

(No Model.)

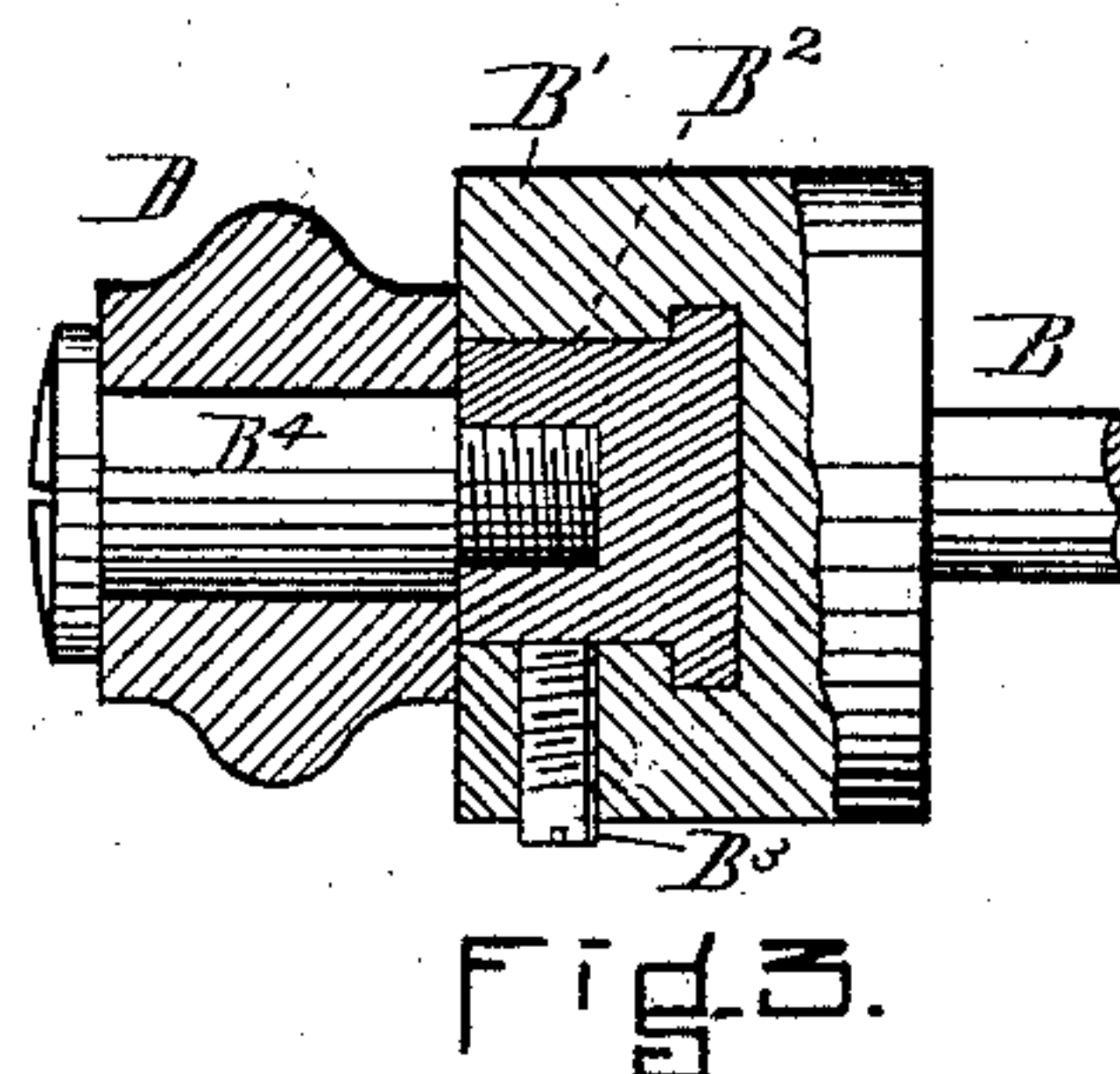
