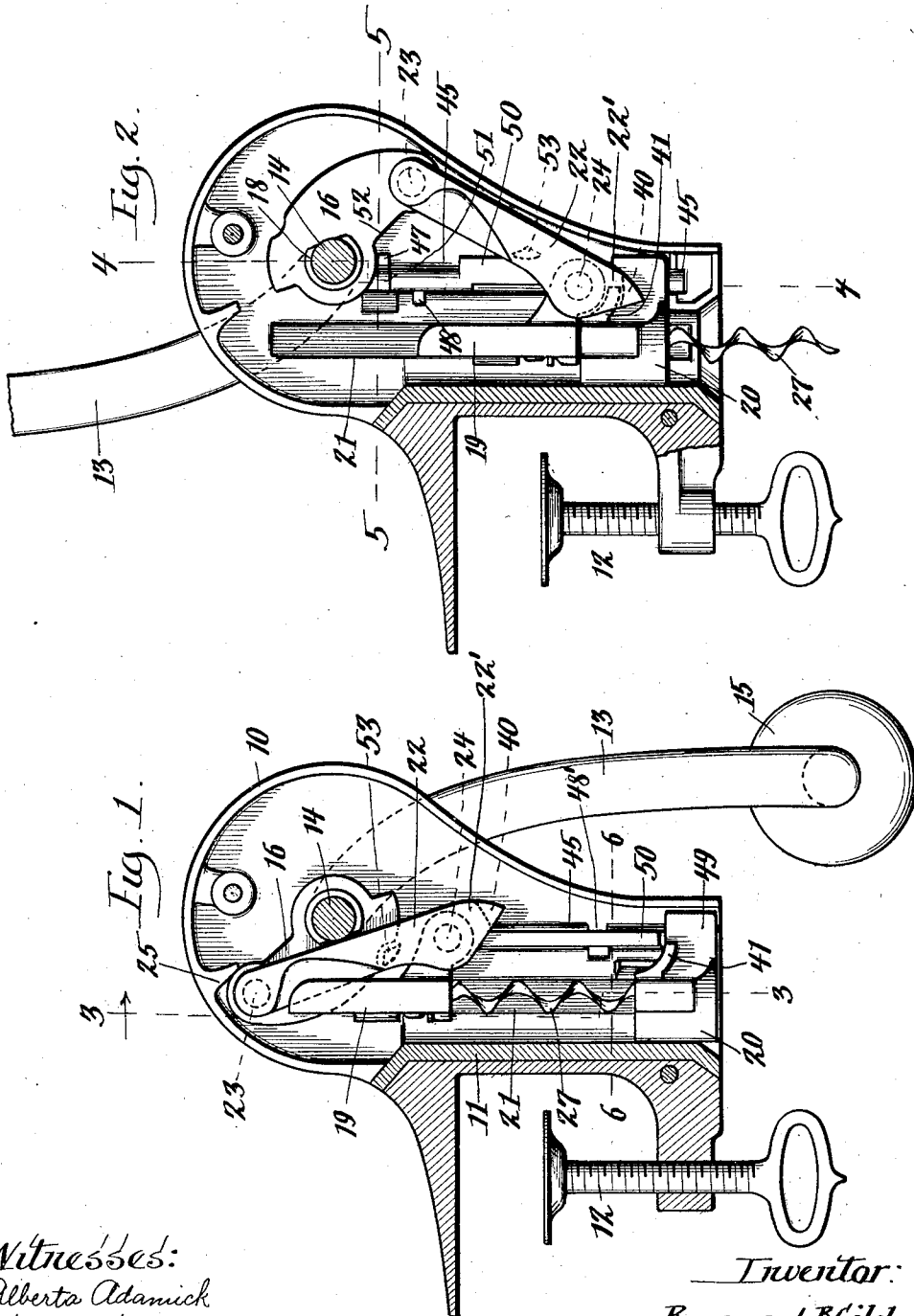


R. B. GILCHRIST.
CORK PULLER.
APPLICATION FILED MAY 9, 1904.

1,058,361.

Patented Apr. 8, 1913.

