

No. 731,851.

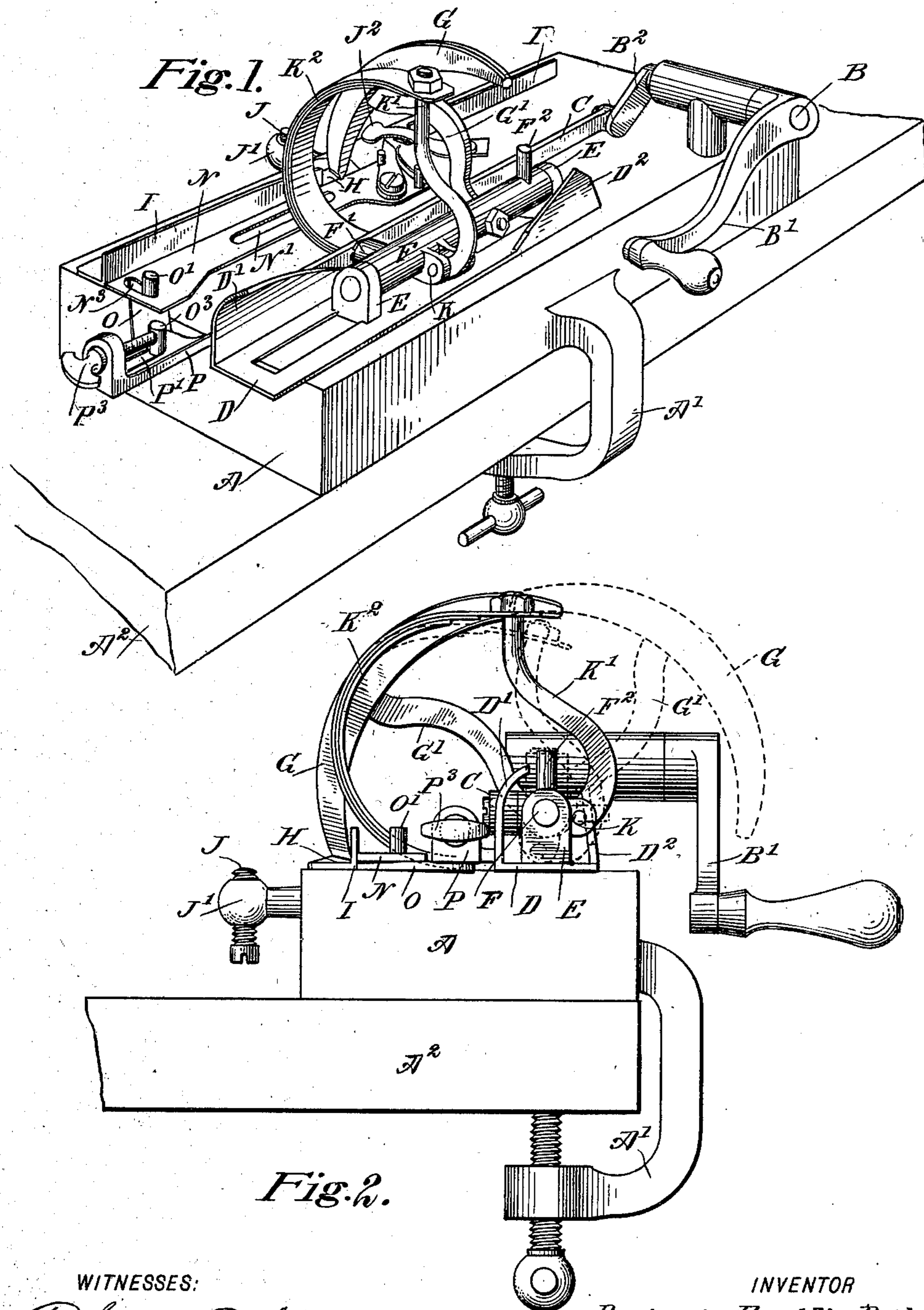
PATENTED JUNE 23, 1903.

B. F. BRILEY.  
SAW SETTING MACHINE.

APPLICATION FILED SEPT. 18, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



**WITNESSES:**

Robert Stead  
Rev. J. Foster.

**INVENTOR**

*Benjamin Franklin Briley*

BY *Mum*

**ATTORNEYS.**

No. 731,851.

