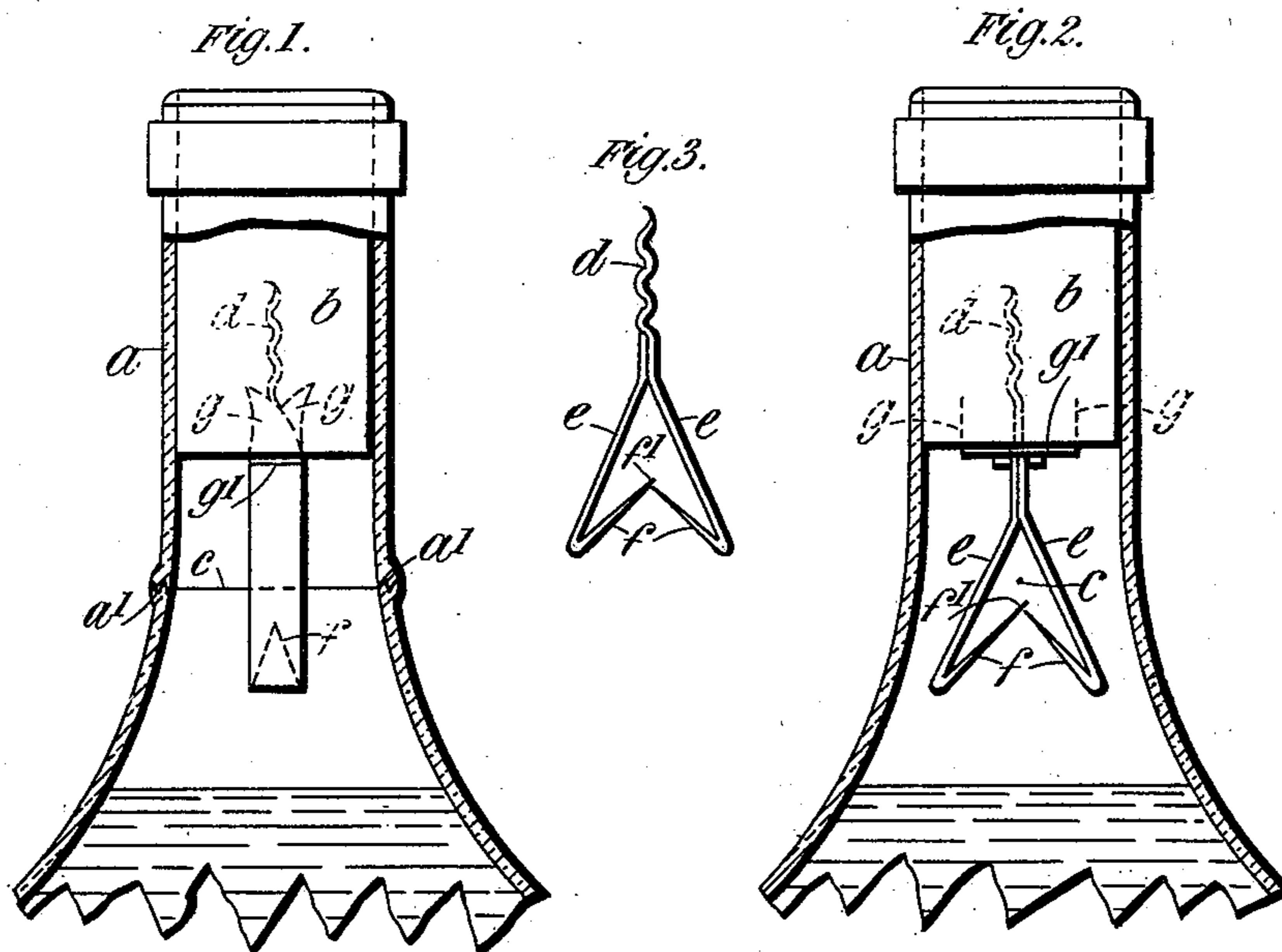


(No Model.)

