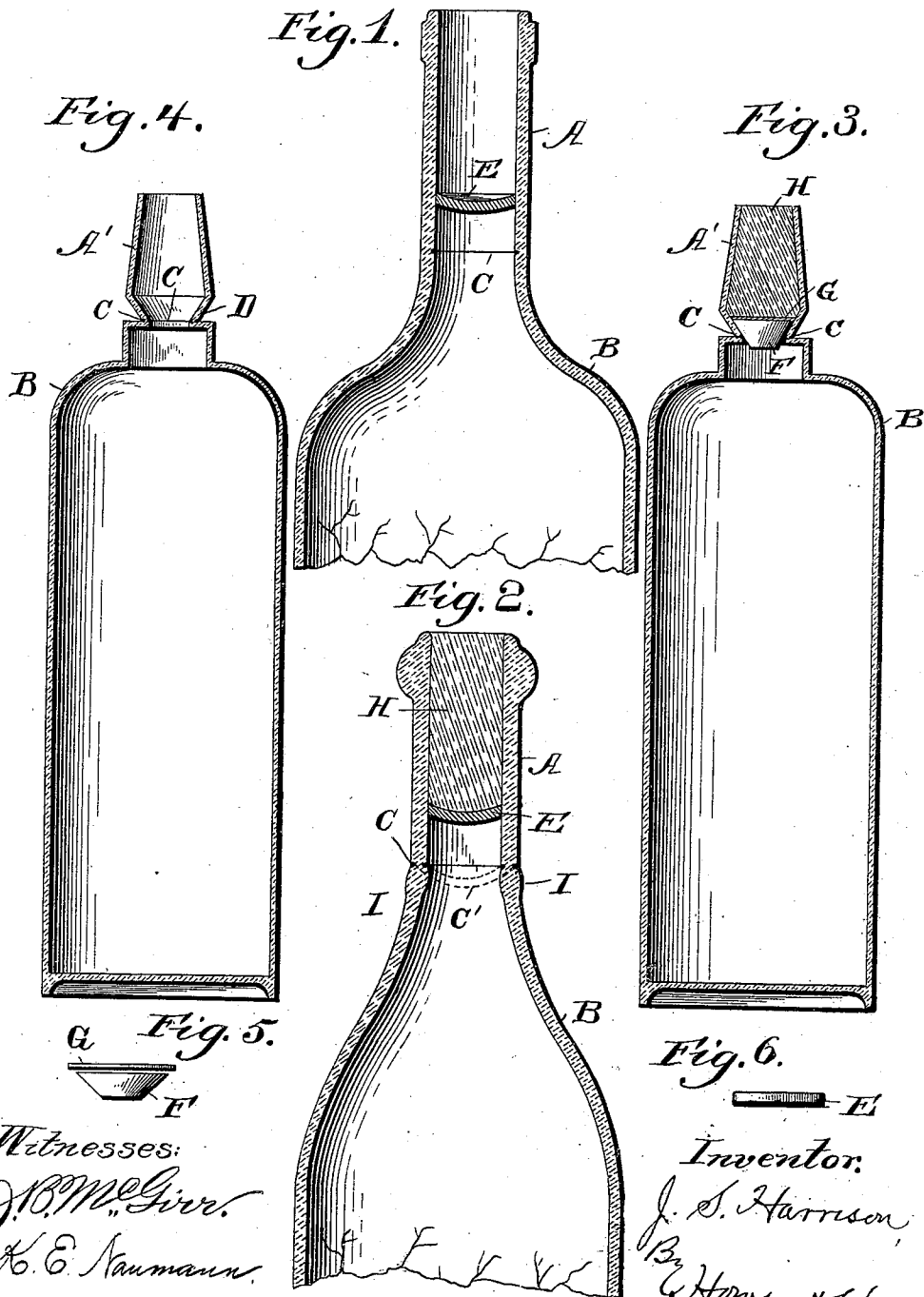


(No Model.)

J. S. HARRISON.
BOTTLE.

No. 554,869.

Patented Feb. 18, 1896.



Witnesses:
J. B. McGirr.
H. E. Naumann.

Inventor:
J. S. Harrison.
By *Harrison & Harrison*
his Attys.

UNITED STATES PATENT OFFICE.