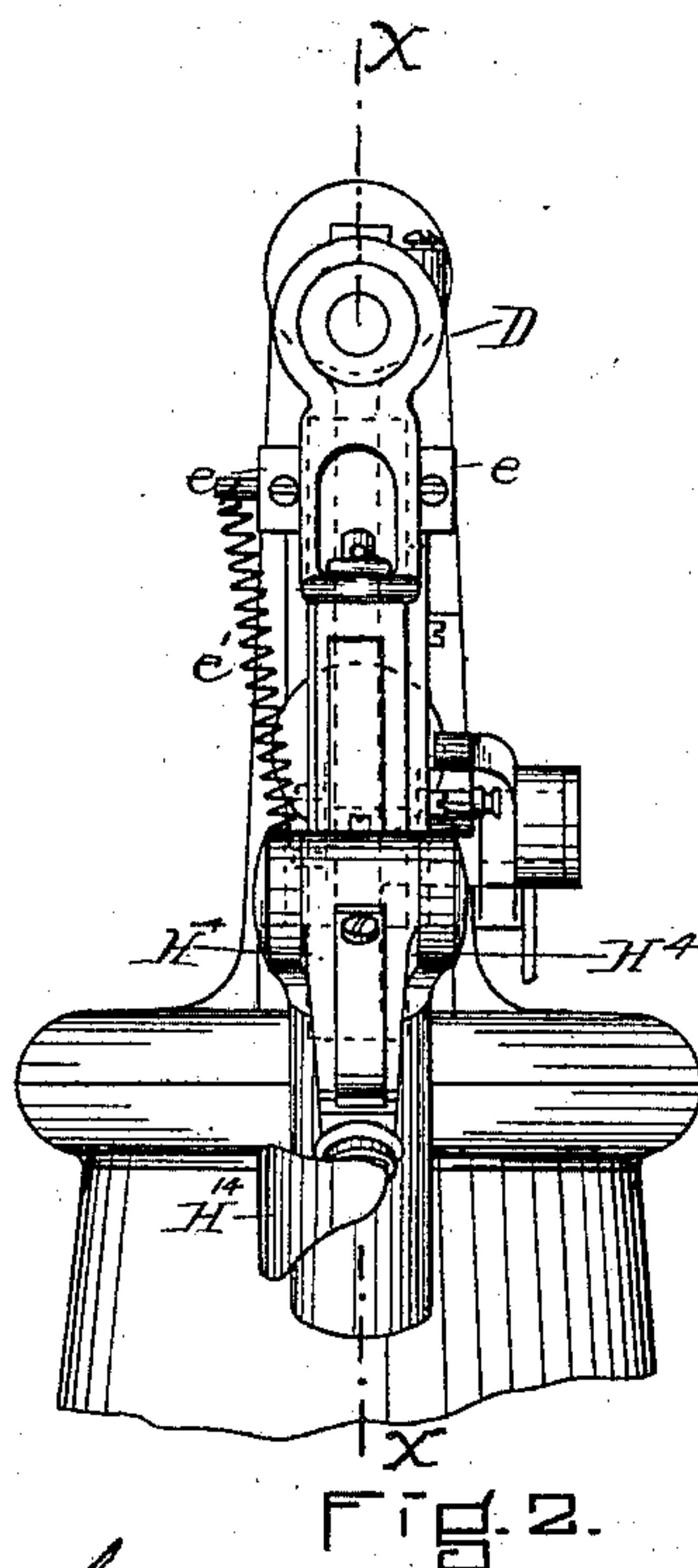
