

(No Model.)

3 Sheets—Sheet 1.

R. ROBINSON.
BOTTLE CLEANER.

No. 351,798.

Patented Nov. 2, 1886.

Fig. 1.

Fig. 2.

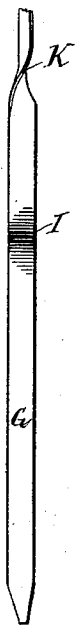
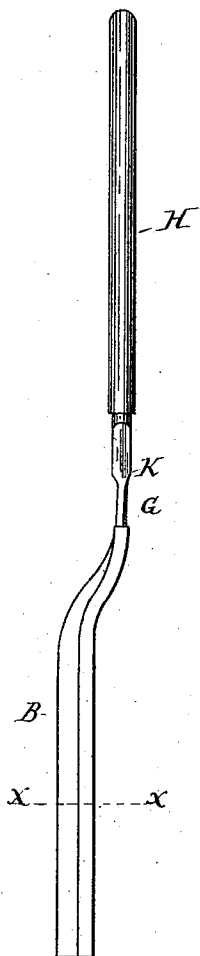


Fig. 3.

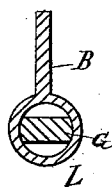
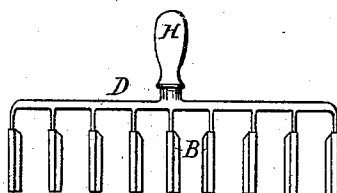


Fig. 4.



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(No Model.)

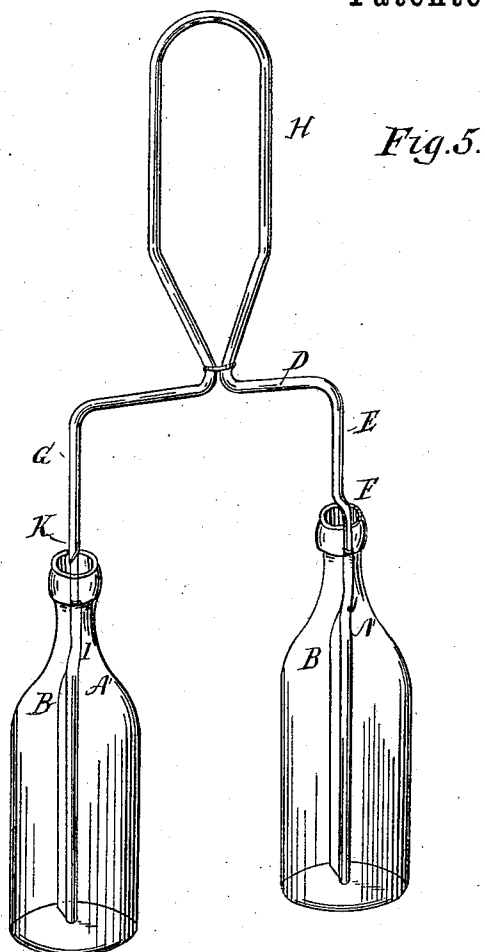
3 Sheets—Sheet 2.

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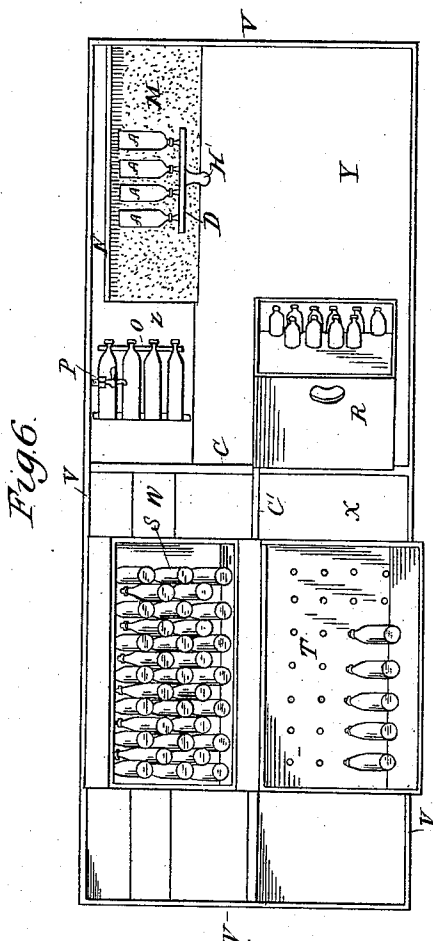
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3 Sheets—Sheet 3.

R. ROBINSON.
BOTTLE CLEANER.

No. 351,798.

Patented Nov. 2, 1886.



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UNITED STATES PATENT OFFICE.

ROBERT ROBINSON, OF BROOKLYN, NEW YORK.

BOTTLE-CLEANER.

SPECIFICATION forming part of Letters Patent No. 351,798, dated November 2, 1886.