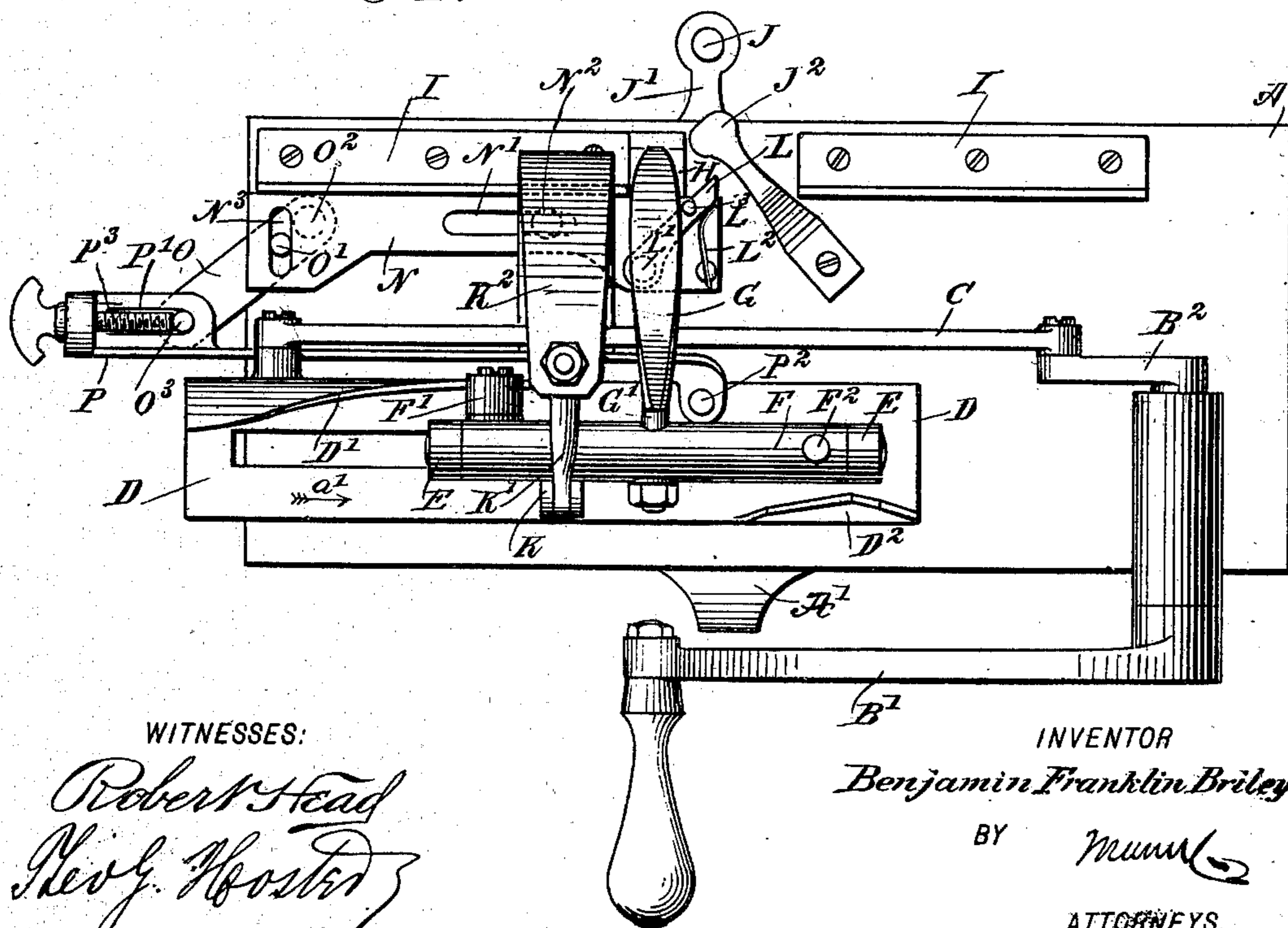
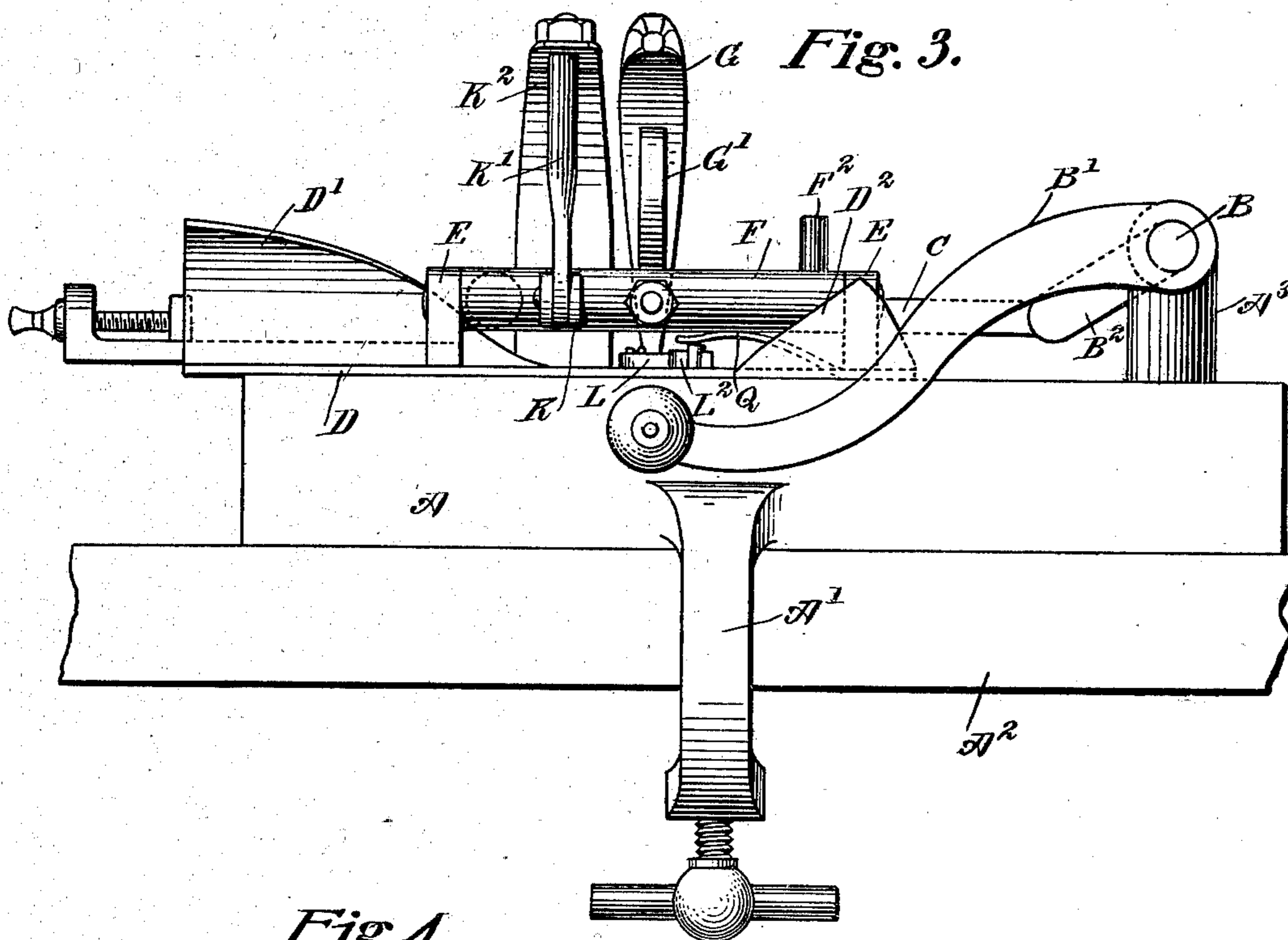
PATENTED JUNE 23, 1903.

