

(No Model.)

J. E. KETCHEM.
DRILLING AND CENTERING TOOL.

No. 395,833.

Patented Jan. 8, 1889.

Fig. 1.

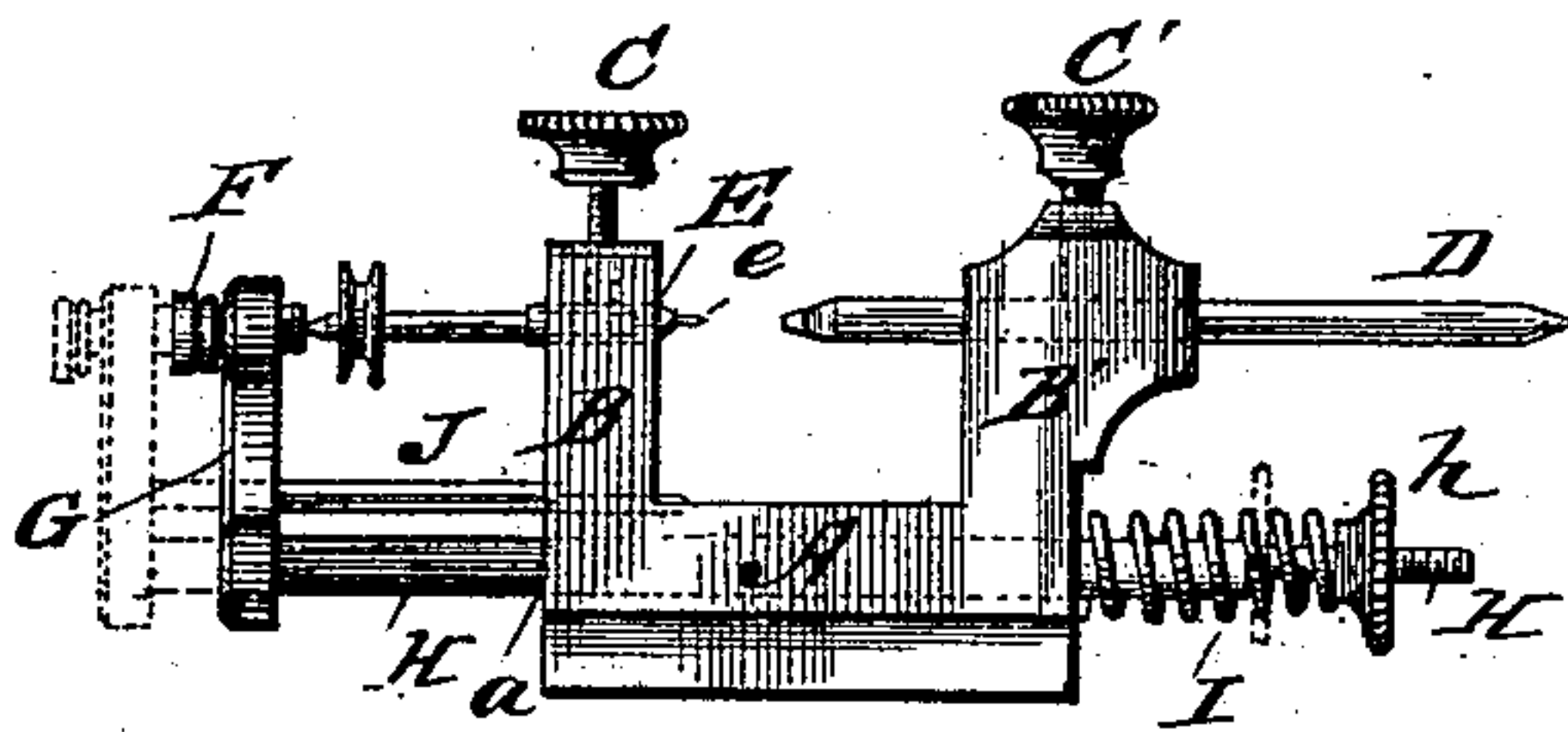


Fig. 2.

