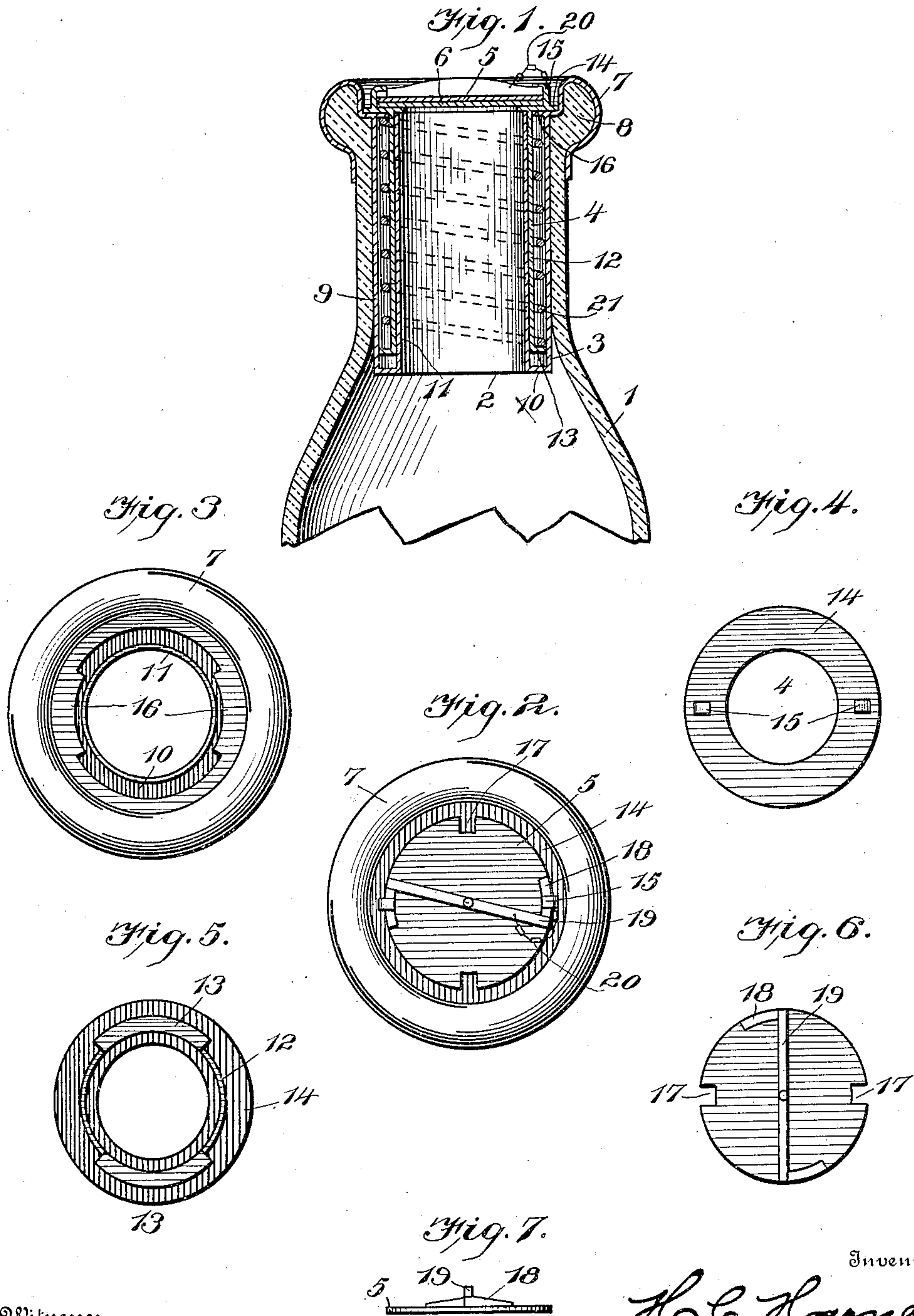


No. 890,860.

PATENTED JUNE 16, 1908.

H. C. HARNESS.
SELF ADJUSTING BOTTLE CLOSURE.
APPLICATION FILED OCT. 3, 1907.



Witnesses

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UNITED STATES PATENT OFFICE.

HENRY CHARLESTON HARNESS, OF NEW ROCHELLE, NEW YORK.

SELF-ADJUSTING BOTTLE-CLOSURE.

No. 890,860.

Specification of Letters Patent.

Patented June 16, 1908.

Application filed October 3, 1907. Serial No. 395,741.

To all whom it may concern:

Be it known that I, HENRY CHARLESTON HARNESS, a citizen of the United States, residing at New Rochelle, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Self-Adjusting Bottle-Closures; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to a self adjusting stopper and closure for bottles, jars and the like, and has for its object to provide a device of this class which will allow the pressure on the inside of the vessel to increase without bursting the vessel.

A further object of my invention is to provide a cap or closure which will rise to suit the pressure within the vessel and at the same time keep the vessel closed.

With these objects in view my invention consists in the novel construction of the bottle stopper or closure and in certain combinations of parts all of which will be first fully described and afterwards specifically pointed out in the appended claims.