2 SHEETS—SHEET 1.



Witnesses:
Alberta Adamick
Harry L. Clapp

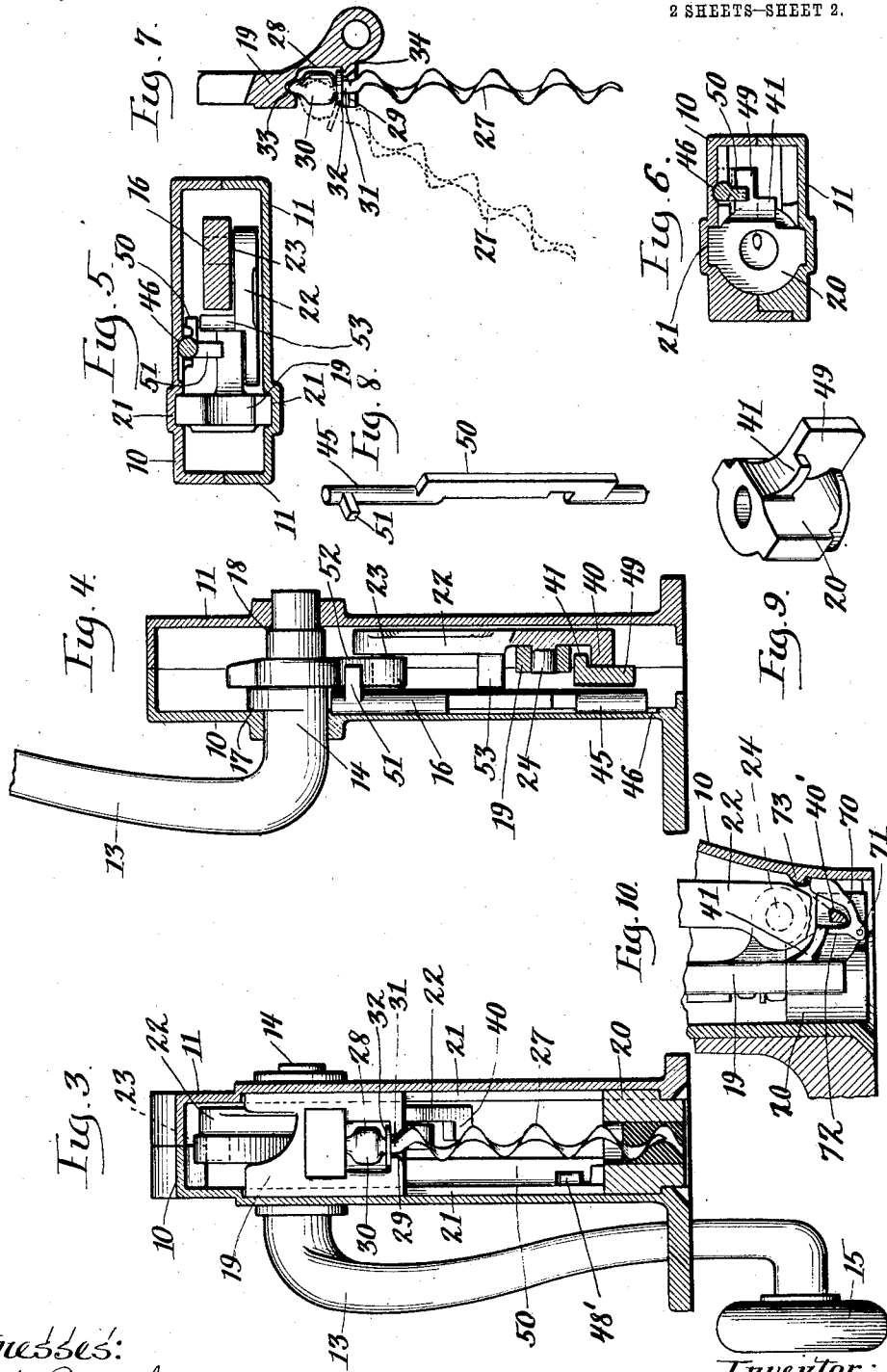
Inventor:
Raymond B. Gilchrist
By Fred Gerlach
his Attorney

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UNITED STATES PATENT OFFICE.

RAYMOND B. GILCHRIST, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE GILCHRIST COMPANY, OF NEWARK, NEW JERSEY, A NEW JERSEY CORPORATION.

CORK-PULLER.

1,058,361.

Specification of Letters Patent.

Patented Apr. 8, 1913.

Application filed May 9, 1904. Serial No. 206,985.

