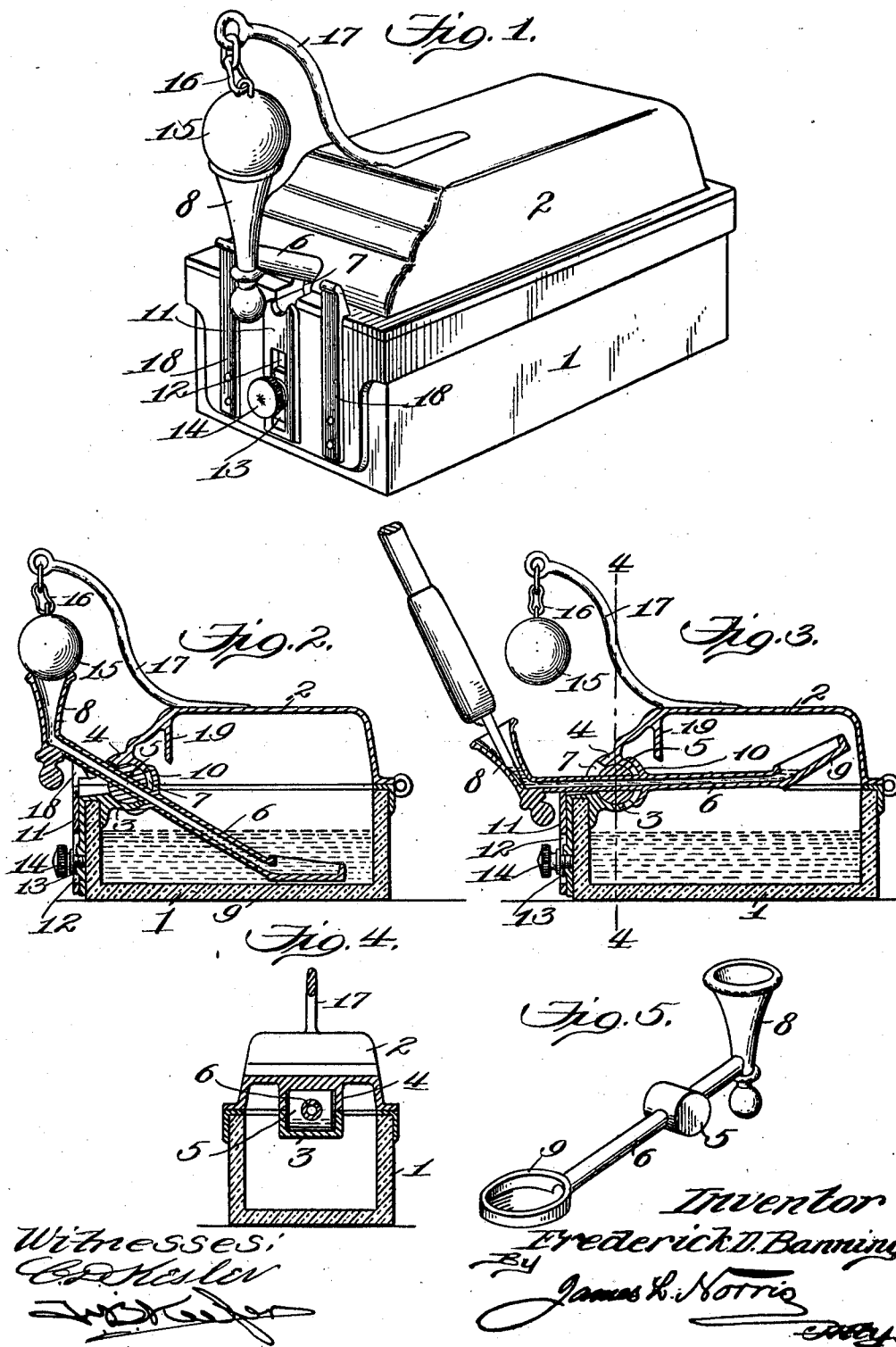


F. D. BANNING.
INK WELL.
APPLICATION FILED JUNE 30, 1909.

988,849.

