April 8, 1941. S. PASTOR 2,237,791

INKWELL

Filed June 21, 1940

Fig. 1

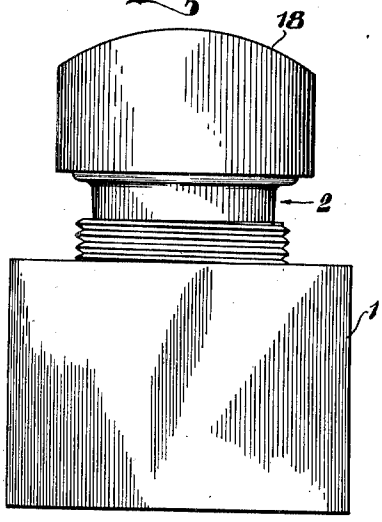


Fig. 2

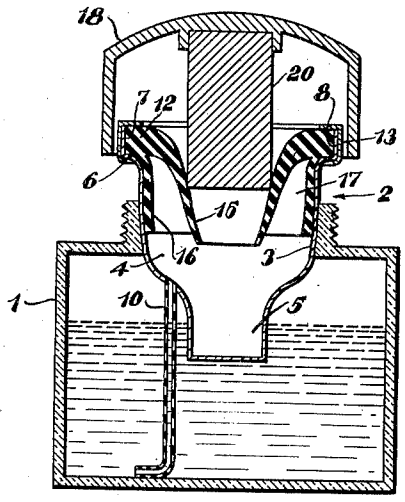


Fig. 3

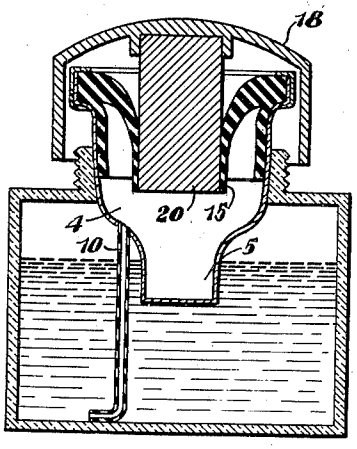
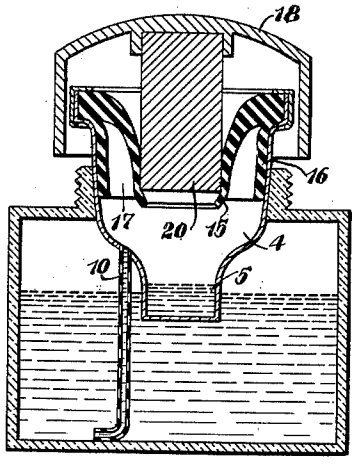


Fig. 4



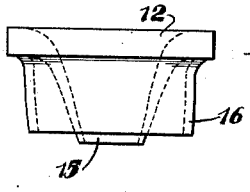


Fig. 5

INVENTOR Santos Pastor

BY John E. R. Hayes

ATTORNEY

Patented Apr. 8, 1941 2,237,791

UNITED STATES PATENT OFFICE

2,237,791

INKWELL

Santos Pastor, New York, N. Y., assignor to The Carter's Ink Company, Cambridge, Mass., a corporation of Massachusetts

Application June 21, 1940, Serial No. 341,673

4 Claims. (Cl. 120—64)

The invention relates to that type of inkwell applicable as an attachment to an ordinary ink bottle out of which the ink is supplied to the inkwell, as occasion requires, by manual manipulation.

The object of the invention is to provide an improved device, and especially one that is simple in construction, not costly, easy to manufacture, and yet possessing a high degree of efficiency.

The invention can best be seen and understood by reference to the drawing in which—

Fig. 1 is a side elevation of the new inkwell device applied to an ordinary type of ink bottle.

Fig. 2 is a vertical cross section thereof.

Fig. 3 is a cross section of the device when the parts have been manipulated to displace air for obtaining a partial vacuum, as will later be explained.

Fig. 4 is a cross section of the device showing the position of the parts as the vacuum is being produced for injecting ink into the inkwell; and

Fig. 5 shows in perspective the elastic element, later to be referred to.

In the drawing 1 represents an ink container which may be an ordinary ink bottle, but one preferably having a relatively large open top or mouth.

Fitting within the open top or mouth of the ink container in the manner of a stopper is an attachment 2 which forms the inkwell, and which receives its increment of ink from out of the ink container.

The attachment 2 comprises a body 3 generally frusto-conical in form, much like a stopper. It is made to provide within it a relatively large chamber 4, and below at the bottom a dipwell 5.

Proceeding from the top edge of the body is an annular flange 6 from the outer edge of which rises an upright edge 7. The flange 6 and edge 7 co-operate to form an annular socket 8.

The body 1 of the attachment is preferably made of metal, and preferably covered with a coating 9 of rubber, although the body may be made wholly of vulcanized rubber, or other suitable material.

Entering the hollow of the body 1, preferably at a point about flush with the top of the inkwell 5, is a pipe 10. This pipe is preferably a flexible pipe or a rubber tube, and is attached to enter the hollow of the body in any suitable manner. The tube is of such length as to extend to the bottom of the ink container when the attachment is in place.

Fitting within the socket 8 is a rubber ring 12. This ring is held clamped in place by a flanged collar 13 which extends over the ring, thence downwardly to extend beneath the flanged edge 6 of the body to which it is crimped, thereby fixing the ring securely in place.

