Aug. 22, 1933. G. S. VIVIAN 1,923,648

CONTAINER FOR INK

Filed May 21, 1932

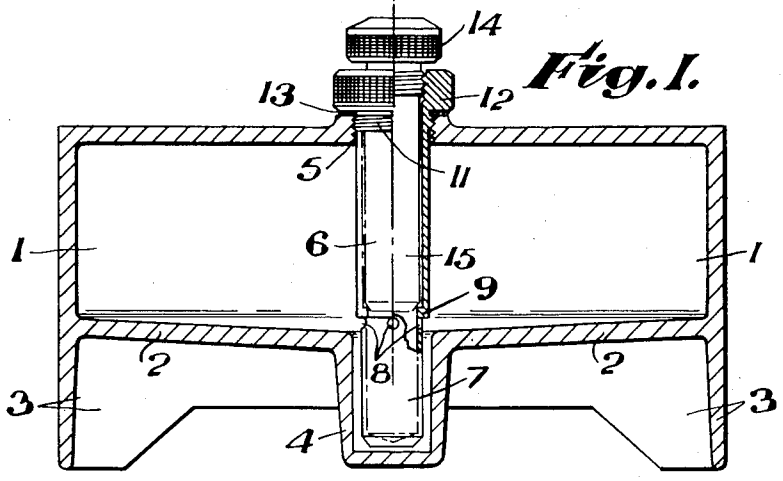


Fig. 1.

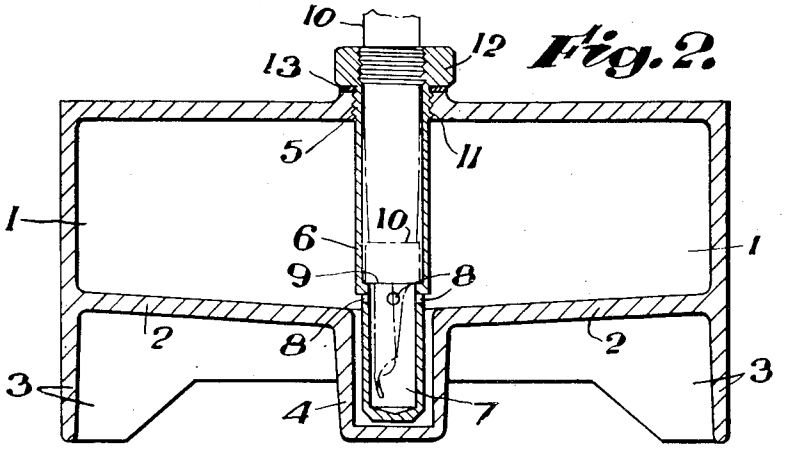


Fig. 2.

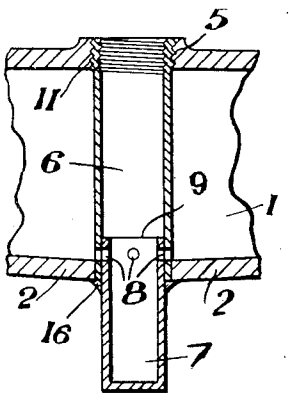


Fig. 3.

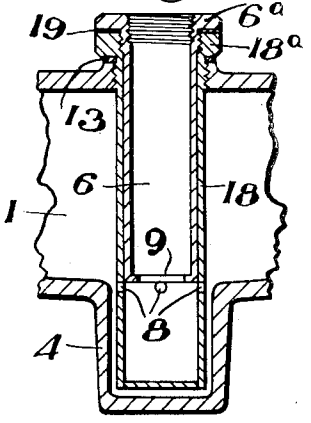


Fig. 4.

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CONTAINER FOR INK

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14 Claims. (Cl. 120—4)

The present invention relates to ink containers and has for its object to provide an ink container which can be filled and from which ink can be withdrawn in a clean manner. The invention is particularly useful in connection with ink containers from which self-filling fountain pens can be filled, a further object of this invention being to provide an ink container for this particular purpose which will enable the pen to be filled without soiling the pen body with ink.

In an ink container according to this invention there is provided a tubular guide, an annular ledge in the guide forming an abutment for the nib section end of the pen body, a well extending from the lower end of said guide, a small aperture connecting the interior of the ink container with said well, said annular ledge being slightly above said aperture.

