No. 768,142. PATENTED AUG. 23, 1904.

T. S. PATRICK.

BOTTLE STOPPER.

APPLICATION FILED MAR. 31, 1904.

NO MODEL.

Fig. 1.

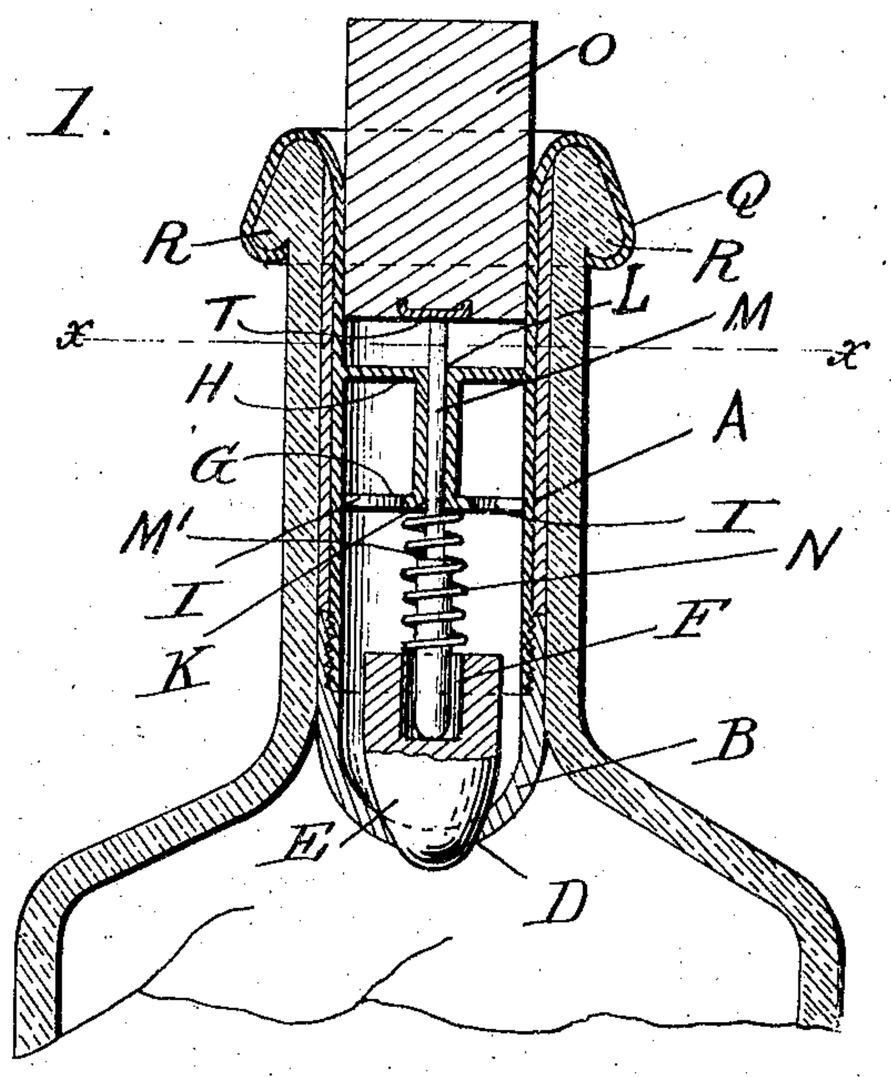


Fig. 2.

