

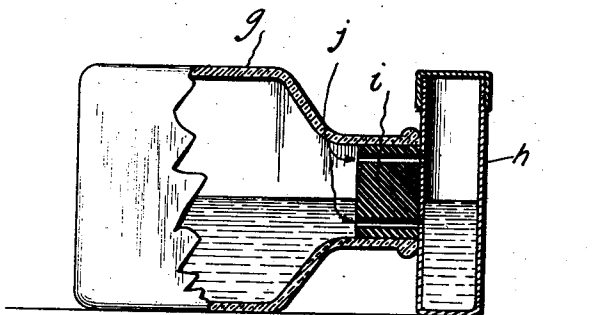
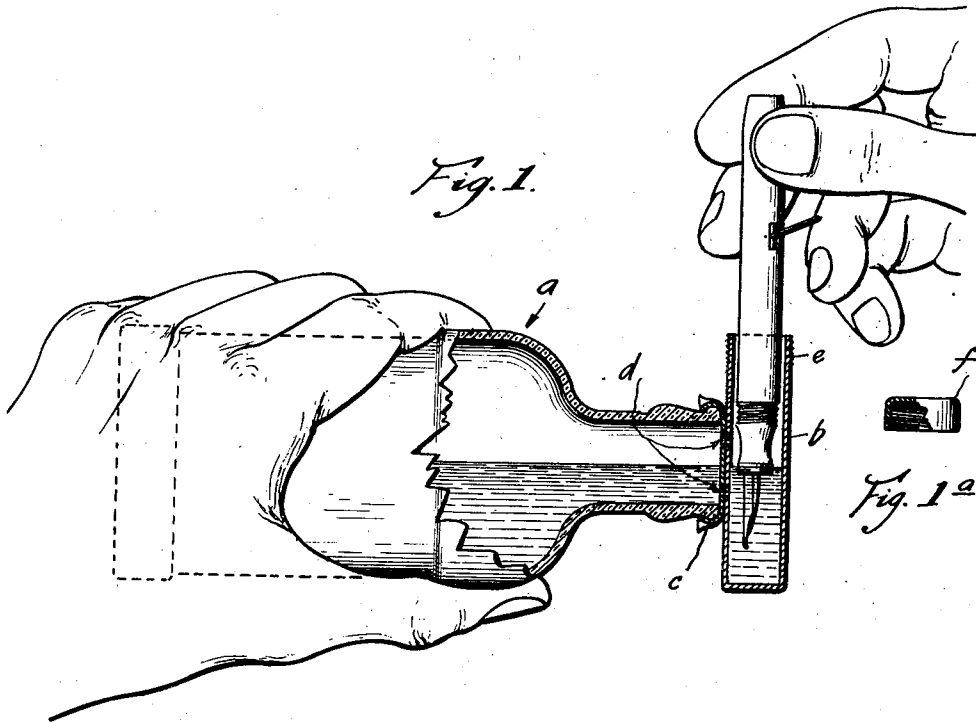
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A. D. PLATT

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COMBINED STOPPER AND PEN FILLING ATTACHMENT FOR INK BOTTLES

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Inventor
Arthur D. Platt.

Geisler & Ramay
Attorney

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ARTHUR D. PLATT, OF PORTLAND, OREGON.

COMBINED STOPPER AND PEN-FILLING ATTACHMENT FOR INK BOTTLES.

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In order to properly fill a fountain pen it is necessary that it be dipped in a quantity of ink of such depth that the point of the pen will be completely submerged. It is, therefore, customary to fill a small bottle with the ink, that is, a bottle of small cross section, so that a small volume of ink will have considerable depth. But repeated filling of the pen from this small bottle frequently results in the reduction of the volume in depth to such extent that the pen thereafter may only be filled with difficulty, if at all, notwithstanding that there is still quite a quantity of ink left in the bottle.

The object of my invention is to provide a device which may be briefly described as a combined stopper and pen filling attachment for an ink bottle; without, of course, limiting my invention to that particular use.

In other words, the object of my invention is to provide an attachment for an ink bottle, or container, adapted to serve as a stopper for the latter, and by which is provided an auxiliary receptacle, preferably tubular, to be filled from the ink contained in the bottle when the latter is turned on its side, thereby to obtain a small volume of ink of such depth that the pen may be properly inserted therein for filling.

I carry my invention into practice by a stopper or cap adapted for being inserted in, or fixed over, the mouth of the bottle, and by providing in, or in conjunction with, said stopper an elongated cavity constituting an auxiliary receptacle, preferably in the form of a hollow cylinder with the long axis of the latter disposed crosswise of the mouth of the bottle; and said auxiliary receptacle preferably being given a depth equal to the width of the bottle. In the wall section of said cavity opposite the mouth of the bottle, I provide one or more orifices so as to admit ink into the cavity from the bottle, and permit air to enter the latter; hence when the air admitting orifice is covered further flow of ink into the auxiliary receptacle is stopped.

