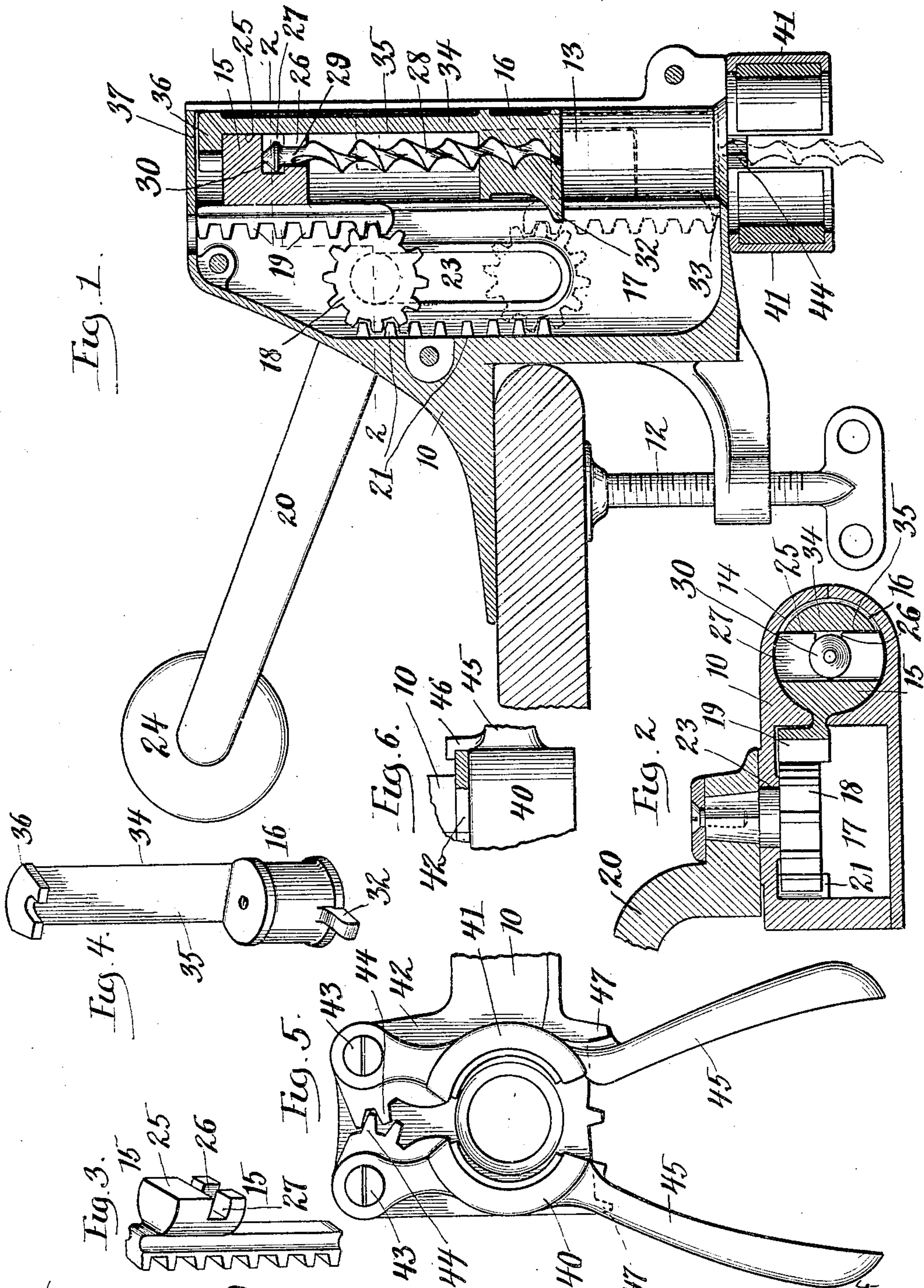


No. 814,641.

PATENTED MAR. 6, 1906.

J. COOMBER.
CORK EXTRACTOR.

APPLICATION FILED JAN. 28, 1903.



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UNITED STATES PATENT OFFICE.

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CORK-EXTRACTOR.

No. 814,641.

Specification of Letters Patent.

Patented March 6, 1906.

Application filed January 28, 1903. Serial No. 140,822.

To all whom it may concern:

Be it known that I, JAMES COOMBER, a resident of the city of New York, in the county and State of New York, have invented certain new and useful Improvements in Cork-Extractors, of which the following is a full, clear, and exact description.

The present invention relates to devices for drawing corks from bottles and the like, and more particularly to that class of cork-extractors in which an operating-lever is employed to impart a gyratory and longitudinal shift to the corkscrew.

