N. C. PHILLIPS.

INK BOTTLE.

APPLICATION FILED MAY 18, 1914.

1,152,546.

Patented Sept. 7, 1915.

Fig. 1.

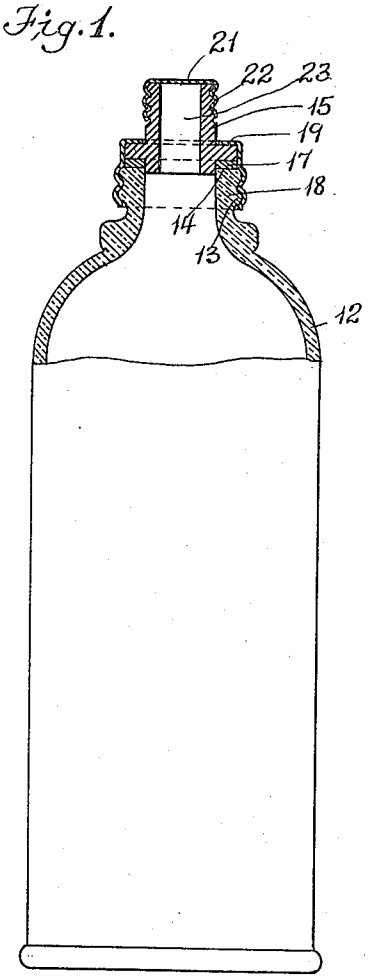


Fig. 2.

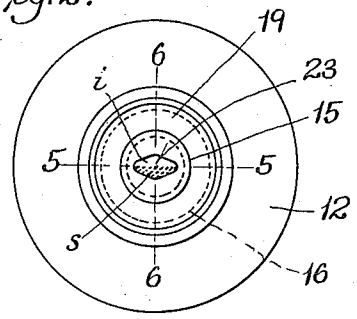


Fig. 3.

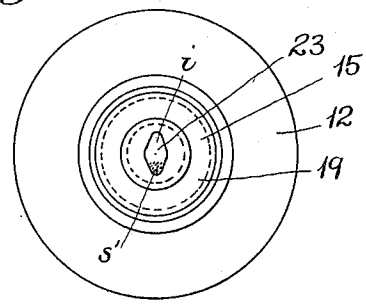


Fig. 4.

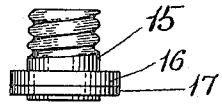


Fig. 5.

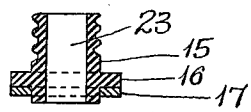
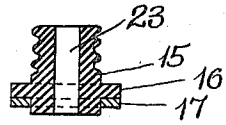


Fig. 6.



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UNITED STATES PATENT OFFICE.

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INK-BOTTLE.

1,152,546. Specification of Letters Patent. Patented Sept. 7, 1915.

Application filed May 18, 1914. Serial No. 839,184.

To all whom it may concern:

Be it known that I, NATHAN C. PHILLIPS, a citizen of the United States, and resident of Gloucester, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Ink-Bottles, of which the following is a specification.

This invention relates to refillable bottles adapted to contain ink in bulk, and has for its object to enable such bottles to be conveniently used either for filling ink wells or like relatively large receptacles, or for filling relatively small receptacles such as the reservoirs of fountain pens. Ink wells may be properly filled by pouring a relatively large and rapid stream without particularly careful manipulation of the bottle. It has not been practicable heretofore however to fill a fountain pen reservoir directly from an ordinary refillable ink bottle of relatively large capacity, no provision having been made for pouring from the bottle a slender or attenuated stream of suitable cross sectional area to properly enter the mouth of a fountain pen reservoir.

My invention is embodied in a refillable bottle having a relatively large pouring and filling passage in its neck, and a neck extension detachably engaged with said neck, and having a longitudinal passageway formed to pour either a relatively large stream suitable for filling ink wells, or a relatively narrow attenuated stream suitable for filling fountain pen reservoirs, provision being made for admitting air above the attenuated stream to prevent agitation and scattering of the flowing liquid by air entering the bottle, so that a smooth, uniform, uninterrupted stream of proper form may be poured into a fountain pen reservoir, directly from a large bottle, the use of the ordinary dropper being dispensed with, and the bottle body being adapted to be quickly and conveniently refilled when the neck extension is removed.

