

(No Model.)

R. BRAVAIS.
Drop Attachment for Bottles.

No. 236,538.

Patented Jan. 11, 1881.

Fig. 1

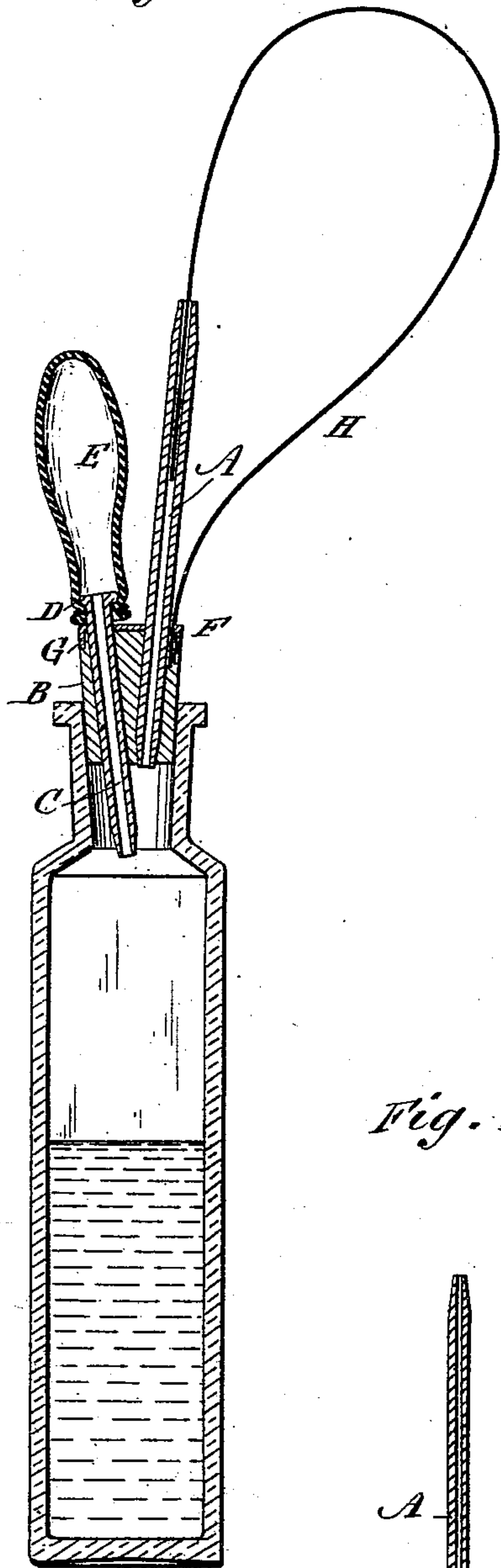


