(No Model.)

E. DAVIS.

INKSTAND.

No. 491,640. Patented Feb. 14, 1893.

Fig. 1.

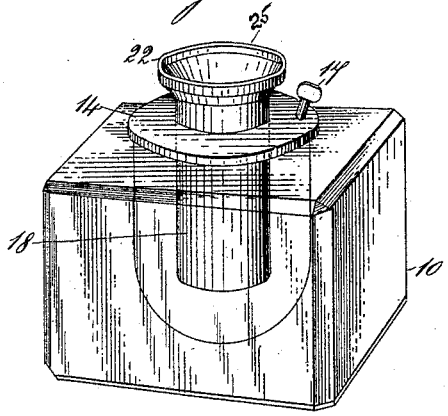


Fig. 2.

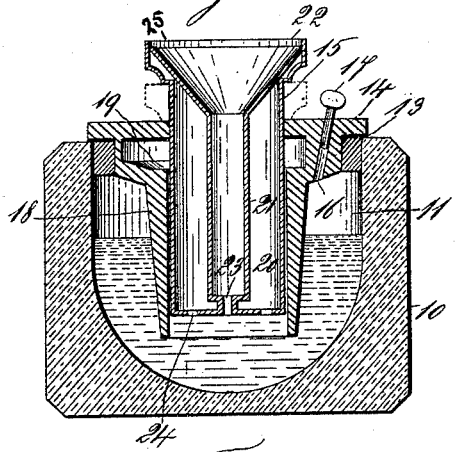


Fig. 4.

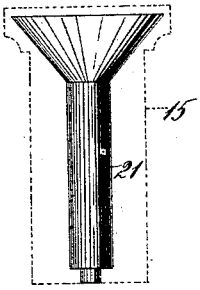
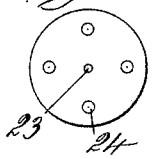


Fig. 3.



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INKSTAND.

SPECIFICATION forming part of Letters Patent No. 491,640, dated February 14, 1893.

Application filed March 30, 1892. Serial No. 427,118. (No model.)

To all whom it may concern:

Be it known that I, EMRY DAVIS, a citizen of the United States, and a resident of the city, county, and State of New York, have invented a new and useful Improvement in Inkstands, of which the following is a specification.

My invention relates to automatic inkstands, and its object is to provide a comparatively inexpensive, simple and serviceable device of this character, in which the evaporation of the ink is reduced to a minimum, the consumption of the ink permitted until the well is very nearly exhausted in which the ink is kept free from exterior dust and impurities, and spurting and overflow of the ink from the pen cup is prevented should the pen be violently passed into the pen cup.

The invention consists in the novel construction, arrangement and combination of parts which is hereinafter described and claimed, reference being had to the drawings forming a part hereof, and in which similar numerals of reference denote corresponding parts in all the views.

Figure 1 is a perspective view of an inkstand constructed in accordance with the terms of my invention; Fig. 2 is a transverse vertical section of the same; Fig. 3 is an inverted plan view of the ink tube; and Fig. 4 is an elevation of the ink tube.

The body 10, of the inkstand may be constructed of glass or any other suitable material and of any desired dimensions or preferred contour. As shown in the drawings said body is of square or rectangular shape and has its edges beveled in the ordinary manner to give the same a neat appearance. The ink well 11, is circular in contour, with a rounded or concave bottom to facilitate the displacement of the ink as hereinafter referred to, the well occupying the greater portion of the body. Within the mouth of the well is held an elastic rubber ring 13, to insure an air-tight joint between the well and the cover of the inkstand and also to exclude dust and impurities.

The cover is preferably constructed of vulcanized rubber although other suitable material may be employed, and consists of an annular flange 14, having a central circular aperture 15, for the reception of the buoyant ink tube hereinafter more particularly described, and has formed therein at one side of said aperture a diagonally ranging air vent or aperture 16, into which a plug 17, of material similar to that of the flange, fits removably; the purpose of said plug and aperture being hereinafter explained.

Integral with the under face of the cover is formed a circular sleeve 18, the lower end having a straight inner wall, while its outer wall tapers downward to the lower end of the sleeve, thereby giving the sleeve the shape of an inverted cone, the lower end of said sleeve extending nearly to the bottom of the ink well and being open to the same. Immediately below the flange 14, is formed in the upper end of the sleeve 18 an annular chamber 19, which is eccentrically located to the sleeve 18, the base wall of the chamber extending downward to meet the outer wall of the air tube to be presently described, and the inner wall of the sleeve as shown in Fig. 2. At one side of the said chamber the body of the sleeve 18 is thickened to allow of the prolongation therethrough of the aperture 16 in the flange 14, to communicate with the well 11 above the ink therein as also shown in Fig. 2.

Within the central aperture of the flange 14 and in the sleeve 18, fits loosely a circular buoyant air tube, 20, having a flared upper end and having a series of openings 24 at its lower end, four such openings being shown in Fig. 3; and integral with the air tube is formed centrally therein a circular ink tube 21, having a flaring upper end 22, which constitutes the pen cup and rests within the flared upper end of the air tube 20. The ink tube 21 being a part of and forming the inner wall of the air tube 20. The inner wall of ink tube 21 below the flanged upper end 22 is straight and one size nearly to the lower end; where it is made much smaller leaving centrally therein, a small vertical aperture, as shown at 23, Figs. 2 and 3; which operating with the air-cushion formed by the openings 24, as hereinafter described, prevents the ink from spurting when the pen cup is depressed.

