

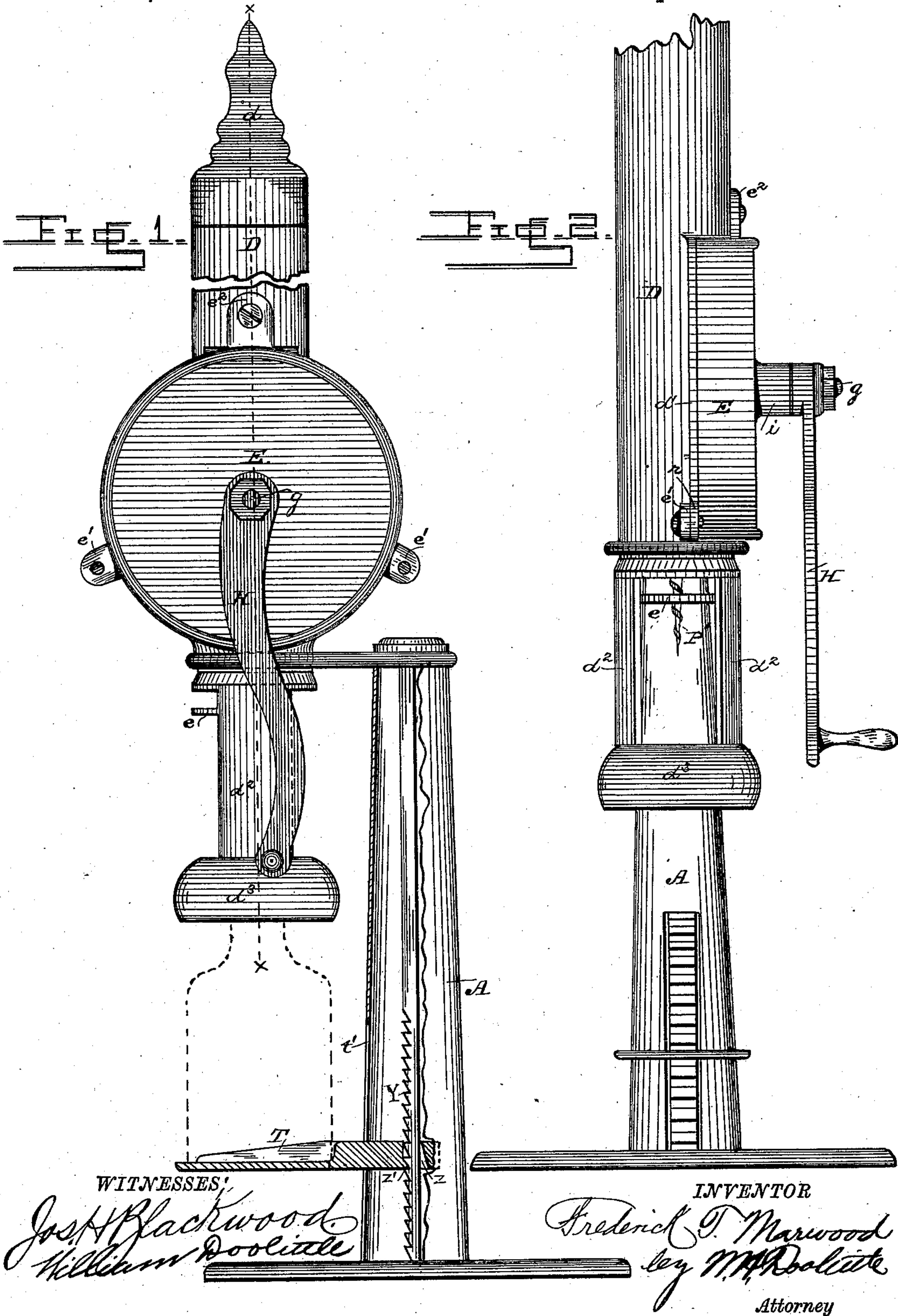
(No Model.)

2 Sheets—Sheet 1.

F. T. MARWOOD.
CORK EXTRACTOR.

No. 370,638.

Patented Sept. 27, 1887.



(No Model.)

