

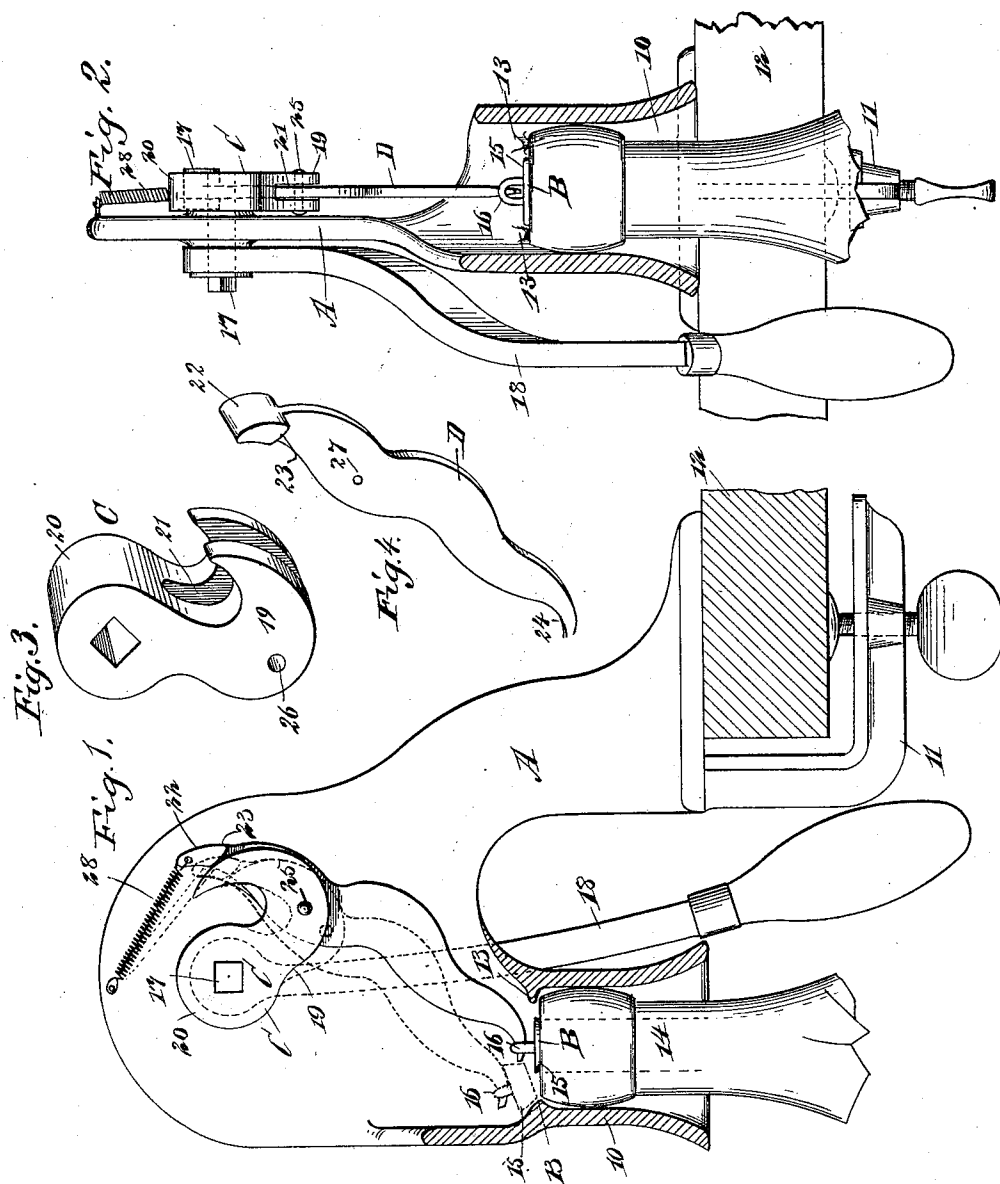
(No Model.)

C. F. SCHIELD.

DEVICE FOR EXTRACTING LOOP SEALS FROM BOTTLES.

No. 579,843.

Patented Mar. 30, 1897.



WITNESSES:
L. N. Legendre
Shedden

INVENTOR
C. F. Schield
BY *mmu*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHARLES F. SCHIELD, OF CAMBRIDGE, OHIO.

DEVICE FOR EXTRACTING LOOP-SEALS FROM BOTTLES.

SPECIFICATION forming part of Letters Patent No. 579,843, dated March 30, 1897.

Application filed July 6, 1896. Serial No. 598,151. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. SCHIELD, of Cambridge, in the county of Guernsey and State of Ohio, have invented a new and Improved Device for Extracting Loop-Seals from Bottles, of which the following is a full, clear, and exact description.

The object of my invention is to provide a simple, durable, and economic machine whereby loop-seals may be expeditiously and conveniently removed from bottles no matter how tightly the seals may be seated in the necks of the bottles.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the device, parts being in section. Fig. 2 is a front elevation of the device, parts being likewise in section. Fig. 3 is a detail perspective view of the cam employed, and Fig. 4 is a detail perspective view of the extracting-lever which is operated by said cam.

