

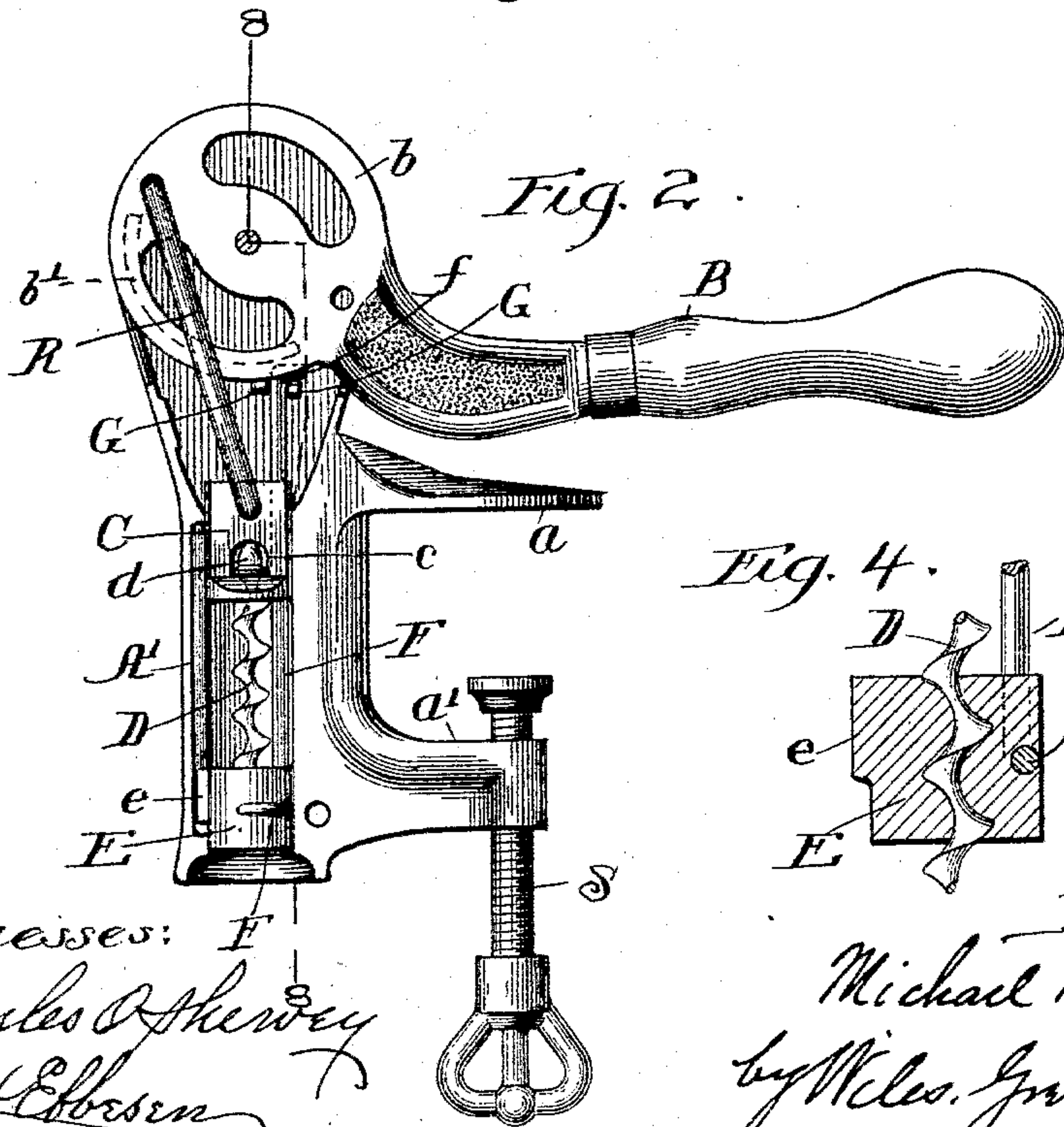
