

PATENT SPECIFICATION

Application Date : May 12, 1924. No. 11,762 / 24. 238,288

„ „ July 5, 1924. No. 16,189/24.

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PROVISIONAL SPECIFICATION.

No. 11,762, A.D. 1924.

Improvements in and relating to Ink Bottles and the like.



We, GORDON DUNKERLEY, of 123, Dulwich Road, Herne Hill, London, S.E. 24, a British subject, and MABIE, TODD AND COMPANY LIMITED, a British company, of Swan House, 133, Oxford Street, London, W.C., do hereby declare the nature of this invention to be as follows:—

10 This invention relates to ink bottles and the like.

It has for its object the construction of such receptacles so that they can be made to readily transfer a portion of the contents to an upper part of the receptacle where it is readily accessible for use or withdrawal. A further object is to render the whole of the contents thus available and also to ensure that flies and other objects cannot get into the main contents. A still further object is to provide a ready means of replenishing the ink supply of self-filling fountain-pens while preventing the pen from going too deep and the nib from striking the bottom of the receptacle.

25 The present invention comprises a bottle or the like for ink, having above the contents an outlet adapted to be readily closed by a stopper or the like and having below the outlet and above the main contents a device that forms a chamber below the outlet, such device having one or more small apertures that form the means for the liquid to enter the chamber, such apertures being too small to allow the liquid to pass through by gravity but enabling it to pass through when the pressure is increased by giving the apparatus a sharp swing when held upside down with the outlet closed. The chamber is closed at the top

by the stopper in the main outlet and remains open in the receptacle when this stopper is removed.

A convenient construction comprises a bottle with a neck whose bore does not increase at an appreciable distance from the outlet. A compressible auxiliary stopper pierced by one or more holes or having a serrated edge, is pushed down the neck until it rests appreciably below the stopper in the outlet. To fill the chamber, the outlet is closed and the bottle is inverted and swung sharply to and fro. It is then stood upright and the main stopper removed when the chamber remains appreciably full of liquid.

Other convenient constructions comprise perforated devices supported by projections or indentations of the neck or forming part of the receptacle. The device may conveniently extend across the inside of the neck or have sides of its own that form the chamber, instead of the neck of the receptacle being utilised. In another modification the perforated device may form a stopper as in ordinary bottles and the sides of the chamber may form a separate extension of the neck.

Dated the 12th day of May, 1924.

G. DUNKERLEY,
MABIE, TODD & Co., LIMITED,
The common seal of Mabie, Todd & Co., Ltd., was hereunto affixed in the presence of

A. K. WATTS,
Governing Director.
W. HAROLD CALEY,
Secretary.

PROVISIONAL SPECIFICATION.

No. 16,189, A.D. 1924.

Improvements in and relating to Ink Bottles and the like.

We, GORDON DUNKERLEY, of 123, Dulwich Road, Herne Hill, London, S.E. 24, a British subject, and MABIE, TODD AND COMPANY LIMITED, a British company, of Swan House, 133, Oxford Street, London, W.C., do hereby declare the nature of this invention to be as follows:—

This invention relates to bottles and the like, for ink. It has for its object the construction of such receptacles so that they will readily transfer a portion of the contents to an upper part of the receptacle and hold it readily accessible for use or withdrawal. A further object is to render the whole of the contents thus available and also to ensure that flies or other solid matter cannot get into the main contents. A still further object is to provide a ready means of replenishing the ink supply of self-filling fountain pens while protecting the nib from going too deep in the liquid or striking the bottom of the vessel.

