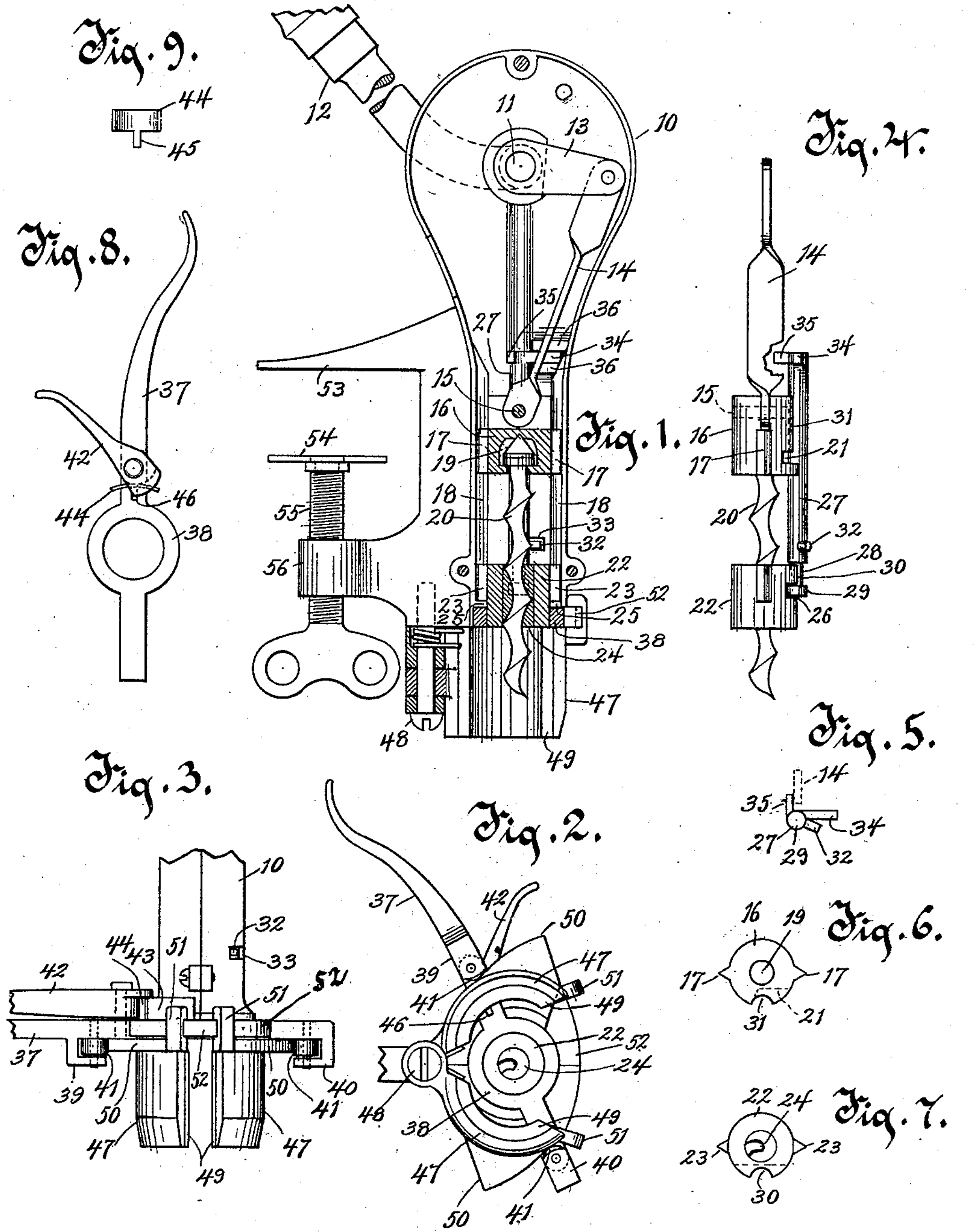
No. 676,205. Patented June 11, 1901.

J. ROGGINGER.

CORK EXTRACTOR.

(Application filed Sept. 13, 1900.)

(No Model.)



Witnesses.

Inventor.

John Rogginger

By Benedict and Morsell

Attorneys.

UNITED STATES PATENT OFFICE.

JOHN ROGGINGER, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO JOHN CALLAHAN, OF SAME PLACE.

CORK-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 676,205, dated June 11, 1901.

Application filed September 13, 1900. Serial No. 29,912. (No model.)

To all whom it may concern:

Be it known that I, JOHN ROGGINGER, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Cork-Extractors, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention has relation to improvements in cork-extractors.

One of the objects had in view is to provide improved mechanism for withdrawing the cork from the bottle and subsequently expelling the cork or reinserting the same into the bottle, as may be desired.