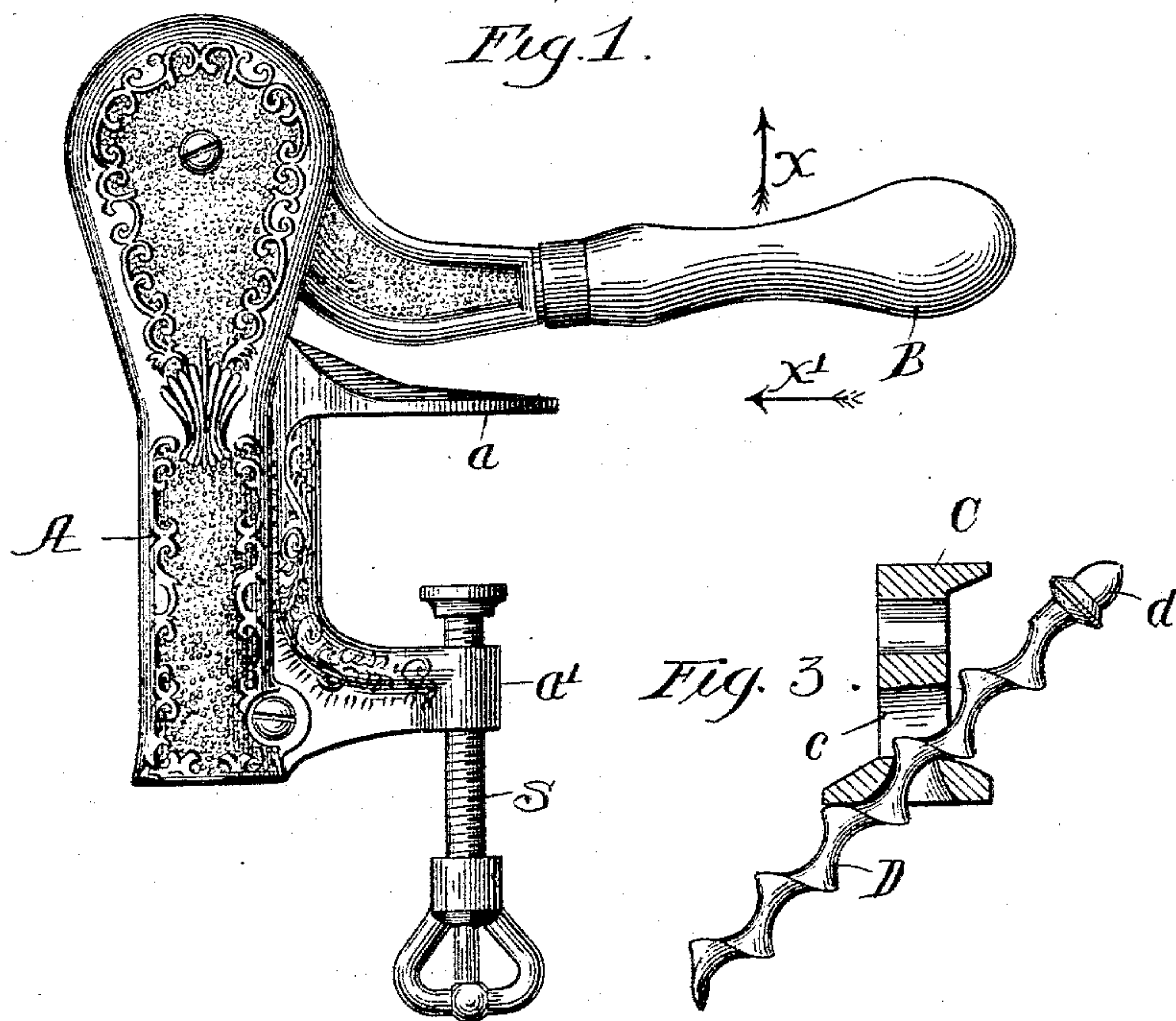
(No Model.)

