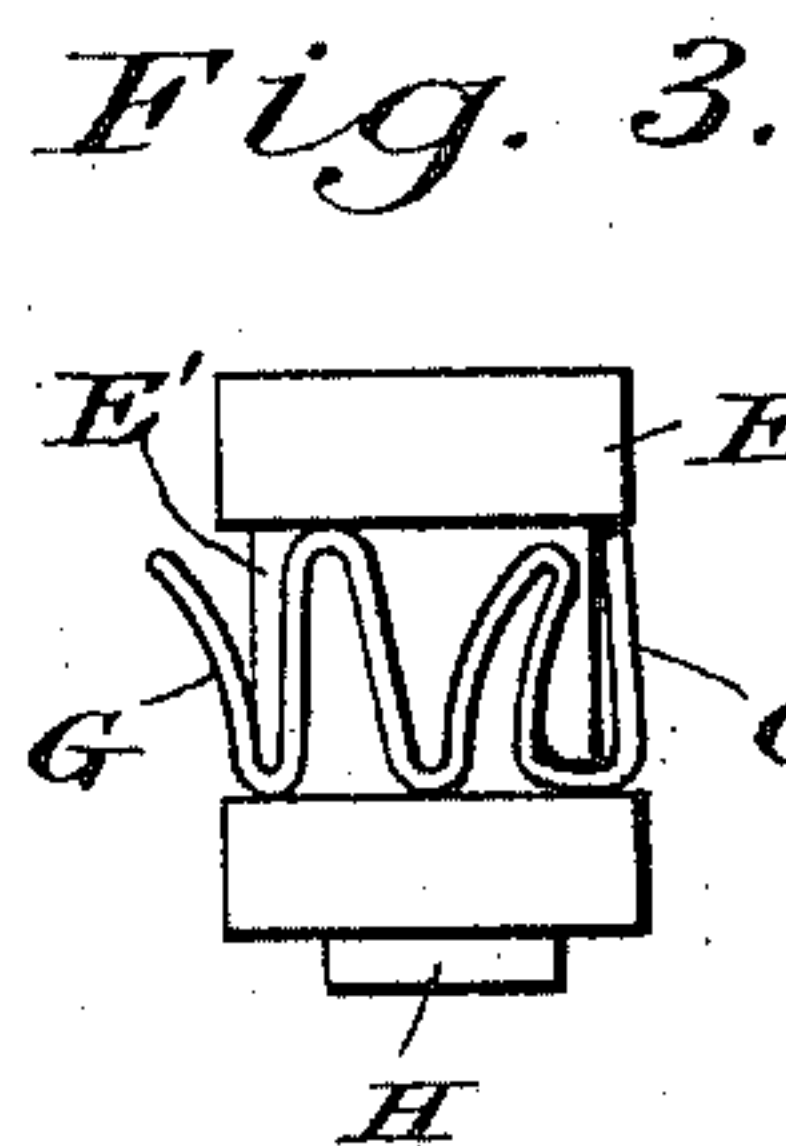
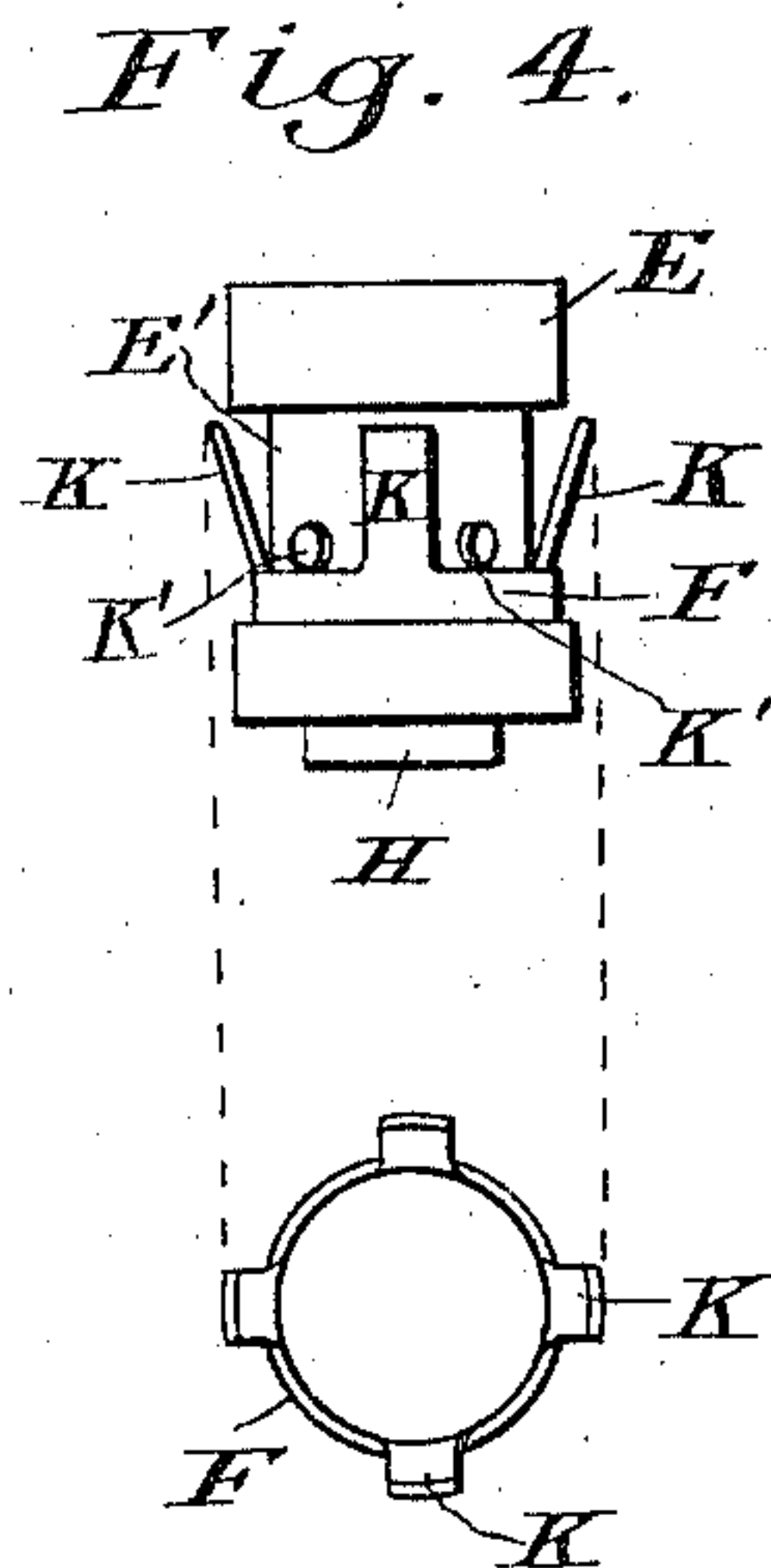
