

No. 645,968.

Patented Mar. 27, 1900.

J. H. MILLER.

COMBINED INK WELL AND RESERVOIR.

(Application filed Jan. 17, 1900.)

(No Model.)

Fig. 1.

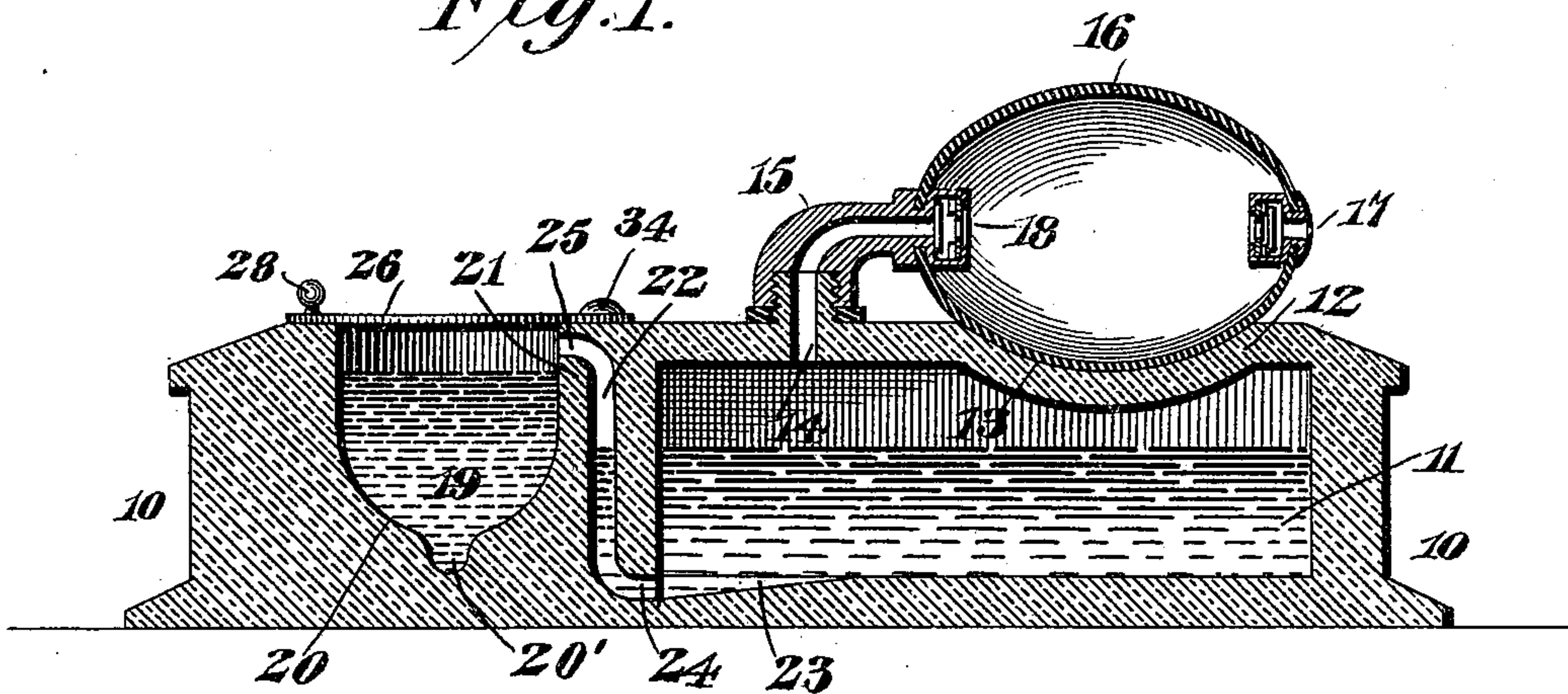


Fig. 2.