2 Sheets—Sheet 1.

M. REDLINGER.
CORK EXTRACTOR.

No. 589,574.

Patented Sept. 7, 1897.



Witnesses:
Charles O. Sherway
A. H. Ebbesen

Inventor:
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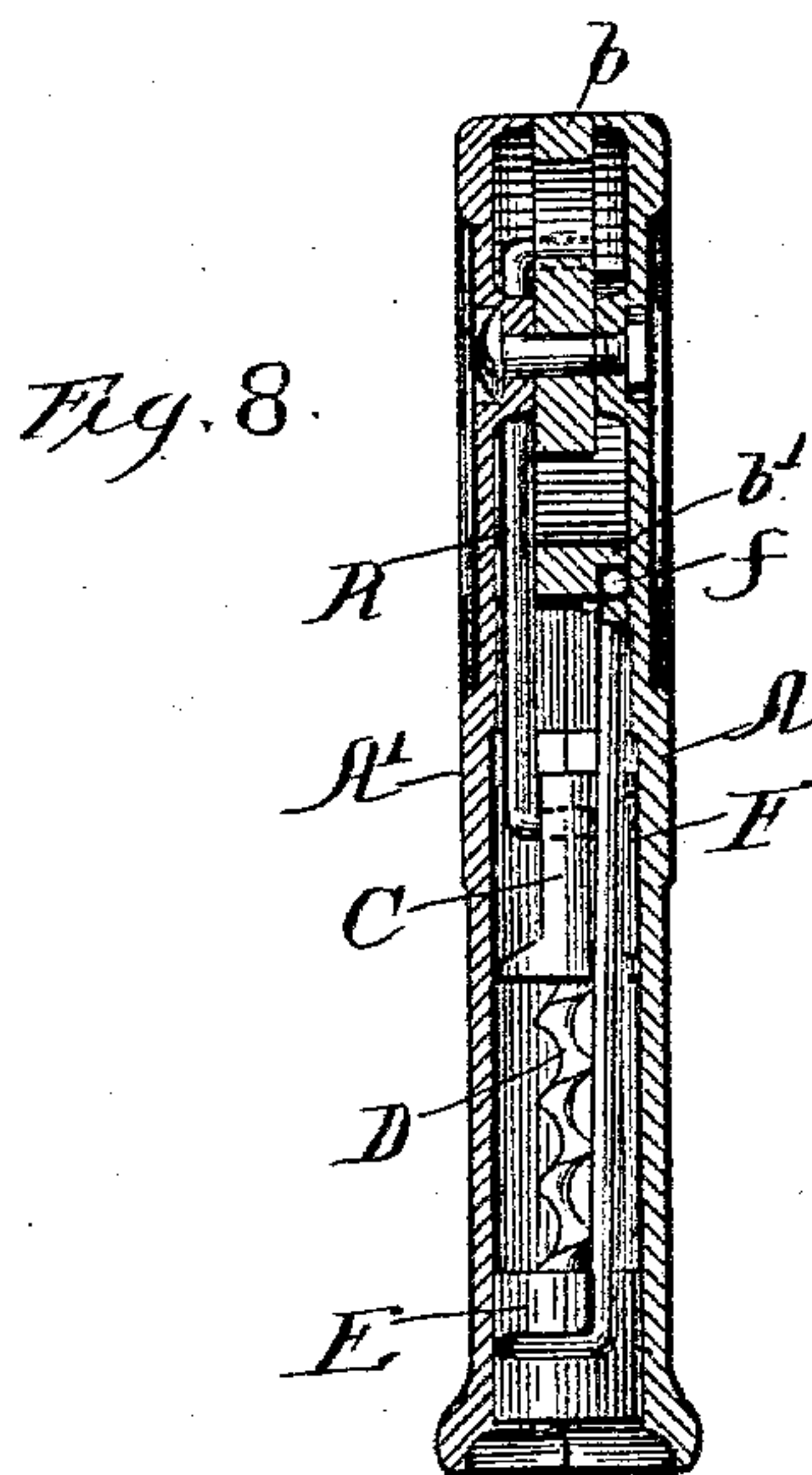
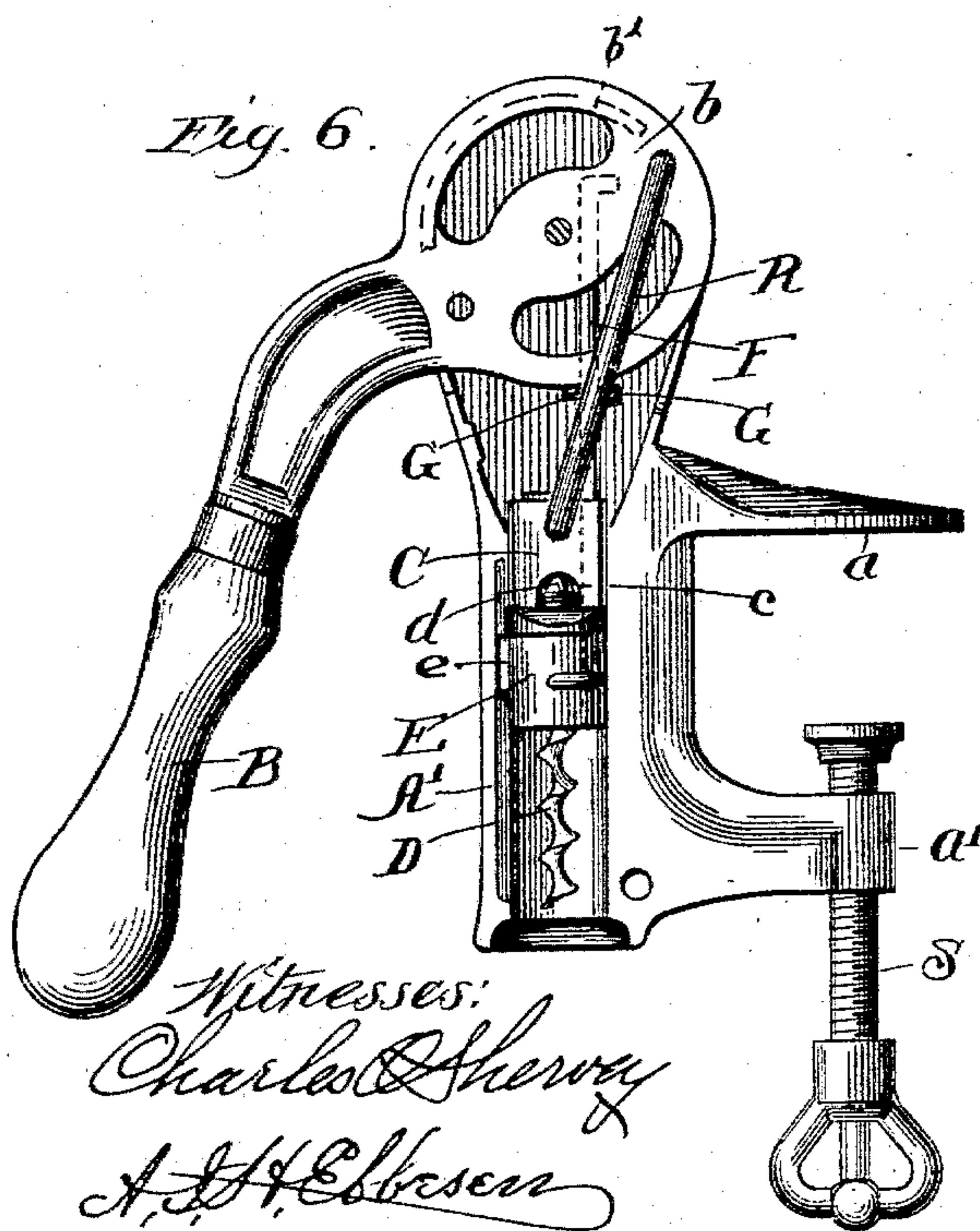
