

(Model.)

P. ZIEGEL.

MAINSRING WINDER FOR WATCH MAKERS.

No. 349,291.

Patented Sept. 14, 1886.

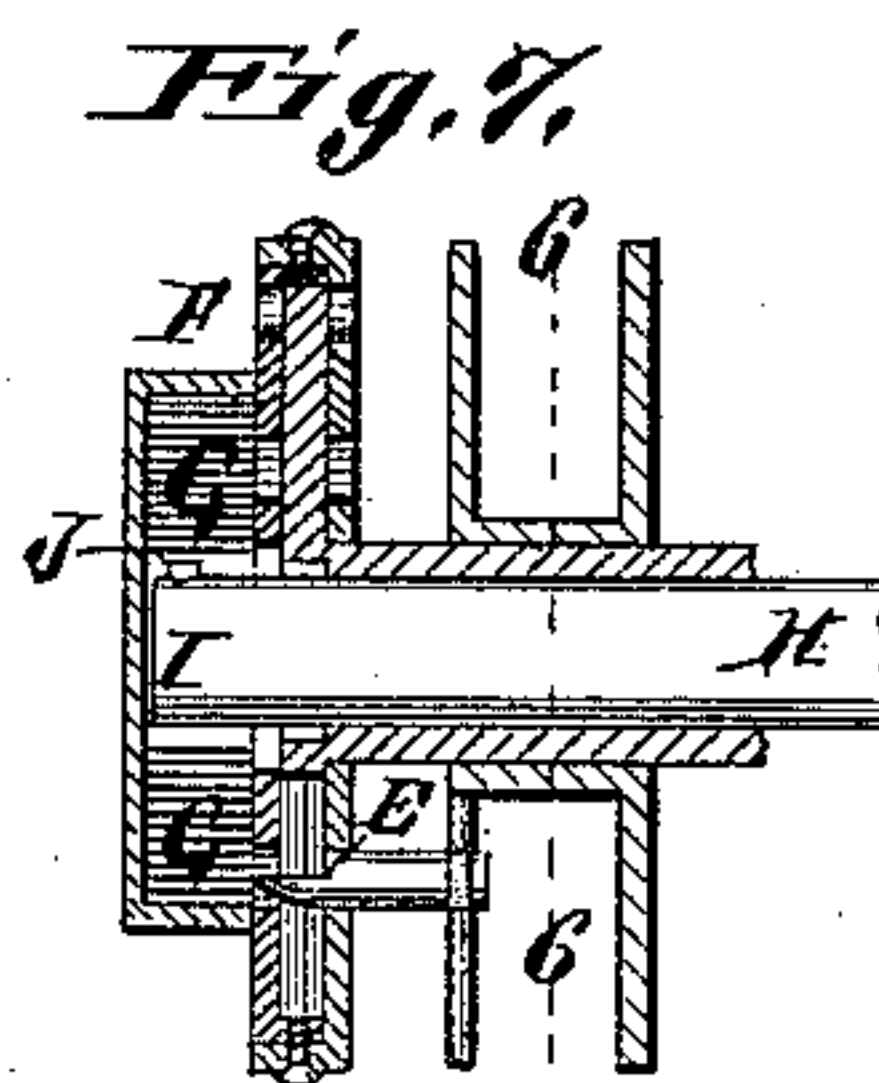
