G. JOHNSON.

BOTTLE-STOPPER.

No. 183,680. Patented Oct. 24, 1876.

Fig. 1.

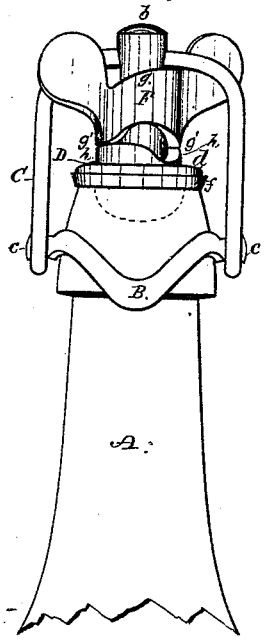


Fig. 3.

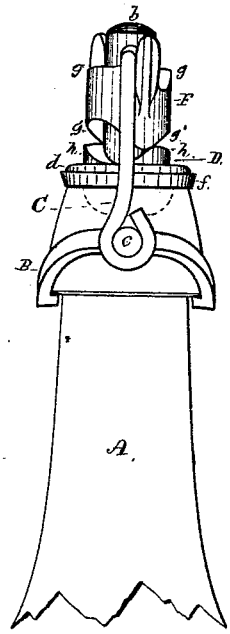


Fig. 2.

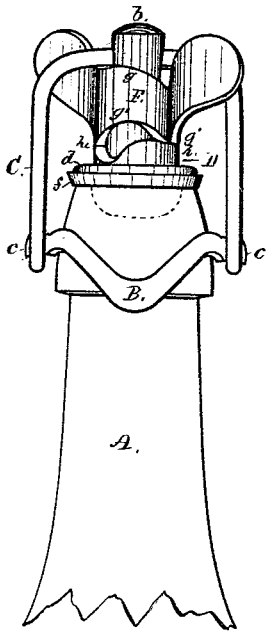


Fig. 4.

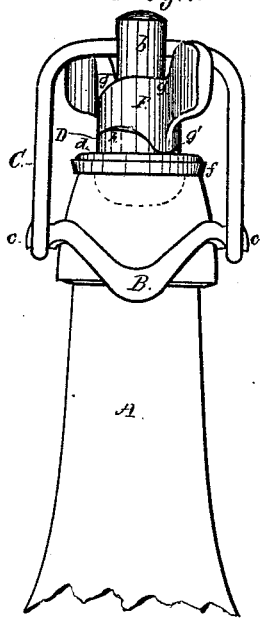
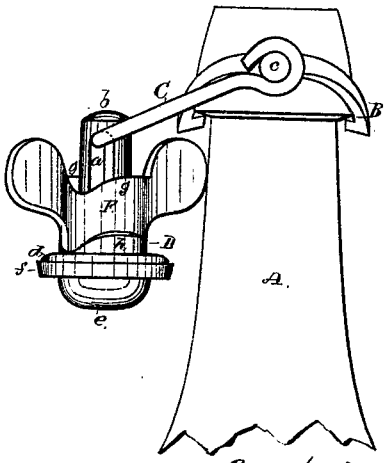


Fig. 5.



Witnesses.

Geo Gray

F. C. Hall.

Gustaf - Johnson

by his attorney

J. P. Hall

UNITED STATES PATENT OFFICE.

GUSTAF JOHNSON, OF CAMBRIDGEPORT, ASSIGNOR TO CHARLES MINGAY AND HALSEY J. BOARDMAN, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN BOTTLE-STOPPERS.

Specification forming part of Letters Patent No. **183,680**, dated October 24, 1876; application filed April 3, 1876.

To all whom it may concern:

Be it known that I, GUSTAF JOHNSON, of Cambridgeport, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Bottle-Stoppers; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

In such drawing, Figures 1 and 2 are opposite side elevations of a bottle provided with my improved stopper, the same representing the bottle as sealed or closed. Fig. 3 is an elevation taken at a right angle to Figs. 1 and 2. Fig. 4 is a side elevation, showing the actuating cammed lever or button in position to enable the stopple to be removed. Fig. 5 represents the stopper as removed.

