(No Model.)

J. THOMSON.

INKSTAND.

No. 579,906. Patented Mar. 30, 1897.

Fig. 1.

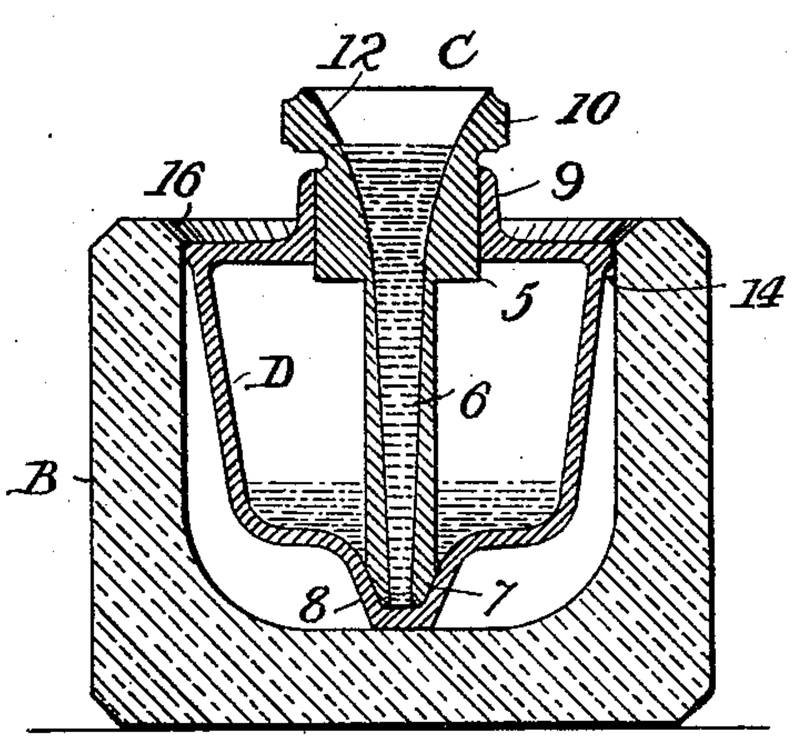


Fig. 2.

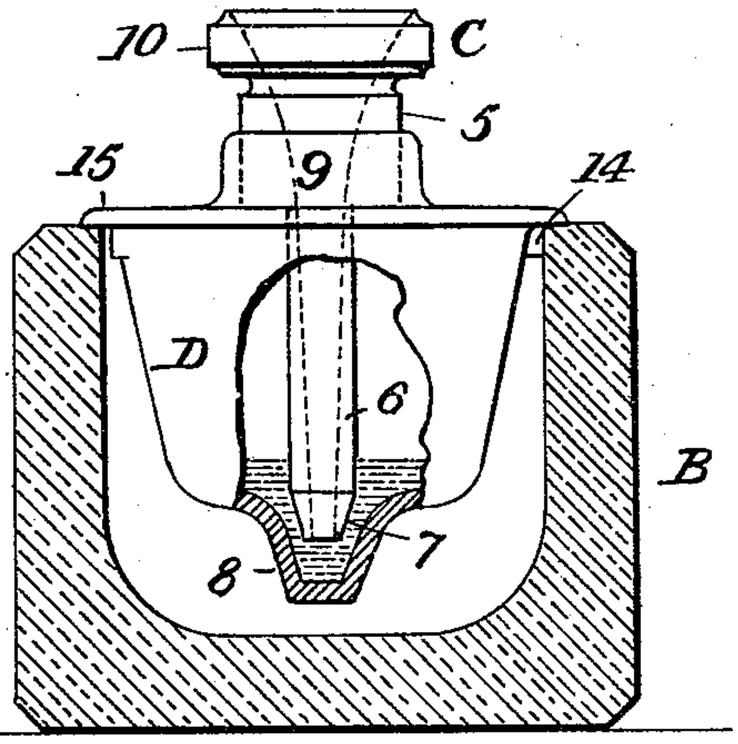


Fig. 3.