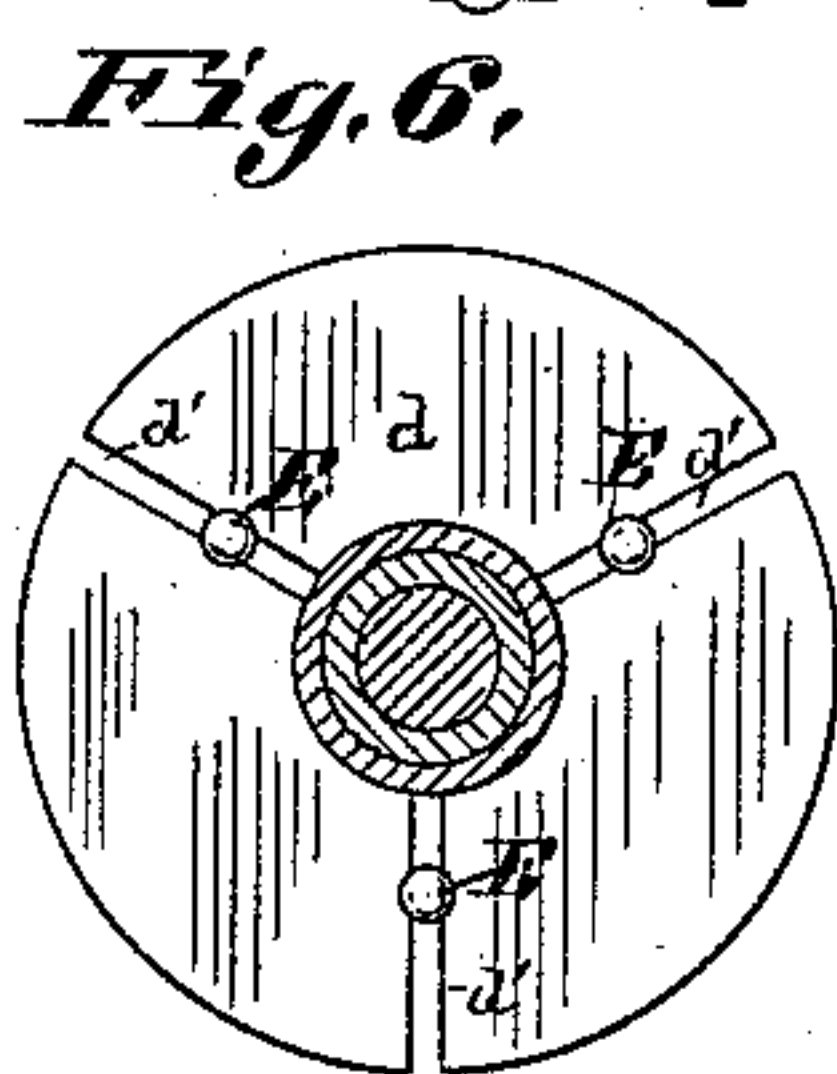
