

(No Model.)

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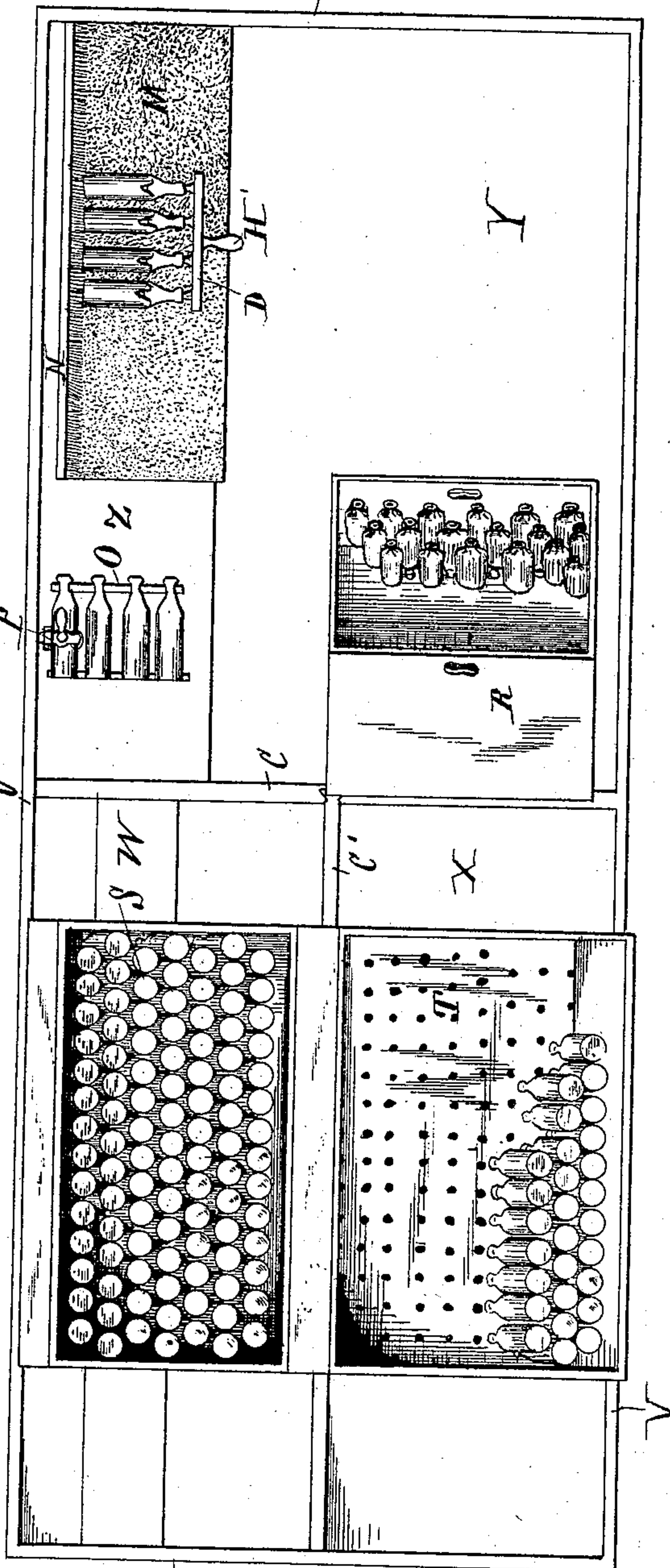
R. ROBINSON.

PROCESS OF CLEANING BOTTLES.

No. 322,644.

Patented July 21, 1885.

Fig. 1.



WITNESSES.