JOHN S. HARRISON, OF SAVANNAH, GEORGIA, ASSIGNOR OF ONE-THIRD TO
WILLIAM L. GIGNILLIAT, OF SAME PLACE.

BOTTLE.

SPECIFICATION forming part of Letters Patent No. 554,869, dated February 18, 1896.

Application filed June 17, 1895. Serial No. 553,057. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. HARRISON, a citizen of the United States, residing at Savannah, county of Chatham, State of Georgia, have invented certain new and useful Improvements in Antirefilling Bottles, of which the following is a specification.

My invention relates to bottles, and has for its objects, first, to provide a bottle which cannot be refilled or used a second time; second, to provide means whereby the usual corks employed are entirely dispensed with, such means being an economical and effectual substitute for the ordinary corks.

Heretofore various attempts have been made to provide some means whereby fraudulent refilling of bottles could be prevented, but in practice it has been found that such devices are defective in one or more particulars, thereby defeating the object for which they were created. It has been practically determined that the only safe and perfect way in which this object can be attained is by providing some means of closure which by its removal will destroy the bottle for further use, and along this line various efforts have been made to accomplish this desired result. A construction has been provided, simple in its nature, tending toward this result but falling short thereof, for the reasons hereinafter given. In this construction the neck of the bottle is provided with a groove on the outside thereof, above the stopper, thereby weakening the glass, so that the portion of the neck above the stopper can be broken off by a sudden sharp blow. To this groove on the outside has also been added a groove on the inside of the neck directly opposite the exterior groove for the purpose of further weakening the glass at this point. It has been found, however, that there are two serious objections to such construction. The first is due to the fact that, since the groove is located above the stopper, after breakage the bottle can be quickly and readily refinished at this point and filled with inferior liquid or material. The second objection arises from the impossibility of molding the bottle with an internal and external groove more than about an inch below the top of the neck, and incidentally another objection

arises in this construction from the fact that in finishing the interior of the neck the glass is compressed, thus increasing the strength of the glass at the groove, thereby counteracting the weakening effect intended to be produced by such groove. It is also found that when the neck is broken the fracture does not take place in a smooth and regular line and frequently splinters, and for this reason a cork below the point of fracture is necessary, and the fracture presents a keen jagged edge, dangerous to handle.

By my invention I am not only enabled to completely overcome all these objections, but I am enabled, further, to dispense entirely with the use of ordinary corks by providing a cheap and effective substitute therefor.

My invention consists in a novel means for effecting the purpose defined, hereinafter fully set forth and claimed.

Referring to the drawings, Figure 1 is a vertical section of a portion of the bottle, showing the application of one form of my invention thereto. Fig. 2 is a similar view of a modification. Figs. 3 and 4 are vertical sections of a bottle, showing another modification. Figs. 5 and 6 are details.

The same letters indicate the same or similar parts in all the views, in which—

The bottle B may be of any ordinary form of bottle in use or any special construction, as desired, provided with any suitable form of neck A. Upon this neck, either inside or outside, or both, I make a cut or scratch C, Figs. 1 and 2. If placed both inside and outside, the inside cut or scratch should be as near as possible opposite the outside scratch. This cut or scratch, or these cuts and scratches, are placed below the cork, where such is used, or below the closure employed as a substitute therefor, as clearly shown in the drawings. By thus placing the cut or scratch below the cork or closure, and preferably as near the shoulder of the bottle as convenient, the neck of the bottle can be readily broken by a sharp blow upon the bottle-neck, near the top, or by inserting the top in a hole or stamp and giving the bottom a jerk, thus effectually destroying the bottle for further use, whereas were such cut or scratch placed above the stopper or closure,

the bottle could be easily reheated, finished, and again used.

While it is sufficient to use only one cut or scratch either on the inside or outside of the neck of the bottle, it is preferable to employ two such scratches or cuts, opposite to each other, exterior and interior, since all tendency to splintering of the glass is effectively avoided thereby. It is also to be noted, in addition to the destruction of the bottle against future fraudulent use, that the placing of the cut or scratch as near the body of the bottle as possible gives a greater leverage for breaking.