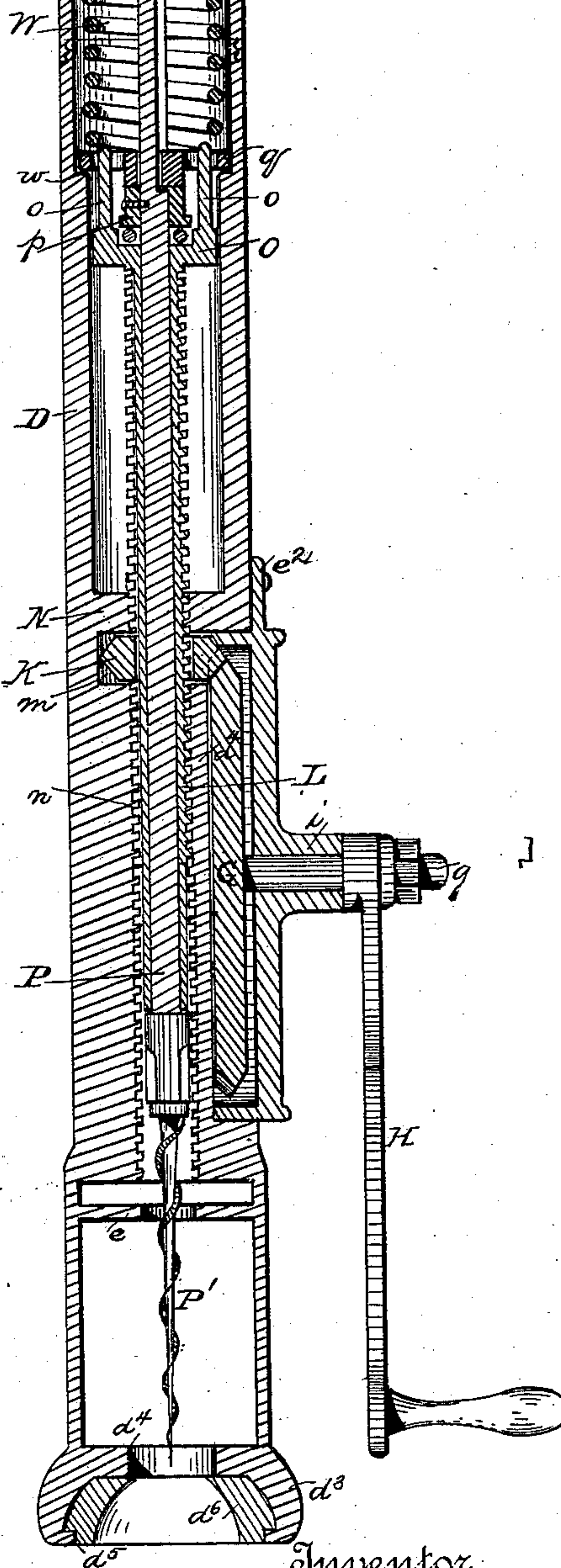
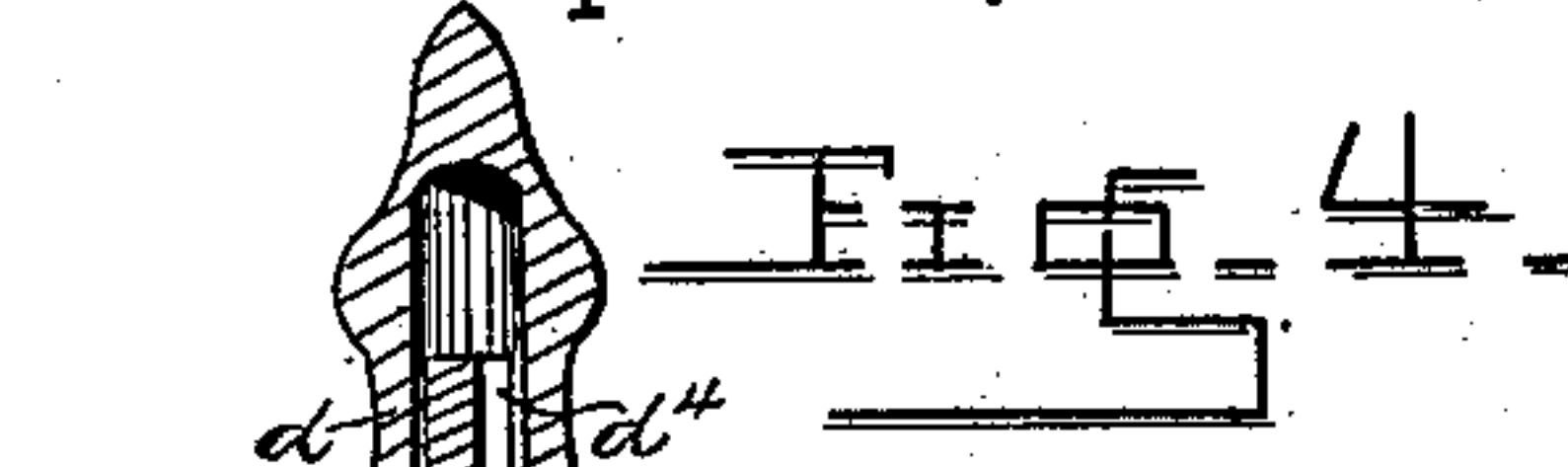
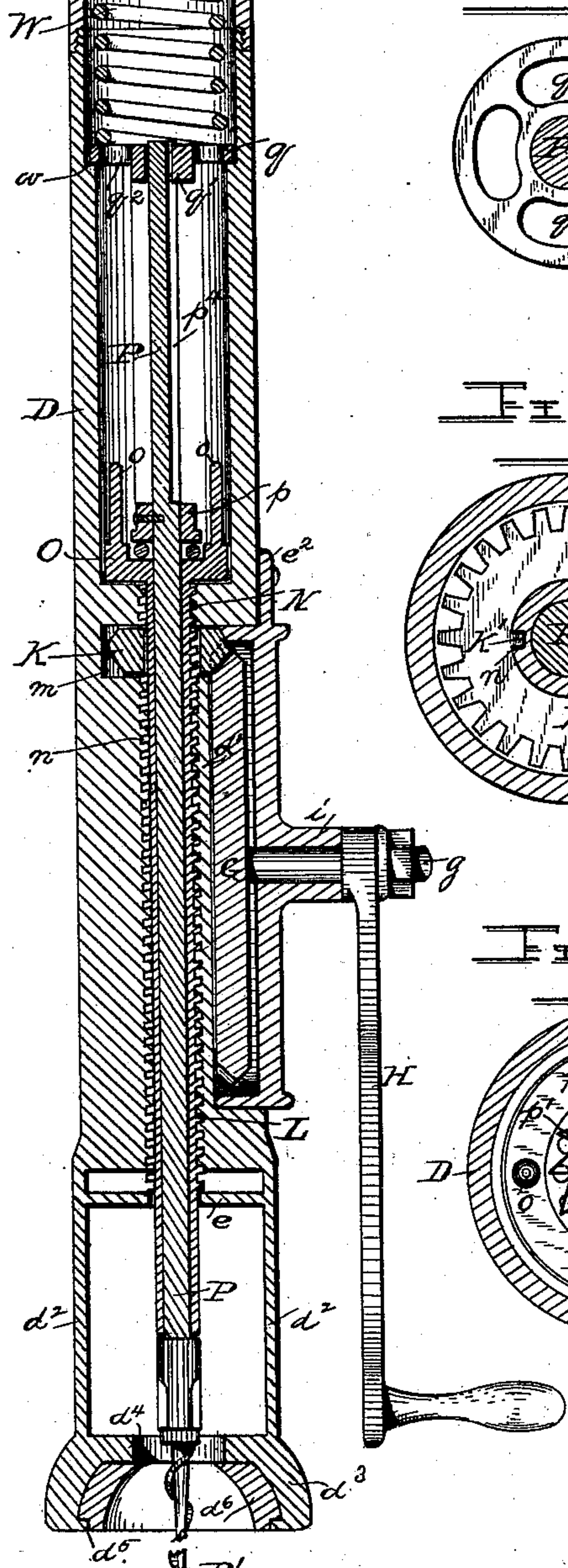