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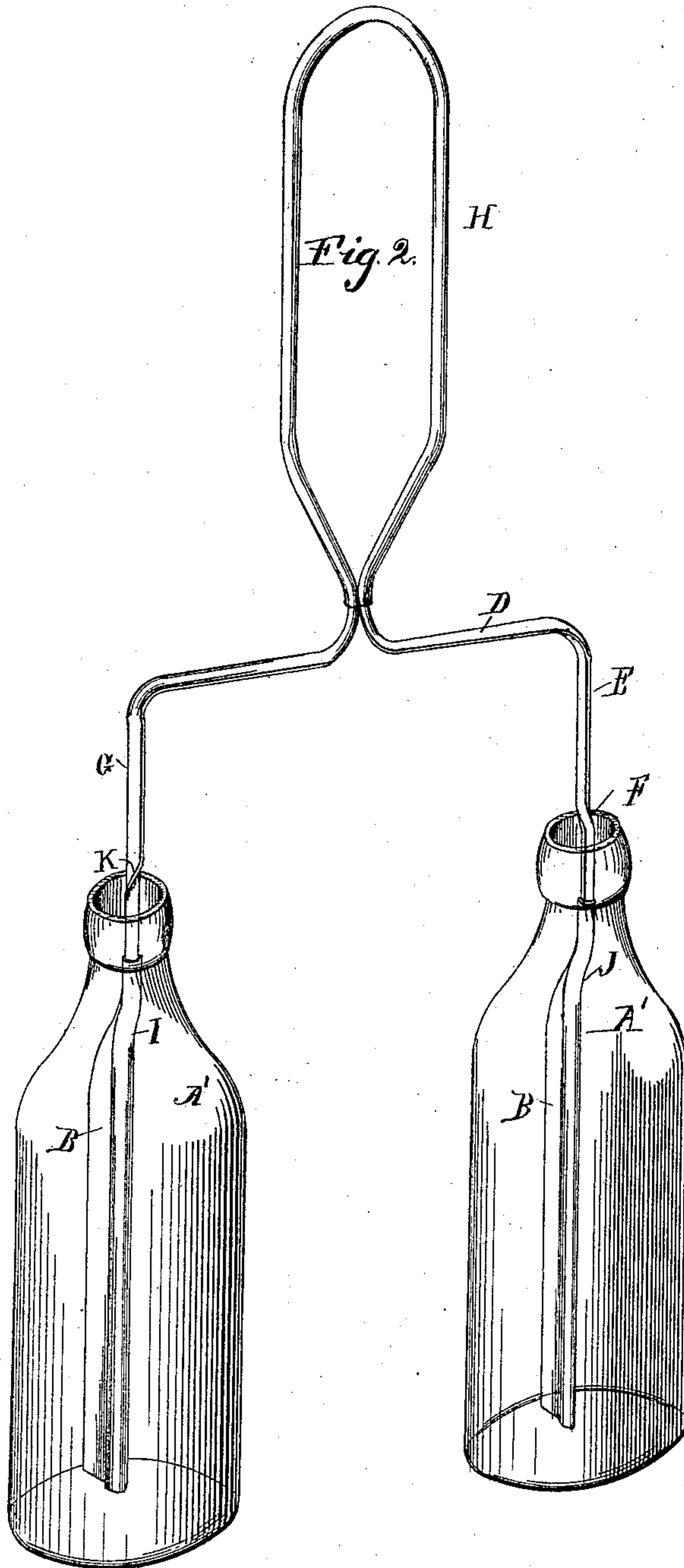
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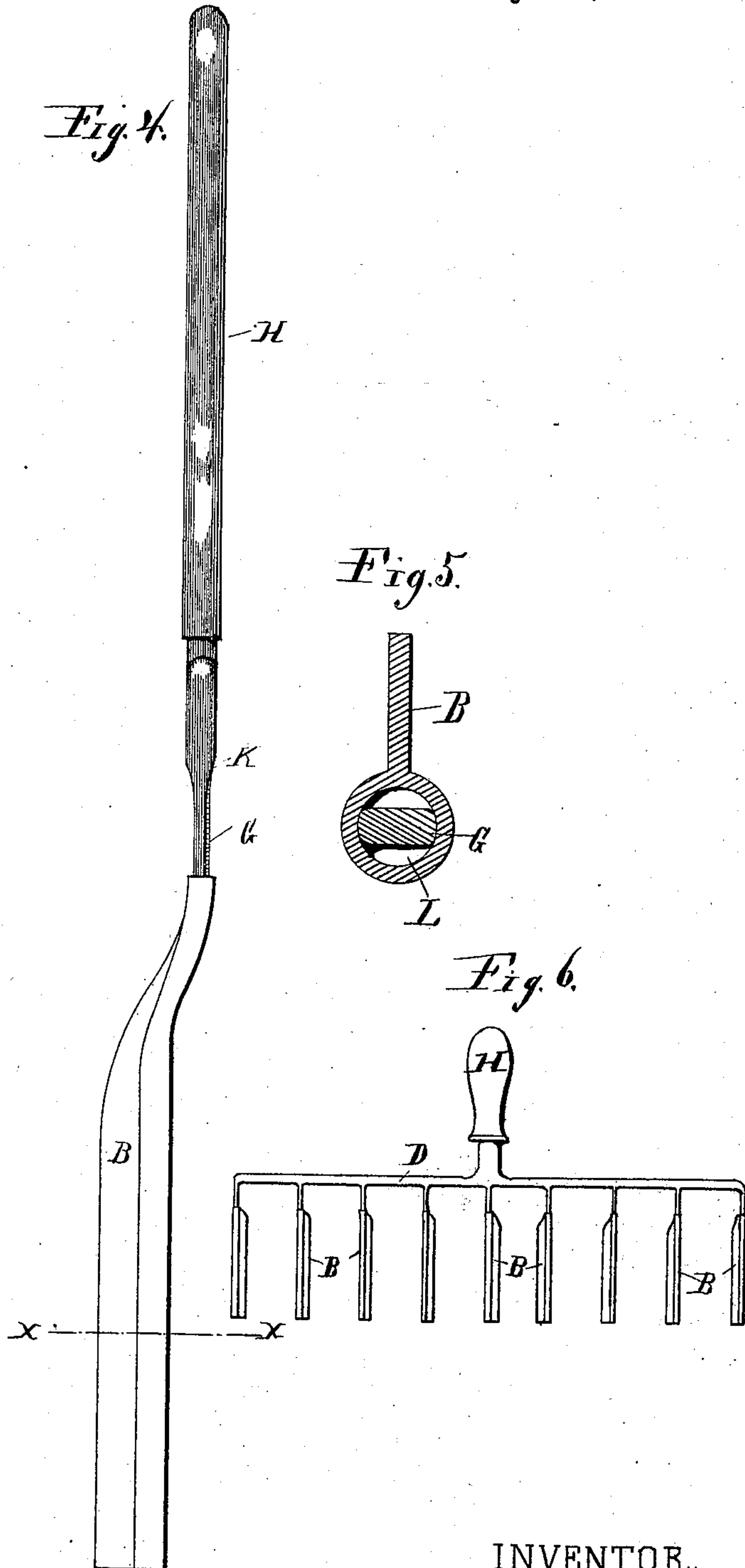
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Fig. 4.