B. F. BRILEY.  
SAW SETTING MACHINE.

APPLICATION FILED SEPT. 18, 1902.

NO MODEL.

2 SHEETS—SHEET 2.



WITNESSES:

*Robert Head*  
*Rev. J. Hoster*

INVENTOR

*Benjamin Franklin Briley*

BY

*Mum*

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

BENJAMIN FRANKLIN BRILEY, OF BLUFF CITY, KANSAS.

## SAW-SETTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 731,851, dated June 23, 1903.

Application filed September 18, 1902. Serial No. 123,850. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN FRANKLIN BRILEY, a citizen of the United States, and a resident of Bluff City, in the county of Harper and State of Kansas, have invented a new and Improved Saw-Setting Machine, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved saw-setting machine which is simple and durable in construction, very effective in operation, and arranged to periodically feed the saw-blade forward the distance between three teeth to bring a tooth in position for the setting-hammer to strike the tooth and accurately set it to any desired degree, according to the fineness or coarseness of the saw.

The invention consists of novel features and parts and combinations of the same, as will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the improvement. Fig. 2 is an end elevation of the same. Fig. 3 is a front elevation of the same, and Fig. 4 is a plan view of the same.

The improved saw-setting machine is mounted on a suitably-constructed base A, provided with a screw-clamp A' for securing the base A to a table or other support A<sup>2</sup>. On the top of the base is arranged a bearing A<sup>3</sup> for a shaft B, carrying at one end a handle B', adapted to be taken hold of by the operator to impart a turning motion to the shaft B. The other end of the shaft B is provided with a crank-arm B<sup>2</sup>, pivotally connected by a pitman C with a slide D, mounted to move on guideways or bearings E, secured to the top of the base A, the said slide D resting on the upper face of the said base.