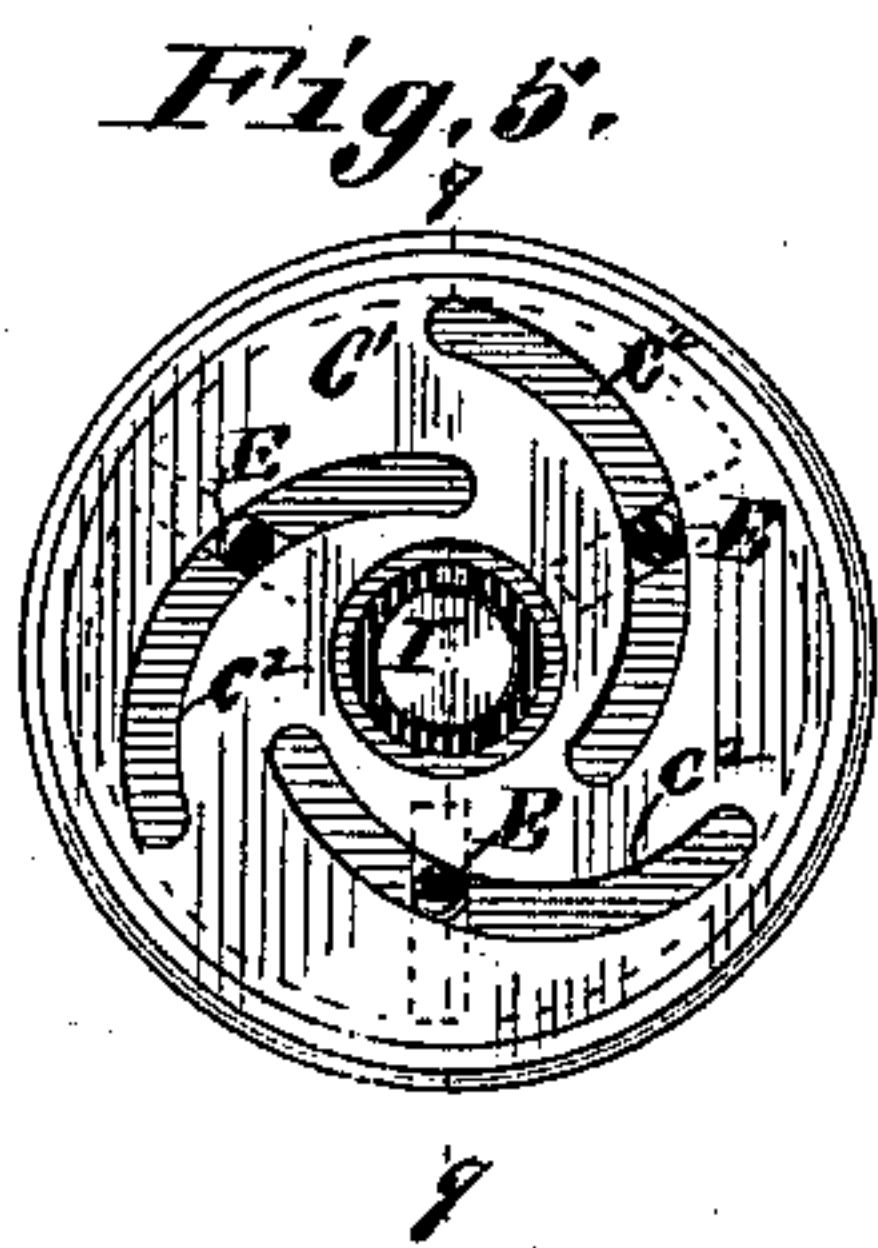
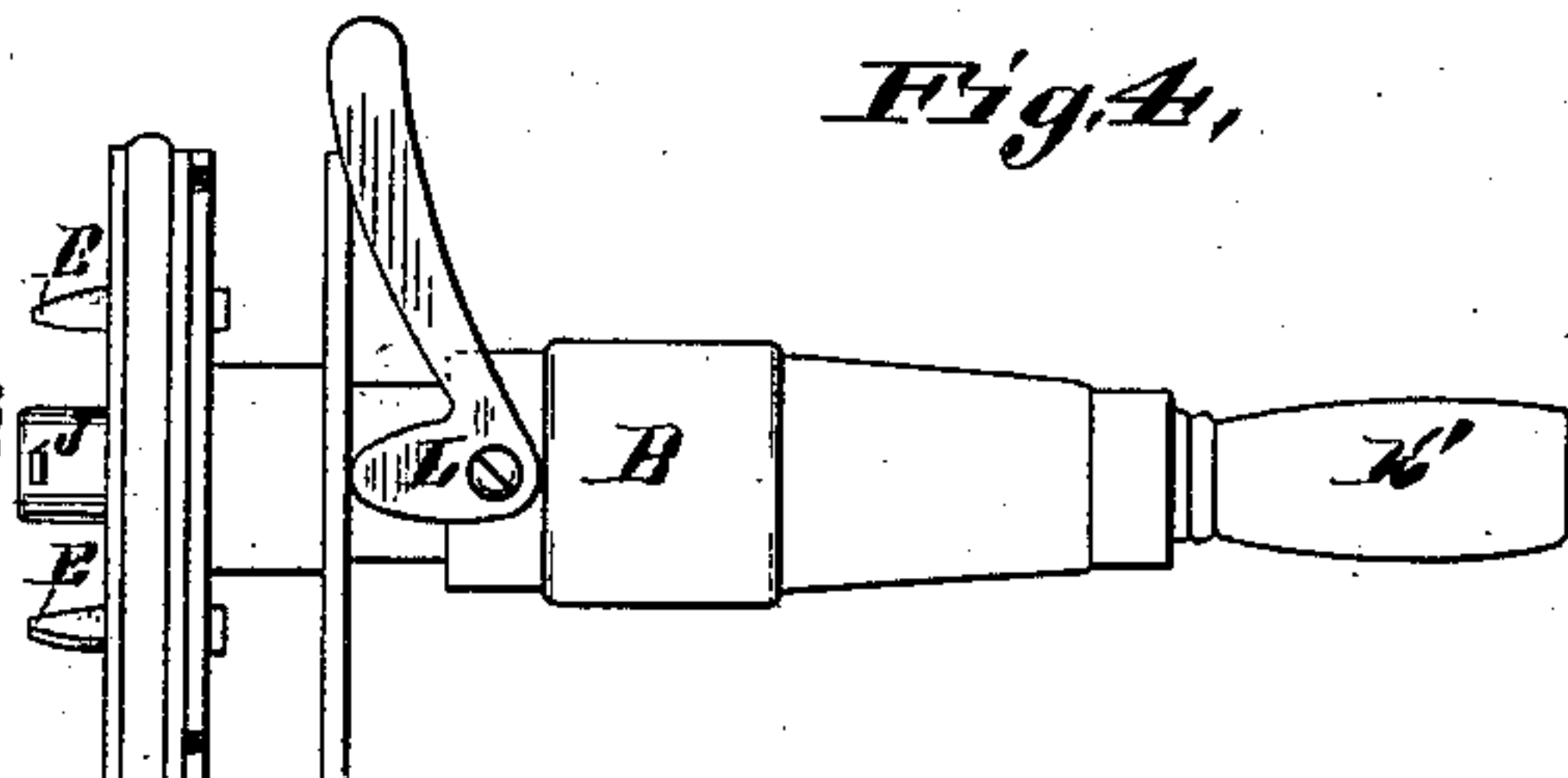
