H. R. VANAMAN.

BOTTLE CAP.

APPLICATION FILED SEPT. 21, 1903.

917,196.

Patented Apr. 6, 1909.

Fig. 1.

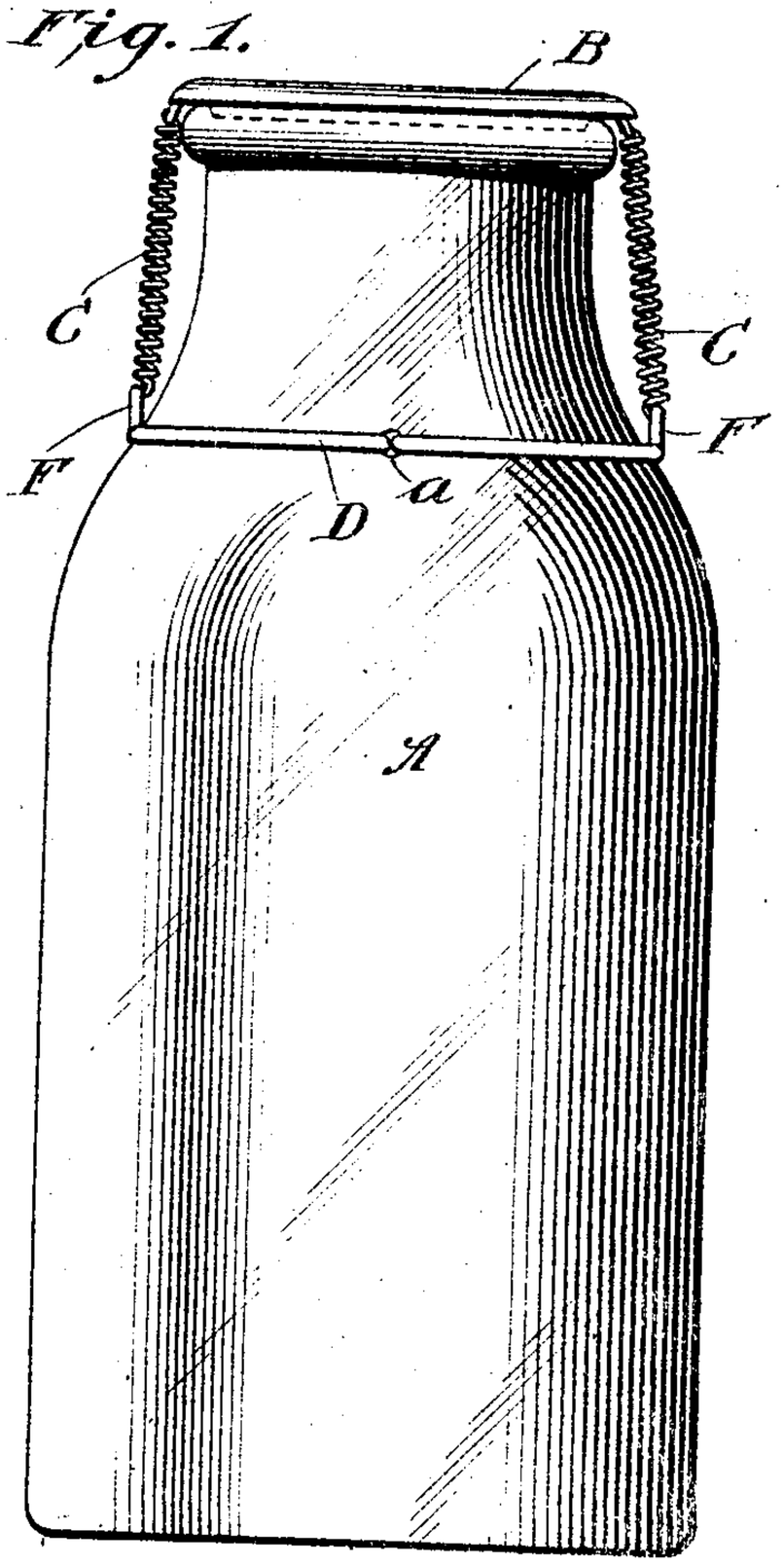


Fig. 2.

