funnel parts *b* thus hinged is capable of a lever action—that is, the top end moving inward while the lower end moves outward. In the act of inserting the bottle in the chamber and bringing the head of the bottle over the nozzle, the head of the bottle in contact with the interior sides of the mouth of the funnel spreads the same outward, and in doing so the upper arms are pressed inward, compressing the springs, and, vice versa, action on the part of the sections takes place in the act of withdrawing the bottle. I utilize this operation on part of the funnel B′ to "let on" or "shut off" the valve below, and at the same time that each bottle is inserted in the chamber or withdrawn from the same.

Internally the mouth has secured thereto springs *c*, their upper ends flaring outward. (See Fig. 3.) These springs act as guides to properly conduct the head of the bottle as the same is pressed down to reach the nozzle.

For the cleansing of some bottles the springs may be dispensed with, since the outward flare of the mouth of the funnel acts sufficiently as a guide; but where an apparatus is desired for purposes of cleansing bottles of different sizes and formations, the springs are valuable.

D represents sponges, secured in any well-known way to the interior of the walls composing the chamber. (See Figs. 1, 3.) The sponges are to wash and cleanse the outside of the bottle.

I employ two streams of water, one to supply the chamber—the other stream to wash the inside of the bottle. Both streams of water are derived from the main supply, which has the following valve: E is a valve-body, having the branches E^1 E^2. To the branch E^1 the nozzle-pipe E^3 connects, and partly extends inside the chamber of the apparatus. (See Figs. 2, 3.) To the branch E^2 the main supply connects. Within the valve-body *e* is a chamber; e^1 e^2, water-passages. (See Fig. 2.) To control the water-passages, the valve e^3, having its stem projecting through a stuffing-box, is arranged as shown in Fig. 2. F is a lever, pivoted at *f*, its lower end engaging the valve-stem, its upper end abutting against one of the movable sections of the funnel. (See figures.) *f′* is a spring, to return the valve and lever to their original position. By means of the said arrangement of lever and valve parts the upward flow of water is controlled, both

the upward flow of water to fill the water-chamber as well as the outflow from the nozzle-pipe. G is a suitable cock communicating with the water-passage e^1. To said cock the lower end of the hose g connects, its upper end connecting with a perforated pipe, G′, which surrounds the top of the cylinder B. (See Figs. 1, 2, 3.)

The operation is as follows: The bottle is pressed down amid the sponges, and in so doing the head of bottle is guided precisely over the nozzle. The pressure exercised in partly bringing the bottle over the nozzle causes the simultaneous spreading outward of the lower part of the funnel, and one of the sections, acting on the lever, opens the valve below and supplies the apparatus with water. The upward stream of water, or that which issues from the perforated pipe G′, floods the chamber, wets its sponges, and forces away the impure water and impurities that may have collected in the sponges. The water from the nozzle, with great force, is driven inside the bottle. The sponges scour and wash the outside of the bottle.

It can be here stated that since the head of the bottle enters the narrow contracted mouth part of the funnel, the upper body of water is kept sufficiently distinct from the flow that enters inside the bottle, and hence no closure of the orifice of bottle takes place, enabling me to cleanse the inside most thoroughly, notwithstanding it may contain (as frequently happens) straw, film, &c., and in which cases a separate washing of the bottle by hand was still necessitated.

At a single handling or thrust of the bottle in the chamber the bottle is thoroughly cleansed inside and outside, so effective is my apparatus. A vast saving of water takes place by the fact that every insertion of the bottle in the apparatus opens the complete water-supply, and every withdrawal closes the water-supply. Further, a fresh water-supply is presented or exists immediately for the cleansing of every bottle, the waste sufficiently escaping out of the clearance-spaces and mouth of the funnel.

In withdrawing the bottle out of the apparatus the spring f' closes the valve, restores the lever properly, and the expansion of the upper springs b^6 restores the funnel-sections to their position for a renewal of operations.

What I claim is—

1. A bottle-washer consisting, essentially, of the stationary-cylinder and funnel-chamber parts, the latter operating a lever to open and close a valve arranged below, and by means whereof the supply of water can be let on or shut off, in the manner and for the purposes set forth.

2. The funnel-shaped chamber B′, consisting of separate sections b, having the arms b^2, the lugs b^1, the cylindrical chamber B, and springs b^6, said parts being combined to operate in the manner and for the purposes set forth.

3. A bottle-washer consisting of the cylinder B and funnel parts B′, having the sponges D, said parts being hinged together, as described, the perforated pipe G′, hose g, cock G, and valve-gearing consisting of the valve e^3, with stem, the passages e^1 e^2, the spring f', the pivoted lever F, and nozzle-pipe, all said parts being combined and constructed to operate in the manner and for the purpose set forth.

In testimony of said invention I have hereunto set my hand.

PHILLIP SEIBEL, JR.

Witnesses:
WILLIAM W. HERTHEL,
JOHN W. HERTHEL.