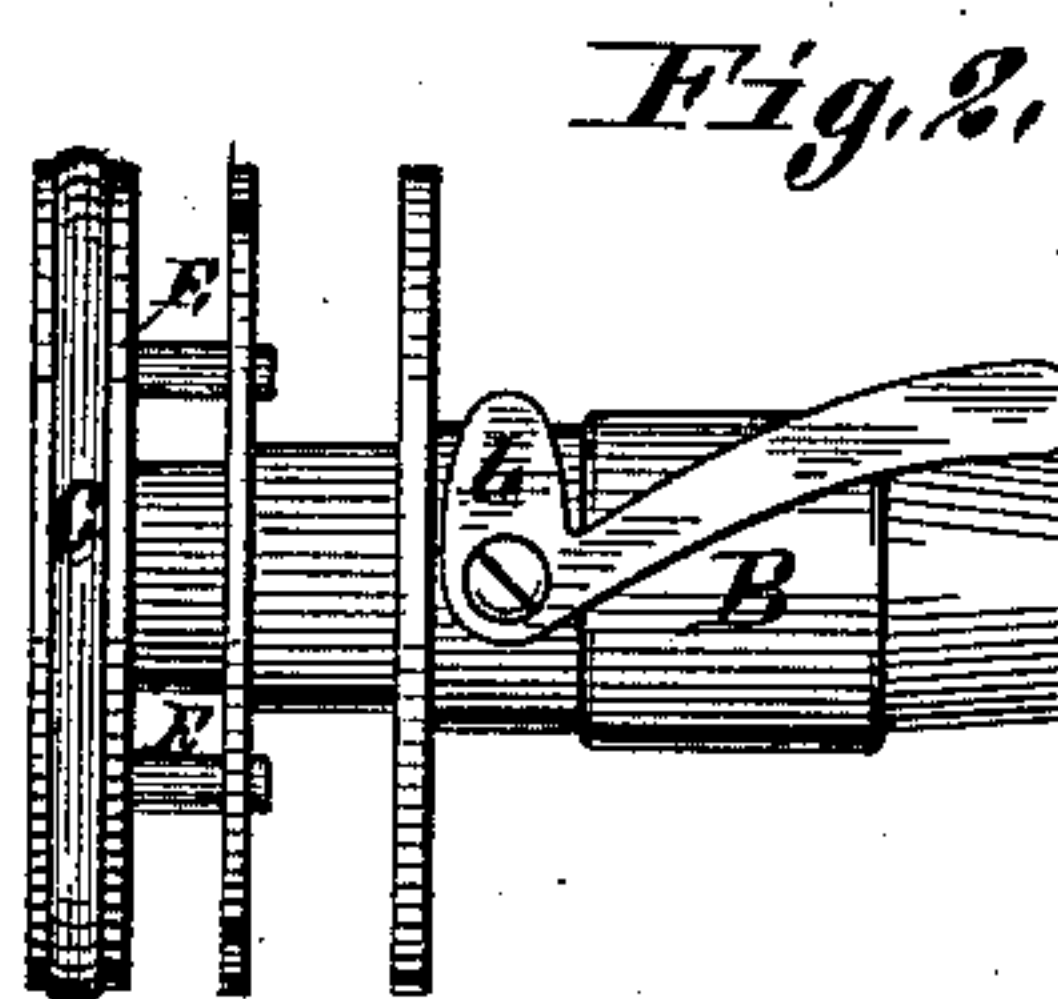