G. H. GRAPES.  
MEANS FOR PREVENTING FRAUD IN CONNECTION WITH CONTENTS OF  
BOTTLES OR THE LIKE.

No. 602,044.

Patented Apr. 5, 1898.



Witnesses

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*Att'y*

# UNITED STATES PATENT OFFICE.

GEORGE HAMILTON GRAPES, OF WELLINGTON, NEW ZEALAND, ASSIGNOR  
OF ONE-HALF TO ALFRED O'BRIEN, OF SUMMERFIELD, ENGLAND.

MEANS FOR PREVENTING FRAUD IN CONNECTION WITH CONTENTS OF BOTTLES OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 602,044, dated April 5, 1898.

Application filed October 28, 1897. Serial No. 656,711. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE HAMILTON GRAPES, fruit farmer, a subject of the Queen of Great Britain, residing at Beverly Fruit Farm, Paraparaumu, Wellington, New Zealand, have invented certain new and useful Improvements in Means for Preventing Fraud in Connection with the Contents of Bottles or the Like, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in means for preventing fraud in connection with the contents of bottles and the like and is designed to render it impossible for a bottle after having been once opened to be refilled and again corked and sealed in such a manner as to make it appear that it had never been previously opened.

The said invention, while it does not prevent the bottle being refilled, if desired, renders it practically impossible for a vender to pass off a refilled bottle to a customer, as the said customer can see at once that the bottle has been opened previously, and he therefore knows that the contents of the same are in all probability of an inferior character to those which the bottle originally contained.

According to the said invention a thin piece of any suitable metal—say a wire or strip—is secured transversely in the neck of the bottle and a device having a pair of overlapping hooks is secured to the under side of the cork or stopper. The arrangement is such that when the cork or stopper is inserted the hooks pass the wire freely, but when the said cork or stopper is withdrawn they engage the wire and tear or break the same.

In order that the said invention may be clearly understood and readily carried into effect, I will proceed to describe the same by aid of the accompanying drawings, in which—

Figures 1 and 2 are side views at right angles to each other of a bottle-neck provided with my improved means for preventing fraud, the neck itself being shown in section. Fig. 3 is a detail view showing in elevation the hook device above referred to.

*a* is the neck of the bottle; *b*, the cork or stopper thereof.

*c* is the thin piece of metal, in this case a

wire, secured in the neck *a*. This wire *c* may be, for example, of tinned iron or of platinum or any suitable material and may be secured to or embedded or fused in the bottle-neck during the manufacture of the bottle, and the neck may have a boss or enlargement *a'* at the places where the ends of the wire enter it to give it additional strength at these points. It is, moreover, desirable to employ a wire which will not be acted upon by the contents of the bottle and which will not taint the said contents.

The device for engaging the wire as the cork or stopper is withdrawn consists of a screw-stem *d*, like that of a corkscrew, to which is secured a hook comprising a pair of flat diverging and downwardly-directed metal strips *e*—say strips of tinned steel—which are bent up or hooked at their lower extremities, as at *f*, their ends almost or quite meeting midway between the strips and one end overlapping the other, as at *f'*, Fig. 2, the arrangement allowing the aforesaid wire to pass between the ends as the cork or stopper is being inserted. Care must of course be taken that in inserting the said cork or stopper the ends of the strips *e* do not press directly on the wire and that the said strips are as far as possible from the wire. When the said cork or stopper is withdrawn, the overlapping of the hooked ends insures the wire engaging in one of the hooks, and these are made sufficiently strong to resist without undue flexure a strain or pull which will break the wire.