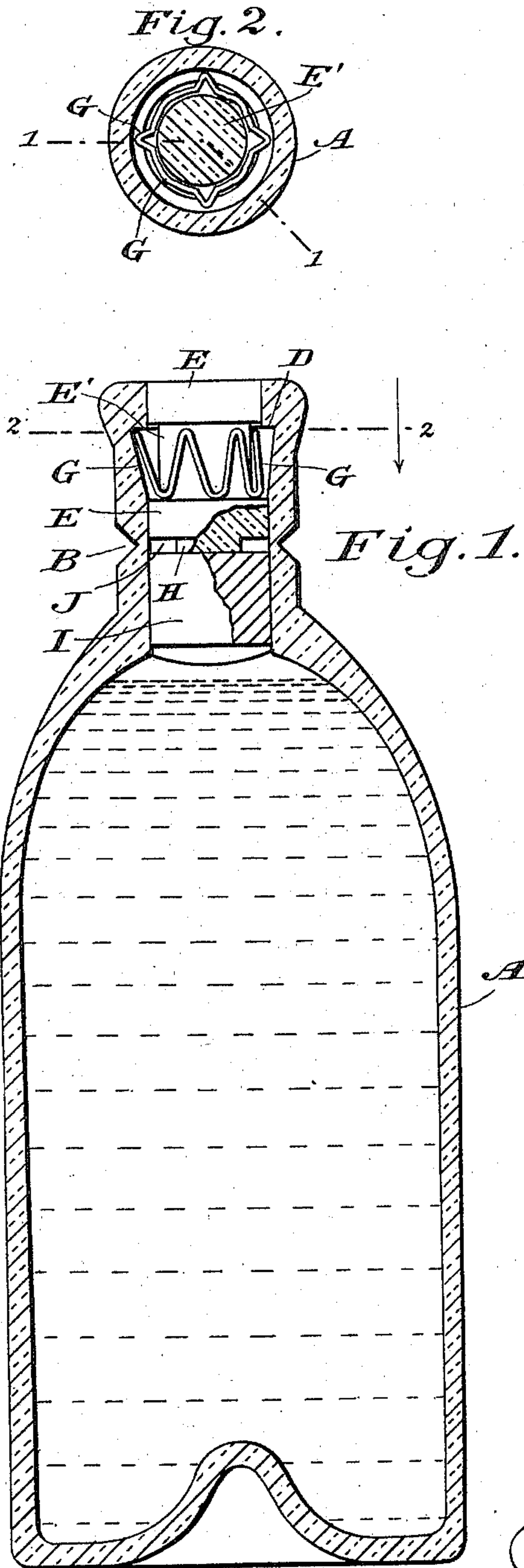


