

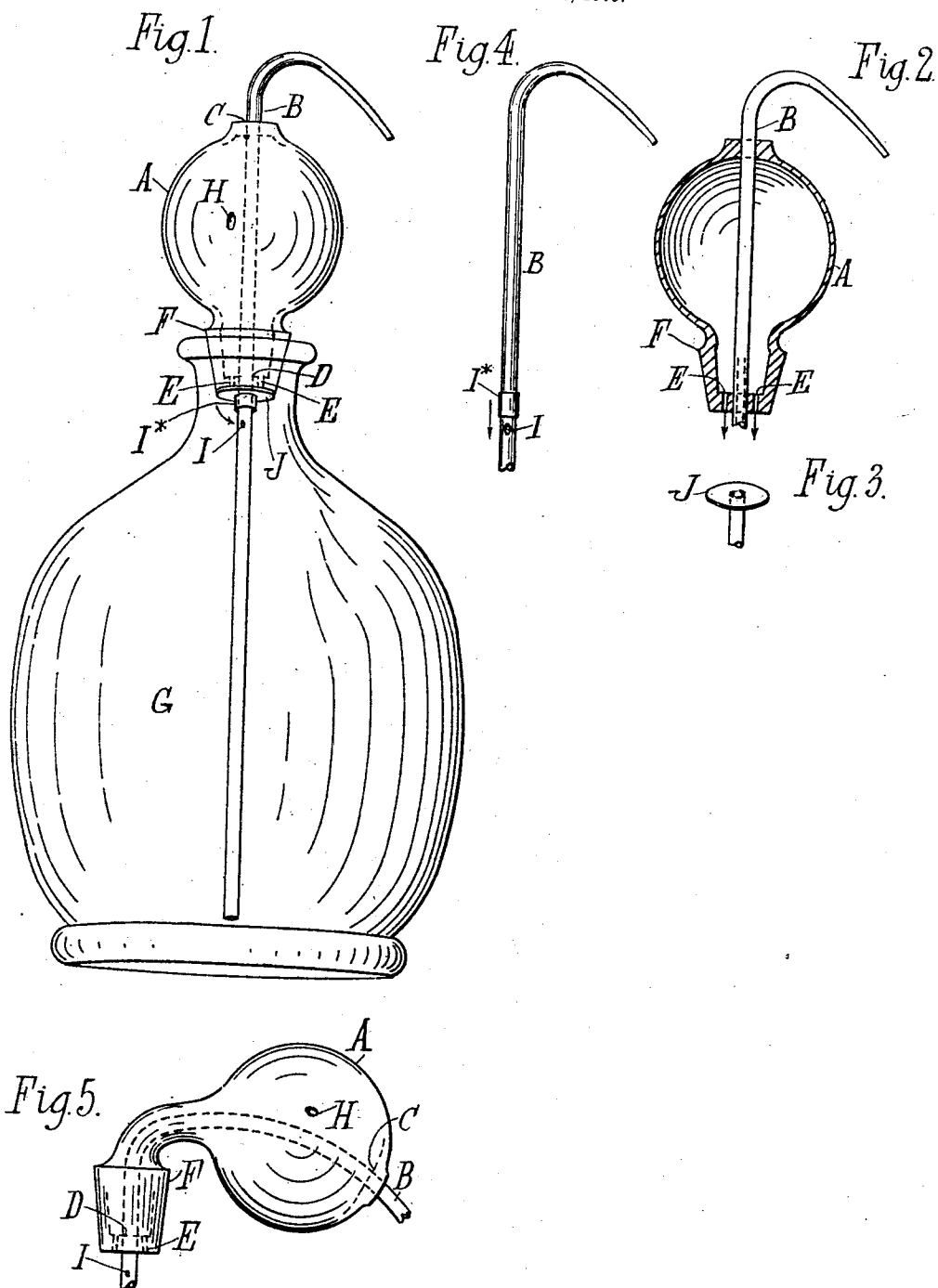
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O. A. ELIAS.

