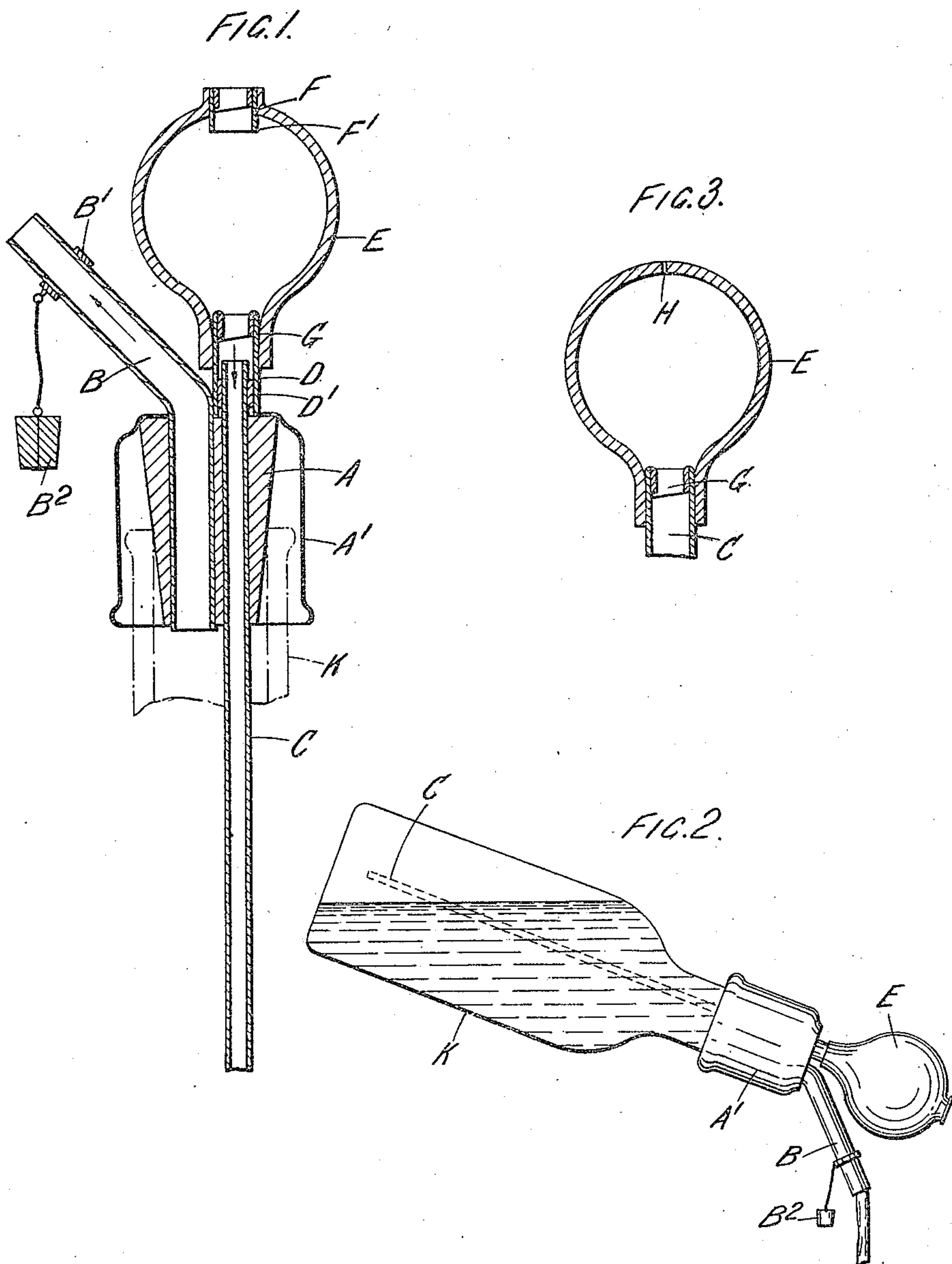


June 19, 1923.

1,459,282

G. CLARK  
 APPARATUS FOR EJECTING, ACCELERATING, OR CONTROLLING LIQUID DISCHARGE  
 FROM BOTTLES AND THE LIKE  
 Filed Dec. 8, 1920



Gilbert Clark, INVENTOR:

by *Milans*



## UNITED STATES PATENT OFFICE.

GILBERT CLARK, OF MORPETH, ENGLAND.

APPARATUS FOR EJECTING, ACCELERATING, OR CONTROLLING LIQUID DISCHARGE FROM BOTTLES AND THE LIKE.

Application filed December 8, 1920. Serial No. 429,282.

*To all whom it may concern:*

Be it known that I, GILBERT CLARK, a subject of the King of Great Britain, residing at Bothal, Morpeth, Northumberland, England, have invented certain new and useful Improvements in Apparatus for Ejecting, Accelerating, or Controlling Liquid Discharge from Bottles and the like, of which the following is the specification.

