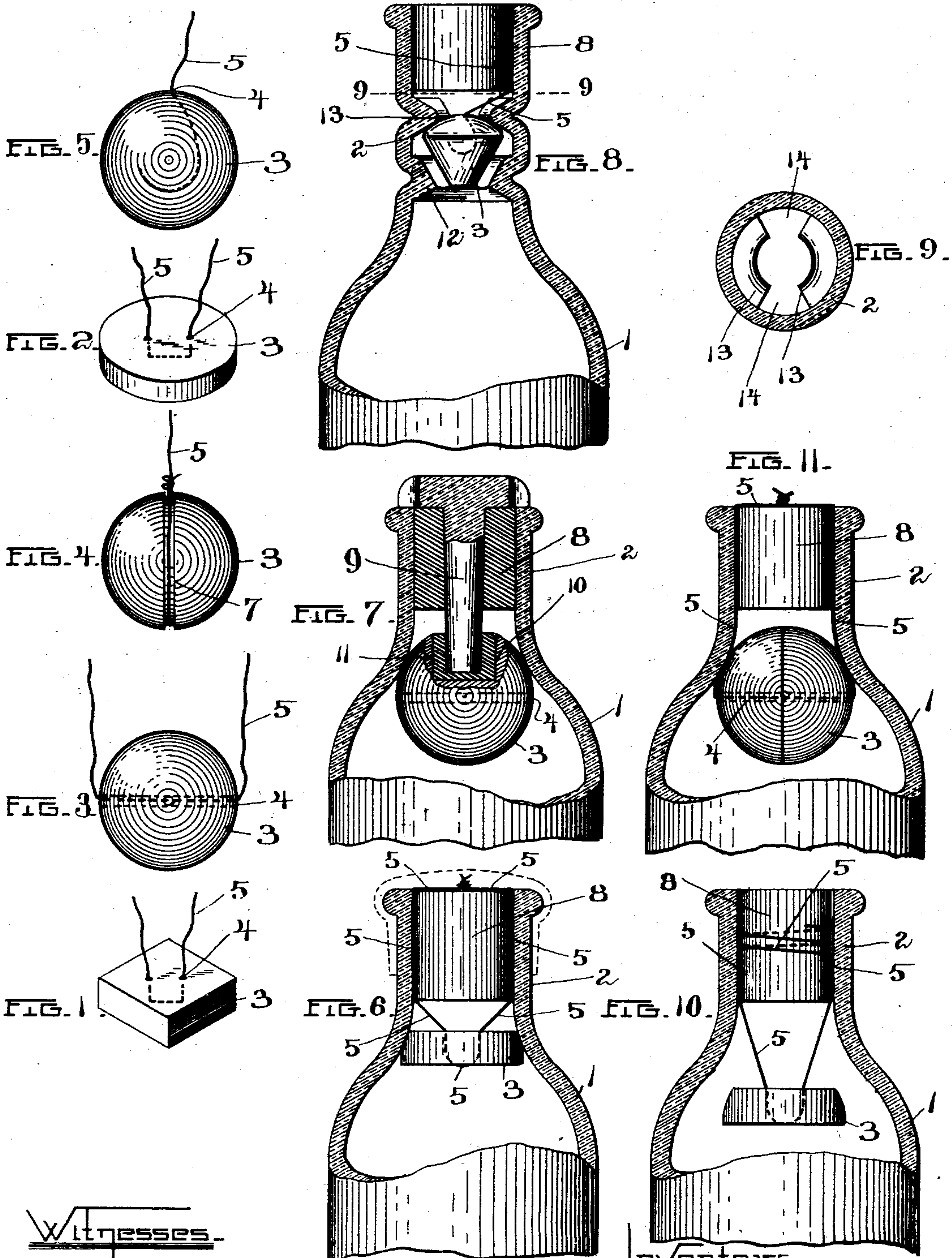


(No Model.)

W. B. & W. H. RAND.
BOTTLE.

No. 520,219.

Patented May 22, 1894.



Witnesses-

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UNITED STATES PATENT OFFICE.

WILLIAM B. RAND AND WALDRON H. RAND, OF BOSTON, MASSACHUSETTS.

BOTTLE.

SPECIFICATION forming part of Letters Patent No. 520,219, dated May 22, 1894.

