No. 886,803.

PATENTED MAY 5, 1908.

J. F. HEDGE.

NON-REFILLABLE BOTTLE.

APPLICATION FILED OCT. 15, 1907.

Fig. 1

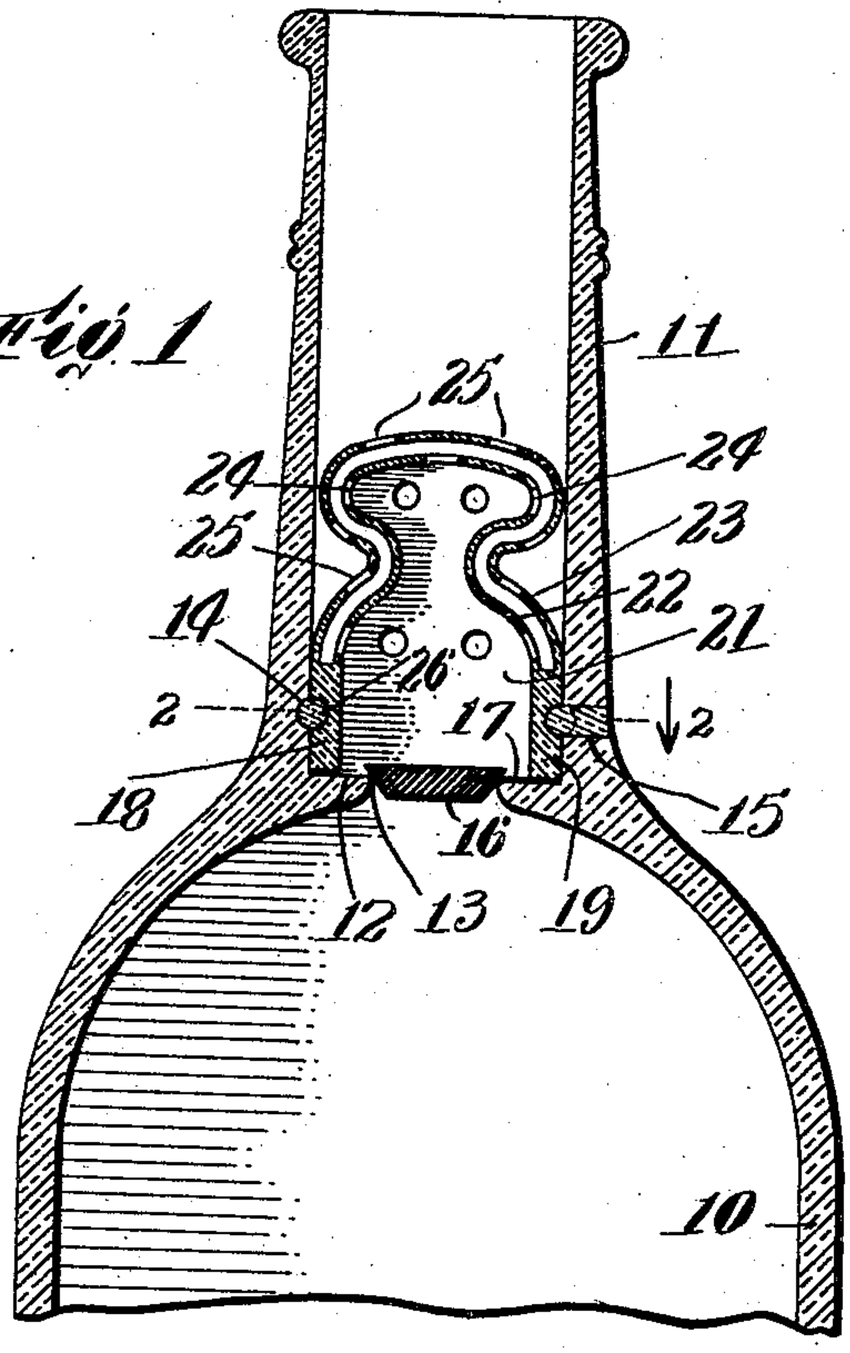
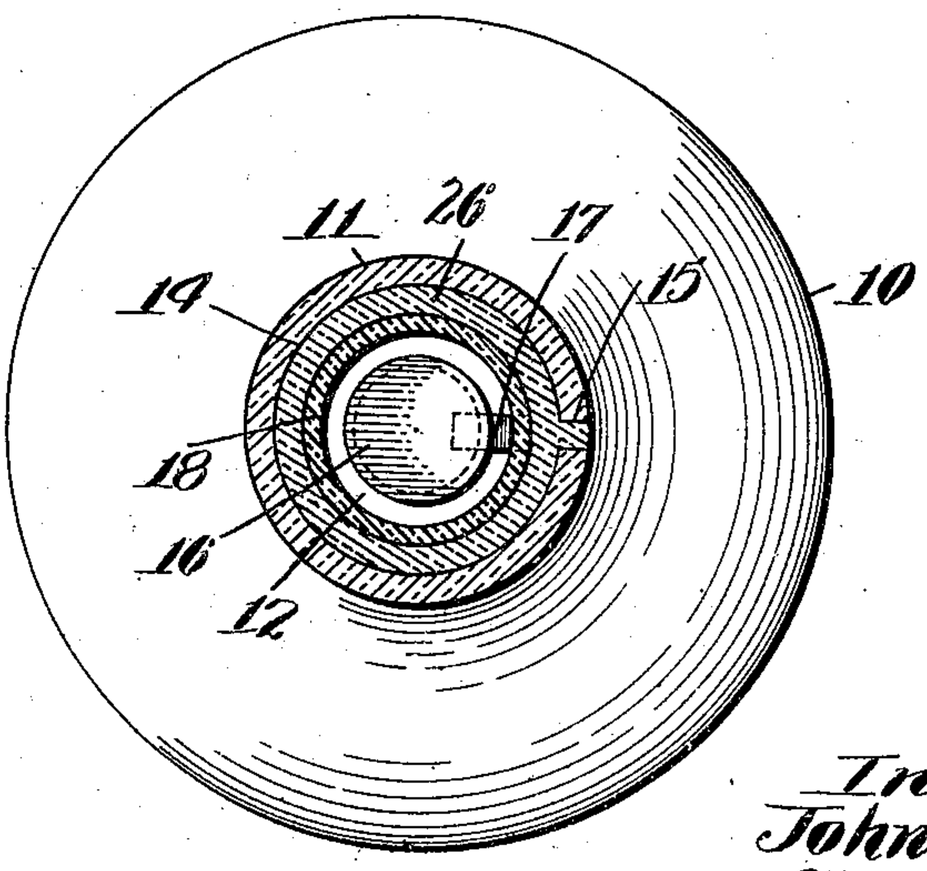


