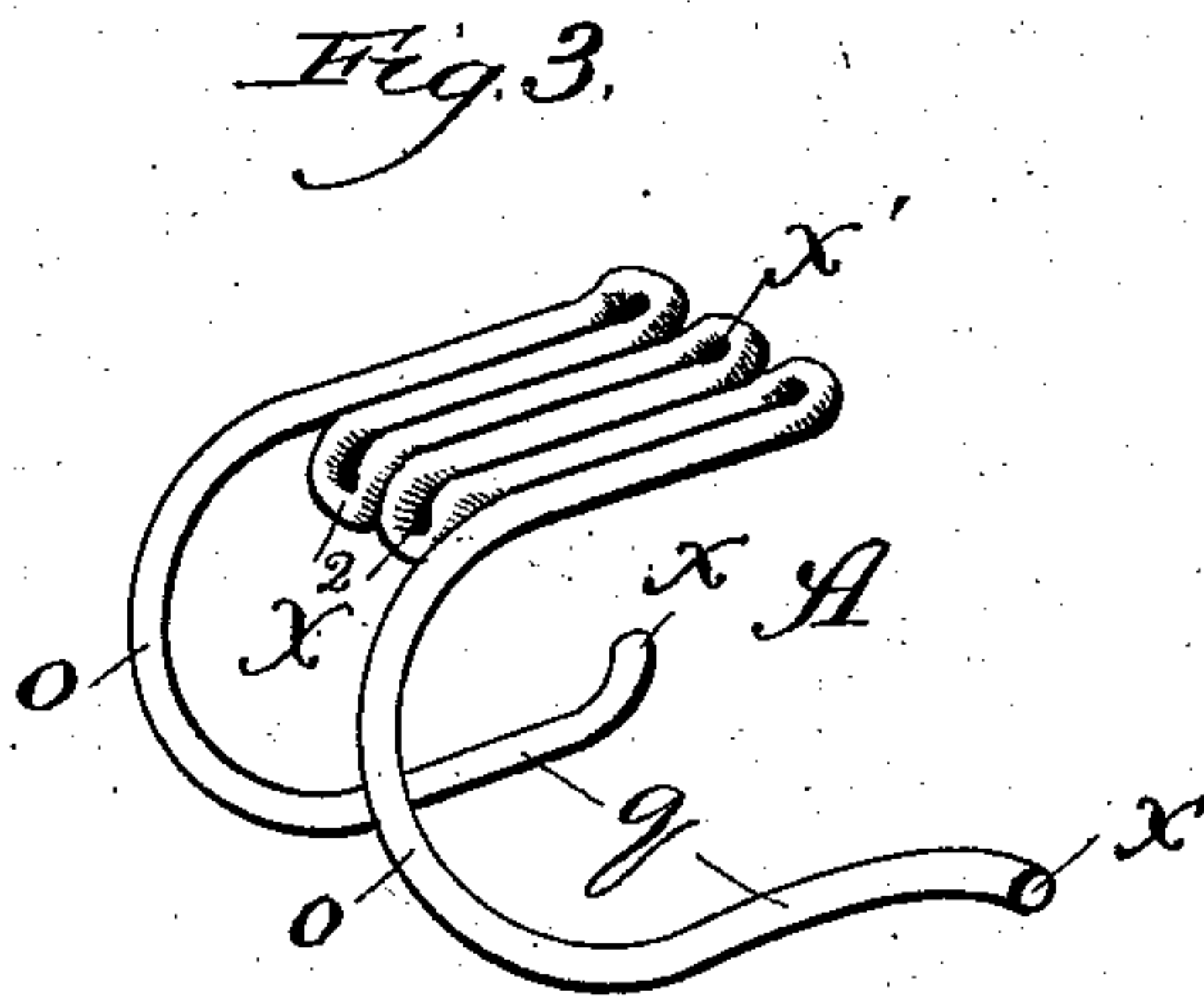
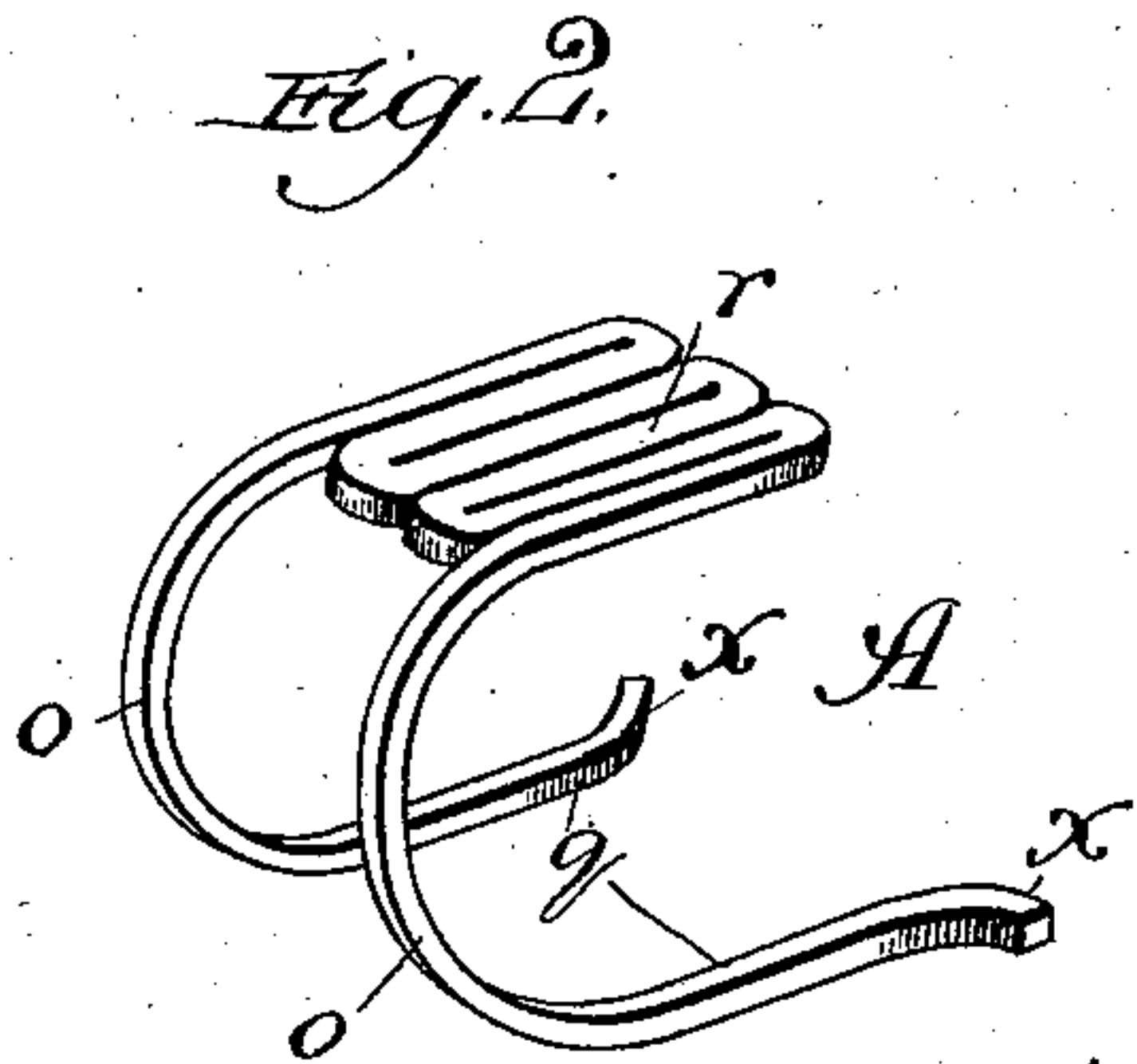
