

(No Model.)

D. BEST.
VARIABLE ECCENTRIC.

No. 432,594.

Patented July 22, 1890.

Fig. 1.

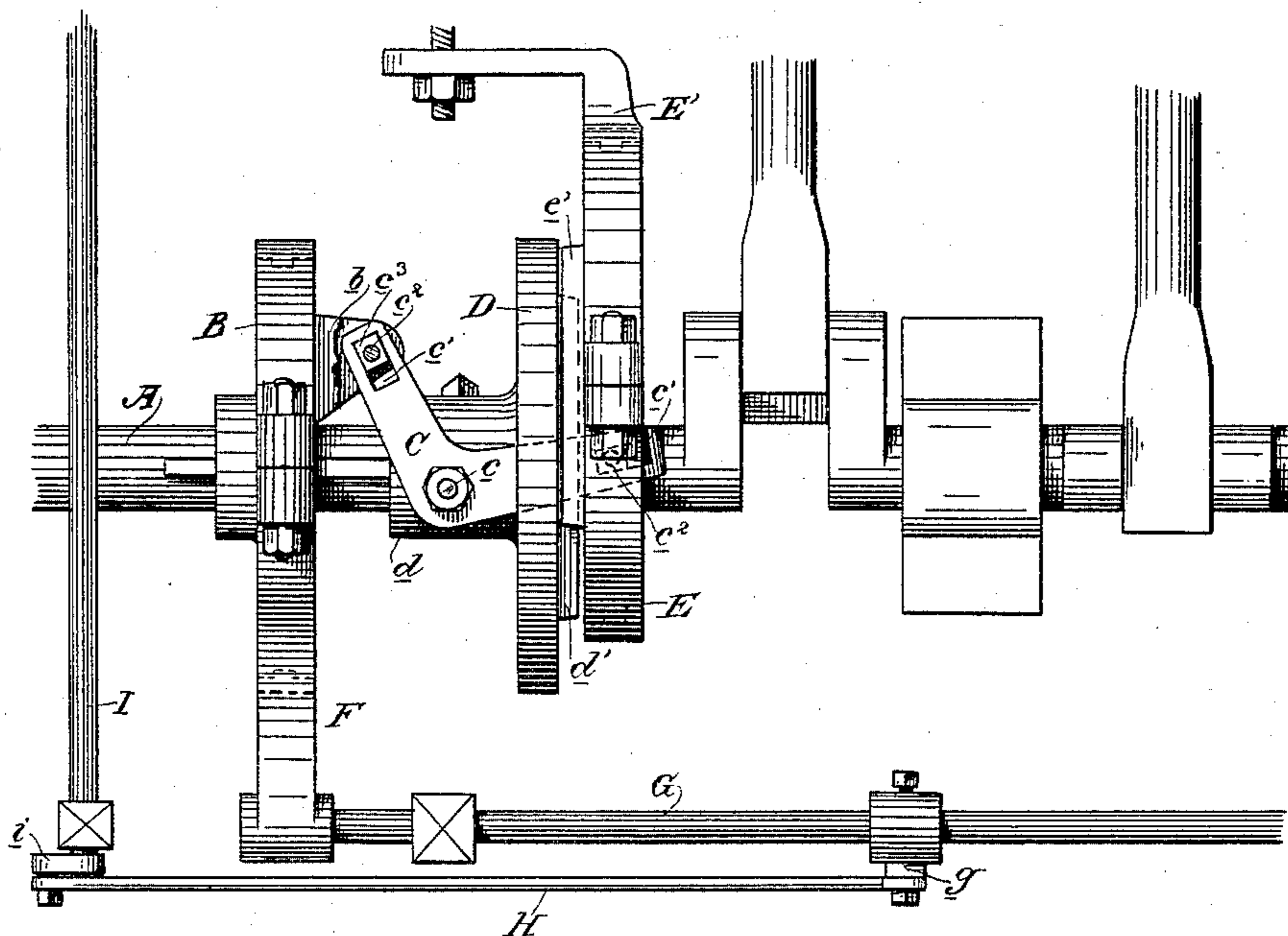


Fig. 2.

