J. G. WOLF.

Stopper-Fastening Attachment to Bottling-Machine.

No. 199,888. Patented Jan. 29, 1878.

Fig. 1.

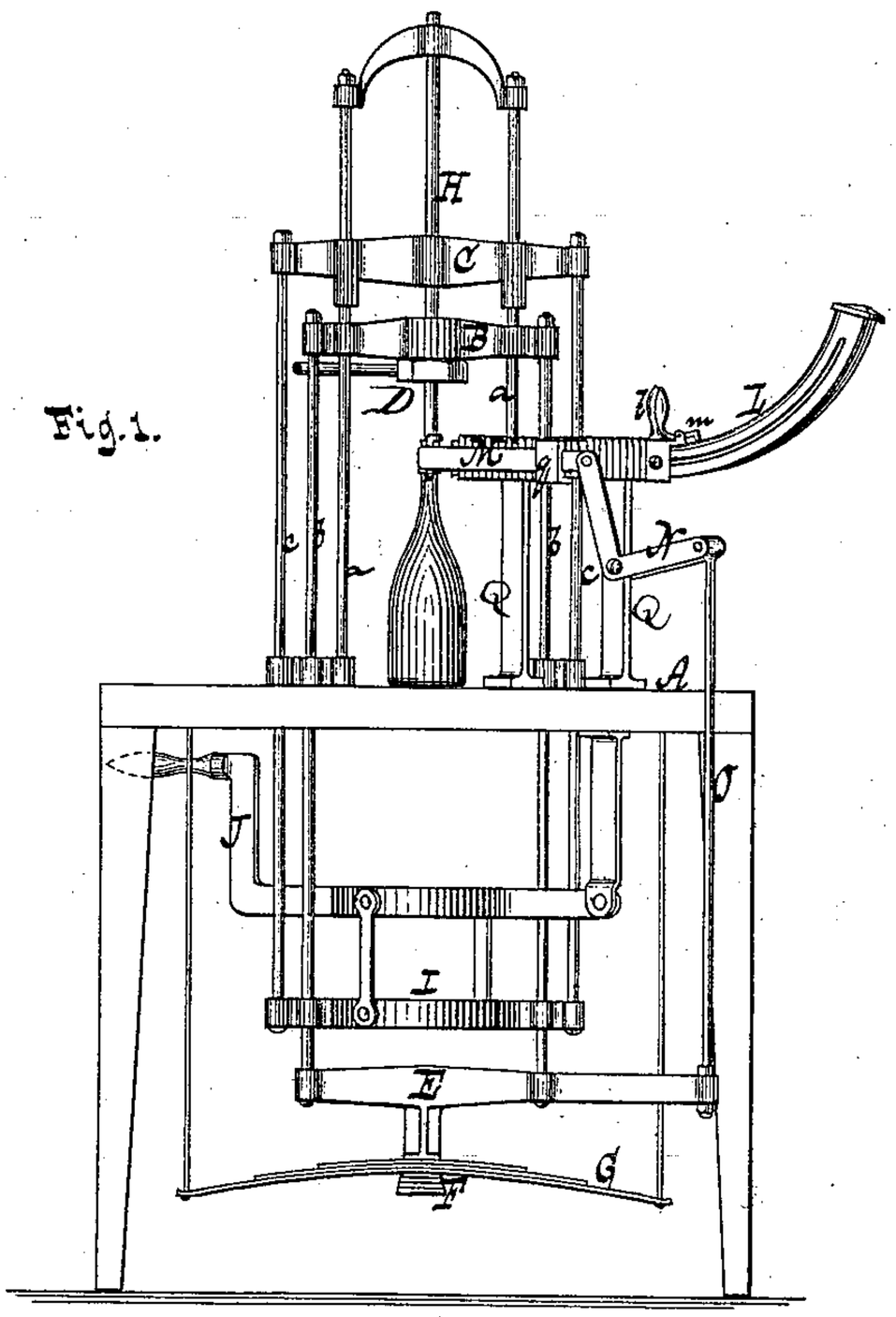


Fig. 2*

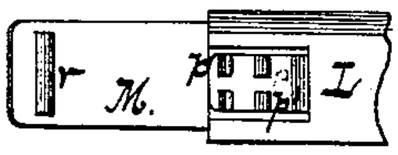


Fig. 3*

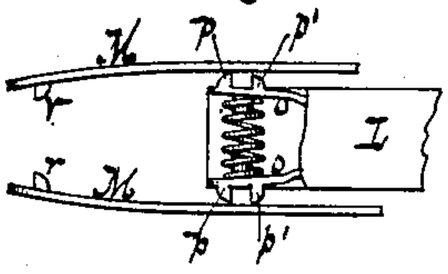


Fig. 2.