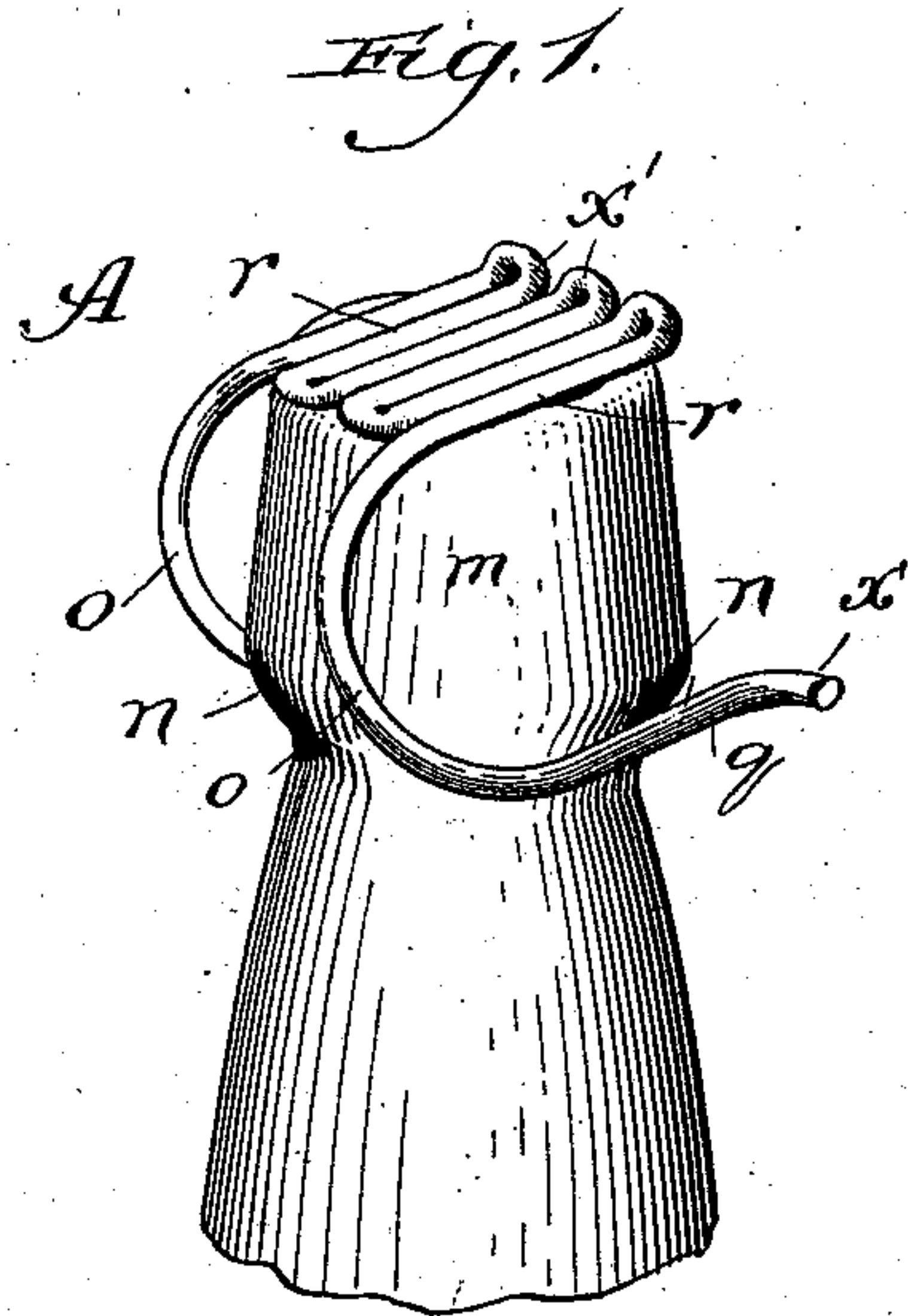


