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COMPLETE SPECIFICATION

Closures for Ink Bottles

I, RYOSUKE NAMIKI, of 717, Takinogawa-Machi, Takinogawa-Ku, Tokyo-Shi, Empire of Japan, a Japanese Subject, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to closures for ink bottles and has for its object to provide a closure adapted to be turned upside down with the nib-end of a fountain pen extending through the passage in the closure into the ink bottle without a leakage of ink.

According to the present invention the closure comprises a cap adapted to be applied to the mouth of an ink bottle, a mouthpiece connected to or formed integral with the cap and designed to receive the nib carrying end of a fountain pen in an ink-tight manner, and a valve within said mouthpiece which normally maintains said mouthpiece closed to prevent the exit of ink from the bottle and which valve is yieldable so as not to obstruct the passage of said nib carrying portion into said mouthpiece but to permit the passage of ink from the bottle to the pen when said nib carrying portion is so inserted and the bottle is subsequently inverted.

In the accompanying drawing:—

Fig. 1 is a vertical sectional view of a closure embodying the invention, applied to the mouth of a bottle.

Fig. 2 is a perspective view of the closure, partly in section.

Fig. 3 is an enlarged perspective view of a valve in its open condition, with its holder, partly in section.

Fig. 4 is a similar view to Fig. 1, but showing the parts in the positions for filling ink into a fountain pen, the plug being removed.

Referring now to the drawing, 1 represents a cap, which is threaded internally at 1¹ to engage the threaded neck 2¹ of an ink bottle 2. A tubular mouthpiece 3 is screwed into a threaded central opening in the top of the cap and for which purpose it is provided with a screw threaded portion 3¹. If desired,

[Price 1/-]

the mouthpiece may be formed integral with the cap. The mouthpiece 3 may be somewhat flared at the outer end, and is provided on the bottom end with a valve 4 held in position by means of a valve holder 5 engaged to the inner threaded end. The valve 4 is made of a disc of elastic material, such as rubber sheet, and is slit radially from the centre, for example by two slits at right angles as indicated at 6, to form a plurality of segmental flaps 4¹. A packing washer 7 is provided to tightly engage with the outer surface of the mouthpiece 3 and to seal the joint between the neck of the ink bottle and the cap 1. A plug 8 is provided which is screw-threaded at 8¹ and is screwed into the internally threaded portion 3¹¹ of the mouthpiece so that its inner end 8¹¹ seats on an internal annular flange 3¹¹¹ formed at the inner end of the mouthpiece 3.

The thread 3¹¹ is such as to enable the nib carrying portion of the fountain pen to be screwed into the mouthpiece 3 after the plug 8 has been removed.

When the pen is screwed into the mouthpiece 3, it forces the valve 4 open and, when the whole is turned upside down, as shown in Fig. 4, no leakage of ink takes place, and if the pen is constructed in accordance with the invention forming the subject of my pending application No. 5412/38 (Serial No. 488,541) ink will readily pass into the ink-reservoir of the fountain pen, at first by the combined action of surface tension and gravity, and then as a result of gravity only, the fountain pen being of a special construction which causes it to fill in this manner.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. A closure for ink bottles comprising a cap adapted to be applied to the mouth of an ink bottle, a mouthpiece connected to or formed integral with the cap and designed to receive the nib carrying end of a fountain pen in an ink-tight manner and a valve within said mouthpiece which normally maintains said mouthpiece

closed to prevent the exit of ink from the bottle and which valve is yieldable so as not to obstruct the passage of said nib carrying portion into said mouthpiece but
5 to permit the passage of ink from the bottle to the pen when said nib carrying portion is so inserted and the bottle is subsequently inverted.
2. Closure for ink bottles, substantially
10 as described with reference to, and as

illustrated in the accompanying drawings.

Dated this 26th day of August, 1937.
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57—60, Holborn Viaduct, London, E.C.1,
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Fig. 1.

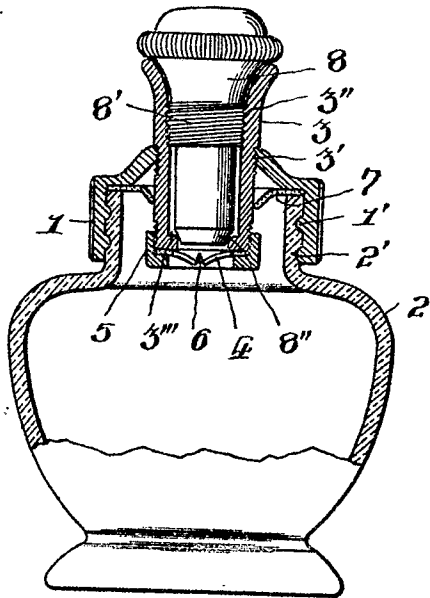


Fig. 3.

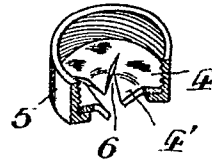


Fig. 4.

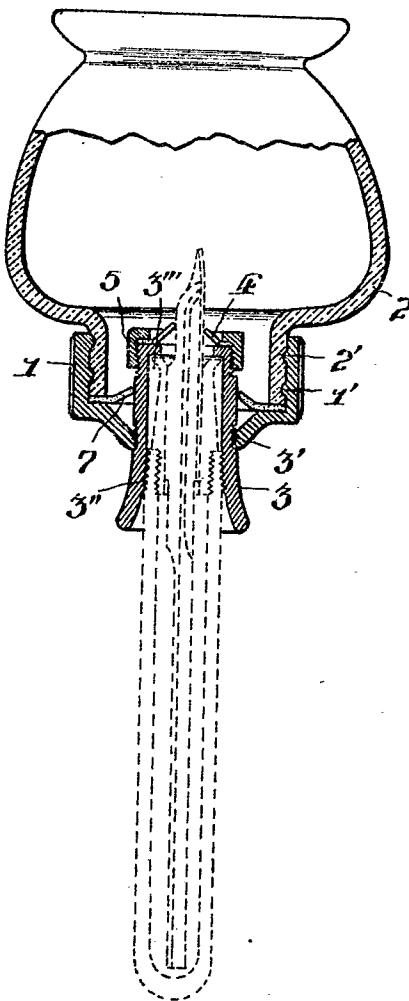
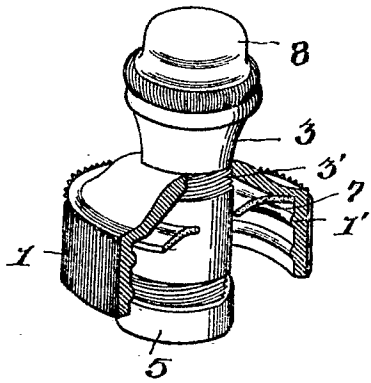


Fig. 2.



[This Drawing is a reproduction of the Original on a reduced scale.]