

THOMAS J. MAYALL.

Inkstand.

No. 125,973.

Patented April 23, 1872.

Fig. 1.

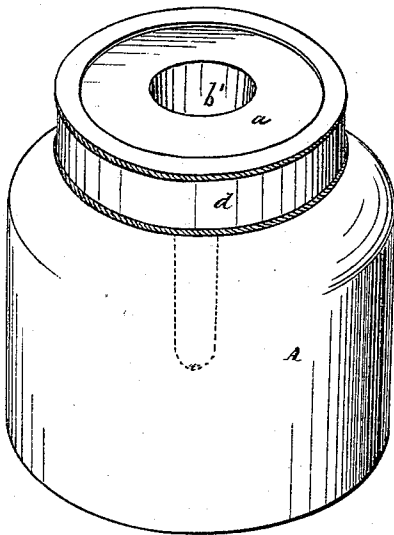
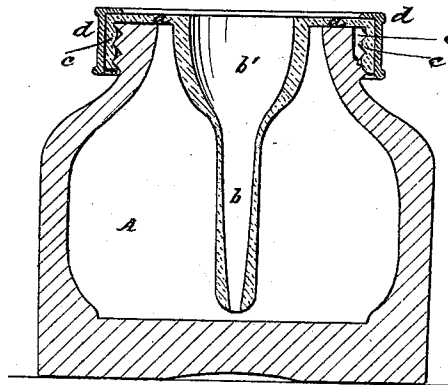


Fig. 2.



Witnesses.

C. B. Nottingham
Thomas C. Smith

Inventor.

Thos. J. Mayall
by atty. A. Hollis

UNITED STATES PATENT OFFICE.

THOMAS J. MAYALL, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN INKSTANDS.

Specification forming part of Letters Patent No. 125,973, dated April 23, 1872.

To all whom it may concern:

I, THOMAS J. MAYALL, of Boston, Suffolk county, Massachusetts, have invented a certain new and useful Improvement in Inkstands, of which the following is a specification:

It is the object of this improvement to produce an inkstand from which, when tipped over, the ink will not be liable to spill, and in which the ink is at all times kept as far as possible from exposure to the atmosphere, while it is always available for use, the insertion of the pen in the ink-tube causing the ink to rise and meet the pen.

In the accompanying drawing, Figure 1 is a perspective view of my improved inkstand. Fig. 2 is a vertical central section of the same. The body A of the inkstand is made of glass or other suitable material, and of any desired shape. The material part of the improvement consists of an elastic diaphragm, *a*, of vulcanized India rubber, constituting a cap covering the opening in the top of the ink-vessel, and connected or formed in one piece with an ink-supply tube, *b*, which extends nearly to the bottom of the ink-receptacle. The upper part of the tube is flared or widened into a cup-shape, as seen at *b'*, to allow the pen to be more conveniently and easily inserted therein. The diaphragm should hermetically close or seal the top of the vessel A; and I form the diaphragm and ink-tube from one piece of rubber, which, after being properly molded, is vulcanized in the usual way. For the purpose of more securely and tightly fastening the diaphragm to the vessel I form around its edge a downwardly-projecting rubber flange, *c*, which fits snugly around the neck of the vessel A, and clamp this on the neck by means of a metallic annular-flanged collar, *d*, which presses both upon the sides and the top of the rubber, as shown plainly in Fig. 2. This collar may be either plain or screw-threaded internally; and I prefer to screw-thread the neck of the vessel A in order to hold the parts more firmly in place. The collar is first fitted upon the rubber, and then the two are screwed down upon the neck of the vessel, the screw-threads of the neck entering the rubber and serving to hold it and make a tight joint. The filling of the inkstand takes place when the diaphragm and

ink-tube are removed, and, in order to establish perfect equilibrium of pressure when the parts are fitted together, one or more grooves, *e*, are formed in the neck, which will permit the air displaced by the tube to pass out from the vessel. The lower end of the groove *e* terminates a little above the point to which the rubber flange *c* and collar *d* extend when screwed home, so that when finally in place they will form a tight packing around the neck of the vessel and prevent further escape of air. There being thus an equilibrium of pressure established between the air outside and that inside, the ink will not be forced up in the tube above the level of the ink in the vessel, while at the same time pressure upon the diaphragm, which is made extremely light and flexible, will be sufficient to destroy the equilibrium, compress the air in the vessel, and consequently send the ink up into the tube. So sensitive is the diaphragm that the pressure of the pen upon it when inserted in the ink-tube is sufficient to send the ink up to meet the pen, and when this pressure is removed the elastic diaphragm recovers its former position, equilibrium is restored, and the ink falls. It will also be noticed that, owing to the arrangement of parts, ink will not be spilt, even if the inkstand be turned upside down.

I am aware that inkstands have been heretofore made with an ink-tube combined with an elastic diaphragm, so operating together that pressure on the ink-tube will cause the ink to rise therein; and this, therefore, I do not claim. I form the ink-tube, the diaphragm, and the cap which fits over the neck of the reservoir all of soft rubber, molded and vulcanized in one piece, whereby a better and cheaper device is obtained, and one susceptible of instant application to the ink-reservoir. The top of the ink-tube is about flush with the reservoir, and it is so arranged that pressure upon it, either laterally or downward, will at once cause the ink to rise. As the tube is made of soft rubber, the point of the pen is less liable to be injured when inserted in it than would be the case were the tube of a harder material; therefore,

What I claim as my invention is—

1. The combined cap, ink-tube, and elastic diaphragm, formed of soft rubber molded and

vulcanized in one piece, and adapted to be applied to the ink-reservoir, substantially as shown and described.

2. The combination, with the cap provided with ink-tube and diaphragm, of an ink-reservoir provided with a screw-threaded or equivalently-formed neck and transverse channels or grooves for the escape of air while the cap

is being applied to the reservoir, substantially as shown and set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

Witnesses: THOS. J. MAYALL.
A. POLLOK,
EDM. F. BROWN.