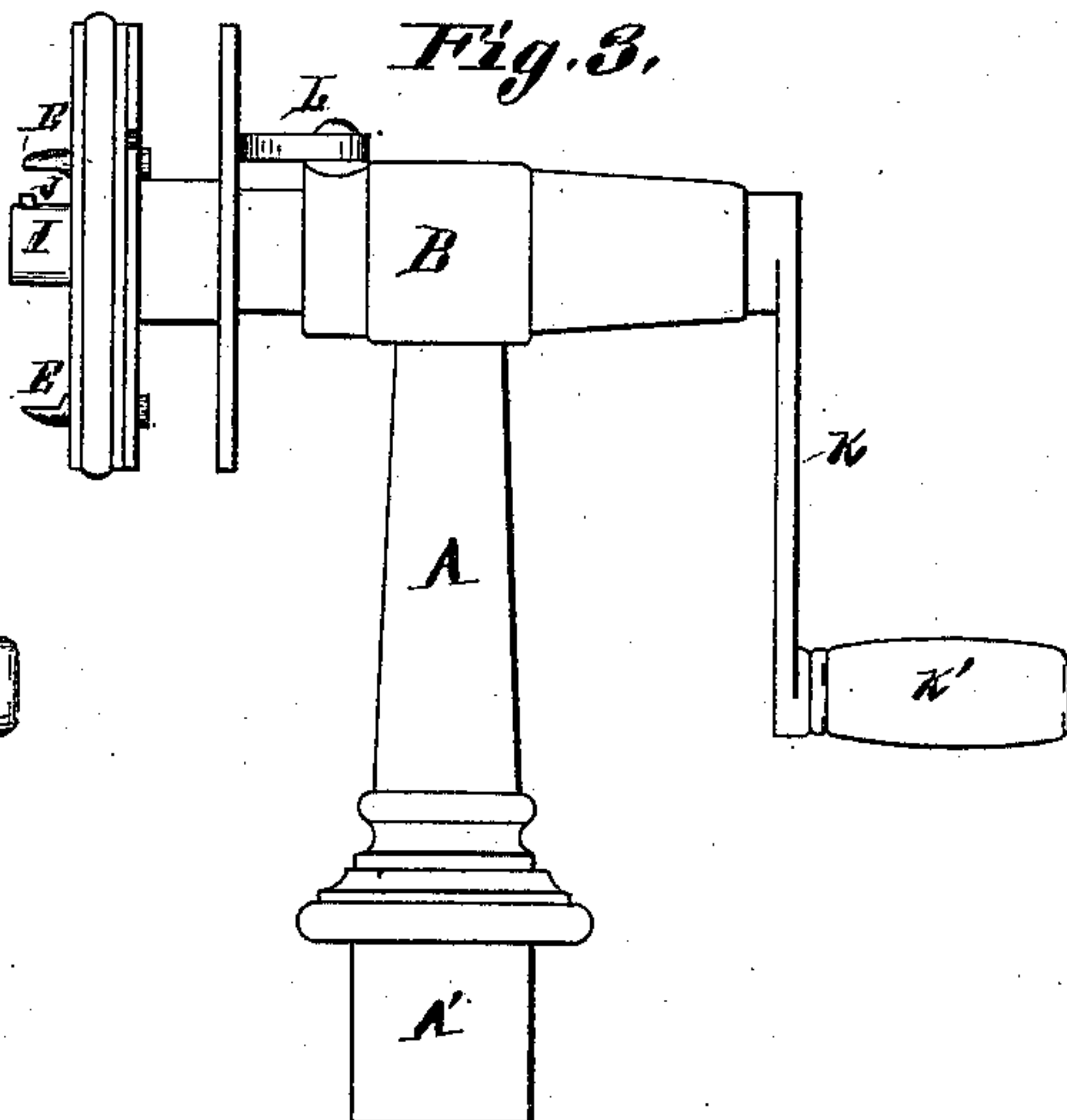
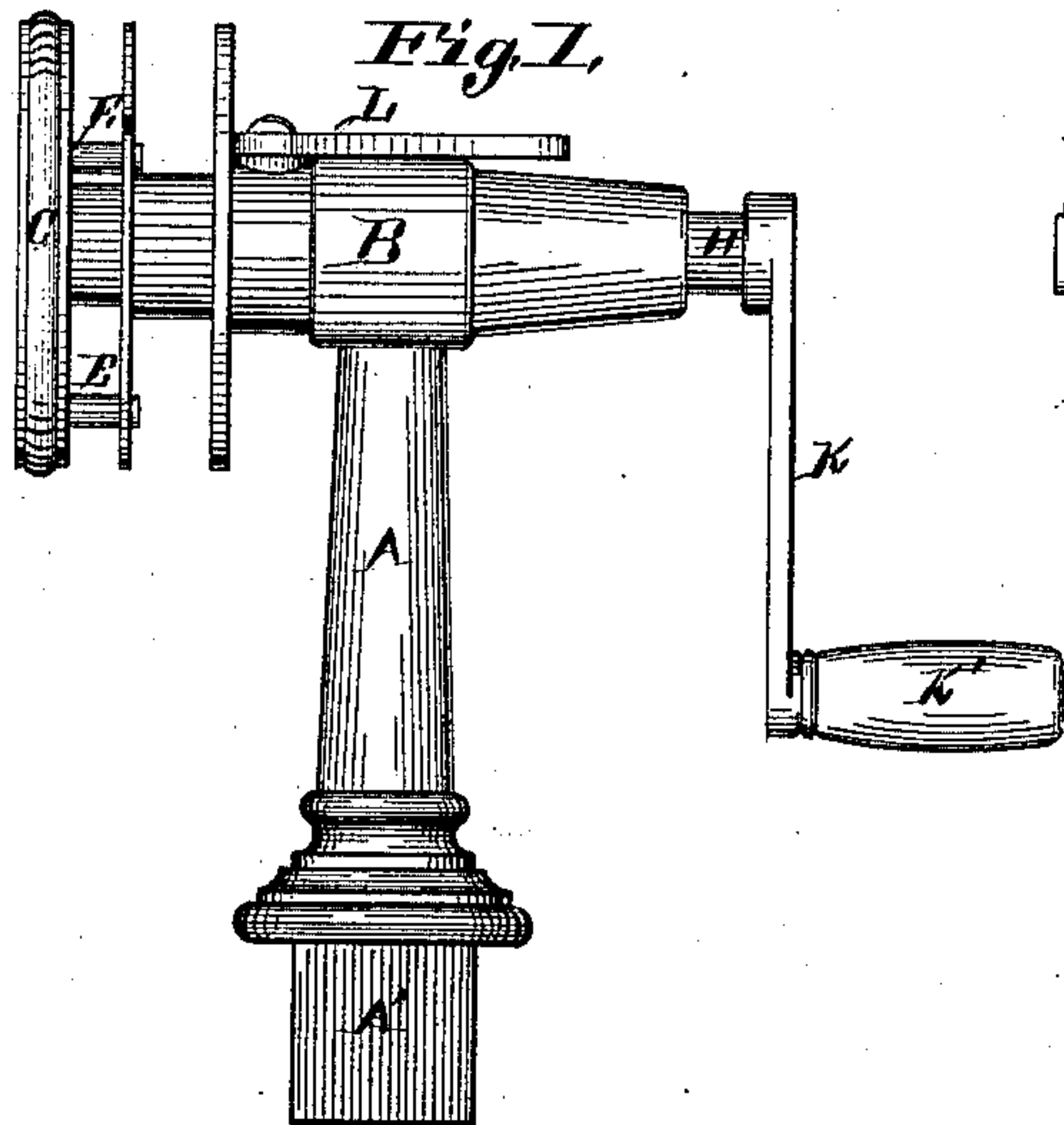
