Jan. 4, 1944. A. E. ASZODY 2,338,086

NONSPILL BOTTLE FOR INK AND OTHER FLUIDS

Filed Dec. 2, 1942

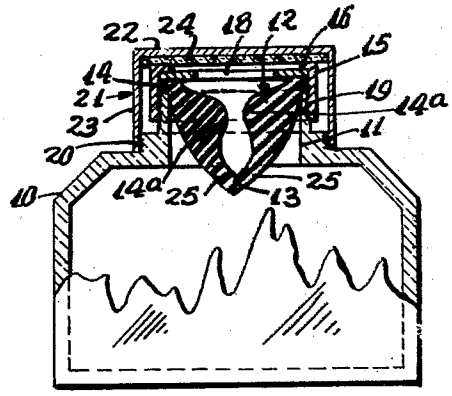


Fig - 2 -

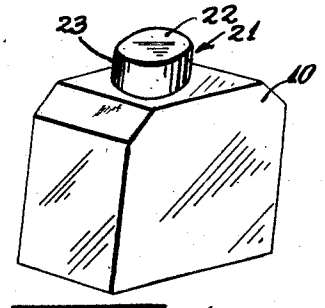


Fig - 1 -

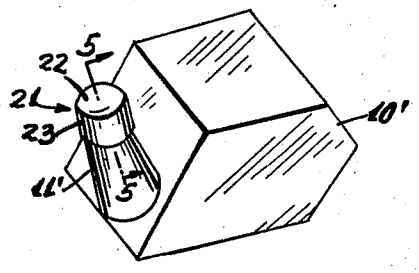


Fig - 4 -

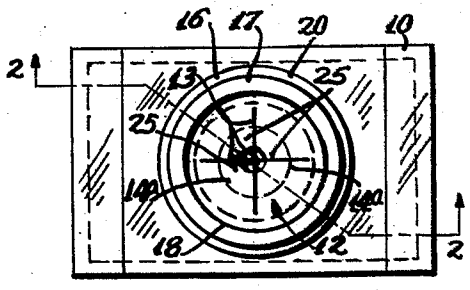


Fig - 3 -

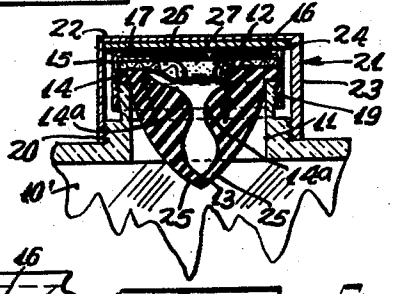


Fig - 5 -

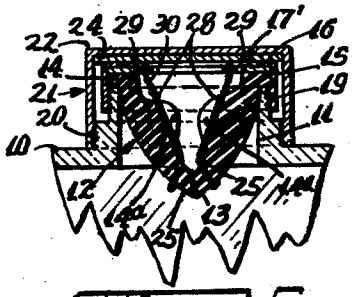


Fig - 6 -

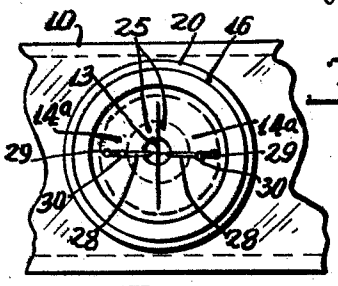


Fig - 7 -

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Patented Jan. 4, 1944

2,338,086

UNITED STATES PATENT OFFICE

2,338,086

NONSPILL BOTTLE FOR INK AND OTHER FLUIDS

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Application December 2, 1942, Serial No. 467,577

3 Claims. (Cl. 120—68)

This invention relates to new and useful improvements in a non-spill bottle for ink and other fluids.

More particularly, the invention contemplates the construction of a non-spill bottle which is characterized by a bottle having a neck opening which is provided with a hollow semi-spherical resilient material stopper mounted across and extending into the neck opening and having a slit in its bottom portion which normally closes to prevent the contents of the bottle from coming out and which may be pried open with a pen or other instrument which may then be engaged into the bottle.

