

No. 754,967.

PATENTED MAR. 22, 1904.

A. C. BURNHAM.
AUTOMATIC INKSTAND.

APPLICATION FILED APR. 27, 1903.

NO MODEL.

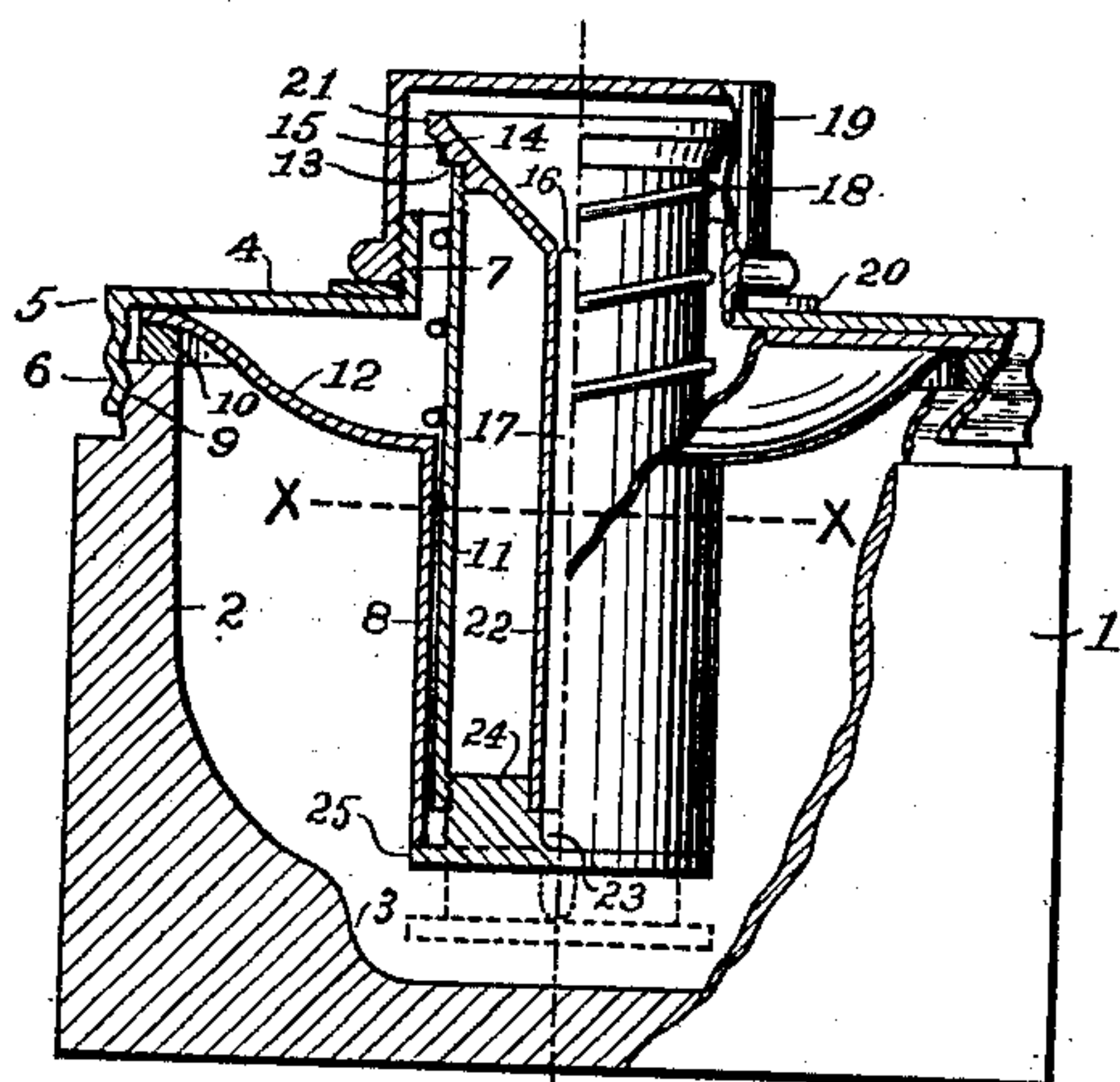


Fig. 1.