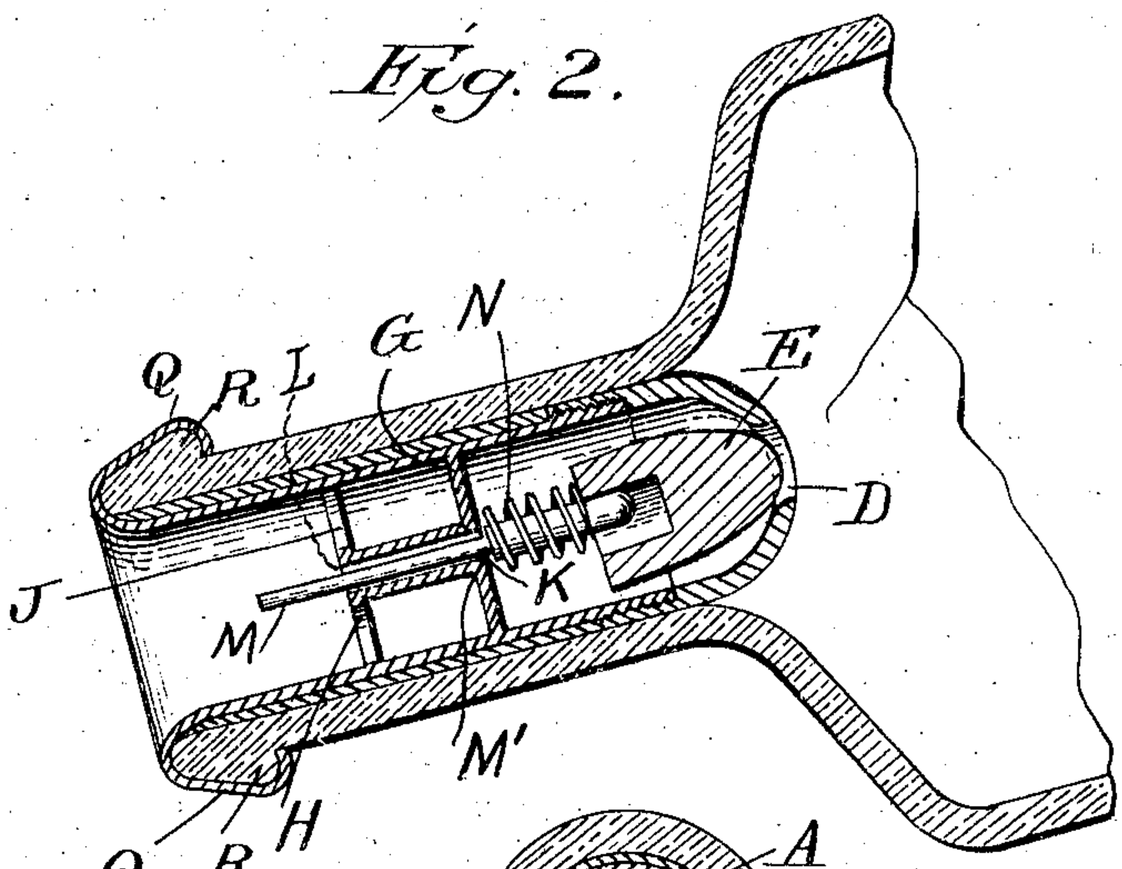
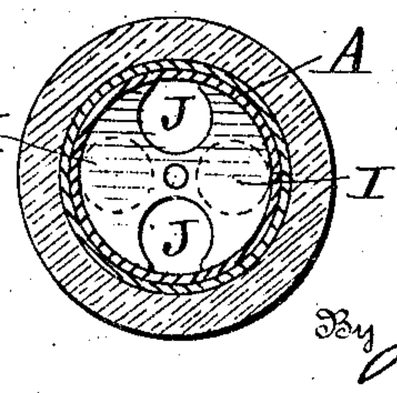


Fig. 3.



Witnesses

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No. 768,142. Patented August 23, 1904.

UNITED STATES PATENT OFFICE.

THOMAS SANFORD PATRICK, OF PARAGOULD, ARKANSAS.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 768,142, dated August 23, 1904.

Application filed March 31, 1904. Serial No. 200,962. (No model.)

To all whom it may concern:

Be it known that I, THOMAS SANFORD PATRICK, a citizen of the United States, residing at Paragould, in the county of Greene and State of Arkansas, have invented certain new and useful Improvements in Bottle-Stoppers; and I do 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 the letters of reference marked thereon, which form a part of this specification.

My invention is a bottle-stopper, and has reference to non-refillable bottles.

My object in inventing this device is to make bottles non-refillable, so that when once emptied of their contents they cannot be refilled with an inferior article and sold for the genuine.

This stopper can be fastened in the mouth of a bottle by using a crimper, and it is practically impossible to take it out again. The cylinder of this stopper may be of thin aluminium or other suitable material. The tongues (or flange) are made heavier in order to give them more strength, so that it will be more difficult to uncrimp them.

In the accompanying drawings, Figure 1 is a vertical sectional view of the neck of a bottle and a vertical sectional view of my invention inserted therein, showing the valve down. Fig. 2 is a duplicate of Fig. 1, the neck of the bottle turned down, showing the valve up. Fig. 3 is a cross-sectional view of Fig. 1 on the line *x x*.

