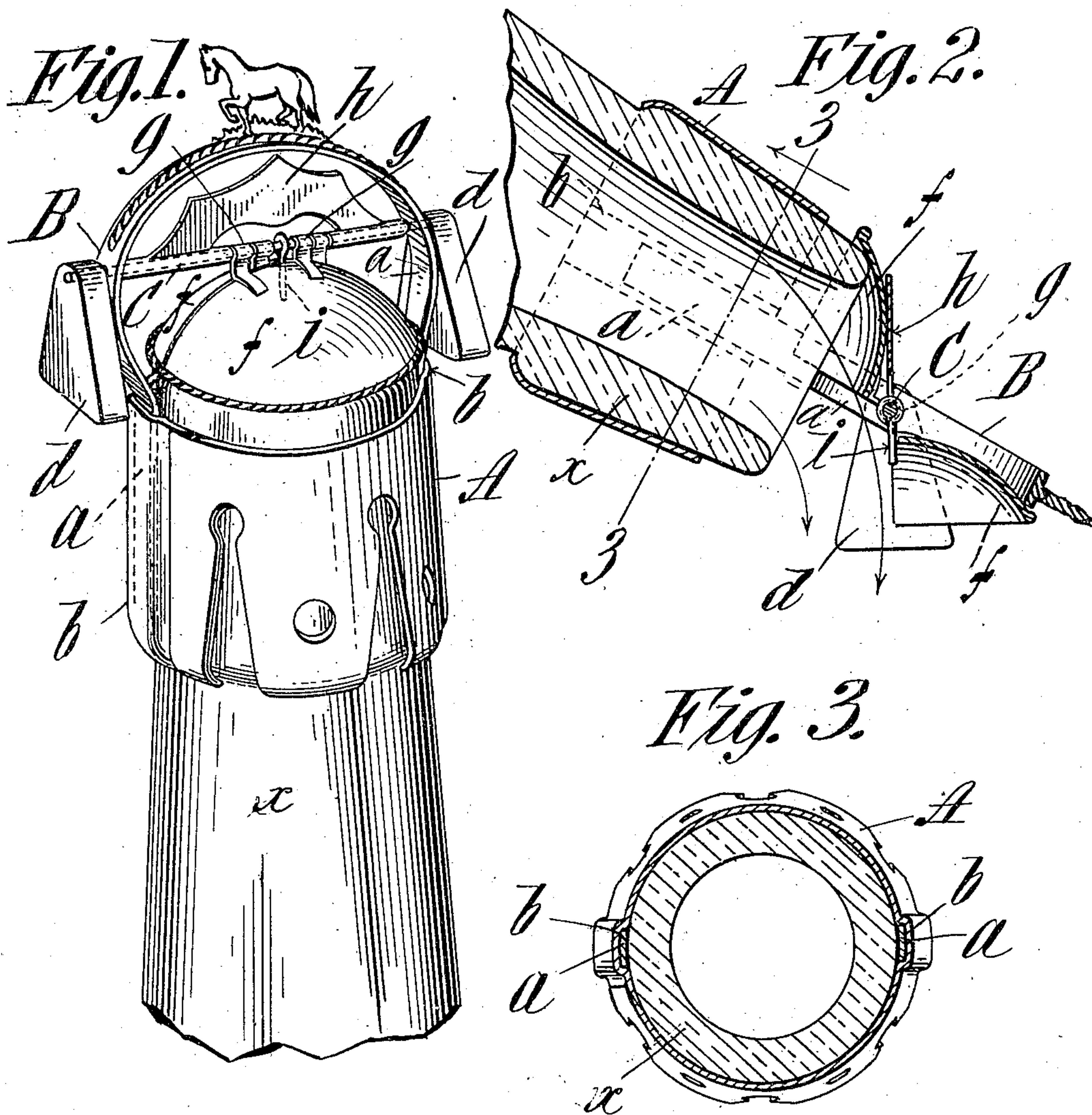


No. 837,779.

PATENTED DEC. 4, 1906.

F. H. BILLS.
CLOSURE FOR BOTTLES.
APPLICATION FILED JUNE 4, 1906.



Witnesses:
J. R. Garfield
G. R. Driscoll.

Inventor,
Frank H. Bills,
by J. H. Collins,
Attorney.

UNITED STATES PATENT OFFICE.