To all whom it may concern:

Be it known that I, RAYMOND B. GILCHRIST, residing at Newark, in the county of Essex and State of New Jersey, have

invented certain new and useful Improvements in Cork-Pullers, of which the following is a full, clear, and exact description.

The invention relates to cork-pullers and aims to provide, an improved simple construction which is efficient in operation and which can be produced at a low cost.

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

In the drawings: Figure 1 is a view in side elevation of a cork-puller embodying one form of the invention, parts of the frame or casing being shown in section to disclose the operating mechanism, which is shown in normal position. Fig. 2 is a similar view, the operating mechanism being shown in a position assumed when the corkscrew has penetrated a cork and the latter is being drawn. Fig. 3 is a vertical section on line 3—3 of Fig. 1. Fig. 4 is a section taken on line 4—4 of Fig. 2. Fig. 5 is a section on line 5—5 of Fig. 2. Fig. 6 is a section on line 6—6 of Fig. 1. Fig. 7 is a detail sectional view of the cork-screw and the carrier. Fig. 8 is a perspective of the nut-lock. Fig. 9 is a perspective of the nut. Fig. 10 is a detail view showing the preferred form of nut-lock.

The operating mechanism is sustained by a frame or casing of suitable construction, usually formed of sections 10 and 11, fitted together so the operating parts will be sustained thereby in proper relation. The frame may be provided with a clamp 12 whereby the cork puller can be secured to a fixed support, such as a table or counter.

An operating lever 13, is provided with an integrally formed shaft 14 journaled in bearings formed in the frame-sides and a crank 16 and has its free end provided with a handle 15. Said shaft and lever are confined against end-play by shoulders 17 and 18 which fit between the frame-sides. Lever 13 is normally positioned at the front and extends normally downwardly, so it will not interfere with the use of that portion of the table or counter adjacent the frame.

A cork-screw carrier 19 and a nut 20 are longitudinally movable in the frame and are

guided in ways or grooves, 21 formed in the frame sides. An operating link 22 has an integral laterally projecting stud 23 which is pivotally connected with crank 16, and an integral laterally projecting stud 24 pivotally connected with carrier 19. Crank 16 is arranged so as to swing up and down to operate the carrier in both directions by continuous movement of the lever in one direction. A stop 25 is engaged by crank 16, when lever 13 is in normal position, to limit movement of the lever in one direction.

A cork-screw 27 has its upper end journaled in the carrier 19 and extends through a correspondingly shaped channel in nut 20. A pocket 28 and an open recess 29 are formed in carrier 19 and therein are respectively held a head 30 and a shank 31 of the cork-screw. A ring or washer 32 encircles the cork-screw shank, between head 30 and the lower edge of pocket 28, and forms a bearing-surface for the head when the carrier is shifted in upward direction. The upper end of the cork-screw is tapered or reduced to enter a seat 33 in the carrier, against which said end bears when the carrier is shifted to drive the cork-screw downwardly. Head 30 fits loosely between its bearing-surfaces 32, and 33, and can be placed in operative position in the carrier by first inserting the tapered end into seat 33 with the corkscrew in angular position shown in dotted lines Fig. 7 and then moving the corkscrew so washer 32 will overlies the lower portion 34 of the carrier, and so shank 31 will be held in recess 29. Manifestly the corkscrew can be quickly and readily placed in position in the carrier and can be readily replaced if broken.

During operation of the corkscrew to draw a cork, nut 20 which is non-revolubly held in the frame, is caused to travel in unison with the carrier and corkscrew, to secure the corkscrew against reverse gyration. To insure this unison movement during the drawing operation, operating link 22 is provided at its lower end with an integral latch-arm 22' having a laterally projecting lug 40 arranged to pass beneath an oppositely projecting lug 41 of nut 20 and thereby the nut is shifted longitudinally with the operating link and corkscrew during the shift of the corkscrew to draw a cork and during descent thereof to lower the cork into position for stripping. Lug

40 swings about stud 24 during the operation of the link 22 by crank 16. During shift of lever 13 in one direction, crank stud 23 will pass across the "dead center" or neutral point of shaft 14 and studs 23, 24, and approximately at that time, lug 40 will be swung under lug 41 of the nut, so that during the succeeding upward shift of the carrier by the operating link (see Fig. 2) said lug will cause combined upward movement of the nut and carrier. During reverse shift of lever 13, when nut 20 reaches its lowermost position, operating link 22 will be swung to free lug 40 from the nut, so the corkscrew during the next succeeding upward shift, will be rotated and drawn out of the cork. It will thus be seen that lug 40 serves as locking means between the carrier and the nut, that arm 22' serves as a connection between the link and said locking lug, which causes the link to operate the lug into and out of position to engage the nut.