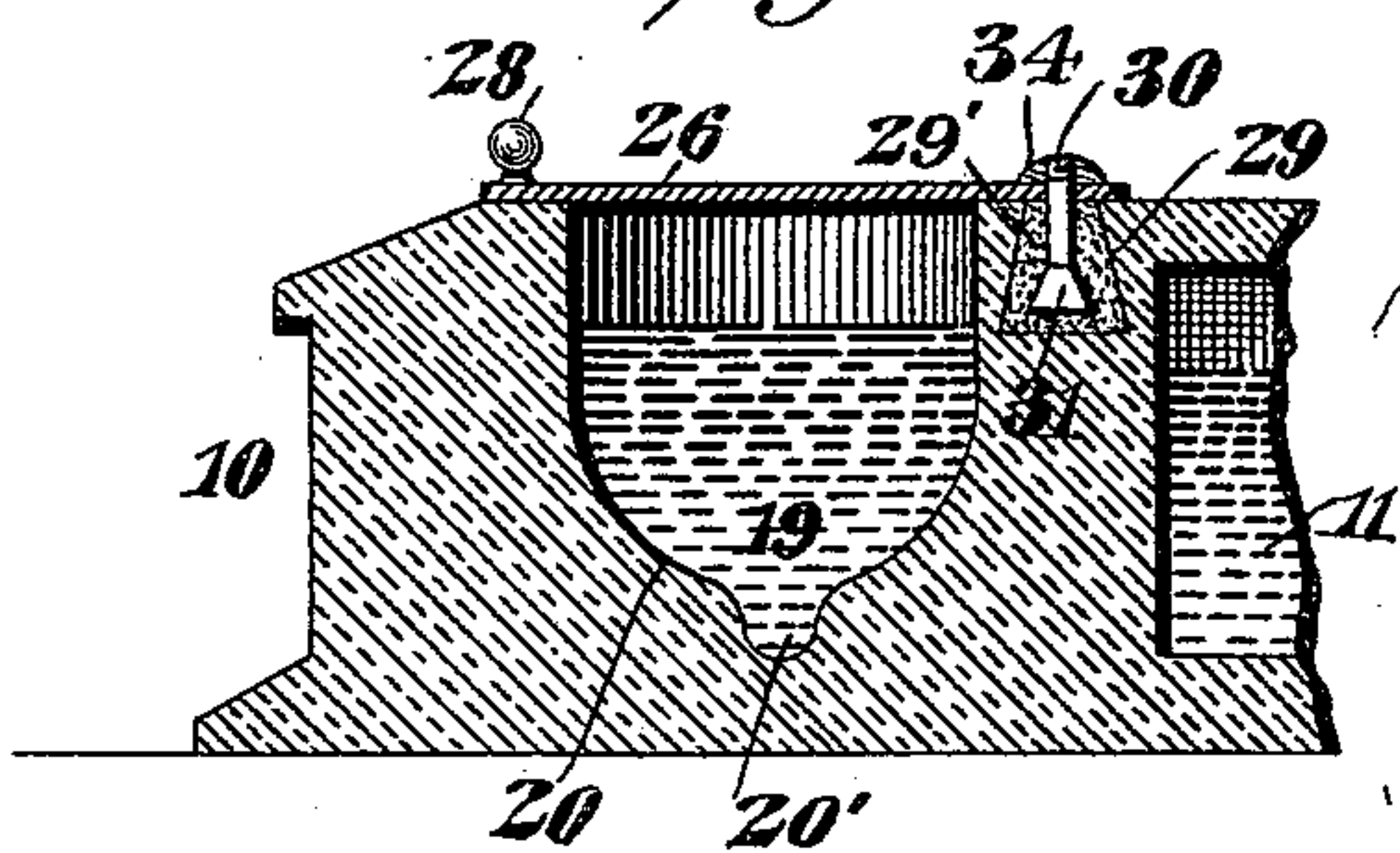


Fig. 4.