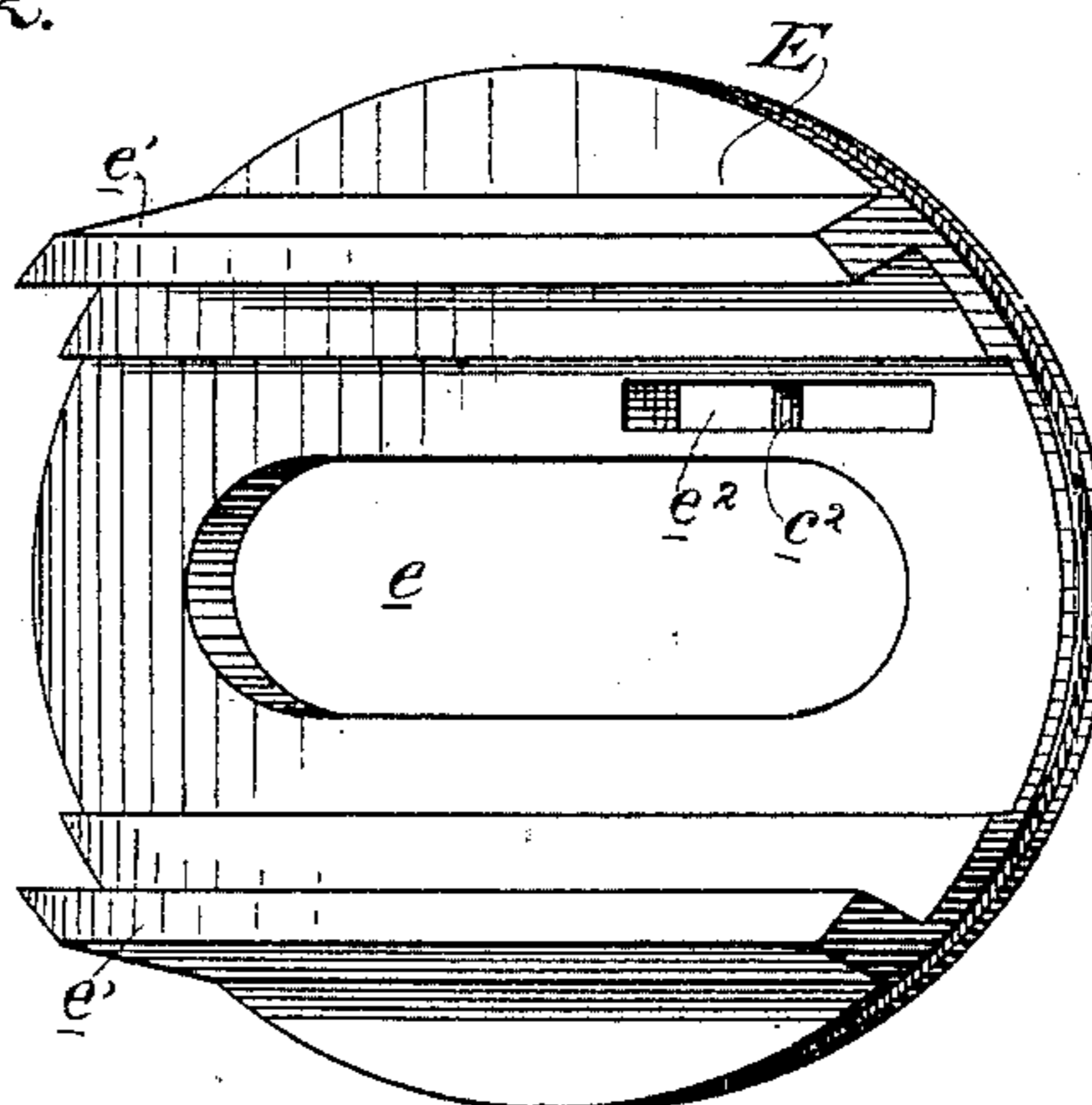
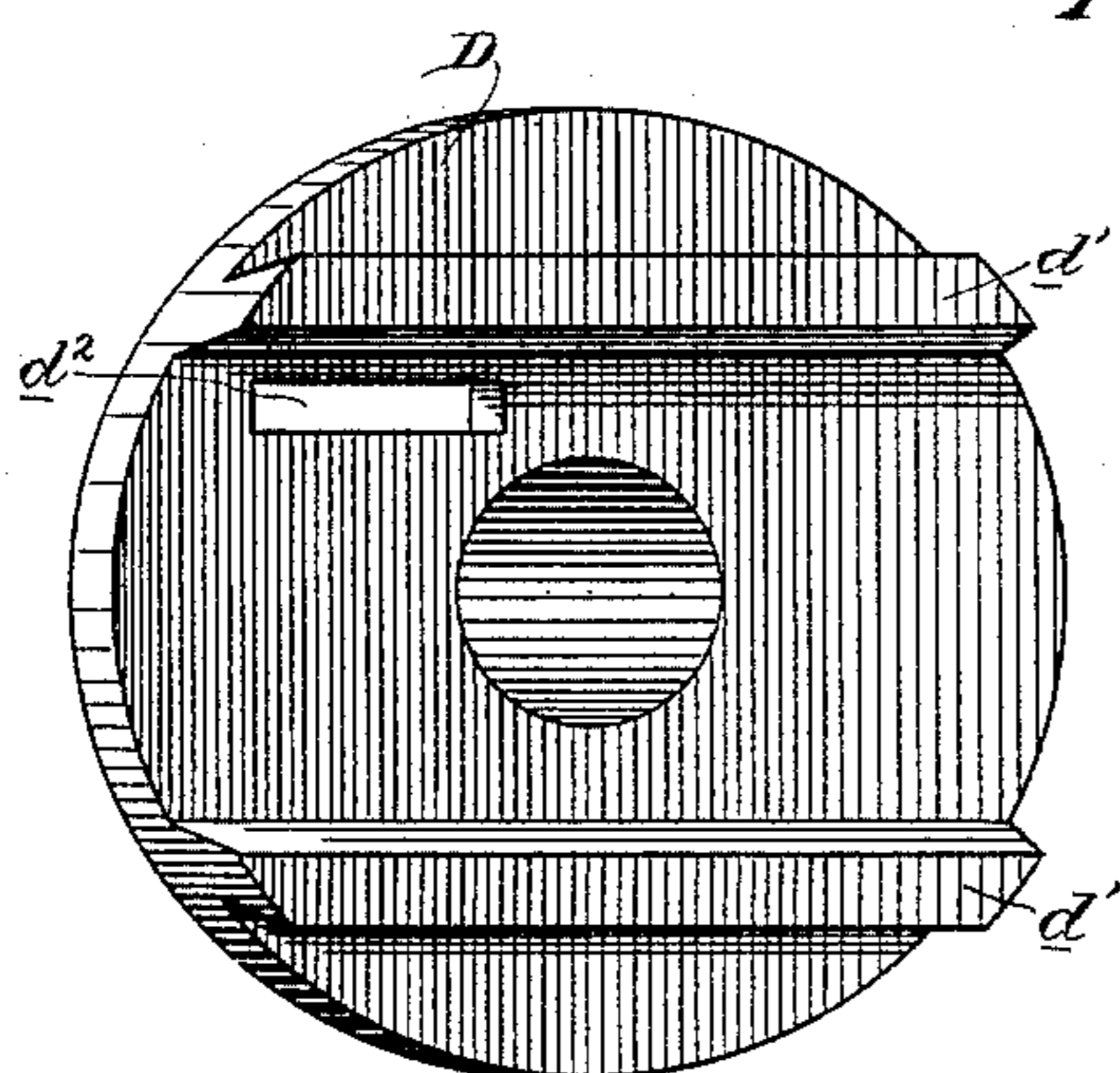