A further object is to provide improved means for clamping the neck of the bottle, so that the operator may entirely remove his hands from the bottle.

With the above primary and other incidental objects in view the invention consists of the devices and parts or their equivalents, as hereinafter set forth.

In the accompanying drawings, Figure 1 is a side elevation of the casing with one side removed and certain of the interior parts in section. Fig. 2 is an under view of the bottle-clamping mechanism. Fig. 3 is a view at right angles to Fig. 1 of the lower portion of the device, showing the bottle-clamping jaws partly closed. Fig. 4 is a detail view of the cork-pulling mechanism removed from the casing, the view being at right angles to Fig. 1. Fig. 5 is an end view of the slidable rod. Fig. 6 is an under view of the upper slidable block. Fig. 7 is an under view of the slidable nut. Fig. 8 is a detail plan view of the lever and the locking-dog, and Fig. 9 is a detail of the gripping-plate.

Referring to the drawings, the numeral 10 indicates a casing of the ordinary form of construction employed in this class of devices. Journaled in the upper portion of the side pieces of this casing is a shaft 11, the outer end of said shaft, exterior of the casing, being formed or provided with an operating-handle 12. Within the casing the shaft has extending therefrom a crank 13, and to this crank is pivotally connected the upper end of a link 14. The lower end of this link is pivotally connected at the point 15 to an upper slidable block 16. This slidable block is provided with laterally-extending wings 17 17, which rest on and are adapted to slide upon guideways or rails 18 18. The block is provided with a chamber or cut-out portion 19, in which the upper conical end of a screw 20 loosely fits and depends therefrom. On its inner side and near its lower end the block is provided with a notch 21.

The numeral 22 indicates a lower slidable portion forming a nut, and this slidable portion or nut is also provided with laterally-extending wings 23 23, said wings resting on and adapted to slide upon the guideways or rails 18. The screw 20 engages the central screw-threaded opening of this nut. For convenience in construction the threaded opening which the screw engages is in a separate piece 24, fitted tightly in a central opening in the part 22, as clearly shown in the drawings. The movement of the nut downwardly is limited by contact of the wings 23 with shoulders 25 25, formed in the interior of the casing. Upon its inner side the nut is provided with a notch 26.

Located back of the block 16 and the slidable portion 22 is a rod 27. This rod is provided at its lower end with a reduced portion 28, forming a lower headed extremity 29. The headed extremity 29 is adapted to engage with the notch 26 on the part 22, and the reduced portion 28 fits in a recess 30 in the part 22, said recess extending upwardly from the notch 26. The block 16 is also formed on its rear side with a recess 31, in which the rod fits. Just above the reduced portion 28 the rod 27 is provided with a projecting pin 32, which pin is adapted normally to fit in an opening 33 in one of the side pieces of the casing. At its upper end the rod 27 is provided with two projecting fingers 34 and 35, the former finger being somewhat longer than the latter. The long finger 34 is adapted normally to lie between two shoulders 36 36, formed in one of the side pieces of the casing.

Referring now to the bottle-clamping mechanism, the numeral 37 indicates a lever for operating the clamping-jaws. This lever is provided between its ends with a ring 38, said ring fitting loosely around the lower end of

the nut 22, the nut therefore forming a pivot upon which the lever can turn. The lever is also provided on its under side with two angular arms 39 and 40, the arm 39 being located at an intermediate portion of the lever and the arm 40 at one end of said lever. Between the horizontal portions of these arms and the under side of the lever are journaled antifriction-rollers 41 41. Pivoted to the upper side of the lever is a clamping-dog 42, and between the inner cammed end of this dog and wedge-surface 43, formed at the lower end of one of the side pieces of the casing, is a clamping-plate 44, against which the dog acts. This plate is provided with a depending stem 45, which fits in an elongated slot 46 in the lever. By this connection the plate is carried with the lever when the lever is turned, and the plate also is allowed a slight movement in the direction of the length of the lever in order to permit of its being forced by the dog into frictional contact with the wedge-surface 43.

The numerals 47 47 indicate two spring-actuated clamping-jaws, which are pivoted or hinged on a pivot-bolt 48. The inner faces of these jaws are preferably lined with rubber 49 or other suitable yielding material. The jaws are provided at their upper ends with projecting cams 50 50, against which the respective antifriction-rollers 41 41 of the lever 37 bear. At the upper ends of their front edges the jaws are provided with hooks 51 51. These hooks engage with a curved rail or guide 52.

For securing the device to a counter or other fixed support I provide the usual clamping mechanism, consisting of a fixed jaw 53 and a movable jaw 54, said movable jaw carried by a screw 55, said screw engaging a threaded opening in a laterally-projecting arm 56.