The present invention comprises a receptacle for ink having above the contents an outlet adapted to be readily closed and provided below the outlet and above the main contents with a device that forms a chamber below the outlet, having one or more openings for the main contents to enter the chamber. Such openings may be large enough for the main contents to pass through to the

chamber by gravity alone, without swinging the receptacle, when the latter is inverted with the outlet closed. Also, the opening or openings are such as not to allow the contents of the chamber to fall back into the body of the receptacle when the vessel is stood upright and the outlet opened. This is done by limiting the size of the opening or openings in the first place, or automatically, on standing the vessel upright. The chamber is closed by the stopper or the like in the main outlet and remains open when the stopper is removed. A convenient construction comprises a bottle having a small outlet into a neck of larger diameter that forms the chamber into which the pen may be inserted freely. Any other suitable means may be used to provide the opening between the chamber and the main contents as for instance a perforated stopper or the like appreciably below the main stopper.

Dated the 5th day of July, 1924.

G. DUNKERLEY,

MABIE, TODD & Co., LIMITED,
The common seal of Mabie,
Todd & Co., Ltd., was
hereunto affixed in the
presence of

A. K. WATTS,
Governing Director.
W. HAROLD CALEY,
Secretary.

COMPLETE SPECIFICATION.

Improvements in and relating to Ink Bottles and the like.

We, GORDON DUNKERLEY, of 123, Dulwich Road, Herne Hill, London, S.E. 24, a British subject, and MABIE, TODD AND COMPANY LIMITED, a British company, of Swan House, 133, Oxford Street, London, W.C., do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to bottles and like receptacles or containers for ink and has for its chief object to provide means whereby a portion of the contents of the

receptacle sufficient to fill a fountain pen can be transferred from the main contents to and retained at the neck, outlet, or upper part of the receptacle where it is readily accessible for use or withdrawal.

A further object of the present invention is to render the whole of the contents thus available and also to ensure that flies or other solid matter cannot get into the main contents.

A still further object is to provide a ready means of replenishing the ink supply of self-filling fountain pens while protecting the nib or point from

going too deep in the liquid or striking the bottom of the receptacle.

It has hitherto been proposed in a medical cylindrical phial to employ a disc dividing the main part of the phial from a dose part, the disc allows a portion of the contents to pass to the dose chamber when the phial is tilted or inclined, one opening or a part of the opening serving as an air vent and the dose chamber is emptied by pouring.

In accordance with the present invention there is provided on the neck of the bottle a chamber having a trapping device comprising a disc or diaphragm having one or more perforations or openings, which allows the chamber to be filled by shaking or gravity when the bottle is completely inverted and which traps or retains the ink or a material portion thereof in the chamber when the bottle is stood upright and the bottle stopper removed so that a fountain pen can be filled by dipping the nib thereof into the chamber.

The chamber which may be constituted by an enlargement of the neck of the bottle is of such a capacity as to contain sufficient ink to fill the reservoir of a fountain pen.

Between this chamber and the interior or body of the bottle is situated the device for admitting liquid from the bottle to the chamber when the bottle is inverted and for retaining such liquid in the chamber when the bottle is again placed upright.

Referring to the accompanying drawings:—

Fig. 1 is a sectional elevation of a portion of a bottle having the retaining or pen-filling chamber integral with the bottle.

Fig. 2 is a similar view showing a modified means for holding or fixing the retaining or trapping device.

Fig. 3 is a similar view showing a modified form of retaining or trapping device.

Fig. 4 is a similar view embodying a modification wherein the chamber is made separate from the bottle.

Fig. 5 is a similar view showing another arrangement showing a detachable container applied to a bottle.

Fig. 6 is a similar view showing a further modification with a detachable container or chamber and Fig. 7 is a detail view.

A is the chamber and B the trapping device.

Referring first of all to the arrangement shown in Fig. 1, the chamber or container A is formed by a portion of

the neck C of the bottle C¹. The neck C as shown is straight or does not increase in diameter between the outlet c in which a cork or other stopper D is placed and the shoulder c¹ of the bottle.

Between the lower end of the chamber A and the interior or body of the bottle is placed the trapping or retaining device B which, in the present example, is in the form of a plug or disc which is a conveniently tight fit in the bottle neck and is furnished with a central opening B¹ which establishes communication between the interior of the bottle and the chamber A.