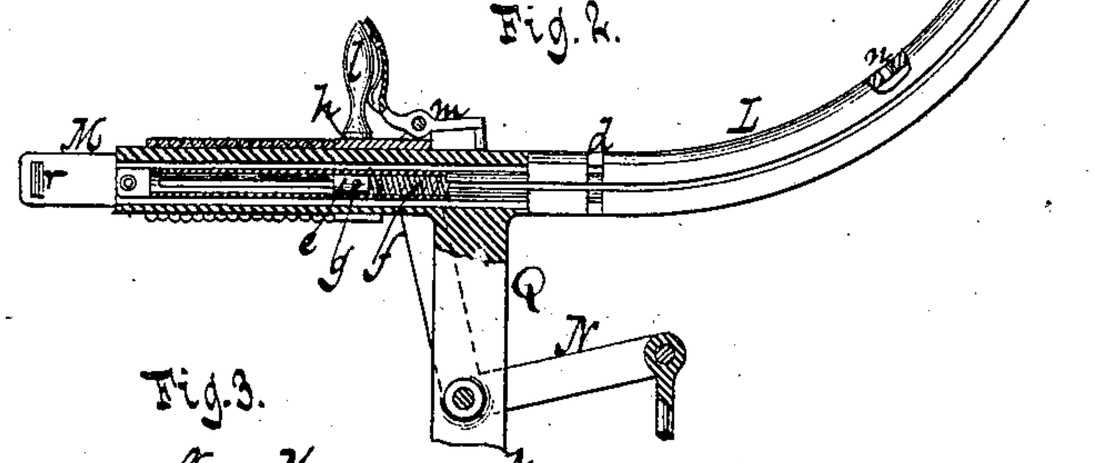


Fig. 3.

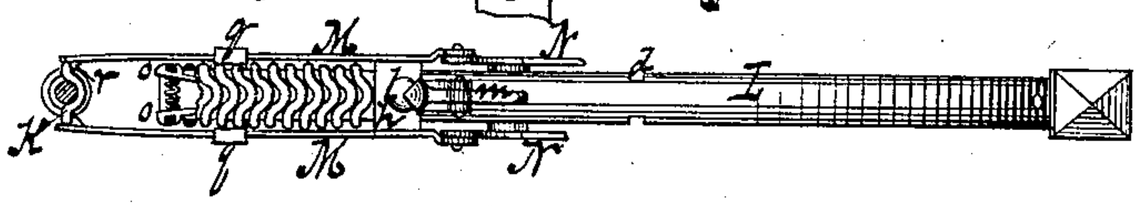
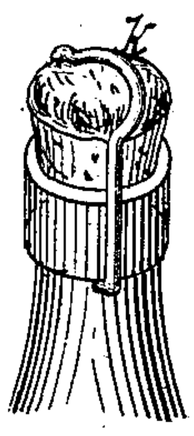


Fig. 4.



Witnesses.

Otto Hufeland.

Chas. Wahlers.

Inventor.

John George Wolf

by Van Santvoord & Hauff

his attys

UNITED STATES PATENT OFFICE.

JOHN GEORGE WOLF, OF NEW YORK, N. Y.

IMPROVEMENT IN STOPPER-FASTENING ATTACHMENTS TO BOTTLING-MACHINES.

Specification forming part of Letters Patent No. **199,888**, dated January 29, 1878; application filed January 7, 1878.

To all whom it may concern:

Be it known that I, JOHN GEORGE WOLF, of the city, county, and State of New York, have invented a new and Improved Stopper-Fastening Attachment to Bottling-Machines, which invention is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a rear elevation of a bottling-machine provided with my attachment. Fig. 2 is a detached sectional side elevation of my attachment on a larger scale than the previous figure. Figs. 2* and 3* are detail views of the guide and pusher. Fig. 3 is a plan or top view of the same. Fig. 4 is a perspective view of a bottle after the same has been filled and the agraffe for securing its stopper has been applied.

Similar letters indicate corresponding parts.

This invention consists in the combination, with a bottling-machine, of a mechanism for feeding and applying the stopper-fastening agraffes to the bottles before the stopper-driving plunger is raised, the motion of said agraffe-feeder being produced as the bottling-cap is permitted to rise.

In the drawing, the letter A designates the table of a bottling-machine, from which rise two standards, *a a*, which form the guides for two cross-heads, B C. The cross-head B carries the cap D, through which the liquid is introduced into the bottles, which are placed successively beneath said cap, and from this cross-head extend two rods, *b b*, through the table A. The lower ends of these rods are connected by a traverse, E, to which is secured a treadle, F; and a spring, G, has a tendency to throw the bottling-cap D up to the position shown in Fig. 1.