An important resultant advantage of the mechanism thus far described, is that the operating link which imparts movement to the corkscrew-carrier also effects unison movement of the nut and carrier, without employment of a separate interlocking element between the carrier and the nut and controlling means for operating the interlocking element. Oscillatory movement of the carrier-shifting-link, imparted thereto by the operating crank is utilized to cause unison movement of the corkscrew and nut.

A lock for securing the nut against longitudinal movement with the corkscrew, when a drawn cork has been lowered and the corkscrew is to be withdrawn from the cork, consists of a bolt 45 seated in a recess 46 in one side of the frame and held by lugs 47, 48 and 48' so it can be swung laterally. Nut 20 is formed with an integral extension 49. An elongated abutment 50 of bolt 45 is arranged to be swung into position to lock the nut (see Fig. 6), against longitudinal movement, and also into position adjacent the frame side (see Fig. 5) to free the nut for longitudinal movement. An arm or lug 51 on bolt 45 is arranged to be shifted by edge 52 of crank 16 during the reverse movement of crank 16, to swing abutment 50 into the path of movement of nut 20. A lug 53 on operating link 22 is arranged to shift, abutment 50 during the initial downward movement of the carrier, and swing said abutment out of the path of, and release the nut. The upper end of bolt 45 is held in its seat by the hub of crank 16 and its lower end is held by nut-extension 49. The side of nut-extension 49 engages the side of abutment 50 during travel of the nut, to secure the bolt against pivotal movement at that time.

The operation will be as follows: Assum-

ing, the mechanism to be in normal position shown in Fig. 1, with a corked bottle held beneath the frame by hand or otherwise, the operator should swing lever 13 upwardly and backwardly, which will cause crank 16 to reciprocate the carrier and the corkscrew. During downward movement of the corkscrew it will gyrate into the cork. While the carrier is approaching its lowermost position, lug 53 on link 22 engages abutment 50 of the lock and swings said abutment to release the nut. Approximately as crank-stud 23 crosses the dead center, lugs 40 and 41, of link 22 and the nut respectively, will interlock, so that during the succeeding upward shift of link 22 by crank 16, said link will positively shift the carrier and the nut in unison (see Fig. 2) thus securing the corkscrew against reverse gyration, which would cause the corkscrew to be withdrawn from the cork. When lever 13 reaches the limit of its backward movement, the cork will have been drawn out of the bottle. Lever 13 is next shifted in reverse direction and during the initial part of said shift, crank 16 will shift the corkscrew carrier and nut downwardly to lower the cork. When the crank is near the dead center, link 22 will be swung to disengage lugs 40, and 41, and edge 52 of crank 16 will shift arm 51 to move abutment 50 into position to secure the nut against upward movement. During the latter part of the reverse shift of lever 13, the corkscrew and carrier will be moved upwardly, by link 22 while nut 20 is secured in its lowermost position, and during such operation the cork will be stripped from the screw.

In Fig. 10, there is shown another form of nut-lock, which consists of a dog 70 pivoted at 71 to the nut. Said dog is adapted to pass beneath a lug 73 on the case to secure the nut against upward longitudinal movement, and is provided with an arm or abutment 72, arranged to be engaged by a lug 40' of operating-link 22 to release the dog, so the nut will be free to move upwardly, during the withdrawal of the cork. In this form of the invention the operating-link during its initial downward stroke passes into position seen in Fig. 10, and as the operating-link is moved across the dead center, lug 40' will swing dog 70 about its pivot, so it will be free to move vertically, and said lug will also interlock with lug 41 of the nut. During the succeeding upward stroke, the nut and corkscrew will travel in unison and the dog will be held away from lug 73. As the operating link is crossing the dead center during the return stroke of lever 13, lug 40' will engage the dog, and shift the dog into, position to engage lug 73 and thus lock the nut in its lowered position, and lug 40' will also pass out of engagement with lug 41, so that dur-

ing the succeeding upward shift of the operating-link the nut will be secured in its lowered position to strip the cork from the corkscrew while the carrier is being independently operated to shift the corkscrew. In this construction it will be observed, the operating-link is utilized to operate the nut-lock and to operate the nut in unison with the corkscrew during a part of the travel of the corkscrew.