MEANS FOR EMPTYING BOTTLES OR OTHER VESSELS.

APPLICATION FILED JAN. 17, 1905.



Witnesses:

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UNITED STATES PATENT OFFICE.

OWEN AUBREY ELIAS, OF LONDON, ENGLAND.

MEANS FOR EMPTYING BOTTLES OR OTHER VESSELS.

No. 879,951.

Specification of Letters Patent.

Patented Feb. 25, 1908.

Application filed January 17, 1905. Serial No. 241,504.

To all whom it may concern:

Be it known that I, OWEN AUBREY ELIAS, a subject of the King of England, residing at London, England, have invented new and useful Improvements in Means for Emptying Bottles or other Vessels, of which the following is a specification.

My invention relates to improvements in means for emptying bottles or other vessels, and has for its object the production of a device for the desired purpose which is particularly simple, efficient and rapid in action; and to this end, it consists in the combination, construction and arrangement of the component parts as hereinafter fully described and pointed out in the claims.

In describing the invention, reference is had to the accompanying drawings, forming part of this specification, in which like letters of reference indicate corresponding parts in all the views.

Figure 1, is an external view of the device applied to a bottle; Fig. 2, is a cross-section of the device shown separately; Fig. 3, is a non-return valve for use with the same; Fig. 4, is a separate view of the emptying tube; Fig. 5, is a view of a stopper and bulb.

A, denotes an elastic hollow bulb which is made of rubber and serves as a force-pump. The lower portion of the bulb is molded to the shape of a plug either plain, grooved, screw-wormed, or roughened so as to fit tightly in the mouth of a bottle or similar vessel; but this part of the device may be otherwise shaped or mounted and formed to enable it to serve as an air-tight cap or stopper to fit over the bottle neck or the like. Furthermore, the bulb may be provided with a neck whereby the body-portion thereof is placed at any distance or angle from the stopper portion.

B, is a tube manufactured of glass, india-rubber or other suitable material, which passes through said bulb and is gripped tight at the apertures C and D in such a manner as to prevent the escape of air outward while the bulb is being depressed. The lower portion F forming the stopper, or cap, of the bulb is provided with air channels E through which air can be forced into the bottle G, by squeezing the bulb for the purpose of exerting pressure on the liquid or contents contained in the bottle.

The bulb, of my device, need not be made

all of the same material, and sometimes I manufacture the lower part or stopper-portion of hard rubber or other convenient substance. In the body-portion of the bulb I make a small hole H which may be controlled by the finger or thumb to act like a valve for the ingress of air.

The tube B for use in conjunction with the bulb may be straight, curved or bent and of any appropriate length; the inner end of it depending almost to the bottom of the bottle or vessel. Furthermore, in the said tube is pierced a small vent hole I in an appropriate position near the stopper but above the level of the liquid in the bottle. The object of this is to cause a portion of the compressed air in the bottle to enter the tube B and commingle with the liquid which is being driven out, and thus cause the latter to form a spray instead of a single jet. When it is desired to obtain a single jet I provide the tube B with means for covering the hole I. To this end, I fit on said tube a sleeve or band I* either of metal or rubber adapted to be placed over the hole I, as will be well understood, from Figs. 1, 4.

It is preferable to provide the perforated base of the bulb with a flap or disk J of rubber or other suitable material to serve as a non-return valve for the air in the bottle or vessel. This disk may be fixed to the lower end of the bulb or be separately secured to the tube B, as is more clearly shown at the broken end of said tube in Fig. 3.

What I do claim as my invention, and desire to secure by Letters Patent of the United States, is:—

A bulb-stopper comprising in a single piece, a perforated middle bulb portion, a reduced axial and elongated stopper portion at its lower end formed with a central passage surrounded with a plurality of parallel air passages, a centrally bored internally thickened top portion for said bulb in combination with a discharge tube firmly secured in the thickened ends of said bulb, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

OWEN AUBREY ELIAS.

Witnesses:

ALFRED NUTTING,
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