In the bearings E is journaled a shaft F, extending radially and carrying the longitudinally-disposed handle G' of a hammer G, adapted to strike the saw-tooth resting at the time on the inclined face of an anvil H, secured to the base A, the saw-blade being

guided in a longitudinal direction on guideways I, attached to the base A.

The saw-blade rests on the upper end of a screw J, screwing in a bracket J', projecting from the base A, and the said saw-blade is held down on the anvil H, guideways I, and screw J by a spring-arm J<sup>2</sup>, attached to the base A. By raising or lowering the screw J more or less inclination is given to the saw-blade relative to the inclined face of the anvil H to allow of giving more or less set to the tooth when struck by the hammer G.

In order to oscillate the shaft F, and with it the hammer G, the following device is provided: On the shaft F is arranged a friction-roller F', adapted to be engaged by a cam-face D', formed on the slide D, so that when the latter moves forward in the direction of the arrow a' (see Fig. 4) then the cam-face D' engages the friction-roller F' and imparts a turning motion to the shaft F, so as to swing the hammer G into an uppermost position.

From the shaft F extends transversely an arm K, connected by a link K' with the free end of a spring K<sup>2</sup>, secured to the base A, so that when the shaft F is turned by the action of the cam-face D' and friction-roller F', as above described, the arm K pulls on the link K' to place the spring K<sup>2</sup> under tension, the arm K finally moving past a central position, as indicated in dotted lines in Fig. 2, for the spring to hold the shaft F and hammer G in the position described.

On the shaft F is secured a projection F<sup>2</sup>, adapted to be engaged by a cam-face D<sup>2</sup>, secured on the slide D, so that when the latter moves in the inverse direction of the arrow a' then the cam-face D<sup>2</sup> acts on the projection F<sup>2</sup> to turn the shaft F in the opposite direction, and thereby swing the arm K upward past a central position to allow the spring K<sup>2</sup> to suddenly and forcibly turn the shaft F to move the hammer G downward for the hammer to strike a blow on the tooth resting on the anvil H.

It is understood from the foregoing that during the return stroke of the slide D the cam D<sup>2</sup> and projection F<sup>2</sup> impart a return starting motion to the shaft F to allow the spring K<sup>2</sup> to complete the downward stroke

of the hammer G for striking the blow on the saw-tooth and thereby set the same. On the next forward movement of the slide D in the direction of the arrow  $a'$  the hammer is again raised, as previously described, and during this time the saw is fed forward two teeth by the action of a feeding device provided with a pawl L, adapted to engage the saw-tooth adjacent to the anvil H.

The pawl L is fulcrumed at  $L'$  on a slide N, mounted to move on the base A and having an elongated slot  $N'$  for a guide-pin  $N^2$  attached to the base and serving to guide the slide in its forward and backward movement.

A spring  $L^2$  presses the free end of the pawl L to hold the latter in engagement with a tooth of the saw, the swinging motion of the pawl being limited by a stop-pin  $L^3$ . (See Fig. 4.)

The slide N is formed with a slot  $N^3$ , elongated in a transverse direction, and into the slot projects a pin  $O'$ , secured to a link O, fulcrumed at  $O^2$  on the base and provided at its free end with a pin  $O^3$ , extending into a slot  $P'$ , elongated longitudinally on a pitman P, pivotally connected at  $P^2$  with the slide D. (See Fig. 4.) A screw  $P^3$  screws into the outer end of the pitman P and abuts against the pin  $O^3$  to allow the operator to regulate the amount of throw to be given to the slide N and the pawl L, according to the size of the saw-teeth under treatment. Thus by the operator adjusting the screw  $P^3$  more or less throw can be given to the pawl L to properly feed the saw forward, according to the size of its teeth.

It is understood that when the slide D moves forward in the direction of the arrow  $a'$  and the hammer G swings upward then the pitman P, connected with the said slide D, imparts a swinging motion to the link O, and the latter by the pin  $O'$  imparts a forward sliding motion to the slide N, so that the pawl L, pivoted on the said slide N, pushes the saw forward to bring the second next tooth over the anvil H. On the return stroke of the slide D and during the time the blow is struck by the hammer G on the saw-tooth over the anvil H the slide N moves outward in the inverse direction of the arrow  $a'$  and the pawl L glides over the tooth of the saw without disturbing the position thereof.

The head of the hammer G is preferably made double, and the hammer-handle  $G'$  is adjustably held in the shaft F to allow of turning the hammer around whenever it is desired to do so.

