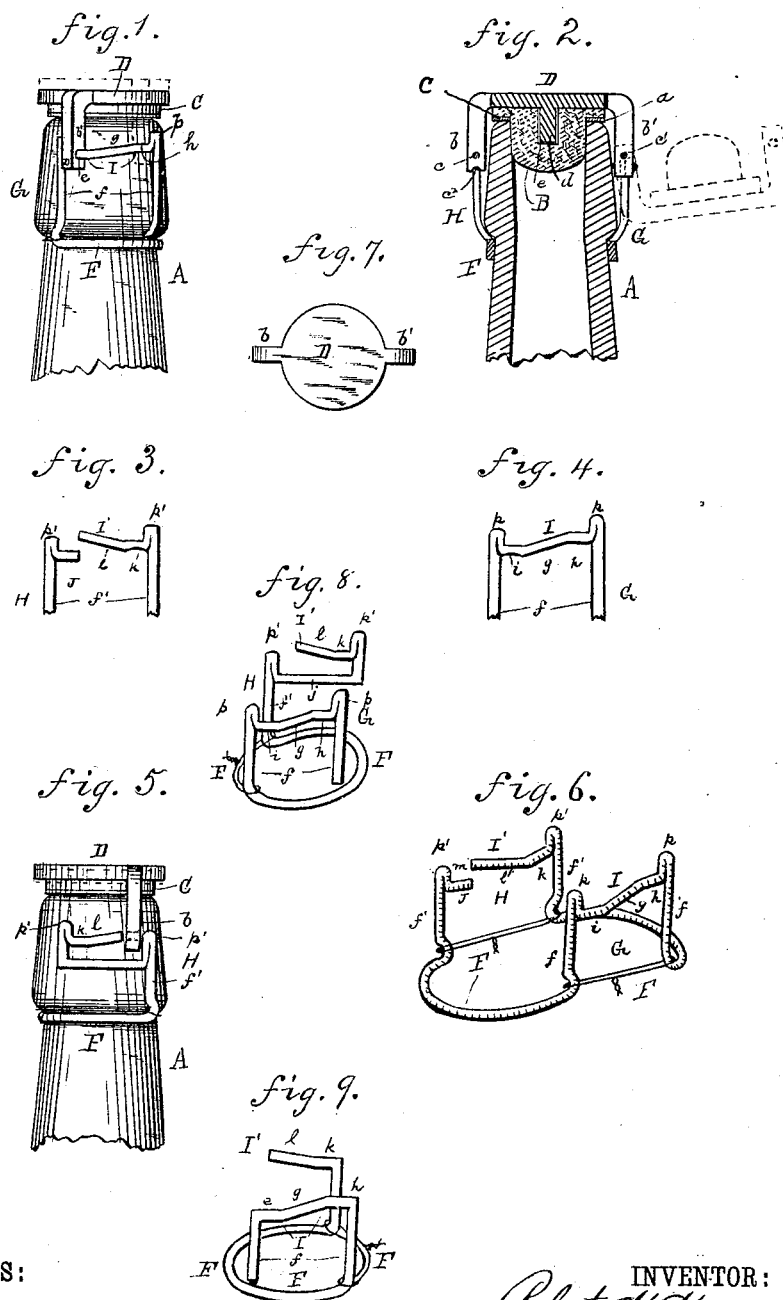


(No Model.)

R. H. HAZARD.  
STOPPER FASTENER.

No. 346,280.

Patented July 27, 1886.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## STOPPER-FASTENER.

SPECIFICATION forming part of Letters Patent No. 346,280, dated July 27, 1886.

Application filed June 16, 1886. Serial No. 205,382. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT H. HAZARD, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Bottle-Stopper Fasteners; 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.

This invention relates to that class of stopper-fasteners in which the stopper is carried to its seat by means of inclines, and swings to one side of the bottle when opened, the object of the invention being to provide a stopper-fastener which shall be simple in construction, afford an air-tight closure, and be readily opened and closed.

The invention consists, principally, in the combination, with a stopper, of arms connected therewith and formed with eyes or perforations, and inclined rods arranged on two opposite sides of a bottle-head, the rods on the two sides being inclined in opposite directions, and having downward extensions which form a part of or are attached to a neck-band, the arms being adapted to engage with and move down the inclined rods when turned, and force the stopper upon the mouth of the bottle.

