(No Model.) 2 Sheets—Sheet 1.

J. G. MOOMY.

CORKSCREW.

No. 304,118. Patented Aug. 26, 1884.

FIG. 1.

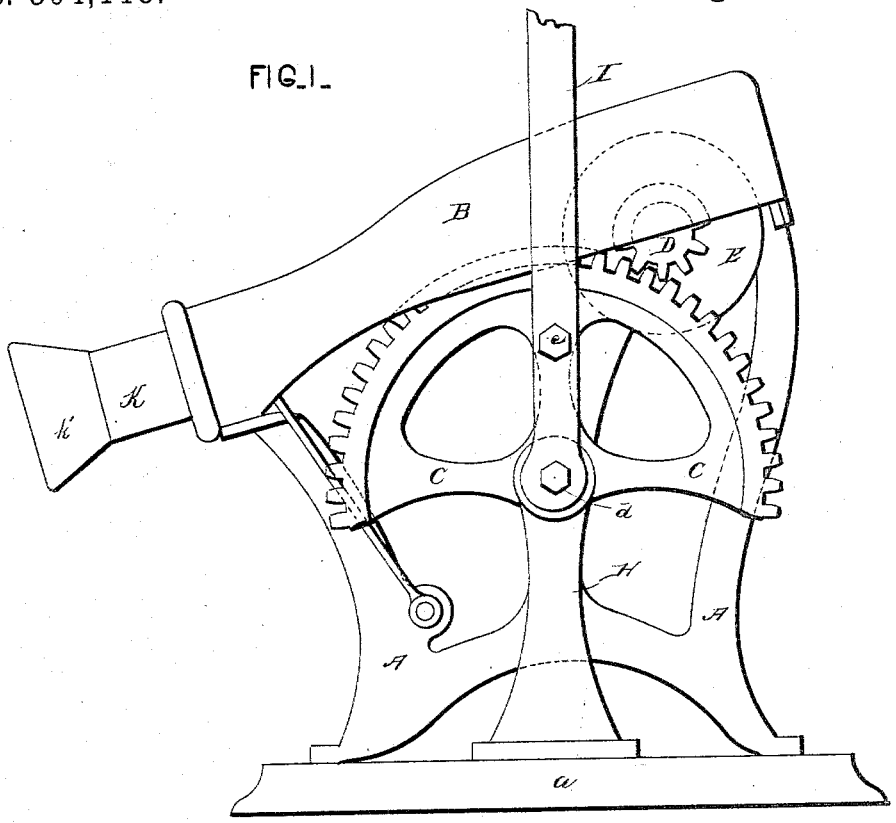
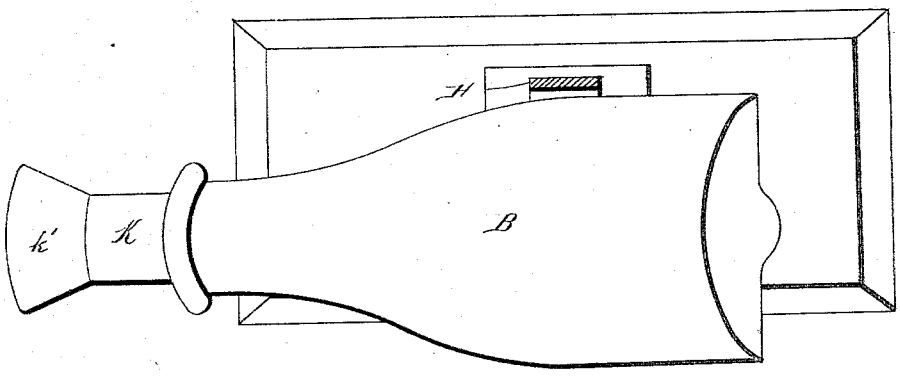


FIG. 2.



WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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FIG_3_

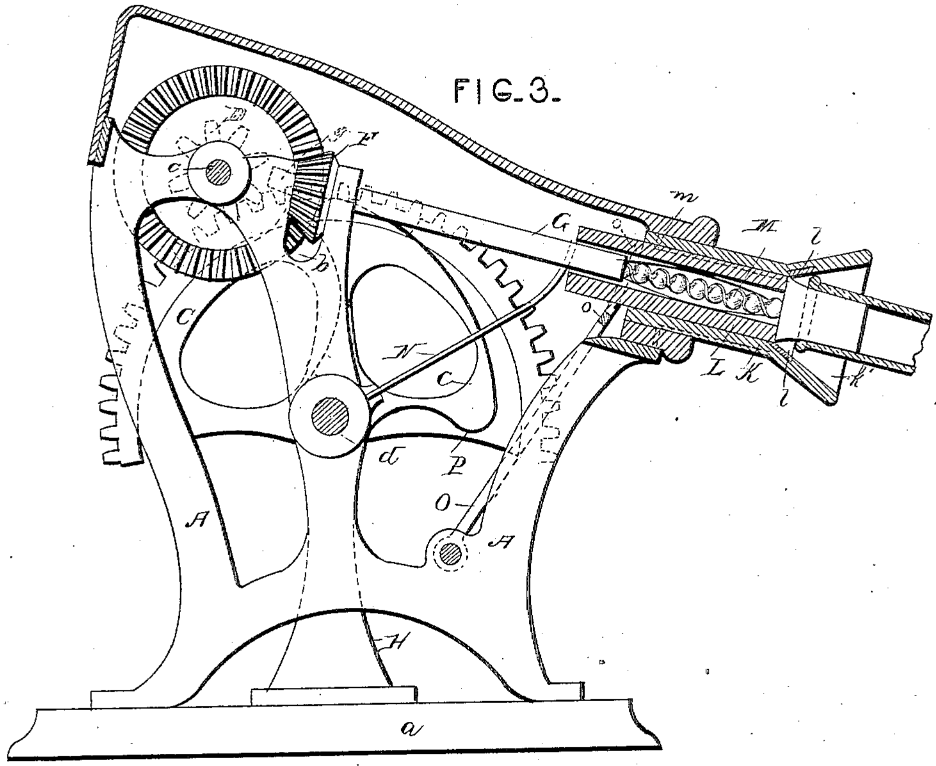


FIG_5_

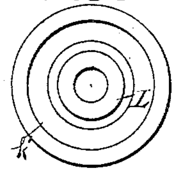


FIG_6_

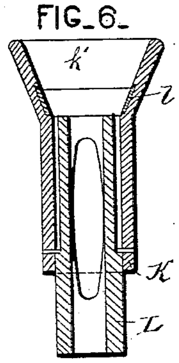


FIG_4_

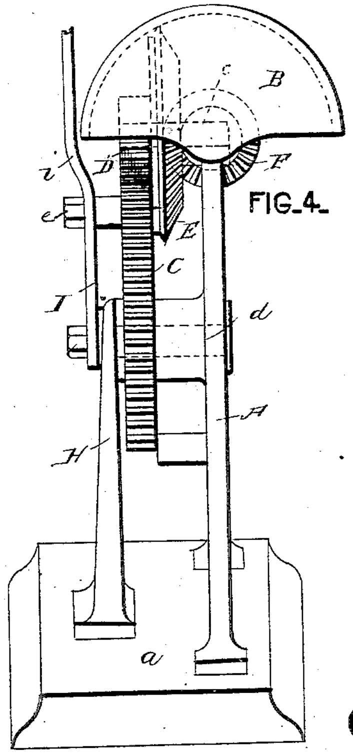
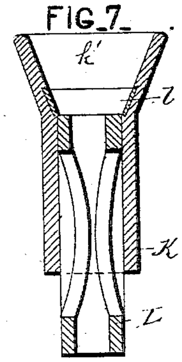


FIG_7_



WITNESSES

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UNITED STATES PATENT OFFICE.

JOSEPH G. MOOMY, OF ERIE, PENNSYLVANIA.

CORKSCREW.

SPECIFICATION forming part of Letters Patent No. 304,118, dated August 26, 1884.

Application filed July 3, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH G. MOOMY, of Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Corkscrews; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in corkscrews.

Hitherto it has been customary to construct corkscrews, whether the power is exerted in the form of a direct pull by the hand, or a purchase used, in such a manner that the shaft carrying the screw advances as far as the screw moves in the cork, and is then withdrawn, together with the screw, thereby drawing the cork out of the bottle. The power required to start the cork by a direct pull is often objectionable, and the screw-shaft must be long enough to admit of the necessary reciprocating motion.

The object of my present invention is to provide a corkscrew in which the screw-shaft shall have no longitudinal motion, and in which the power required to extract the cork shall be exerted in the form of a screw and a cam-lever combined; a further object being to provide a device for automatically removing the cork from the screw; a further object being to provide a simple, effective, and inexpensive device adapted to remove the corks from all ordinary-sized bottle-necks.