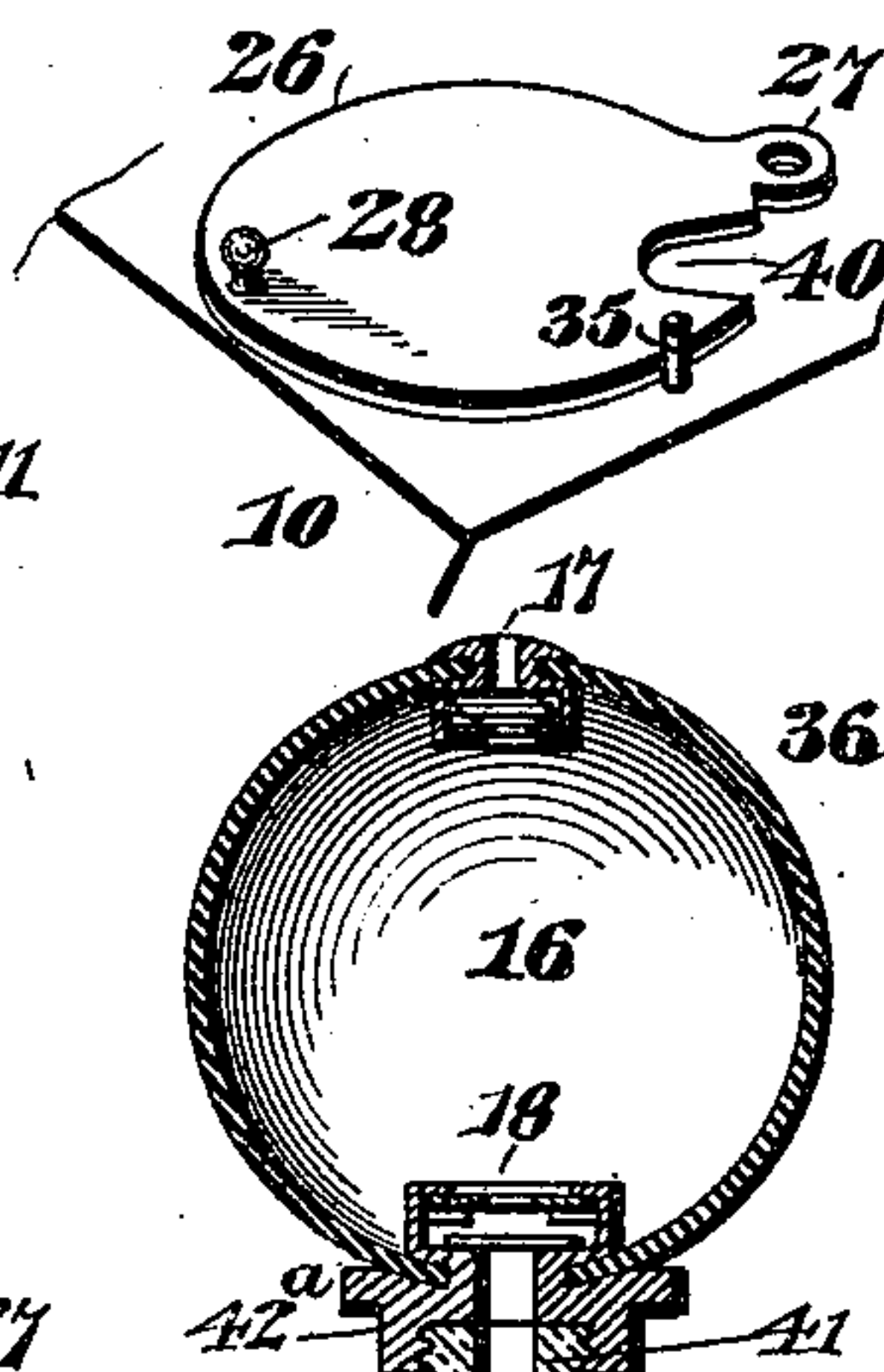


Fig. 5.