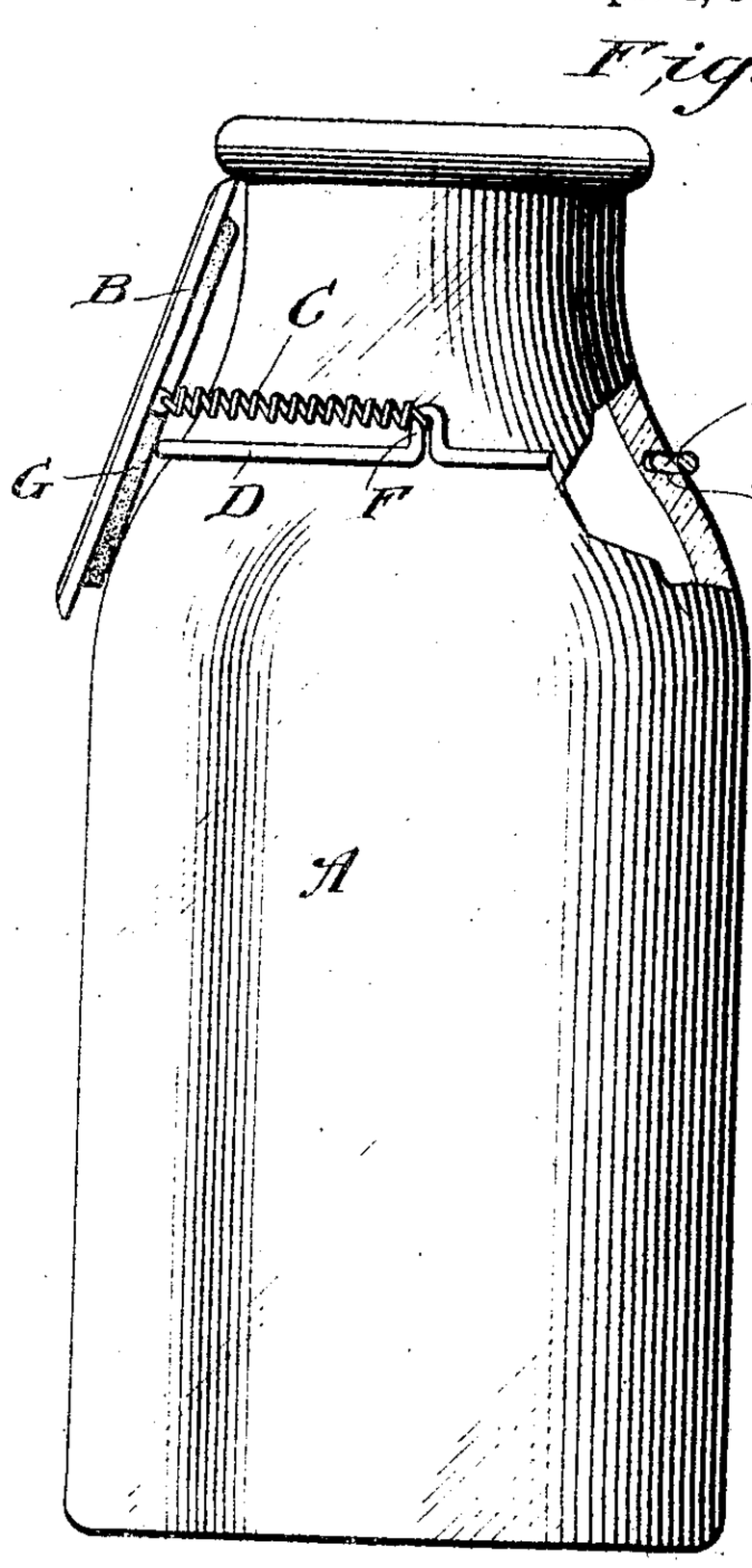
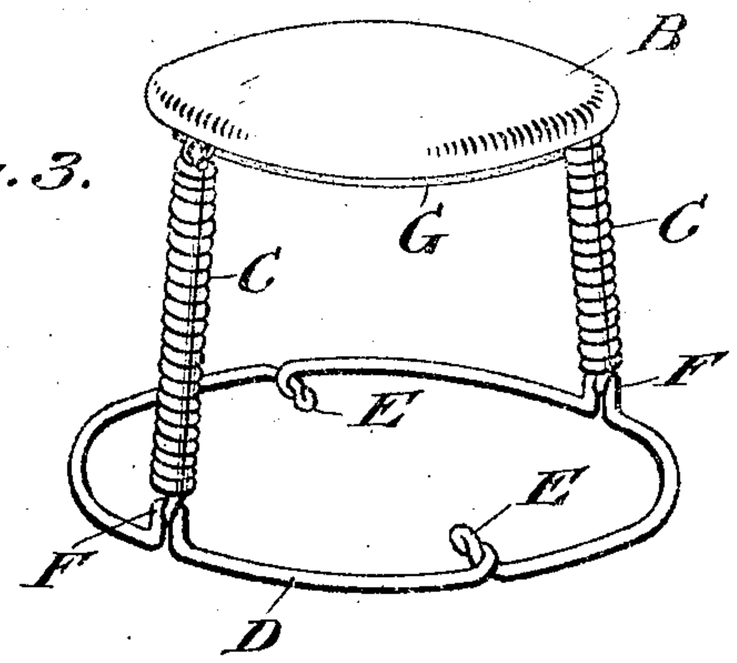


Fig. 3.