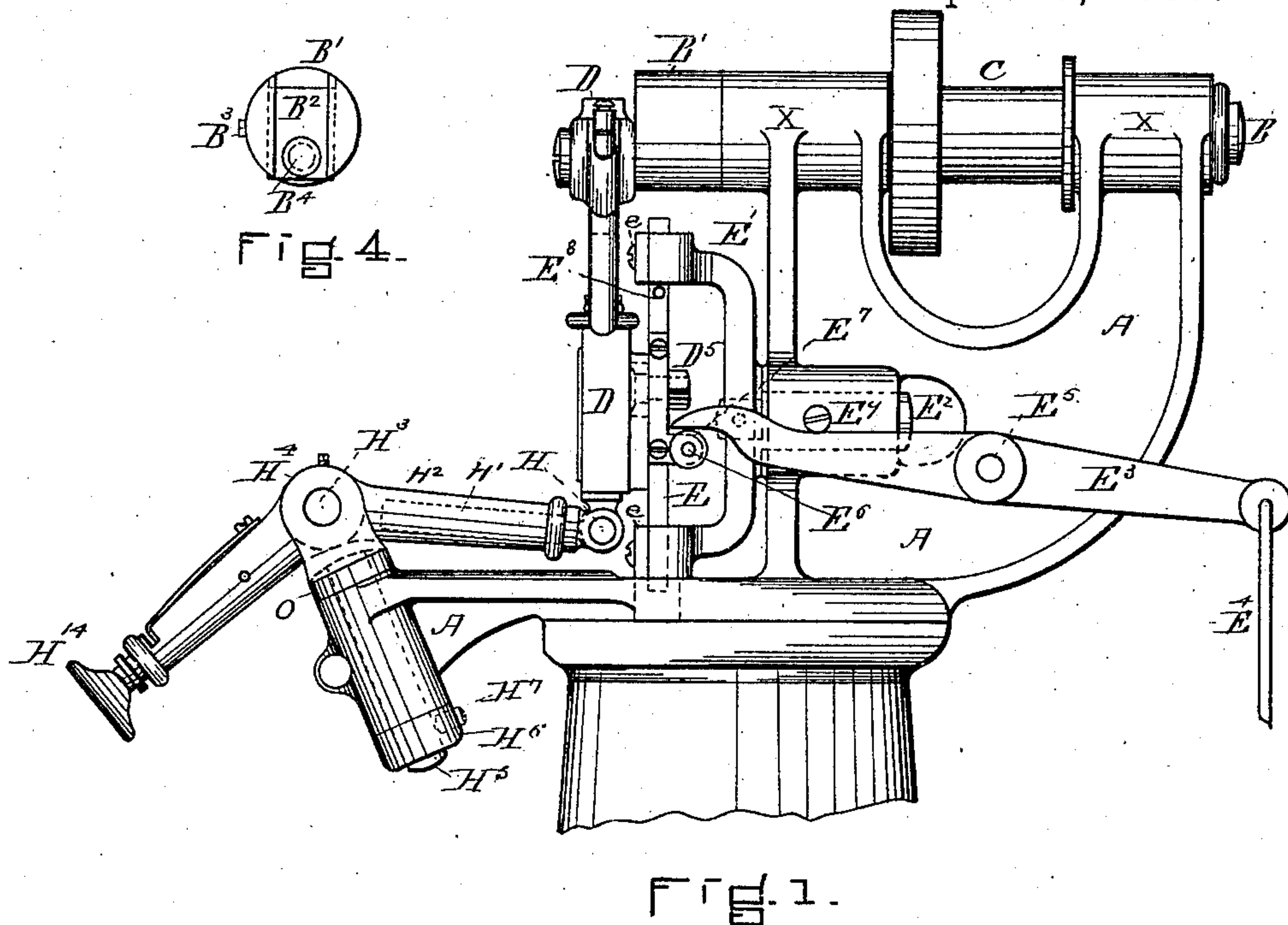
2 Sheets—Sheet 1.