My invention may be carried into practice in various ways, but the two examples thereof shown in the accompanying drawing will be a sufficient illustration of the construction and principle of operation of my invention.

In said drawings:

Fig. 1 represents a cap-like closure, or stopper, for the mouth of the bottle, which

closure is provided with a tubular cavity, or auxiliary receptacle, communicating with the interior of the bottle through orifices provided for that purpose;

Fig. 1^a shows the cap provided for closing the open end of said receptacle; and

Fig. 2 illustrates my invention as consisting of a stopper adapted for being inserted in the neck of a bottle, and said stopper being provided with a tubular cavity or auxiliary receptacle, communicating with the interior of the bottle by orifices extending through the stopper.

Said Figs. 1 and 2 also illustrate the manner of using my invention.

Referring first to the construction of my invention illustrated by Fig. 1:

a represents a common type of ink bottle provided with a bead at the rim of its neck. My device consists of a tubular receptacle *b* arranged with its long axis normal to the mouth of the container; and on one side of this receptacle is provided a cap *c* adapted to be fastened on said rim of the neck of the bottle.

The receptacle *b* is so proportioned as to give considerable depth to a relatively small volume of fluid. The receptacle is preferably made of such depth, and so arranged, that the ends of the receptacle will approximately register with the sides of the bottle *a*; in that way giving the auxiliary receptacle *b* a depth equal to the width of the bottle or container. Orifices *d* are provided so that the auxiliary receptacle will communicate with the interior of the bottle. The open end of the auxiliary receptacle is preferably provided with a thread *e*, on which to secure a cap *f*; the latter being shown in Fig. 1^a. When the pen is to be filled, the cap *f* is removed from the auxiliary receptacle *b*.

Thus, when the bottle or container *a* is turned on its side, the ink is caused to flow from the bottle or container *a* into the auxiliary receptacle *b*; and, as apparent, even though there be only a small volume of ink left in the bottle, it takes only a little to fill the auxiliary receptacle *b* to such depth as to enable the dipping of the pen into the ink in the proper manner for filling, as illustrated by Fig. 1.

Since ink can flow out of the bottle when displaced by air admitted into the bottle through said orifices, when the liquid in the auxiliary receptacle has risen to such level

as to cover the air admitting orifice, the latter is sealed, the flow of ink into the auxiliary receptacle is stopped, and thus the overflow of the latter is prevented.

5 My attachment also serves very well in filling one ink bottle from another since it limits the stream of ink which can be poured out.

10 In Fig. 2, *g* represents a small ink bottle of the type commonly placed on the desk. My auxiliary receptacle *h* is of similar construction as the auxiliary receptacle *b*, shown in Fig. 1. The only difference is that the auxiliary receptacle *h* is provided with a stopper *i* adapted to be inserted in the mouth of the neck of the bottle or container *g*; and the stopper *i* is provided with orifices or ducts *j* functioning in the same manner as the orifices *d*, provided in my auxiliary receptacle illustrated by Fig. 1.

20 It will be noted that the depth of my auxiliary receptacle, shown by Fig. 2, corresponds to the distance between the sides of the bottle or container *g*. Such proportioning I find convenient so that when the bottle *g* is turned on its side the auxiliary receptacle *h* will rest on the surface supporting the bottle.

25 The described details of construction of my invention, however, are merely to serve as suggestions for conveniently carrying my invention into practice.

I claim:

30 1. The combination with a fluid container, of a member adapted to be removably secured to the mouth of such container and including an auxiliary fluid receptacle open at one end and closed at the other and formed for communication with the container through a fluid transferring duct and an air transferring duct, the connection between the fluid container and auxiliary receptacle permitting the passage of the fluid from the container to the receptacle in a

predetermined position of the former and 45 automatically cutting off such passage when the air transferring duct is sealed by the fluid in the auxiliary receptacle.

2. A pen filling attachment for a bottle, comprising a tubular container open at one 50 end and closed at the opposite end, means carried by the container whereby it may be removably secured to the mouth of the bottle, said means being formed to provide communication ports between the bottle and 55 container at spaced points longitudinally of the latter, whereby on tilting the bottle fluid will be discharged through one of said ports into the container and air admitted through the other of said ports to the bottle, the rising of the fluid in the container to a position to seal the port admitting air to the bottle serving to prevent further flow of fluid to the container. 60

3. A pen filling attachment for bottles, comprising a tubular container open at one end and closed at the other, and means for removably attaching the container to the bottle to hold the container in a position normal to the mouth of the bottle, means for 70 permitting flow of fluid from the bottle to the container in a predetermined relative position of the parts, and means for automatically cutting off said flow to limit the height of the fluid in said container. 75

4. A pen filling attachment for a bottle, comprising an open mouth container of substantially uniform diameter throughout, bottle attaching means carried by the container intermediate the ends thereof, and 80 means within the plane of the attaching means to permit interchange of fluid between the bottle and container and to prevent flow from the bottle to the container at a predetermined fluid level in the container. 85

ARTHUR D. PLATT.