It will be observed that the operating link is connected to the carrier at one side of and near the lower end of the carrier and that the carrier is cut away or formed so the upper part of the link can be swung across a line extended through the axis of the corkscrew. This construction and arrangement are important because it makes possible a compact construction, so the size of the machine can be materially reduced. Furthermore, by reason of such construction it becomes possible to use a link which is connected at one side of and near the lower end of the carrier, without having the lever swing entirely at one side of the cork-screw or carrier to clear such parts, which arrangement is objectionable because the power is not advantageously applied to the carrier, and results in objectionable lateral strains as the lever swings through its operative arc.

Manifestly, the details of construction set forth may be modified within the scope of the appended claims without departing from the spirit and scope of the invention.

Having thus described the invention what I claim as new and desire to secure by Letters Patent is:

1. In a cork-puller, the combination of a frame, a longitudinally movable carrier, a cork-screw journaled in said carrier, a longitudinally movable nut, an operating lever supported by the frame, a link connected to the lever and pivoted to the carrier for imparting movement to the carrier, means for swinging the link laterally about its pivot point on the carrier, means mounted to travel longitudinally with the carrier for locking the nut and carrier together, and a connection between said link and said locking-means which will cause the link to operate the locking-means into position to engage the nut when the link is operated laterally in one direction.

2. In a cork-puller, the combination of a frame, a longitudinally movable carrier, a cork-screw journaled in said carrier, a longitudinally movable nut, an operating lever supported by the frame, a link pivoted to the lever and carrier respectively for imparting movement to the carrier, means for swinging the link laterally about its pivot point on the carrier, a latch pivoted to the carrier for locking the nut and carrier together, and a connection between said link and said latch which will cause the link to

operate the latch laterally from one of its alternative positions to the other.

3. In a cork-puller, the combination of a frame, a longitudinally movable carrier, a cork-screw journaled in said carrier, a longitudinally movable nut, an operating-lever supported by the frame, a link pivoted to the carrier and pivotally connected to the operating-lever for shifting the carrier, an arm on said lever for swinging the link laterally about its pivot point on the carrier, and a latch rigidly secured to the link, and means whereby movement of the link shifts the latch into and out of engagement with the nut.

4. In a cork-puller, the combination of a frame, a longitudinally movable carrier, a cork-screw journaled in the carrier, a longitudinally movable nut, a link connected to the lever and pivoted to the carrier and whereby movement will be imparted to the carrier, means for swinging the link laterally about its pivotal connection to the carrier, and a latch on the link for locking the carrier and nut together, and extending below the pivot between the link and carrier so that the latch will be shifted into and out of position to engage the nut when the link is operated laterally.

5. In a cork-puller, a frame, a carrier and a nut both mounted to move longitudinally therein, a cork-screw journaled in the carrier and arranged to be moved longitudinally through the nut, a link pivoted to the carrier whereby movement will be imparted to the carrier, means whereby during such movement the link will be swung from side to side on its pivot to the carrier, and a latch pivoted on the carrier and adapted to engage the nut, said latch being connected to the link, whereby as the link is swung from side to side the latch will be shifted into and out of engagement with the nut.

6. In a cork-puller, the combination of a frame, a carrier longitudinally movable in the frame, a cork-screw journaled in the carrier, a nut, an operating link having one of its ends pivoted to the carrier at one side of, and near the lower end of the carrier, an operating-lever pivotally sustained by the frame, and a pivotal connection between the lever and the other end of the link, said connection being operated by the lever to operate the link back and forth as the lever is swung in one direction, said carrier and link being formed to permit the link to be swung to reciprocate the carrier by movement of said connection in one direction, one of said parts (carrier and link) being recessed or cut away for the other, to permit such movement.

7. In a cork-puller, the combination of a frame, a carrier longitudinally movable in the frame, a cork-screw journaled in the carrier, a nut, an operating link having one

of its ends pivoted to the carrier at one side
of, and near the lower end of the carrier, an
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frame, and a pivotal connection between the
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nection being operated by the lever to op-
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swung in one direction, said carrier being

cut away to permit the link to be swung to
reciprocate the carrier by movement of said 10
connection in one direction.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