R. ASHE.

SHANK AND HEEL BURNISHING MACHINE.

No. 369,679.

Patented Sept. 13, 1887.



WITNESSES.

Charles G. Cobb.

Charles H. Winchius

Robert Ashe
INVENTOR.

(No Model.)

2 Sheets—Sheet 2.

R. ASHE.

SHANK AND HEEL BURNISHING MACHINE.

No. 369,679.

Patented Sept. 13, 1887.

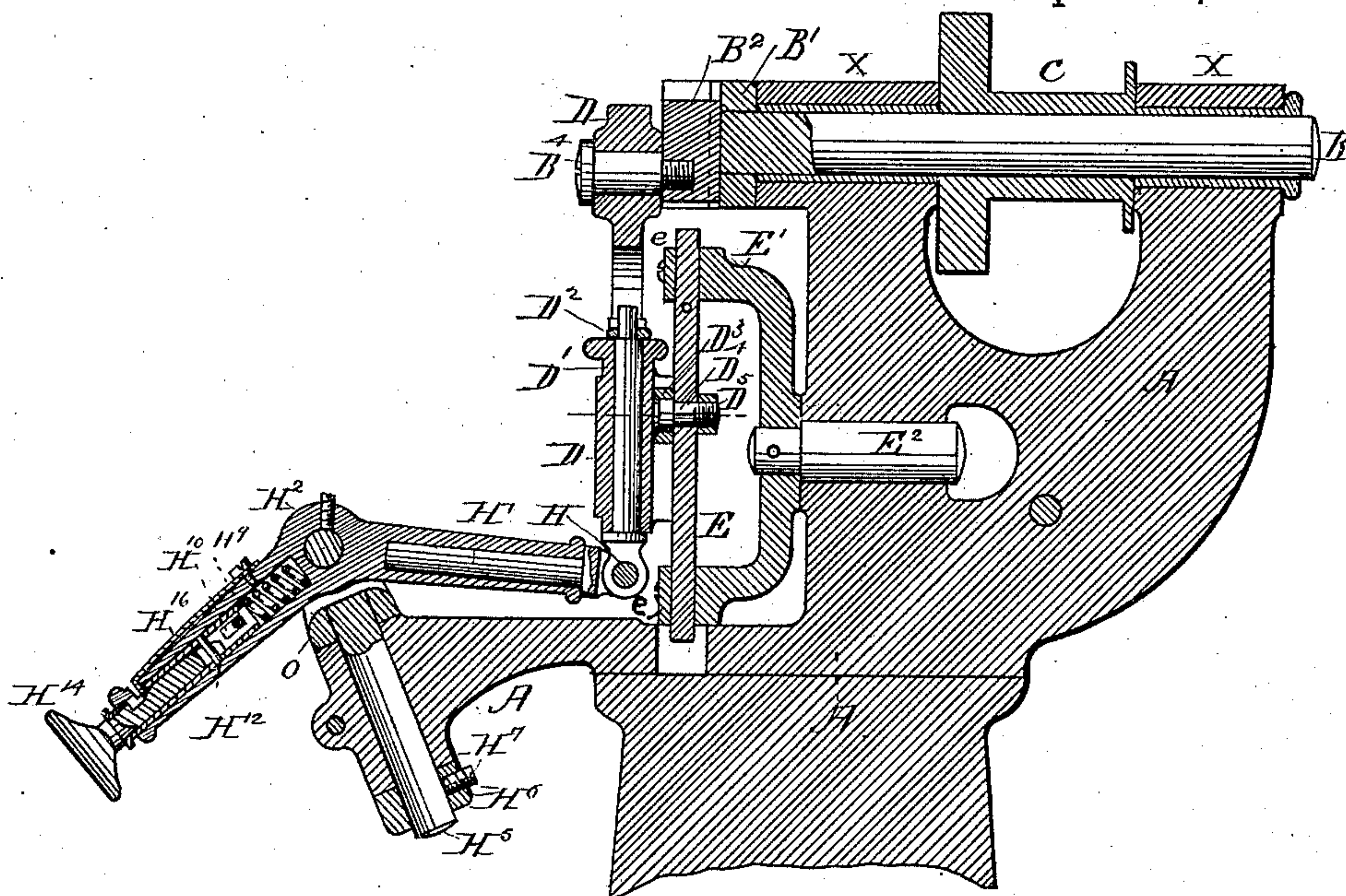


Fig. 5.

