(No Model.)

J. HEBERLING.

FOUNTAIN INKSTAND.

No. 425,673. Patented Apr. 15, 1890.

Fig. 1.

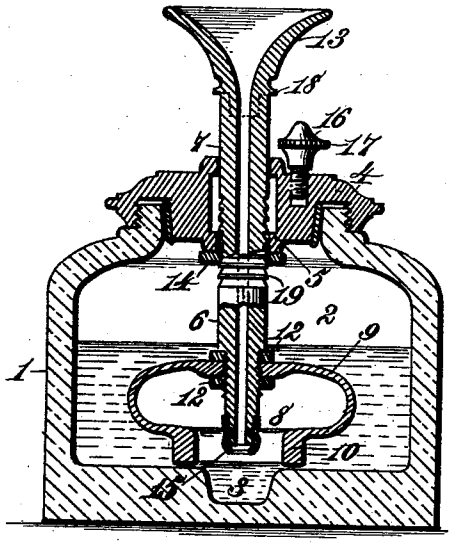


Fig. 2.

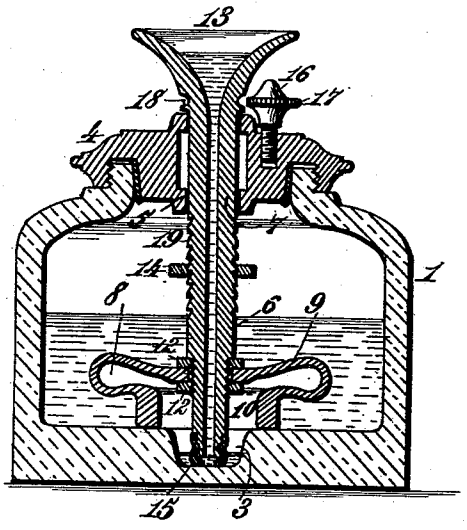


Fig. 3.

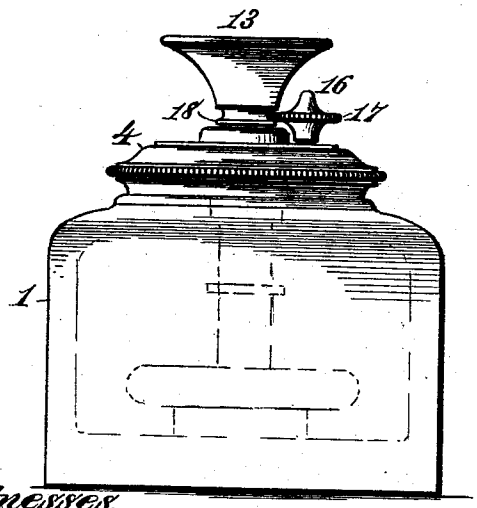
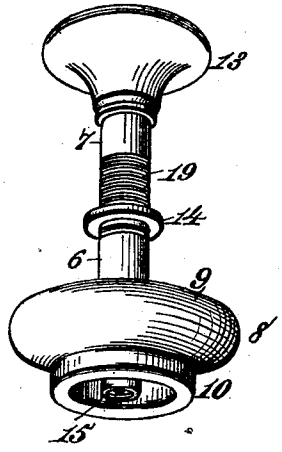


Fig. 4.



Witnesses.
Robert Emett.
Dennis Sumby.

Inventor:
John Heberling.
By James L. Norris.
Atty

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN HEBERLING, OF ROCHESTER, NEW YORK, ASSIGNOR OF ONE-HALF TO MYRON W. SPRAGUE, OF SAME PLACE.

FOUNTAIN-INKSTAND.

SPECIFICATION forming part of Letters Patent No. 425,673, dated April 15, 1890.

Application filed December 13, 1889. Serial No. 333,641. (No model.)

To all whom it may concern:

Be it known that I, JOHN HEBERLING, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented new and useful Improvements in Fountain-Inkstands, of which the following is a specification.

My invention relates to that type of inkstands in which a fountain-cup is filled and emptied by the flow of ink to and from a reservoir or chamber communicating with said cup.

It is the purpose of my invention to provide an inkstand of this type in which the flow and return to and from the fountain-cup shall be effected by a compressible and expansible elastic cup mounted upon the lower portion of the tubular stem, which also carries the fountain-cup, the said elastic cup seating upon its open neck or mouth upon the bottom of an ink-reservoir, with which, however, it has no positive connection, whereby the expansion of the air by change of temperature within the inkstand proper shall not have the effect of flooding the fountain-cup, while the elastic cup by which the fountain is supplied shall be shielded from such accidental expansion, the air-compression by which said cup is filled being wholly confined to said elastic cup and being wholly removed from the main ink chamber or reservoir.

