(No Model.)

J. F. LASH.

INK WELL.

No. 466,247. Patented Dec. 29, 1891.

Fig. 1.

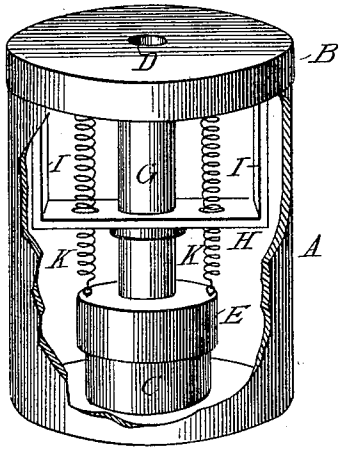


Fig. 3.

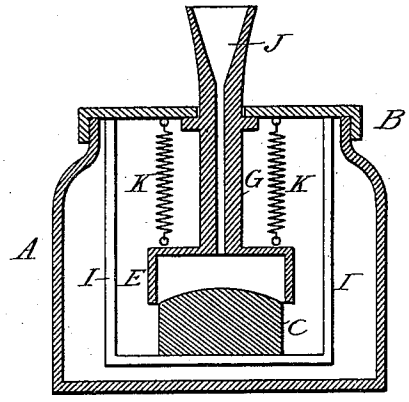


Fig. 2.

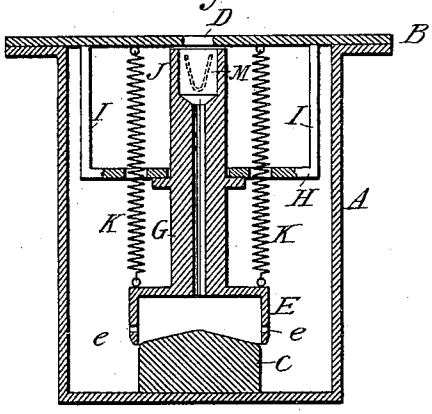


Fig. 4.

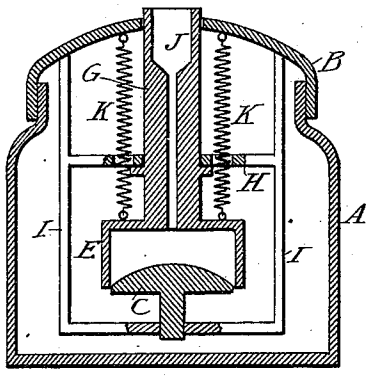


Fig. 5.

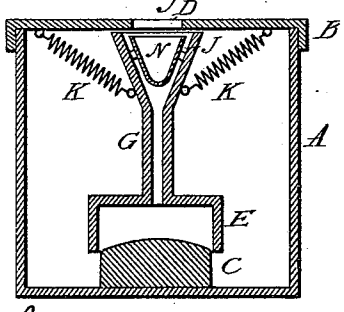
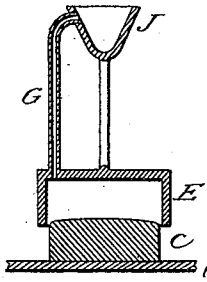


Fig. 6.



Witnesses

Raymond F. Barnes.

M. C. Kennedy.

Inventor

J. F. Lash

By Phil T. Dodge

Attorney

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

UNITED STATES PATENT OFFICE.

JOHN F. LASH, OF TORONTO, CANADA, ASSIGNOR TO ZEBULUN AITON LASH, OF SAME PLACE.

INK-WELL.

SPECIFICATION forming part of Letters Patent No. 466,247, dated December 29, 1891.

Application filed December 22, 1890. Serial No. 375,539. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. LASH, a subject of the Queen of Great Britain, residing at Toronto, county of York, Province of Ontario, Canada, have invented certain new and useful Improvements in Inkstands, of which the following is a specification, reference being had to the accompanying drawings, forming part hereof.

My invention relates to that class of ink stands or wells in which the pen is dipped into a small ink-receiving cup adapted to sink under moderate pressure and by this sinking action cause the cylinder and piston to feed the ink upward from the main reservoir or chamber below. As heretofore constructed inkstands of this type have been open to various objections, such as their tendency to repeatedly deliver the sediment and impurities from the base into the ink-cup at the top and their inability to deliver the ink at a uniform depth in the dip-cup as the quantity in the reservoir is varied. It is to overcome these difficulties and others that my invention is designed.

In the accompanying drawings, Figure 1 represents in perspective an inkstand having most of my improvements embodied therein; Fig. 2, a vertical central cross-section of the same; Figs. 3, 4, 5, and 6, sectional views of the stand in alternative or slightly-modified forms.

Referring to the accompanying drawings, A represents the body of the ink stand or reservoir, made of cup-like form and provided with a lid or cover B, having a central opening through which to introduce the pen.

C represents a plunger or piston rising centrally and rigidly within the bottom of the body.