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

1. A saw-setting machine comprising an anvil, a spring-pressed oscillating hammer for striking a blow on the saw-tooth resting on the anvil at the time, means for moving the hammer into a raised position against the tension of its spring, means for holding said hammer in its elevated position and a tripping

device for starting the hammer and allowing its spring to complete the downstroke, as set forth.

2. A saw-setting machine comprising an anvil, a spring-pressed oscillating hammer for striking a blow on the saw-tooth resting on the anvil at the time, means for moving the hammer into a raised position against the tension of its spring, means for holding said hammer in its elevated position, a tripping device for starting the hammer and allowing its spring to complete the downstroke, and a device for feeding the saw periodically and operating in unison with the said hammer, as set forth.

3. A saw-setting machine comprising an anvil, a spring-pressed oscillating hammer for striking a blow on the saw-tooth resting on the anvil at the time, means for moving the hammer into a raised position against the tension of its spring, means for holding said hammer in its elevated position, a tripping device for starting the hammer and allowing its spring to complete the downstroke, a device for feeding the saw periodically and operating in unison with the said hammer, and a connection between the feeding device and the said means, as set forth.

4. A saw-setting machine comprising a rock-shaft, a hammer held thereon and extending transversely to the shaft, an arm on the shaft, a spring fixed at one end and connected at the other end with the said arm, and a reciprocating slide carrying a cam-face, a friction-roller held on the said shaft arranged to be engaged by said cam-face to impart a rocking motion to the shaft, to swing the hammer into a raised position, bring the shaft-arm past a central position, and hold the spring under tension and the shaft in a locked position, as set forth.

5. A saw-setting machine comprising a rock-shaft having a friction-roller, a hammer held on the shaft and extending transversely thereto, an arm on the shaft, a spring fixed at one end and connected at the other end with the said arm, a reciprocating slide carrying a cam-face, arranged to act on the friction-roller to impart a rocking motion to the shaft, to swing the hammer into a raised position, bring the shaft-arm past a central position, and hold the spring under tension and the shaft in a locked position, and a tripping cam-face on the slide, a projection on the shaft to be engaged by said face to start the latter on the return stroke, to bring the hammer-spring into action, as set forth.

6. A saw-setting machine comprising a rock-shaft, a hammer held thereon and extending transversely to the shaft, an arm on the shaft, a spring fixed at one end, a link connecting the free end of the spring with the said shaft-arm, a reciprocating slide carrying a cam-face, a friction-roller on the said shaft adapted to be engaged by said cam-face, a second cam-face on the said slide, a projection on the said shaft to be engaged by said

second cam-face, and means for imparting a reciprocating motion to the said slide, as set forth.

7. A saw-setting machine provided with a feeding device comprising a reciprocating slide, a pitman connected with the said slide and having an elongated slot, a screw screwing in the said pitman, a link having a pin extending into the said pitman-slot and engaged by the said screw, a second slide having an elongated slot engaged by a pin on the said link, and a spring-pressed pawl pivoted on the said second slide and adapted to engage the saw-teeth, as set forth.

8. A saw-setting machine, comprising a rock-shaft, a hammer operated thereby; projections on said shaft; a reciprocating slide carrying cam-faces adapted to alternately engage said projections to impart to the hammer a back-and-forth movement; and means for reciprocating the slide, as specified and for the purpose set forth.

9. A saw-setting machine, comprising a base having a rock-shaft mounted thereon; a hammer operated by said shaft; projections on the shaft; a reciprocating slide carrying cam-faces adapted to alternately engage said projections to impart to the hammer a back-and-forward movement; a bearing on said base; an operating-shaft mounted in said bearing and having a crank; a connecting-

rod connecting said crank and said reciprocating slide; a feed mechanism for the saw; and a pitman connecting the reciprocating slide with the feed mechanism to feed the saw-teeth to the hammer, as specified and for the purpose set forth.

10. A saw-setting machine, comprising a base having a rock-shaft mounted thereon; a hammer operated by said shaft; projections on the shaft; a reciprocating slide carrying cam-faces adapted to alternately engage said projections to impart to the hammer a back-and-forward movement; a bearing on said base; an operating-shaft mounted in said bearing and having a crank; a connecting-rod connecting said crank and said reciprocating slide; a feed mechanism for the saw; a fulcrum-link for operating the same; a pitman connecting the reciprocating slide with said link to feed the teeth of the saw to the hammer; and means for adjusting the travel of said feed mechanism, as specified and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BENJAMIN FRANKLIN BRILEY.

Witnesses:

FRED GLOVER,  
E. L. STURDEVANT.