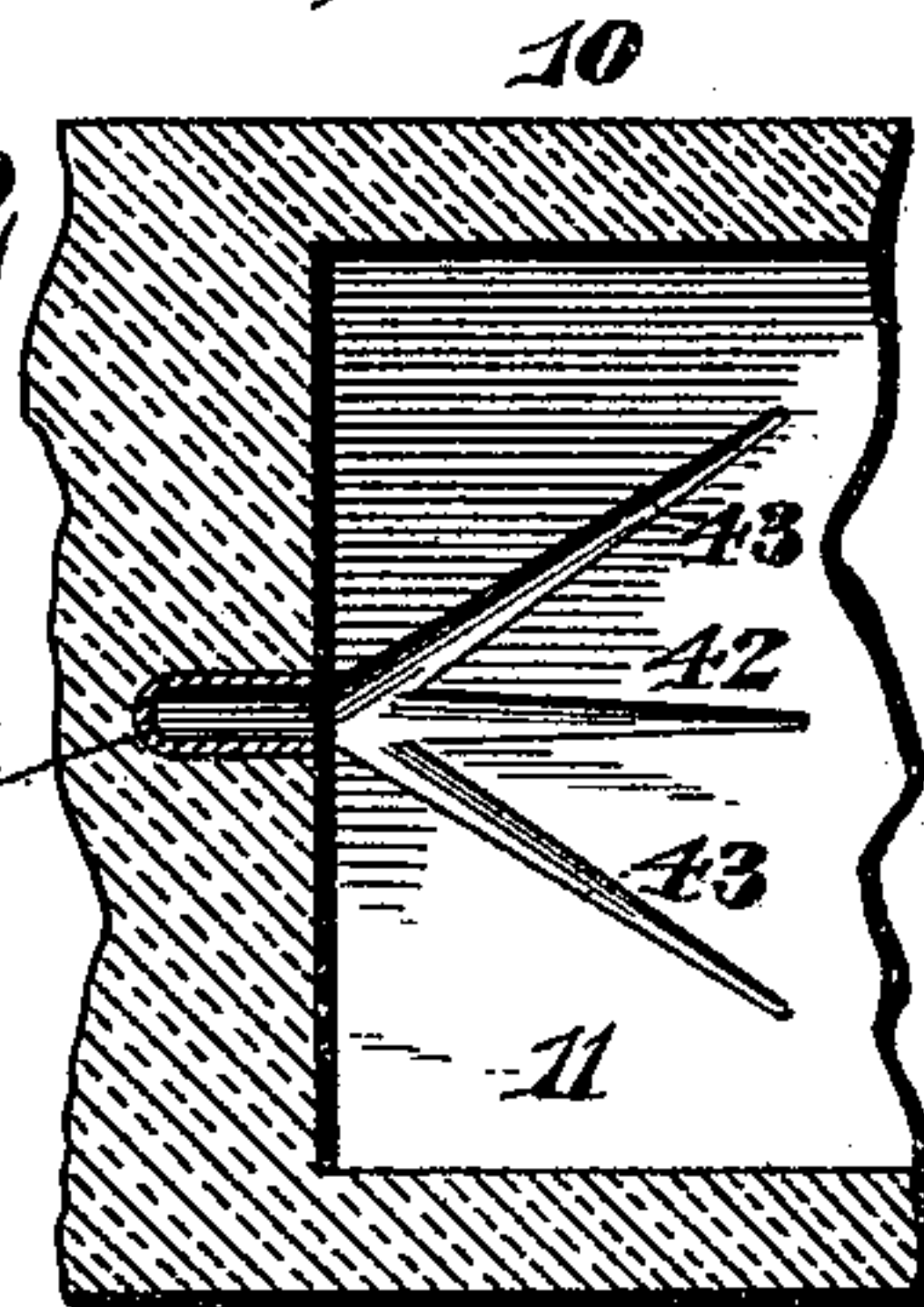
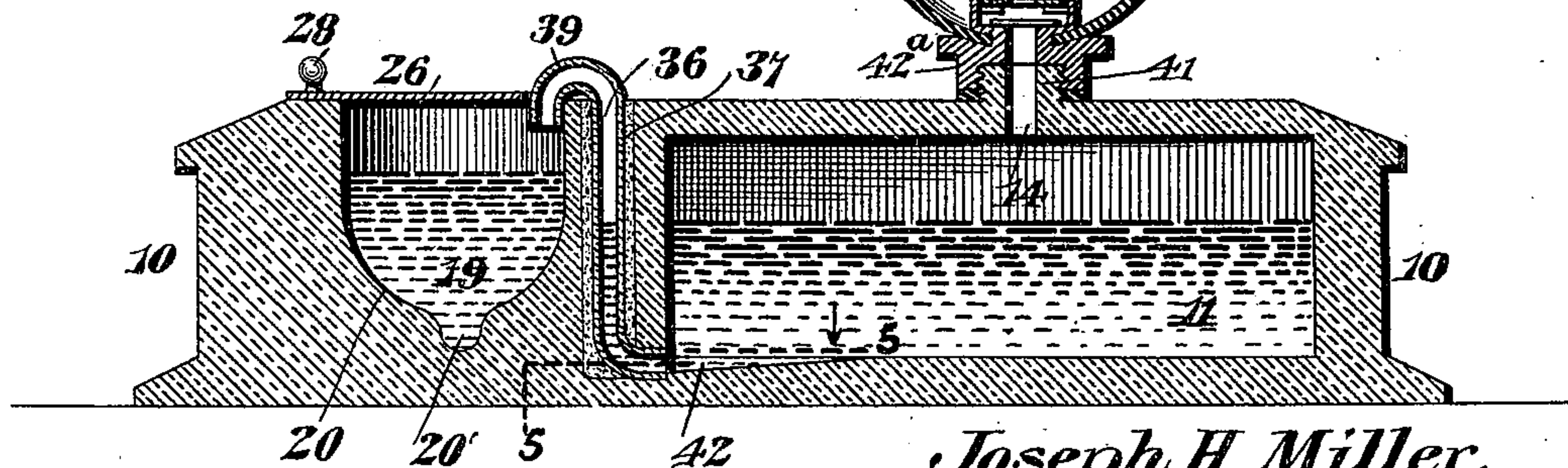


Fig. 3.