Application filed January 19, 1894. Serial No. 497,396. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM B. RAND and WALDRON H. RAND, citizens of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Bottles, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The object of our invention is to provide or guard against bottles being re-filled after the original contents thereof have been poured out of the same, and then being palmed off or misrepresented as containing the original
15 or genuine contents. In one phase of our invention we secure this result by rendering it impossible to open the bottle after its original filling, and afterward restore the same to its original condition when new contents have
20 been introduced into the same. In a second phase thereof we add to the foregoing by rendering it difficult or practically impossible to refill the bottle after being for the first time uncorked. Various constructions of bottles
25 and various contrivances for application to bottles have been devised with similar ends in view, but such of these as we have become acquainted with have the disadvantages of adding undesirably to the cost of the bottles
30 and of rendering the original filling and the subsequent use of the bottles inconvenient and difficult. The employment of our invention does not add materially to the cost or interfere with the filling in the first instance or
35 with the emptying out of the original contents.

Our invention will first be described with reference to the accompanying drawings, and then will be particularly pointed out and
40 clearly defined in the claim at the close of this specification.

Figures 1, 2, 3, 4, and 5 of the drawings show different forms of the seals which we have devised. Fig. 6 is a view showing in
45 vertical section a bottle having one form of our invention applied thereto. Figs. 7 and 8 are similar views showing other forms of the invention. Fig. 9 is a view in cross-section on the horizontal line 9, 9 in Fig. 8. Fig. 10
50 is a view showing one mode of connecting the seal-supporting wire, thread or strip with the cork or other closure that is employed.

Fig. 11 is a view showing a further modification.

The bottles shown in the said drawings are marked 1, and the necks thereof 2.

At 3, 3 are what we designate seals, they being so named because they are intended to indicate whether or not the bottles are in the condition in which they were after being filled
60 for the first time, and sold or otherwise disposed of with their original contents therein. Various forms of seals are shown in the different figures of the drawings, and we have represented the same as combined and connected
65 in various ways with the usual corks or closures of the bottles. Each of the said seals, however, is characterized by the fact that at the time of the original filling of the bottle to which it is applied, and the application of the cork
70 or closure to the mouth end of the neck of the bottle, the said seal is caused to become suspended in an elevated position within the bottle in or adjacent to the neck, it being held in place by an attachment or connection with
75 the cork or closure of the bottle which at the time of the first removal of the said cork or other closure is broken, disconnected, or withdrawn, so that the seal becomes detached and is allowed to drop to a lower position in the
80 bottle, the contrivance being such as to render it practically impossible to thereafter again secure the seal in its original position. Therefore, from inspection of the seal, it may
85 readily be ascertained whether or not the bottle has been opened since it first was filled and corked or otherwise closed, and it may be determined whether or not the contents of
90 a bottle offered for sale are what they purport to be. The seal consists of a simple plate, as in Fig. 1, disk as in Fig. 2, ball as in Figs. 3, 4 and 5, or the like, the same being formed of glass, porcelain, or other desired and suitable material. It is made of a size which will prevent it from being introduced or withdrawn
95 through the opening in the neck of the bottle, and therefore is placed within the cavity or interior of the bottle at the time of the manufacture of the latter. It is made with one or more perforations 4, in most of the
100 forms thereof. Through the same is threaded at the outset one or more wires, threads or strips 5, the end or ends whereof are caused to extend out of the neck of the bottle into

position to be grasped. After the bottle has been filled, and preferably before the driving of the cork into the neck of the bottle, or at least before the cork or other closure has been
 5 entirely driven home, the seal is drawn by pulling upon the wire, thread or strip 5 so as to bring the seal into the upper part of the bottle and usually to a seat against the contracted upper end of the bottle at the base of
 10 the neck. The wire, thread, or strip is then to be secured so as to retain the seal in this position. The ends of the wire, thread or strip may be crossed over the outer end of the cork or other closure and after being brought together
 15 may be knotted or otherwise united, the surplus portions thereof being removed by cutting them off, see Fig. 6. In some cases the portions of the wire or thread appearing at the end of the cork or closure will be covered by
 20 and embedded in the wax or other composition which is applied to the mouth of the bottle and the end of the cork or closure, see dotted lines in Fig. 6, in the usual and well-known manner. They may be caused or allowed to embed
 25 themselves in a groove in the outer end of the cork or other closure. When the wire or thread thus is crossed over the end of the cork or closure it will assist in holding the latter in place, preventing it from being expelled by the action of the contents of the
 30 bottle. The crossing portions thereof will have to be broken or severed before the cork or closure can be extracted. In some cases we may depend upon the holding of the seal
 35 in place by simply the compression of the ends of the wire or thread between the sides of the cork and the interior of the neck of the bottle, and when this is the case the ends do not extend out of the mouth of the bottle.