In some liquid containers, especially those containing a thick or viscous liquid, such for example as sauce bottles, difficulty is frequently encountered in effecting the discharge of the required quantity of liquid from the bottle, and in fact if the sauce is of the thicker kinds difficulty may be experienced in getting the sauce to flow from the bottle.

The object of the present invention is to provide means for rejecting or delivery readily and expeditiously the required quantity of sauce from the bottle to the plate or the like.

And in order that my invention may be completely understood reference should be made to the accompanying sheet of drawings which illustrates the preferred mode of carrying it into effect.

Fig. 1 is an elevation in section of the device as applied to the neck of a sauce bottle.

Fig. 2 shows the bottle with the device or apparatus fitted and in use.

Fig. 3 shows a modified construction.

Referring to Figs. 1 and 2, A is the stopper or cork to be fitted to the neck of the bottle when the cork is removed. The stopper A has fitted therethrough the glass or metal tube B for the delivery of the sauce or liquid. This is as shown bent to a suitable angle outside the cork or stopper A, and is provided with a metal clip B' to which is secured the small cork or stopper B<sup>2</sup> by a thread or wire. When not in use the small cork B<sup>2</sup> is inserted in the end of the tube B. A second tube C preferably of glass is also fitted through the stopper A and is of such length as to dip below the level of the liquid in the bottle and to extend almost to the bottom of same as shown in Fig. 2. The top of the glass tube C projects through the cork and has fitted thereto by means of the rubber ring D' a short length of metal tube D, the upper end of which metal tube D fits within the rubber bulb E. The rubber

bulb E is provided with an inlet valve F for air, and an air delivery valve G. The valves F and G may be formed in any suitable manner, but as shown these consist of small discs or flap valves of rubber secured to short lengths of rubber tube, which flap valves are fitted within a short length of metal tube marked F' for the inlet valve, the delivery valve G being fitted in the upper end of the metal tube D. The metal cap A' secured to the upper end of the cork or stopper A is adapted to fit over the neck of the bottle K.

Fig. 3 shows a modified construction in which the inlet valve F is dispensed with and a small hole or aperture H is formed in the upper end of the bulb for the admission of air. The rubber flap valve G is fitted within the upper end of the glass tube C, which is made somewhat longer for the purpose.

Referring to Fig. 2, to operate the device, the small cork or stopper B<sup>2</sup> is removed from the end of the tube B and the bottle tilted to the desired angle as shown. The bulb E is pressed and the air contained therein delivered under pressure to the bottom of the bottle so creating a pressure therein, the pressure serving to force the sauce through the pipe B for delivery, the air pressure serving to immediately eject the sauce from the bottle through the tube B in proportion to the volume of air delivered from the bulb E. If the first manual pressure of the bulb E should not deliver sufficient sauce by the tube B, the bulb E may be pressed a second or a third time in order to effect the ready or immediately delivery of the liquid to the desired quantity.

In the construction as shown in Fig. 3, the aperture H being very small when the bulb E is compressed by hand, there is not time for much of the air contained in the bulb to escape through the aperture H, and the greater part of the air is therefore delivered by the valve G to the bottom of the bottle.

Alternatively in order to ensure the delivery of all the air in the bulb, the aperture may be closed by the finger. When the pressure on the bulb is released the bulb is refilled with air through the aperture H.

What I do claim as my invention and desire to secure by Letters Patent is:—

1. Means for accelerating delivery of vis-



cous liquid from a bottle or the like, comprising in one fitting or unit for attachment to the bottle, a cork or stopper to fit the bottle having fitted therethrough two tubes, 5 one for the delivery of liquid from the bottle, and the other extending below the surface of the liquid at one end, and means for delivery of air under pressure to the bottom of the bottle by the longer tube.

10 2. Means for accelerating or ejecting a viscous liquid from a bottle in accordance with claim 1 in which the delivery pipe for viscous liquid is of relatively large bore and does not extend into the liquid and is adapted to operate only when the bottle is tilted.

15 3. In means of the kind previously claimed in claim 1 providing an air bulb with inlet and delivery valves for air, and extending the air delivery pipe through a stopper to a point approximately near the bottom of the bottle for the purpose described.

20 4. A device of the character described comprising in combination with a bottle, a stopper, a delivering tube extending through

the stopper with its outer end extending beyond the top of the stopper and its lower end terminating adjacent the inner end of the stopper, an air tube extending through the stopper, the upper end extending slightly beyond the outer end of the stopper and its inner end extending to a point adjacent the bottom of the bottle, and a bulb secured to the outer end of the air tube. 30

5. A device of the character described 35 comprising in combination with a bottle, a stopper, a delivering tube extending through the stopper with its outer end extending beyond the top of the stopper and its lower end terminating adjacent the inner end of the stopper, an air tube extending through the stopper, the upper end extending slightly beyond the outer end of the stopper and its inner end extending to a point adjacent the bottom of the bottle, 40 a sleeve connected to the outer end of the air tube, a valve carried by said sleeve, and an air bulb connected to the sleeve, said bulb having an air inlet valve therein. 45

GILBERT CLARK.