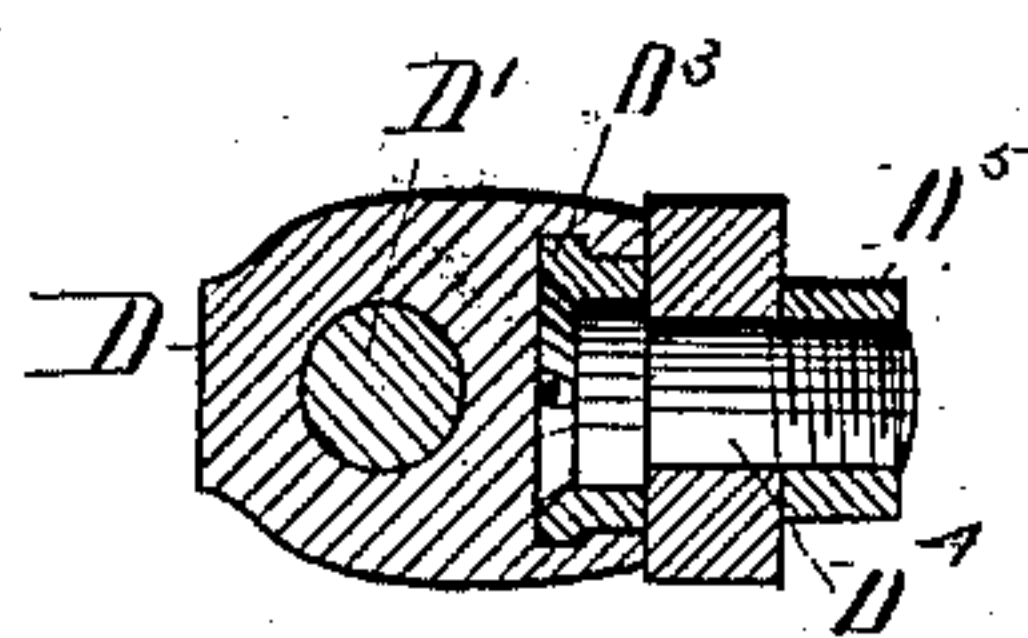


Fig. 6.

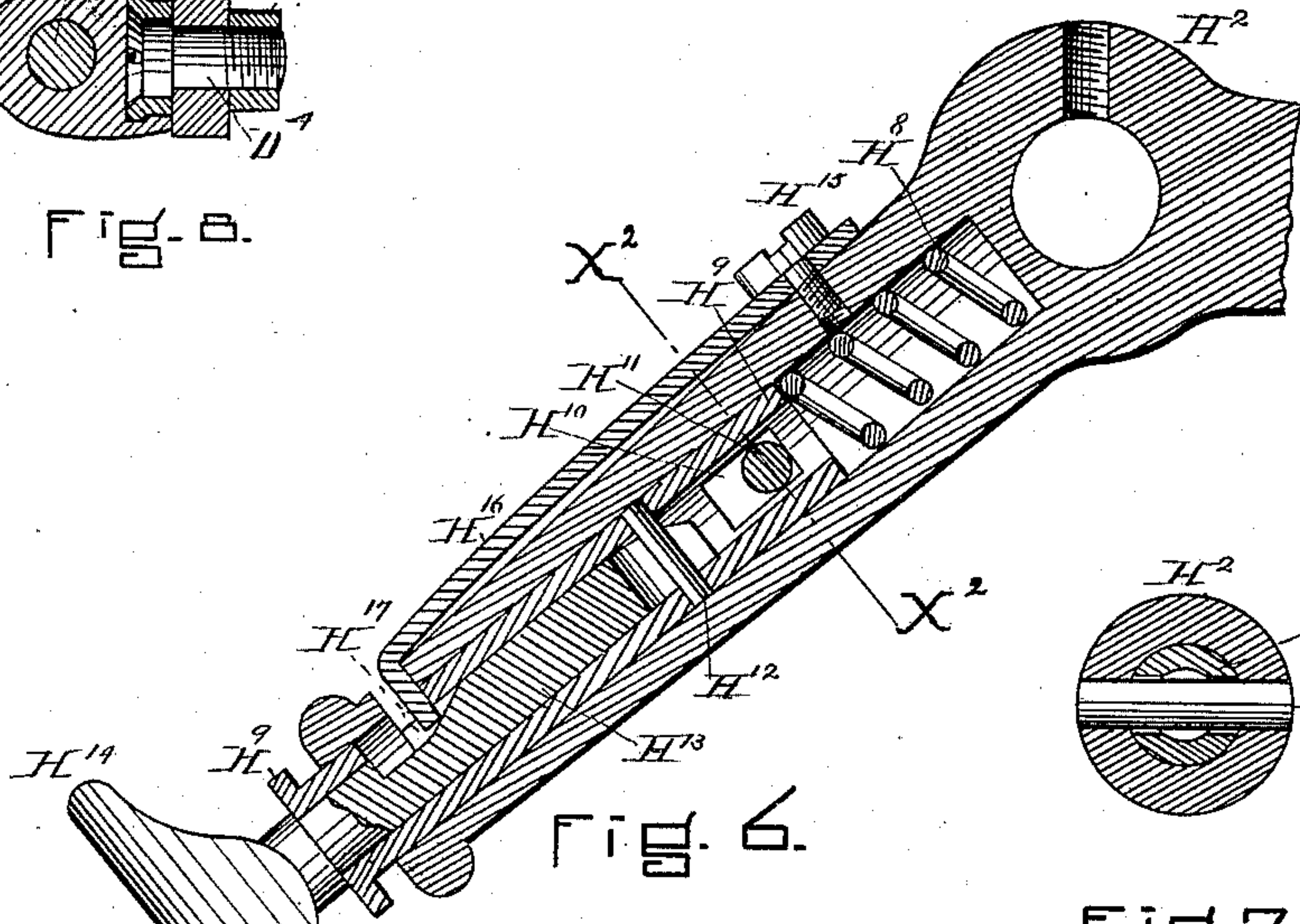


Fig. 7.

