

UNITED STATES PATENT OFFICE.

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INDICATOR FOR BOTTLES, &c.

SPECIFICATION forming part of Letters Patent No. 599,156, dated February 15, 1898.

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To all whom it may concern:

Be it known that I, WALTER N. THOMPSON, of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Indicators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in indicators for bottles and other receptacles, the object being to provide means whereby the refilling of bottles and other receptacles may be detected after the original contents thereof have been poured out or removed therefrom.

A further object is to construct an indicator which can be used in connection with the standard sizes and shapes of bottles and similar vessels and can also be used in connection with special bottles so constructed as to cause the indicator when detached from the stopper to act as a valve, and thus prevent the ready or convenient refilling of the bottle.

With these objects in view my invention consists of an indicator constructed of a yielding or flexible material adapted to expand and contract, detachably secured to the lower end of a cork and designed to be driven through the neck of a bottle in advance of said cork, said indicator being adapted to break connection with the cork on the removal of the latter from the bottle.

My invention further consists in certain novel features of construction and combinations of parts, as will be hereinafter more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a view of my improvement attached to a bottle of ordinary construction. Fig. 2 is a view of the same in which the indicator is shown in its passage through the neck of the bottle. Fig. 3 is a perspective view of my improvement with cork attached.

Fig. 4 is a view of a bottle with the cork removed and the indicator at rest in the bottle. Fig. 5 is a view of a bottle having an inclined neck. Fig. 6 represents a bottle the neck of which is provided with one or more projections therein. Fig. 7 is a view of a novel form of bottle having my improvement ap-

plied thereto, and Fig. 8 is a similar view with the indicator detached from the cork.

A represents a ball constructed of any suitable yielding or flexible material, preferably spring metal, and provided between its top and bottom with a series of slits 1, through the medium of which said ball is adapted to be elongated and contracted transversely when being forced through the neck of a vessel whose inside diameter is less than the diameter of the ball in question. The cork 2 and ball A are detachably connected together by means of a tang 3, which latter may be, if desired, struck up from said ball, or it may be made separate therefrom and secured thereto in any desired manner.

The form and construction of the indicator may be varied according to circumstances, as the construction herein shown and described is but one of the many forms in which it may be made. I do not confine the indicator to hollow cylindrical, oval, or other similar shapes, as my invention comprehends, broadly, a device, preferably of metal, greater in diameter than the inside diameter of the neck of the bottle, adapted to be contracted for passage through the neck of the bottle and expand as soon as relieved of pressure, so as to prevent its withdrawal from the bottle.

The bottles shown in Figs. 1 and 2 are of ordinary construction, while those illustrated in Figs. 5 and 6 are each provided with a differently-constructed neck. The former of the last-mentioned bottles is provided with an approximately V-shaped neck 4, while the bottle shown in Fig. 6 is provided at the juncture of the sides and neck with one or more outwardly-projecting lugs or flanges 5.

While it is apparent that it is unnecessary to provide bottles with specially-prepared necks, so as to offer greater resistance to the withdrawal of the ball or indicator A than is provided for in bottles having necks of ordinary construction, yet it might be desirable under certain conditions, and hence I have shown two very simple forms which will add practically nothing to the cost of manufacture.

In Figs. 7 and 8 I have shown a bottle having a neck of more than usual length, provided with an enlargement 6, located between

the top and base of said neck. This enlarged portion is provided with several shoulders 7, preferably three, through the medium of which passage-ways are formed for the passage of the contents of the bottle when the ball or indicator A is in contact with said shoulders. When a ball or indicator is attached to the cork, it is adapted to be suspended therefrom in the enlarged portion 6 and when detached from said cork is adapted to rest within said enlarged portion, the lower portion of the neck of the bottle being of a diameter less than the diameter of said ball or indicator, and hence it will be apparent that the latter is prevented from passing into the main portion of said bottle. When a cylindrical, oval, or other similar-shaped indicator is used, it, when released from the stopper, falls and operates as a valve, and thus prevents the ready refilling of the bottle.

In corking bottles the indicator or ball A is first attached to the bottom of cork 2, after which and by any suitable machinery the cork and indicator are forced into the neck and body of the bottle, respectively, the latter in advance of the former. The ball or indicator in every case is of a diameter greater than the inside diameter of the neck of the bottle and during its passage through said neck is elongated and remains in such elongated position until after its passage into the body of the bottle or other enlarged portion, as the case may be, after which, or as soon as resistance is removed, it immediately assumes its normal size.

When it is desired to remove the contents of a bottle provided with my improved indicator, the cork is removed in the usual manner, which operation brings ball or indicator A into contact with the base of the neck of said bottle, and as said ball is of a diameter greater than that of the opening formed in said neck its upward passage is prevented, while the continued pulling on the cork breaks

the connection between said cork and indicator, after which the latter falls to the bottom of the bottle and for all time thereafter indicates that the original seal or stopper has been removed, or, remaining in the enlargement in the neck of the bottle, shows at a glance that the original stopper has been withdrawn, and while it does not prevent the ready removal of the contents of the bottle acts as a valve and prevents the ready refilling of same.

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

1. As an article of manufacture, an indicator constructed of any suitable yielding or flexible material connected to a cork adapted to be inserted through the neck of a bottle, substantially as set forth.

2. As a new article of manufacture, an indicator constructed of any suitable yielding or flexible material provided with a series of slits and detachably secured to the lower end of a cork, substantially as set forth.

3. As a new article of manufacture, an indicator constructed of spring metal, having a series of slits formed therein whereby the indicator is rendered compressible and a tang for detachably connecting said indicator and cork, substantially as set forth.

4. As a new article of manufacture, an indicator for bottles, constructed of yielding or compressible material whereby it can be forced through the neck of a bottle, and resume its original shape after it enters the bottle, a stopper and means connecting the stopper and indicator.

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

WALTER N. THOMPSON.

Witnesses:

W. R. FIELDS,
D. W. CALE.