Still further the invention contemplates a novel construction and arrangement for releasably holding said stopper in position on the neck of the bottle.

The invention further contemplates the provision of an absorbent disc located on top of the stopper in a position so as to wipe all the ink or other substance around a pen or other implement dipped into the bottle.

Still further the invention contemplates a novel arrangement by which the material to the sides of said slit may be resiliently forced together to insure a tight closure of the slit when the bottle is not being used.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawing forming a material part of this disclosure:

Fig. 1 is a perspective view of a fluid bottle provided with a non-spill means constructed in accordance with this invention.

Fig. 2 is an enlarged side elevational view of Fig. 1 with a portion thereof broken away along the line 2—2 of Fig. 3 to disclose interior parts.

Fig. 3 is a plan view of said bottle but illustrated with the cap of the bottle removed.

Fig. 4 is a perspective view of another type of bottle provided with a modified form of this invention.

Fig. 5 is a fragmentary vertical sectional view taken on the line 5—5 of Fig. 4.

Fig. 6 is a fragmentary sectional view similar to a portion of Fig. 2 but illustrating a modified construction.

Fig. 7 is a fragmentary plan view of the bottle shown in Fig. 6 but illustrated with the outer cap removed.

The non-spill bottle for ink and other fluids, in accordance with the form of the invention illustrated in Figs. 1 to 3, includes a bottle 10 of any design and construction having a neck opening 11. A hollow substantially semi-spherical resilient stopper 12 is mounted across and extends into said neck opening 11. This stopper 12 has crossed slits 13 in its bottom portion which normally close to prevent the contents of the bottle from coming out. Above the slits 13, the material of the stopper 12 is thickened inwards indicated by reference numeral 14a for the sides of a pen to engage against to pry open the slits 13. This thickened area also grips the pen preventing ink from spilling should the bottle tip over with the pen in it. The slits 13 will be automatically opened by a pen or other instrument which is being engaged into the bottle, by pressing the pen against said protruding wall members 14a which are formed on the inner surface of the stopper 12, above the slits 13.

The stopper 12 has a top flange portion 14 which is rested upon the top edge of the neck opening 11. A threaded shell 15 threadedly engages on the top portion of the neck opening 11 and serves to hold the stopper 12 in position. This shell 15 has a top flange 16 which engages about the edge of a disc 17 extended across the top and stopper 12. The disc 17 has a central opening 18 through which a pen or other implement may be passed. The neck opening 11 has a reduced top threaded portion 19 upon which the shell 15 threadedly engages. The neck 11 is also provided with a bottom enlarged threaded portion 20 which is engaged by a cap 21. This cap 21 has a top wall 22 and a skirt wall 23. A cork disc 24 is engaged in the cap 21 and extends across the top wall 22 and further extends across the top of the shell 15 for normally holding the bottle closed.

The material 25 of the stopper 12 to the sides of the slits 13 urge said slits 13 closed. Normally, the slits 13 are cemented closed with some fragile cement which may be easily opened when the bottle of ink or other fluid is ready to be used. The article is sold in the condition illustrated in Fig. 2, except for the fact that it is filled with ink or other fluid.

The operation of the device is as follows:

The cap 21 may be unscrewed and removed together with the cork disc 24. Then with a pen knife or other implement the slits 13 are forced open. They will immediately close when released due to the inherent resiliency of the stopper 12. A pen or other implement may be forced past

the portions 14a and through the slits 13 and dipped into the ink or other fluid contained in the bottle 10. When the pen or other implement is withdrawn the slits automatically close.