The cross-head C carries the plunger H, and from it extend two rods, *c c*, through the table A. The lower ends of these rods are connected by a traverse, I, which is connected to a hand-lever, J, so that by manipulating this lever the plunger can be raised or depressed. By means of this plunger the stoppers are driven into the bottles after the same have been filled. In Fig. 1 the plunger is represented in its depressed position.

All the devices above enumerated are found in bottling-machines such as have been used for many years; and the general practice in such machines is to remove each bottle, after the same has been filled and provided with a stopper, from under the plunger H, and to apply thereto an agraffe, K, Fig. 4, for the purpose of retaining the stopper securely in position.

The object of my invention is to apply the agraffes automatically before the bottles are removed from under the plunger H, so as to save the time of the person heretofore required for the purpose of applying the agraffes.

My attachment consists of an agraffe-guide, L, which is supported by standards Q secured to the table A, and which is tubular and provided with a recess, *d*, for the purpose of introducing the agraffes. In the interior of this agraffe-guide is placed a plunger, *e*, which is exposed to the action of a spring, *f*, and from the sides of which extend pins *g* through slots in the opposite sides of the guide L. These pins carry a slide, *h*, to which is secured a handle, *l*, and a spring-catch, *m*. When the handle and slide are forced back, this spring-catch engages with a hole, *n*, in the guide L, so as to retain the slide *h* and plunger *e* behind the recess *d*, for the purpose of introducing a fresh supply of agraffes. When the spring-catch is disengaged from the hole *n*, the plunger *e* and the slide *h* are driven forward by the spring *f*, and the slide bears on the agraffes, which hug the guide L and force the same outward.

In the interior of the guide L are situated two springs, *o o*, each of which carries two pairs of noses, *p p'*, the square faces of which face each other, leaving just room enough for one agraffe between them. On the outside of the guide L is situated a pusher, M, which consists of two springs that are guided in a bracket, *q*, secured to the bottom of the guide L, and the rear ends of which are pivoted to the vertical arm of a bell-crank lever, N, the horizontal arm of which connects, by a rod, O, with the treadle F, that serves to depress the bottling-cap D.

Each of the springs of the pusher M is provided on its inner surface with a lip, *r*, the outer face of which is square, while its inner face is inclined. When the treadle F is depressed the pusher M is drawn back, so that

its lips *r* pass over the noses *p* of the springs *o* and past the agraffe situated between the noses *p p'*, the springs *o* are forced inward, and the square faces of the lips *r* catch behind said agraffe, which previously had been held between the noses *p p'*. When the treadle F is released the pusher M is driven forward to the position shown in Fig. 1, and the agraffe situated in front of its lips *r* is automatically forced over the neck of the bottle and over the stopper.

This operation takes place before the stopper-driving plunger H of the bottling-machine has been raised, so that the agraffes, in being driven over the stopper, come to bear against the plunger, and are retained in the proper position over the stopper.

As soon as an agraffe has thus been applied to the bottle, the plunger H is raised, the finished bottle is taken off, a fresh bottle is placed on the table A, and as the bottling-cap D is brought down upon the mouth of the bottle the pusher M is drawn back and caused to catch hold of a new agraffe, which is afterward applied to the bottle, as already described.

In the example shown in the drawing the slide *h* is subjected to the action of a spring, *f*, so as to force the agraffes successively between the noses *p p'* of the springs *o o*, and the agraffe-guide L is made curved upward, for the purpose of saving room.

Instead of using a spring for pushing the agraffes forward, I can also use a screw or a toothed rack, to which motion is imparted by a ratchet-wheel and pawl at every stroke of the pusher M, and in this case the agraffe-guide L will be made rectilinear. In practice this mechanism will be preferable, since it imparts to the agraffes a positive forward movement, and can be so regulated that for each stroke of the pusher M a new agraffe is carried between the noses *p p'* without fail.

In the example shown in the drawing the pusher M is connected to the treadle F; but it may be operated by a separate hand or foot lever.

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

1. The combination, with a bottling-machine substantially such as herein described, of a mechanism for feeding and applying the stopper-fastening agraffes to the bottles before the stopper-driving plunger is raised, the motion of said agraffe-feeder being produced as the bottling-cap is permitted to rise, substantially as set forth.

2. The combination, with the agraffe-guide L, of a pusher, M, provided with lips *r*, springs *o o*, provided with noses *p p'*, and an agraffe-forcing slide, *h*, all constructed and adapted to operate substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 3d day of January, 1878.

JOHN GEO. WOLF. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.