(No Model.)

M. ROSENBERG.

DEVICE FOR PREVENTING FRAUDULENT REFILLING OF BOTTLES.

No. 604,545. Patented May 24, 1898.

Fig. 1.

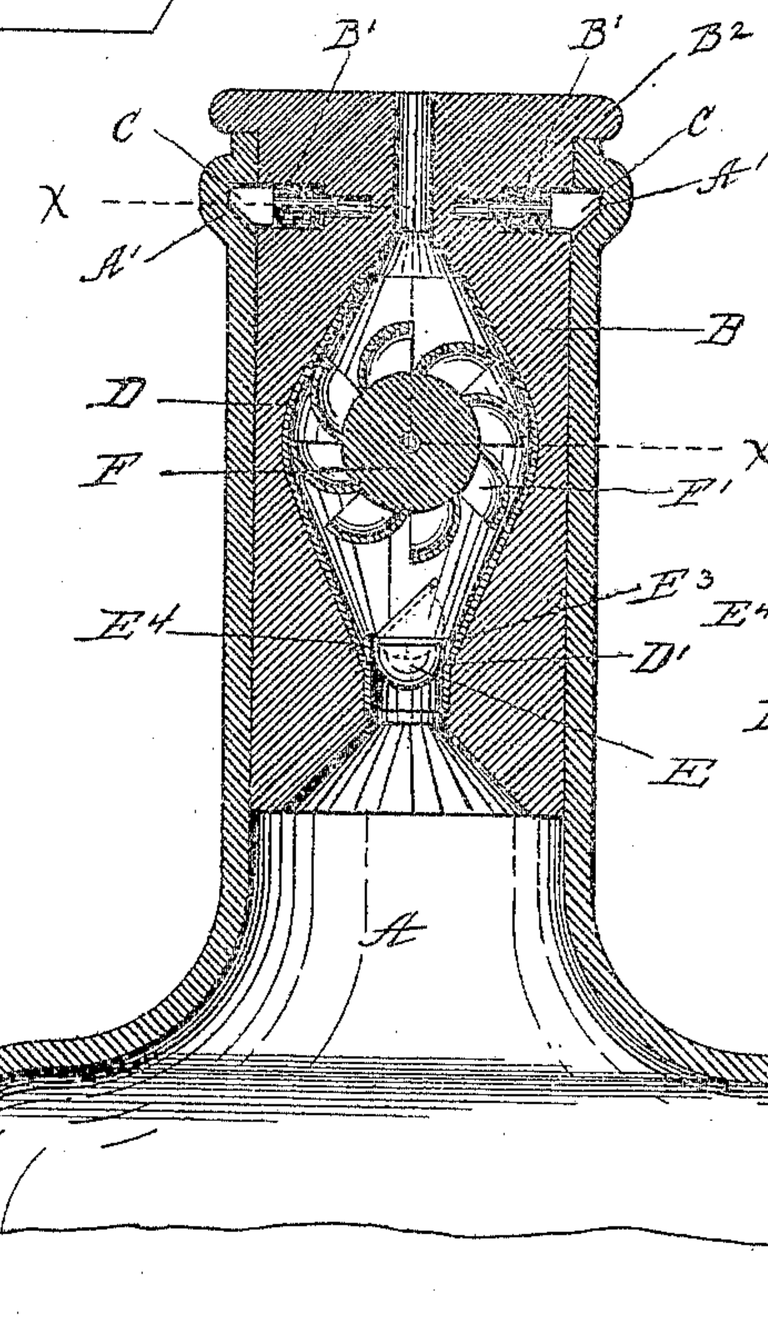


Fig. 3.

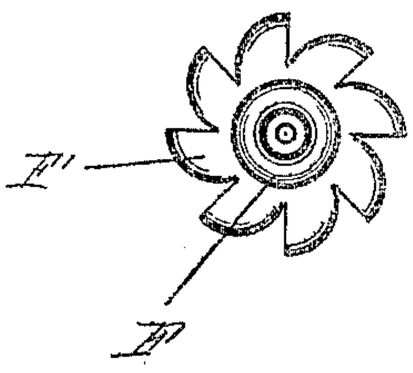


Fig. 4.