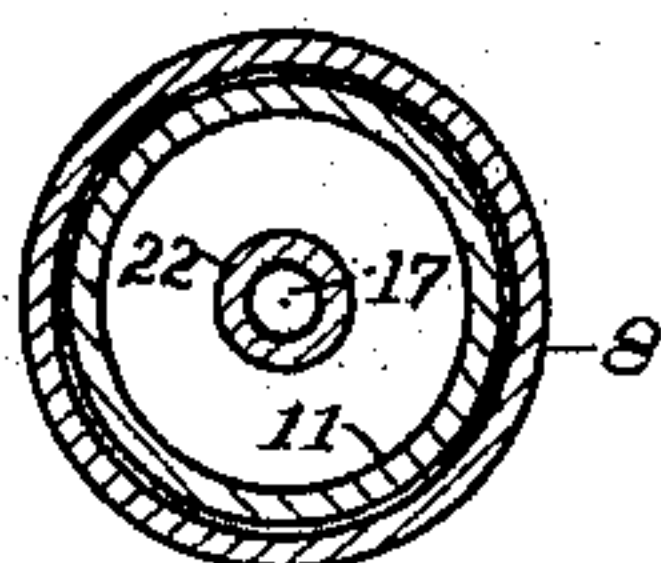


Fig. 3.

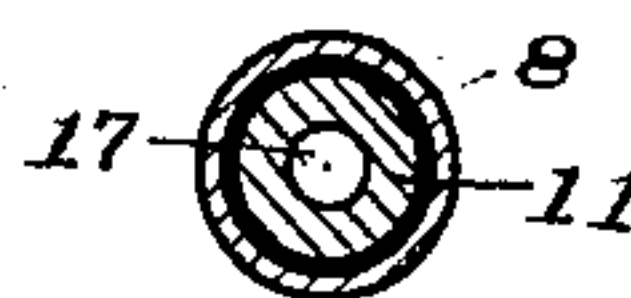


Fig. 4.