(Model.)

J. G. HIRSCH.  
CORK RETAINER.

No. 381,136.

Patented Apr. 17, 1888.



Witnesses:

*Chas. E. Gaylord.*  
*J. W. Dyrenforth.*

Inventor:

John G. Hirsch,

*By Dyrenforth & Dyrenforth*  
Attys



# UNITED STATES PATENT OFFICE.

JOHN G. HIRSCH, OF MILWAUKEE, WISCONSIN.

## CORK-RETAINER.

SPECIFICATION forming part of Letters Patent No. 381,136, dated April 17, 1888.

Application filed December 12, 1887. Serial No. 257,648. (M. del.)

*To all whom it may concern:*

Be it known that I, JOHN G. HIRSCH, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Cork-Retainers, of which the following is a specification.

My invention relates to an improved device for temporary use in holding the stoppers or corks in the necks of bottles against pressure exerted from within the latter by gas and tending to dis'odge the stoppers.

The object of my invention is to provide a device particularly for use in retaining the corks in bottles while the contents thereof (beer or other liquids) are undergoing the Pasteurizing, aging, or steaming process.

I design my device especially for use during the practice of the process of steaming or heating beer in bottles, which process is resorted to for the effect it has of enhancing the preservative qualities of the liquid. The degree of heat required for the purpose produces a pressure within the bottles so great that it would force out the corks unless means were provided to counteract it. The means hitherto most commonly employed for the purpose has been strong wire bent about the necks of the bottles and corks, and fastened to retain the corks in place. This means presents objections to its employment, however, as it is difficult of application and permits portions of the corks to be protruded beyond the necks of the bottles by the force of pressure exerted against them from within the bottles as a result of the steaming operation, thus requiring longer and more expensive corks to be used than if their partial dislodgment were prevented.