In carrying out the invention a standard A is employed which at one of its ends is provided with a downwardly-extending bell-mouth 10, formed substantially at one side of the said standard, and the base of the standard is provided with a clip or clamp 11, of any desired construction, whereby the machine may be secured to a table, shelf 12, or the equivalent of the same, as shown in the drawings. Lugs or offsets 13 are formed at the upper portion of the bell-mouth, the said bell-mouth being open at both top and bottom, and these lugs serve to limit the upward movement of the neck 14 of the bottle, bringing the neck in such position that the loop-seal B may be readily removed from the bottle by means to be hereinafter specified. This loop-seal consists of a stopper 15, provided with a loop or staple 16, extending ordinarily above the stopper. In the upper portion of the standard A a spindle 17 is located, the said spindle being squared except where it is passed through the standard, since the spindle is to turn in the standard, and at the side

of the standard opposite that at which the bell-mouth 10 is located a handle 18 is secured to a projecting end of the aforesaid spindle 17, as is particularly shown in Fig. 2, and the handle 18 is given such shape that it may extend downward beyond the bell-mouth 10 within convenient reach of the operator's hand, not interfering with any of the operative parts of the machine or the standard or clip.

A cam C is secured upon the spindle 17 at a point above the bell-mouth. This cam, as shown in Fig. 3, consists of a hook-shaped body 19 and a hub 20, the hub being provided with a polygonal opening to receive the spindle, and the hub is secured to the spindle by a set-screw, a key, or a like device. The hook-body 19 of the cam has a slot 21, which divides the hook-body practically into two parts, giving it an essentially twin construction.

The cam is adapted to act upon an extracting-lever D. The main portion of this lever is flat, so that it may enter the slot 21 between the members of the cam and move freely therein. The lever D is curved in direction of the cam both at its upper and its lower ends, and at the upper end of the said lever a head 22 is formed, which extends beyond the flat sides of the lever, forming shoulders 23, which are more or less inclined, as shown in Fig. 1, and against these shoulders the outer edges of the contracted portions of the cam 19 are adapted to have bearing. The lower end of the lever D is curved in an upward direction, forming a spur or a foot 24 of such size and shape that it may enter the staple or the loop 16 of the seal, as shown in Figs. 1 and 2.

A pivot-pin 25 is employed to fulcrum the lever in the cam, and this pin passes through an opening 26, made in the lower body portion of the cam, the said opening being eccentrically placed, and the aforesaid pin is also passed through an opening 27, produced in the lever at a point between its ends, preferably nearer the head than the foot of the lever.

A spring 28 is attached to the head portion of the lever D and to the standard A at a point above the spindle 17. This spring normally serves to draw the upper end of the lever in an outward direction, or in a direction

that will carry the foot end away from and maintain it normally inside of a vertical center line drawn through the bell-mouth and consequently out of the way of the seal when the bottle is introduced into said mouth, and the spring 28 furthermore serves to hold the cam C in an upper position. (Shown substantially in positive lines in Fig. 1.)

In operation the handle 18 is carried outward, and therefore the cam is rocked in a downward direction, and the outer edges of its hook-like extremities will engage with the inclined shoulders 23 on the lever and will force the said lever downward, the lever and cam traveling together. At the same time that the lever is forced downward it will also be raised at its foot end. At the first movement of the handle 18 the lever will have entered the loop or bail 16 of the seal, as shown in positive lines in Fig. 1, and as the handle is carried farther outward the lever will have raised the seal from the mouth of the bottle, as shown in dotted lines in the same figure. Upon releasing the handle 18 the spring 28 automatically restores the cam and extracting-lever to their normal positions.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a cork or seal extractor, a cam, and an extracting-lever fulcrumed between its ends upon the said cam and having one end adapted for engagement with a seal or stopper, the said cam when operated engaging with the said lever to move the same in a direction to effect the extraction of a cork or seal, as and for the purpose specified.

2. In a cork or seal extractor, a cam, a device for operating the cam, and an extracting-

lever fulcrumed upon the cam and provided at one end with contacting surfaces for the cam, whereby as the cam is brought to an engagement with the contacting surfaces of the lever the opposite end of the lever will be elevated, as and for the purpose specified.

3. In an extractor for seals and stoppers, a cam, a spindle upon which the said cam is mounted, a device for operating the spindle, a lever fulcrumed upon the said cam and provided with an offset at one end for engagement with the cam, and a foot at the opposite end for engagement with the seal or stopper, and a tension device connected with the offset end of the lever and acting to normally hold the foot of the lever out of position for engagement with the stopper or seal, as and for the purpose set forth.

4. In an extractor for seals and stoppers, the combination, with a standard having a mouth to receive the neck of a bottle, a spindle journaled in the said standard, and means for operating the spindle, of a cam secured on the said spindle, having a portion of its body bifurcated, a lever fulcrumed in the space between the members of the cam and provided near one end with offsets at its sides for engagement with the outer edges of the cam members; the opposite end of the said lever being formed to enter the staple or loop of a seal, and a spring attached to the offset end of the said lever and to a fixed support, having a tendency to carry the extracting end of the lever to one side of the center of the aforesaid mouth, as and for the purpose specified.

CHARLES F. SCHIELD.

Witnesses:

H. S. HAMME,
N. UHLEMAN.