Patented Apr. 4, 1911.



UNITED STATES PATENT OFFICE.

FREDERICK D. BANNING, OF DALLAS, TEXAS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FREDERICK D. BANNING, a citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented new and useful Improvements in Ink-Wells, of which the following is a specification.

This invention relates to new and useful improvements in ink wells and more particularly to an ink well of that general type in which means are provided for excluding air and dust from the ink to prevent the evaporation and thickening thereof.

The invention proposes as a novel feature the provision of a movably mounted ink cup which, when depressed by the insertion of a pen therinto, automatically delivers a quantity of ink which is just sufficient for the size of pen in use and which automatically returns to normal position when the pen is withdrawn.

The invention proposes as further novel features a device for automatically closing the cup in the normal position thereof and a device for regulating the amount of ink fed to the cup when the latter is depressed.

The invention also proposes novel details of structure and arrangement which are related and subsidiary to the features above noted.

In the accompanying drawings, I have illustrated, by way of example, a preferred and advantageous embodiment of the invention.

In the said drawings: Figure 1 is a perspective view of an ink well constructed in accordance with the present invention. Fig. 2 is a central longitudinal section showing the cup in its normally closed position. Fig. 3 is a similar view showing the cup in the position it assumes upon the insertion of a pen. Fig. 4 is a cross section on the line 4-4 of Fig. 3. Fig. 5 is a detail perspective view of the cup and its adjuncts in detached relation.

Similar characters of reference designate corresponding parts throughout the several views.

The body of the ink well is designated by the numeral 1 and consists of a recep-

tacle which may be, for convenience, of rectangular outline and which is closed by a cupped or dished cover 2, the latter being hinged to the body 1. The latter has at its front edge a centrally located inwardly projecting half bearing 3, and the cover 2 has at its front edge a similar half bearing 4. The parts 3 and 4 constitute a support for a journal, as 5, which is preferably of cylindrical form. A tube, as 6, projects diametrically through the journal 5, and through alining clearances 7 formed in the parts 3 and 4 and at its front end is provided with a cup, as 8, of inverted cone shape and at its rear end with a shallow pan, as 9 which has a capacity the same as or perhaps slightly greater than the capacity of the cup. The pan 9 is at a greater distance from the journal 5, than the cup 8 and consequently the weight at the inner side of the journal being greater than the weight at the outer side thereof, the pan 9 normally rests upon the bottom of the body 1 and thereby holds the cup 8 in an elevated position. Said pan and said cup communicate with the bore of the tube 6 and, therefore, when the cup is depressed, as shown in Fig. 3, the ink taken up by the pan will flow through the tube 6 into the cup.

The tube 6 is provided inwardly of the journal 5 with a concave guard, as 10, which fits against the parts 3 and 4 and in such relation serves two functions, the one being to prevent the ink that flows along the outside of the tube from entering between the bearings 3 and 4 and the journal in order that the latter may not bind or become corroded and the other being to exclude air and dust from the ink contained in the receptacle 1.

The invention, as previously stated, includes means for regulating the amount of ink delivered to the cup 8. This is preferably accomplished by regulating the lowest point to which the cup may be depressed and for this purpose I preferably employ a stop slide, as 11, which serves as a limit for the downward movement of the tube 6 and engages the same as shown in Fig. 3. The slide 11 is provided with a longitudinal slot,

as 12, which fits over a shorter guide rib, as 13, that is formed on the front wall of the body 1. A set screw, as 14, is threaded into the rib 13, and frictionally engages the slide 11 to thereby hold the same at any position in which it may be set.

The displaceable closure for the cup 8 preferably comprises a ball valve, as 15, of suitable material, and which is hung by a short-length chain, as 16, from a supporting arm, as 17, that is secured to the cover 2, and projects forwardly therefrom.

