

(No Model.)

J. DESMOND.
INK BOTTLE.

No. 533,842.

Patented Feb. 5, 1895.

Fig. 1.

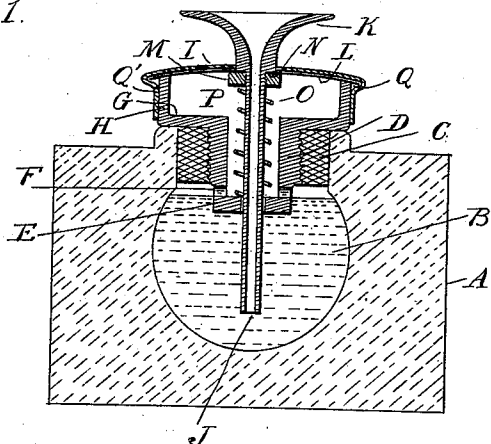


Fig. 3.

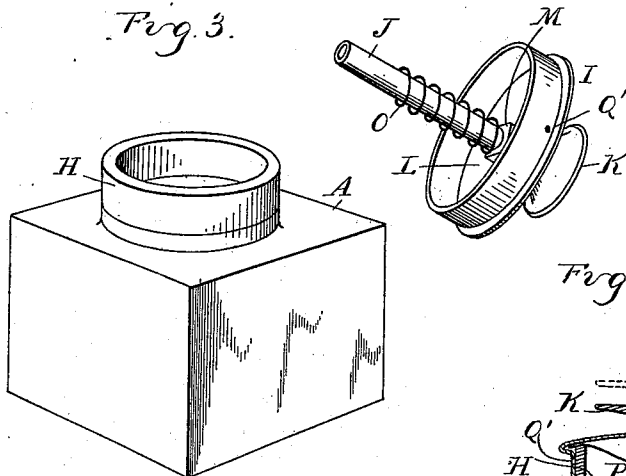


Fig. 2.

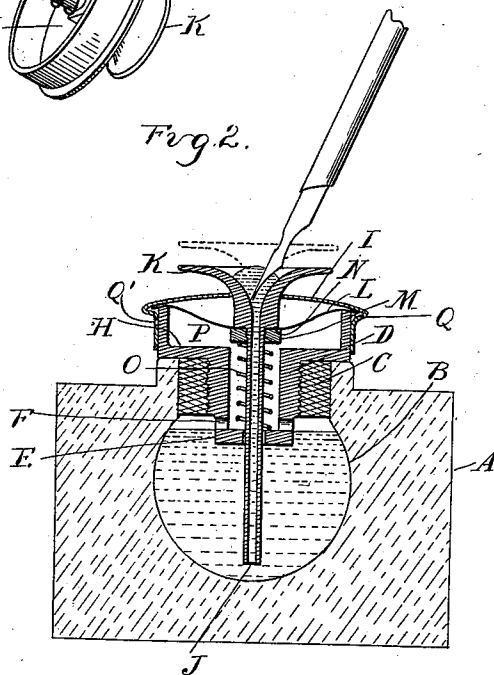
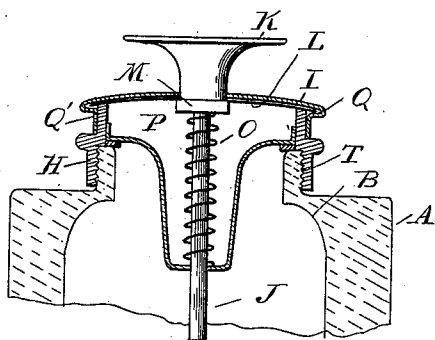


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN DESMOND, OF DETROIT, MICHIGAN, ASSIGNOR TO ELIAS A. PICKARD,
OF SAME PLACE.

INK-BOTTLE.

SPECIFICATION forming part of Letters Patent No. 533,842, dated February 5, 1895.

Application filed May 15, 1894. Serial No. 511,372. (No model.)

