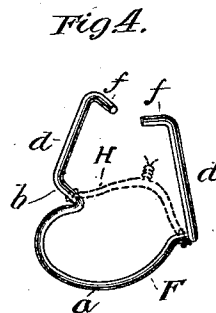
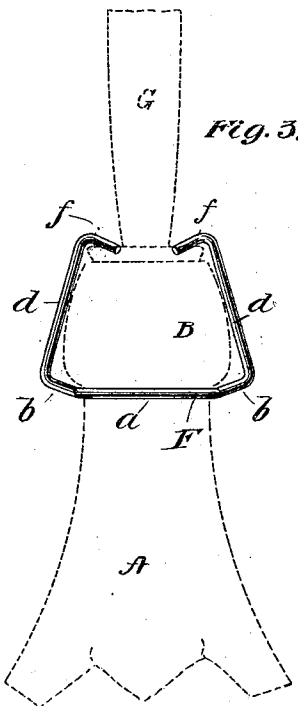
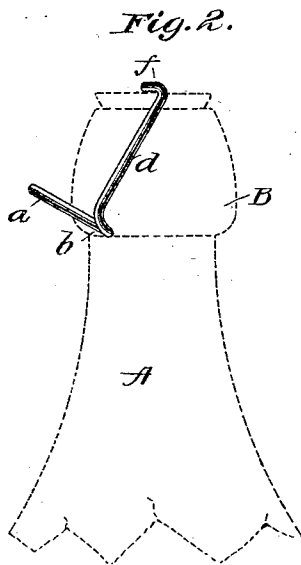
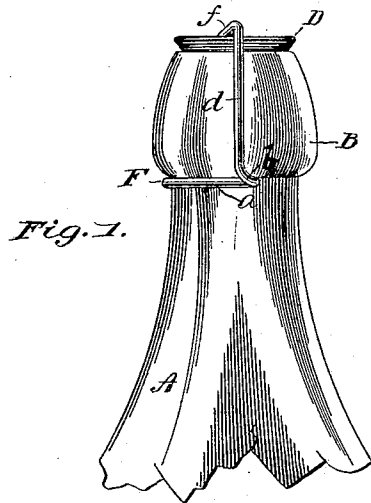


(No Model.)

G. NICHOLS.
STOPPER FASTENER.

No. 511,645.

Patented Dec. 26, 1893.



WITNESSES:

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GEORGE NICHOLS, OF BROOKLYN, NEW YORK.

STOPPER-FASTENER.

SPECIFICATION forming part of Letters Patent No. 511,645, dated December 26, 1893.

Application filed August 3, 1893. Serial No. 482,224. (No model.)

To all whom it may concern:

Be it known that I, GEORGE NICHOLS, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Stopper-Fasteners, of which the following is a full, clear, and exact specification.

My invention relates to a certain new and useful improvement in stopper fasteners, and consists of a piece of spring wire bent into such a form that it can be simply and quickly adjusted to a bottle, or the like, to retain the stopper therein.

The object of my invention is to construct a very simple, reliable and inexpensive device to perform the function above described.

My invention is illustrated by the accompanying drawings in which—

Figure 1 is a side elevation, in perspective, of the upper portion or neck of a bottle provided with a stopper and my improved fastener as it appears in operation. Fig. 2 is a side elevation of my fastener in a position for adjustment. Fig. 3 is a side elevation of Fig. 1, the bottle being shown in dotted outline. Fig. 4 is a perspective view of the fastener provided with a sealing wire.

A is a bottle.

B is an enlargement or lip formed at the upper end or neck of the bottle.

D is a stopper.

F is the stopper fastener which may be constructed of square or round spring wire.

For the purpose of clearly describing the form of the stopper fastener small letters are used to designate the different parts. *a* is an arc formed substantially midway in the length of a piece of spring wire. This arc *a* forms a little more than a semi-circle and is adapted to clasp the neck of the bottle just below the enlargement B as shown in the drawings. *bb* are outward bends forming offsets for uprights *dd*. The offsets *bb* by preference form acute angles to the wire forming the arc *a* for the reason hereinafter explained. The uprights *dd* extend from the offsets *bb* upward on opposite sides of the neck of the bottle to the top of the bottle. At the point where the uprights overlap the top of the neck of the bottle they are turned over or bent down to form the clamp ends, or stopper re-

taining ends *ff*. The ends *ff* may meet on top of the stopper if desirable but by preference they are cut off so as to leave a space between their extremities so that when used in connection with a rapid bottling machine, the fastener may be snapped into position on the bottle while the plunger G (Fig. 3) of the bottling machine is in contact with the cork, as shown by the dotted outline in Fig. 3. The fact that the ends of the clamping arms *ff*, are separated permits said operation. The object of bending the offsets *bb*, as previously referred to, to form an acute angle to the wire forming the arc *a*, is to bring the pull, caused by the outward tendency of the cork, into as near as possible an imaginary vertical plane extending through the center of the bottle. This is not absolutely necessary however. By reference to the drawings it will be seen that the stopper retaining ends *ff* are bent slightly downward and backward out of the plane formed between the two uprights *dd* so that when the fastener is in the position shown in Fig. 2, the ends *ff* will rest for their entire length upon the upper surface of the stopper. When the fastener is pushed into the position shown in Figs. 1 and 3 the extremities of the retaining ends *ff* will tend to push down into the stopper and afford additional means of security, particularly when the stopper is made from some yielding substance, such as cork or rubber.

The principal feature of my invention is to construct a stopper fastener from a single length of wire having an arc bend formed near its middle adapted to clasp the neck of a bottle, the extremities of the wire being bent to form the uprights reaching up toward the top of the bottle, and still further bent to form the ends which overlap the bottle stopper to securely retain the same in position.

It is obvious that if it is desirable to seal the bottle, a piece of annealed wire H (Fig. 4) may be threaded through the fastener at the offset points *bb* and carried around the neck of the bottle below the enlargement B and on the opposite side from the arc *a*, where it may be twisted together or otherwise sealed in any ordinary well known manner, thus preventing the fastener F from being removed until the seal is broken.

Having thus described my invention, what

I claim, and desire to secure by Letters Patent, is—

1. A stopper fastener constructed of spring wire bent to form an arc, greater than one hundred and eighty degrees, about midway in its length and adapted to clasp the neck of a bottle, the ends being bent back and up so as to be diametrically opposite each other and substantially perpendicular to the plane of the arc, the extreme ends being bent inward to form the stopper-engaging arms; substantially as and for the purpose specified.

2. A wire stopper fastener having formed

about midway in its length an arc greater than a semicircle adapted to embrace the neck of the bottle and provided with the offsets *b*, uprights *d d* and stopper retaining arms *f* bent down at an acute angle to the uprights, and back out of the plane of the uprights substantially as and for the purpose specified.

GEORGE NICHOLS.

Witnesses:

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H. M. SKINNER.