

No. 847,603.

PATENTED MAR. 19, 1907.

J. B. RANDOLPH.

INK WELL.

APPLICATION FILED FEB. 7, 1906.

2 SHEETS—SHEET 1.

FIG. 2.

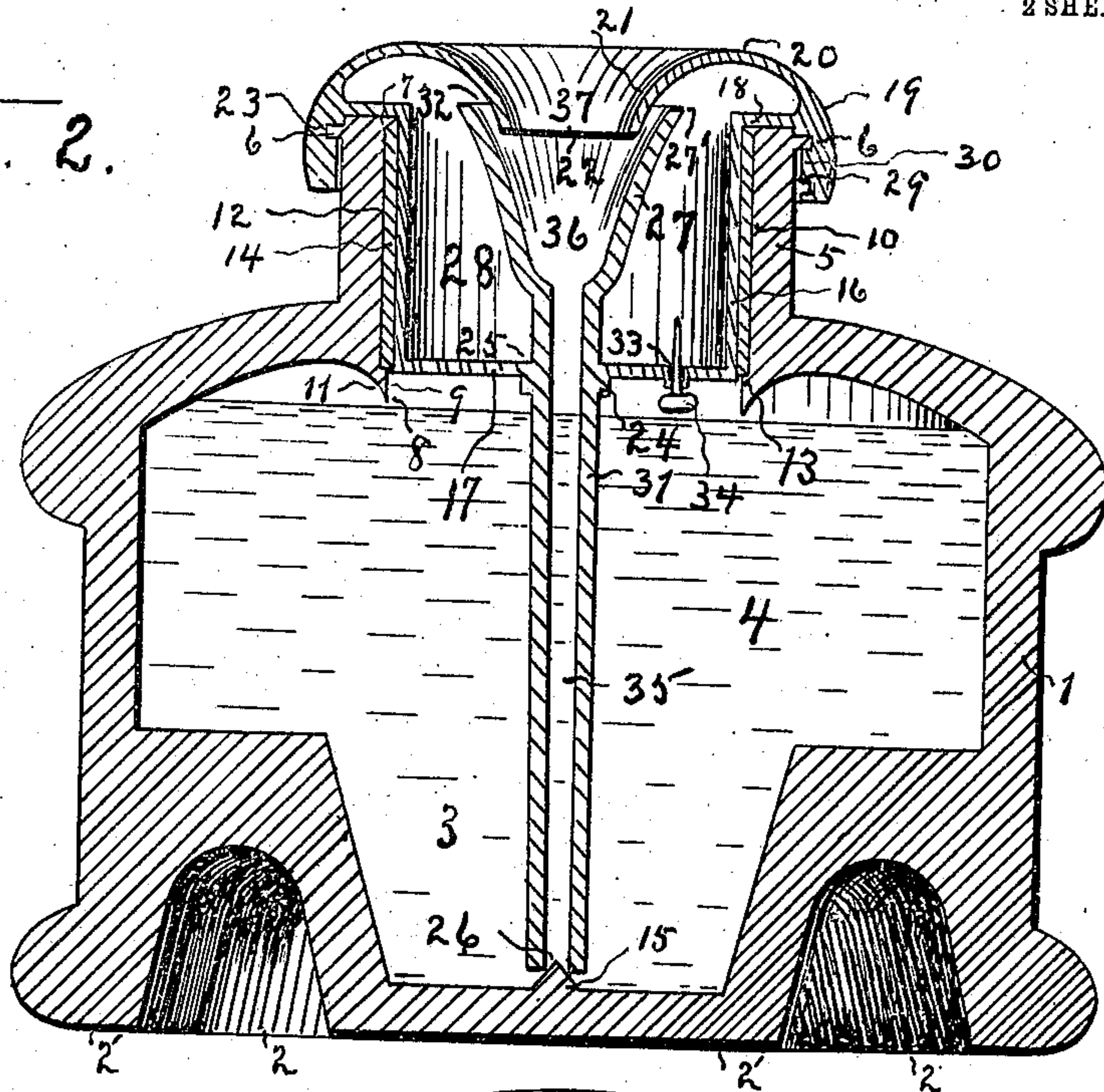
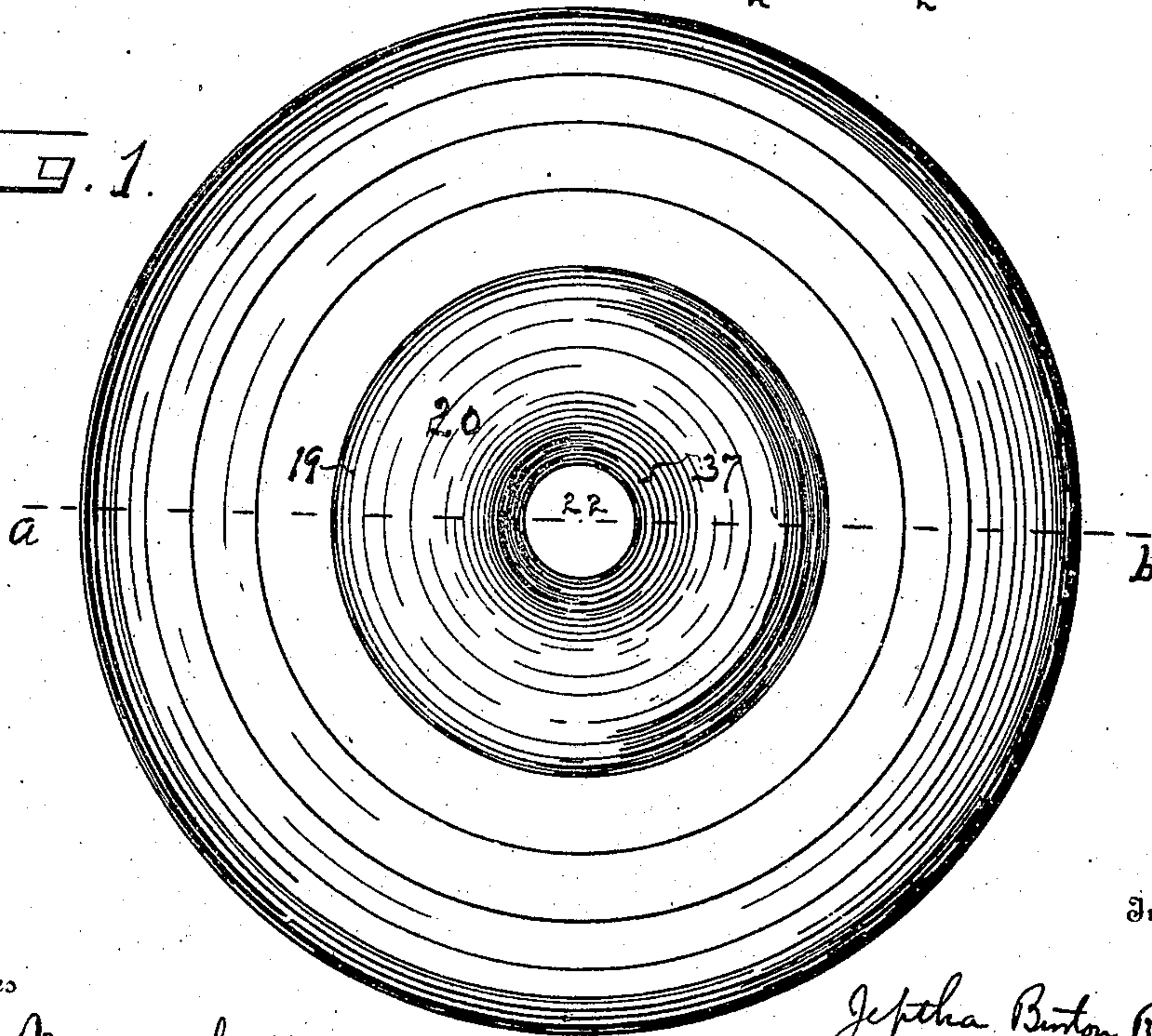