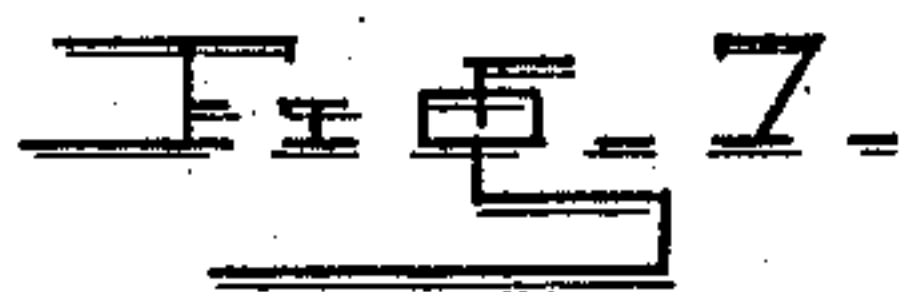
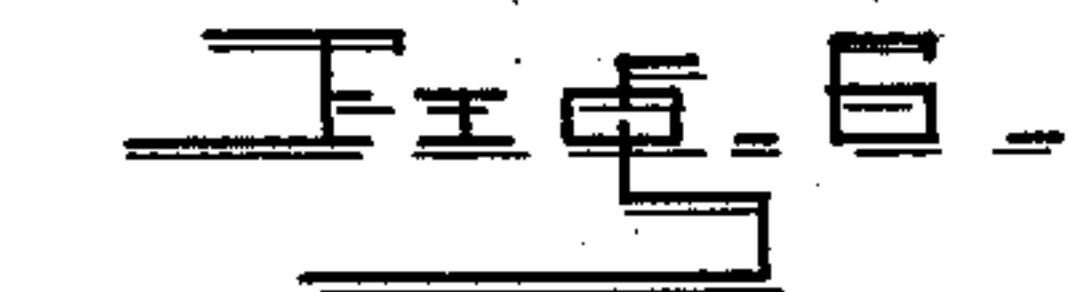
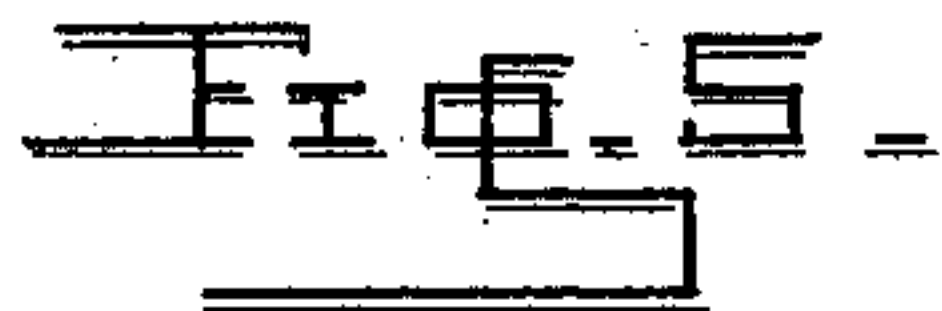
2 Sheets—Sheet 2.

