

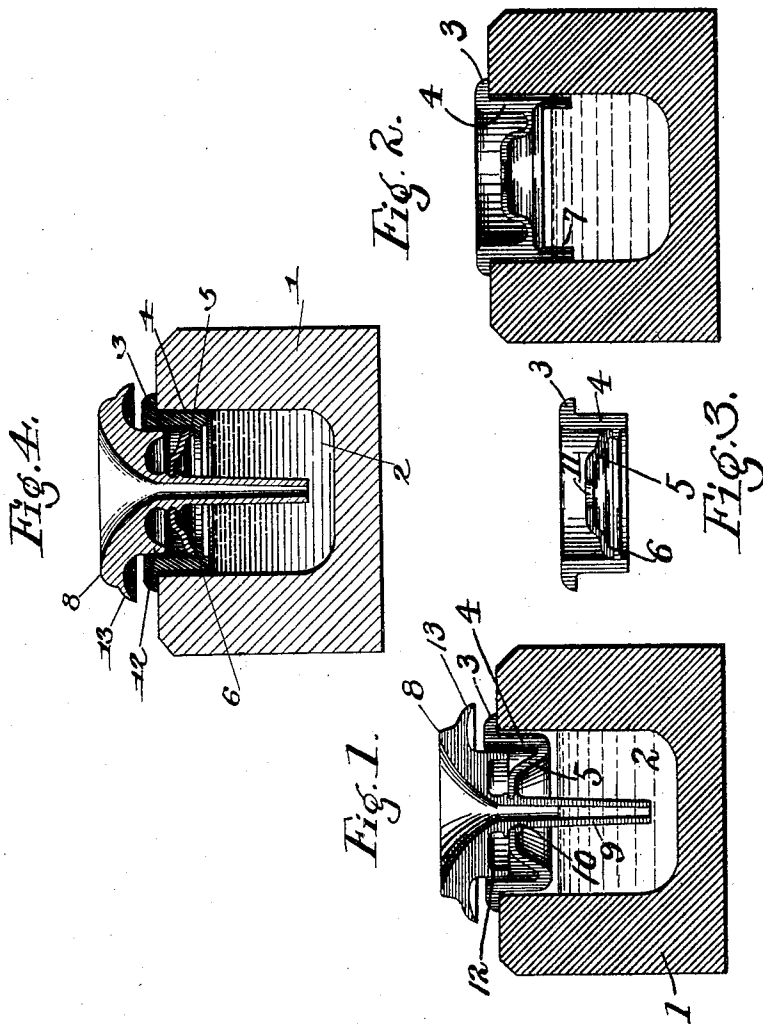
No. 822,905.

PATENTED JUNE 12, 1906.

F. M. ASHLEY.

INK WELL.

APPLICATION FILED MAR. 29, 1899.



Witnesses  
Alex Ferguson  
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# UNITED STATES PATENT OFFICE.

FRANK M. ASHLEY, OF NEW YORK, N. Y.

## INK-WELL.

No. 822,905.

Specification of Letters Patent.

Patented June 12, 1906.

Application filed March 29, 1899. Serial No. 710,876.

*To all whom it may concern:*

Be it known that I, FRANK M. ASHLEY, a citizen of the United States, residing at New York city, in the county of Kings and State of New York, have invented certain new and useful Improvements in Ink-Wells, of which the following is a full, clear, and exact specification.

This invention relates to ink-wells; and its object is to construct a well which shall be simple and economical in construction and in which no appreciable surface of the ink shall be exposed to the air, and, further, the various parts of which shall be easily accessible for cleaning purposes.

The invention possesses various features of advantage which will more fully appear hereinafter; and it will be described with reference to the forms thereof shown in the accompanying drawings, in which—

Figure 1 is a sectional view of an ink-well constructed in accordance with my invention. Fig. 2 is a detailed sectional view illustrating a modified form of cover. Fig. 3 is a detailed view showing a still further modification of the cover. Fig. 4 is a sectional view of an ink-well, embodying the cover disclosed in the preceding figure and the dip-tube shown in Fig. 1.