Fig. 7.

WITNESSES.

Charles J. Cobb
Charles H. Michener

INVENTOR.
Robert Ashe

UNITED STATES PATENT OFFICE.

ROBERT ASHE, OF SOMERVILLE, MASSACHUSETTS.

SHANK AND HEEL BURNISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 369,679, dated September 13, 1887.

Application filed November 11, 1886. Serial No. 218,658. (No model.)

To all whom it may concern:

Be it known that I, ROBERT ASHE, of Somerville, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Shank and Heel Burnishing Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to that class of burnishing-machines employed to burnish the soles of boots and shoes, especially the shanks thereof, my invention being also applicable for burnishing toplifts of heels.

The main object of my invention is the production of a burnishing-machine wherein the motion of the burnishing-tool may be changed at the will of the operator from an elliptical to a substantially right-line movement, or vice versa, and in my invention as herein embodied I have provided means whereby this change of movement may be produced while the machine is in operation.

Figure 1 is a side elevation of a sufficient portion of a heel-burnishing machine embodying my invention to enable it to be understood. Fig. 2 is a left-hand elevation of Fig. 1. Fig. 3 is a sectional detail of the connecting-bar (to be described) and its method of attachment and the shaft for moving it. Fig. 4 is a detail showing the front end of the main shaft, the block fitted therein, and the stud-screw carried by it. Fig. 5 is a vertical section of Fig. 2, in the line xx . Fig. 6 is an enlarged sectional detail of one part of the lever carrying the burnishing-tool. Fig. 7 is a section of Fig. 6 in the line x^2 , and Fig. 8 is a sectional detail (to be referred to) taken through the connecting bar and rod.

In the accompanying drawings, A A A, Figs. 1 and 5, is the frame of the head of my machine, it having boxes xx , in which is mounted the driving-shaft B, provided with the hand-wheel and pulley C. The front end of the shaft B has fastened to it a collar, B', provided with a T-shaped groove, in which is fitted a block, B², which block is held in its place by a set-screw, B³, Fig. 3. A stud-screw, B⁴, inserted in the block B², receives upon it the connecting-bar D, Figs. 1, 3, and 5. The connecting-bar D is bored longitudinally to receive a rod, D', this rod being retained in

place by a collar near its lower end and by a washer and pin, D², at its upper end, as shown in Fig. 5. The connecting-bar D is also provided with a T-shaped groove, (see Fig. 8,) extending nearly the length of the rod D', in which groove is fitted a block, D³, journaled on the stud D⁴, fastened to a slide-bar, E, the said stud being held in place by a nut, D⁵, Figs. 1, 5, and 8.

The slide-bar E is fitted to run easily in suitable guides in the bracket E', and is held in its place by the caps e , Figs. 1, 2, and 5; or it may be fitted in a dovetail groove, in which case no caps, e , would be required.

The slide-bar E has a pin, E³, which strikes against the bracket E' and limits the upward movement of the slide-bar, the bar being normally retained in its elevated position by a spring, e' , Fig. 2. The bracket E', having a stud, E², is adjustably held to the frame-work.

E³, Fig. 1, is a lever pivoted at E³, one end of which is connected by means of the rod E⁴ to a lever or treadle attached to the floor, which lever or treadle is operated by the workman's foot. The slide-bar E has attached to it a small bracket provided with a pin, E⁶, having a roll, E⁷, which is just under the front end of the lever E³.

H², Figs. 1 and 5, is a lever which is journaled between the lugs or jaws H⁴, Fig. 2, on the pin H³. The seat of the lugs or jaws H⁴ is a collar, O, which rests on a base or suitable support in the frame A, Figs. 1 and 5. Projecting downward from O is a pin, H⁵, on which is a collar, H⁶. This collar is held in its place by the screw H⁷.