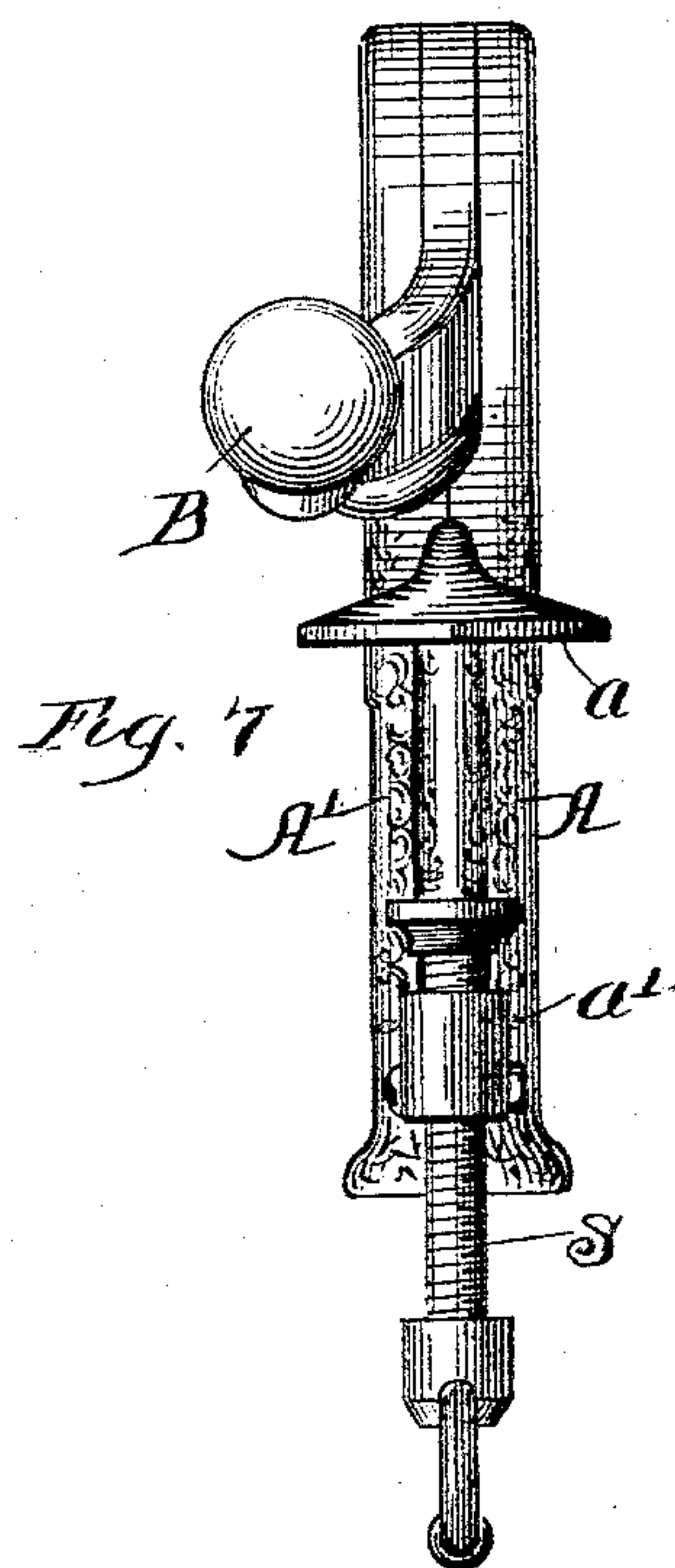
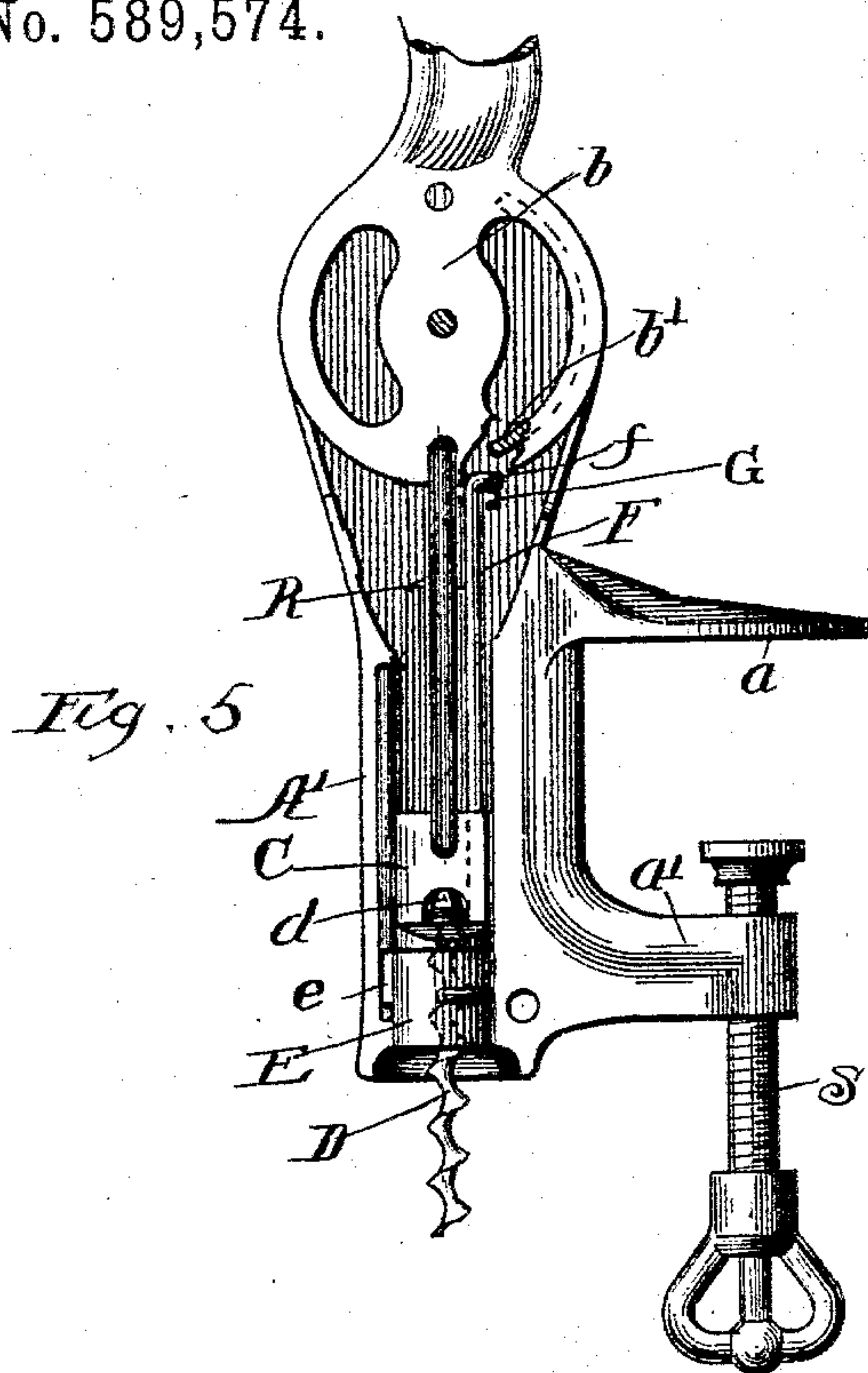
(No Model.)