The disc B may be furnished with two comparatively small openings B¹ as shown in Fig. 3 or the outer edges of the disc B may be serrated or grooved vertically.

The opening or openings B¹ or the peripheral serrations are such that they are too small to allow a portion of the contents to pass freely into the chamber A when the bottle is inverted but permit the liquid to pass when the pressure thereon is increased as for example of swinging or shaking the inverted bottle sharply.

When the liquid has entered the chamber A, the stopper D can be removed and the end of a self-filling pen inserted so that the pen can be filled or replenished from the contents of the chamber.

The size of the openings or opening B¹ is such that on the removal of the stopper D the contents of the chamber A do not pass back to the bottle to any appreciable or material extent.

If it is undesirable to shake or swing the corked or stoppered bottle in order to transfer to the chamber A a portion of the contents, the opening or openings B¹ may be of such diameter that the liquid will pass to the chamber A by gravity but are not large enough to allow the liquid to pass quickly so that when the bottle is upright and the stopper D is removed, the liquid or the bulk of it will remain in the chamber for sufficient time and of sufficient quantity to allow a fountain pen to be replenished.

Referring now to the embodiment illustrated in Fig. 2 the bottle neck C is provided on its inner surface, at a convenient distance above the shoulder c¹ with an annular shoulder or projection C² and the trapping or retaining device B which is conveniently of resilient or compressible material is forced down the bottle neck until the shoulder C² is embedded in or grips the outer periphery of the disc B.

In the arrangement shown in Fig. 3 the bottle neck has a rectangular recess

C³ in which the disc B is supported by its outer edges.

In the arrangements above described the chamber A is integral with the bottle but it is proposed by the present invention to make this chamber separate from the bottle so that it may be attached temporarily to bottles of various constructions and the trapping or retaining device may be embodied in the bottle or in the chamber A.

According to the arrangement shown in Fig. 5 the chamber A is formed by a tubular member or piece of rubber or other appropriate material C one end of which is conveniently flanged and adapted to receive a stopper or cork D while the other end is adapted to slip over a neck or flange on the outlet end of a bottle. In this embodiment also the trapping B is formed integral with the bottle and comprises a restricted portion B¹ with a central opening B².

In the arrangement shown in Fig. 6 the neck of the bottle is provided with a chamber which forms part of the chamber A the remaining portion of the chamber A being in the detachable tubular member C which fits into the outside of the bottle neck.

At the lower end of the bottle neck is the trapping device B formed in this case by an integral flange on the bottle neck leaving an opening B¹ for the passage of the liquid. In replenishing a pen the nib E passes into the portion of the chamber A which is in the bottle neck so as to prevent injury or damage to the nib.

According to the arrangement shown in Fig. 6, the chamber A and the trapping device B are integral and separate from the bottle.

According to this embodiment the device as a whole is adapted to be secured temporarily with a cork or stopper placed in a bottle outlet. Preferably the stopper is pierced or bored and the lower end of the chamber A is provided with an externally screwed stem which can be screwed into the stopper.

The disc or plug B may be of any suitable thickness and a portion of the chamber A formed therein may be of such proportions as to accommodate the nib of a pen (see Fig. 7).

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A stoppered ink-bottle having a chamber in the neck thereof separated from the body of the bottle by a trapping device comprising a disc or diaphragm having one or more perforations or openings which allows the chamber to be filled by shaking or by gravity when the bottle is completely inverted and which traps or retains the ink or a material portion thereof in the chamber when the bottle is stood upright and the bottle stopper removed substantially as and for the purpose described.

2. In an ink bottle the combination with the neck thereof of a chamber adapted to be detachably secured to the neck and a trapping or retaining device comprising a flat disc having one or more openings and arranged at the inlet to the chamber or in the neck of the bottle substantially as and for the purpose described.