(No Model.)

J. H. BAHRENBURG & F. M. DRAKE.
BOTTLE, DEMIJOHN, &c.

No. 575,317.

Patented Jan. 19, 1897.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN H. BAHRENBURG AND FRANK M. DRAKE, OF TRENTON, NEW JERSEY.

BOTTLE, DEMIJOHN, &c.

SPECIFICATION forming part of Letters Patent No. 575,317, dated January 19, 1897.

Application filed January 11, 1896. Serial No. 575,123. (No model.)

To all whom it may concern:

Be it known that we, JOHN H. BAHRENBURG and FRANK M. DRAKE, citizens of the United States, and residents of Trenton, in the county of Mercer and State of New Jersey, have invented a certain new and useful Improvement in Bottles, Demijohns, and Like Vessels, of which the following is a specification.

Our invention relates to an improvement in bottles; and it has for its object to so construct the bottle that a second use thereof will be impossible. We also secure other advantages hereinafter set forth.

For a long time and in various branches of business there has been a demand for a bottle, demijohn, or like vessel so constructed as that after it has been once used a second use will be physically impossible, so that the refilling of the same with goods of an inferior grade cannot be practiced. By our invention we accomplish the desired object and so construct the vessel that we secure not only the above-stated advantage, to wit, that it cannot be used a second time, but also it is absolutely impossible for the contents of the vessel, by reason of its expansible character, to eject the cork and escape; also, the vessel cannot be tampered with, as by drawing the cork and replacing it with another one, because our cork is guarded by material impervious to the action of a corkscrew or other device, and, finally, the act of removing the portion of the bottle which renders a second use impossible does not permit the contents of the bottle to escape. This last is a very great convenience in the practical manipulation of the vessel.

Referring to the drawings, Figure 1 illustrates a vertical central section of a bottle embodying our invention. Fig. 2 illustrates a horizontal section on the line 2 2 of Fig. 1. Fig. 3 illustrates a detail of the upper or, as we call it, "guard" stopper. Fig. 4 illustrates modified construction of the guard-stopper.

In the drawings and description hereof we shall refer to our invention as applied to an ordinary bottle adapted to contain wine, mineral water, beer, or similar fluid, but we wish it understood that our invention is equally applicable to demijohns, carboys, or any similar vessel.

A is the body of the vessel, which may be made of glass, as usual.

B is a circular groove made around the neck of the bottle, leaving the glass quite thin between its bottom and the interior of the neck. It is not so thin that in the ordinary use of the vessel fracture will take place, but sufficiently so that a sharp blow, as with the handle of a knife or any suitable metal or wooden implement, will break the neck across on the line of the circular groove.

C is another groove on the inside of the neck, having a square shoulder D at its upper part.

E is what we designate the "glass" stopper. It is preferably made of glass and fits the inside of the neck of the bottle with considerable accuracy, although not tightly. An annular recess E' surrounds the guard-stopper, in which a piece of wire is placed, which is bent or otherwise shaped into the form of spring-fingers G G, some of which project inwardly and some outwardly. Those which project inwardly rest in the circular recess in the stopper and against its upper and lower shoulders, and thus hold the fingers as a whole in place, and those which project outwardly engage with the shoulder D on the bottle. This wire is of course a spring-wire, brass or steel preferably. Consequently when the guard is introduced within the neck of the bottle these spring-fingers G G will spring outwardly and engage behind the shoulder D in the neck of the bottle, thus affording absolute stops, which prevent the guard-stopper from moving outwardly.