It will be noticed that the outer wall of the

air tube extends vertically above the flared upper end of the ink tube thereby forming a narrow flange or rim as shown at 25 Figs. 1 and 2. The object of this flange or rim is to prevent the pen from lying flat upon the surface of the flared upper end of the ink tube when dipping thereby preventing the ink from spurting out over the edge of the pen cup or from spurting up the penholder by following the under side of the pen.

To fill the ink well 11, the plug 17 in the flange 14 of the cover is removed, and ink in desired quantity placed in the well by pouring it into the pen cup at the upper end of the air tube 20, whereupon the ink tube and air tube are depressed or raised to any desired depth or height in the sleeve and held thereat with one hand, and the plug is then with the other hand fitted tightly in the diagonal aperture in the flange of the cover. By this means the ink tube and air tube are held in equilibrium in the sleeve and ink well, it being understood that the cover has been fitted tightly to place in the mouth of the well.

To fill the pen with ink, it is dipped into the pen cup 22 and the latter pressed downward with the pen to the position shown in dotted lines in Fig. 2, such pressure forcing the air tube and ink tube into the ink in the well and displacing the same, so that ink will then rise through the central aperture in the ink tube and pass to the pen cup. On releasing the pen cup from pressure, by withdrawing the pen, the air tube and ink tube regain their equilibrium and rise to the position shown in full lines in Fig. 2, the ink at the same time receding from the pen cup and ink tube and returning to the well.

It will be obvious that as both the pen cup and the ink tube are empty except at the moment of dipping the pen, the ink being normally in the well—the evaporation of the ink is reduced to a minimum; and for the same reason and because of the tight fitting cover flange, dust and impurities are excluded from the ink supply.

As a certain amount of ink is required to float the ink and air tube, it will also be seen that when the ink is nearly exhausted the concave bottom of the ink well concentrates the last of the ink directly under the ink tube and air tube, and more readily allows the displacement of nearly all of the ink in the inkstand than if it was constructed with a flat surface.

The openings, 24, in the air tube afford the formation of an air cushion to increase the buoyancy of the air tube and make it more delicate and soft to the touch of the pen, and relieves the pressure upon the ink flowing to the pen-cup, so as to prevent spurting and overflow at the cup, the thickened apertured portion at the lower end of the ink tube contributing to that end.

The chamber beneath the cover flange is provided as a receptacle for any ink that might work up between the air tube and the sleeve 18, which, were this not provided, would run out upon the outside of the stand.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. An inkstand having a buoyant vertically-movable ink-supply tube, provided with air inlets at its lower end, and a flange or rim at the top of the pen cup at its upper end, and having the inlet for the ink at its lower end contracted, and means for holding said tube in equilibrium, for regulating the point of equilibrium of said tube and for filling the inkstand and an ink overflow chamber surrounding said tube, eccentrically thereto, substantially as shown and described for the purpose specified.

2. An inkstand having a buoyant vertically-movable ink-supply tube, provided with air inlets at its lower end, and a flange or rim at the top of the pen cup at its upper end, and having the inlet for the ink at its lower end contracted and means for holding said tube in equilibrium, for regulating the point of equilibrium of said tube, and for filling the inkstand, and an ink overflow chamber surrounding said tube, eccentrically thereto, and means for connecting the cover with the well, substantially as shown and described for the purpose specified.

3. In an inkstand the combination with a centrally apertured cover, having a diagonally-ranging aperture at one side of its center, and also having a central sleeve integral with its under face, and an eccentrically arranged ink overflow chamber in the sleeve next the cover, of a buoyant ink-supply tube movable in said sleeve and cover, provided with air inlets at its lower end, and having a flaring pen cup at its upper end, and a flange or rim at the upper end of the pen cup, the inlet for the ink at the lower end being contracted, a removable plug fitting the diagonally-ranging aperture in the cover of the ink well for holding said tube in equilibrium, for regulating the point of equilibrium of said tube and for filling the inkstand, and means for connecting the cover with the well, substantially as shown and described for the purposes specified.

4. In an inkstand, the combination with a centrally apertured cover, having a diagonally-ranging aperture at one side of its center, and also having a central sleeve integral with its under face, below the central aperture and open to the ink well, said well having a concave bottom, and an eccentrically arranged ink overflow chamber in the sleeve next the cover, and means for connecting the cover with the well; of a buoyant ink-supply tube movable in the sleeve and cover, provided with air inlets at its lower end, and having a flaring pen cup at its upper end,

and a flange or rim at the upper end of the pen cup, and an ink inlet communicating with the ink well the lower end of which is contracted, and a removable plug fitting the diagonal aperture in the cover of the ink well, substantially as shown and described for the purposes specified.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two witnesses.

EMRY DAVIS.

Witnesses:
W. L. CHAFFEE,
J. T. RILEY.