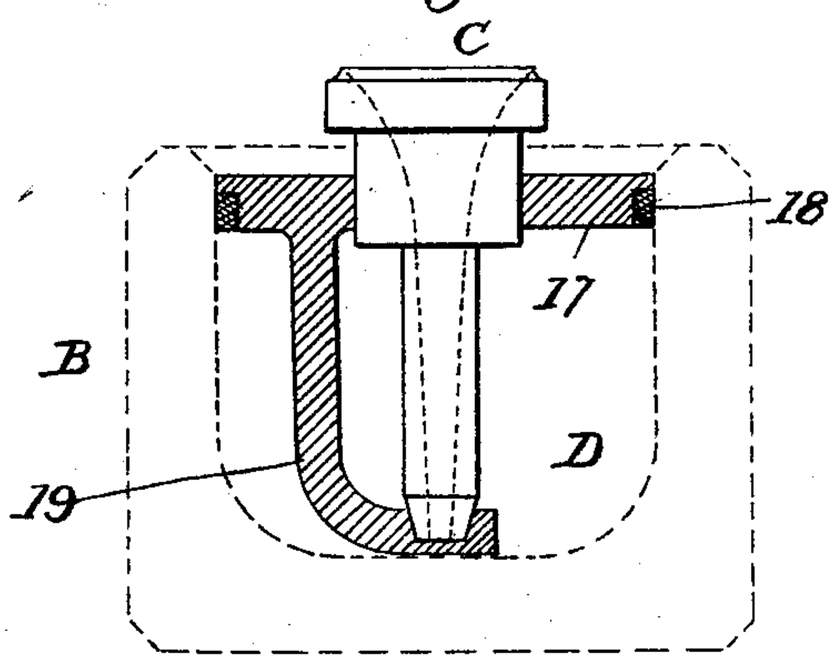
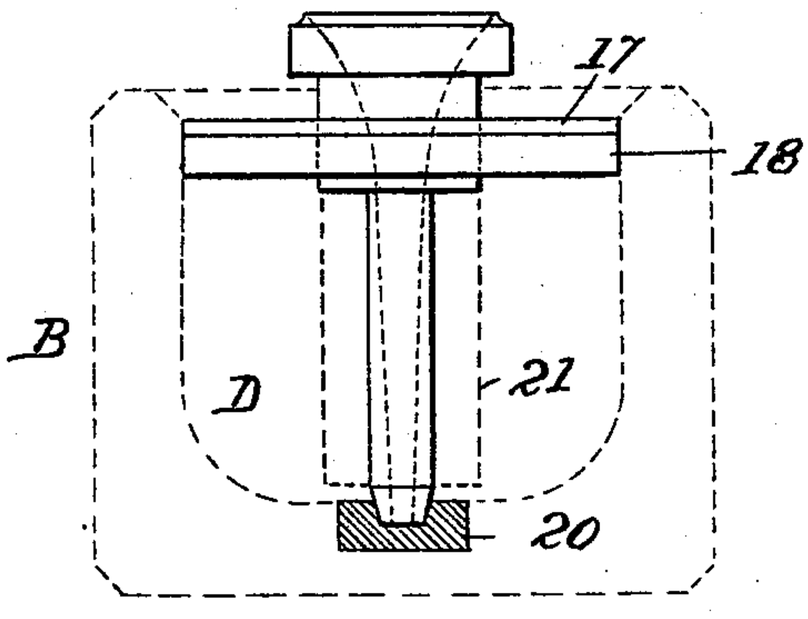


Fig. 4.



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INKSTAND.

SPECIFICATION forming part of Letters Patent No. 579,906, dated March 30, 1897.

Application filed January 15, 1897. Serial No. 619,358. (No model.)

To all whom it may concern:

Be it known that I, JOHN THOMSON, a citizen of the United States, residing at Brooklyn, Kings county, State of New York, have invented certain new and useful Improvements in Inkstands, of which the following is a specification.

This invention relates to inkstands, especially pertaining to that class of inkstands wherein there is a reservoir containing a reserve supply of ink and a dip-fountain or dip-funnel extending down into the reservoir; but the peculiarity of the present invention consists in such an arrangement and construction that a small quantity of ink from the reserve may be forced upwardly through the dip-fountain and be retained in its flaring basin for use, or the charge may be withdrawn therefrom and returned back into the reservoir at will.

As the principles of my invention may be carried into practice by various arrangements of parts I have not only shown in the accompanying drawings such a construction as I regard best adapted for the purpose, but also incidental modifications thereof to indicate the scope of its adaptability. Thus—

In said drawings, Figure 1 is a vertical central section illustrating the preferred construction and operation of the device. Fig. 2 is a part section and elevation with a portion of the reservoir broken away, and also indicating a modification in the method of attaching the separate well or reservoir to the stand. Figs. 3 and 4 are diagrams illustrating how modifications in the detail of construction may be carried out if necessary or desirable.

The inkstand is comprised in the main "stand" or casing B, (which may or may not be utilized as a well or reservoir,) the dip-fountain or dip-funnel C, and the ink-well D. The dip-fountain is provided with a piston portion 5, from which a tube 6 extends downwardly, its inner open end 7 being preferablp tapered and adapted to a conical valve-seat 8 of the well, in the upper cylindrical neck 9 of which the piston operates. The outer surface of the dip-fountain where it is grasped by the fingers, as at 10, is knurled in the usual manner. The piston is adapted to act freely in the cylindrical neck, but the inner end of the tube is fitted to make an air and ink tight joint.