To all whom it may concern:

Be it known that I, JOHN DESMOND, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Ink-Bottles, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention consists in the peculiar construction of what is known as a fountain ink bottle in which the ink is normally in the well or receptacle in the bottle and is raised by a slight pressure of the pen upon the dipping tube which through the operation of the air in the bottle forces the ink upward upon the pen.

The invention further consists in the peculiar construction, arrangement and combination of the parts whereby a cheap and efficient device is constructed to effect the desired result and thereby the bottle may be readily refilled or repaired, all as more fully hereinafter described.

In the drawings, Figure 1 is a vertical, central section through an ink bottle embodying my invention. Fig. 2 is a similar section showing the dipping tube depressed. Fig. 3 is a perspective view showing the cap removed in refilling the bottle. Fig. 4 is a vertical section through a modified construction.

A is an ink stand having the well B, of known and usual construction. In such well I preferably detachably secure a stopper which carries my improvements.

C is the stopper of rubber, cork or other suitable material adapted to fit within the mouth of the well and tightly close the same. This stopper is centrally apertured to receive the tubular nipple D, which is preferably screw-threaded so that it may be secured into the aperture in the stopper. This nipple is slightly longer than the stopper and projects below the lower face thereof, and is provided at its lower end with a bottom plate E and with apertures F on the sides below the stopper. This nipple at the top is connected by the partition G with the vertical flange H which either rests on top of the well, as shown in Figs. 1 and 2, or is engaged therewith by a screw thread as shown in Fig. 4 and hereinafter described. Over this vertical flange H

is adapted to be secured a cap I, preferably of sheet metal.

J is a tube guided in the aperture in the bottom plate E at the lower end of the nipple D and passing through a central aperture in the cap I. At its upper end it is provided with a funnel shaped top K.

L is a flexible diaphragm preferably clamped between the cup shaped top G and the top I at its edges and clamped centrally by means of the nut M, which engages the screw threaded bearing on the tube J holding the diaphragm tight between the shoulder N and that nut.

O is a spring resting on the bottom plate E at its lower end and at its upper end against the nut M supporting the tube J in its upper position, so that the diaphragm is held against the top of the cap I.

The parts being thus constructed their operation is as follows: The operator places his pen in the top K of the tube and presses down slightly, as shown in Fig. 2, which will lower the tube into the well by compressing the spring O, at the same time depressing the diaphragm which will compress the air in the compression chamber P, forcing the ink up the tube and around the pen, as shown in Fig. 2. As soon as the pressure is released the ink will return to its normal level.

In tipping the inkstand over no ink will flow out unless the dipping tube is pressed, and to refill the bottle all that is necessary is to remove the cap I which will carry with it the diaphragm and spring and the tube, as shown in Fig. 3.

In order that the diaphragm will be carried by the cap I preferably form an annular groove Q around the top of the cap in which the edges of the diaphragm engage.

In putting on the cap the air will escape from the compression chamber P through the vent aperture Q' formed in the securing flange of the cap just below the diaphragm, as shown in Fig. 1.

Where the bottle is made specially for my improvement the flange around the well may be screw-threaded, as shown at T, Fig. 4, and the flange H be correspondingly screw-threaded to engage therewith. In this construction the apertured cork C is omitted, as the cap

forms the closure or cork, the remaining parts being substantially the same. In this construction the flexible diaphragm is never in contact with the ink. The tube extends to
5 the bottom of the bottle, so that all the ink may be used.

What I claim as my invention is—

1. The combination of the ink well, an apertured stopper therefor, a cap therefor having
10 a compression chamber a diaphragm in the cap over the compression chamber, and a spring supported dipping tube secured to the diaphragm and passing through the stopper into the well substantially as described.

15 2. The combination with an ink well having

an apertured stopper, a centrally apertured nipple secured in the stopper, an extension on the nipple below the stopper having lateral apertures therein, a cap on the nipple, a compression chamber between the cap and nipple, 20 a diaphragm in the compression chamber, and a dipping tube secured to the diaphragm passing through the nipple into the well, substantially as described.

In testimony whereof I affix my signature 25 in presence of two witnesses.

JOHN DESMOND.

Witnesses:

JAMES WHITEMORE,
O. F. BARTHEL.