My improvement effectually overcomes these disadvantages, since it obviates the necessity of wiring the bottles, is readily applied, and permits the equally effective use of a comparatively short cork, because it prevents protrusion of any portion thereof beyond the neck of the bottle and obviates any necessity of allowance for such protrusion.

In the drawings, Figure 1 shows in perspective a bottle-neck provided with my improvement. Fig. 2 presents a perspective view of a modified form of the device; and Fig. 3, a similar view thereof, showing another modification.

A is the cork-retainer, which I make of springy wire. It comprises wire which may be square in cross section, as shown in Fig. 2, or round, as shown in other figures, bent horizontally upon itself or convolved to produce the flat top *r*, as shown in all the figures of the drawings, and the ends are bent to produce the curved parallel, or substantially parallel, bails *o* and substantially horizontal and parallel clamping arms *q*.

To apply the device after the bottle to receive it has been corked, the head of the bottle (meaning that portion above the shoulder *n*) is forced between the arms *q* to cause them to embrace the neck below the shoulder, and the top *r* to cause the latter to slide over the cork and mouth of the bottle-neck. The ends of the arms *q* may be bent outward, as shown at *x*, to afford guides and adapt the arms the more readily to slide into position upon the bottle-neck, and the top portion, *r*, may be bent upward slightly at its forward edge, as shown at *x'*, to permit it to be readily guided to its seat upon the cork and top of the bottle-neck, though the device may be adjusted quite readily without employing these guiding features of the construction, and I, of course, do not limit myself to them.

The curved bail portions *o* of the device afford convenient means by which to force the cork-retainer into position upon the bottle and to pull it off again. They also ordinarily serve as stops, since when the portions of the curvatures strike against the head portion *m* toward opposite sides thereof above the shoulder *n*, as they do when the device is pushed into place, they prevent the top *r* from being forced forward farther than to cause it to cover the top of the bottle-neck. Should the form of bottle upon which the retainer is used, however, require the bails to be lengthened out or render them too long as to their curve, whereby their "stop" function would be lost, a suitable stop may be formed by bending downward the rear edge of the top portion, *r*, as shown at *x''* in Fig. 3.

As will be seen, the device exerts a clamping effect between the top portion, *r*, and arms *q* on both sides of the cork-retainer, which operates to hold the cork down firmly in the neck, and a similar effect between the arms *q*,



whereby the device is clamped tightly upon the bottle-neck, and in both instances the springy nature of the construction renders it yielding to an extent that permits it to be sprung into place. The retainer firmly holds the cork down, and maintains its position against even great pressure exerted against it through the cork from within the bottle during the process of steaming or heating, and its removal after the treatment by steaming or heating is readily accomplished. The top portion, *r*, may be made with any number of convolutions in the wire sufficient to produce a top portion, which will completely or substantially cover the cork.

It is quite important that the top portion, *r*, be flat, so that one layer of bottles provided with the cork-retainers may be placed and will stand steadily on another layer in the steaming-vat. This flat form of the top is produced by pressing the convolutions in the wire closely together, whereby also no interstices are left through which parts of the cork could be forced by the pressure against it from within the bottle. If it is desired that the surface of the top portion shall be even, instead of corrugated, as produced by round wire, square wire may be employed, with the result shown in Fig. 2.

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

1. A cork-retaining device comprising a strip of springy metal bent horizontally upon

itself between its extremities to produce a flat top portion, *r*, forming a practically continuous plate to press upon and completely or substantially cover the top of the cork, and bent toward its extremities to produce vertically and outwardly rounded bails *o*, and spring clamping-arms *q*, substantially as described.

2. A cork-retaining device comprising a strip of springy metal bent horizontally upon itself between its extremities to produce a flat top portion, *r*, having the convolutions laterally contiguous to form a practically continuous plate to press upon and completely or substantially cover the top of the cork, and bent toward its extremities to produce vertically and outwardly rounded bails *o*, and spring clamping-arms *q*, substantially as described.

3. A cork-retaining device comprising a strip of springy metal bent horizontally upon itself between its extremities to produce a flat top portion, *r*, bent downward toward its rear edge to produce a stop, *x*<sup>2</sup>, and forming a practically-continuous plate to press upon and completely or substantially cover the top of the cork, and bent toward its extremities to produce vertically and outwardly rounded bails *o*, and spring clamping-arms *q*, substantially as described.

JOHN G. HIRSCH.

In presence of—

JOHN A. MAND,  
GEO. HIRSCH.