The invention also consists in certain details of construction and combination and arrangement of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 represents an elevation of the upper part of a bottle provided with my invention, the fastener being shown in its closed position. Fig. 2 is a vertical section of the same, the stopper being shown in dotted lines turned to one side of the bottle. Figs. 3 and 4 are detail views of the fastening-rods. Fig. 5 is an elevation showing the side opposite to that shown in Fig. 1, the stopper in position ready to be fastened. Fig. 6 is a perspective of a neck-band, showing a slight modification. Fig. 7 is a plan of the cap covering the stopper. Fig. 8 is a perspective of a neck-band provided with the exten-

sions and fastening-rods shown in Figs. 1 and 5, and Fig. 9 is a modification of Fig. 8.

Similar letters of reference indicate corresponding parts.

A represents the neck and head of a bottle provided with a stopper, B, made of cork or other suitable material. The stopper has a flanged head, C, which projects over the edge of the bottle, and affords a seat for an elastic washer, *a*. A metal piece, D, extends across the top of the stopper, and is provided with arms *b b'* on two opposite sides, which extend a short distance beyond the edge of the bottle. These arms may extend directly out from the stopper, or turn downward for a short distance, as shown in the drawings, the latter arrangement being preferred. In either case the arms are formed with eyes *c c'* near their extremities. The central part of the cross-piece is in the form of a cap covering the upper surface of the stopper, and is provided with a central pin, *d*, to enter a recess, *e*, formed in the top of the stopper, and thus hold the stopper in position. The pin *d* is preferably made to turn within the recess in the stopper, so that when the stopper is pressed down in closing the bottle the cross-piece will turn without carrying the stopper around with it. The stopper may, however, if desired, be made fast to the cross-piece and turn with it. The cross-piece can, if desired, be made of stout wire bent into shape, and having the eyes formed at the ends of the arms, and a central downward projection to enter the recess in the stopper. The extremity of the arm *b* may be provided with a slight depression, *c'*, in line with the eye *c*.

F represents a band encircling the neck of the bottle, and provided with two upward extensions, G H, so arranged as to be on opposite sides of the bottle when in position.

The extensions G H consist of arms *f f'*, connected with the neck-band, and extending upward from the same, and having at their tops the fastening rods or bars I I'. The construction of the upper part of these extensions differs somewhat on the two sides.

As shown in the drawings, the extension G consists of a central inclined rod or bar, *g*, a horizontal portion, *h*, at the upper end of the

incline, and a seat, *i*, at the lower end of the inclined portion, the outer parts of the horizontal portion and seat forming right angles with the arms *f*, extending down to the neck of the bottle.

The extension H, as shown in the drawings, consists of the arm *f'*, the horizontal or slightly-inclined guide-arm *j*, which turns upward and is united substantially at a right angle to the fastening rod or bar *I'*. The fastening-rod is provided with the seat *k* and an upwardly-inclined part, *l*, which terminates above the guide *j*, leaving a space, *m*, between its extremity and the top of the upright arm *f'*. The extension H, if desired, can be connected with the neck-band by two arms, as shown in Fig. 6. The arms connecting the fastening-rods *I I'* with the neck-band can, if desired, extend a short distance above the ends of the fastening-rods, forming shoulders or stops *p p'* to limit the side movements of the arms connected with the stopper. These shoulders may, however, be dispensed with, the inner sides of the upright arms serving in this case to limit the side movements of the arms. The under sides of the seats *i k* may be made straight or be formed with a slight depression, as shown in the drawings.

The extensions G H when in position are on opposite sides of the bottle, the inclination of the fastening-rods *I I'* being in opposite directions on the two sides. The tops of the extensions are made semicircular in order to conform to the shape of the bottle-head, and to have the rods in line with the holes in the arms *b b'* when they are rotated. The upper parts of the extensions are also set out from the bottle to allow of the free movement of the arms on the rods when opening or closing the bottle.

When in position on the bottle, the horizontal portion *h* of the fastening-rod *I* forms a pivot on which the arm *b'* swings when opening or closing the bottle.

To close the bottle the stopper is turned down on the mouth, of the bottle, the hinged arm *b'* moving on its pivotal seat *h*. The cork enters the bottle, its flanged head resting on the edge of the mouth, and the free arm *b* enters the opening *m*, its end resting on the guide *j*, the hole in the arm *b* being thus brought in line with the extremity of the inclined rod *l*. The arms being turned to the right, the free arm *b* engages with the rod and the arms move down the inclined rods *g l*, forcing the stopper to its seat. The arms, after reaching the lower part of the inclines, move upon the seats *i k*, which receive the upward pressure exerted by the contents of the bottle upon the stopper. The bottle is opened by moving the arms in the opposite direction.