Referring more particularly to the drawings, 1 represents a suitable body containing a cistern or well proper, 2, adapted to contain the ink. The body and the well proper may be of any suitable design or shape. In the upper part of the well is located a cover which comprises a flange portion 3, adapted to surround the upper wall of the well proper, 2, and rest thereon, a stiff depending portion 4, conforming substantially to the outline of the wall, and a flexible diaphragm portion 5. The cover may be made of any suitable material and of any suitable design or shape to embody the parts above named; but I have found it advantageous to construct it of soft rubber, making the flange 3 and the depending portion 4 enough thicker than the diaphragm 5 to insure that when the diaphragm 5 is moved up and down, as hereinafter described, the depending portion 4 will not be expanded outward against the sides of the wall. The diameter of the cover across the depending sides 4 should be less than the diameter of the cistern or well proper, 2, and the flange portion is entirely disconnected from the cistern or body of the well, except such connection as is caused by the weight of the

cover. The cover is therefore free to be removed from the well by simply lifting it therefrom and to be used in connection with any suitable size or construction of cistern 60 by simply dropping the cover and its attached parts into place, the weight of the cover being sufficient to press upon the flange 3 enough to seal the cistern, so that when the dip-funnel is depressed the ink will be forced 65 up into it. In the modification shown in Fig. 3 the flange portion and depending portion 4 of the cover are shown as made of glass, hard rubber, or other material in one piece and having an inner annular shoulder 6, upon which the flexible diaphragm 5, which in this instance is shown as being an independent piece, may be supported.

In the modification shown in Fig. 2 the depending portion 4 is provided with the extension 7 in order that in some constructions of wells where otherwise the cover portion might be liable to displacement the extensions will serve to steady the cover in its position.

In all of the forms of covers which I have shown herein the depending portions 4 extend downward into the well a suitable distance, which of course will vary in various sizes and designs of wells, and the diaphragm 5 extends upward toward the top of the well; but of course in some instances it may be found desirable to dispense with the depending portion or so form the same that it will not extend down into the well, and likewise the diaphragm may extend in any suitable direction. A dip-funnel 8, having a stem 9, which projects down into the cistern 2, is supported in the cover by means of an annular groove 10, into which the edges of an opening 11 in the diaphragm 5 are adapted to fit. The dip-funnel 8 is provided with an annular depending shoulder 12, the diameter of which is slightly less than the interior diameter of the depending portion 4, the shoulder 12 being therefore adapted to serve as a guide for the dip-funnel 8 and insure that the latter shall move up and down in a vertical direction. The shoulder 12 should in practice be made sufficiently long to afford a cover for the thin diaphragm 5, as is illustrated in Fig. 1, and thus protect the diaphragm from the action of the atmosphere or moisture, and the annular shoulder 13 is also formed upon the dip-funnel 8 and extends outward over the flange 3, and thus serves to substantially cover the same and partially hide its appear-

ance and also prevents dust or dirt from falling upon or accumulating around the flange 3 where it rests upon the body 1.

In the operation of the well the ink is placed in the cistern 2, as is represented by dotted lines in the drawings, and the dip-funnel 8 and cover attached to each other, as heretofore described, are dropped into position upon the body 1, the flange 3 resting upon the body and serving to close the cistern. When the pen is inserted in the mouth of the dip-funnel and pressed down, the funnel will press down the diaphragm 5 and force the air below the latter against the surface of the ink, thus forcing the latter up through the stem 9 and in contact with the pen-point. After this operation has been repeated a number of times and the depth of the ink in the cistern 2 has fallen it will be necessary to allow more air to enter the cistern 2. This may be done by lifting the funnel and cover, which is easily accomplished, owing to the fact that the depending portion 4 of the cover does not fit tightly against the wall of the cistern. When the ink has become exhausted to such an extent that it becomes necessary to refill the well, the funnel and cover may be removed, leaving the entire upper end of the cistern open for the purpose. The same may be done in cleaning the well and, if necessary or desirable, the cover and funnel may be easily separated from each other for this purpose.

It will be seen that the construction above described employing the depending portion 4 and the diaphragm 5, the former extending downward into the cistern and the latter extending upward toward the top of the cistern, allows the funnel to be located close to the top of the well, and at the same time does not interfere in any way with the range of movement of the funnel.