3. In an ink bottle the combination with a chamber integral with or adapted to be detachably secured to the neck outlet of a bottle, of a plug disc or the like having one or more openings of the character described for the passage of the liquid and means for preventing the pen nib from going too deep substantially as described.

4. An ink bottle having in the neck thereof a device for filling or charging a fountain pen constructed and arranged to operate substantially as described or illustrated in Fig. 1 or in Fig. 2 or in Fig. 3 or in Fig. 5 or in Fig. 6 or in Fig. 7 of the accompanying drawings.

Dated this 25th day of September, 1924.

WM. J. DOW, F.C.I.P.A.,

Agent for the Applicants.

2nd Edition

Fig. 1.

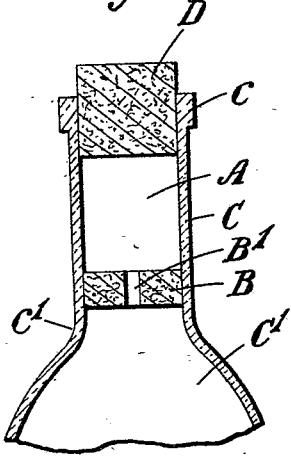


Fig. 2.

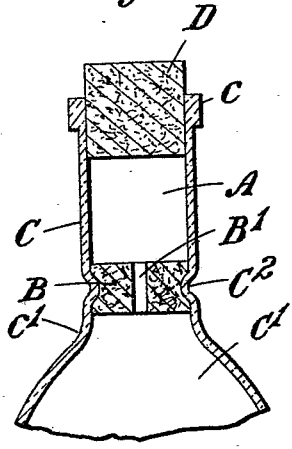


Fig. 3.

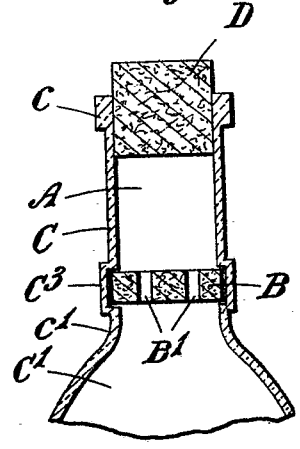


Fig. 4.

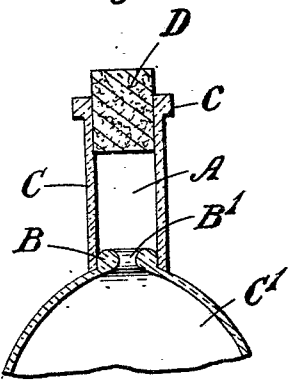


Fig. 5.

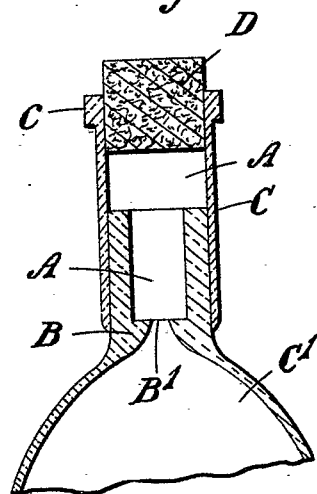


Fig. 6.

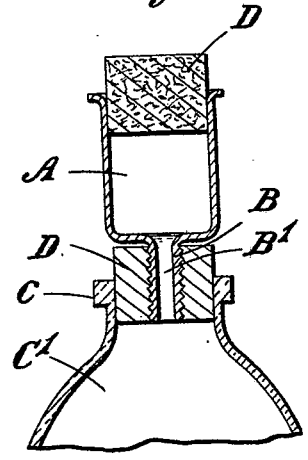
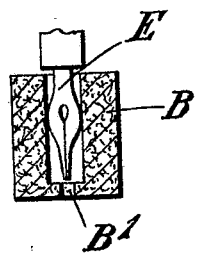


Fig. 7.



[This Drawing is a reproduction of the Original on a reduced scale.]