FIG. 1.



Inventor

Witnesses

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2 SHEETS--SHEET 2.

FIG. 3.

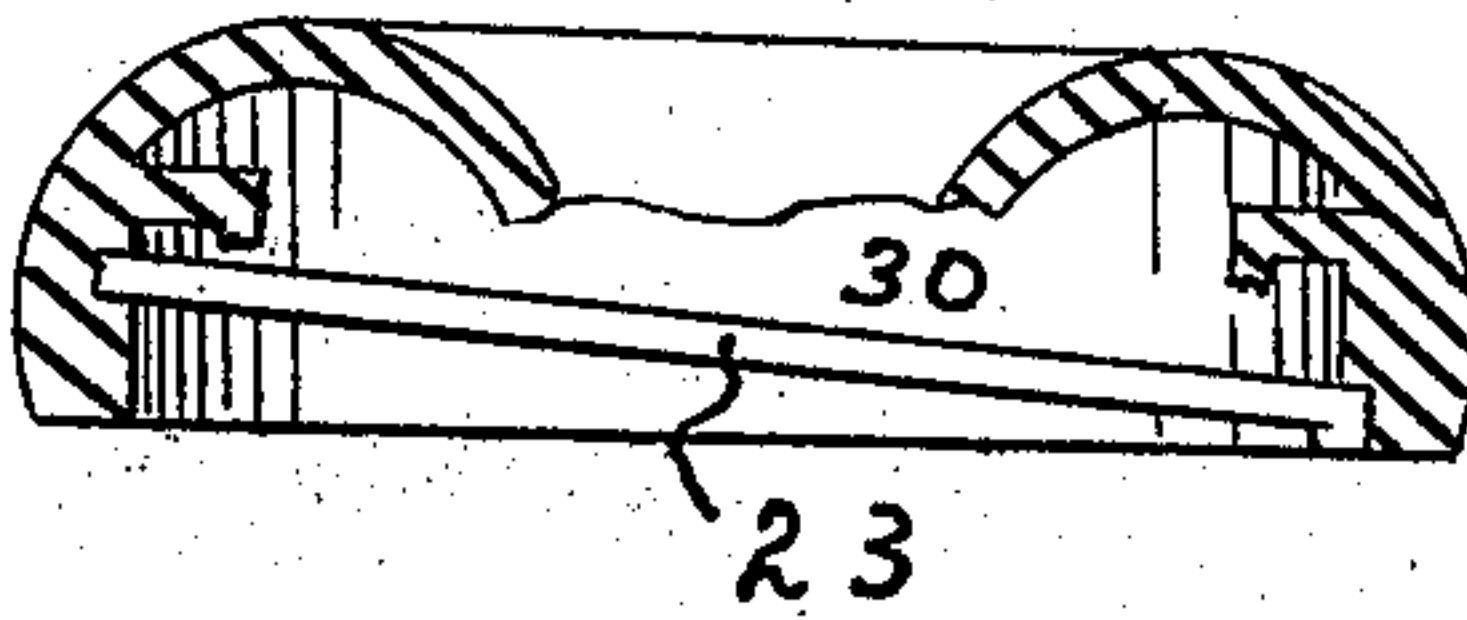
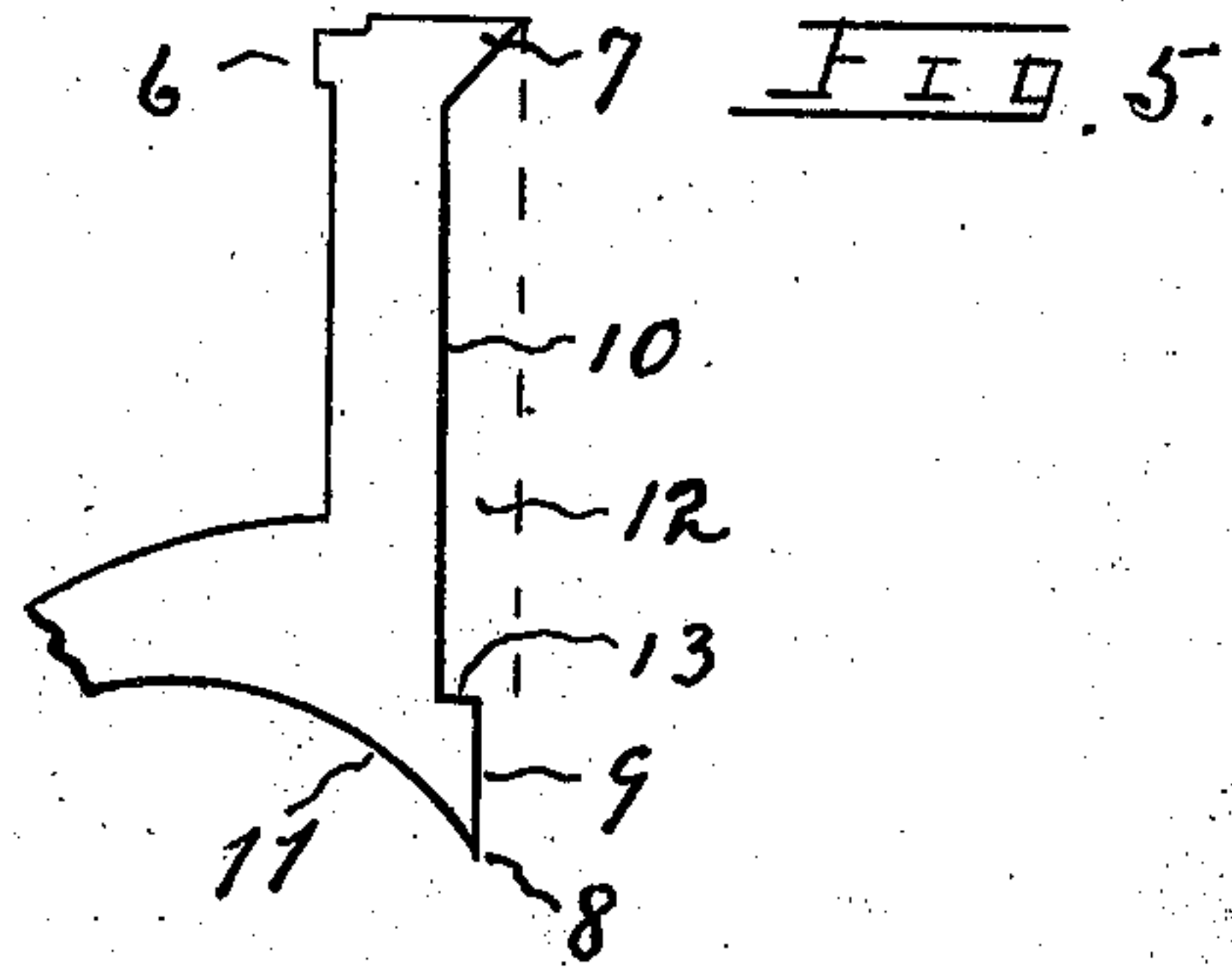
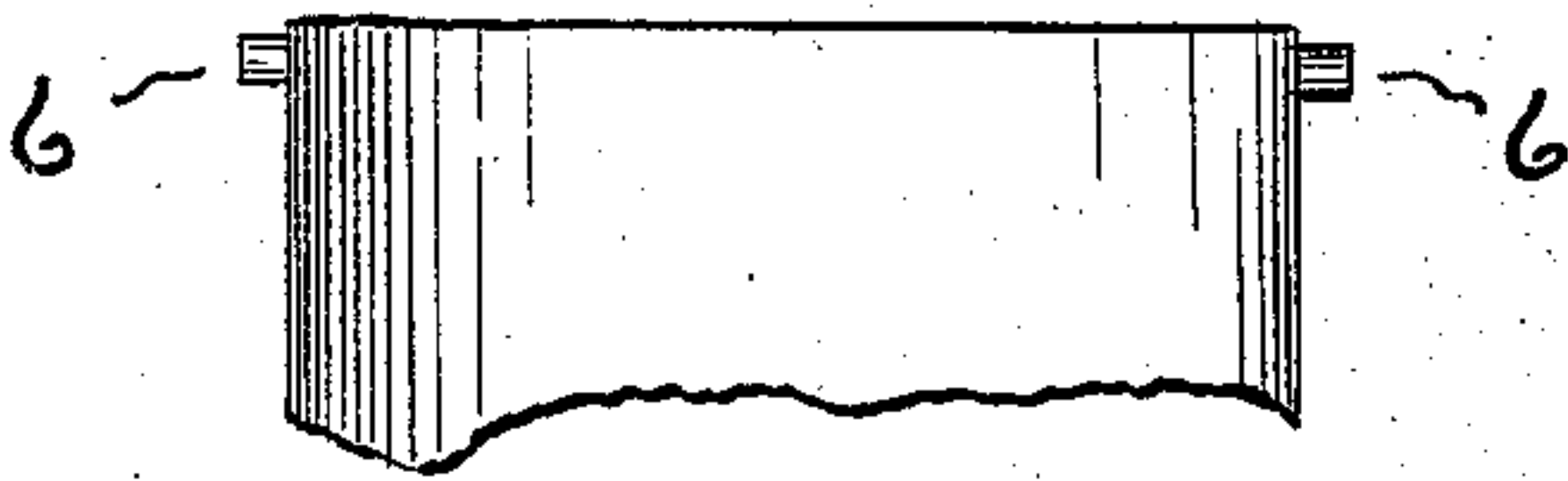