In the operation of my invention the device is clamped to a counter or other support by means of the jaws 53 and 54 in an obvious manner. The neck of a bottle is now inserted between the clamping-jaws 47 47 and the lever 37 then brought forwardly. This will cause the antifriction-rollers 41 to ride on the cams 50, and thereby bring said clamping-jaws into firm engagement with the neck of the bottle. By now pressing the outer end of the dog 42 rearwardly the inner end of said dog will act against the clamping-plate 44 and cause said plate to wedge firmly against the wedge-surface 43, whereby the bottle is held securely, and the operator is enabled to remove his hand entirely from the lever 37. The provision of this dog 42, therefore, constitutes quite an improvement over existing arrangements, wherein it is necessary that the operator should keep his hands on two levers and hold said levers forwardly during the operation of extracting the cork. Heretofore this has frequently resulted in painful accidents by reason of the bursting of the bottles. The next step after the clamping of the bottle is to operate the handle 12. Fig. 1 of the drawings shows the handle in its normal position. The said handle is grasped and turned upwardly and forwardly. This movement will through the crank 13 and the link 14 cause a descent of the slidable block 16, and consequently a downward movement of the screw 20, the said screw on its down movement being caused to rotate by reason of its engagement with the nut 22, the said nut being held against movement by reason of the engagement of the wings 23 with the shoulders 25 and also by reason of the engagement of the rod 27 with said nut, the said rod 27 being held against longitudinal movement by the engagement of the pin 32 with the opening 33. The turning of the screw will of course force it into the cork of the bottle. This down movement of the screw continues until the handle 12 has completed about one-half of its movement or is brought to a substantially vertical position. The remaining portion of the movement of the handle will be in a downward direction, and this movement causes, through the crank 13, the link 14 to be swung over from the edge of the casing shown in Fig. 1 toward the opposite edge of said casing, and at the same time an up-pull on the link commences. The swinging of the link in the manner described causes said link to engage with the finger 35 of the rod 27, thereby turning said rod and throwing the pin 32 at the lower end thereof out of engagement with the opening 33 and into engagement with the notch 21 of block 16, and as said rod is in engagement at all times with the nut 22 with this up movement of the link 14 and the block 16 the nut 22 and the rod 27 are also moved upwardly. This will of course have the effect of withdrawing the cork from the bottle, the cork being fully withdrawn when the handle has been turned forwardly to its full extent. If now it is desired to expel or force the cork off the screw, the bottle is released from the bottle-clamping jaws and the handle 12 turned upwardly and rearwardly. The first turning will cause the slidable block 16, the rod 27, and the nut 22 to descend together, and as the handle again approaches toward a vertical position the link is swung over toward the position in which it is shown in Fig. 1 of the drawings, and in so swinging acts on the finger 34 of the rod 27 and causes said rod to turn, thereby bringing the said finger 34 into engagement with the space between the shoulders 36 and also throwing the pin 32 out of engagement with the notch 21 and into engagement with the opening 33, and thereby locking the rod 27. Now on the further turning of the handle rearwardly, or toward its normal position, the block 16 and the screw 20 are raised, while the nut 22 remains in its lowered position against the shoulders 25, and by the time the handle has completed its full rearward swing the screw will have unscrewed from the cork, and consequently said cork will be disengaged therefrom and permitted to fall.

If after the first-described operation is completed it is desired to reinsert the cork into the bottle instead of expelling the cork from the screw, the same operation as last described is gone through with, excepting that the bottle is left in the clamping-jaws. The result is of course that as the screw descends with the nut 22 the cork is necessarily forced into the bottle.

What I claim as my invention is—

1. In a cork-extractor, the combination of a casing, a block slidable therein, a screw rotatively suspended from the block, means for imparting reciprocal longitudinal movement to the block and consequently to the screw carried thereby, a slidable nut which the screw engages, a rod engaging the nut, said rod also provided with other engaging means, means acting on the rod so as to rock said rod alternately in opposite directions, and coöperating means on the block which the engaging means of the rod engages when, at certain periods of the operation of the machine, said rod is rocked in one direction, to thereby cause the block, nut, and rod to move together, and from which the rod is disengaged, when, at certain other periods of the operation of the machine, said rod is rocked in an opposite direction, whereby the block is adapted to move without the nut and rod.

2. In a cork-extractor, the combination of a casing, a block slidable therein, a screw rotatively suspended from the block, a slidable nut which the screw engages, a rod engaging the nut, said rod also provided with other engaging means, a shaft, means for turning said shaft, a connection between the shaft and the block, whereby when the shaft is turned the block is given a longitudinal movement, said connection also adapted to act on the rod so as to rock said rod alternately in opposite directions, and coöperating means on the block which the engaging means of the rod engages when, at certain periods of the operation of the machine, said rod is rocked in one direction, to thereby cause the block, nut, and rod to move together, and from which the rod is disengaged when, at certain other periods of the operation of the machine, said rod is rocked in the opposite direction, whereby the block is adapted to move without the nut and rod.

