A. E. BARTHEL.

Bottle-Stopper Fastener.

No. 206,525. Patented July 30, 1878.

Fig. 1.

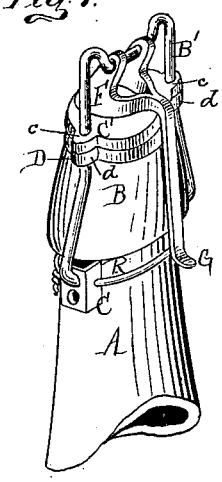


Fig. 2.

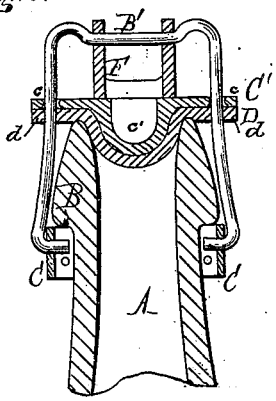


Fig. 3.

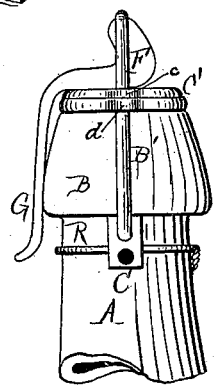


Fig. 4.

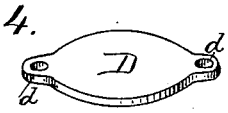
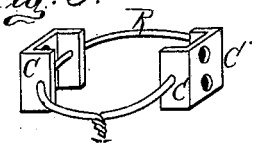


Fig. 5.



Attest:
C. R. Hulett
Peter E. DeKinder

Inventor:
A. E. Barthel
By Atty
Thos. S. Sprague

UNITED STATES PATENT OFFICE.

ALBRECHT E. BARTHEL, OF DETROIT, MICHIGAN.

IMPROVEMENT IN BOTTLE-STOPPER FASTENERS.

Specification forming part of Letters Patent No. **206,525**, dated July 30, 1878; application filed February 8, 1878.

To all whom it may concern:

Be it known that I, ALBRECHT E. BARTHEL, of Detroit, in the county of Wayne and State of Michigan, have invented an Improvement in Bottle-Stoppers, of which the following is a specification:

The nature of my invention relates to certain new and useful improvements in bottle-stoppers, and devices for securing them to the bottle and in place; and the invention consists in the peculiar construction and arrangement of the various parts, as more fully hereinafter set forth.

Figure 1 is a perspective view of a section of a bottle with my improved devices attached. Fig. 2 is a vertical section of the same. Fig. 3 is a side elevation. Fig. 4 is a perspective view of a plain rubber plate, adapted for use with my invention. Fig. 5 is a perspective view of the neck-wire, provided with removable yoke attachments.

In the drawing, A represents the neck of a bottle, provided with the head B, usually found in bottles for holding effervescing liquids. Around the neck of this bottle, below said head, is twisted the neck-wire R, to which are secured on opposite sides the boxes or bearings C, which may be stamped out and sleeved upon said wire, as at Fig. 5. These boxes should be perforated with two holes, as shown, said holes being in vertical relation to each other, to receive the inturning ends of the yoke B′, the vertical position of the holes allowing said yoke to be sprung into either pair of said holes, as the tension upon the stopper may require. This yoke is bent from one piece of wire, as shown in Figs. 2 and 4, and its top is bent downward, as shown in Figs. 1 and 2, to form a bearing for the bifurcated cam F, which is provided with a lever, G. Sleeved upon this yoke is the metallic plate or cap C′, provided with perforated ears *c* for that purpose, and having a depressed center, *c′*. A flat rubber plate, D, of the same size of the top surface of the cap C′, is placed on the yoke below such cap, and has perforated ears *d*, through which the arms of the yoke pass.

The lever G being thrown upward, the cam F is released from its engagement or its pressure upon the plate C′, which allows said plate to rise under the pressure in the bottle, when the yoke may be thrown to one side, leaving the bottle open. The plate C′ is provided, as shown, with a downward projection, *c′*, in order to press the plate D into the neck of the bottle.

Should the flat elastic plate D become so compressed by use that the leverage secured by the yoke engaging with the upper holes in the bearings does not perfectly close the mouth of the bottle, the cap C′ may be shoved upward upon the yoke sufficiently to allow the hook-journals to be disengaged from the upper bearing-holes, and engage with the lower pair of holes, when the leverage lost by such compression would at once be restored.

By having the lever G of the shape shown, so that it projects down on the side of the head of the bottle and close to the same, and by having its cam-portion F of the broad form shown, and situated under the yoke when locked, it will more securely hold the stopper in position in the neck of the bottle, and with less danger of its being accidentally released, while it can be conveniently raised, when desired, by pressing upon its lower bent end, which hangs down about opposite the neck-wire. The depressed center of the cap C′ presses the flat rubber plate tightly into the neck of the bottle, and both of these parts being imperforate, (except their ears *c d*,) the bottle will be closed air-tight.

The bearing-boxes C, strung on the neck-wire, form very simple, easily-applied, and efficient means for adjustably pivoting the lower ends of the yoke to the neck-wire.

By having the flat rubber plate D separate from the cap C′, it can be easily replaced by a new plate when worn from being pressed and expanded into the neck of the bottle. This can be easily done by springing the ends of the yoke out of the boxes on the neck-wire, and removing the rubber plate by slipping it downwardly on the yoke. A new plate can then be put on the yoke in place of the first one, and the ends of the yoke again sprung into the holes in the bearing-boxes. The perforated ears of the rubber plate retain it securely in position on the yoke without being connected with the cap.

What I claim as my invention is—

1. The combination of the yoke B′, pivoted to the neck-wire, the lever G, having cam F, pivoted upon the said yoke, the cap C′, with depressed center c', and the flat rubber plate D below such cap, both said cap and plate being provided with perforated ears, through which the arms of the yoke pass, substantially as described and shown.

2. In a bottle-stopper fastener, the neck-wire B and the bearing-boxes C, strung upon such neck-wire and provided with vertically-arranged holes, forming an adjustable pivot for the lower ends of the yoke, constructed substantially as described and shown.

ALBRECHT E. BARTHEL.

Witnesses:
H. S. SPRAGUE,
PETER E. DE NIELL, Jr.