With these ends in view my invention consists in certain features of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of my improved corkscrew in side elevation. Fig. 2 is a vertical longitudinal section through the screw-shaft. Fig. 3 is a plan view. Fig. 4 is a transverse vertical section through lines *x y*, Figs. 1 and 2; and Figs. 5, 6, and 7 are detached views of parts.

A represents a suitable supporting-frame provided with a flat base, *a*, in which perfotions are formed to admit of its being screwed or bolted to a table or other convenient support. The frame A and its base *a* may be cast integral or in sections, as found most convenient, and may be made of any desired shape.

On the top of the frame A a shaft-frame, B, is located, preferably in a slightly-inclined position, as shown. The frame B is preferably shaped like a bottle, and may be formed integral with the frame A, or may be formed separately and rigidly secured thereto. The bottle-shaped frame B is cut away on its under side to admit a portion of the frame A, the toothed sector C, and the gear D, E, and F. The upper central portion of the frame A is provided with a transverse open slot, *b*. The part of the frame in front of the slot *b* is perforated to admit the screw-shaft G, the rear end of the shaft resting in a socket, *g*, formed in the frame A at the rear of the slot *b*. The beveled-faced pinion F is secured on the shaft G in the slot *b*. The bevel gear-wheel E is mounted on a laterally-extending stud, *e*, set in the main frame A at the rear of the socket *g*, said wheel E having a pinion, D, secured on its hub or locked to the wheel itself, and rotating on the same axis. The bevel-gear on the wheel E engages the pinion F. The toothed sector C is loosely mounted on an axis, *d*, one end of which is set or journaled, as may be desired, in a suitable bearing at or near the central portion of the main frame A, and the other end in the head of a standard, H, firmly secured to the base *a*. An operating-lever, I, is loosely mounted on the end of axis *d*, and is locked to the toothed sector C, a short distance from the center, by a lug, bolt, or screw, *e*. A slight bend in the lever I at *i* carries the same out of the way of the bottle-shaped frame B. The toothed sector C engages the pinion D. The screw-shaft G is centrally located in the frame B, and extends to within a short distance from the open end of said frame.

Within the open end of the frame B, which is preferably circular, the sleeve K fits and slides, being held against rotary motion therein by a set-screw which projects into a longitudinal groove formed in the sleeve, or by any other approved means. The outer end of the sleeve K is provided with a bell-mouth, *k'*, adapted to receive the neck or nozzle of any

ordinary sized bottle, said mouth being provided with an annular rubber cushion, *l*, to prevent any liability of breaking or chipping off glass while the cork is being operated upon.

Within the sleeve K a hollow cylindrical box or sleeve, L, fits and slides, being secured against rotary motion therein by a set-screw, *m*, which passes through a perforation in the sleeve K, and projects into a longitudinal groove formed in the box L; or it may be secured against rotary motion in any other approved manner. The bore in the box L is adapted to fit the shaft G and screw M and allow the same a free rotary motion therein, and is a little longer than the screw M, the inner end of the box projecting over the end of the shaft G. A spring-metal arm, N, is set in a slot, *n*, in the frame A, the free end of the spring resting against the inner end of the box L and pressing the same outward. An arm, O, is pivoted at its lower end to the main frame and is bifurcated at its upper end, the branches *o* loosely embracing the box L and resting against the inner end of the sleeve K. A cam, P, formed on or secured to the side of the toothed sector C, is constructed to engage the arm O at the moment the screw has become firmly set in the cork, and by the further forward motion of the operating-lever presses against the sleeve K and forces the bottle outward.

It will be observed that the arrangement of the gear is such as to give the screw a rapid rotary motion, and cause it to make many complete rotations while the sector C moves slowly and through a short distance.

The operation of the device is as follows: Place the nozzle of the bottle in the bell-shaped mouth *k'*, and gently press the bottle inwardly until the point of the screw enters the cork. Now pull the operating-lever forward. The first part of the forward motion of the lever will turn the screw M into the cork, drawing the bottle and sleeve K inwardly until the bell-mouth *k'* strikes the end of the frame B. At this moment the cam on the sector C comes in contact with the arm O, and begins to force the sleeve K and bottle outward. The screw M also continues to rotate, and the bottle no longer being allowed to move inwardly the cork is compelled to move on up the screw, and hence out of the neck of the bottle. As the cork moves up toward the head of the screw, it presses the box L back on the shaft G, against the tension of the spring-arm N, and as soon as the bottle is removed the said spring forces the box outward to its position at the mouth *k'*, thereby removing the cork from the screw M as the operating-lever returns to its position, and in so doing reverses the screw.