The object of my invention is to provide a simple and effective means of securely sealing the mouth of a bottle, can, or other analogous liquid-receptacle, one which will enable the plug or stopper to be readily applied to or removed from the mouth of the bottle or receptacle, as circumstances may require; and my invention consists in the peculiar construction, combination, and arrangement of the parts, as hereinafter described and claimed.

In the drawing, A denotes a bottle provided with a curved metallic yoke, B, extending around its neck, and having lugs projecting inward under the shouldered part of the neck, such serving to hold the yoke to the bottle. C is a curved wire or stirrup, which extends through an elongated slot, *a*, formed in the stem *b* of the plug or stopple D, the ends of the wire or stirrup terminating in loops or eyes, which embrace trunnions *c c*, formed on the yoke. The lower part of the stem *b* has a disk, *d*, formed on it, to the under face of which is connected, in any suitable manner, a semi-globular or other suitably-shaped projection, *e*, formed of rubber or other elastic material, and of a size to fit into the mouth of the bottle or receptacle, such part *e* having a flange, *f*, formed around its upper surface, and having a diameter equal to or a little greater than that of the disk or the mouth of the bottle, such flange resting, when in place, upon the superior end of the neck of the bottle. F is a thumb-button or two-armed lever, which is disposed on the stem *b* of the plug or stopper, the same being formed with duplex cams *g g g′ g′*, arranged, respectively, on its upper and lower faces, the upper cams, *g g*, operating against the under surface of the stirrup C, and on opposite sides of the stem of the stopper, while the lower cams, *g′ g′*, operate in conjunction with inclines or cams *h h*, formed on the upper face of the disk *d*, and on opposite sides thereof.

I would remark that the several cams are so arranged that when the two arms of the button or lever F are brought into contact with the stirrup the cams formed on the said lever will have passed slightly beyond their point of greatest eccentricity with their fellows formed on the disk *d*, so that while the stirrup prevents any forward movement of the lever the greater eccentricity of the cams serves to prevent any backward movement thereof, whereby the lever becomes firmly locked in position. I would also state that the elongated slot formed diametrically through the stem of the stopple enables the stopple to be elevated when the cams are thrown out of action, as shown in Fig. 4.

Having described the construction of my invention, its operation is as follows: If we suppose the stopper to be in position as shown in Fig. 5, and we desire to seal the mouth of the bottle, the semi-globular or elastic part of the stopper is to be placed in the mouth of the bottle. This having been effected by placing the thumb and index finger against the two arms of the button or lever F, and pressing the thumb toward the left, the upper cams *g g* will be brought into impingement with the under surface of the stirrup on opposite sides of the stem of the stopple, while the lower cams, *g′ g′*, on the lower face of the button, will be brought into action with the inclines or cams *h h* disposed on the opposite sides of the disk *d*, such combined action of the cams serving to force the globular part of the rubber into the mouth of the bottle, and the flange *f* closely between the lower face of the disk *d* and the

upper end of the bottle, the stirrup C and the greater eccentricity of the cams, as before stated, serving to prevent any accidental displacement of the parts. To unseal the bottle and remove the stopple, we have simply to reverse the movement of the button or lever F until its arms impinge against the opposite sides of the stirrup, as shown in Fig. 4, when the cams are thrown out of action, the elongated slot enabling the stem of the stopper to be elevated, when it may be readily tipped sidewise and brought into the position as shown in Fig. 5.

What I claim is—

The combination, with the yoke B and the stirrup C, of the stopper D, provided with cams *h h*, and the turning-lever F, provided with duplex cams *g g* and *g' g'*, the whole being arranged and applied, or to be applied, to the neck of a bottle or vessel to be sealed, substantially as set forth.

In testimony that I claim the foregoing as my own invention I affix my signature in presence of two witnesses.

GUSTAF JOHNSON.

Witnesses:

F. P. HALE,

CHARLES MINGAY.