The letter A is the cylinder, and B the cone-shaped valve-seat. The cylinder and valve-seat are joined together by threads or by other substantial means, so that the valve-seat cannot be detached from the cylinder while the stopper is in the bottle. There is a hole D in the lower end of the valve-seat, making a seat for the valve E. The valve E is substantially cone-shaped, its lower and smaller part resting in the hole D. The stopper need not go so far down in the neck of the bottle as shown in the drawings. There is a small hole F three-fourths of the distance through the upper end of the valve E from top to bottom and at the center which should be only large enough to let the rod work easily therein. There is a circular plate G fastened on the inside of the cylinder A some distance above the valve E, having near its periphery perforations I I, with a small hole K at its center. Just above said plate G is a duplicate plate H, having perforations J J over the solid parts of the lower plate G, so that the valve cannot be raised from without. There is a perforation in said plate H concentric with the perforation in the lower plate. A plunger or rod M works through the said perforations in said plates and down through a coiled spring N into the hole F in the valve E. The lower end of said coiled spring rests against the upper end of the valve E, while its upper end rests against the lower face of the lower circular plate G.

The lower part of the rod M is larger than its upper part, leaving a shoulder M′, so that it cannot be pulled up through the perforations K and L in the plates G and H, and thus taken out while the stopper is in the bottle. The hole F is a little larger than the lower part of the rod M, so that the valve E cannot be raised by pulling up the rod M as far as it can come.

A spring N, which surrounds the rod, is weak enough so that the weight of the valve E will partly open the hole D in the valve-seat, and the combined weight of the valve E and the contents of the bottle will fully open the hole D when the bottle is turned mouth down.

A cork O fits into the mouth of the cylinder and by being pressed in on the end of the rod M closes the hole D tightly, thereby keeping the contents of the bottle from getting into the stopper.

The cylinder A is covered its entire length with cork or other waterproof material, so as to secure a tight fit of the stopper in the neck of the bottle. Tongues Q fasten the stopper in the neck of the bottle by being crimped around and under the lip R on the neck of the bottle. A thin plate T on the lower end and in the center of the cork O keeps the end of the rod M from being pushed up into the

said cork O, thereby preventing the valve E from rising from its seat. The tongues (or flange) are made of metal sufficiently strong so they cannot be uncrimped without mutilating them, thus showing that they had been tampered with.

To use this stopper, fill the bottle and press the stopper down into the neck of said bottle and crimp the tongues Q under the lip R. To empty the bottle, uncork, and turn it neck down, and the contents will force open the valve E and run through, around the valve, and through the perforations I I and J J and out. If the bottle is not to be emptied all at once, push in the cork O, closing the opening D by means of the rod M, thus excluding trash, dirt, or insects. When the bottle is empty, the spring N will keep the opening D closed unless the bottle is turned upside down.

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

1. A bottle-stopper consisting of a cylindrical tube adapted to fit the neck of a bottle; tongues extending from the upper end of said cylinder, and adapted to be crimped around and under the lip of the bottle; a waterproof covering surrounding said cylinder; a cone-shaped valve-seat secured to the lower end of said cylinder; a valve adapted to fit into said valve-seat, and provided in the upper end with a hole; a plate provided with perforations near its periphery, secured some distance above the upper end of said valve; a plate having perforations near its periphery, secured some distance above the first-mentioned plate, its solid parts being immediately over the perforations in the lower plate, each plate being provided with central perforations; a rod, its lower part being larger than its upper part, thus leaving a shoulder, its lower end fitting loosely in the hole in the valve, its upper end extending up through the perforations in said plates; a spiral spring coiled around said rod, its lower end resting against the upper end of the valve, and its upper end against the lower face of the lower plate; a cork, fitting in the upper end of the cylinder, its lower end provided with a plate, and adapted to rest against the upper end of said rod, substantially as shown and described and for the purposes set forth.

2. A bottle-stopper consisting of a cylindrical tube, adapted to fit the neck of a bottle, and its upper end adapted to be secured to the mouth of the bottle; a waterproof covering surrounding said cylinder; a valve-seat secured to the lower end of said cylinder; a valve fitting in said seat, and provided in its upper end with a hole; a plate, provided with perforations near its periphery, secured some distance above the upper end of said valve; a plate having perforations near its periphery, secured some distance above the first-mentioned plate, its solid parts being immediately over the perforations in the lower plate, each plate being provided with central perforations; a rod, its lower part being larger than its upper part, thus leaving a shoulder, its lower end fitting loosely in the hole in the valve, its upper end extending up through the perforations in said plates; a spiral spring coiled around said rod, its lower end resting against the upper end of the valve and its upper end against the lower face of the lower plate, and a cork fitting in the upper end of said cylinder, its lower end adapted to rest against the upper end of said rod, substantially as shown and described and for the purposes set forth.

In testimony whereof I have affixed my signature in presence of two witnesses.

THOMAS SANFORD PATRICK.

Witnesses:
TOM HUDDLESTON,
E. E. PENNEY.