FIG. 4.



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# UNITED STATES PATENT OFFICE.

JEPHTHA BURTON RANDOLPH, OF OMAHA, NEBRASKA, ASSIGNOR TO RANDOLPH INKWELL COMPANY, OF OMAHA, NEBRASKA, A CORPORATION.

## INK-WELL.

No. 847,603.

Specification of Letters Patent.

Patented March 19, 1907.

Application filed February 7, 1906. Serial No. 299,938.

*To all whom it may concern:*

Be it known that I, JEPHTHA BURTON 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-Wells, of which the following is a specification.

My invention relates to improvements in ink-wells of the class where the supply of ink in the receiver is under control from air-pressure.

The object of the invention is to provide a new and improved construction whereby the expense of manufacture may be reduced.

The invention includes means for dispensing with corks or stoppers in the original package and for the use by the consumer of the ink-well without use of stoppers at any time; also, the invention includes means to control the degree of altitude of ink in the ink column, including a closure of the column, in a manner highly effective and simple in management.

With these and other objects in view the invention presents a new construction and arrangement of parts fully disclosed herein and illustrated by the drawings, wherein—

Figure 1 represents a plan view of the invention. Fig. 2 represents a vertical elevation of the invention in section as on the line *a b* of Fig. 1. Fig. 3 is a view of the interior wall of the hood to illustrate the inclination of spiral groove 23. Fig. 4 represents a side view of the upper portion of the neck to show the location of lugs formed thereon, and Fig. 5 is a detail of Fig. 2 to show formation of annular cavity 12.

I construct the body 1 of an ink-well having walls preferably of circular shape with flat base portions 2' and employ the annular cavity 2, formed within the base, in order to provide for a contracted chamber 3 within the lower body of the ink-well, and I provide the centrally-located cone 15 upon the floor of chamber 3. The well has a height of body sufficient to provide for the principal chamber 4 for containing the ink-supply and which also operates as an air-chamber.

The neck 5, having a vertical inner wall 10, extends upwardly and angularly from the body, has a uniform diameter, and is pro-

vided with lugs 6, Fig. 4, oppositely disposed upon its perimeter near its upper rim. An annular bead 7 is also formed upon the rim of the neck as a part of its inner surface. I employ the projection 8, formed as an inwardly and downwardly pointed rim having an inner wall 9, extending parallel with but having a less circumference than the wall 10 of the neck. The projection 8 is also provided with the concave wall 11, and as thus described the body-walls, neck, and parts mentioned may consist of a single or integral construction and may be cast or molded as such at very small expense, using glass, porcelain, metal, or other suitable material.

Since the wall 9 of the projection 8 has a less circumference than the inner circumference 10 of the neck, there is formed an annular cavity 12 within the neck 5, and I provide the angularly-formed annular ledge 13 upon the lower part of wall 10 and seat within the angular cavity 12 a filler 14. This filler may be of any resilient substance tending to resist percolation of ink. The annular projection 8 is intended as an aid and operates in a measure to prevent the upward passage of ink along the walls of filler 14, and this projection to a large extent prevents contact of ink upon the base of the filler, since a movement of the ink within chamber 4, caused from vibration and sudden lateral agitation or jars, coming toward the center from the side walls will by function of the concave wall 11 be thrown or deflected downward before reaching the base of the filler.

I construct a plunger adapted to be inserted within the ink-well, which consists of several parts now to be described. The plunger is provided with an upper receptacle having the vertically-disposed circular wall 16 extending within the neck 5 and making contact with the surface of filler 14, this contact being sufficiently close to prevent the passage of air therebetween, and the upper receptacle is provided with the floor 17, preferably constructed integral with wall 16. Wall 16 has an angular extension 18 passing outwardly to form an integral construction with the hood 19. The hood 19 consists of a shell-like structure, having a convexed



outer surface 20 terminating in a depressed inner wall 21 and forming a circular basin with an open bottom 22 and operating as an ink-receiver 37. The outer perimeter of the hood is extended downward and overhangs neck 5, forming an annular recess 29 between the inner vertical wall 30 of the hood and outer wall of neck 5, and I provide the groove 23, which is formed inclinedly in wall 30, (best shown by Fig. 3,) within which lugs 6 are contained.

