

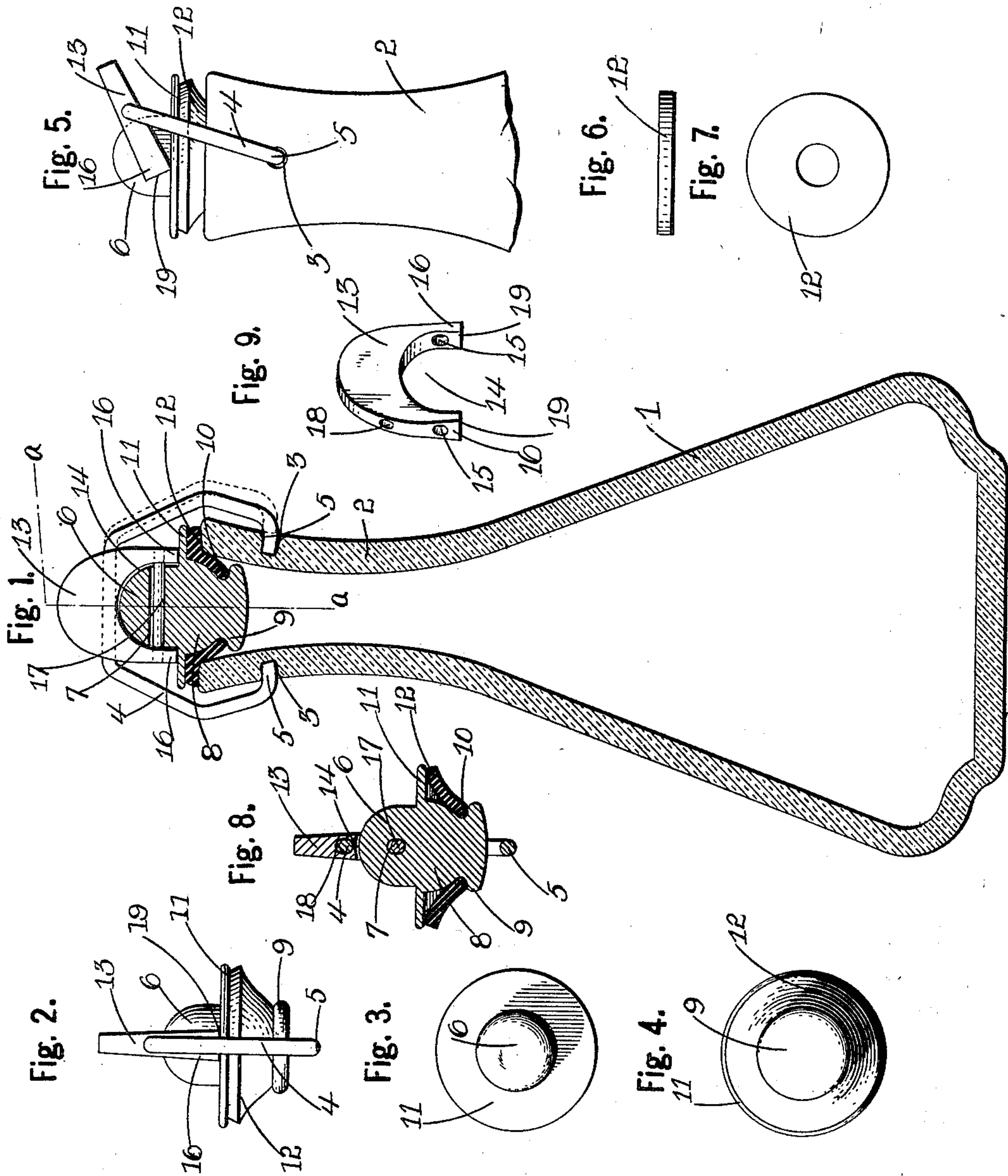
No. 706,301.

Patented Aug. 5, 1902.

J. B. CROSBY.
BOTTLE STOPPER.

(Application filed Nov. 27, 1901.)

(No Model.)



Witnesses.

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JOHN B. CROSBY, OF BUFFALO, NEW YORK.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 706,301, dated August 5, 1902.