What I will call the "back" end of the lever H² has fitted in it a pin, H', Figs. 1 and 5. The ends of the rods H' and D' form a joint at H. Now, if the shaft B be revolved it will transmit motion through the crank-pin B⁴ to the connecting-bar D, and through bar D and its rod D' to the rod H' and lever H². It is also clear that as the upper end of the bar D is carried around by the crank-pin B⁴ the block D³ serves as a fulcrum on which it will swing, thereby causing the burnisher H⁴ to move in an elliptical path.

Fig. 6 is a section (full size) of the front end of the lever H², and Fig. 7 a cross-section of the same.

In Fig. 6 H⁹ is a sleeve or bushing fitted to a hole in the lever. Near the back end of this sleeve there is a slot, H¹⁰, through which passes the pin H¹¹. This pin also passes through the lever, in which it is firmly held. (See Fig. 7.) Behind the sleeve H⁹ is a spring, H⁸. It will be seen that the spring keeps the sleeve H⁹ pressed forward, so that the back end of the slot is against the pin H¹¹, and also that the said pin prevents the sleeve turning in its place. H¹² is a pin driven into the sleeve H⁹, but not projecting beyond its surface.

H¹⁴ is a burnisher, from which extends a stem, H¹³. This stem or shank is slotted in the end and made to fit the sleeve H⁹. The slotted end of the shank or stem of the burnisher allows it to pass by the pin H¹² and prevent the burnisher turning in its place.

H¹⁶ is a spring, one end of which is bent so as to allow its dropping into the notch H¹⁷. It is fastened on the lever H² by the screw H¹⁵. The shank or stem of the burnisher has a depression upon it at the notch H¹⁷, the bottom of said depression being parallel with the axis of the stem for a short distance, when it gradually rises to the surface, forming an inclined plane, on which the spring H¹⁶ acts to retain the burnisher in its holder. The flat part of the depression on the stem of the burnisher permits of the burnisher being advanced against the spring H⁸, thereby giving the burnisher in its holder that elasticity which in practice is found to be desirable. The end of the burnisher-stem is beveled, so that it will easily slide under the end of the spring H¹⁶ when being inserted in its place.

In operation the workman holds the boot or shoe to be burnished in his hands and moves the shank part of the sole or the top lift of the heel (as the case may be) against the burnisher. When burnishing shanks, it is desirable to follow the line across the sole at the ball of the shoe with great accuracy. It is also desirable to get close in the corner formed by the junction of the sole and the breast of the heel, and at the same time avoid the rapping of the burnisher against the heel-breast. These results are accomplished in my machine by the operator pressing his foot upon the treadle or lever on the floor that is connected by the rod E⁴ to the lever E³, thereby pressing the back end of lever E³ upward. The other end of said

lever being forced down carries with it the slide-bar E, nut D⁵, stud D⁴, and block D³. It is evident that as the block D³ is moved downward toward the lower end of the connecting-bar D the horizontal movement of the lower end of said bar and of the parts operated by it will be decreased until the burnisher will only have movement in a right line, and, as herein shown, in a vertical plane, such movement enabling the operator to easily follow a line across the sole with great exactness. Upon the workman releasing the foot treadle or lever on the floor the spring before referred to draws the slide-bar E up to its normal position. With a burnishing-tool of suitable form the edges of heels can also be burnished on my machine.

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

1. In a burnishing-machine, the burnishing-tool, the pivoted lever to carry it, and the link jointed to the said lever, combined with means, substantially as described, whereby the movement of the said tool may be changed from an elliptical to a substantially right-line movement, or vice versa, at the will of the operator, for the purposes set forth.

2. In a burnishing-machine, the connecting-bar D, provided with a pivotal rod, D', and a groove adapted to receive a journaled block, D³, as herein set forth and described.

3. In combination with the connecting-bar D and its pivotal rod D', the rod H', lever H², toggle-pieces H⁴ and H⁵, arranged and operating as herein set forth and described.

4. In combination with the connecting-bar D and pivotal block D³, the sliding bar E, as herein described, and for the purpose set forth.

5. In a burnishing-tool holder, in combination with the spring H⁸, spring H¹⁶, pin H¹¹, and pin H¹², the sleeve H⁹, adapted to receive and hold a burnisher, said burnisher being capable of movement against the spring H⁸ and under spring H¹⁶ at the same time, as herein described and set forth.

ROBERT ASHE.

Witnesses:

J. G. BUZZELL,

CHARLES H. MINCHIN.