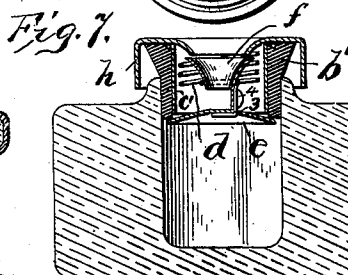
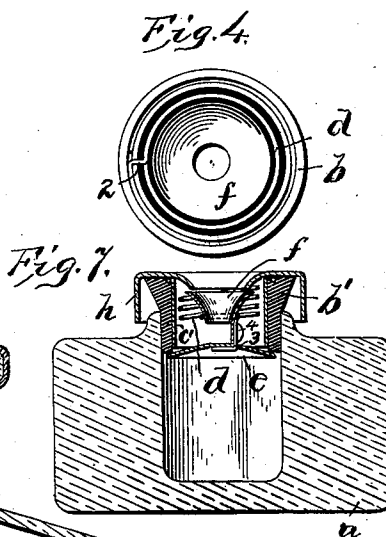
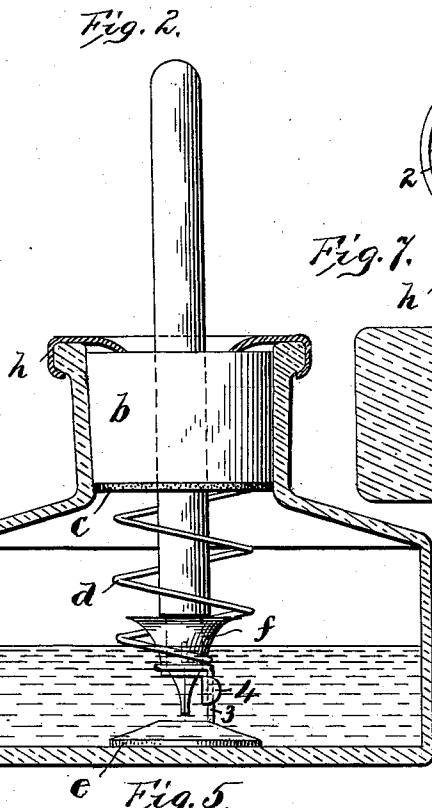
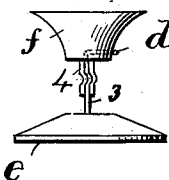
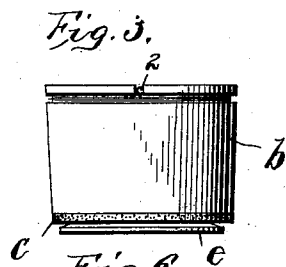
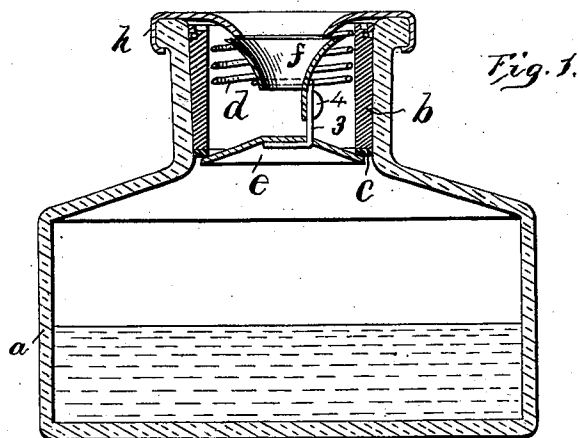


(No Model.)

B. RAMSAY.
BOTTLE STOPPER.

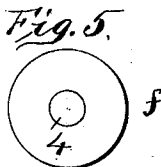
No. 534,174.

Patented Feb. 12, 1895.



WITNESSES:

C. C. Duffy
Hubert P. Beck



INVENTOR

Burt Ramsay
BY *C. C. Duffy*
ATTORNEY.

UNITED STATES PATENT OFFICE.

BURT RAMSAY, OF NEW YORK, N. Y.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 534,174, dated February 12, 1895.

Application filed February 17, 1894. Serial No. 500,584. (No model.) Patented in Canada May 16, 1894, No. 46,071.

To all whom it may concern:

Be it known that I, BURT RAMSAY, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Bottle-Stoppers, (for which I have obtained Letters Patent in the Dominion of Canada, No. 46,071, dated May 16, 1894;) and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 and figures of reference marked thereon, which form part of this specification.

This invention relates to certain improvements in ink bottle attachments.

The object of the invention is to provide an improved stopper for ink bottles whereby the bottle will be effectually sealed, but can be easily opened by the insertion of a pen, a sufficient distance and in such a manner that the pen will enter the ink and take up enough for writing.

A further object of the invention is to provide an improved stopper capable of being placed in any ordinary neck ink bottle containing sealing means effectually closing the bottle yet of such construction that the thrust of a pen in inserting will be sufficient to open the way for the pen to the ink and in such a manner that the pen will not be injured.

A further object of the invention is to provide certain improved details in construction, and in arrangements and combinations of parts, whereby a highly efficient, exceedingly cheap, and yet durable ink bottle stopper can be produced which will seal the bottle, yet can be easily opened for the insertion of a pen by the thrust of the pen.

The invention consists in certain novel features of construction and in combination of parts more fully and particularly described hereinafter and pointed out in the claims.

Referring to the accompanying drawings:— Figure 1, is a vertical sectional view taken through a bottle and the stopper of the present invention. Fig. 2, is a sectional view through the bottle, showing the stopper or seal opened by the insertion of a pen. Fig. 3, is a detail side elevation of the stopper. Fig. 4, is

a detail top plan view of the stopper. Fig. 5, is a detail plan view of the pen guide before the opening in the center thereof has been completely formed. Fig. 6, is a detail elevation showing a method of uniting the pen guide to the wire of the spring uniting the guide and valve. Fig. 7, is a sectional view of a modification.

