

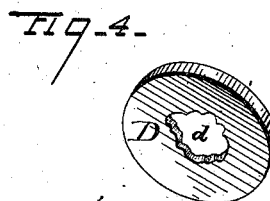
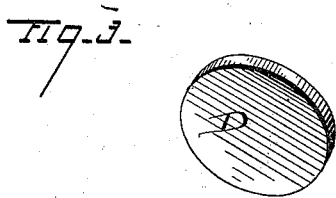
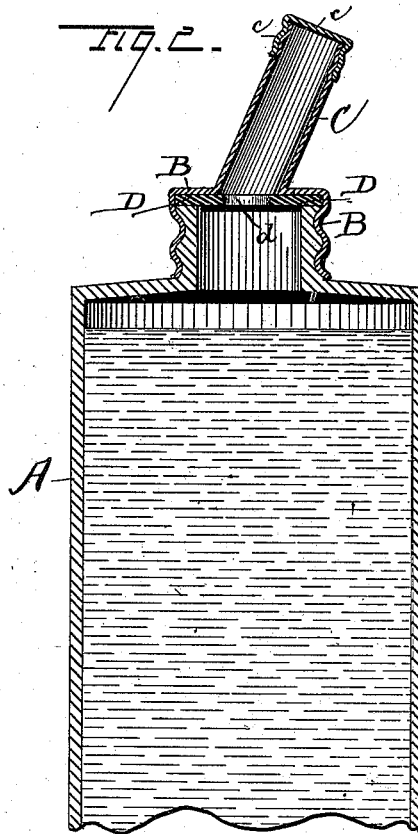
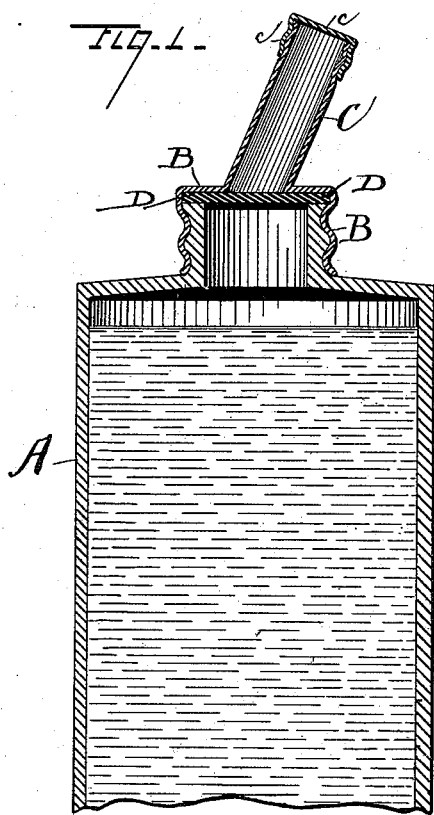
(No Model.)

W. H. REDINGTON.

BOTTLE STOPPER.

No. 382,191.

Patented May 1, 1888.



WITNESSES

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# UNITED STATES PATENT OFFICE.

WILLIAM H. REDINGTON, OF CHICAGO, ILLINOIS.

## BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 382,191, dated May 1, 1888.

Application filed December 13, 1886. Serial No. 221,332. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. REDINGTON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a specification.

The object of my invention is to provide a simple economical stopper for ink and similar bottles or vessels; and the invention consists in the features and combinations hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a vertical section of the upper part of a bottle provided with my improved stopper; Fig. 2, the same with the cork shown as broken away; Fig. 3, a perspective view of the cork ready to be put in the cap or cover for use; and Fig. 4, a perspective view of the cork detached after the same has been used, particularly intended to show the opening for the escape of the out-flowing liquid.

A is the bottle; B, the part of the stopper which I call the "cap" or "cover;" C, the spout extending from the cap or cover, and c the cap for the outer end thereof; D, the cork secured therein and intended to rest on the top of the bottle, and d the hole or opening forced therein to permit the liquid to flow out or escape.