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CORK EXTRACTOR.

No. 370,638.

Patented Sept. 27, 1887.



Inventor

Witnesses;
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By his Attorney
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UNITED STATES PATENT OFFICE.

FREDERICK THOMAS MARWOOD, OF BLACKBURN, COUNTY OF LANCASTER,
ENGLAND.

CORK-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 370,638, dated September 27, 1887.

Application filed July 20, 1885. Serial No. 172,067. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK THOMAS MARWOOD, a subject of the Queen of Great Britain and Ireland, residing at Blackburn, in the county of Lancaster, Kingdom of Great Britain and Ireland, have invented new or Improved Machinery or Apparatus for Withdrawing Corks from Bottle-Necks, of which the following is a specification.

My invention relates to cork-extractors; and it consists of the arrangement and combination of parts, as hereinafter described and particularly claimed.

It is illustrated in the accompanying drawings, in which Figure 1 is a side elevation; Fig. 2, a front elevation; Fig. 3, a section taken on the line $x x$ of Fig. 1, showing the position of the various parts when the corkscrew of the puller is screwed into a cork; Fig. 4, a similar view when the corkscrew is withdrawn; Figs. 5, 6, and 7, views in detail.

The cork-pulling apparatus proper consists of two parts—first, a tubular casing, D, which is provided at its upper end with a screw-cap, d , and which at its central portion is cut away, at which point is formed a disk, d' , having lugs $r r$, and below said disk the casing extends as an open frame composed of straps d^2 , at the extreme end of which is a conical-shaped abutment or stop, d^3 , with flanges $d^4 d^5$ at top and bottom, within which is confined a rubber washer, d^6 , against which the cork is pulled, as hereinafter described. e is a cross-strip between the straps d^2 , through which the corkscrew passes and which limits the downward movement of the same, as also hereinafter described.

The second part of the apparatus consists of a circular casing, E, attached to the top of the standard A and provided on one edge with lugs e' , corresponding with lugs $r r$ on disk d' , and on the opposite edge with a lug, e^2 , whereby it is secured to the plate d' and the tubular casing D by means of screws passed through said lugs.

T is an adjustable platform extending through the slot t' in the standard A, upon which a bottle is placed while the cork is being withdrawn. It is provided with a slot, z , and a lug or tooth, z' , said lug engaging with the

rack Y inside the standard, whereby the platform can be adjusted vertically to accommodate the length of bottle.

Within the casing E is contained a beveled wheel, G, attached to the shaft g of the handle H, which shaft passes through the hollow boss i , formed on the outer part of the casing.

K is a beveled pinion resting in a slot, m , of plate d' , and adapted to engage with the wheel G, for the purpose hereinafter described.

