

(No Model.)

G. D. SPIELMAN.
INK WELL.

No. 548,728.

Patented Oct. 29, 1895.

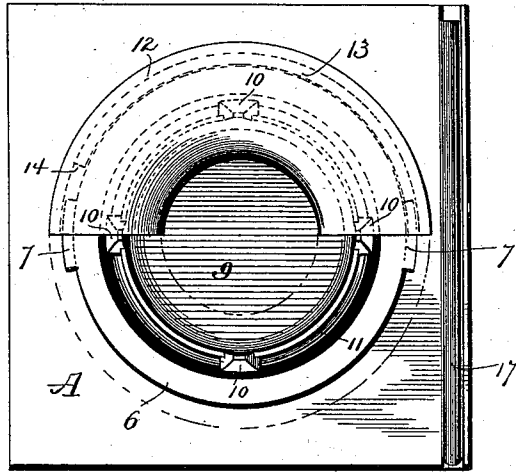


Fig. 1.

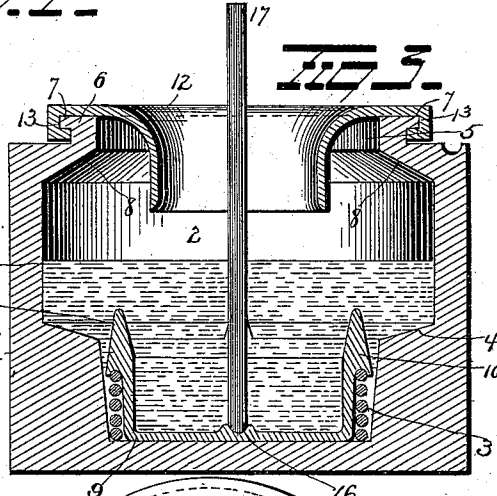
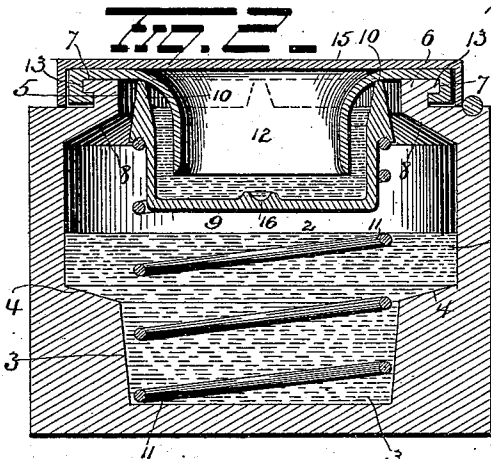


Fig. 3.

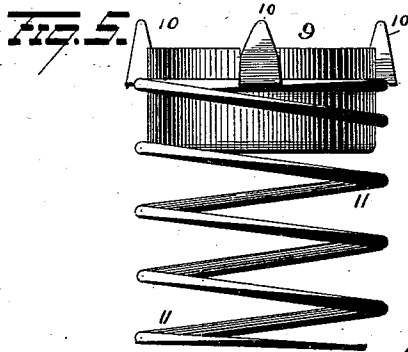


Fig. 5.

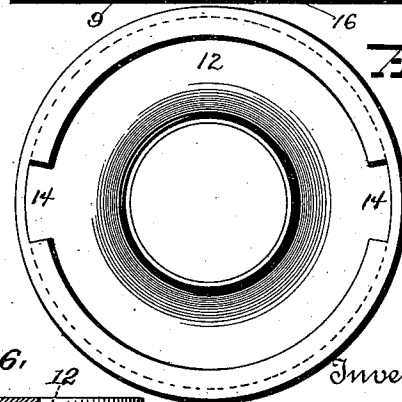


Fig. 4.

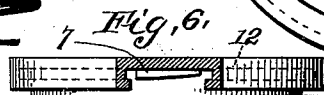


Fig. 6.

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UNITED STATES PATENT OFFICE.

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INK-WELL.

SPECIFICATION forming part of Letters Patent No. 548,728, dated October 29, 1895.

Application filed July 27, 1895. Serial No. 557,361. (No model.)

To all whom it may concern:

Be it known that I, GEORGE DANIEL SPIELMAN, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Ink-Wells; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in ink-wells and other like articles—such as marking-pots, sponge-holders, and glue-receptacles—the object being to provide ink-wells or other liquid-holding receptacles adapted to contain a supply of ink or other liquid and provided with a device for exposing a limited supply only, the major portion of the liquid being protected against dust and evaporation by a liquid seal formed by the liquid exposed for use.