40 Fig. 4 shows a seal made in the form of a ball and having a small groove 7 formed around the same in which is received the thread or wire, parts of the latter being twisted or tied together to cause them to remain
 45 in position in the said groove as shown in the said figure.

Fig. 5 shows a seal made in the form of a ball having the end of a wire received in an internal groove from which latter it is capable of being withdrawn by a slight pull. In
 50 all of these cases, when the cork or closure is withdrawn from the neck of the bottle, the seal will be released by either the breaking of the wire, thread, or strip, or the disengagement of the latter from the seal and the withdrawal thereof.

In Fig. 7 we have shown an embodiment of the invention which is especially adapted for use in connection with a class of bottles in
 60 which the usual cork, shown at 8, is centrally perforated and has fitted into the same a glass or other plug 9, the said plug being withdrawn when it is desired to enable the contents of the bottle to be poured out through
 65 the hole that is made in the cork, the said cork being permitted to remain in the neck of the bottle. For use in connection with the inner

end of the plug, which latter we have prolonged sufficiently to enable the said inner end to project below the inner end of the perforated
 70 cork, we employ a ball or plug which has a socket 10 formed therein, the said socket being lined with a shell 11, of cork or other suitable substance. This ball or sphere has at
 75 the outset a wire or thread 5 passed through a hole in the same as in the case of the seals first described, and prior to the original filling of the bottle containing the same the ends of the wire or thread project from the mouth of the bottle. After the filling, and either before or after the introduction of the cork, the
 80 said ends of the wire or thread are drawn up so as to raise the seal into the neck of the bottle. The said ends are then utilized to draw the seal on to the lower end of the plug after
 85 the plug has been pushed into the hole in the cork so that the socket will receive the projecting end of the plug. The end of the plug by entering the socket will hold the said seal in position. Or the wire or thread is used as
 90 a means of holding the seal in place while the end of the plug is being pushed into the socket in the seal. In this modification the wire or thread will usually be withdrawn, after the seal has been connected with the plug.

95 In the embodiment of the invention which is represented in Fig. 8, the neck of the bottle has molded therein near the inner end thereof a ring 12 or the like, projecting inwardly, the upper side whereof is straight
 100 and inclined inwardly toward the center of the neck. In the neck above said ring is placed a substantially cone-shaped seal, the lower portion of which fits the upper surface of the inwardly projecting ring and in some
 105 cases is ground thereto so as to form a close joint in connection therewith. Above the seal are formed projections 13, 13 in the neck, see Fig. 9, these projections extending inwardly a sufficient distance to prevent the
 110 seal from falling out or being removed. At the time of the original filling of the bottle the seal is held raised against the projections by means of the wire or thread 5 which is connected with the same as in the case of any of
 115 the contrivances already described, and after the completion of the filling, and the introduction of the cork or other closure, the seal is secured in its raised position in contact with the projections. When the wire or thread
 120 is withdrawn or broken at the time of the withdrawal of the cork or closure, the seal is left free to descend and rest upon the upper surface of the ring. The projections 13, 13 do not extend continuously around the neck
 125 of the bottle, but are formed so as to leave spaces 14, 14 between, so that when the seal is raised as above stated at the time of the original filling, or when the mouth of the bottle is turned downward in the act of emptying
 130 its contents, so as to allow the seal to descend until it rests against the said projections, the contents of the bottle may find passage into the bottle in the former instance,

and out of the same in the latter instance, through the said spaces and at the sides of the seal. When the seal is freed by the withdrawal of its sustaining wire or thread, the seal descends and it always rests on the upper surface of the ring when the bottle is in an upright position, thereby completely or practically closing the neck to the admission of liquids or the like, and rendering it wholly impossible or very difficult to re-fill the bottle after having once been emptied. One end of the wire, thread or strip may in some instances be made fast to the cork, as, for instance by wrapping one or more coils thereof around the said cork, as indicated in Fig. 10, or otherwise in any convenient manner, so that when the cork or other closure is pulled out of the neck of the bottle the said wire, thread, or strip will be drawn upon at one end thereof so as to withdraw it entirely from the bottle.

The modification shown in Fig. 11 contains

a ball made in two parts which are held together by the sustaining wire, thread, or strip, but which separate on the withdrawal or breakage of the latter.

We claim as our invention—

The combination with a bottle, and the cork or closure thereof, of a seal connected with the said cork or closure by an attachment which suspends the said seal in the neck or upper portion of the bottle and which is broken or disconnected by the removal of the said cork or closure so as thereby to allow the said seal to descend in the bottle, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM B. RAND.
WALDRON H. RAND.

Witnesses:

WM. A. MACLEOD,
CHAS. F. RANDALL.