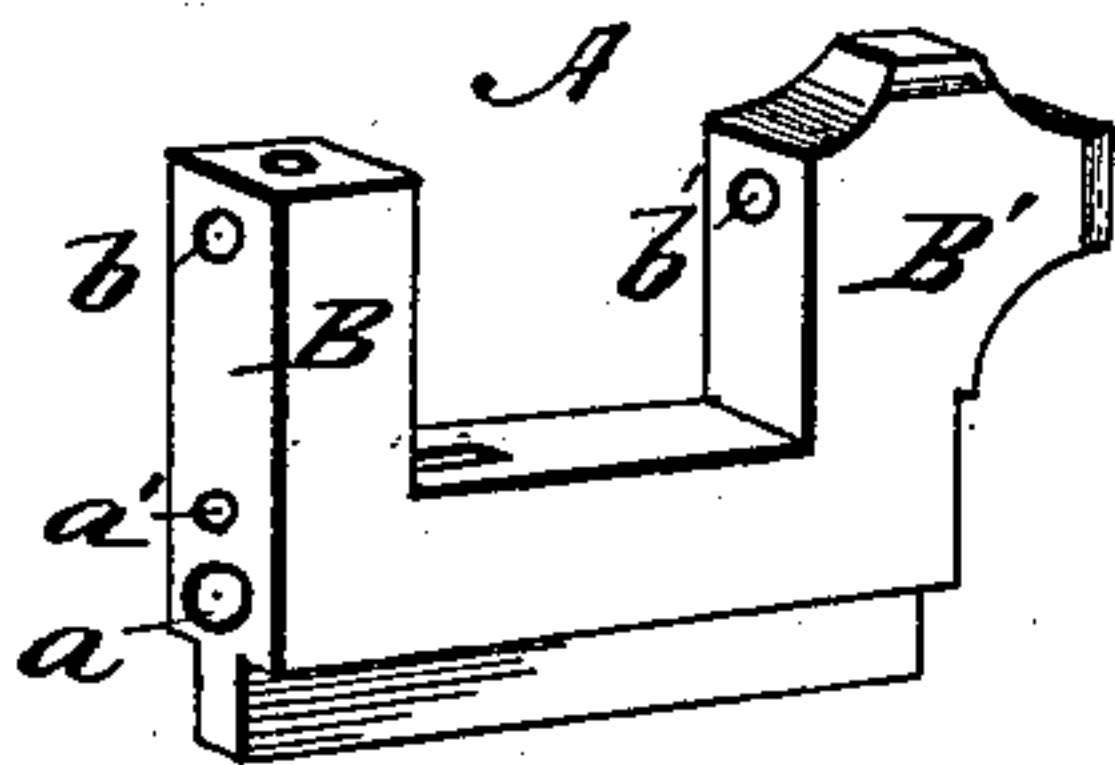


Fig. 3.

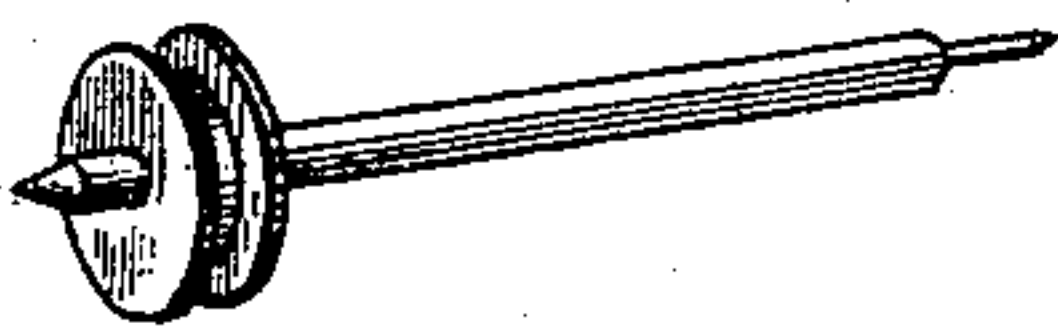
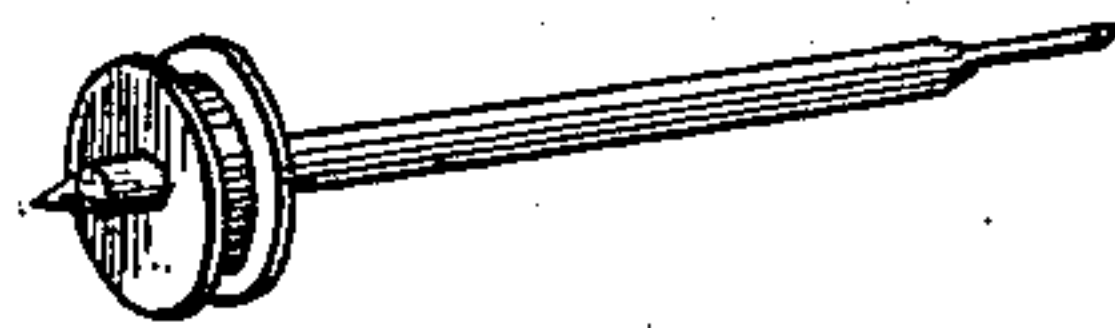