It is now common practice and has heretofore been proposed to employ interlocking mechanism to insure the proper relative longitudinal movement of the screw-carrier and the nut or part for imparting rotation to the screw to cause a unison longitudinal movement of carrier and nut while the cork is being drawn and to insure independent longitudinal movement of the carrier while the screw is penetrating the cork and the cork is being stripped from the screw.

One object of the present invention is to provide an improved construction in which the necessity of employing interlocking mechanism is avoided and in which the proper relative movement of the carrier and nut is insured.

The invention further designs to improve the construction and operation of cork-extractors and to provide a device which is efficient in operation and simple in construction, so it can be produced at a low cost.

The invention consists in the several novel features hereinafter described and more particularly defined by claims at the conclusion hereof.

In the drawings, Figure 1 is a view in central vertical longitudinal section of a cork-extractor embodying the preferred form of the invention. Fig. 2 is a view in horizontal section, taken on line 2 2 of Fig. 1. Fig. 3 is a perspective of the screw-carrier. Fig. 4 is a perspective of the non-revoluble nut. Fig. 5 is an inverted plan. Fig. 6 is a detail view of one of the guide-hooks of the bottle-holder jaws.

A frame or casing 10 sustains the several parts of the operating mechanism and is usually formed of sections secured and fitting together. The frame may be provided with a clamp 12, whereby the frame can be secured to a table, counter, or shelf.

A vertical guide or socket 14 is formed in the casing, and therein a screw-carrier 15 and a non-revoluble nut 16 are guided. A recess 17 is formed in the frame, in which is mounted a pinion 18, which is secured to travel with an operating-lever 20 and which engages the teeth of a rack-bar 19, integrally formed with the screw-carrier. Pinion 18 also engages the teeth of a stationary rack 21, integrally formed with the frame. The stud of pinion 18 is secured to lever 20 and extends through and is free to travel vertically in an elongated slot 23, formed in one of the side walls of frame 10. The pinion and operating-lever are normally positioned as shown in Fig. 1. A handle 24 is secured to the distal terminal of the operating-lever.

Carrier 15 is longitudinally movable and is provided with a flat bearing-surface 25, a slot or recess 26, wherein is journaled the shank 29 of a corkscrew 28, and a transverse slot or recess 27, adapted to receive head 30 of screw 28. Head 30 fits within slot 27 and causes the screw to move longitudinally therewith. Shank 27 fits loosely in slot 26, so a slight independent play of the carrier is permitted. Nut 16 is formed with a suitable way or groove, wherethrough the corkscrew passes and which causes the corkscrew to rotate when the nut and corkscrew are independently shifted. Nut 16 has integrally formed therewith a stop 32, adapted to engage the frame, as at 33, which forms an abutment for limiting the downward movement of the nut. The lower portion of the nut is preferably of contour corresponding to socket 14, and the nut is provided with an integral upwardly-extending strip 34, having a surface 35, adapted to be engaged by surface 25 of the carrier. The nut is also formed with a lug 36, adapted to engage the top wall of the frame, as at 37, to limit the upward movement of the nut and adapted to be engaged on its under side by the carrier when the carrier is in its normal position and to secure the nut against independent downward movement.

The friction-surfaces on the nut extension and carrier, respectively, provide friction means, causing the carrier and nut to travel in unison vertically, except when either of these parts is restricted by positive stop. Recess 26 permits a slight fore-and-aft play of the carrier and avoids lateral strain against the corkscrew. The longitudinal travel of

the corkscrew and nut is sufficient to withdraw a cork from a bottle and strip the cork from screw during the continuous travel of the corkscrew in one direction.

5 The operation of the mechanism for withdrawing a cork and stripping the cork from the screw will be as follows: Assuming the mechanism to be in normal position (shown in Fig. 1) and a bottle to be held beneath the
10 frame, the operator will shift lever 20 forwardly and downwardly and impart a cycloidal movement to pinion 18, which will shift the carrier in downward direction. The pinion during the initial part of its rotary
15 and downward travel will tend to force the carrier forwardly and cause surface 25 thereof to impinge against friction-surface 35 of the nut, and cause the carrier and nut to be held in firm frictional engagement with each
20 other to insure the unison longitudinal travel of the corkscrew, carrier, and nut. The alinement of the screw will not be disturbed, because it is loosely held in recess 26 of the carrier. The screw will be held against trans-
25 verse movement in recess 26 and will be vertically alined by the nut. The unison downward movement of the nut and carrier will continue until stop 32 encounters abutment 33 and is thereby positively secured against
30 further downward movement. During the further downward movement of the carrier friction-surface 25 will slip over or ride along friction-surface 35 of the nut. During the latter part of the downward travel of the car-
35 rier the screw will gyrate and penetrate the cork. The mechanism will then be in position indicated by dotted lines of Fig. 1. Reverse shift of the operating-lever will again cause the respective friction-surfaces of the
40 carrier and nut to engage each other and effect a unison upward shift of the corkscrew and nut during the initial upward movement of the carrier until stop 36 engages abutment 38. During such unison movement of said
45 parts the cork will be drawn from the bottle. Frictional engagement of the carrier and nut insures such unison shift. After the nut is positively held against upward movement the independent shift of the carrier will effect
50 reverse gyration of the corkscrew and strip the cork from the corkscrew, so the cork will be free to gravitate from the frame or casing. While the cork is being stripped from the screw, the carrier will slip along the nut, and
55 after the carrier has been restored to normal position stop 36 will rest against the upper edge of the carrier and prevent gravitation of the nut, thus securing the parts in proper relative position for commencement of suc-
60 ceeding operation.

