

J. B. RANDOLPH.
INK WELL.

APPLICATION FILED JUNE 16, 1909. RENEWED NOV. 20, 1911.

1,040,754.

Patented Oct. 8, 1912.

Fig. 4

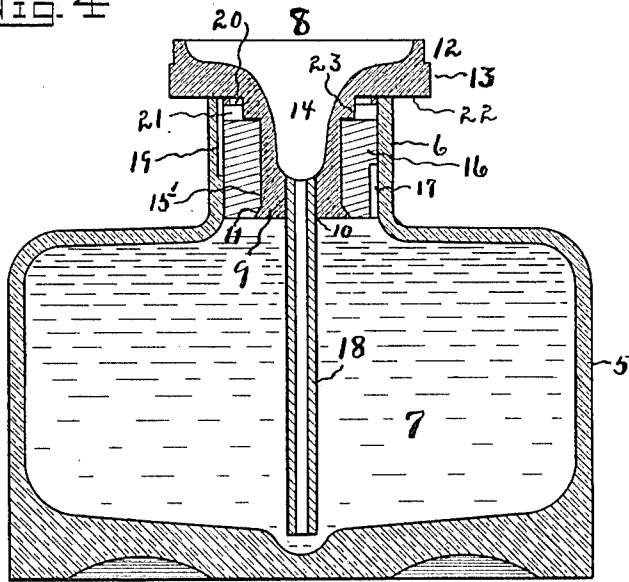


Fig. 1

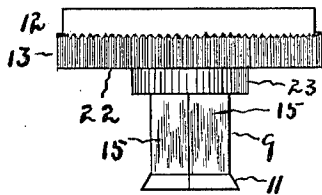


Fig. 2

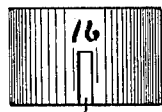


Fig. 5

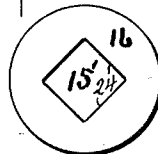
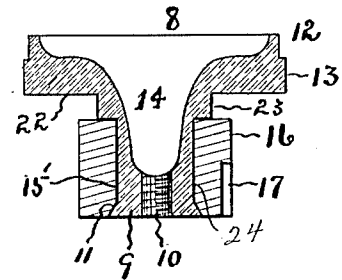


Fig. 3



Witnesses

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INK-WELL.

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To all whom it may concern:

Be it known that I, JEPHTHA B. RANDOLPH, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Ink-Well, of which the following is a specification.

This invention relates to an improvement in ink wells of the class employing devices for elevating or lowering a column of ink by air pressure.

The principal object of the invention is to provide a structure more simple and less expensive than ordinary, which will be reliable in operation for elevating or lowering the ink.

Another object is to provide means for a greater displacement in the chamber or well, without increasing the diameter of the neck, this feature being especially useful in connection with the handling or sale of expensive inks where the ink well is limited in size, and where it is desired to preserve a symmetrical structure for the receptacle.

It is also an object to provide a locking means for confining the plunger within the neck after it has been operatively seated, and to provide a mounting for the plunger and its cushion, so that the latter may be under control when the plunger is rotated.

It is also an object to provide a structure which may be employed for the combined purposes of shipping ink in original packages, and which may be used by the consumer without employing stoppers, and may be shipped without the use of stoppers.

With these objects in view the invention consists of the novel combination and arrangement of parts as described herein, pointed out by the claims and as illustrated in the drawing, it being understood that changes in form, proportion, size and minor details may be made within the scope of the claims without departing from the spirit of the invention or sacrificing any of its advantages.

In the drawing, Figure 1 illustrates a combined dipping cup and cushion holder. Fig. 2 is a side view of a recessed cushion which, when mounted upon the holder, provides the complete plunger shown in Fig. 3, this last figure being in longitudinal section.

Fig. 4 is a vertical sectional view of a complete ink well constructed in accordance with my invention. Fig. 5 is a plan view of the cushion.

Referring now to the drawing for a more particular description, numeral 5 indicates the wall or body, 6 the neck and 7 the containing chamber of an ink well. I provide a plunger 8, comprising a body-portion, stem or holder 9, longitudinally apertured as indicated at 10, the wall of this aperture, preferably, being threaded as shown in Fig. 3, and formed at its lower end with flange 11, its upper end being provided with the annular enlargement, head or cap 12 having a transverse lower wall 22, the diameter of the head being greater than that of neck 6 so that it may be conveniently rotated when manually raised from or lowered within the neck, and, intermediate wall 22 and stem 9 is the annular ledge 23, and upon cap 12 may be provided the milled edge 13. Within cap 12, in communication with aperture 10 is provided the dipping cup or cavity 14. Stem 9 is angular in form, being provided with longitudinal, exterior facets 15.