The preferred form of this invention comprises a chamber formed with an aperture in which is inserted a vertical pen guide, a well depending from the base of the said chamber aligned with said guide, said guide being formed with an abutment against which the nib section receiving end of a self-filling fountain pen is adapted to abut with its nib depending into the said well, ink being admitted to said well by a restricted opening or passage in the said guide beneath said abutment, the chamber being closed at the top by said guide.

In carrying the preferred form of the invention into practice the ink container can be of any suitable shape, for example cylindrical or polygonal and preferably relatively shallow in depth. An aperture is provided in the top of the container and in the base of the container in alignment with this aperture is a well with which is provided means for maintaining a constant level of ink in the well. A suitable seating or ledge is provided above the well upon which an appropriate part of the fountain pen is adapted to be pressed during the filling operation. This seating or ledge is located at such a height above the well or the level of the ink therein that the feed member and nib will dip sufficiently into the ink to enable it to be properly filled by actuating the filling mechanism on or in connection with the pen. The depth of the well is also sufficient to ensure that the nib of the pen cannot come into contact with the bottom of the well and thus avoids the risk of damaging the nib. This invention is particularly applicable to fountain pens of the type in which a push and pull pumping action is employed as the pen may be held firmly against the seating while the filling mechanism is actuated and thus avoids all possibility of the pen itself being jerked up or down by the operation of the filling mechanism. It also ensures that the feed member will be constantly immersed to the correct extent to ensure effective filling and to avoid any possibility of air being drawn into the reservoir of the pen.

In order that the invention may be clearly understood and readily carried into effect a sheet of drawing is appended herewith illustrating embodiments thereof, and wherein:—

Fig. 1 is a sectional elevation showing the ink container closed by a stopper.

Fig. 2 is a sectional elevation view of the same ink container with the stopper removed and showing the manner in which the nib section end of a self-filling fountain pen abuts against a ledge in the pen guide above the well.

Figs. 3 and 4 are detail broken sectional elevation views of alternative forms of pen guides and arrangements of wells in the ink container.

Referring to the drawing I prefer to employ a relatively shallow container 1 which may be of glass or any other suitable material. It may also be of any desired shape, for example round, rectangular, square or any other convenient shape in plan, and may be plain in outline or provided with a decorative surface, for example the container may be moulded in glass or other suitable material with a decorative pattern to represent cut glass or any desired form. The underside of the container is preferably hollowed out so that the floor 2 of the container is raised above the lower edge of its sides 3 and thus provides a space for a downwardly projecting well 4 of relatively small dimensions. An aperture 5 is provided in the top of the container above the well and into this is fitted a downwardly projecting pen guide in the form of a tube or sleeve 6 which projects into or is arranged substantially in line with the well.

In the embodiment shown in Figs. 1 and 2 the tubular guide 6 is formed with an integral closed lower part 7 constituting the well into which the nib of the pen is dipped, this lower well part 7 being accommodated in the well 4 formed integrally with the base 2 of the container 1. Ink is admitted to the well part 7 of the tube 6 by means of one or more restricted openings 8 slightly below an annular ledge 9 formed inside the tube 6 this ledge forming an abutment for the nib section end of the pen body as shown in Fig. 2, the pen being indicated by the broken lines 10.

The tubular guide 6 can be composed of a suitable plastic composition for example one of the many phenol formaldehyde products and it is

preferably formed with a short circumferential threaded part 11 at its upper end by means of which it is threaded into the aperture 5. A flanged head 12 is preferably formed integral with the tube 6 between which and the top of the container 1 a washer 13 is preferably provided, the flanged head being milled or serrated to facilitate unscrewing the tube 6 and removing it from the container 1 to enable the container to be filled with ink. A stopper 14 is threaded into the top of the tube 6 and this stopper is preferably provided with an integral depending shank 15 the lower end of which is adapted to abut against the annular ledge 9 thereby providing a positive seal against ink being displaced up the tube 6 should the container be tilted or be carried about. The lower end of the shank 15 is preferably bevelled to obtain a good seating against the ledge 9.

In the embodiment shown in Fig. 3 the tubular guide 6 and the depending extension 7 forming the well are sealed in the base 2 of the container 1. The well 7 may as shown be a separate element plugged into an opening in the base 2 and sealed by a suitable material 16 to the base 2, the upper end of this member 7 extending a short distance into the tube 6 to provide the annular ledge 9. One or more restricted ink flow openings 8 are formed in the overlapping parts of the members 6 and 7. In this construction the member 6 is preferably threaded flush into the top of the container 1 and can receive a stopper and shank such as 14 and 15 previously described.