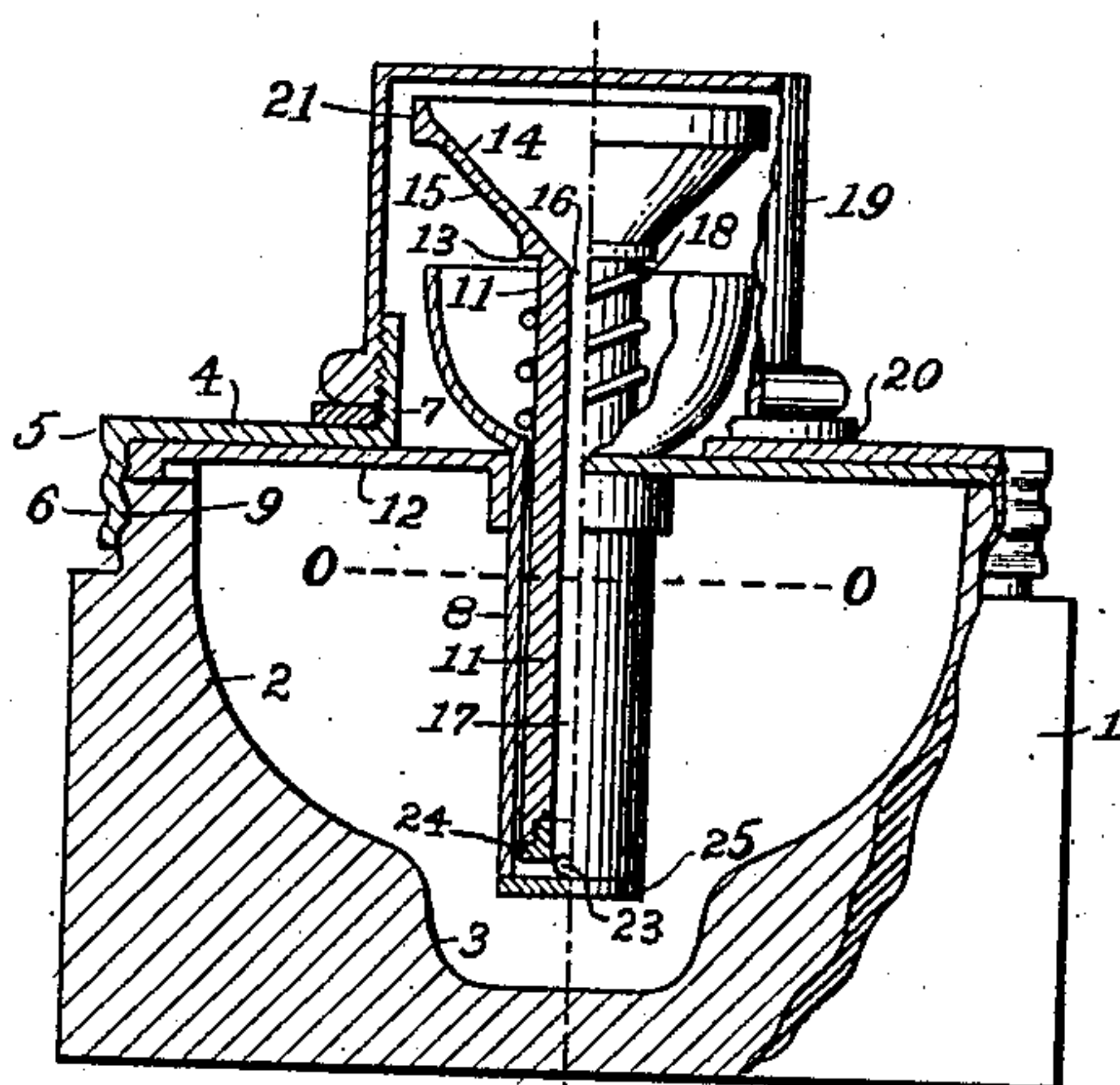


Fig. 2.

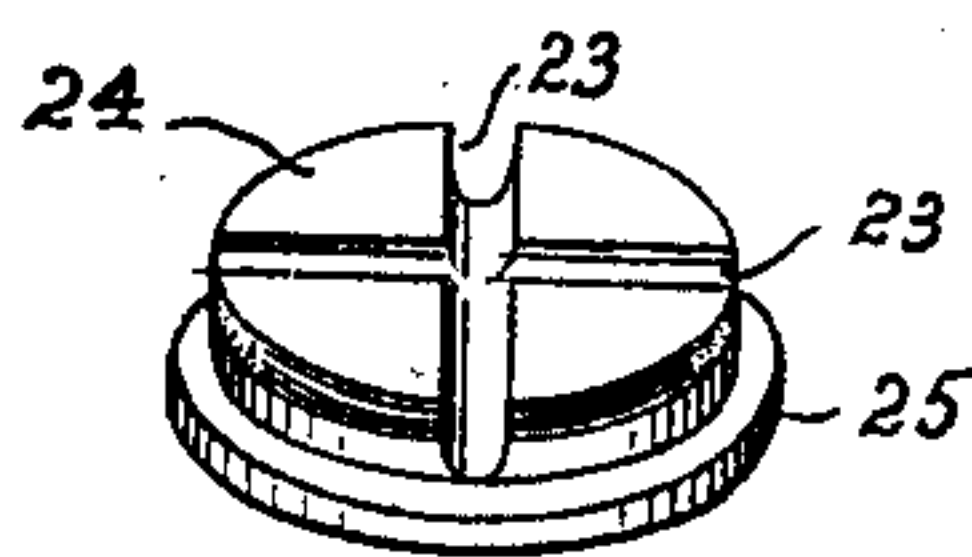


Fig. 5.

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AUTOMATIC INKSTAND.

SPECIFICATION forming part of Letters Patent No. 754,967, dated March 22, 1904.

Application filed April 27, 1903. Serial No. 154,392. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER C. BURNHAM, a citizen of the United States, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Automatic Inkstands, of which the following is a specification.

My invention relates to so-called "automatic" inkstands, the objects being to provide a simple serviceable practical device, easy of operation, readily cleaned, refilled, and adjusted, which will be inexpensive and durable and so constructed that when in a normal position it will be closed, thereby preventing evaporation of the ink.

