April 14, 1931. J. C. WAHL ET AL 1,800,330

FOUNTAIN PEN FILLING DEVICE

Filed Oct. 24, 1925

Fig. 1.

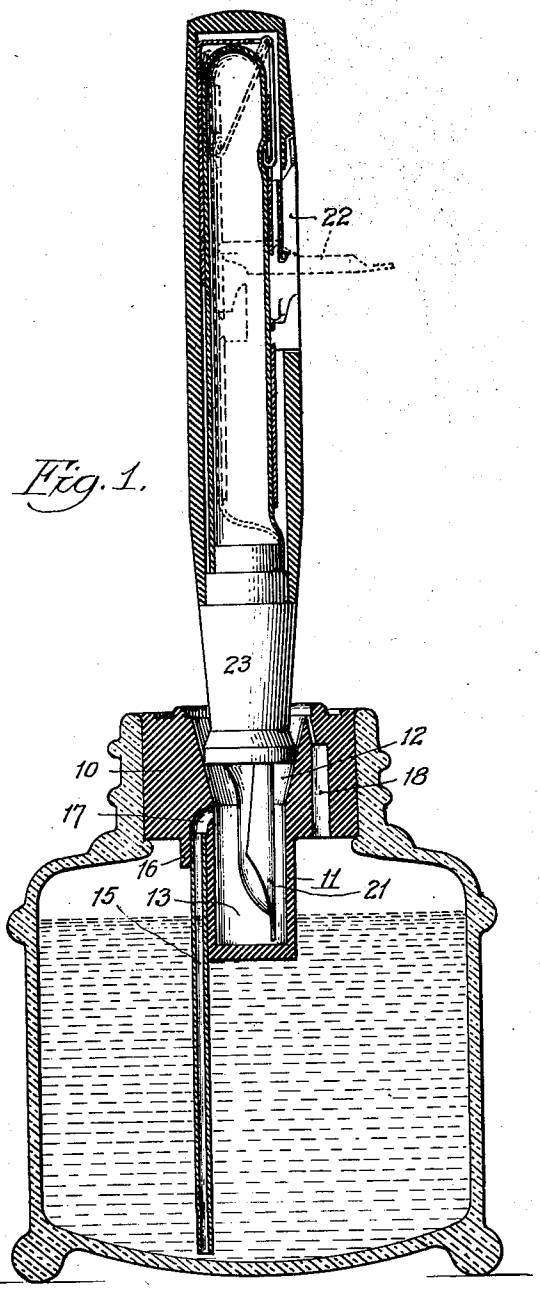


Fig. 2.

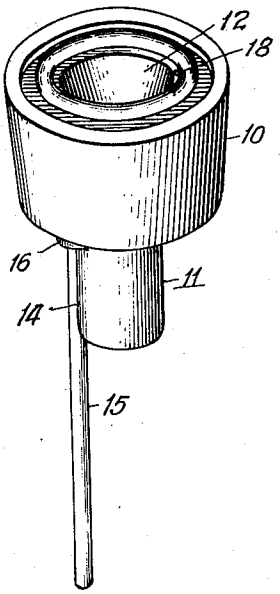
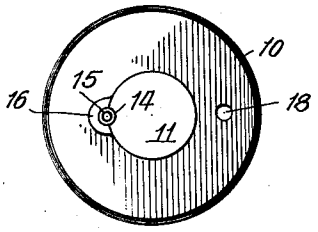


Fig. 3.



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Patented Apr. 14, 1931 1,800,330

UNITED STATES PATENT OFFICE

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FOUNTAIN-PEN-FILLING DEVICE

Application filed October 24, 1925. Serial No. 64,485.

Our invention relates to a device which may be readily applied to an ink bottle or the like for facilitating the filling of a fountain pen, and among the objects of our invention are the following:

To provide a device for aiding in the filling of fountain pens.

To supply a device whereby the ink in the bottom of a bottle may be conveniently used for the filling of a fountain pen.