In Figs. 4 and 5 a modified form of the invention is disclosed which distinguishes from the prior form, in the fact that the non-spill device has been applied to a bottle 10' of a different design and construction. This bottle 10' has a neck 11' extended from one side. The neck 11' is provided with the stopper 12 and the associated parts as previously described, these parts being identified by the same reference numerals. An absorbent disc 26 of felt material, sponge, or similar materials, is mounted across the flange 14 of the stopper 12 and is held in position by the disc 17. This absorbent disc 26 has a central opening 27 of a relatively small size with the material thereof thickened around said opening 27 so that when a pen or other implement is inserted through the slits 13 into the bottle and is withdrawn, the ink or other fluid will be wiped by the thickened portions of the absorbent disc 26 from the sides of the pen. In other respects this form of the invention is similar to the previous form.

In this device the pen may be inserted through the slits 13 of the stopper 12 and the pen will be held in position by the thickened portions 14a of the stopper and will not permit the ink or other fluids to spill out of the container if tipped, because the rubber material of the stopper 15 is in contacting relation with the pen.

These stoppers may also be sold individually without the ink holder or interchanged from an empty bottle to a new full bottle, and is especially adaptable for the filling of fountain pens.

In Figs. 6 and 7 another modified form of the invention is disclosed which is very similar to the first form, distinguishing in the fact that elastic strands 28 are connected with the stopper 12 at points on opposite sides of the slit 13. These elastic strands 28 extend upwards and are releasably attached to the disc 17' which is held in position by the shell 15. More specifically, the disc 17' is formed with bayonet openings 29, and the elastic strands 28 are formed with spaced enlarged portions 30 adapted to selectively engage with the bayonet openings 29 to hold the elastic strands 28 in different stretched positions. With this construction the elastic strands 28 assist the resilient material of the stopper 12 in holding the slits 13 closed. However, if it is found that the slit 13 leaks ink or other fluid, it is merely necessary to slip the top ends of the strands 28 into the outer enlarged portions of the bayonet slots 29, and then to stretch the strands 28 and to reengage them so that lower down enlarged portions 30 engage the small portions of the bayonet slots 29. The strands 28 will now be under greater tension and exert greater upwards pressures which have horizontal components tending to force the material to the sides of the slit 13 together.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

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

1. A non-spill bottle for ink and other fluids, comprising a bottle having a neck opening, a hollow semi-spherical resilient material stopper mounted across and extending into said neck opening,. and said stopper having a slit in its bottom portion which normally closes to prevent the contents of said bottle from coming out and which may be pried open with a pen or other instrument which may then be engaged into said bottle, and adjustable means for supplementing the resiliency of said stopper in closing said slit, said adjustable means including elastic strands connected with the stopper at points on opposite sides of said slit and extended upwards and adjustably held.

2. A non-spill bottle for ink and other fluids having a neck opening, a hollow substantially semi-spherical stopper formed of resilient material and having its diameter at the top and extended across said neck opening and its depth greater than the length of a nib of a pen and projected into said neck opening, said stopper having an elongated slit in its bottom portion which normally closes to prevent the contents of the bottle from spilling, and opposed thickened portions formed on the inside face of said stopper above said slit a distance greater than the length of said nib and spaced from each other a distance less than the diameter of said nib holder, so that when a nib and holder is projected into said stopper the bottom end of said holder will contact said thickened portions spreading the side walls of said stopper to open said slit in advance of the bottom end of said nib.

3. A non-spill bottle for ink and other fluids having a neck opening, a hollow substantially semi-spherical stopper formed of resilient material and having its diameter at the top and extended across said neck opening and its depth greater than the length of a nib of a pen and projected into said neck opening, said stopper having an elongated slit in its bottom portion which normally closes to prevent the contents of the bottle from spilling, and opposed thickened portions formed on the inside face of said stopper above said slit a distance greater than the length of said nib and spaced from each other a distance less than the diameter of said nib holder, so that when a nib and holder is projected into said stopper the bottom end of said holder will contact said thickened portions spreading the side walls of said stopper to open said slit in advance of the bottom end of said nib, said thickened portions being formed diametrically opposite each other at the sides of the length of said slit.

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