In the embodiment shown in Fig. 4 the tubular guide 6 is threaded into an outer sleeve 18 which depends into the well 4 and is closed at its lower end, the guide 6 terminating just above one or more ink flow apertures 8 in the sleeve 18 and formed at its lower end with an annular ledge 9. In this construction the tubular member 6 is formed with an upper flange 6a abutting against a like flange 18a at the upper end of the sleeve 18, these two flanges providing the equivalent of the head 12 whereby the parts 6 and 18 can be removed as a single unit or individually. A washer 19 is preferably interposed between these two flanges. This arrangement is useful where it should be required to fill a fountain pen the body of which is too thick to enter the tube 6 in which event the tube 6 would be removed. If desired an annular ledge may be formed in the sleeve 18 instead of or in addition to the ledge 9 in the tube 6.

In the embodiment shown in Fig. 3, the container 1 can be filled through a hole in its top or base separate from the hole containing the member 6, such filling hole being normally closed by a stopper. Also if it is not required to remove the tube 6 from the container a like filling hole can be provided in the container in the other embodiments shown.

If desired interchangeable tubular members of different sizes may be employed any one of which may be secured in position to adapt the device for use with pens of varying size or diameter. Alternatively adjustable or expandible members or seatings therefor may be provided for the same purpose.

My invention may be constructed in a simple and cheap form intended for fountain pen or other ink and capable of being sold retail as a substitute for the ordinary ink bottle. It may however, also be constructed in a more substantial and in some cases more expensive or elaborate form suitable for use as an ink well or container intended to be kept upon a desk or other convenient place so as to be always available for filling fountain pens when desired.

I claim:—

1. In an ink container a chamber, a well-like depression in the base of the chamber, an aperture in the top of the chamber aligned with said depression, a tubular pen guide fitted into said aperture, said guide being open at its upper end and closed at its lower end, said lower end fitting into said depression, an aperture in the side of the guide for the admission of ink into the lower end of the guide and a ledge formed in the guide above said aperture adapted to constitute an abutment for the nib section receiving end of the pen.

2. In an ink container a chamber, a well-like depression in the base of the chamber, an aperture in the top of the chamber aligned with said depression, a tubular pen guide fitted into said aperture, said guide being open at its upper and lower ends, the said open lower end being slightly spaced above said depression, a ledge formed in the guide above said aperture adapted to constitute an abutment for the nib section receiving end of the pen, a sleeve accommodating said guide, said sleeve extending into the said well-like depression beyond the guide, and an aperture in the sleeve below the lower end of said guide for the admission of ink from the container to the lower end of the sleeve.

3. An ink container for filling self-filling fountain pens comprising a chamber formed in its top with an aperture, a vertical pen guide inserted in said aperture, a well depending from the base of the said chamber aligned with said guide, an abutment formed in said guide against which the nib section receiving end of a self-filling fountain pen is adapted to abut with its nib depending into the said well, and a restricted opening or passage in said guide beneath said abutment for admitting ink to the well, the chamber being closed at the top by said guide, the said well comprising a tubular member fitted into an aperture in the base of the container and extending into the lower end of said guide, the upper end of the tubular well member constituting said abutment.

4. In an ink container, a chamber, a well-like depression in the base of the chamber, an aperture in the top of the chamber aligned with said depression, a tubular pen guide fitted into said aperture, said guide being open at its upper and lower ends, the said open lower end being slightly spaced above said depression, a ledge formed in the guide above said aperture adapted to constitute an abutment for the nib section receiving end of the pen, a sleeve threaded into said aperture to accommodate said guide, said sleeve extending into the said well-like depression beyond the guide, and an aperture in the sleeve below the lower end of said guide for the admission of ink from the container to the lower end of the sleeve.

5. In an ink container a chamber, a well-like depression in the base of the chamber, an aperture in the top of the chamber aligned with said depression, a tubular pen guide fitted into said aperture, said guide being open at its upper and lower ends, the said open lower end being slightly spaced above said depression, a ledge formed in the guide above said aperture adapted to constitute an abutment for the nib section receiving end of the pen, a sleeve threaded into said aperture to accommodate said guide, said sleeve extending into the said well-like depression beyond

the guide, an aperture in the sleeve below the lower end of said guide for the admission of ink from the container to the lower end of the sleeve, a flange-like head on said sleeve, and a like head on said guide located one above the other.

