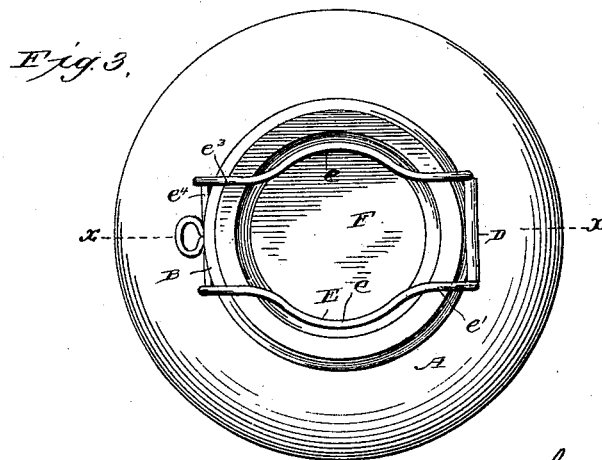
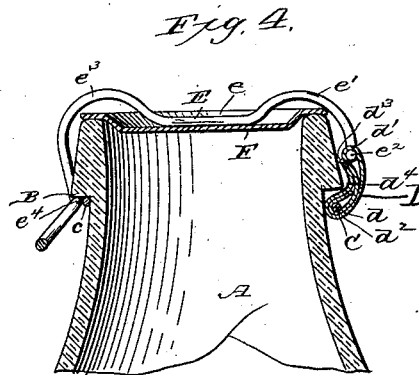
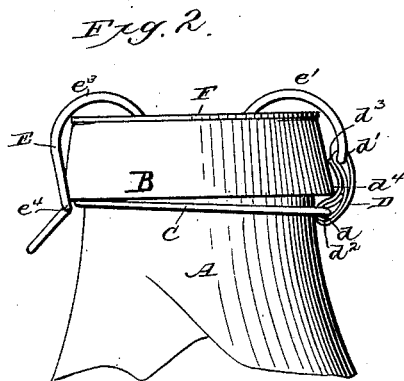
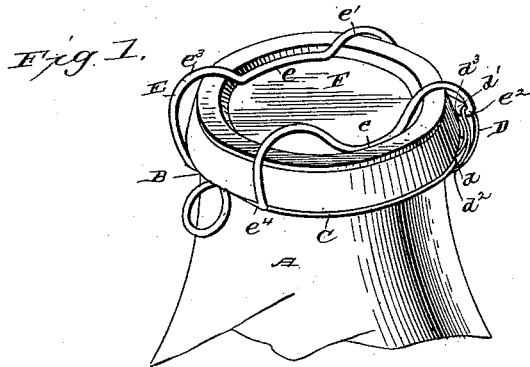


(No Model.)

T. B. HOWE.  
BOTTLE FASTENING.

No. 422,415.

Patented Mar. 4, 1890.



Witnesses

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# UNITED STATES PATENT OFFICE.

THOMAS B. HOWE, OF SCRANTON, PENNSYLVANIA.

## BOTTLE-FASTENING.

SPECIFICATION forming part of Letters Patent No. 422,415, dated March 4, 1890.

Application filed December 28, 1889. Serial No. 335,224. (No model.)

### *To all whom it may concern:*

Be it known that I, THOMAS B. HOWE, of Scranton, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Bottle-Fasteners; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

This invention relates to improvements in that class of bottle-fasteners for which the following Letters Patent were granted to Thomas B. Howe—viz., No. 394,490, dated December 11, 1888, No. 405,035, dated June 11, 1889; and it consists in certain novel details relating particularly to the form and construction of the catch-wire and to the construction of the link or bail-piece, which will be first described, and then pointed out specifically in the claims at the end of this specification.

In the accompanying drawings, Figure 1 is a perspective view of a jar or bottle provided with a fastener constructed in accordance with this invention. Fig. 2 is a side elevation of the same; Fig. 3, a top view; and Fig. 4, a sectional view taken on the line *x x*, Fig. 3.

Similar letters of reference in the several figures indicate the same parts.