Fig. 3

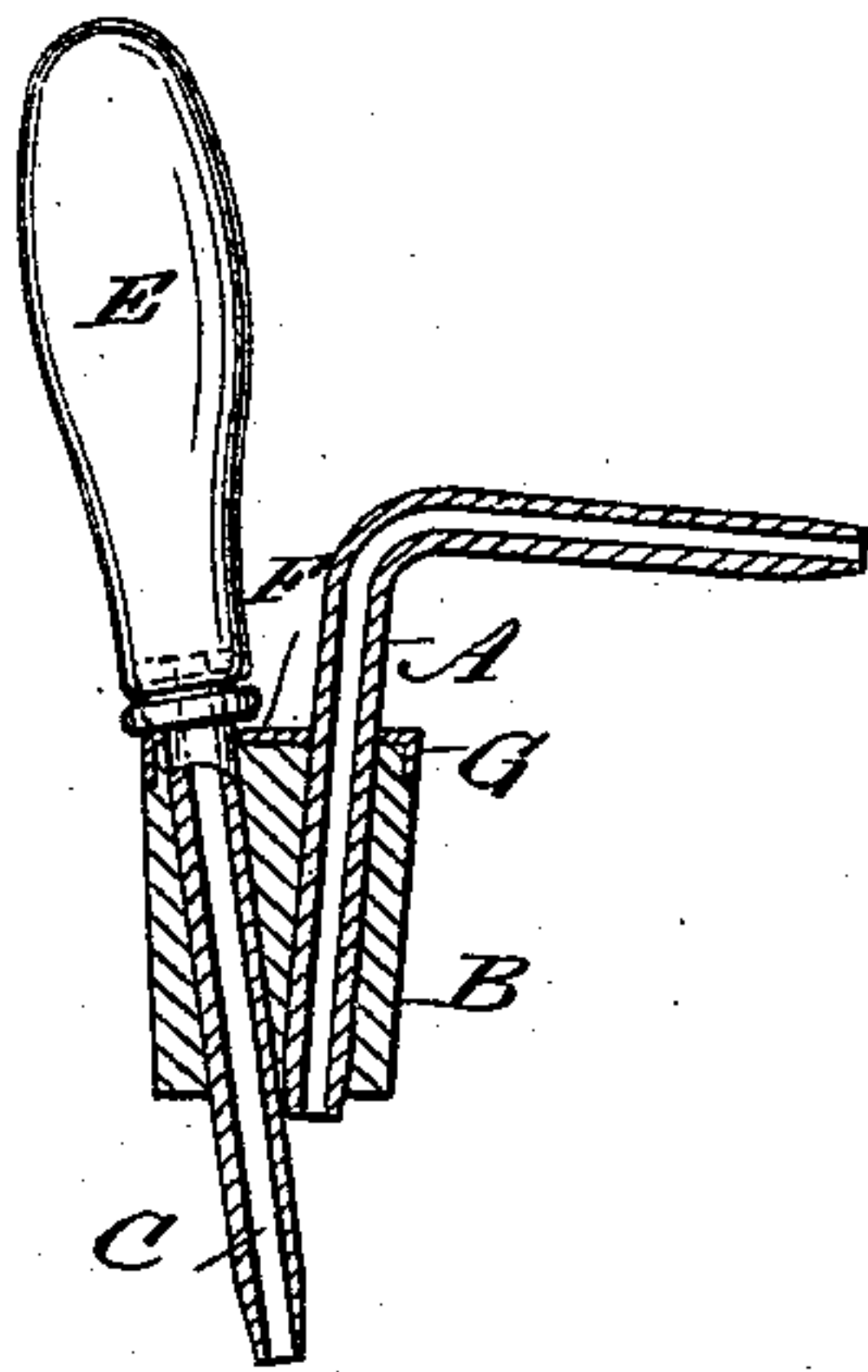


Fig. 2

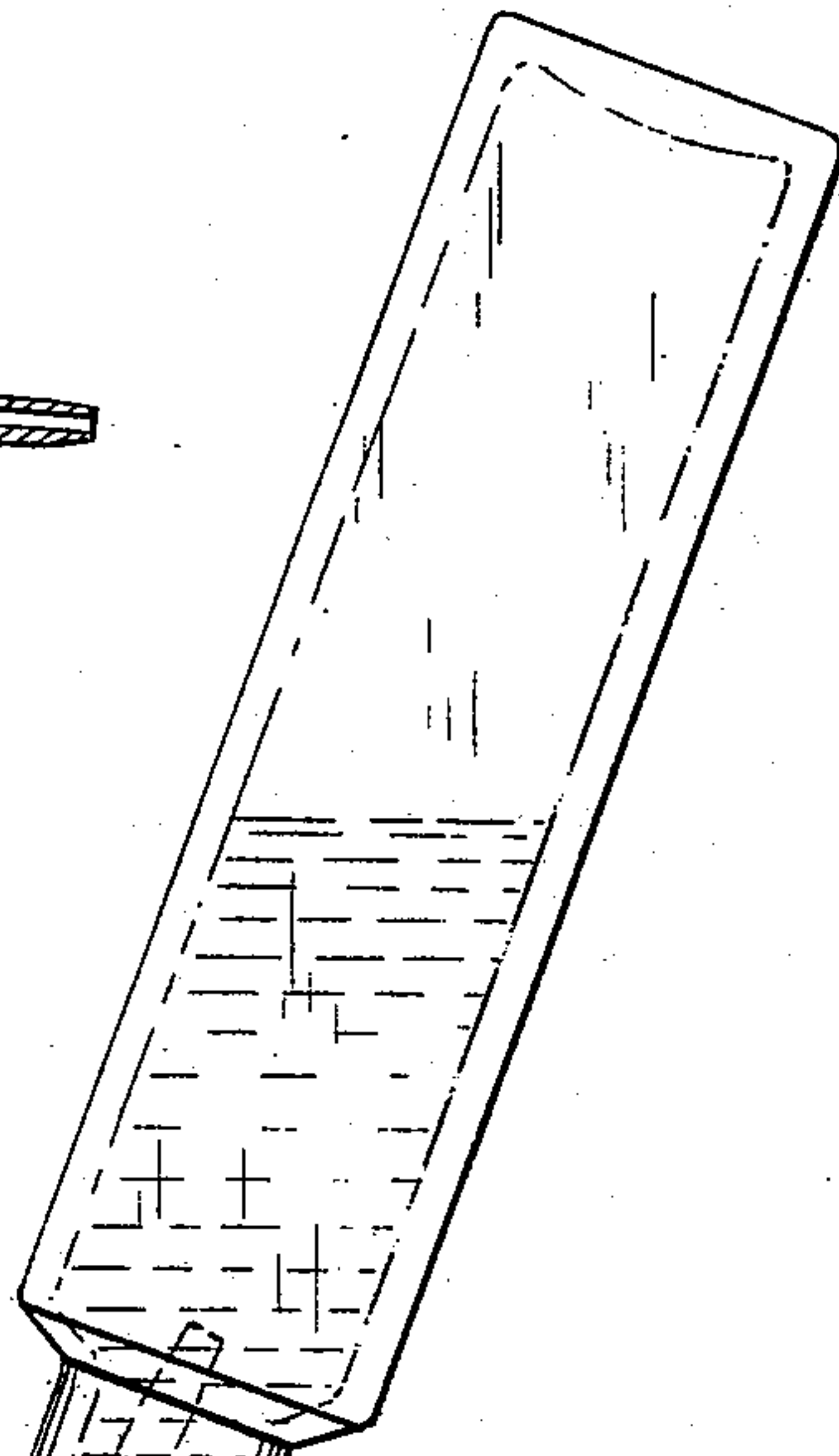


Fig. 4