Witnesses

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HARRY R. VANAMAN, OF MILLVILLE, NEW JERSEY.

BOTTLE-CAP.

No. 917,196. Specification of Letters Patent. Patented April 6, 1909.

Application filed September 21, 1908. Serial No. 454,023.

To all whom it may concern:

Be it known that I, HARRY R. VANAMAN, a citizen of the United States, residing at Millville, in the county of Cumberland and State of New Jersey, have invented certain new and useful Improvements in Bottle-Caps, of which the following is a specification.

My invention relates to bottle stoppers or caps, and particularly to stoppers for milk bottles or like receptacles, the object of the invention being to provide a cap or closure in which the cap is held to the bottle by spring pressure, in which the cap may be readily removed from the opening of the bottle, and in which the cap attachment may be readily removed from the bottle itself, or as readily attached.

In the drawings Figure 1, is an elevation of a bottle neck provided with my cap. Fig. 2, is a similar view partly in section at about right angles to Fig. 1 showing the cap removed. Fig. 3, is a view of the cap and its attaching means detached from the bottle entirely.

A indicates the ordinary bottle such as is used for milk or cream having the rather wide neck and mouth, and provided on its sides with the sockets *a* formed in the glass of the bottle at about the junction of the bottle with the neck.

B designates my improved cap which is preferably of metal or other suitable material having on its underside the rubber pad or disk G. It is obvious of course that this disk might be made of other material than rubber, such as paper or compressed fiber.

Attached to diametrically opposite points of the cap B are the coiled springs C which extend downward and are connected to a band or ring D, preferably at the upper ends of the loops F. The band D is provided at diametrically opposite points with the inwardly projecting lugs E which extend in the sockets *a* of the bottle neck. At diametrically opposite points also and in a plane at right angles with the lugs the band is bent upward and then downward upon itself or otherwise formed, so as to provide the oppositely disposed resilient loops F in the upper ends of which the lower ends of the springs C are engaged. The band D is made of spring wire or other suitable resilient material having sufficient stiffness to hold its place around the neck of a bottle when the lugs thereon are engaged in the sockets *a*.

It will be seen that by expanding the ring or band D, by drawing out on the band, then opening out the loops F the lugs will be withdrawn from the sockets and the cap may be readily detached from the bottle, and that reversely the ring or band may be expanded, slipped over the neck of the bottle and then allowed to contract forcing the lugs into connection with the sockets and hold the cap firmly in place. It will also be seen that the springs C allow the cap to be readily lifted and turned to one side, while when the cap is in position over the mouth of the bottle, they hold it to its seat with a constant spring pressure. Besides the facility with which the cap may be raised from the bottle mouth, it will also be seen that the springs C permit of an expansion of the contents of the bottle in case of the contents becoming frozen, and that reversely if the contents thaw after being frozen, the cap will at once take its seat on the mouth of the bottle. This is of considerable importance in milk jar closures, as it prevents the bottle breaking if the milk becomes frozen as it is likely to do where deliveries are made in the winter and the bottle is left outside the house door, and it keeps the bottle covered if the contents become liquid again.

It is obvious that the lugs E might be made in any desired manner, but I have shown them as formed by bending the wire of the band D on itself and twisting said inwardly bent portion so as to secure rigidity in the lug. I do not however wish to confine myself to this construction, nor to the use of wire as a means of making the band D.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a device of the character described, the combination with a bottle having sockets formed at diametrically opposite points in its sides, of a closure for the mouth of the bottle, a spring wire neckband adapted to surround the neck of the bottle, inwardly bent lugs on said band projecting into the sockets in the bottle, and connecting devices between the bottle closure and the said band at points midway between the lugs.

2. In a device of the character described, the combination with a bottle having sockets formed at diametrically opposite points in its sides, of a closure adapted to close the mouth of the bottle, a spring wire neckband around the neck of the bottle, inwardly bent lugs on

said band projecting into the sockets in the bottle and springs connecting the closure to the neckband midway between the lugs.

3. In a bottle closure, the combination with a bottle having inwardly extending sockets formed in its sides, of a neck band having expansible upwardly extending loops formed thereon, and inwardly projecting lugs formed thereon at diametrically opposite points of the neck band adapted to engage with said sockets, a cap for closing the mouth of the bottle and coiled springs connecting the cap with said expansible loops.

4. In a bottle closure, the combination with a bottle having inwardly extending sockets formed in its sides, of a neck band having expansible upwardly extending loops formed thereon, a bottle cap, springs connecting the band to the cap, and inwardly projecting lugs on said band to engage with said sockets, said lugs being formed by making inwardly extending loops on said band and twisting the said loops.

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

HARRY R. VANAMAN.

Witnesses:

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