Depending from the ring 12, and preferably formed integral therewith, is an elastic element 15 generally trumpet-like in form. At the top where the element connects with the ring it is outwardly flared but gradually narrows so that the lower portion of the element is generally tubular in form and preferably of restricted size though such as to freely admit the passage through it of a pen, or end of a penholder holding the pen, for entry of the pen into the dip well. The elastic element preferably extends down to a point approaching the top of the dip well.

There is also preferably connected to the elastic element 15 an annular depending apron 16 so as to provide between the elastic element and apron at the top an annular pocket 17. The apron 16 is preferably made of rubber integrally united to the ring like the elastic element.

The attachment 2, or inkwell, is provided with a flanged cover 18. Borne by this cover on the inside thereof, and secured thereto in any suitable manner, is an elongated plug 20. This plug may be of an ordinary type of cork stopper.

When in normal position as shown in Figs. 1 and 2, the flanged edge of the cover will overlap the top of the inkwell around its flanged collar 13, and at the same time the plug 20 will lie extended into the cone of the elastic element 15 closing the passage through it.

The general operation is as follows: When it is desired to fill the dipwell 5 with ink the cover 18 is manually depressed. As the cover is moved downwardly the plug 20, carried with it, enters the elastic element 15 and expands laterally the body thereof. The plug 20 may be depressed to a point approximately to the bottom end of the elastic element, at which time the plug will fill the passage through it and the element itself will be laterally distorted to approximately the side wall of the body 3. In consequence the air contained within the chamber 4 will be largely displaced, and inasmuch as there is no other outlet it will pass back through the tube 10 into the chamber of the ink container. When now the cover is lifted and the plug gradually withdrawn the chamber 4 will be converted into a vacuum chamber, a partial vacuum being formed therein, and thereupon ink will be drawn from out of

the ink container to pass up to the tube 10 and fill into the inkwell 5.

When the inkwell is not in use the cover may be replaced, depressing the plug 20 only to a point where it will close the passage through the elastic element 15, thereby assisting in preventing evaporation of ink.

If the ink bottle is overturned, even if the cover of the inkwell is off, no ink will escape for any ink then in the dip well will run into the pocket 17 between the apron 16 and the elastic element 15 and there remain until the inkwell has been turned back to its normal upright position.

The elastic element 15 need have only such lateral displacement, when the plug 20 is depressed, as will enable it to establish an air tight joint between it and the plug, for the plug, owing to its relatively large size and acting in the manner of a piston, will in itself displace a sufficient amount of air from the chamber of the inkwell as will enable a sufficient partial vacuum to be obtained upon the withdrawal of the plug for filling the inkwell.

I claim:

1. An inkwell comprising an ink container, an attachment having a body detachably secured to enter said container, said body having formed within it at the bottom a dipwell and above an air chamber, a conduit connected with the chambered interior of said body and with extension into said ink container, an elastic element secured to said attachment at the top thereof in closed connection therewith and depending into said air chamber and with passage therethrough in communication with said dipwell, and a distorting means larger in lateral dimension than the passage through said elastic element and movable to enter and fill the passage through said element and laterally distort the wall thereof whereby a partial vacuum will be obtained within said body and ink will be caused to flow from said ink container through said conduit into said dipwell upon the withdrawal of said distorting means.

2. An inkwell comprising an ink container, an attachment having a body detachably secured to enter said container, said body having formed within it at the bottom a dipwell and above an air chamber, a conduit connected with the chambered interior of said body and with extension into said ink container, an elastic element secured to said attachment at the top thereof in closed connection therewith and depending into said air chamber and with passage therethrough in communication with said dipwell, an apron outside of and in closed connection with said elastic element to form an annular pocket around said element between it and the adjacent wall of said body, and a distorting means larger in lateral dimension than the passage through said elastic element and movable to enter and fill the passage through said element and laterally distort the wall thereof whereby a partial vacuum will be obtained within said body and ink will be caused to flow from said ink container through said conduit into said dipwell upon the withdrawal of said distorting means.

3. An inkwell comprising an ink container, an attachment having a body detachably secured to enter said container, said body having formed within it at the bottom a dipwell and above an air chamber, a conduit connected with the chambered interior of said body and with extension into said ink container, an elastic element secured to said attachment at the top thereof in closed connection therewith and depending into said air chamber and with passage therethrough in communication with said dipwell, a cover to said inkwell, and a distorting means borne by said cover and movable by the cover to enter said elastic element and distort the same whereby a partial vacuum will be obtained within said body and ink will be caused to flow from said ink container through said conduit into said dipwell upon the withdrawal of said distorting means.

4. An inkwell comprising an ink container, an attachment having a body detachably secured to enter said container, said body having formed within it at the bottom a dipwell and above an air chamber, a conduit connected with the chambered interior of said body and with extension into said ink container, an elastic element secured to said attachment at the top thereof in closed connection therewith and depending into said air chamber and with passage therethrough in communication with said dipwell, a cover to said inkwell and a distorting means larger in lateral dimension than the passage through said elastic element borne by said cover and movable by said cover to enter and fill the passage through said element and laterally distort the wall thereof whereby a partial vacuum will be obtained within said body and ink will be caused to flow from said ink container through said conduit into said dipwell upon the withdrawal of said distorting means.

SANTOS PASTOR.