It is my purpose also to provide a fountain-inkstand wherein the supply to the fountain-cup shall be effected by a contracting and expanding cup, the elastic portion of which is penetrated by the tubular stem which communicates with and carries the fountain-cup, the construction being such that the elastic cup or vessel shall lie in and be supplied from the ink-reservoir of the stand, from which the ink flows to the interior of the elastic cup at or after each rise of the fountain-cup. In other words, I combine with any ordinary ink reservoir or chamber an elastic collapsible cup or auxiliary reservoir, consisting of an inverted vessel partly filled with air and having its closed collapsing upper portion penetrated by the tubular stem of the fountain-cup, which drops within said collapsible chamber to a point where its open end is submerged, said chamber or cup at each full expansion thereof acting as a float and lifting the open mouth off the bottom of the ink-reservoir to permit the ink to flow freely to the interior of the collapsible or air-compressing chamber to supply the consumption taking place in the fountain-cup.

It is also my purpose to provide an inkstand of this type in which the ink shall be caused to flow to and from the fountain-cup at each dip of the pin, means being provided, however, whereby a permanently-remaining supply may be given in the fountain-cup for any required period and removed at intervals, as may be necessary.

The invention consists in the several novel features of construction and new combinations of parts hereinafter fully set forth, and then definitely pointed out in the claims following this specification.

To enable others skilled in the art to practice my said invention, I will describe the same in detail, reference being had to the accompanying drawings, in which—

Figure 1 is a central vertical section of an inkstand, showing my invention. Fig. 2 is a similar section showing the same parts in a different position. Fig. 3 is an elevation showing the device locking the fountain-cup in that position in which it affords a permanent supply of ink. Fig. 4 is a detail perspective of the collapsible cup, the tubular stem, and the fountain-cup mounted thereon.

In the said drawings, the reference-numeral 1 denotes the body of the inkstand, which may be of any preferred form, size, and ornamentation and constructed from any material suitable for the purpose which will not readily corrode by the acids of the ink. This body incloses a reservoir 2 of any shape and size preferred, a central depression or chamber 3 of small diameter and shallow depth being formed in the bottom, although this is not absolutely essential.

The reservoir 2 is closed at the top by a cap or cover 4, which is formed of any suitable material—such as hard rubber—and connected to the body by any known or preferred form of joint which will prevent the escape of the ink should the inkstand be capsized. In the cap or cover 4 is formed a central socket-bearing 5 of ordinary construction, within which

is arranged a tubular stem 6, having a neck 7, which closely fits the upper part of the socket. This stem is prolonged to extend nearly to the plane of the bottom of the reservoir 2, and upon the lower part thereof is mounted a vessel or cup 8, having an expanded collapsible closed portion 9 and a more rigid open neck or mouth 10, which, although formed wholly or in part of yielding or elastic material, is intended to yield only so far as to form a practically tight joint at the point where it seats upon the bottom of the reservoir 2 and around the central depression 3. The elastic and collapsible portion 9 is penetrated by the tubular stem 6, which centrally overhangs the recess or depression 3, the point of penetration being sealed by nuts or washers 12, turned on a threaded portion of the stem and between which the material is compressed. A fountain-cup 13 of any suitable construction is mounted on the stem and communicates therewith. On the stem is also mounted a washer 14, which lies normally against the lower surface of the socket-bearing 5 and closes the reservoir against the accidental escape of ink.

The reservoir 2 being partly filled with ink, the cover is placed thereon, thereby submerging the collapsible cup, or nearly so, and producing therein a compression of air, whereby the ink is allowed to rise in the neck 10 far enough to submerge the open end of the tubular stem 6. The vessel or cup under these conditions becomes a float and tends to rise by its own buoyancy, and if the fitting at the socket-bearing is ordinarily accurate it will rise until the neck 10 is slightly raised from the bottom of the reservoir 2, thereby permitting ink to flow from the latter into the central depression 3 and into the neck 10 of the cup. The further rise of the latter is limited by the washer 14, seating upon the socket-bearing 5. When the fountain-cup is pressed downward, the neck 10 seats upon the bottom of the reservoir 2 around the recess or depression 3 and forms a practically tight joint, which prevents the ink from entering or escaping. A further pressure now causes a partial collapse of the elastic portion 9, compressing the air therein and driving the ink up through the tubular stem 6 into the fountain-cup, filling the same, the stem at the same time sinking within the central depression 3 until an elastic or yielding collar or packing 15, mounted on and surrounding its open end, seats upon the bottom of the depression and closes the stem, thereby retaining the ink which fills the fountain-cup as long as this position and engagement of parts are preserved.