To supply a device whereby a fountain pen may be more quickly and efficiently filled.

To provide a device whereby the pen point of a fountain pen may be protected from injury by contact with the hard glass or other material of a bottle.

Another object of our invention is to provide a device containing a cup of sufficient depth which is normally filled with ink so that when the pen is introduced the filling is accelerated.

A further object is to provide a device easily attached to a bottle and available for immediate use in aiding the filling of a fountain pen, and such further objects, advantages and capabilities as will later more fully appear.

Our invention further resides in the combination, construction and arrangement of parts shown in the accompanying drawings, and while we have shown therein a preferred embodiment we wish it understood that the same is susceptible of modification and change without departing from the spirit of our invention.

Referring to the drawings—

Fig. 1 is a vertical section through an ink bottle embodying our invention and showing a fountain pen partly in longitudinal section.

Fig. 2 is a detailed perspective view of the filling cup and associated parts.

Fig. 3 is a bottom plan view of Fig. 2.

Our invention more in detail includes a body member 10, having formed therein and extending from the lower side thereof an axially disposed depending hollow cup 11 forming the well 13. The body member 10 is formed with a mouth 12 continuous with the walls of the well 13 for the reception of a fountain pen. The exterior of the cup 11 is formed with a groove 14 for the reception of a tube 15, which extends through an opening in boss 16 into communication with passageway 17 leading into the upper portion of well 13. When the tube 15 is placed in the groove 14 and inserted into the opening in boss 16 a passageway for the flow of ink or the like is created, reaching from the end of tube 15 to the interior of the well 13. An air passage 18 extends through the body member as plainly shown in Figs. 1 and 2, to prevent the creation of a partial vacuum within the bottle above the ink level. The body member 10 may be formed of rubber or other suitable material.

In operation the body member 10 with the tube 15 attached as shown is inserted into the neck of the bottle (see Fig. 1). A fountain pen point 21 is then introduced into the mouth of the body member, the lower circumferential edge of the pen section upon the application of a little pressure forming an airtight connection with the walls of the body member mouth 12. Before introduction of the pen point into the mouth 12 the self-filling arm 22 of the fountain pen should be moved to open position to expel any ink and air that may be in the barrel of the pen. After introduction of the pen in mouth 12 the self-filling arm 22 of the fountain pen is closed and a suction is thereby caused by the return of the compressed ink sack to normal position which causes the ink to flow upwardly through the tube 15 into the interior of the well 13, and through the ink feeding channels into the ink sack of the pen.

After a certain amount of suction the ink not used by the pen remains in the well so that upon the next operation the filling is more immediate than the first filling. In this way a normal immediate filling is assured.

The air hole 18 acts to replenish the air in the ink bottle and thus prevents a vacuum or partial vacuum within the bottle above the ink. In this way constant and positive suction upon operation of the filling arm 22 is insured.

It will readily be seen that the tube 15

extends to the remote depths of the ink bottle 20, and thus insures that the ink will be available for use substantially to the bottom of the bottle. When filling a pen in the old way, without our device, it is necessary to have a substantial amount of ink in the bottle to bring the level of the ink sufficiently high for filling purposes. Our device preferably having a soft mouth also prevents any danger of the pen being injured by contact with rough or hard surfaces.

Having now described our invention, we claim:—

1. In a fountain pen filling device, the combination with an ink bottle of a body member fitting and normally fixed within the mouth of said bottle and provided with a vent, a depending well and a mouth leading through the top of the body to the well, said mouth being so formed as to permit a tight engagement of the shoulder of a fountain pen therewith below said vent, and a depending feed tube having its upper end communicating with said well at a position above the bottom thereof so as not to drain the well when the device is not in use.