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

1. In an ink-well, the combination of a body containing a cistern, a cover having a portion depending within said cistern and a surrounding flange resting on the top of said body, a flexible diaphragm on said cover and having a central perforation, a dip-tube extending downward through said flexible diaphragm and engaged thereby, said dip-tube having an enlarged funnel-shaped portion, the under side of said latter portion overhanging the said flange of the cover.

2. In an ink-well, the combination of a body containing a cistern, a cover having a portion depending within said cistern and a surrounding flange resting loosely on the top of said body, a flexible diaphragm carried by said cover and having a central perforation, a dip-tube extending downward through said flexible diaphragm and having parallel external shoulders between which the diaphragm

is retained, said dip-tube having an enlarged funnel-shaped portion, the under side of which latter fits and incloses the flange of the cover.

3. In a body, the combination of an ink-well having a cylindrical cistern, an annular cover having a surrounding flange resting on the top of said cistern and extending down therein, a flexible diaphragm on said annular cover having a central perforation, a dip-tube extending downward through said flexible diaphragm and engaged thereby, said dip-tube having an enlarged funnel-shaped portion, the under side of said funnel-shaped portion fitting over and inclosing the said flange of the cover, substantially as described.

4. In an ink-well, the combination of a reservoir having a cylindrical cistern, an annular cover having a flange resting loosely on the top of said reservoir and extending therein, a flexible diaphragm carried by said annular cover having a central perforation, a dip-tube extending downward through said flexible diaphragm and having parallel external shoulders between which the diaphragm is retained, said dip-tube having an enlarged funnel-shaped portion, the under side of said funnel-shaped portion fitting and inclosing the said flange of the cover, substantially as described.

5. In an ink-well of the character described, the combination with a body and the well thereof, of a diaphragm, a more rigid portion depending loosely within said well clear of the surface thereof, and supporting said diaphragm, said more rigid portion having a flange resting loosely on the body-top, and a dip-tube and funnel therefor carried by said diaphragm, whereby the dip-tube and funnel are adapted to be freely removed from said well, together with the said diaphragm.

6. In an ink-well, the combination of a cistern, a cover therefor having a rigid depending portion, a flange thereon adapted to support said cover upon the cistern, an upwardly-extending flexible diaphragm carried by said depending portion, and a dip-funnel carried by said diaphragm, said dip-funnel having an annular guide said guide also serving as a cover for said upwardly-extending diaphragm, substantially as described.

7. In an ink-well, the combination of a cistern, a cover therefor, having a rigid depending portion, a flange thereon adapted to support said cover upon the cistern, an upwardly-extending flexible diaphragm carried by said depending portion, and a dip-funnel carried by said diaphragm, said dip-funnel having an outwardly-extending shoulder, said shoulder serving as a guide for said dip-funnel and also as a cover for said diaphragm, substantially as described.

8. In an ink-well, the combination of a cistern, a cover therefor having a supporting-flange which rests loosely upon the cistern

and is entirely disconnected therefrom except by its own weight, a rigid depending portion carried by said cover, an upwardly-extending flexible diaphragm carried by said depending portion, and a dip-funnel carried by said diaphragm having an outwardly-extending flange which covers said diaphragm, substantially as described.

9. In an ink-well, the combination of a cistern, a cover therefor comprising a rigid depending portion having a surrounding flange at its top which rests loosely on the top of the stand and is adapted to form a joint thereon and to be freely removable therefrom, a diaphragm carried by said portion, and a dip-funnel carried by said diaphragm.

10. In an ink-well, the combination of a cistern, a cover therefor having a supporting-flange which rests loosely upon the cistern

and is entirely disconnected therefrom except by its own weight, a rigid depending portion carried by said flange, an upwardly-extending flexible diaphragm carried by said depending portion, and a dip-tube and funnel carried by said diaphragm.

11. In an ink-well, the combination of a cistern and a diaphragm, a flange having a depending portion from which the diaphragm is supported, said diaphragm resting loosely and being freely removable from the ink-well, and a dip-tube and funnel carried by said diaphragm.

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

FRANK M. ASHLEY.

Witnesses:

C. V. EDWARDS,  
E. H. TUCKER.