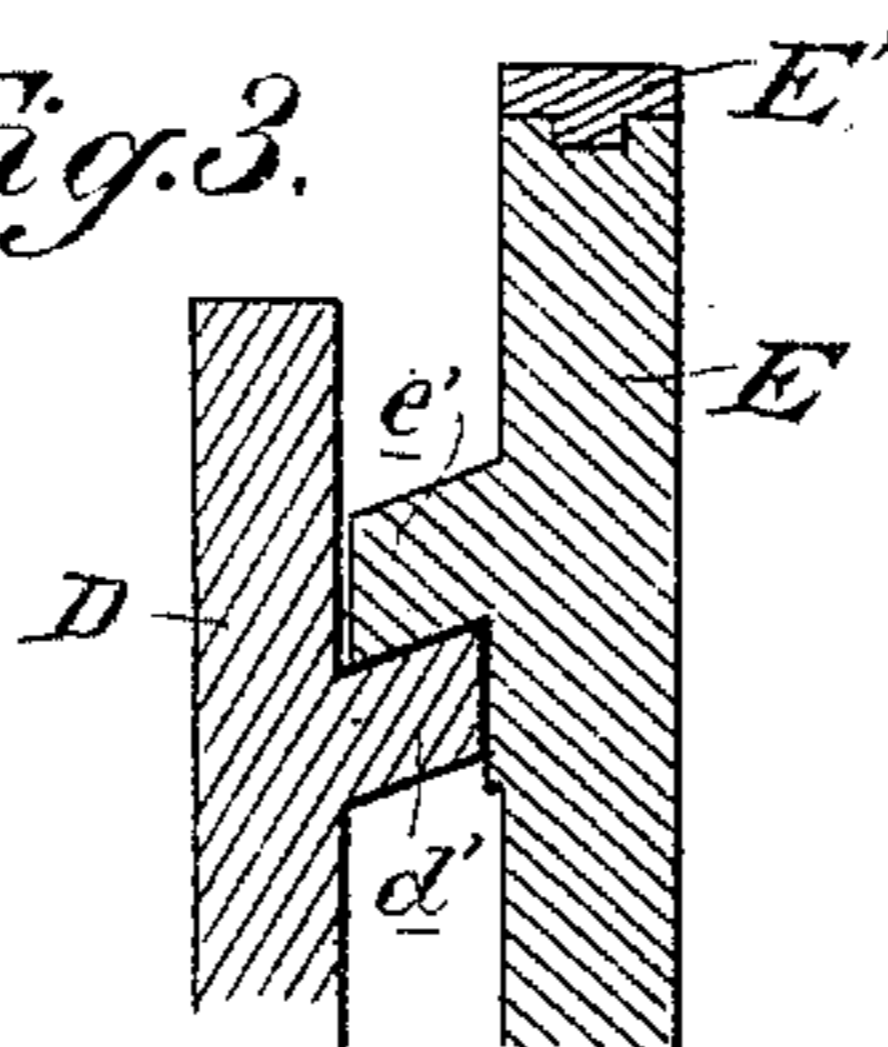