6. In an ink container a chamber, a well-like depression in the base of the chamber, an aperture in the top of the chamber aligned with said depression, a tubular pen guide fitted into said aperture, said guide being open at its upper end and closed at its lower end, said lower end fitting into said depression, an aperture in the side of the guide for the admission of ink into the lower end of the guide, a ledge formed in the guide above said aperture adapted to constitute an abutment for the nib section receiving end of the pen, a stopper threaded into said guide and a shank depending from said stopper as an integral part thereof abutting at its lower end against said annular ledge.

7. In an ink container, a chamber, a well-like depression in the base of the chamber, an aperture in the top of the chamber aligned with said depression, a tubular pen guide fitted into said aperture, said guide being open at its upper and lower ends, the said open lower end being slightly spaced above said depression, a ledge formed in the guide above said aperture adapted to constitute an abutment for the nib section receiving end of the pen, a sleeve threaded into said aperture to accommodate said guide, said sleeve extending into the said well-like depression beyond the guide, an aperture in the sleeve below the lower end of said guide for the admission of ink from the container to the lower end of the sleeve, a stopper fitted into said guide, and a shank depending from said stopper as an integral part thereof abutting at its lower end against said annular ledge.

8. In an ink container for filling fountain pens a tubular guide, an annular ledge in the guide forming an abutment for the nib section end of the pen body, a well extending from the lower end of said guide, a small aperture in said guide connecting the interior of the ink container with said well said annular ledge being slightly above said aperture.

9. An ink container for filling self-filling fountain pens comprising a chamber formed in its top with an aperture, a vertical pen guide inserted in said aperture, a well extending from the lower end of said guide, said well being closed at its lower end, a well depending from the base of the said chamber aligned with said guide, an abutment formed in said guide against which the nib section receiving end of a self-filling fountain pen is adapted to abut with its nib depending into the said well, and a restricted opening or passage in said guide beneath said abutment for admitting ink to the first-mentioned well, the chamber being closed at the top by said guide.

10. An ink container for filling fountain pens comprising a chamber, an aperture in the top of the chamber, a tubular pen guide threaded into said aperture, a well depending from the lower end of said guide, said well being in the form of a tubular extension closed at its lower end, a well depending from the base of the said chamber aligned with said guide, an abutment formed in said guide against which the nib section receiving end of a self-filling fountain pen is adapted to abut with its nib depending into the said well, and a restricted opening or passage in said guide beneath said abutment for admitting ink to the well, the chamber being closed at the top by said guide.

11. An ink container for filling fountain pens comprising a chamber, an aperture in the top of the chamber, a tubular pen guide threaded into said aperture, a well depending from the lower end of said guide, said well being in the form of a tubular extension closed at its lower end, a well depending from the base of the said chamber aligned with said guide, an abutment formed in said guide against which the nib section receiving end of a self-filling fountain pen is adapted to abut with its nib depending into the said well, a restricted opening or passage in said guide beneath said abutment for admitting ink to the well, the chamber being closed at the top by said guide, and a head at the top of said guide abutting against the top of the container.

12. An ink container suitable for use in filling self-filling fountain pens comprising a chamber adapted to be filled with ink, a small well depending from the base of said chamber, a tubular guide for the pen extending upwards into the top of said chamber, a well depending from the lower end of said guide, said latter well being in the form of a tubular member closed at its lower end and disposed within the well at the base of said chamber, a restricted passage in said guide for the flow of ink from the said chamber to said well maintaining a supply of ink in said latter well to a level sufficient to form a liquid seal over said passage or aperture, an annular ledge in said guide, a stopper fitted into said guide, and a shank depending from said stopper as an integral part thereof abutting at its lower end against said annular ledge.

13. In an ink container for filling fountain pens a tubular guide, an annular ledge in the guide forming an abutment for the nib section end of the pen body, a well extending from the lower end of said guide, a small aperture in said guide connecting the interior of the ink container with said well said annular ledge being slightly above said aperture, a stopper threaded into said guide and a shank depending from said stopper as an integral part thereof abutting at its lower end against said annular ledge.

14. An ink container for filling self-filling fountain pens comprising a chamber formed in its top with an aperture, a vertical pen guide inserted in said aperture, a well extending from the lower end of said guide, a well depending from the base of the said chamber aligned with said guide, an abutment formed in said guide against which the nib section receiving end of a self-filling fountain pen is adapted to abut with its nib depending into the said well, a restricted opening or passage in said guide beneath said abutment for admitting ink to the well, the chamber being closed at the top by said guide, a stopper fitted into said guide and a shank depending from said stopper as an integral part thereof abutting at its lower end against said annular ledge.

GEORGE STEWART VIVIAN.