Referring to the accompanying drawing: Figure 1 is a vertical sectional view taken through a jar illustrating my stopper or closure applied thereto. Fig. 2 is a top plan view of the same. Fig. 3 is a top plan view showing the cap of stopper or closure removed. Fig. 4 is a top plan view of the removable barrel portion of the device. Fig. 5 is a bottom plan view of the removable barrel portion of the device. Fig. 6 is a plan view of the cap. Fig. 7 is a side elevation of the cap.

Like numerals of reference indicate the same parts throughout the several figures in which;—

1 indicates the bottle, jar or vessel, and 2 indicates the self adjusting stopper or closure, said stopper or closure comprising a permanent barrel portion 3 and removable barrel portion 4, a cap 5 and washer 6, all of the parts except the washer 6 being made of suitable metal, while the said washer 6 is preferably made of card-board or similar material. The permanent barrel portion 3 is constructed as shown in Fig. 1 having an upper

portion 7 which is turned over a bead 8 of the bottle, jar or vessel in order to secure the permanent barrel portion within the neck of the bottle, jar or vessel. The barrel portion 3 comprises a vertical wall 9 fitting the neck of the vessel snugly, a bottom 10 and a vertical wall 11 extending upwardly within the wall 9, the barrel portion 3 thus forming a receptacle.

Within the receptacle formed and between the vertical walls 9 and 11 is the removable barrel portion 4 which, as shown in Fig. 1, comprises a vertical wall 12, said wall terminating in two flanges 13 as shown in Figs. 1 and 5, while the upper end of the wall 12 is provided with an annular flange 14, said annular flange 14 being provided with preferably two hooks or lugs 15 as shown in Figs. 1 and 4. Referring again to the permanent barrel portion 3 it will be seen that on the upper end of the outer wall 9 are two inwardly extending flanges 16 as shown in Figs. 1 and 3.

Referring to Figs. 2 and 6 it will be seen that the cap 5 is provided with two notches 17 and two inclined planes 18 shown also in Fig. 7; while a central wall 19 is also provided for turning the cap. If desired, a small chain 20 having one end secured to the cap and the other end secured to one of the lugs 15 can be employed for preventing loss of the cap.

Having thus fully described my invention its operation is as follows: The permanent barrel portion 3 is inserted in the neck of the vessel and secured thereto as shown in Fig. 1; the removable barrel portion 4 is then inserted within the permanent barrel portion 3, the flanges 13 on the bottom of the removable barrel portion 4 entering between the flanges 16 on the top of the permanent barrel portion 3 as shown in Figs. 4 and 5. A coil spring 21 is then inserted within the permanent barrel portion 3 the lower end of the spring resting against the flanges 13 on the removable barrel portion 4, while the upper portion of the spring 21 engages the flanges 16 at the top of the permanent barrel portion 3. The washer 6 is then placed upon the top of the removable barrel portion 4 and the cap 5 is placed upon the washer, the notches 17 in said cap registering with the lugs 15 on the said removable barrel portion 4. The cap is then rotated by means of the vertical wall 19 until the inclined planes 18 on the cap pass under the lugs 15 on the removable barrel

portion 4, thus holding the cap firmly in position on the removable barrel portion 4. The cap or closure being thus held in position upon the removable barrel portion 4 and the
5 removable barrel portion 4 being yieldingly held within the permanent barrel portion 3 by means of the coil spring 21 it is at once evident that the removable barrel portion 4 and cap 5 will rise to any pressure within
10 the vessel thus adjusting the closure to the pressure and preventing bursting of the vessel, while at the same time closing the contents therein.

Having thus fully described my invention
15 what I claim as new and desire to secure by Letters Patent of the United States is,—

1. A self adjusting closure for bottles, jars and the like comprising a permanent barrel portion comprising two vertical walls arranged within the neck of the bottle, jar or
20 the like, a removable barrel portion comprising a vertical wall arranged within the said permanent barrel portion, a coil spring interposed between one of the walls of the permanent barrel portion and the said vertical
25 wall of the removable barrel portion, a washer on said removable barrel portion, a cap on said washer and interlocking means between said cap and said removable barrel

portion for securely holding the cap in position, substantially as described. 30

2. A self adjusting closure for bottles, jars and the like comprising a permanent barrel portion arranged within the neck of the bottle, jar or the like, a removable barrel portion
35 comprising a vertical wall arranged within the said permanent barrel portion, a spring in engagement with each of said barrel portions for resiliently holding the removable barrel portion within the said permanent barrel portion, and means for closing the said removable barrel portion, substantially as described. 40

3. A self adjusting closure for bottles, jars and the like comprising a permanent portion arranged within the neck of the bottle, jar or the like, a removable portion inserted within the said permanent portion and resiliently held therein, and a cap or closure for interlocking engagement with the said removable
50 portion for closing the same, substantially as described.

In testimony whereof, I affix my signature, in presence of two witnesses.

HENRY CHARLESTON HARNESS.

Witnesses:

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