Fig. 3.



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UNITED STATES PATENT OFFICE.

DANIEL BEST, OF SAN LEANDRO, CALIFORNIA.

VARIABLE ECCENTRIC.

SPECIFICATION forming part of Letters Patent No. 432,594, dated July 22, 1890.

Application filed November 20, 1889. Serial No. 331,006. (No model.)

To all whom it may concern:

Be it known that I, DANIEL BEST, a citizen of the United States, residing at San Leandro, Alameda county, State of California, have invented an Improvement in Variable Eccentrics; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of eccentric mechanisms in which the eccentric-disk is mounted and adapted to be moved upon the shaft to vary its position, and is therefore known by the title of "variable eccentric."

My invention consists in the novel constructions, arrangements, and combinations hereinafter fully described, and specifically pointed out in the claim.

The object of my invention is to provide a simple, effective, and accurately-operating variable eccentric.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a plan of my variable eccentric. Fig. 2 is a perspective view showing the guide-disk D and eccentric E separated to show their guide-flanges. Fig. 3 is a detail section showing the engagement of the guide-flanges.

A is the engine-shaft. Upon this shaft is mounted a sliding disk B, moving on a feather or spline on said shaft. From one side or face of this sliding disk projects an arm *b*, in which is pivoted one end of a bell-crank or elbow lever C. Secured rigidly to the engine-shaft is a guide-disk D, which has an extended hub *d*, and on this hub the elbow-lever C is pivoted at its angle, as shown at *c*. On one side or face of the guide-disk D are formed or secured the guide-flanges *d'*, which have beveled faces and extend across the disk on each side of its center in the line of chords of arcs.

E is the eccentric, which is mounted upon the engine-shaft A by means of an elongated slot *e* in said eccentric, adapting it to be moved back and forth to change its eccentricity with relation to the shaft. On that side or face of the eccentric which is adjacent to the guide-disk D are formed or secured the bevel-sided guide-flanges *e'*, which are located in the planes of chords of arcs,

and are adapted to engage with and slide upon the guide-flanges *d'* of the disk D, whereby said eccentric is connected with the shaft through these guide-flanges and disk D, but at the same time may have a sliding movement on the guide-flanges to vary its eccentricity.

E' is the eccentric-strap.

The other arm of the elbow-lever C passes freely through an elongated slot *d''* in the guide-disk *d* and into and through an elongated slot *e''* in the eccentric and is pivoted in said slot. The pivotal connections of both ends of the lever are necessarily sliding ones, and are formed by making elongated slots *c'* in the lever ends and mounting the pivot-pins *c''* in blocks *c'''*, which are mounted in the slots *c'*, so that the lever-arms may slide back and forth on the pins as the position of the lever is changed.

The sliding disk B is operated by means of an encircling strap F, which engages it, said strap being connected with the slide-shaft G, which is operated by means of a connecting-rod H, one end of which is attached to a collar *g* on said shaft, and the other end is attached to a crank *i* on the end of a rock-shaft I, which extends to within reach of the operator.

The operation of this device is as follows: By rocking the shaft I the slide-shaft G is moved longitudinally by means of the crank *i* and connecting-rod H, and this movement of the shaft effects, through the strap F, the sliding movement back and forth on the shaft A of the disk B. This movement of the disk, acting through the elbow or bell-crank lever C, effects the change of position of the eccentric E, moving on the shaft by means of its slot *e*, and guided and held in connection with the shaft by the guide-flanges *d'* and *e'*.

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

A variable eccentric consisting of the combination of the slotted eccentric, whereby its position may be altered on the engine-shaft, said eccentric having the transverse guide-flanges *e'*, the fixed disk D, mounted on the shaft and having the transverse guide-flanges

d' engaging the guide-flanges of the eccentric, the sliding disk B on the shaft, the pivoted bell-crank or elbow lever having its ends pivotally connected with the sliding disk and
5 with the eccentric, and the means for sliding the disk B, consisting of the strap F, encircling it, the slide-rod G, with which said strap is connected, the rock-shaft I, having the crank *i*, and the rod H, connecting said crank

with the slide-rod G, substantially as herein described.

In witness whereof I have hereunto set my hand.

DANIEL BEST.

Witnesses:

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C. Q. RIDEOUT.