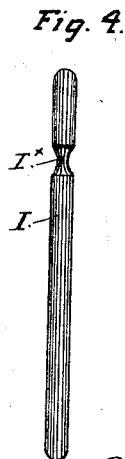
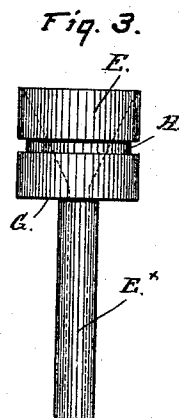
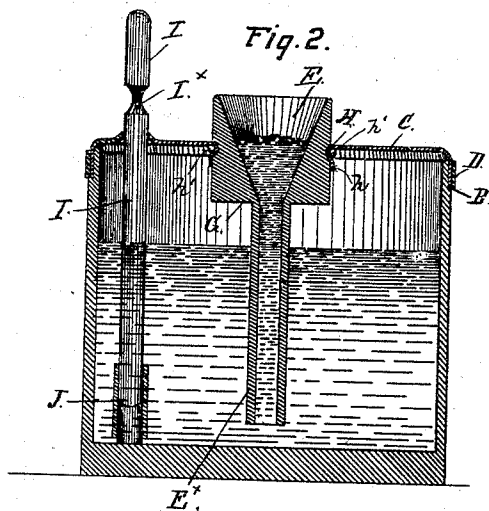
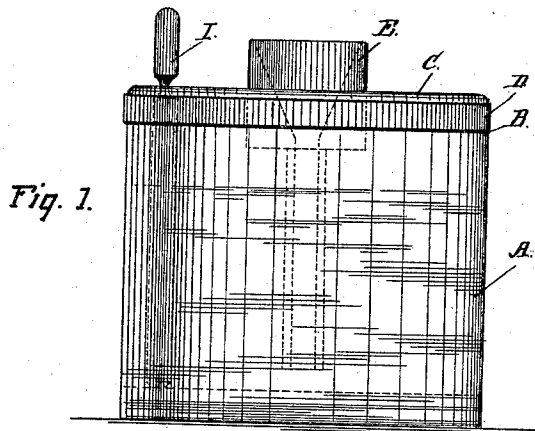


(No Model.)

P. D. HORTON.
INKSTAND.

No. 495,460.

Patented Apr. 11, 1893.



Witnesses:

M. Regner.

William Franklin.

Inventor:

Peter D. Horton.

By Smith & Osborn.

UNITED STATES PATENT OFFICE.

PETER D. HORTON, OF OAKLAND, CALIFORNIA, ASSIGNOR OF ONE-HALF TO
SILAS R. OSGOOD AND ERNEST J. OSGOOD, OF SAME PLACE.

INKSTAND.

SPECIFICATION forming part of Letters Patent No. 495,460, dated April 11, 1893.

Application filed July 27, 1892. Serial No. 441,405. (No model.)

To all whom it may concern:

Be it known that I, PETER D. HORTON, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Inkstands, of which the following is a specification.

My invention relates especially to ink-stands for holding inks of all kinds employed in writing, and has for its object the production of a device wherein the ink is conveyed by atmospheric pressure to an ink-well connecting with the fountain or reservoir and returned to the fountain at pleasure. I accomplish this object by the means illustrated in the accompanying drawings which form part of this specification and in which:—

Figure 1 is a view in elevation of my improved ink-stand. Fig. 2 is a view in vertical section. Fig. 3 is a front view of the ink-well, and Fig. 4 a view of the valve and piston removed.

The edge or rim of my ink fountain A is formed with a shoulder B and over the top of the fountain is stretched a flexible cover or air compressor C such as leather or india rubber (the latter being however preferable) the edge of which is turned down around the flange of the fountain in which position it is held in place by a fillet or band of rubber D by which an air-tight connection is made between the fountain and compressor at this point, and within the center of this compressor or flexible diaphragm is placed the ink-well. The ink-well is formed of hard rubber or glass and consists in a cup E having a concave bottom and a hollow spindle or pipe E^x connecting with the cup and cast integral with it, but smaller so as to form a shoulder G. The diaphragm is perforated to receive the ink-well, and near the base of the cup is formed a square groove H. The edge of the flexible opening in the diaphragm usually fits into the groove in such a manner as to make the connection air and water tight. This can be rendered certain however by inserting the ink-well in the diaphragm before the latter is stretched over the ink fountain, and by letting the edge *h* around the hole or opening drawn into the groove as seen in Fig. 2, then

taking a bite over or wrapping such edge with a fillet of rubber or thread *h'* and a perfect air tight connection is had.

The hollow tube or pipe up through which the ink flows to the well extends to near the bottom of the fountain and the ink can only be forced up in the well by pressure upon the diaphragm or by dipping the pen down into the well: in either case the ink will be forced upward, but when the pressure is removed it ebbs back into the fountain or tube.

In order to control the ebb and flow of the ink from the fountain to the well I have devised a peculiar valve which consists of a solid stem or piston I, which passes through a perforation in the flexible diaphragm near the rim of the fountain and can be moved upward or downward, the lower end entering a tubular guide J on the bottom of the fountain.

Between the ends of the piston is formed an annular groove or concavity I^x and when the stem or piston is pressed down to the limit permitted by the guide J, air will pass under the diaphragm through the medium of the groove and the fountain is charged with air. When the piston is drawn upward the edge of the perforation in the diaphragm will closely engage the piston below the groove and the air will be confined in the chamber between the diaphragm and contents of the fountain and the connection between the piston and opening will be rendered air-tight.

In operation to force the ink from the fountain into the ink-well (the piston having been pressed down to the limit permitted) raise the ink-well slightly with the finger which charges the chamber under the diaphragm with air and simultaneously raise the piston above this position and then press down slightly upon the ink-well when immediately it will be filled and remains in that condition until the well is exhausted of ink; a sufficient quantity of ink however can always be obtained by dipping the point of the pen into the ink-well as the slightest pressure with the pen point will cause the ink to rise in sufficient volume to answer all purposes of writing. To discharge the ink-well of its contents press the piston down to its limit and the ink will flow back to the fountain, then draw the pis-

ton upward away from this position and the ink-stand will be sealed for a desired period of time or until the point of a pen is inserted in the well as above stated. By this construction the ink will always be in a clean and fresh condition and need not be replenished for a long period of time.

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

1. In an ink-stand of the construction described, the combination with the stand having a flexible cover, and an ink-well supported by said cover, the latter having a perforation; of a rod fitting tightly in said perforation and extending to the exterior of the ink-stand, the body of the rod having an annular groove smaller than the normal size of said perforation, as and for the purpose set forth.
2. In an ink-stand of the construction described, the combination with the stand having a flexible cover, and an ink-well supported by said cover, the latter having a perforation; of a rod fitting tightly in said perforation and extending to the exterior of the ink-stand, and a tubular guide within the stand and into which the lower end of the rod slides

vertically, the body of the rod having an annular groove smaller than the normal size of said perforation, as and for the purpose set forth.

3. In an ink-stand of the construction described, the combination with the stand a portion of whose top is closed by a flexible cover having a perforation, and the ink-well comprising a cup with a depending pipe leading into the interior of the stand; of a tubular guide within and on the bottom of said stand, and a cylindrical rod its lower end seated within said guide, its body extending through and fitting closely in said perforation, and its upper end being exterior to the stand, the body of said rod having a groove whereby it is smaller than the normal size of said perforation and said groove being so located as to stand within the perforation when the rod is fully seated in said guide, all as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

PETER D. HORTON. [L. S.]

Witnesses:

C. W. M. SMITH,
CHAS. E. KELLY.