

(No Model.)

J. B. CRAWFORD.
BOTTLE STOPPER.

No. 302,191.

Patented July 15, 1884.

Fig. 1.

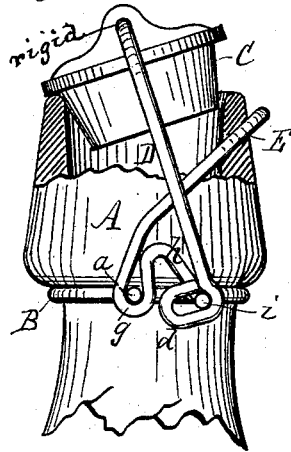


Fig. 2.

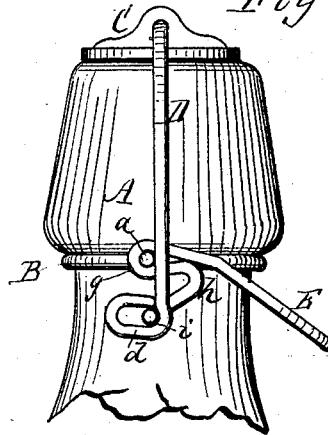


Fig. 3.

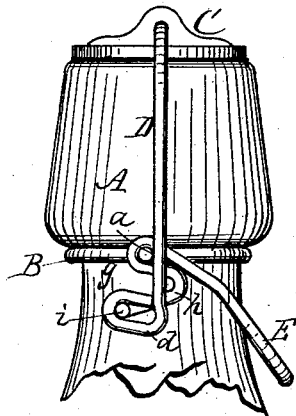


Fig. 4.

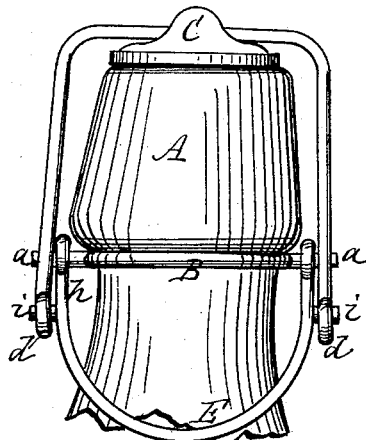
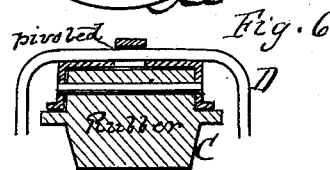
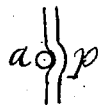


Fig. 5.



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UNITED STATES PATENT OFFICE.

JETHRO B. CRAWFORD, OF ROCHESTER, NEW YORK.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 302,191, dated July 15, 1884.

Application filed October 11, 1882. (No model.)

To all whom it may concern:

Be it known that I, JETHRO B. CRAWFORD, of Rochester, Monroe county, New York, have invented a certain new and useful Improvement in Bottle-Stoppers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation, partly in section, of a bottle with the fastener applied thereto, the stopper being shown as raised. Fig. 2 is an elevation showing the stopper forced down and packed but not locked in place. Fig. 3 is a similar view showing the fastening locked in place. Fig. 4 is an elevation at right angles to Figs. 1, 2, and 3. Figs. 5 and 6 are modifications.

My improvement relates to that class of bottle-stoppers in which the stopper is forced down by means of a lever pivoted to a neck-wire and engaging with the bail.

The distinguishing feature of this invention is a bail provided at its lower ends with loops in which the pivot ends of the lever rest, and so arranged that the bail is first forced down till its sides strike the pivots of the neck-wire, which serve as stops to the same, after which the further movement of the lever forces the pivot ends along the loops and locks the fastening in place.

In the drawings, A shows the top of the bottle.

B is a neck-wire, having two projecting pivot ends, *a a*, on opposite sides. This wire may be formed in two halves, with the ends twisted together to form the pivots, or in any other desired way.

C is the stopper, and D the bail-wire. The bail-wire is preferably cast into the top of the stopper, so as to be stiff with it, as shown in Figs. 1, 2, 3, 4; but, if desired, it may pass through an eye and be loose, as in the common stopper, and in some instances it is preferable to use the form of stopper shown in Fig. 6, which consists of a cap struck up from sheet metal, the rubber fitted into the cap and secured by a cross-pin, and the bail fitting in an eye made by slitting the metal and pressing the tongue between the slits outward. On the lower ends of the bail D are formed loops *d d*, as shown. These loops stand nearly at right

angles to the sides of the bail, but turn very slightly upward, as shown in Fig. 3.

E is the lever, consisting of a loop of wire having intermediate eyes, *g g*, which fit around the pivots of the neck-wire, and outside of these crank-shaped arms *h h*, provided with right-angled pins *i i*, which project outward and rest in the loops *d d* of the bail-wire.

In applying the stopper it is first inserted in the mouth of the bottle in an inclined position, as shown in Fig. 1. In this position the lever E is raised, and its pins *i i* stand in the outer ends of the loops *d d*, Fig. 1. When the lever is forced down it carries the bail down with it and forces the stopper in place. The pins *i i* still remain in the outer ends of the loops till the sides of the bail strike against the pivots *a a* of the neck-wire, as shown in Fig. 2. In this position the bail is brought to a vertical position and the stopper is fully forced in place and packed; but the fastening is not locked, because the pivots stand in a vertical line, and if the lever is released it will fly up again and release the packing. When the bail is thus forced down, a further movement is then given to the lever, which forces the pins *i i* from the outer to the inner ends of the loops *d d*, as shown in Fig. 3. When so forced out, the pins *i i* stand beyond the pivots *a a*, and therefore the parts are perfectly locked, and the bail cannot move up. The loops *d d* are of such incline that as the pins *i i* move along them they retain the pressure already produced on the bail, and they do not let up or yield back, as is the case of ordinary fastenings when the bail springs past the dead-center. The holding pressure of the packing is therefore more effective, and the device is more easily opened, because the bail does not have to be forced down again in passing around the dead-center. A novel feature consists in first forcing the bail down till it strikes the stops to press the packing in place, and then moving the fulcrum-pins farther forward to lock the bail in place. If desired, the bail, instead of being in a perfectly-straight length, may have slight bends *p* where they strike the pivots *a a*, as shown in Fig. 5. When the lever is thrown fully down, it still stands a little distance from the bottle, as shown in Fig. 3, by which means

it is easily seized by the fingers and easily operated.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a bottle-stopper, the combination of the stopper C, the bail D, provided with the loops *d d* at its bottom, the neck-wire B, provided with projecting pivots *a a*, and the lever E, having eyes *g g* resting upon the pivots, crank

ends *h h*, and pins *i i*, resting in the loops of the bail, as herein shown and described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JETHRO B. CRAWFORD.

Witnesses:

R. F. OSGOOD,

JACOB SPAHN.