Although my improved stopper is adapted to be also used on other kinds of vessels or bottles, I will for convenience here describe it as applied to an ordinary ink jar or bottle. Thus described, its cap and spout are preferably made of britannia or other similar material capable of withstanding the effect of the ink acids, so as not to be corroded or injuriously affected thereby. The cap is provided with suitable screw-threads, by means of which it may be secured over and to the neck of the bottle, and the spout extends out therefrom at an angle, as shown, so as to leave an air-space therein above the stream of ink being poured out. This spout may of course be of any length desired; but about an inch will be found a convenient length for an ordinary pint or quart ink jar or bottle. The spout is also, preferably, of about the same diameter throughout its entire length, and a little cap may be

screwed onto and made to serve as a covering or stopper for its outer end.

The cork should be of a suitable size to fit snugly within the main cap or cover B, so that when the latter is screwed onto the neck of the bottle it will be pressed and caused to rest closely against or on the upper end of such neck. It should also be thin enough to be easily broken by the insertion and forcing down of a suitable device—as, for instance, the end of a pencil or pen-holder—so as to permit the pouring out of the ink, as presently described. This cork, of course, does not go down into the neck of the bottle, but, as just said, is secured on the top thereof and held in place by the cap of the stopper.

When it is desired to pour out the liquid from a bottle provided with my improved stopper, the cap or cover c is unscrewed and removed from the end of the spout, and the end of a pencil, pen-holder, or other suitable device inserted and punched down, so as to break away that part of the cork which it comes in contact with—that is to say, the part of the cork directly under the opening of the spout at its point of juncture with the main cap—the other parts resting on the walls of the neck of course remaining as before. This breaking away of the cork will of course only be necessary when the bottle is used the first time. The little cap being removed and the cork broken away, as above described, the contents of the bottle may of course be emptied without unscrewing the main cap or removing the stopper from the bottle, and after a sufficient quantity of ink has been poured out the bottle may be again closed by simply screwing the little cap onto the end of the spout.

I have already mentioned that the spout of the stopper is arranged at an angle and that it is intended to be about the same diameter throughout its entire length; and, while I do not wish to be understood as limiting myself to it in all cases, I consider this peculiar construction as important. It enables the ink to be poured in a more regular or constant stream than any construction for the same purpose with which I am now acquainted. As I understand it, the reason for this is that, the velocity of the fluid increasing as it approaches

the end of the spout, there will always be more ink at the inner end or part near the cork than at the outer end, so that, while the spout may be entirely or nearly full at its inner end, it will still have a considerable air-space above the flowing ink at its outer end, this air-space, of course, extending back toward the bottle, but diminishing as it approaches the inner end of the spout in proportion to the quantity of ink being emptied from the bottle. If the spout should not be entirely filled with ink at its inner end or point of juncture with the cap, the air coming through the spout above the stream of outflowing ink will of course enter the bottle; but if the spout should be full of ink at its inner end the air in the space above the stream of outflowing ink will still be sufficient to bubble through, and thus have its proper effect in securing a sufficiently steady and constant flow of the outflowing liquid.

As the essence of this part of my invention last described consists in the making of a stopper sufficient to permit of a steady flow of the outpouring liquid without the use of any additional opening or vent, I do not wish to be understood as limiting myself to special forms or details of construction in this respect; nor do I wish to be understood as limiting myself as to other features to any particular size, proportions, material, form, or kind of vessels,

or other details of construction, it being apparent that other equivalent forms or features may be used in the place thereof.

I do not herein claim a bottle-stopper having a cork secured within a cap adapted to be broken away to permit the liquid to flow out, the same being the subject of another application, No. 226,191, filed February 1, 1887, which is a division of this; but

I claim—

1. A stopper for bottles or other vessels, comprising a cap to be secured to the top of the vessel, a spout extending out from the cap at an angle, having a diameter at its outer end not less than the smallest diameter of its body, and means for closing the spout, substantially as described.

2. In combination with a bottle or other vessel, a stopper comprising a cap secured to the top thereof, a tubular spout of substantially the same diameter throughout its entire length extending out from the cap at an angle, whereby the liquid may be permitted to flow out without the aid of any additional vent or opening, and means for closing the end of the spout, substantially as described.

WILLIAM H. REDINGTON.

Witnesses:

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