Fig. 3.

Fig. 5.

Fig. 6.



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UNITED STATES PATENT OFFICE.

ROBERT ROBINSON, OF BROOKLYN, NEW YORK.

PROCESS OF CLEANING BOTTLES.

SPECIFICATION forming part of Letters Patent No. 322,644, dated July 21, 1885.

Application filed June 27, 1884. (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 Processes of Cleaning Bottles; 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 processes of cleaning bottles; and the objects of my invention are, first, to remove extraneous substances from round bottles on the inside and outside simultaneously by the same manual operation; second, to accomplish the cleansing process effectively within small compass and with little handling; and, third, to accomplish these ends with simplicity of construction. I attain these objects by the means illustrated in the accompanying drawings, in which—

Figure 1 represents a plan view of all the elements in proper relation essential to the operativeness of the process. Fig. 2 is a view showing a frame having terminal blades, which at once afford a means to remove the dirt from the inside of the bottles, and serve as axes of rotation therefor. Fig. 3 is a detail showing the end of the frame having the rubber blade removed. Fig. 4 represents one end of the frame, shown in Fig. 2, having the blade in position terminally. Fig. 5 is a horizontal section on the line *xx* of Fig. 4; and Fig. 6 is an enlarged view showing a frame having multiplex arms, each provided with the rubber blade.

Similar designations indicate corresponding parts.

A A A A' A' represent two sets of bottles to be operated upon respectively by the frame illustrated in Fig. 1, or that shown in Fig. 2, although it is obvious that any number of bottles may be manipulated at the same time by the multiplex arms-frame shown in Fig. 6.

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 V 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 by frictional contact merely, thus obviating the necessity of a uniting agency—as cement, &c.

H represents the handle of the frame. This varies with the form of frame employed, as shown, respectively, in Fig. 2 and in Figs. 1 and 6.

L represents the space in the blade B for the insertion of the end of the frame, as clearly shown in Fig. 5.

M represents a surface and back of coir, 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, from which water may be drawn to supply the tubs X 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.

5 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.

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

The process herein described, which consists in immersing the unclean bottles in water, then inserting the blades therein, subsequently rotating the bottles by frictional contact between relatively stationary cleansing media, then removing the cleansed series to a rinsing apparatus, and, finally, draining them, for the purpose and in the manner set forth.

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

ROBERT ROBINSON.

Witnesses:

DAVID STONE,
W. M. PICKSLAY.