2. A fountain pen filling device comprising a body provided with an ink-retaining well extending downwardly from the top face thereof, said body also having an open vent therein adjacent to but separated from said well, and a feed tube having a discharge end communicating with said well, the inlet end of said tube being located at a lower level, a portion of said well being shaped to make a tight fit with a fountain pen so that ink will be drawn through the feed tube into the well and from the well into the pen solely by the operation of the self-filling mechanism of the pen, the discharge end of said tube being positioned above the bottom of the well, so that a residual body of ink will be retained in the well after each pen-filling operation.

3. A fountain pen filling device comprising a hollow body member provided with an ink-retaining well having a longitudinally disposed groove in the exterior thereof, said body also having an open vent therein adjacent to but separated from said well, and a suction tube located within said groove and having a discharge end communicating with the interior of said well, a portion of said well being shaped to make a tight fit with a fountain pen, so that ink will be drawn through the suction tube into the well and from the well into the pen solely by the operation of the self-filling mechanism of the pen, the discharge end of said tube being positioned above the bottom of the well so that a residual body of ink will be retained in the well after each pen filling operation.

4. A fountain pen filling device comprising a hollow body member provided with an ink-retaining well having a longitudinally disposed groove in the exterior thereof, said body also having an open vent therein adjacent to said well, and a suction tube seated within said groove and having a discharge end communicating with the interior of said well, a portion of the mouth of said well at a position below the upper end of said vent being shaped to make a tight fit with a fountain pen, so that ink will be drawn through the feed tube into the well and from the well into the pen solely by the operation of the self-filling mechanism of the pen, the discharge end of said tube being positioned above the bottom of the well, so that a residual body of ink will be retained in the well after each pen filling operation.

5. A fountain pen filling device comprising a hollow body member provided with an air vent and also having an ink-retaining well, the exterior surface of which is provided with a groove, an apertured boss communicating with said well, a suction tube seated in said groove and having its upper end connected with said boss, so as to communicate with said well, the mouth of said well at a position below the upper end of said vent being shaped to make a tight fit with a fountain pen, so that ink will be drawn through the feed tube and boss into the well and from the well into the pen solely by the operation of the self filling mechanism of the pen, said boss being positioned above the bottom of the well so that a residual body of ink will be retained in said well after each pen filling operation.

6. A fountain pen filling device comprising a body member shaped to fit within the opening of an ink bottle, said member having a mouth and vent adjacent to said mouth, a well formed in said body member and continuous with the mouth thereof, said well having an external longitudinally disposed groove, a boss at one end of said groove and in communication with said well, and a suction tube located in said groove and having its delivery end connected with said boss, a portion of the mouth of said well being shaped to make a tight fit with said fountain pen so that ink will be drawn through the feed tube and boss into the wall, and from the well into the pen solely by the operation of the self filling mechanism of said pen, said boss being positioned above the bottom of the well, so that a residual body of ink will be retained in the well after each pen filling operation.

7. A fountain pen filling device comprising a body provided with a vent extending longitudinally therethrough, a depending well having an imperforated bottom wall and a mouth extending through said body to its top, and a suction tube depending from said body and having its upper end communicating with said well, a portion of the mouth of said well at a position below the upper end

of said vent being shaped to make a tight fit with a fountain pen, so that ink will be drawn through the feed tube into the well and from the well into the pen solely by the operation of the self filling mechanism of the pen, the upper end of said suction tube where it joins the well being positioned above the bottom thereof, so that a residual body of ink will be retained in the well after each pen filling operation.

8. A fountain pen filling device comprising a body provided with an open vent, a depending well and a mouth extending from said well through said body to its top, said well and said mouth being axially disposed with respect to said body, and a depending feed tube extending parallel with the axis of said well and leading into one side of the well, the mouth of said well having a portion located below the upper part of the vent shaped to make a tight fit with a fountain pen, so that ink will be drawn through the feed tube into the well and from the well into the pen solely by the operation of the self filling mechanism of the pen, said suction tube communicating with the well at a position above the bottom thereof, so that a residual body of ink will be retained in the well after each pen filling operation.

In witness whereof, we hereunto subscribe our names to this specification.

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