For the purpose of holding the cover 2 in its closed position, a pair of spring catches, as 18, are preferably employed. These catches, for convenience, may be secured to the front wall of the body 1 and formed to engage the edge portion of the cover 2.

As a further protection for the bearings and the journal against the splashing of ink, the cover 2 may be provided with a depending transverse baffle wall 19 which is shown more particularly in Figs. 2 and 3.

The weight of the pan 9 and the inner portion of the tube 6 normally sustains the cup 8 in an elevated position, as shown in Fig. 2, in which position the cup is closed by the ball valve 15 which thus seals the tube 6 against the entrance of dust and air.

The device is operated by inserting a pen into the cup 8. This causes the depression of the cup and the elevation of the pan for a sufficient distance to produce a flow of ink from the pan, through the tube 6 and into the cup. When the pen is removed from the latter, the pan 9 descends by gravity and automatically restores the cup to its normal position, at which time the mouth of the cup fits over a portion of the ball valve, which thus constitutes an automatic seal.

Pens of different sizes will take up different quantities of ink, and in view of this fact the utility of regulating the amount of ink delivered to the cup to conform to the size of the pen which is being used will be apparent.

When not in use, the parts through which air or dust might otherwise be admitted are always sealed, the valve 15, the guard 10 and the journal 5 each carrying out this function. In fact, it is only during the momentary intervals when the pen is being inserted that the sealing of the cup is affected, and these intervals are of such short duration as to have no appreciable effect on the ink in the body 1.

The conical form of the cup is of advantage in that the shoulders of the pen will engage the sides of the cup at points sufficiently distant from the bottom of the cup to prevent the point of the pen from engag-

ing said bottom and becoming bent or blunted as a result of such engagement.

Having fully described my invention, I claim:

1. The combination with an ink receptacle of a movably mounted member having a duct for the passage of ink, a part of said member being located within the receptacle and a part of said member being located at all times without the receptacle, a cup provided on the outer portion of the member and receiving ink therefrom and a pan provided on the inner portion of the member and feeding ink thereto upon depression of the cup, the member being automatically reset to normal position after each depression of the cup.

2. The combination with an ink receptacle of a cup supported on the outside of the receptacle and movable with respect to the receptacle consequent to the insertion of a pen into the cup, the latter in its depressed position receiving ink from the receptacle, and means for automatically resetting the cup after each depression thereof.

3. The combination with an ink receptacle and a depressible ink cup which in its depressed position receives ink from the receptacle, of means for automatically resetting the cup to normal position after each depression thereof, and means for automatically sealing the cup after each resetting thereof.

4. The combination with a two-part ink receptacle and a half bearing carried by each of the parts of a journal inclosed in the half bearings, a tube projecting diametrically through the journal, a cup provided on the outer end of the tube and a pan provided on the inner end thereof.

5. The combination with an ink receptacle having an interior bearing of a journal fitted in the bearing, a tube carried by the journal and having opposite radially-extending projecting portions, a cup carried on the outer end of the tube and a pan carried on the inner end thereof.

6. The combination with an ink receptacle having an interior bearing provided with clearances of a journal fitted in the bearing, a tube carried by the journal and having opposite radially-extending projecting portions, a cup carried on the outer end of the tube, a pan carried in the inner end thereof, and a guard provided on the tube and fitting over the bearing as a seal against the entrance of dust and air through the clearances.

7. The combination with an ink receptacle of a tube pivotally mounted in the receptacle, a cup on the outlet end of the tube, a pan on the inner end thereof and an ad-

justable stop for limiting the pivotal movement of the tube and for thereby determining the amount of ink fed to the cup.

8. The combination with an ink receptacle
5 of a tube pivotally mounted in the receptacle and having an inner portion disposed in the receptacle and an outer portion projecting beyond the receptacle, a cup provided on the outer end of the tube and in
10 communication therewith and a pan pro-

vided on the inner end of the tube and in communication therewith.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FREDERICK D. BANNING.

Witnesses:

O. J. MORRIS,

C. C. MORRIS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