Fig. 2.



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JOHN F. HEDGE, OF LEICESTER, MASSACHUSETTS.

NON-REFILLABLE BOTTLE.

No. 886,803. Specification of Letters Patent. Patented May 5, 1908.

Application filed October 15, 1907. Serial No. 397,524.

To all whom it may concern:

Be it known that I, JOHN F. HEDGE, a citizen of the United States, residing at Leicester, in the county of Worcester and State of Massachusetts, have invented a new and useful Non-Refillable Bottle, of which the following is a specification.

This invention relates to means for preventing the refilling of a bottle or other receptacle.

The principal objects of the invention are to provide a construction which can be inserted in a bottle or the like after it is filled and sealed therein in such a way that it cannot be removed without breaking it or breaking the neck of the bottle; to provide for holding a valve by means of said inserted piece and to construct the latter of such form that the valve cannot be reached through it without breaking it.

Further objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawing in which

Figure 1 shows a preferred form of the invention in transverse central vertical section, and Fig. 2 shows a horizontal section on the line 2—2 of Fig. 1.

In this drawing, the invention is shown as applied to a bottle 10 which may be of any desired material and may have any convenient shape and preferably having a neck. This bottle is shown as provided with a neck 11 at the bottom of which is a ledge 12 extending inwardly and having a central perforation therethrough provided with a valve seat 13. The neck of the bottle when it is manufactured is provided with an annular groove 14 from which a perforation 15 extends to the outside of the neck for a purpose which will be described hereinafter.

The bottle may be filled in any ordinary way and then it is sealed as follows. First a valve 16 of metal, glass or any suitable material is formed with a resilient supporting piece 17. This is preferably in the form of a flat spring extending from one side of the valve. This valve is placed in position on the valve seat with the spring 17 lying on the top of the ledge and extending substantially to the back thereof. Then a guard member 18 is inserted in the neck of the bottle and rests on the ledge. This guard member may be formed of any convenient material, as for example, metal or the like, but I prefer to make it of glass. It consists of a base ring 19 which is preferably solid, and which has an annular groove 20 in its outer wall registering with the annular groove 14 when the sealing member is in place. Above this base ring 19 is a structure 21 which is preferably hollow having an inside wall 22 and an outside wall 23. This structure is preferably integral with the base ring and extends upwardly therefrom in such a manner as to substantially fill the neck of the bottle. The two walls 22 and 23 are provided with several perforations 24 and 25 respectively. These perforations are in no case in registration with each other, but are staggered or offset so that a wire or other instrument may not be inserted from above through any perforation 25 and be in such position as to enter or pass through one of the perforations 24. The perforations may be in the top of the walls 22 or 23 or in the sides thereof. Both of these forms are indicated in the drawing and both preferably are employed in conjunction with each other.