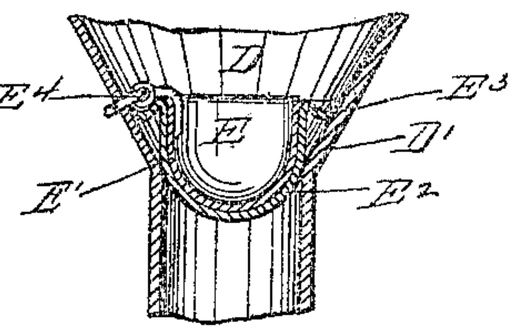
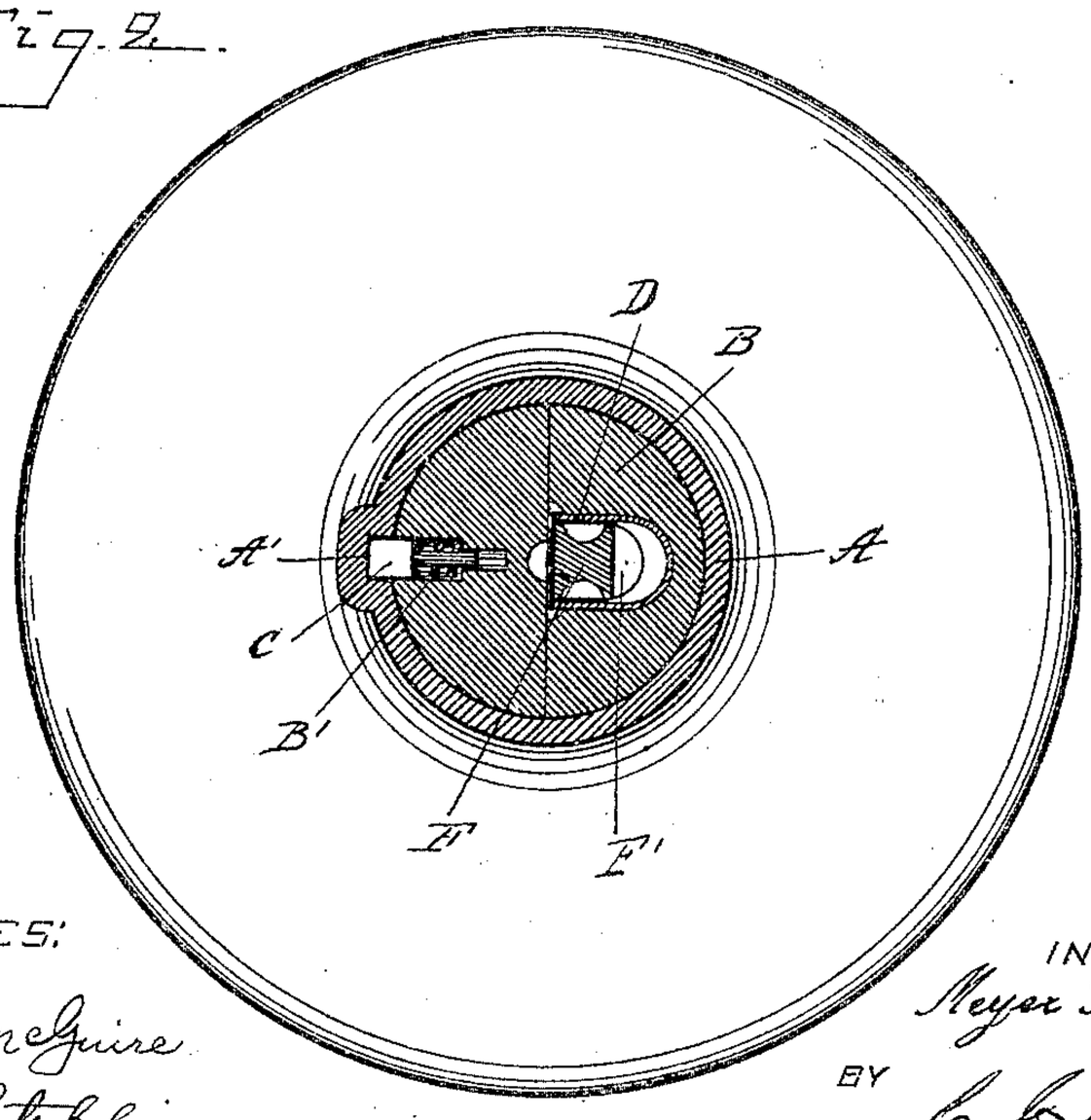


Fig. 2.



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DEVICE FOR PREVENTING FRAUDULENT REFILLING OF BOTTLES.

SPECIFICATION forming part of Letters Patent No. 604,545, dated May 24, 1898.

Application filed June 28, 1897. Serial No. 642,622. (No model.)

To all whom it may concern:

Be it known that I, MEYER ROSENBERG, a citizen of the United States, residing in Brooklyn, Kings county, State of New York, have invented a certain new and useful Device for Preventing Fraudulent Refilling of Bottles, of which the following is a specification.

This invention relates to that class of inventions which has for its object the preventing of fraudulent refilling of bottles; and it consists, essentially, of a novel stopper provided with a cup-valve at its lower end and a wheel having vanes or cups at its periphery, revolubly mounted above the valve. These and other novel features of the invention will be more fully explained in the below specification and the accompanying drawings, in which—

Figure 1 is a sectional view of the improvement. Fig. 2 is a cross-section taken in line X X, Fig. 1. Fig. 3 is an elevated view of the turbine wheel. Fig. 4 is an enlarged sectional view of the valve-cup.

Similar letters refer to similar parts throughout the several views.