2 Sheets—Sheet 2

M. REDLINGER.
CORK EXTRACTOR.

No. 589,574.

Patented Sept. 7, 1897.



Inventor:
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UNITED STATES PATENT OFFICE.

MICHAEL REDLINGER, OF FREEPORT, ILLINOIS.

CORK-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 589,574, dated September 7, 1897.

Application filed December 23, 1893. Serial No. 494,591. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL REDLINGER, a citizen of the United States of America, residing at Freeport, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Cork-Extractors, of which the following is a specification.

My invention relates to improvements in cork-extractors, its object being to provide a simple and practical extractor operated by means of a hand-lever and adapted to force a suitable worm downward into the cork of a bottle and then raise the worm and cork, the bottle being held stationary and the cork drawn from it and the entire operation being performed during a single continuous movement of the lever.

The invention is fully described and explained in this specification and shown in the accompanying drawings, in which—

Figure 1 is a front elevation of a cork-extractor embodying my improvements, the lever being in a horizontal position and the worm or screw being raised to its highest position. Fig. 2 is a similar view with the front plate of the case or frame removed to show construction. Figs. 3 and 4 are vertical sections, respectively, of the head which supports the worm and the guide which causes its rotation. Fig. 5 is a view similar to Fig. 2, except that the lever has been rotated ninety degrees in the direction indicated by the arrow α , Fig. 1, and the worm thereby pressed downward to its lowest position. Fig. 6 is a similar view, the lever having been rotated in the same direction to the limit of its movement and the worm having been thereby raised again to its highest position. Fig. 7 is a side elevation of the entire device, the view being in the direction indicated by the arrow α' , Fig. 1; and Fig. 8 is a transverse vertical section through the line 8-8, Fig. 2, the view being in the same direction as in Fig. 7.

In the views, $A A'$ are two inwardly-concave plates fastened together by screws or otherwise to form a case inclosing the working parts of the mechanism, the plate A' being provided with two lugs $a a'$, projecting from one of its edges and adapted to embrace the margin of a counter and be fastened

thereto by means of a set-screw S . In the upper end of the case thus formed is journaled the circular inner end b of a vertically-oscillating lever B , adapted to operate the other working parts of the device. The lower half of the case is approximately cylindrical, and within it moves freely up and down a block C , connected with the circular plate b by means of a rod R , whose ends are pivoted, respectively, in the block and in the circular plate, the connecting-rod being preferably a plain wire having its ends bent at right angles to its length and inserted in holes in the parts which it connects. A corkscrew or worm D , having a head d , is supported and moved up and down by the block C , the head being seated in a chamber c in the block and thereby secured against vertical movement in either direction with reference to the block. In the lower end of the case lies a guide E , formed with a spiral opening conforming to the worm, the guide being susceptible of vertical movement in the case, but its rotation being prevented by a flange e , adapted to slide vertically in a corresponding recess in the case, as shown in Figs. 5, 6, and 8. To the guide E is rigidly fastened a vertical rod F , whose upper end f is bent at right angles to its length and lies normally immediately back of the margin of the plate b . Two lugs $G G$, formed on the inner face of the plate A' , lie on opposite sides of the rod F and prevent lateral movement thereof.

The plate b is formed with a flange b' , extending partly about its periphery and lying in the plane of the rod F , and this flange serves to prevent upward movement of the rod during certain parts of the movement of the lever B in operating the device.

When all the parts are in the positions indicated in Figs. 1 and 2, if the upper end of a corked bottle be placed immediately beneath below the lower end of the case $A A'$ and the lever B be rotated ninety degrees in the direction indicated by the arrow α , Fig. 1, the block C and worm D are forced downward to the position shown in Fig. 5, the worm being rotated as it moves downward and being thus forced into the cork in such a way as to engage it, the guide E being held stationary by means of the contact of the flange b' with the end f of the vertical rod F . If

the movement of the lever be continued in the same direction until it reaches the position shown in Fig. 6, the worm will be again raised to the position shown in Fig. 6 or Fig. 2, the cork being lifted with it and the guide being also moved upward, as illustrated in Fig. 6, the flange *b'* being no longer in contact with the end of the rod *F*. During this upward movement of the worm it is not rotated, since the guide *E* moves with it and the engagement of the worm and cork continues until the latter is completely withdrawn from the bottle. As soon as the cork is freed from the bottle the movement of the lever is reversed, the first stage of its movement from the position shown in Fig. 6 to that shown in Fig. 5 being adapted to move the block *C*, worm *D*, and guide *E* downward to their lowest positions, and the remainder of the movement of the lever from the positions shown in Fig. 5 to that shown in Fig. 2 being adapted to raise the worm and free it from the cork, the guide *E* during this movement of the lever being held stationary by means of the flange *b'*.