Application filed November 12, 1885. Serial No. 182,630. (No model.)

To all whom it may concern:

Be it known that I, ROBERT ROBINSON, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Bottle-Cleaners; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My invention relates to apparatus for cleaning bottles; and the object is to effect the cleansing operation with uniform results. I attain this object by the means illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of one of the arms of my bottle-cleaner. Fig. 2 is a detailed view of the rubber cleaner, which is terminally secured on the metal frame. Fig. 3 is a horizontal section on the line xx of Fig. 1. Fig. 4 represents a frame having multiplex arms of a uniform construction attached to a single frame. Fig. 5 represents the manner in which a duplex-armed frame is inserted in bottles, and Fig. 6 represents the entire apparatus for cleaning and draining the bottles.

The same designations indicate corresponding parts in all views.

A A A A' A' represent two sets of bottles, to be operated upon respectively by the frame illustrated in Fig. 6, or that shown in Fig. 5, although it is obvious that any number of bottles may be manipulated at the same time by the multiplex-arms frame shown in Fig. 4.

B B represent the blades attached terminally to the frame-arms. They are preferably of rubber, although other elastic yielding substance might efficaciously be employed. They act to shave or cut the dirt off, after the manner of a knife. The blades are made of varying sizes, to correspond to different bottles.

C is a partition dividing the tub or trough into two compartments, respectively for cleaning and rinsing purposes. A partition, C', performs a similar function for the latter compartment, wherein are respectively a draining-ledge, W, and a rinsing-tub, X.

D is the portion of the frame from which the arms holding the rubber blades depend or ramify.

E G represent two of the arms, typical of

all the rest, showing the portions F K bent by torsional force, so as to follow readily the contours of the necks of the bottles, and also bent at I and J to hold the blades in position thereon by frictional contact merely, thus obviating the necessity of a uniting agency—cement, &c.

H represents the handle of the frame. This varies with the form of frame employed, as shown, respectively, in Figs. 4 and 5.

L represents the space in the blade B for the insertion of the arm G of the frame, as clearly shown in Fig. 3.

M represents a surface and back of coir, 65 bristles, or other cleaning medium attached to the board N, which is at an angle to the cleaning-tub Y on a ledge, Z, at the rear part thereof.

O represents a tray, on which the bottles are deposited after manipulation by the frame.

P represents a spigot or faucet connected with a suitable water-source, from which water may be drawn to supply the tub Y.

R is a box containing the dirty bottles. It is first plunged with the bottles into the tub Y, so that the bottles may fill themselves with clean water, and then set on an edge to facilitate the insertion of the arms while they are still in the box.

S is a box in which the inverted bottles are placed to be drained. It reposes at a slight inclination on the ledge W.

T is a similar box, used to raise the bottles after removal from the tray O'. When it is filled with the inverted bottles, it is plunged into the rinsing-water in tub X.

These boxes usually contain twenty-four bottles, four in a tier or row; but it is clear that a larger box may accommodate a greater number and with a different disposition without affecting the operation of my invention. Moreover, the same box may be used, if desired, successively for rinsing and draining purposes.

V represents the entire trough.

The operation is as follows: The dirty bottles are placed in the box R, which is subsequently immersed in the tub Y, to allow the bottles to fill. Then the box is placed at an angle to the tub to facilitate removing the bottles by the simultaneous insertion of the

arms of the frame into as many bottles. The frame being held stationary, the bottles are oscillated over the board N, whereby rotation is imparted to them. As the bottles move in contact with two stationary cleaning media—that is, the bristles or coir on the board and the blades on the arms—they are cleaned simultaneously on the inside and bottom and outside and end by the same operation. When this manipulation is completed, the bottles are laid on the tray O, which, being disposed at an angle to the ledge Z, permits the ready withdrawal of the arms without necessarily holding the bottles, as the frictional contact keeps them in place. By the removable tray O the bottles are then deposited in the box T, rinsed in the tub X, and subsequently drained by removal to the box S.

I do not herein claim the operation or process which this invention involves, as the same has been secured to me by Patent No. 322,644, granted on the 21st day of July, 1885.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The frame D, having dependent arms in-

tegral therewith, the said arms being bent torsionally at locations above their respective longitudinal centers, and adapted to hold thereon by frictional contact the blades B, formed as shown and described, in combination with such blades or planers, for the purpose specified.

2. The frame D, having dependent arms integral therewith, the said arms being bent torsionally at locations above their respective longitudinal centers, and adapted to hold thereon by frictional contact the blades B, formed as shown and described, and the blades or planers B, in combination with the board N, whose surface is covered with a suitable cleansing medium, whereby the cleaning of the bottles interiorly and exteriorly is simultaneously effected by the same manual operation, for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ROBERT ROBINSON.

Witnesses:

W. M. PICKSLAY,

W. H. HARRISON.