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COMBINED INK WELL AND RESERVOIR.

SPECIFICATION forming part of Letters Patent No. 645,968, dated March 27, 1900.

Application filed January 17, 1900. Serial No. 1,783. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. MILLER, a citizen of the United States, residing at Oklahoma city, in the county of Oklahoma and Territory of Oklahoma, have invented a new and useful Combined Ink Well and Reservoir, of which the following is a specification.

My invention relates to combined ink wells and reservoirs designed to contain in reserve a comparatively-large quantity of ink to serve as an available supply for quite a period of time.

The object of this invention is to provide means adapted to feed a small quantity of ink from the reservoir to the ink-well whenever it is desired to use ink for writing purposes, thereby holding in reserve the main body of ink and protecting the same from dust and from evaporation.

With these ends in view the invention consists in the construction and arrangement of parts, which will be hereinafter fully described and claimed.

In the drawings, Figure 1 is a sectional elevation of an ink well and reservoir constructed in accordance with my invention. Fig. 2 is a detail sectional view through the pivotal joint of the closure for the ink-well. Fig. 3 is a detail sectional elevation of another embodiment of my invention. Fig. 4 is a detail view of one form of cover adapted to close the ink-well. Fig. 5 is a detail horizontal section taken in the plane of the line 5 5 of Fig. 3, illustrating the arrangement of the channels in the bottom of the reservoir by which the ink may be drained into the conduit that supplies it to the ink-well.

The same numerals of reference are used to indicate like and corresponding parts in each of the several figures of the drawings.

In carrying my invention into practice I make the body 10 of the combined ink well and reservoir of glass or other appropriate material. This body is preferably made in a single piece, although it is evident that it may be in two or more pieces. A reservoir-chamber 11 is provided in the body for the purpose of containing a comparatively-large quantity of ink. The top 12 of this chamber is provided with a depression or seat 13, and in this top at one side of the seat is an air-inlet port 14. An elbow-coupling 15 is fast with the top 12, so as to communicate at one end with

the port 14, while the other end of said coupling faces toward the depression or seat 13. An air-forcing bulb 16 is coupled to the free end of this elbow-coupling by an air-tight joint, said bulb being provided at one end with an inlet-valve 17 and at its other end with a check-valve 18. The bulb is adapted, normally, to occupy the depression 13 of the top in order that it may be disposed in a compact relation to the reservoir; but said bulb may be lifted out of the depression and grasped in the hand, so that it may be compressed for the purpose of forcing air through the coupling 15 and into the reservoir-chamber 11, whereby the ink contained in said reservoir-chamber may be displaced by atmospheric pressure.

The ink-well 19 is disposed at the opposite end of the body from the reservoir-chamber. This ink-well is provided with a closed bottom 20, in which may be formed a pocket 20', forming a continuation of the well-chamber, and said ink-well is divided or separated from the reservoir-chamber by an intermediate wall 21. An ink-conduit 22 is provided in this wall to connect the bottom part of the reservoir-chamber with the upper part of the ink-well. This conduit extends vertically through the bridge-wall 21, and at its lower end said conduit has a short inlet branch 23, terminating in a throat 24, the latter communicating with the reservoir-chamber. The other end of said conduit opens into a discharge branch 25, disposed transversely through the wall 21 and opening into the ink-well at the upper part thereof. The inclined inlet branch 23 lies at an angle to the longitudinal axis of the vertical conduit, and the port of this branch 23 opens into the reservoir-chamber on the plane of the bottom thereof, whereby the branch is inclined downwardly from the bottom of the chamber for the purpose of enabling all the liquid contents thereof to flow into the conduit, particularly when air-pressure is present in the chamber.

The ink-well opens through the top of the body 10, and it is designed to be closed by a cover 26 when the well is not in use, said cover being provided with a perforated lug 27 and a finger-piece 28. In view of the fact that the body is made of glass, which does not afford a secure attachment for a pivot-pin

of the cover, I have found it necessary to provide a peculiar means for the secure attachment of said pin. The body is provided at a point close to the ink-well with a socket 29.