The worm *D* may be secured in block *C* by any means adapted to permit free rotation of the worm and at the same time to prevent its vertical movement with reference to the block; but I prefer to connect them in the manner illustrated in Fig. 3, since this is extremely simple and economical. As shown in this figure the block *C* is formed with a chamber *c*, adapted to receive the head *d* of the worm, which is of greater diameter than the body of the worm at any given point. The chamber *c* is formed with an opening in its base, the opening being countersunk from below in such a way that when the worm is inserted obliquely from above in the opening the countersunk lower face of the opening conforms substantially to the spiral groove of the worm, and the worm may therefore be rotated and screwed obliquely downward until the head enters the chamber *c*, when the worm drops into a vertical position and is held securely against vertical movement independent of that of the block. This connection of the worm and block requires no extra parts and is extremely simple, strong, and durable.

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

1. In a cork-extractor, a reciprocable plunger carrying a rotatable screw, a nut for rotating the screw reciprocally confined in the extractor-case and a rotatable head having an eccentric connection with the plunger and provided with an actuating-handle, and operating, by continued rotation in one direction, to reciprocate the screw-carrying plunger, substantially as described.

2. In a cork-extractor, a reciprocable plunger carrying a rotatable screw, a nut for the screw reciprocally confined in the extractor-case, a rotatable head provided with an op-

erating-handle and having an eccentric connection with the plunger, and stop mechanism engaging the nut to lock it; substantially as and for the purpose set forth.

3. In a cork-extractor, a reciprocable plunger carrying a rotatable screw, a nut for the screw reciprocally confined in the extractor-case, a disk-shaped head rotatably supported on a center and provided with a cam, a link connecting the plunger with the head to one side of its center an operating-handle on the head to rotate with it, and a stop-rod extending from the nut into the path of the cam; substantially as and for the purpose set forth.

4. In a cork-extractor, the combination with a suitable case, of a longitudinally-moving worm, a non-rotating guide conforming to the worm and adapted to rotate the latter when the worm and guide move longitudinally with relation to each other, a swinging lever connected with the worm and adapted to alternately project and retract it and means connecting the lever and the guide, whereby during a predetermined part of the movement of the lever, the guide is held stationary and during the remainder of such movement the guide slides longitudinally.

5. The combination with the case, of the lever, *B*, formed at its inner end with a plate, *b*, having the flange, *b'*, the sliding block, *C*, the non-rotating guide, *E*, provided with the rod, *F*, impinging at its free end upon the flange, *b'*, in certain positions of the lever, *B*, the worm, *D*, supported by the block, *C*, and encircled by the guide, *E*, and the rod, *R*, connecting the lever, *B*, and the block, *C*, whereby oscillation of the lever alternately projects and retracts the worm, longitudinal movement of the guide, *E*, being prevented by the rod, *F*, and flange, *b'*, during a portion of each oscillation of the lever.

6. In a corkscrew, the combination with a suitable case, of a block free to slide longitudinally therein, means for moving said block reciprocally in the case and a worm adapted to be inserted in or removed from the block in a line oblique with reference to the line of movement thereof, and when inserted and brought into the line of movement of the block to be secured against longitudinal movement with reference thereto.

7. The combination with a suitable case, of a block, *C*, sliding longitudinally and formed with a chamber *c*, and an opening from the chamber through the end of the block, means for moving the block reciprocally in the case and a worm, *D*, having a head, *d*, adapted to lie in the chamber and of greater diameter than the opening in the end of the block, said worm being adapted to be passed obliquely through the chamber and the opening in the block and brought into working position; substantially as shown and described.

MICHAEL REDLINGER.

Witnesses:

CHARLES MORGAN,
ALBERT HERBIG.