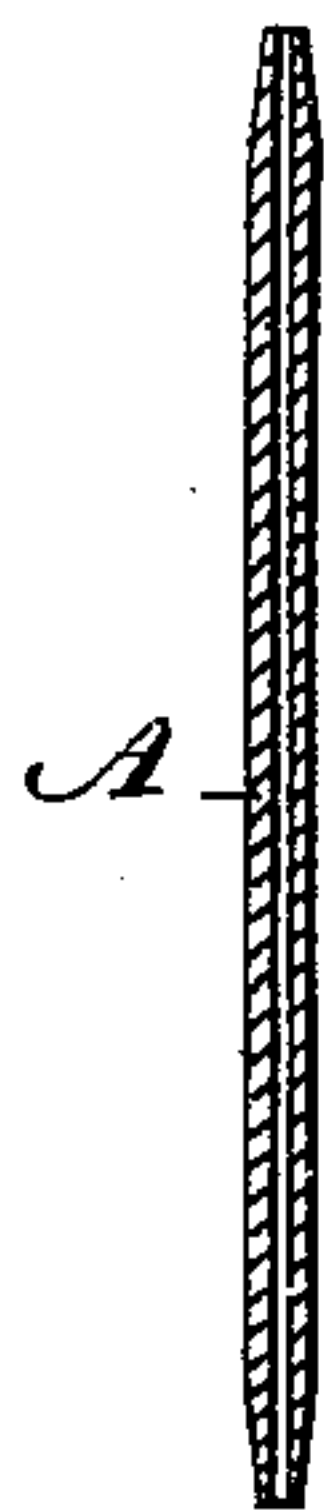


Fig. 5

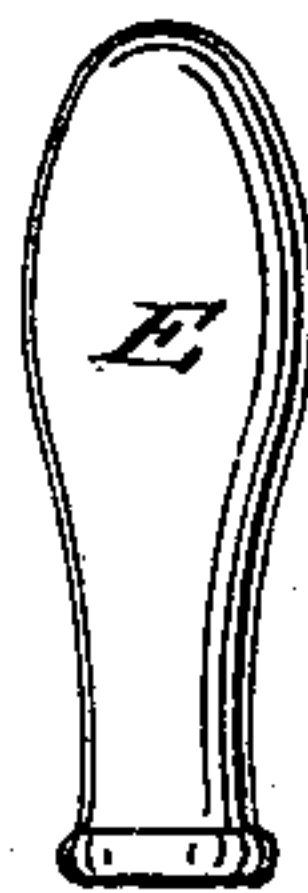
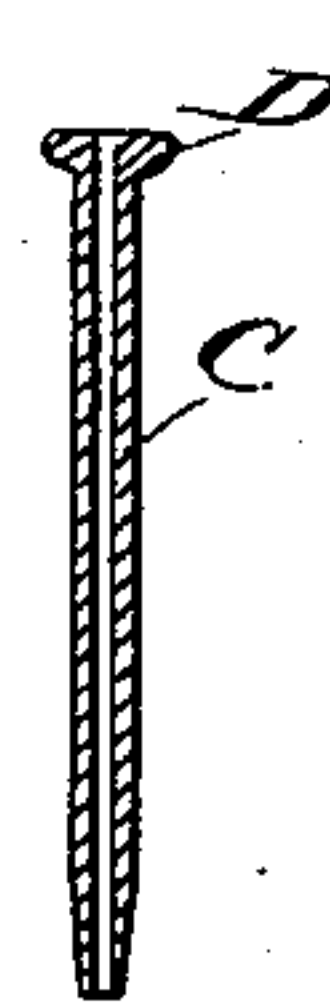