The advantages of this device will be evident from the foregoing description; but I will call attention to the power exerted by the cam on the sector C, operated by the lever I, and in engagement with the arm O, tending to force the bottle from the cork, in conjunction with the power exerted by the screw M tending to draw the cork from the neck of the bottle, both forces operating at the same instant and serving to extract the cork quickly and with little exertion.

It is evident that slight changes may be made in the form and construction of the several parts described without departing from the spirit and scope of my invention; hence I do not wish to limit myself strictly to the construction herein set forth; but,

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

1. In a corkscrew, a rotary shaft carrying a screw and held in a supporting-frame against longitudinal motion, substantially as set forth.

2. In a corkscrew, the combination, with a rotary shaft locked against longitudinal motion, and a screw secured to the shaft, of a sleeve, or its equivalent, for regulating the movement of the bottle with reference to the screw, substantially as set forth.

3. In a corkscrew, the combination, with a rotary shaft locked against longitudinal motion, and a screw secured to the shaft, of a sleeve embracing the screw and adapted to allow the bottle to advance a short distance on the screw and hold the same against further advancement, substantially as set forth.

4. A corkscrew consisting, essentially, of a rotary screw locked against longitudinal motion in a supporting-frame, and a sleeve, or its equivalent, embracing the screw and having a limited sliding motion in the supporting-frame, whereby the bottle is allowed to advance on the screw a short distance, and is then held against further advance, substantially as set forth.

5. In a corkscrew, the combination, with a rotary shaft carrying a screw, of a movable hollow section having an enlarged mouth, said section being adapted to surround the screw and slide longitudinally, substantially as set forth.

6. In a corkscrew, the combination, with a rotary shaft carrying a screw and a cam operated by a lever, of a movable hollow section surrounding the screw and adapted to slide longitudinally thereon, and an arm adapted to communicate the pressure of the cam to the hollow section, substantially as set forth.

7. In a corkscrew, the combination, with a rotary shaft carrying a screw, of a spring-pressed longitudinally-sliding box embracing the screw and end of the shaft, whereby the cork is automatically ejected from the screw when the latter is turned backward, substantially as set forth.

8. In a corkscrew, the combination, with a rotary shaft carrying a screw, of a spring-pressed longitudinally-sliding box embracing the screw and end of the shaft, and a longitudinally-sliding sleeve embracing the said box, substantially as set forth.

9. In a corkscrew, the combination, with a

rotary shaft carrying a screw, of a sliding hollow section for regulating the movement of the bottle with reference to the screw, and means for automatically removing the cork from the screw when the screw is turned backward, substantially as set forth.

10. In a corkscrew, the combination, with a shaft carrying a screw, said shaft being held against longitudinal movement in a supporting-frame, and a hollow sliding section surrounding the screw and adapted to regulate the movement of a bottle with reference to the screw, of a spur-wheel or toothed sector rocked by a lever and gear connecting the toothed sector and shaft, whereby the rocking motion of the toothed sector rotates the shaft, substantially as set forth.

11. In a corkscrew, the combination, with a shaft carrying a screw and rotated by a rocking toothed sector, and a hollow sliding section surrounding the screw and adapted to regulate the motion of the bottle with reference to the screw, of an arm pivoted to the supporting-frame, with its free end in contact with the sliding section, and a cam on the rocking sector adapted to engage the arm and force the sliding section outwardly, substantially as set forth.

12. In a corkscrew, the combination, with a rotating screw held against longitudinal movement, of a longitudinally-movable sleeve, and mechanism for turning the screw and moving the sleeve outwardly, substantially as set forth.

13. In a corkscrew, a toothed sector operated by a lever, a shaft carrying a screw, gear connecting the sector and shaft, a sliding box embracing the screw, and a sliding sleeve-section embracing the box, the whole constructed in the manner and for the purpose substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOSEPH G. MOOMY.

Witnesses:
JOSEPH JUSTICE,
PERRY CHAMBERS.