5 The pivot-pin 30 for the cover is provided at its lower end with an enlarged foot 31, which is thrust into the socket and is designed to be surrounded by and embedded in a self-hardening filling 29' of plaster-of-paris or
10 similar material. This construction provides for the secure retention of the pivot-pin, which is thus united in a permanent manner to the body 10. The upper end of this pin protrudes above the body and passes through
15 the perforated lug of the cover, said protruding end being externally threaded for the reception of a nut 34, the latter adapted to confine the cover on the pin and to serve as a neat finish. A stop 35 is provided on the
20 body in the path of the cover to limit the swinging movement thereof when it is properly closed over the ink-well.

In the embodiment of my invention heretofore described and shown by Fig. 1 the conduit 22 is formed by a passage in the bridge-wall 21; but in the construction shown by Fig. 3 I employ a tube 36, of glass, metal, or other appropriate material, to serve as the ink-conduit. This tube is thrust into a passage 37,
30 provided in the wall, said passage having communication with the reservoir-chamber through channels 42 43. The tube is provided at its upper end with a curved elbow 39, adapted to project into the upper end of
35 the ink-well for the purpose of discharging ink thereto. This elbow may project above the top face of the body, or it may be fitted in a recess, so as to lie flush with said top face. In case the elbow projects above the body the
40 pivoted cover should be provided with a slot or recess 40, adapted to receive the projecting elbow when said cover is adjusted to close the ink-well. The air-forcing bulb shown by Fig. 3 is arranged to project above the body.
45 A nipple 41 is provided on the top to communicate with the reservoir-chamber, said nipple being threaded and provided with a compressible washer or gasket 41. The forcing-bulb has a threaded collar 42, adapted to
50 screw into the nipple, so as to compress the gasket and make a tight joint between the bulb and the nipple. The air-inlet valve at the bulb may be located at any convenient point, preferably on the top thereof.

55 The reservoir-chamber may be charged with ink by detaching the bulb from the top of the body, after which the bulb should be replaced. By compressing the bulb a proper number of times air is forced into the reservoir-chamber until the pressure established
60 therein is sufficient to displace the ink and force the same through the conduit, from whence the ink is delivered into the upper part of the ink-well, whereby the ink is free
65 to accumulate in the bottom of the well and in the pocket thereof. The cover may be swung to one side, so as to expose the well,

and a small quantity of ink sufficient for a limited time is thus contained in the well for immediate use. Should any of the ink re- 70
main in the well, the cover may be closed, so as to exclude dust and prevent evaporation to some extent. It is to be observed that the ink contained in the reservoir-chamber is not subjected to evaporation, because the valved 75
bulb excludes the admission of air and the conduit is sealed by the ink to exclude air, thus minimizing evaporation and wholly preventing the accumulation of dust in the main ink-supply. 80

Slight changes in the form and proportion of parts may be made without departure from the spirit of the invention.

The bottom of the reservoir-chamber may be formed with a plurality of passages 42 43, 85
which converge from the sides of the chamber toward the port or the bottom of the ink-conduit, said channels serving to conduct the ink to a common point and insuring the full discharge of ink when the supply becomes 90
low. This may also be attained by inclining the bottom of the chamber.

Having thus described the invention, what I claim is—

1. The combination of a reservoir, a dip- 95
well having a closed bottom and an open top, an ink-feed passage communicating with the reservoir and having the port arranged to open into the dip-well above the closed bottom thereof, and an air-forcing bulb separate 100
from the reservoir, attached thereto, and communicating with the reservoir-chamber, substantially as described.

2. A combined ink well and reservoir comprising a body having a reservoir-chamber, 105
an ink-well separated from said chamber by an intervening wall, a liquid-conduit formed in said wall and communicating at its lower end with a reservoir-chamber and discharging at its upper end into the upper part of 110
the ink-well, and an air-forcing bulb coupled to the body and communicating with the reservoir-chamber, as and for the purposes described.

3. A combined ink well and reservoir comprising a body having a reservoir-chamber, 115
an ink-well closed at its bottom and divided from said chamber by an intervening wall, a conduit in said wall to discharge into the upper part of the ink-well and communicating 120
with the reservoir-chamber by passages inclined to the bottom thereof, a depression or seat in the top of the reservoir-chamber, an elbow coupled to the top of said reservoir-chamber, and a forcing-bulb united to the 125
elbow and adapted normally to occupy the depression or seat, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOSEPH H. MILLER.

Witnesses:

F. H. SHELLEY,

J. H. MCCARTNY.