Preliminary to a more detailed description it may be stated that my improved inkstand is adapted for general use, but is more particularly intended for those who do considerable writing, such as bookkeeping and similar occupations where it is desired to have the ink clean and of a uniform thickness or specific gravity. I realize that this desideratum is almost impossible even with an inkstand having a stopper which must be removed every time the pen is dipped. It is well known that only the aqueous ingredient of the ink evaporates, thus leaving the coloring-matter, which soon becomes thickened.

My improved inkstand is so constructed that it will be closed at all times when at rest or when the movable parts are in a normal position, the pressure of the pen actuating the movable parts so that a double action takes place simultaneously--namely, the stand is unsealed, so to speak, and the ink caused to flow upward to the pen, which on being withdrawn permits ink to leave the dip-cup, the movable parts to rise, and the stand or reservoir is again sealed.

Reference being had to the accompanying drawings, Figure 1 is a view of the inkstand embodying my improvements, shown in central section at center line. Fig. 2 is a similar view of a modification embracing the same essential features. Fig. 3 is a cross-sectional view on line XX of Fig. 1. Fig. 4 is a cross-sectional view on the line OO of Fig. 2. Fig. 5 is a perspective view of the base extension-

piece used in the bottom of the vertically-sliding member.

Similar reference-numbers refer to corresponding parts in the several views.

The body 1 of the inkstand for holding the ink may be made of glass or any other suitable material. The conformation of the interior is to provide a reservoir 2, contracted at the bottom into what may be termed a "well" 3, for the purpose more fully herein-after described.

The cap 4 is here shown with a downwardly-projecting flange 5, having threads 6, the threads 6 engaging corresponding threads 9 on the body; but any other suitable method of attaching may be employed without departing from the spirit of my invention.

10 is a gasket, of rubber or other suitable material, to provide an air-tight joint.

The sleeve 7 and tube 8 may either or both be integral with the cap 4 or made separate and assembled together, or the tube 8 may depend from a subcap or plate 12, of metal, rubber, or any other suitable material, of any desired shape and either flexible or inflexible.

The vertically-sliding member 11 is arranged within the tube 8 and may be constructed to react either by its own buoyancy or by means of a resilient spring 18, or both. Its diameter is slightly less than the diameter of the well 3, so that when depressed in operation it will enter the well without touching the sides thereof. The sliding member 11 is surmounted with a dip-cup 14, having the usual inverted truncated conoidal shape. The dip-cup body 15 extends above the sleeve 7 when in a normal position. The cup-body 15 has a central opening 16, which communicates, through the opening 17 in the tube 22 and the openings 23 in the base extension-piece, with the reservoir, allowing the ink to enter or leave the dip-cup.

The sleeve 7 is provided with a protection-cover 19, which is secured thereon in such a way as to make a tight joint in order to completely close the inkstand, that it may be carried about in traveling or when not in constant use as a further safeguard against evaporation and dust. A washer 20 may be used

to still further insure a tight joint between the cover 19 and sleeve 7.

The dip-cup body is formed with an annular ring 21 on its periphery at or near the top and with an annular shoulder 13, against which the resilient spring presses.

The tube 22 extends from the opening 16 to the base extension-piece, which is secured to the lower end of the sliding member 11 by means of the screw-threaded plug 24. This plug has radial openings 23, which communicate with the opening 17 in the tube 22. The flange 25 is of a diameter equal to that of the tube 8, against which the flange closes when the sliding member 11 is in a normal position, thereby sealing the communication between the dip-cup and reservoir.

The modification shown in Fig. 2 is substantially described, except that the sliding member 11 is a single tube, the subcap 12 is flexible, and the tube 8 is enlarged above the subcap 12.

It is obvious that aluminium, rubber, or any suitable metal or composition can be used to produce the several parts shown and described. Although the resilient spring used to reinforce the operation of the sliding part is preferably of the form and located at the point shown, it may be placed in any position desired and be of any desired shape to accomplish that object, and the position and form are not, therefore, to be considered restrictive.