In the drawings the reference letter *a*, indicates a bottle of any construction having the neck and mouth.

The attachment or stopper comprises a cylinder or bushing *b*, made to fit within said neck tightly, preferably without projecting above the same. The lower edge of this cylinder or bushing can be provided with some elastic or soft packing material *c*, if the bushing or cylinder be of hard material, although, I do not wish to limit myself to the employment of such extra packing.

d, indicates a retractive spring here shown in the form of a coiled spring at its upper end secured to or in the upper end of the cylinder and at its opposite portion connected with and controlling the valve *e*, and yieldingly holding the same up against the lower edge of the cylinder and closing the lower end thereof.

Any suitable method of fastening the upper end of the spring in the cylinder can be employed, although I here show the upper convolution of the spring fitted in a recess in the top end of the cylinder and having a lateral bend or deflection 2, extending through a slot in the cylinder to the interior thereof and supporting the spring in the interior of the cylinder. The coil is of such diameter as to be close to the inner surface of the cylinder, or of such size as to permit free operation of the parts hereinafter mentioned.

f, indicates a pen guide of any suitable and desirable size or shape preferably cup-shaped substantially as shown with the central opening of such size as to prevent the complete pen passing through the opening so that the shoulders of the pen nibs will strike the guide and the point will be protected from injury. The lower convolution of the spring is of such size as to embrace the small end of the pen guide from said lower convolution. The spring end has the vertical straight arm 3, extending downwardly at one side of the open-

ing through the pen guide to the valve to which the lower end of said arm is rigidly secured in any approved and suitable manner.

The pen guide is rigidly secured to the valve at such a distance therefrom as to prevent the point of the pen striking the valve, and so that the downward thrust of the pen against said guide will force down the guide and valve with the pen until the pen enters the ink. The pen guide is suitably secured to the straight portion or arm 3, preferably by pressing down the portion 4, (cut out of the center of the pen guide in forming as shown) until said piece 4, strikes the arm 3, and then bending or doubling it around said arm so as to tightly clamp the same, and thereby rigidly secure the guide to said arm. If desired the lips can be indented and the arm bent into the same.

Other means of fastening can be employed and I do not wish to limit myself to any peculiar fastening.

The valve is preferably in the form of a truncated cone as shown, and is usually made of some light durable non-corrodible metal preferably aluminum.

h, is a cap or cover of some light ornamental metal to fit over the mouth of the bottle and conceal the upper end of the cylinder, and the spring and bottle neck. The outer edges of the cap can be spun down around the head at the top of the bottle neck to rigidly and permanently secure the cap. The cap has the central opening slightly less in diameter than the width of the upper end of the pen guide, and the edges of the cap around said opening are depressed downwardly, substantially as shown.

The hollow cork, stopper, or cylinder provided with this internal sealing device can be fitted in any bottle having a neck of the proper size and a cap can also be easily secured on any neck or ink well.

In Fig. 7, this invention is shown applied to any ordinary ink stand or well. The stopper *b'*, in this case is made of rubber or some like material and has an internal stiffening cylinder or brushing *c'*, of metal. This metal cap *h*, is suitably secured to the upper end of the stopper and the edges thereof can be turned down as shown.

The operation of the device is clear and obvious. A pen on being thrust into the device strikes the guide and carries the parts down into the ink (a light spring being employed) and on the withdrawal of the pen the spring quickly returns the parts and seals the bottle. The shape of the valve is such as to quickly shed the ink as it moves up to seal the neck.

The device can be made at a very low cost. It is evident that various changes might be made in the forms, arrangements and constructions of parts described without departing from the spirit and scope of my inven-

tion. Hence I do not wish to limit myself to the exact construction herein set forth, but consider myself entitled to all such changes as fall within the spirit and scope of my invention.

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

1. The stopper comprising the retractive coil spring suitably held in the neck and having the lower vertical arm carrying the valve, the pen guide having the down turned lip bent around and clamped to said straight arm, substantially as set forth.

2. A bottle stopper composed of the hollow stopper having the annular exterior groove at its upper end and a cross groove therefrom to the inner surface of the stopper, the retractive coil spring entirely within said stopper and having its upper convolution fitted in said annular groove with the bend or offset in said groove, a valve carried by the lower end of the spring to close the lower end of the stopper, and a pen guide within the spring, substantially as described.

3. The hollow stopper having the coiled spring therein secured at its upper end, the upwardly tapered metal valve carried by its lower end to close the lower end of the stopper, and the pen guide above the stopper, the lower convolution of the spring around the small end of the guide being smaller than the upper convolutions and having the downwardly extending arm to which the pen guide and the valve are secured.

4. The herein-described bottle stopper consisting of the hollow stopper, the retractive coiled spring arranged longitudinally in the stopper and at its upper end secured in the upper part of the stopper, the valve secured to the lower end of the spring and held thereby against the lower edge of the stopper to close the same, and the pen guide within the spring normally in the upper portion of the stopper as shown and described.

5. The hollow stopper, the coiled retractive spring in said stopper secured in the upper part thereof, the valve carried by the lower end of the spring and closing against the lower edge of the stopper, the cup-shaped pen guide carried by the spring in upper part of the stopper, and the metal securing cap on the mouth of the bottle permanently secured around the edge thereof and covering the stopper and having a central opening over, and smaller in diameter than, said guide, as set forth.

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

BURT RAMSAY.

Witnesses:

O. E. DUFFY,
C. M. WERLE.