

April 13, 1926.

G. H. C. LUMSDEN

1,581,072

CLOSURE FOR WATER BOTTLES AND THE LIKE

Filed July 17, 1925

Fig. 1.

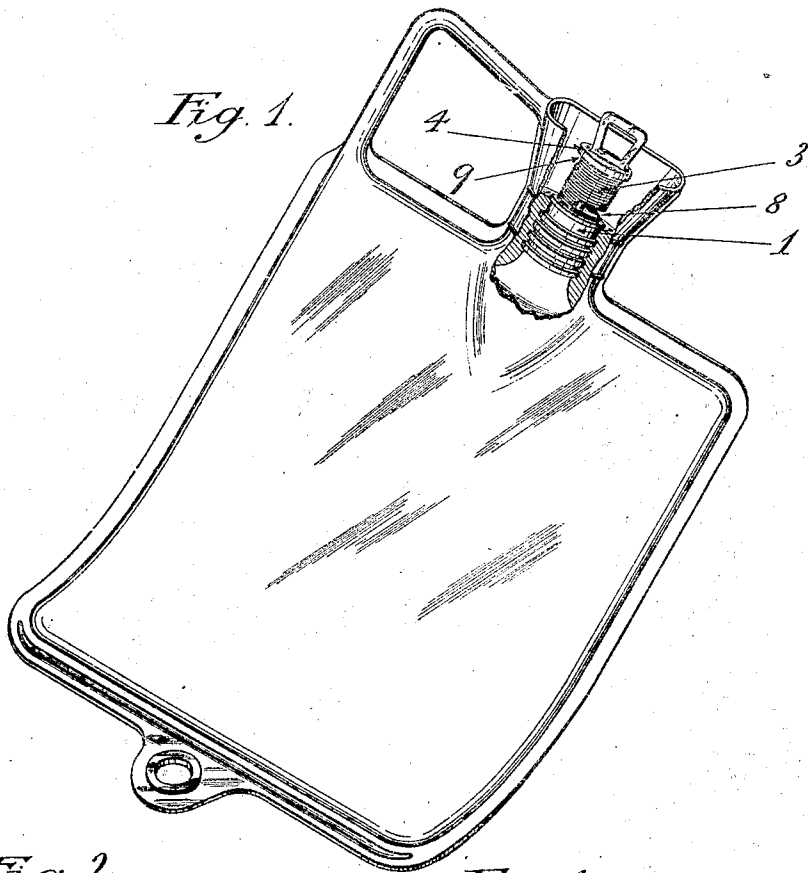


Fig. 2.

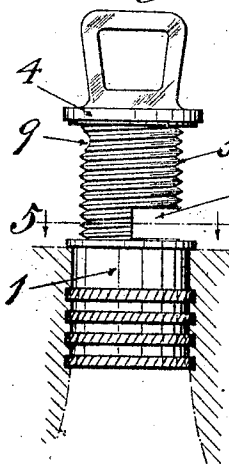


Fig. 3.

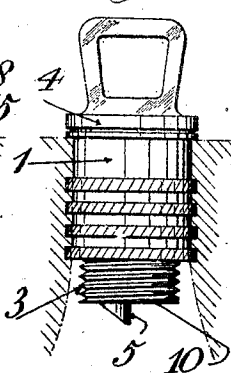


Fig. 4.

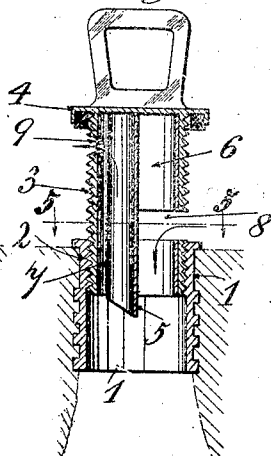
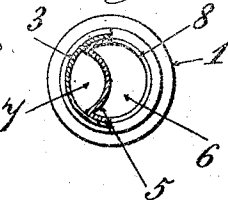


Fig. 5.



INVENTOR

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UNITED STATES PATENT OFFICE.

GEORGE HENRY CHARLES LUMSDEN, OF HOVE, ENGLAND.

CLOSURE FOR WATER BOTTLES AND THE LIKE.

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To all whom it may concern:

Be it known that I, GEORGE HENRY CHARLES LUMSDEN, a subject of the King of Great Britain and Ireland, residing at Hove, in the county of Sussex, England, have invented Improvements in or Relating to Closures for Water Bottles and the like, of which the following is a specification.