At 16 is shown a cylindrical, resilient cushion or sleeve provided with the exterior longitudinal recess 17 opening upon its lower end; the cushion is preferably an integral structure and the recess has a length less than that of the cushion.

The wall of the dipping cup is formed upwardly flaring from aperture 10 to the upper terminal of cap 12; and cushion 16 is provided with a longitudinal aperture 15' having walls 24 angular in relation to each other to correspond with the facets of stem 9, and the cushion is adapted to have a seating upon this stem.

At 18 is shown a tube which may be secured in aperture 10 to operate as a part of the plunger, and having a length to reach near to the bottom of chamber 7, when the parts are assembled.

Upon the interior of neck 6 is provided the longitudinal recess 19; it has a less length than and opens upon the upper end of the neck. At 20 is indicated a keeper or ring secured upon the inner surface and adjacent the end of the neck; it projects inwardly a sufficient distance to prevent re-

moval of the plunger, after said plunger has been operatively mounted or seated in the neck.

Having described construction, operation will be readily understood.

At the time of assembling the parts, the well may be filled with ink preparatory to shipment. The operator then inserts the plunger, recess 17 of the cushion registering with recess 19 of the neck, and before the plunger is fully lowered, the keeper or ring 20 is secured in position by use of cement or other suitable means, this being for the purpose, as above mentioned, of preventing thereafter an entire withdrawal of the plunger. Cushion 16 makes "air tight" contact with the inner surface of the neck, and during the downward movement of the plunger, air from within the chamber may pass out of recesses 17 and 19 provided they are in alinement, and ink will not be forced upward within the dipping cup. After the plunger has been lowered, the plunger may be partly rotated so that the recesses do not register, and the contents of the receptacle will not pass outward from stem 18, but will be confined in the ink chamber when the receptacle is inverted, and while in this condition shipments may be made of the receptacle and contents, no stoppers being used at any time. It will be understood that, thereafter, if the plunger is elevated ink will not rise in tube 18. After the plunger has been thus elevated, if it be partly rotated so that the recesses are not in alinement, and then be lowered, ink will ascend in the tube, and this is the operation for raising the ink. The volume of ink which is thus elevated will be equal to the containing space of the annular chamber 21 intermediate ring 20 and the upper end of cushion 16; and the proportions of parts are such that the ink thus raised will partly fill the dipping cup.

It will be noted that, on account of the angular seating of stem 9 in aperture 15' of the cushion, the latter is under reliable control when the plunger is rotated. Also on account of the fact that the cushion is movable with the plunger, chamber 21 has a greater containing capacity, and the combined plunger and cushion have a greater diameter and consequently a greater containing capacity for ink, than would be possible if the cushion was secured to the neck. This is a desired feature of construction, since a very limited movement of the plunger is sufficient for elevating or lowering the ink, and the receptacle and its neck may have a more symmetrical appearance.

For lowering the ink from cup 14 at this time, the user simply elevates the plunger, recesses 17 and 19 being out of alinement;

the ink thereupon descends, and evaporation will be practically eliminated since the dipping cup will be empty.

Having fully described my invention, what I claim is—

1. In an ink well, the combination with a container having a vertical neck extension, said neck extension having a vertical channel formed therein through only a portion of its height and extending to the upper edge of the neck extension, of an upper container comprising a head which overhangs the neck extension and is provided with a flaring ink receiving recess, a depending angular stem carried by said head, a tube threaded into said stem and establishing communication between said flaring recess and the interior of said container, a cushion having an angular opening therethrough, through which said angular stem passes, the periphery of said cushion being vertically grooved through a portion only of its height, said groove opening at the bottom edge of said cushion, the groove of said cushion being adapted to be brought into or out of registry with the channel of the neck extension by rotating said head and said cushion, said cushion fitting snugly within and engaging the walls of the neck extension, and a separate ring secured about the inner upper edge of the neck and overhanging said cushion to prevent withdrawal of the head and the cushion, substantially as shown and described.

2. In an ink well, the combination with a lower container having a neck with a recess formed in a part of its inner wall and opening upon its upper end, of an upper container having an apertured stem disposed within said neck, its aperture communicating with said lower container, said upper container being provided with a head overhanging the neck and formed with an outwardly projecting ledge intermediate its head and said stem; a cylindrical sleeve seated upon said stem outwardly of said ledge and making contact with the inner wall of said neck, said sleeve having a recess formed in a part of its outer wall and opening upon its lower end; a keeper member secured at the upper terminal of and projecting inwardly of the neck and overhanging the sleeve; said stem being revoluble in said neck, the recesses being in alinement and in communication during a part of said revoluble movement of said stem.

In testimony whereof I have affixed my signature in presence of two witnesses.

JEPHTHA B. RANDOLPH.

Witnesses:

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