J. YOUNG.

CORK-FASTENING BOTTLE-NECK.

No. 189,007. Patented March 27, 1877.

Fig. 1

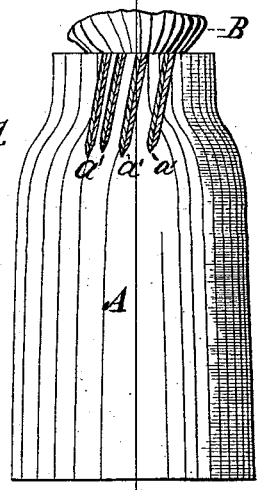


Fig 4

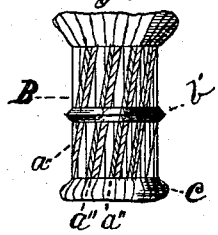


Fig 2

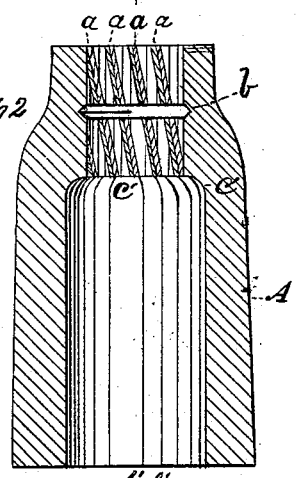


Fig 5

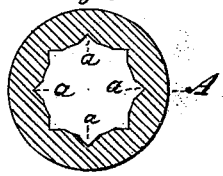
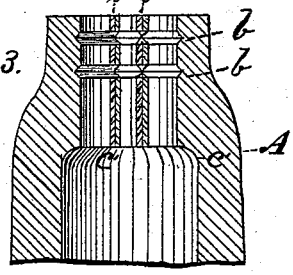


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN YOUNG, OF AMSTERDAM, NEW YORK.

IMPROVEMENT IN CORK-FASTENING BOTTLE-NECKS.

Specification forming part of Letters Patent No. **189,007**, dated March 27, 1877; application filed September 6, 1875.

To all whom it may concern:

Be it known that I, JOHN YOUNG, of Amsterdam, in the county of Montgomery and State of New York, have invented a new and useful Improvement in Cork-Fastening Bottle-Necks, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of the neck of a bottle, showing a section of a cork inserted therein, and the indicating-lines *a'*, which lines may be depressions or ribs, substantially as shown, for the purpose of aiding in withdrawing the cork by indicating the pitch of the grooves inside. Fig. 2 is a transverse sectional elevation on the plane of the line *x x* in Fig. 1, showing the grooves *a* and *b* and enlarged diameter *c'* below the grooves. Fig. 3 is a transverse sectional elevation on the plane of the line *x x* in Fig. 1, showing the general form of the inside of my improved bottle-neck, provided with circumferential grooves *b*. Fig. 4 is a side elevation of a cork, B, that has been driven into one of my improved bottle-necks and removed, showing the ribs *a''* and *b'* formed on its cylindrical body by the grooves *a* and *b* in the bottle-neck, (see Fig. 2,) and the expanded portion C. Fig. 5 is a plan of the top of Figs. 1 and 2, showing the grooves *a*.

The object of my invention is to firmly secure the corks into the necks of bottles, more particularly that class of bottles used for bottling Saratoga, Congress, soda water, &c., without the use of copper wires, strings, and like appliances for tying and fastening the corks, by simply driving the corks into place with an india-rubber hammer, or by lever-pressure, the friction caused by the grooves, and by the elasticity of the cork filling the same, thereby holding the corks as securely as desired.

To enable others skilled in the art to make and use my invention, I will describe its construction and operation.

I construct a bottle, the body of which may be of any desired form, having a neck diminishing gradually in diameter externally from the body thereof until within about one inch of the top, where the diameter decreases more abruptly for about one-half inch, and for about the last one-half inch the sides are nearly parallel, substantially as shown in Figs. 1 and 2.

I make the internal portion of my bottle-necks for about one inch from the top of nearly the same diameter, and provide it with spiral grooves *a*, and one or more circumferential grooves, *b*, substantially as shown in Fig. 2.

The pitch or inclination of the grooves *a* may be of any desired degree, retaining an angle that will not allow the cork in driving to cross the grooves *a*.

About one inch from the top (see Figs. 2 and 3) I enlarge the internal diameter, substantially as shown at *c'*, and continue this enlarged diameter to the body of the bottle. I construct the indicating-lines *a'* of the same twist or inclination as the grooves within, to guide the hand when withdrawing the cork with a corkscrew.

The operation of my invention is as follows: A bottle provided with my invention, after being filled with mineral water, or any other liquid that requires close and secure corking, may be placed upon a suitable receptacle and the cork taken and placed over the mouth of the bottle in proper position, and by striking the cork with an india-rubber mallet or hammer, or by lever-pressure, it is driven to its place, following the course of the grooves running spirally, and by the elasticity of the cork, ribbing the same by filling the grooves, and changing the course of the cork from the direct line of discharge from the bottle, thereby producing sufficient friction to resist the pressure of the fluid.

It will be readily understood that my invention differs from other threaded-necked bottles, which require the use of a wrench or screw-driver to turn the cork within the neck of the bottle, as the plane of the thread in such bottle-necks precludes the use of mallets, hammers, or similar percussive force. The grooves *b b* are necessary to the more securely holding the cork, as the cork, when driven into the neck of the bottle, swells out, and to a certain extent fills the grooves *b b*, and thus prevents the escape of vapor.

It is evident these grooves may be made of the saw-toothed form, concave, or by raised ribs in place of the grooves, without changing the nature of my invention.

What I claim as my invention, and desire to secure by Letters Patent, is—

In a bottle-neck, the combination of the groove or grooves *b* and grooves *a a a*, when formed substantially as and for the purpose specified.

JOHN YOUNG.

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