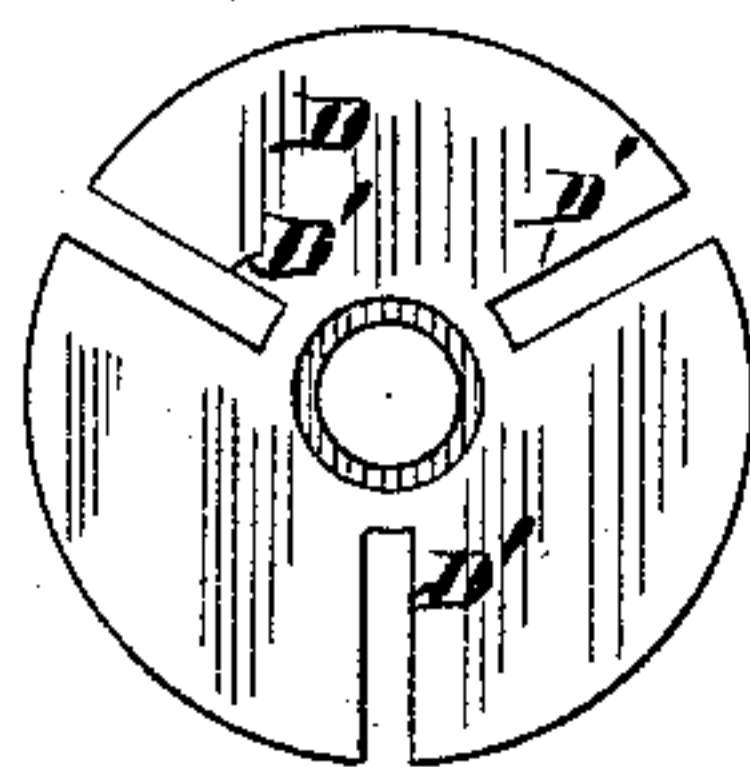


