J. L. STEWART.
Stopper-Fasteners.

No. 196,260. Patented Oct. 16, 1877.

Fig. 1.

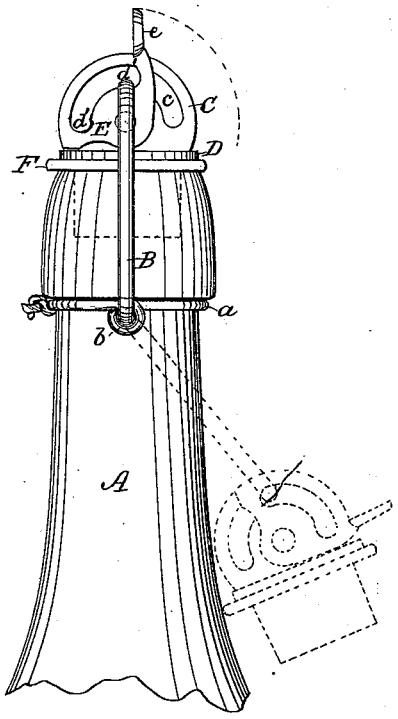


Fig. 2.

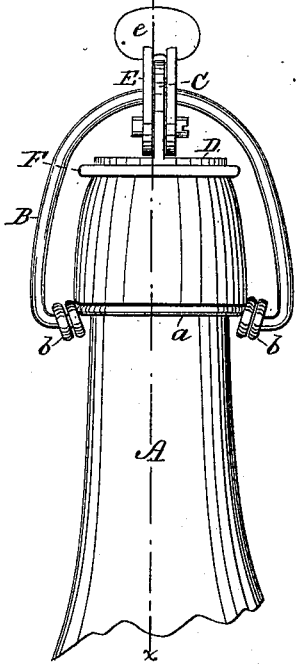


Fig. 3.

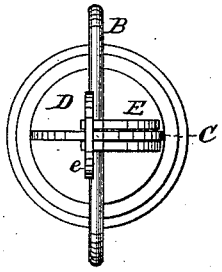
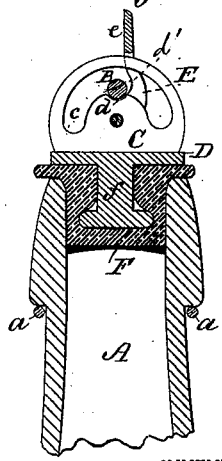


Fig. 4.



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JOHN L. STEWART, OF ELLICOTT CITY, MARYLAND.

IMPROVEMENT IN STOPPER-FASTENERS.

Specification forming part of Letters Patent No. **196,260**, dated October 16, 1877; application filed September 11, 1877.

To all whom it may concern:

Be it known that I, JOHN L. STEWART, of Ellicott City, in the county of Howard and State of Maryland, have invented a new and Improved Bottle-Stopper; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is a side, and Fig. 2 a front, view of the bottle-stopper applied to a bottle, the dotted lines indicating the loose position of the stopper. Fig. 3 is a plan view, and Fig. 4 a vertical section.

My invention relates to an improved form of bottle-stopper, more particularly designed for bottles for holding aerated liquids, such as beer, ale, soda-water, &c., but applicable also to other uses. It belongs to that class of stoppers in which a yoke made of bent wire is secured about the neck of the bottle to receive a swinging bail, which bail carries a rubber stopper that is forcibly pressed against or into the mouth of the bottle.

My improvements consist in the peculiar construction of a tilting cam provided with a thumb-piece, and combined with the bail, the rubber stopper, and the support to which said cam is pivoted, as hereinafter more fully described, whereby the fastening is made more secure, and the manipulation of the stopper is facilitated by permitting the same to be removed or applied with ease and rapidity.

In the drawing, A represents the bottle formed with a shoulder about its neck, beneath which is arranged a stiff yoke, *a*, of wire, extending all the way around the neck, and fastened at its ends by being twisted. Upon opposite sides of the yoke are formed, by one or more convolutions of the wire, eyes *b*, which receive the lower ends of the bail. B is the bail, the lower ends of which are hooked and detachably inserted in the eyes *b* of the yoke, while the upper bowed portion passes through, and is loosely connected with, the support C, so as to be operated upon by the tilting cam E, pivoted to said support. This support C is made in the form of a semicircular metal plate, attached at right angles to, and in the center of, a circular metal disk, D, carrying the soft-rubber stopper F.

The support C is slotted at *c*, near its curved edge, so as to give passage to the bail in its loose connection with said support, and has also a seat or depression, *d*, in the center of the concave side of the slot, for the purpose hereinafter described.

The tilting cam E is made of a quadrantal shape, and is pivoted, near the apex of its right angle, to the support C. Said cam is constructed with double plates, of symmetrical shapes, which occupy positions upon opposite sides of the support, and which plates of the cam have slots cut to the same curve that the slot *c* has, and have also depressions *d'*, which are adapted to register with the depression *d*. These plates of the cam are connected at one end outside of the support C by the thumb-piece *e*.

In fastening the rubber stopper F to the disk D an opening is made in the upper side of the stopper, as shown, into which is forcibly pressed a headed stud, *f*, formed on the bottom of the said disk.

In making use of my improved stopper to close the bottle, the bail, with its attachment, is swung over from its loose hanging position (shown in dotted lines) until the said bail is nearly vertical, and the stopper is in the mouth of the bottle. The thumb is then applied to the thumb-piece *e*, and the cam tilted ninety degrees. In this movement of the cam, it will be seen that ends of the slots in the cam carry the bail resting in the recess *d'* to a vertical position, which causes the recess *d* of the support C and *d'* of the cam to register with each other, which locks the bail, the cam, and the support together, and drives the elastic stopper forcibly into the mouth of the bottle.

In relation to the advantages of my invention, it will be seen that a secure and reliable fastening is made, which is not liable to become deranged or dislocated, while at the same time the peculiar construction permits the easy and rapid opening and closing of the bottle, which is a feature of great merit as compared to other fastenings now in use, most of which are with difficulty disengaged.

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

1. The pivoted quadrantal cam E, having depressions or locking-seats *d' d'* and a thumb-piece, *e*, combined with the slotted support C, having locking-seat *d*, and with the elastic

stopper and the swing-bail, substantially as and for the purpose described.

2. The pivoted quadrantal cam E, formed with double plates united by a thumb-piece, *e*, and having a curved slot with locking-seats *d' d'*, in combination with the central slotted support C, carrying the stopper, and having a locking-seat, *d*, and with the swinging bail, substantially as and for the purpose described.

The above specification of my invention signed by me this 10th day of September, 1877.

JOHN L. STEWART.

Witnesses:
SOLON C. KEMON,
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