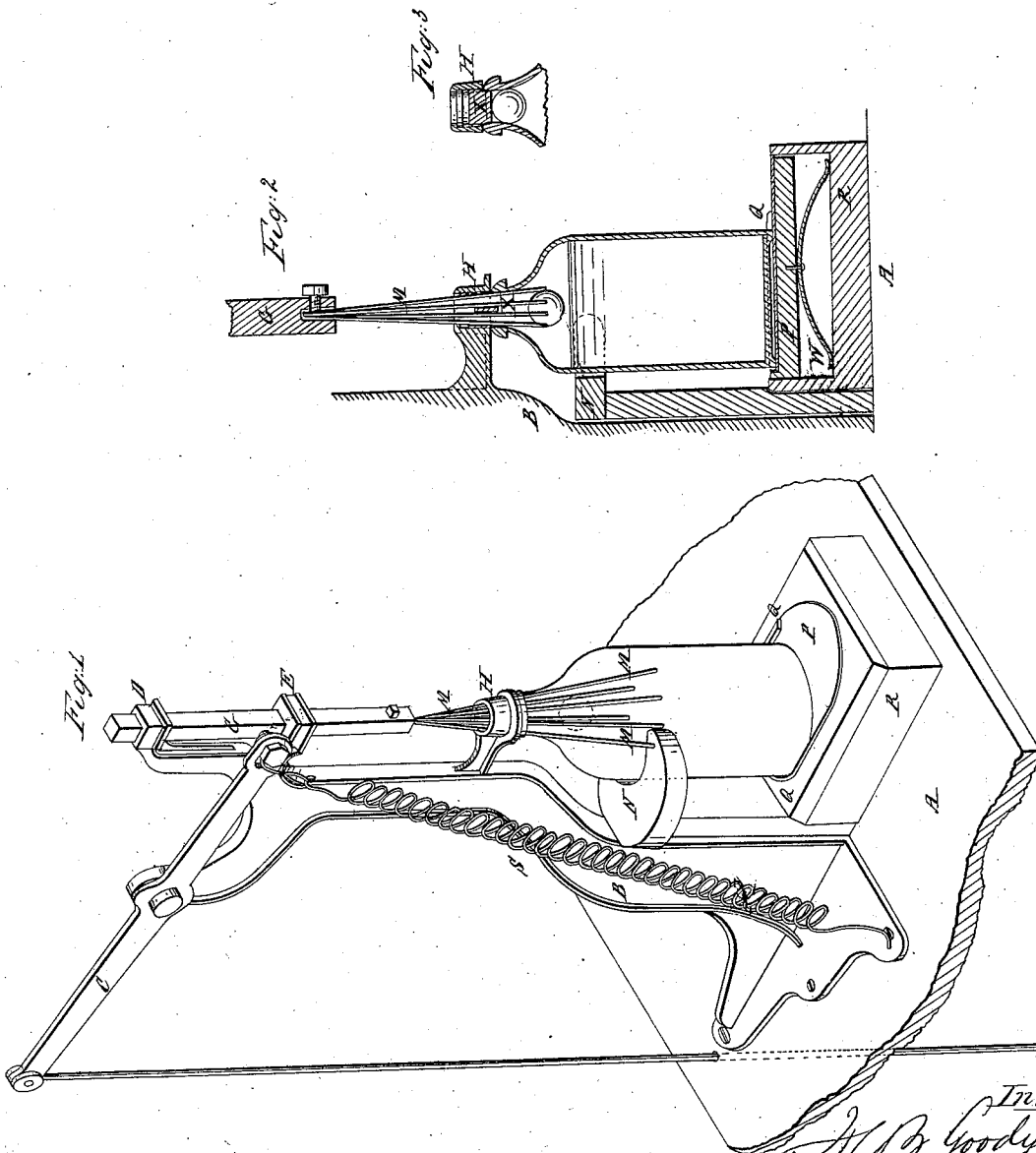


*H. B. Goodyear,
Filling Bottles.*

N^o 16,658.

Patented Mar. 7, 1865.



*Witnesses.
John M. Atty
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UNITED STATES PATENT OFFICE.

HENRY B. GOODYEAR, OF NEW HAVEN, CONNECTICUT.

IMPROVED BOTTLING APPARATUS.

Specification forming part of Letters Patent No. **46,658**, dated March 7, 1865.