Such being the construction of my improved inkstand, the operation is as follows: The inkstand being supplied with ink and ready for use, the pen is pressed at the dip-cup, the sliding member is depressed, thereby displacing the ink in the well 3 in sufficient quantity to fill the openings in the base extension-piece, the tube 22, and the dip-cup. When the pressure is released, the sliding member rises and the ink displaced returns to the well, the flange or base of the extension-piece closing up against the tube and excluding all air from the ink in the reservoir. The entire contents of the reservoir is inclosed by the automatic action of the sliding member sealing the communication between the dip-cup and reservoir, thus closing the only exit for the ink and the only ingress for air.

It is obvious that in an inkstand constructed substantially as described displacement of the liquid contents is in exact proportion to the immersed volume, and the liquid displaced resumes its former position as the body immersed withdraws.

This being my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a device of the type set forth, a reservoir having a tube on its interior, a depressible member in the tube, a dip-cup on the said member, with a passage extending through the cup and member, said passage being in commu-

nication with the reservoir only when the said member is depressed, and means secured to the depressible member adapted to close communication with the reservoir when said member is elevated by contact with said tube.

2. In a device of the type set forth, a reservoir having a tube on its interior, a depressible member in the tube carrying a dip-cup, means for establishing communication between the cup and the reservoir when said member is depressed, and means carried by the said depressible member adapted to normally close the communication with the reservoir by contact with said tube.

3. In a device of the type set forth, a reservoir having a tube on its interior, a depressible member carrying a dip-cup mounted in the tube, said member and cup having a passage therethrough, the member having openings therein to establish communication with the reservoir and passage, and a plug having radial openings therein adapted to close said communication secured to said member.

4. In a device of the character described, the combination with a reservoir, of a tube secured within the same, a depressible member mounted therein, a dip-cup provided with a tube thereon carried by said member, said member having openings in the lower end thereof adapted to communicate with the reservoir, and a plug provided with radial openings and an outwardly-extending flange carried by said member adapted to contact with the first-named tube to close communication with the reservoir, substantially as described.

5. In a device of the type set forth, a reservoir, a tube on the interior thereof, a cap for supporting said tube, a closing-cap securing said cap between itself and the upper end of the reservoir, a depressible member in the tube, said member when depressed establishing communication with the reservoir, and means carried by the member engaging with the tube for sealing the communication with the reservoir.

6. In a device of the type set forth, a reservoir, a cap mounted thereon, a tube secured thereto, a depressible member carrying a dip-cup, said member provided with openings adapted to communicate with the reservoir, means normally closing the communication carried by the said member, and a closing-cap engaging the tube-supporting cap, substantially as described.

7. In a device of the type set forth, a reservoir, a cap and a tube supported thereby, a closing-cap engaging said cap, a second closing-cap arranged on said first-named closing-cap, and a member operating in said tube with means for establishing communication between the member and the reservoir when the member is depressed.

8. A device of the type set forth, embracing a reservoir, a tube on the interior thereof, a

vertically -slidable apertured spring -pressed member in the tube, and means carried by the said member to permit communication with the reservoir when in a depressed position, and
5 to close said communication when said member is in its normal position, comprising a plug provided with radial openings and having an outwardly-extending flange thereon adapted to contact with the reservoir-tube.

10 9. A device of the type set forth embracing a reservoir, having a tube on its interior, means for supporting the tube, a closing-cap engaging said means, a second closing-cap engaging said first - named closing - cap, and a spring-
15 pressed vertically -slidable member in said tube, said member being perforated for establishing communication with the reservoir when in its depressed position.

10. A device of the type set forth, combining

with an inclosed ink-reservoir, a tube suspended therein, an apertured pen-cup, a depressible, spring-pressed sliding member carrying said cup, provided with a duct, and reciprocally mounted in said tube; the pen-cup normally not being in communication with the
20 ink-reservoir; a closure of valviform construction adapted to mechanically seal the communication between the pen-cup and ink-reservoir, all arranged for joint operation,
25 substantially as herein shown and specified. 30

Signed at New York, in the county of New York, and State of New York, this 18th day of April, A. D. 1903.

ALEXANDER C. BURNHAM.

Witnesses:

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