3. In a cork-extractor, the combination of a casing, a shaft journaled in said casing, an operating-handle extending from the shaft, a crank within the casing and extending from the shaft, a slidable block, a link connecting the slidable block to the crank, a screw rotatively suspended from the block, a slidable nut which the screw engages, a rod engaging the nut, said rod also provided with other engaging means, and also with projecting fingers which latter are adapted to be successively acted upon by the link after the handle has been operated for a certain distance, whereby the rod is rocked alternately in opposite directions, and coöperating means on the block which the engaging means of the rod engages when, at certain periods of the operation of the machine, said rod is rocked in one direction, to thereby cause the block, nut, and rod to move together, and from which the rod is disengaged when, at certain other periods of the operation of the machine, said rod is rocked in the opposite direction, whereby the block is adapted to move without the nut and rod.

4. In a cork-extractor, the combination of a casing having an opening therein, a slidable block having a notch therein, a screw rotatively suspended from the slidable block, means for imparting reciprocal longitudinal movement to the block and consequently to the screw carried thereby, a slidable nut which the screw engages, a rod engaging the nut, said rod provided with a projecting pin normally engaging the opening in the casing, and means for rocking said rod alternately in opposite directions whereby when, at certain periods of the operation of the machine, said rod is rocked in one direction its pin will engage the notch of the block, to thereby cause the block, nut, and rod to move together, and when, at other periods of the operation of the machine, said rod is turned in the opposite direction, its pin is disengaged from the notch of the block and brought into engagement with the opening in the casing, whereby the block is adapted to move without the nut and rod.

5. In a cork-extractor, the combination of a casing provided with a wedge-surface, and also provided with cork-extracting mechanism, bottle-clamping jaws pivoted to the lower end of the casing, said jaws provided with cams, a pivoted lever provided with parts adapted to act on the cams in order to close the jaws, and a dog pivoted to the lever and adapted, when turned in one direction, to act on the wedge-surface of the casing, and thereupon hold the jaws in a closed or clamping position.

6. In a cork-extractor, the combination of a casing provided with a wedge-surface, and also provided with cork-extracting mechanism, bottle-clamping jaws pivoted to the lower end of the casing, said jaws provided with cams, a pivoted lever carrying antifriction-rollers on its lower side adapted to act on the cams in order to close the jaws, and a dog pivoted to the lever and adapted, when turned in one direction, to act on the wedge-surface of the casing and thereby hold the jaws in a closed or clamping position.

7. In a cork-extractor, the combination of a casing provided with a wedge-surface, and also provided with cork-extracting mechanism, bottle-clamping jaws pivoted to the lower end of the casing, said jaws provided with cams, a pivoted lever provided with parts adapted to act on the cams in order to close the jaws, a dog pivoted to the lever, and a clamping-plate movably carried by the lever, said plate adapted to be acted upon by the

dog, when said dog is turned in one direction, and to be thereby forced against the wedge-surface of the casing, whereby the jaws are held in a closed or clamping position.

8. In a cork-extractor, the combination of a casing provided with a wedge-surface, and also provided with cork-extracting mechanism, bottle-clamping jaws pivoted to the lower end of the casing, said jaws provided with cams, a pivoted lever having an elongated slot, and also provided with parts adapted to act on the cams in order to close the jaws, a clamping-plate provided with a depending stem adapted to fit movably in the elongated slot of the lever, and a dog pivoted to the lever and adapted to act on the clamping-plate and thereby force said plate into engagement with the wedge-surface of the casing, whereby the clamping-jaws are held in closed or clamping position.

9. In a cork-extractor, the combination of a casing, a block slidable therein, a screw rotatably suspended from the block, means for imparting reciprocal longitudinal movement to the block and consequently to the screw carried thereby, a slidable nut which the screw engages, a rod engaging the nut, said rod also provided with other engaging means, means acting on the rod so as to rock said rod alternately in opposite directions, coöperating means on the block which the engaging means of the rod engages when, at certain periods of the operation of the machine, said rod is rocked in one direction, to thereby cause the block, nut, and rod to move together, and coöperating means on the casing which the engaging means of the rod engages when, at certain other periods of the operation of the machine, said rod is rocked in the opposite direction, whereby the block is adapted to move longitudinally, while the nut and rod are held against longitudinal movement.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN ROGGINGER.

Witnesses:
A. L. MORSELL,
ANNA V. FAUST.