Application filed November 27, 1901. Serial No. 83,872. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. CROSBY, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a specification.

My invention relates to an improved device for sealing the mouth of a bottle or other receptacle which can be easily moved to open or close the bottle-mouth or quickly removed from or attached to a bottle.

The object of the invention is to create a simple, easily-operated, and comparatively inexpensive stopper which can be sprung into and out of connection with the bottle and which when in a closed position can be easily opened by movement in either of two opposite directions of a locking-block.

The invention also relates to a novel form of locking-block, whereby it is held in its locking position by contact with the surface of the stopper proper.

It also relates to the novel washer and stopper, the manner of applying the washer to the stopper, and to certain details of construction, all of which will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which a preferred adaptation of the invention is shown.

Figure 1 represents a central vertical section through a bottle equipped with the improved stopper and its locking mechanism, one of the bail ends being shown sprung out of the receiving depression in dotted lines. Fig. 2 is a detached side elevation of the stopper and its locking mechanism. Fig. 3 is a detached top plan view of the stopper, the fastening mechanism being omitted. Fig. 4 is a detached bottom view of the stopper. Fig. 5 is a fragmentary side elevation of a bottle with the improved stopper and its locking mechanism partially unfastened. Fig. 6 is a detached edge view of the annular washer. Fig. 7 is a detached face view of the annular washer. Fig. 8 is a central vertical section through the stopper and its locking mechanism on line *a a*, Fig. 1. Fig. 9 is a detached perspective view of the locking-block.

Referring to the drawings for the details of construction, like numerals designate like parts.

The bottle or receptacle 1 has a neck 2, which is provided with oppositely-disposed recesses or depressions 3, and an angular bail 4, of wire or similar material, has inwardly-bent lower extremes 5, which are adapted to be sprung into the recesses or depressions 3.

The stopper proper has a top portion 6 of circular cross-section, provided with a rounded or semispherical top and a horizontal transverse opening 7, a bottom portion having a tapering upper part 8, an enlarged lower circular disk or button 9, and a reduced or grooved part 10 between the tapering part and the disk and an annular horizontal flange 11 intermediate the top and bottom portions, of larger circumference than the mouth of the bottle. An annular washer 12, of rubber or similar material, shaped substantially as shown in Figs. 6 and 7, is sprung over the disk or button 9 and into the groove 10, substantially as shown in Fig. 8, the resiliency of the material when expanded in the groove forming the washer into the tapering shape shown in Fig. 8. A locking-block 13 has a middle depression or recess in its bottom, thereby giving it a bifurcated shape or substantially the form of an inverted U, and a horizontal opening is made in each of the bifurcations 16 to receive the ends of a pivoting-pintle 17, which passes loosely through the transverse opening 7 in the top portion of the stopper. The forks or bifurcations 16 extend on each side of and straddle the top portion 6 of the stopper, the curve of the wall of the depression 14 preferably corresponding to the curve of the rounded top portion 6, with the exception that it is slightly larger, so that the locking-block will fit loosely over the top portion 6. (See Fig. 1.) The upper portion of the locking-block is provided with a horizontal opening 18, through which the upper middle portion of the bail 4 loosely passes, as shown in dotted lines in Fig. 1 and full lines in Fig. 8. The locking-block has tapering sides and gradually increases in width from the top downward, the bottom surface 19 of the bifurcations being substantially flat, as shown

in Figs. 2, 5, and 9, and fairly wide, so that when the device is in locked position they will rest upon the upper surface of the flange 11 and hold the same in place with a spring tension.

The device is easily attached to or detached from the bottle by springing the ends of the bail into or out of the depressions in the bottle-neck, as shown in full and dotted lines in Fig. 1.

To seal the bottle, the stopper is placed in the position shown in Fig. 5, and the locking-block is then turned to the vertical position shown in Figs. 1, 2, and 8. To open the bottle, the locking-block is turned from a vertical position to the position shown in Fig. 5, and the stopper is then easily turned out of the bottle-mouth. When the stopper is in locked position, the block is held in its vertical position by the combined tension of the bail and compressed portion of the washer between the flange 11 and the surrounding wall of the bottle-mouth.