To all whom it may concern:

Be it known that I, HENRY B. GOODYEAR, of New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Bottling Apparatus; and I 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 a perspective view of the said apparatus in working order; Fig. 2, a sectional view of the same, and Fig. 3 a section at right angles to the latter through the neck of the bottle and portion of the apparatus.

This invention relates to an apparatus invented by and patented to Beard & Fairbanks, assignors to the Automatic Bottle-Closing Company, on the 6th day of December, 1864, and consists in certain improvements whereby the stopping of bottles by means of an internal elastic ball is effected with greater certainty and more expeditiously. The instrument, subject of the patent of the said Beard & Fairbanks, consists of three or more diverging springing wires firmly secured in a handle. The proper function of this instrument depends upon the thickness and form of the wires, as well as upon the size and degree of elasticity of the ball and the shape of the bottle. To arrive at the requisite proportions as to form and size of the wires relatively to shape of the bottle and elasticity and size of the ball necessitated much experimenting upon each instrument, which rendered them expensive. On the other hand, inasmuch as the balls will sometimes vary in elasticity, and the wires will seize the balls higher up and lower down among wires, and thus hold the ball with greater and less force than calculated for, it happens that however perfect the instrument may be the balls are drawn out from the bottle. Moreover, the method of bottling by an instrument constructed as described by the said Beard & Fairbanks is necessarily slow and fatiguing. To remedy these objections is the object of my invention, and I have accomplished this by devising a machine to be worked by hand or foot, or both, constructed and operating in the manner as follows:

Upon a table, A, is firmly established the frame or standard B, the lower part of which is curved correspondingly with the outlines of

the bottle to be stopped. To a bracket projecting toward the rear is hung or pivoted a lever, C, the front end of which is jointed to a plunger, G, while its rear end is connected with a rod, D, which traverses the table and is attached to a treadle or pedal arranged conveniently for the operator to work the lever. A spiral spring, S, or weight, is attached to the forward end of the lever in such manner as to tend to depress the plunger. The upper portion and front side of the standard is provided with two guides, D and E, within which the plunger is caused to travel up and down when actuated by the pedal. In this plunger are secured the diverging wires M, of which there are six, or more or less, and they are passed through a collar or ring, H, cast to the bracket. The motion of the lever is regulated so that when brought down by the treadle to its lowest point the wire ends will be drawn together and held within the collar. With the collar is combined a check-piece, X—i. e., a blade arranged diametrically, dividing the collar into two parts—and projecting from the under surface of the said collar so as to enter the neck of the bottle, if applied against the collar, thus serving the double purpose of guiding and holding the bottle centrally in relation to the collar and the wires, and of preventing the ball from being drawn out by the wires.

To facilitate the placing the bottle in the proper position for the wires I adapt a platform, P, supported in a pedestal, R, by means of a spring, W, upon which platform the bottle is accurately placed by means of a gage, Q. A horseshoe clamp or guide, N, is provided for holding the upper part of the bottle. Such being the construction of the apparatus, its operation will be readily understood from the following description of the modus operandi.

The filled bottle, with the ball floating on top of the liquid, is placed on the platform while the wires are drawn up. The bottle is thus placed with slight pressure, so that, the platform yielding, the bottle will clear the projecting check and adapt itself to both guides or gages N and Q. The bottle is then released and the pressure on the treadle removed. The plunger, actuated by the spring, will then push down into the bottle the wires, which expand with the form of the bottle, as shown in Fig. 1, surrounding the ball. Now,

the foot presses the lever and plunger-actuating pedal, and the wires are drawn up along the contracted neck of the bottle, whereby they are caused to close in on the ball, seize it, and draw it up with them into the neck, until its further upward movement is arrested by the check X.

It will be understood that by the application of this check the wires may seize the ball with greater force and wedge it more tightly into the neck without danger of its being drawn out.

Having thus described my invention and the manner in which the same is or may be carried into effect, I claim—

1. The combination, with the wire instrument for seizing and drawing up and forcing

internal elastic ball-valves into the necks of bottles, for the purpose of closing or stopping the same, of a check-piece operating in conjunction with said wire instrument, in the manner and for the purpose set forth.

2. The machine or apparatus herein described for closing bottles by means of internal elastic valves, in the manner shown and set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

HENRY B. GOODYEAR.

Witnesses:

ELEAZAR K. FOSTER,
HENRY P. FOSTER.