I construct the lifting-tube 31 and place it upright to occupy the central part of the upper receptacle passing through floor 17 at 25. I provide the reinforcing-rim 24, made integral with floor 17, and tube 31 is preferably constructed integral with said floor. The lifting-tube 31 is provided with an opening 26 at its lower extremity adapted to receive therein a part of the cone 15, the upper end terminating in the wall 27, operating as a supply-cup 36, and the upper rim 27' of the supply-cup has a greater altitude than the lower termination of wall 21 of the receiver. As thus constructed a chamber 28 is formed, its roof being the curved walls of the hood and being, in effect, the interior of the upper receptacle already described, having an annular aperture 32 extending to the supply-cup, and I provide an opening 33 through floor 17 and a means of closure therefor, as the plug 34.

Having thus fully described the parts, operation will be readily understood. When filling the ink-well, the plunger is first removed by suitably rotating the plunger and disengaging the lugs 6 from groove 23. Chambers 3 and 4 are then filled with ink to an altitude equal to the projection 8. The plunger is then partly inserted, so that there is a complete contact of the lower part of the wall 16 within the upper rim of filler 14. The ink-well and plunger are then inverted while in this relative position until the plunger is completely inserted by pressing it between the walls of neck 5 and by oppositely rotating the plunger, and when the plunger is completely inserted the opening 26 of tube 31 contacts with cone 15. The ink-well thus filled is ready for handling or shipment without further attention, and there will be no loss of ink fluid through the aperture 35, cup 36, or receiver 37 during this manipulation, for the reason that chamber 3 has an equal containing capacity to the cavity between the walls of neck 5 and the opening 26 of tube 31 while inverted occupies a position within air-chamber 3, and while a small quantity of ink will enter cavity 35 of tube 31 upon inversion, a complete passage of ink through these apertures is prevented at this time by the resistance to expansion of the air within chamber 3.

In order to cause an elevation of ink in tube 31 and cup 36, a suitable rotation of the plunger is made while the ink-well is resting on its base, and since this rotation causes an elevation of tube 31 a small quantity of air will pass downward through aperture 35 of the tube and added to the air within the ink-well, thereby causing a corresponding elevation of ink; and in practice a slight reverse rotation of the hood will cause the ink to descend in tube 31, which causes the evacuation of the receiver and decreases evaporation, and at this time the ink-well may be tilted or inverted and no ink will escape for reasons given. If at this time the ink-well is suddenly placed on its side, as by accidental falling over, a small quantity of ink, being contents only of cup 36, will pass into chamber 28 through aperture 32 and may be removed at any time by means of the opening 33, after removing the plunger for that purpose. It is found in the use of the invention that no ink will escape from the receiver by accidental means or rough handling, and when the lower end of tube 31 is lowered upon cone 15 by rotation of the hood no ink can escape, and therefore the ink is supplied to the market in these wells and at all times handled without making a closure of the opening 22.

It will be noted that by reason of the annular ridge 7 and the angularly-formed wall 13 a convenient annular recess 12 is formed as a seating for the filler 14, and the wall 16 of the plunger is adapted to make close contact, so that air may not pass between the filler and wall 16. Chamber 28, it will be observed, operates as a safety device for preventing accidental overflow from the well or destruction or spoliation of papers or property from accidental overturning of the ink-well. The groove 23 has a moderate inclination. The annular recess 29 causes a non-contact of the wall of the hood with the outer wall of neck 5, and therefore the hood has an easy rotative movement upward or downward. The ink, it will also be noted, is under entire control of the operator for evacuating the receiver or entirely cutting off the supply, and an outer closure of the well is dispensed with.

What I claim as my invention is—

1. An ink-well comprising an upper receptacle and a lower receptacle; said lower receptacle having an inner lower surface; a tube connecting said upper and lower receptacles; said upper receptacle being provided with a hood extending within said tube; means to lower said upper receptacle within said lower receptacle; and means to make a closure of said tube upon said inner lower surface of said lower receptacle.

2. An ink-well comprising an upper receptacle and a lower receptacle; said upper receptacle having a lower floor; said lower re-

ceptacle having an inner lower surface; a  
tube connecting said upper and lower recep-  
tacle; said upper receptacle being provided  
with a hood extending within said tube;  
5 means to lower said upper receptacle within  
said lower receptacle; means to make a clo-  
sure of said tube upon said inner lower sur-  
face of said lower receptacle; and means to

make an opening or closure, at will, in the  
lower floor of said upper receptacle. 10

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

JEPHTHA BURTON RANDOLPH.

Witnesses:

ALVA MEYERS,  
C. D. WENTWORTH.