The letter A represents a wide-mouthed bottle or jar having the abrupt shoulder B.

C is the neck-wire encircling the neck of the bottle beneath the shoulder B.

D is the link or bail-piece, E the catch-wire, and F the cover or stopper.

It will be noted that the cover F has a central depression which fits down in the mouth of the jar, with a rim around the edge which rests flat on the edge of the bottle-mouth.

The catch-wire E consists of a single piece attached to the top of the cover or stopper by soldering or otherwise at the horizontally-curved portions (designated by *e* in Fig. 3) and within the depression in the center of the top. From these points of attachment the rearwardly-extending parts of the wire curve upward clear of the edge of the cover, as at *e'*, thence curving downward, terminating finally in horizontal portions *e''*, which enter the ends of the link or bail-piece D and form a pivotal

connection therewith. The forwardly - extending parts of the said catch-wire also curve upward clear of the front edge of the cover, as at *e''*, thence curving downward, and finally terminating in a horizontal portion *e''* for engaging the abrupt shoulder of the jar, as shown in the before-mentioned Patent No. 405,035. The effect of thus curving the portions *e'* and *e''* of the catch-wire is to give an increased springiness to said curved portions, which enables the cover to adapt itself more closely to its seat on the mouth of the jar, and to hold more tightly and firmly thereto when the horizontal portion *e''* is sprung beneath the shoulder B, and, further, giving long spring-arms for the catch, which, it will be remembered, has to move outwardly, in order to pass the edge B.

The bail-piece D consists of a single piece of metal of the proper width bent, first, at *d* to receive the neck-wire C, then at *d'* to receive the portions *e''* of the catch-wire F, then again at *d''* around the first bend *d*, and then extended to the point *d'''*, where it terminates. A central bend *d''* is made longitudinally in the whole bail-piece for the accommodation of the shoulder B of the jar, and when the cover of the jar is fastened the said shoulder B enters the bend *d''*, and by pressing against the bail-piece at that point retains all the layers of the bail-piece in their proper relative positions, thus obviating the necessity of applying solder or other fastening means for the purpose.

It will be noted that the bail-piece incloses the catch-wire in a loop and both ends are bent around the neck-wire. Thus it requires a pull which would straighten both ends or a double thickness of the metal before the piece would give, and when the jar is fastened this is practically prevented by the shoulder B, which presses the ends outward against the loop.

Having thus described my invention, what I claim as new is—

1. The combination of the jar having the abrupt shoulder B, the neck-wire C, the link or bail-piece D, the cover F, and the catch-wire consisting of the single piece secured to the cover at the horizontally-curved portions *e*, and having upwardly and rearwardly curved springy portions *e'* terminating in

the horizontal portions  $e^2 e^2$ , which enter the bail-piece, and having also the upwardly and forwardly curved springy portions  $e^3 e^3$  terminating in the horizontal portion  $e^4$ , which en-  
5 gages the shoulder on the jar, whereby the catch and cover are permitted a wide range of lateral movement, substantially as described.

2. The combination, with the jar having the  
10 abrupt shoulder B, the neck-wire C, the cover F, and the catch-wire E, of the bail-piece D, bent at  $d d' d^2$ , as described, and having the central longitudinal bend  $d^4$ , in which the  
15 shoulder of the jar fits and presses when the cover is closed down, substantially as described.

3. The combination, with the jar, the neck-wire, and cover having the depressed central portion and rim, as described, of the catch,

the catch-wire pivotally connected to the neck- 20 wire and secured at the center to the cover within the central depression, and having the upwardly and forwardly curved spring portions at each side of the central depression, substantially as described. 25

4. The combination, with the jar, neck-wire, cover, and catch-wire secured to the cover, of the bail-piece for uniting the neck-wire and catch-wire formed of the sheet-metal piece  
30 looped around the catch-wire, and having both ends bent around the neck-wire, whereby the strength of a double thickness of metal is secured to prevent the straightening of the ends, substantially as described.

THOMAS B. HOWE.

Witnesses:

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