When the guard member is placed in position, molten or plastic glass or any other convenient sealing material capable of hardening is introduced into the passage 15 and fills the two annular channels 14 and 20 so as to constitute an integral ring surrounding the guard member and effectually sealing it in position and filling the perforation 15.

It will be observed that on account of the relative thinness of the walls 22 and 23 compared with the lower part of the device any force exerted to pull the sealing member out of the neck of the bottle would result in breaking the same before it would shear the sealing ring 26. Nevertheless these walls are sufficiently thick to resist ordinary attempts to pass wires and the like through the same for the purpose of holding the valve 16 open. It will be fractured also if it is attempted to drill through it. It will be observed also that the upper surface of the wall 23 is convex, and substantially fills the neck of the bottle so that it not only constitutes a strong surface to resist pressure from above, but preferably being made of a smooth surfaced material it will be a difficult matter to tamper with it in any way.

It will be seen that the bottom of the guard member rests on the end of the spring 17 and securely holds the same in position, thus providing for locating the valve and its spring in operative position and condition without touching the same after the valve is inserted, and without any special care as to

the location of the parts in sealing the receptacle.

It will be observed that in operation the valve 16 will yield and allow liquid to be discharged, and that the liquid will flow through the two series of holes in the two walls, but when it is desired to fill the receptacle, the valve will remain closed on account of the resiliency of the spring 17 even when the bottle is inverted if there is no liquid behind it, and that as it is impossible to reach the valve from the mouth of the bottle, it is effectually sealed in a most simple and inexpensive manner.

While I have illustrated and described a preferred embodiment of the invention, I am aware that many modifications may be made therein by any person skilled in the art without departing from the scope thereof as expressed in the claims. Therefore, I do not wish to be limited to the particular details of construction shown but

What I do claim is:—

1. A guard device for a receptacle comprising a guard member adapted to be secured in the neck of the receptacle and provided with two walls in its upper part spaced apart, said walls having perforations therethrough out of registration with each other.

2. A guard device for a receptacle comprising a guard member adapted to be secured in the neck of the receptacle and having in its upper part two walls spaced apart, and having staggered perforations therethrough, the outer wall being convex at the top and substantially filling the neck of the receptacle.

3. A guard member for a receptacle comprising a solid glass ring and two walls spaced apart integral with said ring and extending upwardly therefrom, said walls having staggered perforations therethrough, and the outer of said walls surrounding the inner and being of substantially the same maximum diameter as the diameter of the ring.

4. The combination with a receptacle having a neck and a ledge adjacent to said neck having a perforation therethrough provided with a valve seat, of a valve adapted to fit said seat, and a guard member secured in the neck of said receptacle above said valve and having two walls spaced apart and substantially filling the neck of said receptacle, said walls being perforated.

5. The combination with a receptacle having an inwardly extending ledge adjacent to the neck thereof and provided with a valve seat, of a valve fitting said seat and having a straight spring with one end embedded therein and the other extending therefrom, and a guard member adapted to be fixed in the neck of the receptacle so as to rest on the end of the spring and secure it in position, said guard member having two walls in its upper part spaced apart, said walls having perforations therethrough out of registration with each other and the bottom of said guard member being solid where it rests on said spring.

6. The combination with a receptacle having an inwardly extending ledge near the neck thereof provided with a valve seat, a valve fitting said seat, and a guard member having two walls in its upper part spaced apart, said walls having perforations therethrough out of registration with each other and having a lower solid member provided with an annular groove on the outside thereof and adapted to hold said valve resiliently against its seat, the neck of said receptacle having an annular groove registering with the groove in said guard member, and an integral ring of self-hardening material in the grooves to seal the guard member in position.

7. The combination of a receptacle having a neck provided with an annular groove on the inside of said neck having a perforation through the neck communicating with the groove, with a guard member having two walls in its upper part spaced apart, said walls having perforations out of registration with each other and a groove corresponding with said annular groove and registering therewith, and an integral ring of self-hardening material in said grooves to seal the guard member in the neck of the receptacle.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

JOHN F. HEDGE.

Witnesses:

ALBERT E. FALL,

MARY E. REGAN.