E is an inverted cup or cylinder adapted to slide upward and downward over the upper end of the plunger and provided at the middle with an uprising tube G, which terminates at the upper end in a small cup or chamber J, commonly known as the "dip-cup," into which the pen may be inserted through the top opening D. The tube is guided in its vertical movement by a guide-bar H, through which it passes, and which is in turn attached to arms I, depending from the lid or cover. The cup or cylinder E is suspended from the lid by feeble springs K, which serve to hold it normally in an elevated position, but permit it to sink when the pen is thrust downward with moderate pressure into the dip-cup. The lower end of the cylinder E and the upper end of the plunger C are so shaped and fitted that when the cylinder is elevated the ink, in which these parts are constantly immersed, is permitted to flow between them into and out of the cylinder. When the cylinder is elevated, it becomes filled with ink, and after it is forced downward slightly it fits around the piston with sufficient closeness to compel the ink to flow upward through the tube G and fill the cup J, so as to wet the nibs of the inserted pens. When the pressure is relieved, the cylinder again rises, and all sedimentary matters find their way outward past the lower edge of the cylinder into the bottom of the body or reservoir below the top of the plunger C. The impurities being thus precipitated below the inlet to the cylinder, they remain at the base and the pen is supplied with pure ink taken from an upper point. The upper end of the plunger C is rounded or beveled, as shown, or otherwise formed to facilitate the discharge of the sedimentary matters in a downward direction from the cylinder.

Instead of having the ends of the cylinder and piston shaped, as shown, to leave an ink-passage between them, the same result may be obtained by providing the piston with radial openings near its lower end, as shown at *e*. As it descends these openings will be closed by the piston.

An important feature of my invention lies in the employment of a piston working in an upward direction into the lower end of the cylinder, so that foreign matters may escape in a downward direction and away from the mouth of the tube G, instead of being retained below the mouth of the tube, so as to be repeatedly carried upward with the ink into the dip-cup, as occurs in all other inkstands of this class with which I am familiar.

As stands of this class are commonly constructed the cylinder and piston elevate a maximum quantity of ink slightly less than is required to fill the dip-cup, and as the body

of ink in the reservoir is consumed or reduced by evaporation the ink rises to a correspondingly lower level in the dip-cup, so that it is frequently insufficient to properly charge the pen. In order to overcome this difficulty I make the cylinder and piston of such size and give the cylinder such movement that they always force upward a quantity of ink more than sufficient to fill the dip-cup, the excess overflowing and returning to the reservoir. The result is that the dip-cup is always filled, and thus the point of the pen is covered always to the same distance. As stands of this class are usually made it is necessary to depress the dip-cup each time that the pen is to be charged. To overcome this necessity I propose to place within the dip-cup a secondary cup or thimble of sufficient capacity to hold three, four, or more charges of ink for a pen. This secondary cup or thimble will be fixed in place in the dip-cup in such position that the ink will overflow its upper edges and fill it. It is shown in one form in dotted lines at M in Fig. 2 and in a slightly-different form in full lines at N, Fig. 5. In each case the ink will ascend around the cup M and flow inward over its edges and will be retained therein until consumed.

Referring to Fig. 3, the construction therein shown is substantially the same as that in the preceding figures, the dip-cup and tube being attached to the top of the inverted cup or cylinder E, which is suspended by springs K and arranged to pass downward over a stationary plunger C, this plunger being rigidly sustained by arms I, depending from the lid. In this case the tube and ink-cup are extended through and above the lid, which serves as a guide therefor. The action of the parts is precisely the same as in the first form of the device, except the parts are not arranged to cause the ink to overflow the dip-cup.

In Fig. 4 the dip-cup and tube are attached, as before, to the spring-supported inverted cylinder. The plunger or piston C, acting in the lower end of the cylinder, instead of being fixed to the bottom of the body, is sustained by arms I, depending from the lid or top. The top of the plunger is rounded and the parts are adapted to deliver the sediment in a downward direction, as in the preceding examples. When the dip-cup is depressed, it sinks below the top or lid B, so that the overflowing ink may pass back into the base of the stand.

The construction shown in Fig. 5 is practically identical with that shown in Figs. 1 and 2, the upper end of the dip-cup being given an enlarged or flaring form to permit the convenient use of the secondary cup N therein.

The construction shown in Fig. 6 is essentially the same as that shown in Fig. 5 as regards the mode of operation, the only difference being that instead of utilizing the ink-tube as a means of supporting the dip-cup the cup is sustained on the cylinder by a solid standard and the ink-tube extended outside of the standard from the cylinder onto the upper edge of the cup. The supply received in the dip-cup will remain until consumed, as in Fig. 5, instead of flowing back into the base of the stand.

Having thus described my invention, what I claim is—

1. The combination of an ink-reservoir, a stationary plunger rising above the bottom of the reservoir, a spring-sustained cylinder working downward over the upper end of the plunger, a tube rising from the cylinder, and a dip-cup at the upper end of the tube, whereby the dip-cup may be filled by downward pressure thereon and the sedimentary matters caused to precipitate below the cylinder.

2. In an inkstand, the combination of the reservoir, a fixed plunger, a spring-sustained cylinder, and a tube and dip-cup carried thereby, the parts proportioned and arranged, as described, to cause the ink to fill and overflow the dip-cup when it is depressed.

3. In an inkstand, the combination, with a reservoir, of a fixed plunger rising from its bottom and rounded or beveled at its top, a cylinder movable upward and downward over said plunger and adapted on rising to leave an outlet between them, springs sustaining said cylinder, a tube rising from the cylinder and having a dip-cup at its upper end, and a secondary cup or thimble located within the dip-cup and adapted to receive and retain the ink.

4. In an inkstand, the reservoir having a lid provided with a pen-opening, in combination with the internal plunger, the cylinder fitting over said plunger, its lifting-springs, and a tube rising from the cylinder and provided with a dip-cup below the lid or cover, whereby the ink overflowing the dip-cup is permitted to flow back into the reservoir.

JOHN F. LASH.

Witnesses:
ROBERT GOWANS,
A. MACKENZIE.