

No. 648,407.

Patented May 1, 1900.

R. HAY.

STOPPER OR CLOSING CAP FOR BOTTLES.

(Application filed July 18, 1899.)

(No Model.)

Fig. 1.

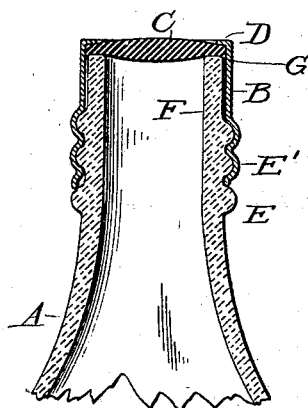
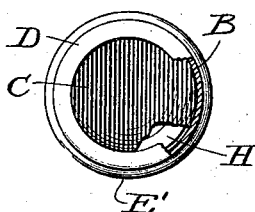


Fig. 2.



WITNESSES

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STOPPER OR CLOSING-CAP FOR BOTTLES.

SPECIFICATION forming part of Letters Patent No. 648,407, dated May 1, 1900.

Application filed July 18, 1899. Serial No. 724,245. (No model.)

To all whom it may concern:

Be it known that I, ROBERT HAY, a citizen of the United States, residing at Summit, county of Union, and State of New Jersey, have invented and made certain new and useful Improvements in Stoppers or Closing-Caps for Bottles and Such Like Vessels; and I do hereby declare that the following is a full, clear, and exact description and specification of the same, reference being had to the accompanying drawings, forming part thereof.

My invention relates to means for hermetically sealing vessels designed to contain substances which are to be kept from the air and which are usually sealed up in screw-cap bottles or jars, and I have adapted my improvement to such vessels in this present instance; but other means of securing the stopper to the bottle may be used without departing from the principle of my invention; and my invention consists in certain construction of cap and closing-piece fully described in this specification and claimed at the end thereof.

In order that persons skilled in the art to which my invention appertains may understand, construct, and use my invention, I will proceed to describe it, referring to the drawings herewith, in which—

Figure 1 is a central vertical section of a bottle-neck with my invention applied thereto, showing the construction of screw-cap and closing-piece. Fig. 2 is a top view of same with a portion of the screw-cap broken away to show the relation of the parts to each other.

A is the bottle-neck, having screw-thread E. B is the barrel of the cap, provided with thread E' to fit thread E on bottle-neck A.

C is the closing-piece, made of rubber or of equivalent elastic or yielding substance.

D is the top of the cap and consists only of a narrow flange turned upon the top of the barrel A toward the center thereof, leaving a central opening in the top of the cap somewhat larger than the diameter or size of the opening F in the neck of the bottle or its mouth.

The closing-piece C rests upon the top of the neck A at G and is made of the same diameter as the inner circumference of the barrel of the cap B, and when the said barrel B is screwed downward the flange D grips the outer edge of the closing-piece C and, as the

barrel B is somewhat larger than the neck A, the closing-piece is forced upon the top of the walls of the neck A at G and also over the outer edge of neck A and between the neck A and the inner circumference of the barrel B, thus securely closing the bottle and hermetically sealing it, leaving the central portion of the closing-piece C free to rise and fall as the pressure within the vessel or bottle is more or less. This construction insures a perfect sealing of the vessel and at the same time the closing-piece not being rigidly held at its central part, it (the closing-piece) yields to the pressure, and prevents the bursting of the bottles from internal pressure.

The opening in the center of the top of the barrel B within the flanges may be merely a deep recess in the top, and I sometimes so construct it instead of an opening; but I prefer to construct the whole device substantially as shown and specified. In this my invention both the yielding and elastic qualities of the material of the closing-piece are utilized, and also as the flange D grips only the outer edge of the closing-piece the barrel B can be screwed down to obtain a tighter grip upon the closing-piece than in the ordinary way and with less expenditure of force.

Having now fully described my invention and the manner in which I have embodied it, what I claim as new and as my invention, and desire to secure by Letters Patent, is—

The combination in a stopper for bottles or vessels, consisting of the barrel as B, provided with an internal flange as D; closing-piece as C, of elastic or yielding material; means for closing said flange and closing-piece upon the mouth of the vessel, and into the space between the barrel B and the neck of the bottle or vessel and for releasing the same; all constructed, arranged and combined to operate when applied to the vessel, to hermetically seal the mouth thereof, and to permit the central portion of the closing-piece to rise and fall from over the mouth of the vessel, according to the variations of pressure within the vessel, substantially as specified.

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Witnesses:

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