The extensions carrying the fastening-rods may be made of wire, bent into shape and formed with the neck-band, or they can be made separate and be attached to the neck of the bottle by fastening-wires, the lower part of the extension being formed in any desired

shape for this purpose. The extensions may, if desired, be made from sheet metal or cast in the proper form. When made of wire the hinged arm can be readily placed on its seat before the wire is fastened in position. When metal plates or castings are employed, the opening *e'* in the arm *b'* can be extended to the end or side of the arm, as shown in dotted lines, Fig. 2, the opening being closed by a small bolt or rivet, or in any suitable manner, after the arm is placed in position.

I do not limit myself to the exact construction hereinbefore described, the extensions carrying the fastening-rods being susceptible of many modifications in form and in the manner of connecting them to the bottle-neck.

As shown in Fig. 6, the extensions and the neck-band may be made of one piece of wire, the arms being turned to the sides to form the neck-band and smaller wires being used to connect the arms. The extension H, as shown in this figure, may be connected by two arms to the neck-band, and the guide *j* may terminate under the fastening-rod.

In Figs. 8 and 9 the band is shown as bent to encircle part of the neck of the bottle terminating in the extensions, which are connected by a fastening-wire. In Fig. 9 the guide *j* and the shoulders *p'* are omitted.

Other alterations and modifications may be made without departing from the spirit of my invention.

This stopper-fastener can be used upon vessels of any kind in which liquids are to be kept, but is especially adapted for bottles containing beer, ale, mineral waters, and other aerated liquids.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a stopper-fastener, the combination, with a stopper, of arms formed with eyes, and fastening-rods arranged on opposite sides of a bottle-head and connected with a neck-band, said fastening-rods having inclined portions arranged in opposite directions on the two sides, substantially as described.

2. In a stopper-fastener, the combination, with a cross-piece having a stopper attached to its under surface, of arms arranged on opposite sides thereof, and having eyes at or near their extremities, and a neck-band having extensions on opposite sides, which form fastening rods or bars, the said rods having inclined portions arranged in opposite directions on the two sides, and on which the arms are adapted to move when turned, substantially as set forth.

3. In a stopper-fastener, the combination, with a stopper, of arms provided with eyes, and curved fastening-rods set out from the sides of a bottle-head and connected by downward extensions with a neck-band, the said fastening-rods having inclined portions, and seats at the lower ends of the inclines, substantially as described.

4. In a stopper-fastener, the combination, with a cross-piece having arms provided with

eyes and carrying a stopper on its under surface, of a neck-band having upward extensions forming fastening-rods arranged on opposite sides of a bottle-head, the fastening-rods having inclined portions arranged in opposite directions on the two sides and seats at the lower ends of the inclines, the arms being adapted to move down said inclined portions when turned and rest upon the seats, substantially as herein set forth.

5 In a stopper-fastener, the combination, with a stopper, of arms formed with eyes, and fastening-rods connected with a neck-band on opposite sides thereof, one of said fastening-rods having a free extremity, the other having a horizontal portion or pivot, substantially as described.

6 The combination, with a neck-band having upward extensions forming fastening-rods, said rods having the inclined portions, as described, and one of said rods having a free extremity, the other rod forming a pivot at the top of the incline, of a cross-piece carrying a stopper and having arms extending downward on opposite sides of a bottle-head, one of the arms being hinged to the rod on one side of the bottle-head, the other arm being adapted to engage with the free extremity of the other fastening-rod, substantially as herein set forth.

7 The combination, with a neck-band having upward extensions carrying curved fastening-rods, and a guide extending under one of said rods, the rods having inclined portions and seats at the lower ends of the inclines, and

one of the rods having a free extremity, the other forming a pivot at the top of the incline, of arms arranged on opposite sides of a stopper, one of which is hinged to one of the fastening-rods, the other being adapted to rest on the guide when the stopper is placed on the mouth of the bottle, and to engage with the free extremity of the other rod when turned, substantially as described.

8 The combination, with a neck-band provided with upward extensions arranged on opposite sides thereof, and having at their tops curved fastening-rods, under one of which a guide is arranged, said rods having the inclined portions and seats, as described, one of the rods having a free extremity, the other forming a pivot at the top of the incline, of a stopper provided with a recess in its top, and a cross-piece having a projection adapted to enter the recess in the stopper, and arms extending downward on opposite sides of a bottle-head, one of the arms being pivoted to the fastening-rod on one side, the other arm being adapted to rest on the guide when the stopper is placed on the bottle-mouth, and to be directed upon the free extremity of the fastening-rod when the arms are turned, substantially as herein set forth.

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

ROBERT H. HAZARD.

Witnesses:

D. L. HAZARD,  
C. W. HOWARD.