While my invention can be readily applied to bottles of ordinary construction having stoppers, I prefer to dispense entirely with such stoppers and employ in lieu thereof a substitute, which may consist of rosin, plaster-of-paris, or any suitable substance, filling the neck of the bottle above the line of the fracture. This material H may, in a plastic state, be poured into the neck of the bottle, Figs. 1 and 2, and supported by a sealing disk or washer E, of tin, wood, or other suitable material, by which washer the rosin or cement is supported and prevented, while in a liquid state, from passing into the bottle. If rosin or other like cementing material be used, a simple disk-washer closely fitting the neck of the bottle can be readily pushed down into the neck of the bottle to the proper depth and a little rosin or cement dropped around the edge thereof, which will quickly cool and sufficiently bind the washer against the neck without danger of displacing the washer.

By using the rosin or its equivalent for the filling of the neck of the bottle as a closure the use of ordinary stoppers is entirely dispensed with, and in bottles for beer, mineral waters and the like wiring is made unnecessary. Where the liquid or other contents of the bottle is an active chemical agent, or contains an agent that would attack certain materials, the washer E should be made of a neutral material.

Should it be desired to adopt in connection with the cut or scratch for any reason the groove on the outside of the bottle or neck, such as shown in Figs. 3 and 4, the opening into the bottle below the groove is closed by a plug F loosely fitting within the neck and projecting through the opening below the groove, and a cut or scratch C is preferably placed upon the ungrooved or smooth side of the bottle opposite this groove, though such cut or scratch may, if desired, be placed both in the groove and on the side of the bottle opposite thereto. This plug serves as a stopper, if the contents of the bottle are not all used at once, and should be made of a neutral material and shaped to conform to the contour of the interior of the neck at the groove, and it may be provided with a disk G corresponding to the washer E. This disk may be of any suitable material and may be secured to the plug or may be separate therefrom. In the special form shown the neck A' is preferably

of a frusto-conoidal shape, so that the rosin or other cementing material may be the better held in place and prevented from being expelled therefrom. It is obvious that a straight neck with corrugations therein or turning the lip of the neck slightly inward would accomplish the same object.

In practice it is found that there is a tendency for the glass neck to break in elliptical form, which can be counteracted by molding the glass thicker below, bordering on the scratch, as shown at I, Fig. 2, either all around the neck of the bottle or on the opposite side to that on which the blow is delivered, or by making the scratch itself in an elliptical form, as shown in dotted lines C', Fig. 2.

One great advantage derived from the use of my invention, besides those above mentioned, rests in the fact that the indentation or scratch can be readily applied to bottles already on the market, as well as to bottles in the process of manufacture, while it is perfectly feasible to place the scratch on the inside of the neck, below the stopper or closure, which is not practicable with the groove alone. By the term "indentation" I mean to include generically the groove and the cut or scratch, the groove being one form and the cut or scratch the other and most preferable form.

What I claim is—

1. The herein-described improvement in bottles consisting of a bottle having its neck provided with a suitable closure with a cut or scratch on the inside of the bottle below the closure, substantially as described.

2. The herein-described improvement in bottles consisting of the combination with the bottle-neck, of a suitable closure, and a cut or scratch upon the inside of the neck below said closure, with a cut or scratch on the outside of the bottle opposite or nearly opposite the inside cut or scratch, substantially as described.

3. The herein-described improvement in bottles consisting of the combination with the neck of the bottle, of a suitable washer, a filling of rosin above the washer, and a cut or scratch on the inside of the bottle below the closure thus formed, substantially as described.

4. The herein-described improvement in bottles consisting of a bottle having its neck provided with closure consisting of a sealing washer or disk and cement filling above the same, with a cut or scratch on the inside of the neck, below the closure, substantially as described.

5. The herein-described improvement in bottles, consisting of a bottle provided with a cut or scratch on the neck thereof forming a line of fracture, the said bottle being made thicker below and bordering on the cut or scratch, whereby the fracture may be caused to take place in an even and circular section, substantially as described.

6. The herein-described improvement in bottles, consisting of a bottle having its neck

provided with a closure consisting of sealing washer or disk and a cement filling above the same, with a cut or scratch below the closure forming a line of fracture, said bottle being
5 made thicker below and bordering on the cut or scratch, whereby the fracture may be caused to take place in an even and circular section, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of 10 two subscribing witnesses.

JOHN S. HARRISON.

Witnesses:

W. R. HINTON,
G. B. WHATLEY.