Fig. 6



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UNITED STATES PATENT OFFICE.

RAOUL BRAVAIS, OF PARIS, FRANCE.

DROP ATTACHMENT FOR BOTTLES.

SPECIFICATION forming part of Letters Patent No. 236,538, dated January 11, 1881.

Application filed September 25, 1880. (No model.) Patented in France April 21, 1879.

To all whom it may concern :

Be it known that I, RAOUL BRAVAIS, of Paris, France, have invented a new and Improved Drop Attachment for Stoppers, of which the following is a specification.

The object of this invention is to provide a new and improved drop attachment for bottle-stoppers which is simple in construction and operation, convenient in use, and permits the operator to deliver the liquid in single drops as slowly or rapidly as he may desire.

In the accompanying drawings, Figure 1 is a cross-sectional elevation of a bottle having a stopper provided with my improved drop attachment. Fig. 2 is an elevation of the same, showing the manner in which it is used. Fig. 3 is a cross-sectional elevation of a stopper provided with a slight modification of my improved drop attachment. Fig. 4 is a detail longitudinal sectional elevation of the tube for conveying the liquid out of the bottle and through the stopper. Fig. 5 is a detail elevation of the rubber bulb for compressing the air. Fig. 6 is a detail longitudinal sectional elevation of the tube to which the rubber bulb is attached.

Similar letters of reference indicate corresponding parts.

A tube, A, of glass, metal, rubber, or any other suitable material, and which may be straight, as shown in Fig. 1, or bent, as shown in Fig. 3, passes longitudinally through the cork or stopper B of a bottle or other vessel, and the inner end of this tube A is preferably cut off flush with the inner-end surface of the stopper. This tube A must have a very fine bore, so as to prevent the liquid from flowing through it in case the bottle is accidentally inverted. Another tube, C, preferably of larger bore, and provided with a shoulder, D, at the outer end, also passes through the stopper or cork A, and has a rubber bulb, E, attached to its outer end by passing the edge of the bulb over the shoulder D of the tube C, and winding a wire around it as additional security. A metal cap, F, provided with an annular flange, G, is attached to the top of the stopper, and is provided with apertures to permit the tubes A and C to pass through.

A wire, H, is attached to the cork or stopper B, and is used to clear the tube A, in case the same has become clogged by the sediment of the fluid that passes through it. When not in use the wire H is coiled around the tube A, and the end tucked under the last coil, to prevent it from uncoiling, as shown in Fig. 2. The cap F protects the top of the cork and holds the tubes A and C rigidly and securely.

The operation is as follows: The bottle is inverted and the operator presses on the bulb, as shown in Fig. 2, thereby forcing the air contained in the bulb into the bottle, and thus compressing the air in the latter. The compressed air liberates itself, and in doing so forces a drop of liquid through the tube A, which is the only outlet. As soon as the pressure on the bulb stops, the flow of the liquid will stop, and is thus entirely under control of the operator, who can permit the liquid to flow or drop through the tube A as slowly or rapidly as he may desire, and as the tube A may have any desired length, he can pour the liquid into or upon other articles or masses without dropping it from such distances as is necessary at present to control the flow of the liquid.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A bottle-cork provided with finely-bored drop-tube A, passing through and flush with its bottom, the air-forcer C D E, having tube C extended down below the cork, and the metallic cap F, having annular flange G, all arranged as shown and described, whereby the liquid cannot waste if the bottle should drop, and may be dropped with more than the usual accuracy.

2. The combination, with the cork or stopper B, of the tube A and the cleaning-wire H, substantially as herein shown and described, and for the purpose set forth.

The above specification of my invention signed by me this the 12th day of July, 1880.

RAOUL BRAVAIS.

Witnesses:

J. MATHIEU,
A. SARDOU.