The present invention provides a cork-extractor which is very simple in construction, which can be produced at a low cost, and in which the proper relative movements of the
65 non-revoluble part for effecting rotation of

the screw and the carrier are insured. Interlocking mechanism such as is now commonly employed is dispensed with. An objection to the employment of interlocking mechanism is that if the operating-lever was not
70 shifted a full stroke proper operation of the interlocking mechanism was not effected failure of the proper coaction of the mechanisms during the succeeding shift of the operating-lever results. Such objection is entirely
75 overcome in the present invention, since the carrier and nut will always be brought into frictional engagement, even though the operating-lever is not moved to the full end of its stroke. An advantage in employing the par-
80 ticular construction of carrier and permitting a slight play of the corkscrew in the carrier is that alinement of the corkscrew is not disturbed, and, furthermore, excessive friction between the corkscrew and carrier is avoided. 85
By forming open recesses 26 and 29 in the carrier the corkscrew-shank can be inserted laterally into the carrier, and extension 34, fitting against the open sides of said recesses, retains the corkscrew in the carrier. 90

In Letters Patent of the United States No. 678,773, granted to me July 16, 1901, there is shown and described a device for holding bottles, and the present invention designs to improve the construction shown in such pat-
95 ent. The improved device for holding bottles comprises the jaws 40 and 41, each of which is secured to a horizontal projecting lug 42 of frame 10 by a fixed pivot 43, and each of which is provided with a series of teeth
100 44 intermeshing with each other. The central portion of each jaw is curved to fit around the neck of a bottle and provided with an elastic strip 44. A handle 45 is integrally formed with each of the members and the
105 outward movement of each jaw is restricted by a lug 47, integrally formed with frame 10. Each jaw is formed with a hook 45.

The invention is not to be understood as restricted to the particular construction
110 shown and described, but may be varied by the skilled mechanic without departing from the spirit of the invention.

Having thus described my invention, what I claim as new, and desire to secure by Let-
115 ters Patent, is—

1. The combination with a frame of a longitudinally-movable carrier, a corkscrew journaled in said carrier, a nut for rotating said corkscrew having a limited longitudinal
120 movement, a part rigidly secured to and traveling longitudinally with said nut and having a projecting abutment at its upper end in engagement with the carrier when the carrier is in its normal position, to determine the
125 relative position of the carrier and nut during a part of the travel of the corkscrew in one direction.

2. The combination with a frame, of a longitudinally-movable carrier, a corkscrew
130

5 journaled in said carrier, a nut for rotating
said corkscrew and through which said cork-
screw is extended and having a limited longi-
tudinal movement, friction-surfaces longitu-
dinally movable with the carrier and nut re-
spectively and engaging each other to cause
unison travel of the nut and carrier, said
corkscrew being loosely mounted at its bear-
ing in the carrier so that when said surfaces
10 are forced into friction engagement, the cork-
screw remains in accurate alinement, and an
operating-lever.

15 3. The combination with a frame, of a lon-
gitudinally - movable carrier, a corkscrew
journaled in said carrier, a nut for rotating
said corkscrew and through which said cork-
screw is extended and having a limited longi-
tudinal movement, a part secured to travel
with the nut having an extended friction-sur-
20 face, a friction-surface movement with the
carrier, said surfaces being held in engage-

ment with each other to cause unison longi-
tudinal movement of the nut and carrier, said
corkscrew being loosely mounted at its bear-
ing in the carrier so that when said surfaces 25
are forced into frictional engagement the
corkscrew will remain in accurate alinement.

4. In a cork-puller, the combination with
a frame, of a longitudinally-movable carrier 30
guided by said frame, a corkscrew journaled
in said carrier and having a head at its upper
end, said carrier having an open recess
through which the head can be inserted later-
ally into the journal of the carrier, a part
movable with said nut, extended adjacent 35
said recess to retain the corkscrew in the
carrier and an operating-lever for imparting
movement to the carrier.

JAMES COOMBER.

In presence of—

HEPPOLYTO A. GENE,
WILLIAM WEIL.