A represents the neck portion of a bottle. This portion is provided with two indentations A′, situated adjacent to the upper end of the neck and are adapted to receive two spring plugs or pistons, hereinafter referred to.

B represents a stopper permanently secured in the neck of the bottle by means of the above-mentioned spring-plugs C, which are slidably mounted under spring tension in two pockets or cavities B′, situated in the upper exterior portion of the stopper. The face of the forward end portion of each piston is made slanting in order that the piston may spring back and permit the stopper to be introduced in the neck of the bottle by simply exerting a pressure on the top of the stopper. The upper end of the stopper is provided with a lip B^2, adapted to limit the amount of insertion of the stopper in the neck of the bottle. The central inner portion of the stopper is provided with a bushing or casing D, open at both ends, the lower end portion of the casing terminating in a circular valve-seat D′.

E represents a valve-cup comprising a metal thimble E′, and a leather covering E^2, the upper portion of which forms an annular flange E^3, adapted to normally be in contact with the lower circular portion of the bushing. The valve-cup is loosely connected with the bushing by means of a link connection E^4, which permits the valve to open by gravity when the bottle is tipped over for discharging its contents. In the large central portion of the bushing is revolubly mounted a wheel F, provided with cups or vanes F′ on its periphery. This wheel is actuated by the flow of liquid admitted through the cup-valve and striking the vanes and is adapted to admit air to the bottle when emptying the same without interfering with the outwardly-going stream of liquid, thus promoting an even flow and rapid discharge of the contents of the bottle. The turbine wheel further serves the purpose of preventing the valve-cup being reached and tampered with by any tool inserted through the upper opening of the stopper, as the wheel completely covers the space intervening the upper opening of the stopper and the valve-cup. The bushing forming the casing for the wheel being preferably made of metal will always retain its shape no matter how tight the stopper may fit in the neck, thus insuring a smooth and unobstructed space for the wheel in which to revolve and will also afford a uniform seat for the cup forming the valve.

In the manufacture of this device I prefer to mold the stopper proper of rubber or some other flexible material in order to enable me to force the bushing in place through the lower opening of the stopper and thus simplify the manufacture of the device.

The stopper is secured in the neck of the bottle by simply forcing the stopper down in the same until the spring-plugs are situated opposite the indentations in the neck. The plugs will then snap out and engage the indentations, thus locking the stopper permanently against any displacement.

The operation of the device is as follows: The bottle being held with the neck pointing downward the valve-cup will assume the position indicated by the dotted lines in Fig. 1 and permit the liquid to flow out and successively fill the cups on the wheel and cause the same to revolve and successively discharge the contents of the cups at the upper end of the stopper, from whence it flows through the upper opening of the stopper. In attempting

to refill the bottle the valve-cup will be filled and forced back to its normal place, the spherical end portion of the cup engaging the valve-seat, and when the liquid overflows the cup the annular leather flange surrounding the upper portion of the cup will spread out and form a second tight joint for preventing the liquid reaching the interior of the bottle.

I do not desire to limit myself to the particular construction herein shown and described, as I am aware that many changes may be made in the same without departing from the spirit and scope of my invention. For instance, the stopper may be made of hard material, thus making it unnecessary to use a bushing or casing for the wheel. The means for securing the stopper in the neck of the bottle may also differ from the one shown, and the stopper may be used with or without a lip at its upper end.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a bottle, the combination with a neck having indentations on its inner surface adjacent to the upper end of the neck, a stopper provided with spring-plugs adapted to engage the said indentations, said stopper being hollow and provided at its inner central portion with a bushing or casing, the lower end of which terminates in a circular valve-seat, a hinged valve-cup comprising a metal thimble, normally engaging said valve-seat, said valve-cup being provided at its upper edge with an annular flexible collar adapted to engage the upper portion of the valve-seat, a bucket-wheel revolubly mounted in the central portion of the bushing, substantially as described and for the purpose set forth.

2. In a bottle, the combination of a flexible hollow stopper permanently secured to the neck of the bottle, and provided at its upper end with an annular flange overlapping the upper circular edge of the neck of the bottle, a bushing mounted in the interior hollow portion of the stopper, the lower portion of said bushing terminating in a circular valve-seat, a hinged valve-cup normally engaging said valve-seat, said valve-cup being provided at its upper edge with an annular flexible collar adapted to engage the upper portion of the valve-seat, a bucket-wheel revolubly mounted in the central portion of the bushing, substantially as described and for the purpose set forth.

3. In a bottle the combination with a neck having indentations on its inner surface adjacent to the upper end of the neck, a hollow stopper provided with spring-plugs adapted to engage the said indentations, the lower portion of said stopper being provided with a circular valve-seat a hinged valve-cup comprising a metal thimble normally engaging said valve-seat, said valve-cup being provided at its upper edge with an annular flexible collar adapted to engage the upper portion of the valve-seat, a bucket-wheel revolubly mounted in the central portion of the stopper, substantially as described.

MEYER ROSENBERG.

Witnesses:
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