FRANK H. BILLS, OF SPRINGFIELD, MASSACHUSETTS.

CLOSURE FOR BOTTLES.

No. 837,779.

Specification of Letters Patent.

Patented Dec. 4, 1906.

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To all whom it may concern:

Be it known that I, FRANK H. BILLS, a citizen of the United States of America, and a resident of Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Closures for Bottles, of which the following is a full, clear, and exact description.

This invention relates to improvements in closures for the mouths of bottles and other receptacles, and while especially designed for employment on liquor-bottles to be used on bars and sideboards to permit easy out-pouring of the contents of the bottle without necessitating the removal of the cork or stopper it is also available as a closure for syrup or milk pitchers and various other kinds of receptacles.

An object of the invention is to provide a closure for a bottle which, while normally sufficiently tight and close, is operable to be automatically opened when the bottle is overturned to permit the outpouring of the contents thereof.

Another object is to construct the bottle-mouth cover or closure in two sections, so that the one which is lowermost when the bottle is in the pouring position will be opened, the other cover-section remaining closed.

Another object is to provide gravitative members or weights operable on whichever one of the cover-sections should properly be opened for the positive opening thereof.

Another object is to provide a means which is automatically operable while one cover-section is positively opened to guard against the possible opening of the other cover-section, whereby in pouring the contents out of the bottle there may be no excessive flow of the liquid.

Other objects are attained in and by the constructions, arrangements, and combinations of parts, as will be apparent from the description hereinafter in conjunction with the drawings.

In the drawings, Figure 1 is a perspective view of the upper portion of a bottle having the present improved devices applied thereon. Fig. 2 is a central section as taken longitudinally through the mouth portion of the bottle on the plane of its axis and through the mouth-closing devices therefor, the positions of the parts being such as they assume when the bottle is overturned sufficiently for pouring out the liquid therein. Fig. 3 is a hori-

zontal cross-section as taken across the mouth portion of the bottle on the line 3 3, Fig. 2.

Similar characters of reference indicate corresponding parts in all of the views.

In the drawings, *x* represents the neck and mouth portion of an ordinary liquor-bottle.

A represents a thimble to be affixed about the mouth portion of the bottle, the same being constructed with spring-prongs, whereby it may fit bottles of somewhat varying sizes and contours.

The thimble A has oppositely-located upwardly-open sockets in which are detachably engaged the lower portions of opposite side members *a a*, which members are upwardly extended above and at opposite sides of the bottle-mouth, and suitably high above such mouth, with capability of its oscillation, is a rod C, which extends across from one to the other of said members *a a* and has its extremities outside of said members, being thereat provided with depending weights *d d*, fixed thereto.

f f represent two half-circular oppositely-located cover-sections jointed at their adjacent inner edge portions to and for swinging movements independently of the oscillations of said cross-rod. These cover-sections are jointed by having upstanding ears *g* with loops or eyes which engage around the intermediate portions of the cross-rod. The cross-rod has at its middle a lever-like projection *i*, made in the form of a stud or pin rigidly affixed to and depending below the rod and engaging the cover-sections between and adjacent the inner edges thereof. The cross-rod, moreover, has as a fixed part thereof and for swinging movements in unison with the oscillation of the rod an upwardly-extending guard member *h*.

In practice the members *a a* are united by an arched or bow-shaped portion B, which increases the rigidity of the opposite side supports for the rods and enhances the aspect of the device.

As the bottle is tipped to the position shown in Fig. 2 the preponderance of the weights *d d* causes the rocking of the rod, and the rigid lever-like member *i* thereof causes the opening of one of the cover-sections which is lowermost and which should properly be opened, and the same positive and forcible rocking motion imparted to the rod by the gravitative action of the weights

swings the fixture of the rod—viz., the guard *h*—against the upper cover-section *f*, which should not properly be opened, and prevents the possible opening of the same, so that
 5 even if the bottle is tipped in an extreme degree there will not be an excessive outpouring of the liquid. Accordingly as the bottle is reversely turned to downward inclination the proper cover-section will not only be permitted to open, but will be positively opened,
 10 and the opposite cover-section will be held against opening, and, as apparent, it is immaterial which side of the bottle is tipped, so long as the tipping or swinging of it is on a plane at right angles to the plane coincident
 15 with the cross-rod C.