Fig. 8.



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UNITED STATES PATENT OFFICE.

PETER ZIEGEL, OF NASHVILLE, ILLINOIS.

MAINSRING-WINDER FOR WATCH-MAKERS.

SPECIFICATION forming part of Letters Patent No. 349,291, dated September 14, 1886.

Application filed December 26, 1885. Serial No. 186,776. (Model.)

To all whom it may concern:

Be it known that I, PETER ZIEGEL, of Nashville, in the county of Washington and State of Illinois, have invented a certain new and useful Improvement in Mainspring-Winders for Watches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

10 Figure 1 is a side elevation of the instrument, showing the spring-holding pins retracted. Fig. 2 is a top view of the instrument as shown in Fig. 1. Fig. 3 is a side elevation of the instrument with the pins projecting from the face of the volute cam. Fig. 4 is a top view of the instrument as shown in Fig. 3. Fig. 5 is a front elevation. Fig. 6 is a section at 6 6, Fig. 7. Fig. 7 is a section at 7 7, Fig. 5; and Fig. 8 is a side view of the rail guide, plate, or disk within the volute cam or head.

20 My invention relates to devices for winding the mainspring of watches, and inserting them in the barrels of the same, with a novel arrangement of adjustable gage-pins that are regulated to the diameter of the barrel that holds the spring; and my invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

30 Referring to the drawings, in which similar letters illustrate like parts in the several figures, A represents the pedestal of the instrument, and A' the foot of the pedestal intended to be gripped in the jaws of a vise.

B designates the sleeve of the winder, which is provided at one end with a volute cam or head, C, having a radial guide plate or disk, D, hid within it. (See Fig. 8.) There are divergent slots D' in this disk, through which pass the gage-pins E, whose heads work in slots 40 d' in a similar guide plate or disk, d, as seen in Fig. 6, the slots in both plates coinciding with each other. The face of the volute head is formed of a rotary disk provided with curved or volute slots C', through which the aforesaid gage-pins also pass, and it will be seen that as this face is turned round the curved slots expand or contract the area of the gage as desired, regulating it to the diameter of the barrel F that is to hold the spring G. The shaft 50 H passes through the sleeve, and has longitudinal

motion sufficient to allow its end I to project through the face of the volute head. A pin, J, near the end of the shaft engages in the slot in the inner end of the mainspring.

K is the crank of the shaft, which, with its handle K', winds the spring.

L is a pivoted cam-lever, which forces out the disk-frame that holds the gage-pins, thereby projecting them through the volute head to hold and confine the spring. These pins are beveled on the outside of their points to allow an easy presentation of the barrel over them, and are recessed or half cut away on the inside to allow a straight backing for the mainspring, which is wound within them, and for which there is thus provided a recessed seat with a shoulder formed by the cut-away in the pin.

The operation of the winder is as follows: The instrument is placed in the vise, and the cam-lever brought to bear against the rear disk of the frame carrying the gage-pins, which are by that means pushed forward through the volute cam-head until they project sufficiently to clasp the mainspring as it is wound. The face-disk of the head, which is provided with volute slots that regulate the position of the gage-pins, is then turned round, and the curved slots are thus made to either expand or contract the area embraced by the gage-pins, regulating them to the diameter of the barrel. The shaft is then moved longitudinally forward until its end projects beyond the face-disk sufficiently to attach the slotted inner end of the spring to the pin near the end of the shaft. The crank is then made to turn the shaft until the spring is wound tightly against it. The barrel is next placed over the gage-pins, within which the spring is embraced, and the cam-lever being turned back to release its hold, the disk with the accompanying gage-pins are readily withdrawn, leaving the mainspring in the barrel.

It will be seen that by the novel device of the volute cam or head with its accompanying slotted disks and gage-pins one instrument may be regulated to conform to watch-barrels of any dimensions, the change being made in a few seconds without removal from the vise.

When it is considered that many barrels of varying diameter are being filled at the same

bench and by the same mechanic, it is an evident feature of great practical advantage to be able to effect the work without a change of instruments.

5 I claim as my invention—

1. In a mainspring-winder, the combination of the sleeve B, supported on a pedestal, A, having a foot, A', with vertical sides for the vise-grip, and the volute head C, with slotted
10 disks C', D, and d, and gage-pins E E E, arranged therein to hold the spring to a compass within the diameter of the spring-barrel, all substantially as described, and for the purpose
set forth.

15 2. The combination of the volute cam-head,

rotary shaft H, and pin J, with gage-pins E E E, arranged to hold the spring within the compass of that of the spring-barrel, all substantially as described, and for the purpose set forth.

3. The combination, in a mainspring-wind- 20
er, of the pedestal, sleeve, and rotary crank-shaft, with a volute cam-head and gage-pins working in slots in disks and arranged to hold the spring within the compass of the diameter of the spring-
barrel, all substantially as described, and for 25
the purpose set forth.

PETER ZIEGEL.

In presence of—

GEO. LIESE,

JOHN G. BIESER.