Fig. 4.



WITNESSES:

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DRILLING AND CENTERING TOOL.

SPECIFICATION forming part of Letters Patent No. 395,833, dated January 8, 1889.

Application filed June 22, 1888. Serial No. 277,823. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. KETCHEM, of Morrillton, in the county of Conway and State of Arkansas, have invented a new and useful
5 Improvement in Drilling and Center-Marking Tools, of which the following is a specification.

My invention is an improved drilling and centering tool intended especially for watch-makers' use; and the invention consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a side view of the device. Fig. 2 is a detail perspective view of the frame; and Figs. 3 and 4 show, respectively, the center-marking and drilling tools.

The frame A has posts B B', provided with horizontal bearings *b b'* and with clamping-screws C C', intersecting said opening. The
20 centering-rod D fits in bearing *b'*, and may be clamped in position by the screw C'. In the bearing *b*, I prefer to fit a tube-like bushing, E, having its central opening contracted at *e*
25 to the proper size to just permit the passage of the points of the center-marking and drilling tools, which tools need no particular description. The said tube E may be secured in any desired adjustment by the screw C,
30 and forms, as shown, the front bearing for the tools.

The back center, F, is supported in arm G on slide-rod H, which arm and slide-rod constitute the center-support. The rod H extends through opening *a* in frame A, and is
35 actuated by spring I, preferably arranged to bear between frame A and a nut, *b*, threaded on rod H, so that the force of the tension exerted by said spring on the slide-rod and its
40 parts may be adjusted as desired.

A stay-rod, J, connected with arm G and entering opening *a'* in frame A, braces the arm G against lateral play.

It will be seen that by means of the spring
45 a steady feed-pressure may be exerted on the tool, whether the center-marker or drill, either of which may be conveniently applied to the machine; also that such pressure may be regulated and adjusted so as to properly feed
50 the tool in working in different materials.

The construction, as shown, is simple, easily

adjusted in use, and in operation serves to prevent any clogging or choking of the center-marker and drill.

Having thus described my invention, what I
claim as new is—

1. In a tool substantially as described, the combination of the framing, a slide-rod operating in said framing and provided with an arm or portion supporting the back center, 60 and a spring arranged to actuate said slide-rod, whereby to feed the drill forward in the operation of the device, substantially as set forth.

2. The combination, in a tool substantially 65 as described, of the framing, the slide-rod extended through an opening in the frame and having arm or portion G, supporting the back center, a spring on said slide-rod, and a nut threaded on the slide-rod and forming an ad- 70 justable bearing for the actuating-spring, substantially as set forth.

3. The combination, with the framing, the slide-rod, the spring for actuating said slide-rod, and the arm or portion G, of a stay-rod 75 extended from arm G and entering a guide-opening in the framing, substantially as set forth.

4. The improved tool, substantially as described, consisting of the frame having a bear- 80 ing for one end of the drill or center-marker, the arm or portion arranged in rear of said bearing and supported by the rod, the spring arranged to operate said rod and give the arm a tension toward the bearing in the 85 frame, and the back center supported in said arm or portion and arranged in rear of and in alignment with the bearing in the frame, all substantially as described, whereby the back center may be fed forward automati- 90 cally, as and for the purposes specified.

5. The improved tool herein described, consisting of the frame having openings *a a'*, the slide-rod H, operating through opening *a* and having arm G, having a back center and pro- 95 vided with a stay-rod extended into the opening *a'*, and the actuating-spring, all substantially as and for the purposes specified.

JOHN E. KETCHEM.

Witnesses:

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