It will be perceived that the cover-sections *ff* are in the shape of segments of a spherical shell, and while their adjacent parts are
 20 mounted for swinging movements considerably elevated above the plane of the bottle-mouth the marginal portions of these sections are normally closed upon the mouth, and by their arrangement, as will be perceived in
 25 Fig. 2, there may be a free outflowing of a body of the liquid, having the top thereof, for instance, as high as the curved arrow, without obstruction by the non-opened cover-section or the cover-supporting rod.

30 I claim—

1. A bottle-mouth closure consisting of a supporting part to be sustained by the mouth portion of the bottle, two half-circular oppositely-located cover-sections mounted for
 35 swinging movements on said supporting part, either of which may be swung open accordingly as the bottle is reversely turned to a downward inclination, a guard automatically operable, on the downturning of the bottle, to engage, and hold closed, the relatively
 40 uppermost cover-section.

2. A bottle-mouth closure consisting of a supporting part to be sustained by the mouth portion of the bottle, two half-circular, oppositely-located, cover-sections jointed for
 45 swinging movements on said supporting part, and either of which may be swung open accordingly as the bottle is reversely turned to a downward inclination, and a rod, mounted
 50 for oscillation on said supporting part, having a gravitative weight, and a lever-like member extending to a position of engagement between the adjacent edges of the cover-sections.

3. A bottle-mouth closure consisting of a supporting part to be sustained by the mouth portion of the bottle, two half-circular, oppositely-located, cover-sections jointed for
 55 swinging movements on said supporting part, and either of which may be swung open accordingly as the bottle is reversely turned to a downward inclination, a rod, mounted for oscillation on said supporting part, having a gravitative weight, a lever-like member
 60 extending to a position of engagement be-

tween the adjacent edges of the cover-sections, and a guard rigidly secured to, and extending upwardly from the said oscillatory rod, said guard being automatically operable, on the downturning of the bottle, to
 70 engage, and hold closed, the relatively uppermost cover-section.

4. A bottle-mouth closure consisting of a part to be supported by the mouth portion of the bottle, comprising opposite side members extending above such mouth and provided with a rod extending across and above the bottle-mouth, and two half-circular oppositely-located cover-sections jointed at their adjacent inner edge portions to, and for
 80 swinging movements on, said cross-rod, and either thereof capable of being swung open accordingly as the bottle is reversely turned to a downward inclination.

5. A bottle-mouth closure consisting of a
 85 thimble to be affixed about the mouth portion of a bottle, opposite side members extending upwardly above the thimble and supported thereby, a rod supported by and extending across from one to the other of
 90 said upwardly-extending members, and two half-circular oppositely-located cover-sections, jointed at their adjacent inner edge portions to, and for swinging movements on, said cross-rod.

6. A bottle-mouth closure consisting of a thimble to be affixed about the mouth portion of a bottle, having oppositely-located upwardly-open sockets, opposite side members removably engaged in said sockets, and
 100 extending upwardly above the thimble, a rod supported by and extending across from one to the other of said upwardly-extending members, and two half-circular oppositely-located cover-sections, jointed at their adjacent inner edge portions to, and for swinging
 105 movements on, said cross-rod.

7. A bottle-mouth closure consisting of a thimble to be affixed about the mouth portion of a bottle, opposite side members extending upwardly above the thimble and supported thereby, a rod supported for oscillation by, and extending across from one to the other of said upwardly-extending members, and having their extremities outside of said members, and provided with rigidly-affixed depending weights, two half-circular oppositely-located cover-sections, jointed at their adjacent inner edge portions to, and for swinging movements on, said
 110 cross-rod, a lever-like projection of the rod engaging the cover-sections between the adjacent inner edges thereof, and the said rod having an upwardly-extending rigidly-united guard member.
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8. A bottle-mouth closure consisting of oppositely-located parts to be supported by and to extend above the mouth portion of the bottle, two cover-sections each having the form of the segment of a spherical shell,
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supported for swinging movements by said
oppositely-located parts, and arranged to
have their marginal portions normally closed
around the bottle-mouth, and their adjacent
5 parts, by which they are supported, elevated
above the plane of the bottle-mouth, for the
purpose explained.

Signed by me at Springfield, Massachusetts,
in presence of two subscribing witnesses.

FRANK H. BILLS.

Witnesses:

WM. S. BELLOWS,
A. F. MACDONALD.