H is a projection from the under side of the guard-stopper, which rests against the upper surface of the cork or rubber stopper I. The relative sizes of the parts is such that the vacant space J between the lower end of the guard-stopper and the upper end of the cork I will come opposite the groove B in the neck of the bottle.

The operation of the device is as follows: The bottle being filled with liquid, as desired, the rubber or cork stopper I is by suitable bottling appliances forced into the neck of the bottle to the position shown in Fig. 1. The guard-stopper E is then dropped into the neck, and by gentle pressure the spring-fingers G G

are collapsed, they entering the recess in the stopper, so that it will pass into the neck of the bottle until the spring-fingers come opposite the shoulder D, whereupon they spring outwardly and lock the guard-stopper by their engagement with the shoulder, and when it is in this position the projection H nearly or quite touches the upper surface of the cork or rubber stopper I, and the vacant space J is opposite the circular groove B, as already stated.

When it is desired to get at the contents of the bottle, it is held in one hand, and a sharp rap is given on the neck of the bottle near its end, whereupon the end, carrying the guard-stopper with it, readily breaks off on the line of the circular groove B. A cork screw or equivalent utensil is now used to withdraw the cork or rubber stopper I, whereupon the contents flow out as usual.

It will be seen that under our invention the bottle cannot be tampered with, because the real stopper I is protected or guarded by the glass stopper E, which cannot be manipulated by a corkscrew or other device; also, that the guard-stopper being positively locked in position by the spring-fingers locking upon the shoulder on the bottle no amount of pressure from within can force the cork out; also, that the only way to open the bottle and to get the contents out is to break off the upper portion of the neck, whereby it is destroyed for a second use—that is to say, it is so changed in shape, appearance, &c., that a second use would be instantly detected; and, lastly, the upper end of the guard-stopper E and the upper rim of the neck of the bottle coincide in position, so that a label can be conveniently pasted straight across the whole, giving a much neater finish to the top of the neck than where stoppers requiring cord or wire to hold the cork in position or other uneven surfaces are presented.

In Fig. 4 we show a modified construction of the guard-stopper. In it, instead of employing the wires G as the means for locking the guard-stopper in place, a band of metal (shown at F and having upwardly-projecting spring-fingers K K) is fastened about the recessed part of the guard-stopper, which spring-fingers act in substantially the same manner as the wire fingers G do in the other construction. Little projections or studs K' may be left projecting in the recess in the guard-stopper, which will prevent the band F from moving upwardly.

We do not limit ourselves to the details of

construction shown and described, because it will be evident to those who are familiar with this art that modifications can be made in them without departing from the spirit of our invention, particularly that other means may be employed to retain the guard-stopper in position; also, the shoulder D need not be a continuous groove or recess around the inside of the neck of the bottle. On the contrary, a sufficient number of shoulders in the form of small separated pits or recesses will serve the same purpose; also, material other than glass may be used for the guard-stopper. We prefer, however, something that cannot be penetrated by a corkscrew or otherwise manipulated, such as porcelain, hard wood, or the like.

We claim—

1. A bottle, the neck whereof is reduced in thickness, a sealing device made of cork or other material, which may be manipulated by a corkscrew, located in the neck below said reduction, a guard-stopper above said reduction having a downwardly-projecting portion of less diameter than itself, which engages with the sealing device below, thus leaving a vacant chamber adjacent to the reduced portion of the neck, and metallic spring-fingers located in an annular recess on the guard-stopper, which project upwardly and laterally beyond the guard-stopper, whereby they engage with a shoulder on the neck of the bottle, for the purposes set forth.

2. A bottle having its neck reduced in thickness, a sealing device within the neck below the reduction, a guard-stopper made of material impervious to corkscrew or like device above said reduction, the lower portion whereof is provided with a projection adapted to rest upon the lower sealing device, thus producing a vacant space adjacent to the point of reduction of the thickness of the neck, metallic spring-fingers formed of corrugated spring-wire, the lower ends whereof are set in an annular recess in the guard-stopper, and the upper ends whereof project upwardly and laterally from the guard-stopper and engage with a shoulder on the neck of the bottle, for the purposes set forth.

Signed at Trenton, in the county of Mercer and State of New Jersey, this 9th day of January, A. D. 1896.

JOHN H. BAHRENBURG.

FRANK M. DRAKE.

Witnesses:

CHARLES N. BROKAW,
WM. P. FORD.