Of the accompanying drawings forming a part of this specification: Figure 1 represents a side view of a bottle embodying my invention, the neck of the bottle and the neck extension being shown in section; Fig. 2 represents an end view showing the bottle in position to pour a relatively large stream; Fig. 3 represents an end view showing the bottle in position to pour an attenuated stream; Fig. 4 represents a side view of the neck extension; Fig. 5 represents a section on line 5—5 of Fig. 2; Fig. 6 represents a section on line 6—6 of Fig. 2.

The same reference characters indicate the same or similar parts in all the views.

In the drawings, 12 represents the body portion of a bottle adapted to contain ink in bulk, the neck of the bottle body being provided with an external screw thread 13 and with an annular end face or seat 14, surrounding a relatively large pouring and filling passage.

15 represents a tubular externally circular neck extension having a flange composed of a rigid portion 16 integral with the extension and a compressible packing washer 17 forming the inner face of the flange and bearing on the seat 14. The rigid flange portion 16 is located above the inner end of the extension, so that said inner end forms an annular shoulder which enters the packing washer, confines it against edgewise displacement, and enables the extension and washer to be applied and removed as one part. Said shoulder is preferably formed to enter the passage surrounded by the seat 14 and thus center the extension. The said extension being of smaller diameter than the flange and seat, and projecting outwardly therefrom as shown, is laterally unobstructed at its outer portion and constitutes a pouring nozzle of relatively small diameter.

18 represents a screw-threaded sheet metal collar engaging the thread 13, and having a flange 19 bearing on the outer side of the rigid flange portion 16, to secure the neck extension to the body of the bottle. The extension 15 is provided with a suitable closure, which is preferably a sheet metal cap composed of a head 21 and a screw-threaded body 22, engaging an external thread formed on the outer portion of the extension.

The passageway 23 through the extension 15 is so formed that streams of different size and of different cross sectional area may be selectively poured from the bottle, according to the position in which the bottle is held in pouring. In the embodiment of the invention here shown said passageway is oblong and of substantially rhomboidal form in cross section. When the bottle is tipped to pour ink, and is held so that the major axis of the mouth of the passageway

is in a horizontal plane, as shown by Fig. 2, a relatively wide and bulky stream S is poured, said stream being suitable for rapidly filling ink wells. When the bottle is held so that the major axis of the mouth of the passageway is in a vertical plane, as shown by Fig. 3, a relatively narrow attenuated stream S′ is poured, said stream being suitable for filling the reservoirs of fountain pens. Owing to the relatively small diameter of the extension, its unobstructed outer end is adapted to be held in close proximity to a fountain pen reservoir and to deliver a solid well-defined stream which cannot be spread or dissipated by any surface over which it flows.

The described form of the passageway provides an air inlet *i* above the stream of liquid, this inlet permitting air to freely enter the bottle body to take the place of the displaced liquid without agitating or interfering with the stream of liquid and therefore without causing the liquid to gurgle and scatter drops of ink. The air inlet is particularly effective for the purpose last stated when the bottle is held in the position shown by Fig. 3, so that in filling a fountain pen a smoothly flowing, uninterrupted, attenuated stream is assured, and liability of scattering ink is avoided. The acute angled portion of the passageway through which the stream S′ flows is virtually a narrow gutter forming a part of the passageway, and adapted to pour an attenuated stream, said gutter also forming a part of the passageway when the stream S is being poured.

It will now be seen that a large bottle body, adapted to hold ink in bulk, may be conveniently and quickly refilled when separated from the neck extension, and used both for filling relatively large receptacles such as ink wells, or small attenuated receptacles such as fountain pen reservoirs, when the neck extension is in place, the necessity of using a dropper for the last-named purpose being avoided.

Having described my invention, I claim:

A pouring extension for bottle necks comprising a body provided with an external seat for engaging a bottle neck, means engaging the seat for detachably fastening the extension to a bottle neck, said body being provided with a longitudinal bore, said bore having acute angular sides relatively disposed so that oppositely disposed narrow deep gutters and oppositely disposed wide shallow gutters are provided, the gutters extending the full length of the bore of the extension, the deep gutters serving to dispense an attenuated stream and to admit air above the stream, and the shallow gutters serving to dispense a wide stream and also admit air above the stream.

In testimony whereof I have affixed my signature, in presence of two witnesses.

NATHAN C. PHILLIPS.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."