In some cases if there is any risk of the hooked device being screwed out of the cork by using the wire as a resistance—that is to say, by turning the cork or stopper after the hooks have engaged the wire, so as to screw out the stem *d* of the device, which would of course enable the cork to be withdrawn from the bottle without breaking the wire—I may provide lugs or prongs *g* either on a transverse metal strip *g'* or on projections on the engaging device. These lugs or prongs embed themselves in the cork as the device is being screwed into the end thereof and securely resist any turning of the screw *d* relatively to the cork or stopper *b*. I may also make the corkscrew and one hook of one piece and the other or opposing hook of an-

other piece of round electroplated steel wire of suitable strength and dimensions and join them together at their upper ends by solder or riveting. The lower ends of the hooks are  
 5 then flattened out at the points by a hammer or other instrument. In this way I may achieve economy of time and material in manufacture.

The improved means for preventing fraud,  
 10 unlike those usually employed for rendering bottles non-refillable, can be applied to bottles for containing solids or aerated liquids, as well as ordinary liquids.

The condition of the wire can be seen at a  
 15 glance through the necks of clear-glass bottles, or in the case of dark-glass bottles by holding the same up to the light.

It will be readily understood that after the wire has been broken the bottle is not ren-  
 20 dered useless, but can be employed exactly as an ordinary bottle for domestic or other use, as the parts of the wire can be bent down out of the way or cut off close to the wall of the neck by a suitable knife or tool. More-  
 25 over, the difficulty of repairing the wire, even if such be possible at all, precludes the idea of its being performed on a commercial scale.

What I claim, and desire to secure by Letters Patent of the United States, is—

30 1. A safety device for bottles and the like consisting of a thin piece of metal secured transversely in the bottle-neck, and a depending hook secured to the cork or stopper, said hook being arranged to pass under the trans-  
 35 verse piece when inserted into the bottle-neck and adapted to engage with and break the said piece when the cork or stopper is withdrawn.

2. A safety device for bottles and the like consisting of a wire secured transversely in  
 40 the bottle-neck, and a cork or stopper carrying two oppositely-disposed hooks having bent-up extremities, the ends of which approach each other to provide a guideway for the wire during the insertion of the cork or  
 45 stopper into the bottle-neck, said hooks being arranged so that one of them will engage with and break the wire when the cork or stopper is withdrawn from the bottle.

3. A safety device for bottles and the like  
 50 consisting of a wire secured transversely in

the bottle-neck, a hook for engaging said wire, and a screw-stem on said hook for securing it in the cork of the bottle, substantially as described.

4. A safety device for bottles and the like 55 consisting of a wire secured transversely in the bottle-neck, two pieces of metal having bent-up extremities for engaging said wire, and a screw-stem secured to said pieces for connecting them to the cork or stopper sub- 60 stantially as described.

5. A safety device for bottles and the like consisting of a wire secured transversely in the bottle-neck, two pieces of metal having bent-up extremities for engaging said wire, a 65 screw-stem secured to said pieces, and prongs secured to said screw-stem for preventing it turning relatively to the stopper in which it is secured, substantially as described.

6. The combination with a bottle-neck, of 70 a stopper for the same, a wire secured transversely in said neck, and means carried by and depending from the stopper for engaging with the transverse wire to break the same when the stopper is withdrawn, substantially 75 as described.

7. The combination of a bottle-neck, a stopper for the same, a wire fused transversely in said neck, a pair of pieces having overlapping hooked extremities for breaking said 80 wire as the stopper is withdrawn, and a screw-stem secured to said pieces for connecting the same to the stopper substantially as described.

8. The combination of a bottle-neck, a stopper for the same, a wire fused transversely 85 in said neck, a pair of pieces having overlapping hooked extremities for breaking said wire as the stopper is withdrawn, a screw-stem secured to said pieces for connecting the same to the stopper, a transverse metal piece se- 90 cured to said screw-stem, and prongs on said transverse piece for preventing the screw-stem from being screwed out of the stopper, substantially as described.

In testimony whereof I have hereunto set 95 my hand this 27th day of September, 1897.

GEORGE HAMILTON GRAPES.

Witnesses:

W. N. RUTHERFORD,  
 T. W. KIRK.