My invention consists in certain novel features of construction and combinations of parts, as will be hereinafter more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a view of my improvement partly in plan and partly in section. Fig. 2 is a view of same in vertical section. Fig. 3 is a similar view showing the supplemental reservoir or dip-cup in its depressed position. Fig. 4 is a detached view of the funnel-shaped top. Fig. 5 is a detached view of the supplemental reservoir or dip-cup and spring, and Fig. 6 is a detail with a portion to show projections 7.

A represents the body portion of an ink-well or other receptacle provided with a reservoir, which latter is composed of an upper chamber 2, a restricted lower chamber 3, and an inclined ledge 4, constituting a portion of the bottom of the larger chamber 2 and leading directly to the top of the centrally-located restricted lower chamber 3. The mouth 5 of reservoir 1 preferably terminates in the form of an upwardly-projecting annular ring 6, having on its outer surface oppositely-located projections 7, the bottom faces of which are inclined one in one direction and the other in the opposite direction, for the purpose to be hereinafter described. The lower inner end of said mouth or neck is inclined, as shown at 8.

Dip-cup or supplemental reservoir 9 is provided with a series of upwardly-projecting prongs 10, the lower ends of which constitute abutting surfaces for the upper end of coil-spring 11, whereby said dip-cup or supplemental reservoir is yieldingly supported in its normal or operative position, as shown in Fig. 1. The lower end of coil-spring 11 rests on the bottom of the restricted chamber 3 or reservoir 1. This dip-cup or supplemental reservoir when in its normal position rests with its prongs 10 against the lower face of the funnel-shaped top 12, the rim of which latter is provided with an annular groove 13 and oppositely-located recesses 14 in open communication with said annular groove. This funnel-shaped top 12 is removably secured in its operative position by registering the recesses 14 with the projections 7 and slightly turning top 12 to the right. This latter movement causes the inclined projections 7 to enter annular groove 13 and force the lower face of top 12 against the upper face of the ring surrounding the opening, thus securely locking the top against accidental movement. When top 12 is in its normal position, the upper ends of prongs or teeth 10 of the supplemental reservoir are in contact with the bottom face of said top, and as the prongs project above the rim of the dip-cup or supplemental reservoir it will be seen that an air-space between said dip-cup and reservoir 1 is secured.

The funnel-shaped portion of top 12 is adapted to project within dip-cup or supplemental reservoir to a point near the bottom thereof, sufficient room being left, however, between said parts to permit of a free circulation of the fluid contained in said dip-cup or supplemental reservoir.

The well or receptacle when not in use is provided with a cover or cap 15 for closing the funnel-shaped opening from which the fluid is dipped, whereby the entrance of dust and other foreign matter is prevented.

When the dip-cup or supplemental reservoir is filled with ink or other fluid, it will be seen that an air-tight seal between reservoir 1 and said dip-cup is obtained, by means of which evaporation of the surplus fluid contained in reservoir 1 is absolutely prevented and is sealed against the entrance of dirt or other foreign matter.

In the center of the bottom of dip-cup or supplemental reservoir 9 is located a seat (preferably cup-shaped) 16 for the reception of one end of a pencil, pen, rod, or other device 17, by means of which the dip-cup or supplemental reservoir 9 may be depressed, as shown in Fig. 3. When it is desired to refresh the fluid contained in said dip-cup or supplemental reservoir or to refill same, the dip-cup, which practically fills the lower section of the reservoir, is depressed until it comes to a rest on the bottom of the reservoir. This displaces the fluid in the lower section or chamber of the reservoir and causes the fluid to flow into said dip-cup. By releasing the pressure on the pen or other device which was used to depress the supplemental reservoir the latter rises and assumes its normal position with the funnel projecting well into the supplemental reservoir.

By contracting the lower portion of reservoir 1 it will be seen that nearly all of the fluid contained in said reservoir may be used to fill dip-cup 9 by depressing the latter until it substantially fills the restricted chamber 3, which operation displaces the fluid therein and causes it to rise on the ledge 4, from whence it flows into said dip-cup.