L is a hollow screw-threaded spindle provided lengthwise with a slot, n . This spindle is passed through the pinion K, a lug, K' , in the inner side of the pinion entering the slot n of the said spindle, so that when the pinion is rotated either way the spindle is rotated in the same direction. Just before entering the pinion the spindle L passes through an internally screw-threaded flange, N, within the casing D, with which it engages and whereby, when the pinion is rotated, the spindle L is carried up or down, according to the direction given the pinion. Above the screw-threaded portion of the spindle is formed or attached a disk, O, carrying vertical pins $o o$.

Within the spindle L is a spindle, P, carrying the corkscrew P' . On spindle P, just above the disk O, is secured a sleeve, p , on which is formed a rack, p' . p^2 is a pawl secured to the disk O and engaging with rack p' ; and p^3 is a spring, also secured to the disk O, to hold the pawl in contact with the rack. Above the sleeve p the spindle P is provided with a slot, p^4 .

q is a disk passed over the spindle P, and having a key, q' , resting in slot p^4 , so that while said disk q must rotate with spindle P it is free to slide thereon. The disk q is also provided with slots or holes q^2 . The downward movement of the disk q is limited by the shoulder w , formed on the inside of the casing D—or stops may be used in place of a shoulder—and its upward movement controlled by the spiral spring W.

The corkscrew being of the same pitch as the screw of the outer spindle, and the outer spindle being coupled to the inner spindle carrying the corkscrew, by means of the sleeve-and-ratchet arrangement above described, the operation of the device is as follows: When

the handle is turned so as to operate the gearing in carrying the screw downward, both the corkscrew and outer screw-spindle descend together, and the corkscrew is turned into the 5 cork. As above stated, the cross-strip *e* limits the downward travel of the screw. When the corkscrew has reached its downward limit, the disk *O* rests on the plate or part of casing *D* just over the beveled pinion, and the disk 10 *q* upon the stops or shoulder *w*. On reversing the movement of the handle the ratchet and pawl are released, so that as the screw is carried up it will also carry up the corkscrew-spindle, but not rotate it, as the action of the 15 spiral spring on the disk *q* serves to hold the latter with its key in the slot of the corkscrew-spindle, so that the spindle cannot turn while the pawl slips over the teeth of the rack. As, however, the screw continues to ascend, and 20 carries with it the disk *O*, the pins *o* on said disk soon enter the slot *q'* in the disk *q*, and the continued upward action of the screw causes the pins *o* to be pressed with such force against the disk *q* as to overcome the resist- 25 ance of the spring *W*, and to turn said disk so as to rotate the corkscrew-spindle, and thus turn the corkscrew out of the cork; but this turning of the corkscrew does not take place until the cork has been carried hard up against 30 the stop *d'*, which affords the friction required to prevent the cork from turning round while the corkscrew is unscrewed and withdrawn therefrom.

What I claim is—

35 1. The combination, with the tubular vertical casing *D*, of the central disk, *d'*, the pinion in said casing extending through said disk and connected with the spindle of the corkscrew, the circular casing connected to said 40 disk and provided with a hollow boss, the beveled wheel within said casing engaging with the pinion, and the handle the shaft of which passes through said boss and to which is secured the said beveled wheel, substantially as 45 described.

2. The tubular casing provided with an internally-threaded bushing, in combination with the screw-threaded and slotted spindle, the

beveled pinion provided with a key or lug to fit the slot in said spindle, the beveled wheel, 50 and means for turning said wheel, substantially as described.

3. In combination with the casing, the gearing, and means for operating the latter, the outer hollow screw-threaded and slotted spin- 55 dle, the corkscrew-spindle within said outer spindle, and the disk and pawl and ratchet, whereby when the outer spindle is rotated downward the corkscrew-spindle will also be rotated downward, substantially as described. 60

4. The casing and outer screw-spindle, in combination with the inner slotted corkscrew-spindle, the lower disk provided with pins and the spring pawl-and-ratchet device, and 65 the upper sliding slotted disk provided with a key to fit the slot in said inner spindle, the stop within the casing to limit the downward movement of the upper disk, substantially as described.

5. The combination, with the tubular cas- 70 ing, of the outer spindle, the corkscrew-spindle provided with the slot, and the sliding disk provided with a key to fit in said slot, the stop or collar to limit the downward movement of the said disk, the spiral spring to hold 75 the disk against said stop and prevent the corkscrew-spindle from turning temporarily on the upward movement of the outer spindle, substantially as described.

6. The combination of the outer screw- 80 threaded spindle and the inner corkscrew-spindle, the disk on the outer spindle carrying the vertically-projecting pins, the slotted disk on the inner spindle and the spring above it, the pawl-and-ratchet device, whereby at a 85 point in the upper movement of the outer spindle the disk with the vertical pins engages the slotted disk on the inner spindle and rotates the inner spindle against the action of said spring, substantially as described.

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