This invention relates to that type of closure for water bottles, bags and other receptacles, which provides separate liquid inlet and air outlet passages and which can advantageously be used for hot water bottles and other receptacles provided with a filling funnel, the object being to provide an improved form of closure which will admit of air more readily escaping from the bottle when the latter is being filled with water, so as to avoid liability of its bubbling through and splashing the water which, when hot, is liable to scald the hands of the person filling the bottle.

A closure of the type referred to, constructed according to the present invention, comprises a ferrule or tube adapted to be secured in the mouth of the bottle at the bottom of the funnel therefor and a cap piece or stopper that is adapted to be secured to the ferrule or tube in a liquid tight manner and is provided at its inner side with a tubular cylindrical extension that passes through and fits the ferrule or tube and is divided internally into two parallel passages down one of which water can flow whilst air escapes up the other, openings or ports, at different levels, being provided in the wall of the tubular extension for the admission of the water and exit of the air. The inlet and outlet openings or ports may be of any suitable shape. The tubular extension is adapted, at its inner end, to prevent its complete withdrawal from the ferrule or tube.

One convenient construction which will now be more fully described is illustrated in the accompanying drawings, whereof Fig. 1 is a perspective view, with parts broken away or in section, of a well known type of india-rubber hot water bag having the improved means in position ready to enable the bag to be filled. Fig. 2 is an elevation of the filling means alone and drawn to a larger scale than Fig. 1. Fig. 3 is a similar view of the parts as they appear after the bag is filled and the closure effective. Fig. 4 is a vertical section corresponding to Fig.

2 and Fig. 5 is a section on the line 5—5 of Fig. 2.

As here shown the ferrule or tube 1 is screw threaded internally as at 2 and the hollow cylindrical extension 3 of the cap piece 4 or stopper is provided externally with a corresponding screw thread and internally with a web or partition 5 that divides its interior into two parallel passages 6, 7. Ports 8, 9 are provided in the extension 3 respectively for admission of water to the passage 6 and exit of air from the other passage 7, the water admission port 8 being arranged nearer to the inner end of the extension 3 than the air exit port 9. The web or partition 5 may advantageously be formed by a strip of metal or other suitable material and may be of concavo-convex shape in cross section so that the cross sectional area of the water inlet passage 6 shall be greater than that of the air exit passage 7. The arrangement is such that by turning the cap or stopper 4, the tubular extension 3 can readily be screwed into its outer or inner position as required. To enable this to be done quickly, the ferrule or tube 1 and cylindrical extension 3 may be provided with multiple screw threads. The complete withdrawal of the stopper may be prevented in any suitable way, such as by the application of an obstructing layer of solder to the end thread of the inner extremity of the extension 3, as indicated at 10, Fig. 3.

The stopper, assuming the bag to be held in the position shown in Fig. 1, should also occupy the position shown so that the air exit port 9 faces the handle, which facilitates the filling and the escape of the air.

What I claim is:—

1. A closure of the kind described, comprising an internally screw threaded member and a stopper having an externally screw threaded tubular extension adapted to fit within the first named member so that the screw threads are at all times in engagement, said extension being divided internally into two parallel passages closed at one end, one passage having a liquid inlet and the other an air outlet, the liquid inlet being a lateral opening in the wall of the extension and the air outlet being another lateral opening formed in the diametrically opposite portion of the wall, and both openings being advanced into the internally screw threaded member when the stopper is tightened.

2. A closure of the kind described, comprising an internally screwthreaded member, a stopper having an externally screwthreaded tubular extension adapted to fit within the first named member, and a partition in said extension dividing same into two parallel passages longitudinally of the extension, a liquid inlet port being formed in one passage and an air exit port in the other passage, said ports being displaced relatively to one another in the direction of the axis of the extension substantially as and for the purpose set forth.
3. A closure of the kind described, comprising an internally screw-threaded member, a stopper having a tubular extension screw threaded externally throughout the whole of its length, and adapted to fit within the first named member said extension having a lateral port located near one end and another lateral port located near the other end and a partition of curved shape in cross section separating the ports aforesaid, and constituting a liquid inlet passage of crescent shape in cross section larger in area than the passage formed at the other side of the partition which serves as an air outlet, substantially as described.

Signed at London, England, this 6th day of July, 1925.

GEORGE HENRY CHARLES LUMSDEN.