In Fig. 1 the ink is shown within the reserve well or reservoir, and also up in the flaring basin 12 of the dip-fountain, ready to be dipped out by the pen. If the dip-fountain be slightly withdrawn, as to the position shown in Fig. 2, the seal at the valve-seat 8 will be broken, the result being that the working charge in the fountain will slowly flow back into the well, thereby displacing the air through the closely yet freely fitted, but not air-tight, joint between the piston and the neck. So, too, the dip-fountain itself may slowly sink until it reaches the position shown in Fig. 1, but without increasing the height of the ink within the tube. Now to again charge the dip-fountain it is simply necessary to partially withdraw it, as to the position shown in Fig. 2, and then somewhat quickly depress it, as in Fig. 1, the consequence of this being to compress the air in the well and cause the ink to flow up through the tube and replenish the fountain before the compressed air can escape past the freely-fitted piston.

I will now call attention to an important detail in the construction, without which the device would have little or no commercial advantage—namely, that the bore P in the dip-fountain is conical, its smallest diameter being at the bottom, gradually increasing in diameter until it merges into the flared basin portion of the fountain. The consequence of this is that when the dip-fountain is quickly depressed the ink rises in a solid column with a decreasing velocity of flow from the bottom of the tube up to the basin, hence not only avoids squirting a jet of ink upon the fingers of the operator, but obtains a small perforation, requiring the minimum quantity to be elevated and presenting but slight area for evaporation.

Obviously any desired depth of ink may be secured in the fountain; also, if the ink therein becomes foul it can be thrown out without loss from the well or without soiling the fingers. To fill or cleanse the well, it is simply required to entirely withdraw the dip-fountain.

A contingent advantage of the conical cavity at the bottom of the well is that practi-

cally all of the ink can be pumped up into the fountain.

The well or reservoir when formed as a part separate from the stand is preferably made of hard rubber by the "blowing" process, and as an air-tight joint is not required between it and the stand, it being only necessary to prevent it from shifting when operating the fountain, I provide the well with projections 14, which may readily be pared or filed to secure the necessary adhesion.

The well may either be suspended by its flange 15, Fig. 2, if the stand is of blown glass, or by simply reducing its diameter to obtain sharp corners at the edge it may be inserted, as Fig. 1, until its upper surface coincides with the interior beveled edge, as 16, of a cut-glass stand, the latter arrangement not only being elegant in appearance and finish, but providing a circular basin to receive the ink should any be spilled when dipping out from the fountain or filling the well.

In Fig. 3 I have shown how the same conditions may be obtained by employing the stand to perform the function of the separate reserve well or reservoir. This requires that the head 17 shall be fitted air-tight to the stand, as by the gasket 18, and that the arm 19, integral with or attached to the head, shall pass to the bottom of the reservoir and engage the end of the dip-fountain to effect a seal. Again, in Fig. 4 I show how the seal for the end of the inner end of the dip-fountain may be in a bushing 20, inserted in a cavity molded in the stand, or it might be directly in the stand itself. The dotted outline 21 denotes that the piston portion of the dip-fountain may be of uniform diameter down to, or nearly to, the bottom of the well or reservoir.

Two important advantages will now be pointed out as the result of this arrangement and construction over that heretofore accomplished, namely:

First. To permit the ink to recede from the fountain, it is not necessary to even temporarily retain hold of the fountain. Simply partially withdraw it. The subsequent action is automatic.

Second. The dip-fountain may be left filled and the stand be subjected to heat without causing the ink to overflow, in that the expanded air in the well or reservoir cannot act upon the ink in the dip-fountain, but will slowly escape past the side of the piston.

In other devices wherein the ink in the well is constantly in communication with the ink in the dip-fountain annoying overflows are caused, as by the temporary exposure of the stand to sunlight.

What I claim is—

In an inkstand, the combination with a well provided with an inclosing head, of a dip-funnel having a closely-fitted, but not air-tight, piston-bearing in the head and a valve-seat for the lower end of the funnel at the bottom of the well, the arrangement and construction being such that when the dip-funnel is depressed the air in the well is compressed causing, first, the ink in the well to flow directly from the well into the fountain and then, second, sealing the bottom of said fountain to retain the ink so elevated.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN THOMSON.

Witnesses:
JOHN MCKINNON,
CAROLINE E. DAVIDSON.