The ink may be caused to flow to the fountain-cup and recede therefrom each time the pen is dipped, or the cup may be filled and its supply retained until exhausted. To effect this result, I tap into the cover or cap 4 a set-screw 16, having a cam-collar 17, which may be milled, and which by rotating said screw may be engaged with a collar or other projection 18 on the tubular stem. Inasmuch as the cam-collar descends somewhat as the screw is turned, its more eccentric edge not only swings over but draws downward upon the collar 18, thereby forcing the yielding collar 15 against the bottom of the depression 3 and making a tight joint. I may, however, use any other device for locking the tubular stem in the manner described, such device being independent of and separate from the tubular stem and socket-bearing therefor.

The washer 14 is applied to the stem in any manner—as, for example, by being slipped over a circumferential series of corrugations 19. It will be seen that I may dispense with the central depression or recess 3 and use a reservoir having a perfectly-flat bottom; but in this case it will be preferable to increase the height of the neck 10 of the the vessel or cup 9.

It will be seen that the elastic expansion of the collapsible inverted cup after each flow of ink to the fountain-cup will not only restore the latter to normal position, but will tend to preserve the necessary quantity of ink within the neck of the elastic cup and in the depression surrounded by it.

What I claim is—

1. In a fountain-inkstand, the combination, with a suitable reservoir, of a collapsible inverted vessel or cup, a tubular stem penetrating the upper closed and collapsible portion of said vessel, and a fountain-cup carried by said stem, the latter being sustained by the collapsible cup, substantially as described.

2. In a fountain-inkstand, the combination, with a suitable ink-reservoir having a cover or cap, of a collapsible inverted vessel or cup wholly or partially submerged in said reservoir, a tubular stem penetrating the upper closed collapsible portion of said vessel and terminating above its inverted mouth, and a fountain-cup mounted on said stem and filled and emptied by the alternate collapse and expansion of the collapsible cup, substantially as described.

3. In a fountain-inkstand, the combination, with an ink-reservoir, of a tubular stem rising and falling in a suitable bearing, an inverted vessel or cup having a collapsible portion penetrated by said stem, a fountain-cup carried by and filled from the latter by the collapse of the inverted vessel or cup, and means for locking said stem in position to retain the ink within the fountain-cup, substantially as described.

4. In a fountain-inkstand, the combination, with an expansible and collapsible inverted cup having its open mouth seated upon the bottom of an ink-reservoir, of a tubular stem penetrating the closed collapsing portion thereof, a fountain-cup carried by said stem, and means for locking the latter in position to retain the ink in the fountain-cup when forced thereto by the collapse of the cup, substantially as described.

5. In a fountain-inkstand, the combination, with a fountain-cup, of a collapsing and expanding vessel by which a flow of ink is caused to and from said fountain-cup, and a locking device for holding said stem in a position to retain the ink raised to the fountain-cup for any desired period, said locking device being located adjacent to and adapted to engage with the tubular stem to lock the same in position to retain the ink in the fountain-cup, substantially as described.

6. In a fountain-inkstand, the combination, with an ink-reservoir having a central recess or depression in its bottom, of an inverted collapsible vessel having a neck surrounding its open mouth and adapted to seat upon the bottom of the reservoir around a central recess therein, a tubular stem penetrating the upper closed collapsible portion of said vessel and having its open end normally lying above the bottom of the reservoir, and a fountain-cup mounted on and communicating with said stem, substantially as described.

7. In a fountain-inkstand, the combination, with an ink-reservoir having a suitable cover or cap provided with a central socket-bearing, of an inverted elastic collapsible vessel having the neck surrounding its open mouth seating upon the bottom of the reservoir around a central depression therein, a tubular stem penetrating the closed portion of said vessel and entering the latter, said stem being supported in the socket-bearing of the cover, a fountain-cup carried by said stem, and means for locking the stem when the yielding collar on its lower end is brought by the collapse of the vessel it penetrates against the bottom of the recess surrounded by said vessel, substantially as described.

8. In a fountain-inkstand, the combination, with an ink-reservoir having a suitable cover, of a tubular stem rising and falling in a socket-bearing in said cover, an inverted vessel or cup having an expanded upper closed collapsible portion which is penetrated and entered by said stem, and a fountain-cup carried by the latter, substantially as described.

9. In a fountain-inkstand, the combination, with an ink-reservoir having a suitable cover or cap, of a tubular stem rising and falling in a socket-bearing in said cover, an inverted vessel or cup having an upper closed collapsible portion which is penetrated and entered by said stem, the lower end of the latter being provided with a yielding collar, a fountain-cup carried by said stem, and a set-screw tapped into the cover and having a cam-collar engaging a collar or other projection on the tubular stem, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

JOHN HEBERLING.

Witnesses:
VINTON COOMBS,
JAMES A. RUTHERFORD.