The main features of the invention are the novel manner in which the locking-block is held in its locking position by a spring tension and the ingenious manner in which the flat washer is distorted into the cone form required by stretching it over the button on the lower end of the stopper.

Without limiting myself to the precise construction or arrangement of any or all parts shown or confining myself to a combination of any or all of said parts, except as herein after particularly pointed out, I claim as my invention—

1. The combination with a bottle having a neck and oppositely-disposed depressions in its neck, of an angular bail having inwardly-bent ends adapted to be sprung into the depressions in the bottle-neck, a bottle-stopper having a semispherical top portion provided with a transverse opening, a washer on said stopper, a bifurcated locking-block pivotally connected to the bail and having the inner surface of its bifurcations curved to conform to the rounded form of the semispherical top portion of the bottle-stopper and a pivoting-pintle passing through the bottle-stopper and the bifurcations of the locking-block, substantially as set forth.

2. The combination with a bottle having a neck, of a stopper movably secured to said neck and provided with a flange and a semispherical top portion, a bail pivoted to the bottle-neck, a substantially U-shaped bifurcated block pivoted to the top portion of the stopper and the bail and having the lower ends of its bifurcations provided with fairly-wide bottom surfaces which seat on the flange, substantially as set forth.

3. The combination with a bottle having a neck, of a bail movably secured to said neck, a stopper having a flange and a semispherical top portion and a bifurcated locking-block having pivotal support from the bail with its

bifurcations straddling and pivotally attached to the semispherical top portion of the stopper, the inner surface of the bifurcation being curved to conform to the semispherical form of the top portion, substantially as set forth.

4. The combination with a bottle having a neck, of an angular bail movably secured to said neck, a stopper having a flange and a semispherical top portion and a locking-block pivoted to the bail above the stopper and having downward extensions passing on opposite sides of and pivoted to the stopper and provided with an inner surface conforming to the semispherical top portion and a flat broad bottom surface adapted to seat upon the flange to retain the block in its vertical locking position, substantially as set forth.

5. In combination, a bottle having a neck, a bail pivoted to the neck, a stopper having, a semispherical top portion provided with a transverse opening, a bifurcated locking-block having an upper opening through which the bail passes and lower openings in the bifurcations, said bifurcations being adapted to extend on opposite sides of the top portion of the stopper and having curved inner surfaces conforming to the rounded form of the stopper, and a pivoting-pintle passed through the lower openings in the bifurcations and the opening in the top portion of the stopper, substantially as set forth.

6. In combination, a bottle having a neck, a bail pivoted to the neck, a stopper having a top portion provided with an opening below the top portion, a bifurcated locking-block having an upper opening through which the bail passes and lower openings in the bifurcations, said bifurcations being adapted to extend on opposite sides of the top portion of the stopper; and a pivoting-pintle passed through the lower openings in the bifurcations and the opening in the top portion of the stopper, substantially as set forth.

7. In combination, a bottle having a neck, a bail having pivotal connection with said neck, a stopper having a lower portion adapted to fit in the opening in the bottle-neck, a semispherical upper portion adapted to project above the bottle and an annular projecting flange intermediate the lower and upper portion and adapted to rest upon the top edge of the neck, and a U-shaped bifurcated locking-block having pivotal connection with the bail and stopper; said locking-block being adapted to have its bifurcations straddle and curve around the upper portion of the stopper and rest upon the flange when in locking position, substantially as set forth.

8. In combination, a bottle having a neck provided with oppositely-disposed depressions, an angular bail having inwardly-bent ends adapted to be sprung into the depressions, a stopper having a top portion provided with a rounded head, a lower portion having a tapering upper part merging in an enlarged

button and a flange intermediate the top and lower portion, a washer adapted to be sprung over the button and onto the tapering portion, a locking-block substantially in the form
5 of an inverted U having an upper opening through which the bail passes and lower openings, and a pivoting-pintle passed through the

lower openings in the block and the top portion of the stopper, substantially as set forth.

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