

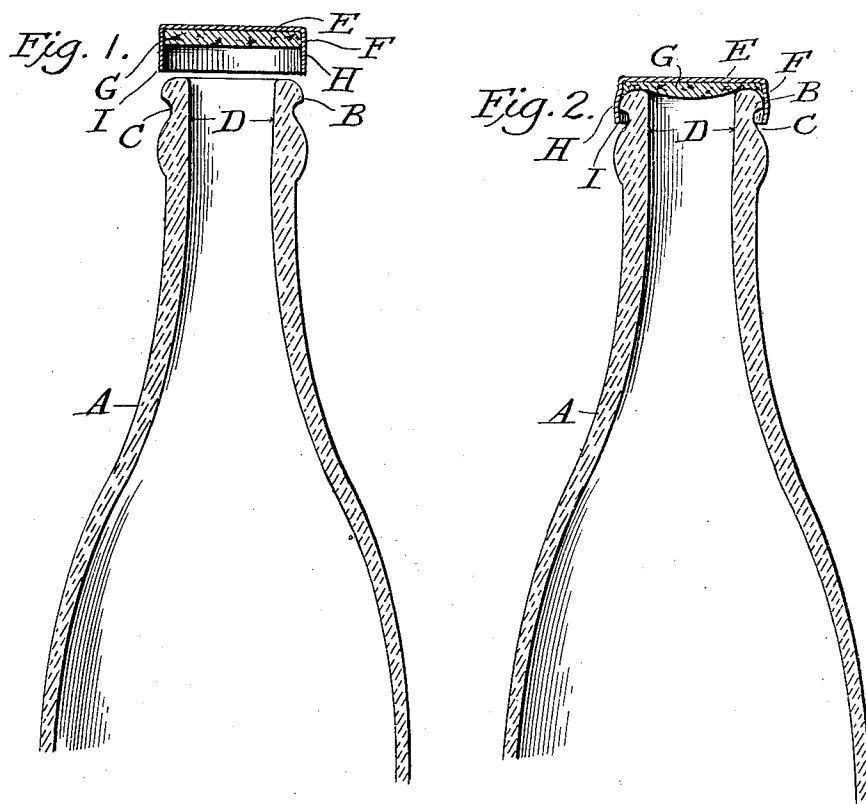
No. 783,038.

PATENTED FEB. 21, 1905.

J. M. HICKS.

MEANS FOR SECURING SEALING CAPS ON VESSELS.

APPLICATION FILED OCT. 11, 1904.



Witnesses
James P. Duhamel.
John T. Hicks

Inventor
James M. Hicks

UNITED STATES PATENT OFFICE.

JAMES MILNOR HICKS, OF SUMMIT, NEW JERSEY, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE AUTO STOPPER COMPANY, OF NEW YORK, N. Y.

MEANS FOR SECURING SEALING-CAPS ON VESSELS.

SPECIFICATION forming part of Letters Patent No. 783,038, dated February 21, 1905.

Application filed October 11, 1904. Serial No. 228,011.

To all whom it may concern:

Be it known that I, JAMES MILNOR HICKS, a citizen of the United States, residing at Summit, Union county, New Jersey, have invented a new and useful Improvement in Means for Securing Sealing-Caps on Vessels, of which the following is a specification.

My invention relates to a method of securing sealing-caps on vessels; and it consists in certain elements and mode of operation fully set forth in the following 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 accompanying drawings, forming part of this specification, in which—

Figure 1 is a longitudinal central section of a bottle provided with a bead surrounding the exterior of the bottle-mouth near the top of the neck in a well-known manner and a cap containing sealing material placed over the said mouth in a position just previous to closing it over the said bead and mouth to seal the bottle. Fig. 2 shows the cap and seal forced down upon the bottle-mouth and over the bead upon its outer surface.

A is the neck of a vessel or bottle.

B is a circumferential bead at the top of the exterior of the neck. C is a recess below said bead B.

D is the internal bore of the bottle.

E is the top surface of the cap.

F is the circumferential flange pendent from the top surface E.

G is a cork wafer located within the cap under surface E.

H is the middle portion of flange F, and I is the lower portion.

In order to perform the operation in the best manner, I make the internal diameter of the pendent flange of said cap of somewhat smaller dimension than the diameter of the bead upon the vessel-neck, so that in forcing the cap over the said bead the metal of the cap-flange at its lower extremity is forced outward to about the limit of the elasticity of the

metal, and afterward as soon as it has passed the said bead the metal returns to its former dimension and closes under said bead. As the bead when gripped by the elasticity of the metal will not permit the metal between the lower extremity of the cap-flange and the upper part to return to its original size, a slight curve exists therein, which causes the cap to hold against very high pressure from within the vessel. It is also true that when the metal of the cap-flange about midway of the width of said flange is forced outward in addition to the elasticity of the metal the metal is drawn upward from the base of the flange toward and into the expanded portion, as is well-known to those who have operated with dies for shaping metal caps and making dies for the purpose. Thus it will be seen that a simple cup-shaped cap can be and is made to hold securely upon a vessel-mouth and neck-bead without any change in form other than that which it obtains in being forced upon the bottle-mouth and over the bead thereabout. The cheapness and availability of this mode of operation and attendant result is of great advantage in the art.

To open the vessel, the cap is removed by a tool which is used to open other vessels and is well known in the art.

It is to be understood that the within-specified invention is not strictly confined to metal caps; but other materials are involved in it, such as cellulose and equivalent materials to be used on vessels when no pressure or a small amount of pressure is contained in the vessel, such as milk-bottles and other similar articles.

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

In vessels and sealing-caps therefor, the combination of a plain cup-shaped sealing-cap; a circumferential bead on the exterior surface of the vessel near its top, the said cap being of a smaller internal dimension than the said bead upon the vessel, whereby when the said cap is forced over the said bead, the said seal-

ing-cap is strained when passing over said bead
and when the lower part of the said cap has
passed the said bead it returns substantially to
its original dimension, while the part of said
5 sealing-cap above the lower portion retains its
strained condition and grips the said bead sub-
stantially as hereinbefore specified.

In testimony whereof I have signed my name

to this specification, in the presence of two sub-
scribing witnesses, this 10th day of October, 1904.

JAMES MILNOR HICKS.

Witnesses:

JAS. N. WILLARD,

JOHN A. HICKS.