Reservoir 1 may be refilled with fluid by either depressing dip-cup 9 or by removing same, together with spring 11, entirely from said reservoir.

The several parts above described, with the exception of spring 11, may be made of glass or any other suitable material.

In the operation of this device the reservoir is filled or partly filled by either removing the funnel-shaped top and supplemental reservoir or by simply depressing the supplemental reservoir until the upper edge of the latter is at a point below the lower edge of the funnel. After a sufficient quantity of fluid has been deposited in the reservoir the supplemental reservoir is filled by depressing it, as before described, it is then permitted to rise, and as the liquid contained therein reaches the lower edge of the funnel the air-pressure from the outside against the exposed liquid prevents the liquid from rising within the funnel above the lower edge of the latter, the fluid displaced by this atmospheric pressure and by the funnel running over the upper edge of the supplemental reservoir into the main reservoir. Thus it will be seen that the fluid thus exposed to a pen or brush is just sufficient to cover the nibs of a pen or brush, and as the liquid is used up it is fed to the mouth of the funnel from the space between the side wall of the supplemental reservoir and the inner face of the funnel. By this arrangement the fluid is supplied as used and but a small proportion of that contained in the supplemental reservoir is exposed to the air. When the supply of fluid between the inner face of the funnel and the wall of the supply-reservoir shall have been exhausted, thus exposing the lower end of

the funnel and destroying the liquid seal, the supplemental reservoir should be again depressed for filling, as before.

If from any reason the pen or other device employed for depressing the supplemental reservoir should slip, thus suddenly releasing the supplemental reservoir, the fluid contained therein would be prevented from flying out by the atmospheric pressure above, aided by the air-cushion within the reservoir and by the friction encountered by contact with the end of the funnel. I have described two chambers of different sizes, the smaller chamber being of a size to snugly receive the supplemental reservoir. While such a construction economizes fluid and prevents waste thereof, I would have it understood that I do not limit myself to such a construction. Neither do I limit myself to the details of the supplemental reservoir, nor to the manner of securing the funnel-shaped top in place, as my invention comprehends, broadly, a reservoir carrying a funnel and a yieldingly-supported supplemental reservoir located within the main reservoir and adapted when in its normal position to receive the free end of the funnel and form a liquid seal therewith.

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

1. An ink well consisting of a main ink reservoir, a funnel extending into the main ink reservoir and a supplemental reservoir yieldingly supported with its upper edge above the lower end of the funnel and constructed to hold a supply of ink away from and out of communication with the ink in the main ink reservoir, substantially as set forth.

2. An ink well comprising a main ink reservoir, a funnel extending downward into the latter, a supplemental reservoir having a closed bottom whereby to hold a supply of ink elevated above and independent of the ink in the main reservoir, said supplemental reservoir normally held at the highest point in the main reservoir with its upper edge above the lower end of the funnel, substantially as set forth.

3. An ink reservoir comprising a main ink reservoir, a funnel depending into the latter, and a yieldingly supported supplemental reservoir containing a supply of ink and normally holding a portion thereof above the lower end of the funnel, substantially as set forth.

4. An ink well, consisting of a body portion provided with a reservoir, a funnel projecting into same, a supplemental reservoir and a spring for yieldingly supporting the latter.

5. An ink well, consisting of a body portion provided with a reservoir composed of an enlarged and a restricted chamber, a supplemental reservoir, and a spring, one end of which is in contact with said supplemental reservoir while the other end thereof is supported on the bottom of the restricted portion of the reservoir.

6. An ink well, consisting of a body portion provided with a reservoir, a supplemental reservoir provided with upwardly projecting prongs, means for yieldingly supporting said supplemental reservoir within the main reservoir and a top for holding the supplemental reservoir against movement in an upward direction beyond a predetermined point, substantially as set forth.

7. The combination with a main reservoir, a funnel shaped top projecting into the reservoir, a movable reservoir located within the main reservoir and adapted to receive the inner end of the funnel and a spring for yieldingly holding the supplemental reservoir in its elevated position, substantially as set forth.

8. The combination of a main reservoir, a funnel shaped top projecting therein, a supplemental reservoir provided with prongs adapted to engage the funnel shaped top at a point above the lower end of the latter and a spring for yieldingly holding the supplemental reservoir in its elevated position, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

GEORGE DANIEL SPIELMAN.

Witnesses:

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