

(No Model.)

M. E. PUGH.
CABLE LEVER HOOK.

No. 379,721

Patented Mar. 20, 1888.

Fig. 1.

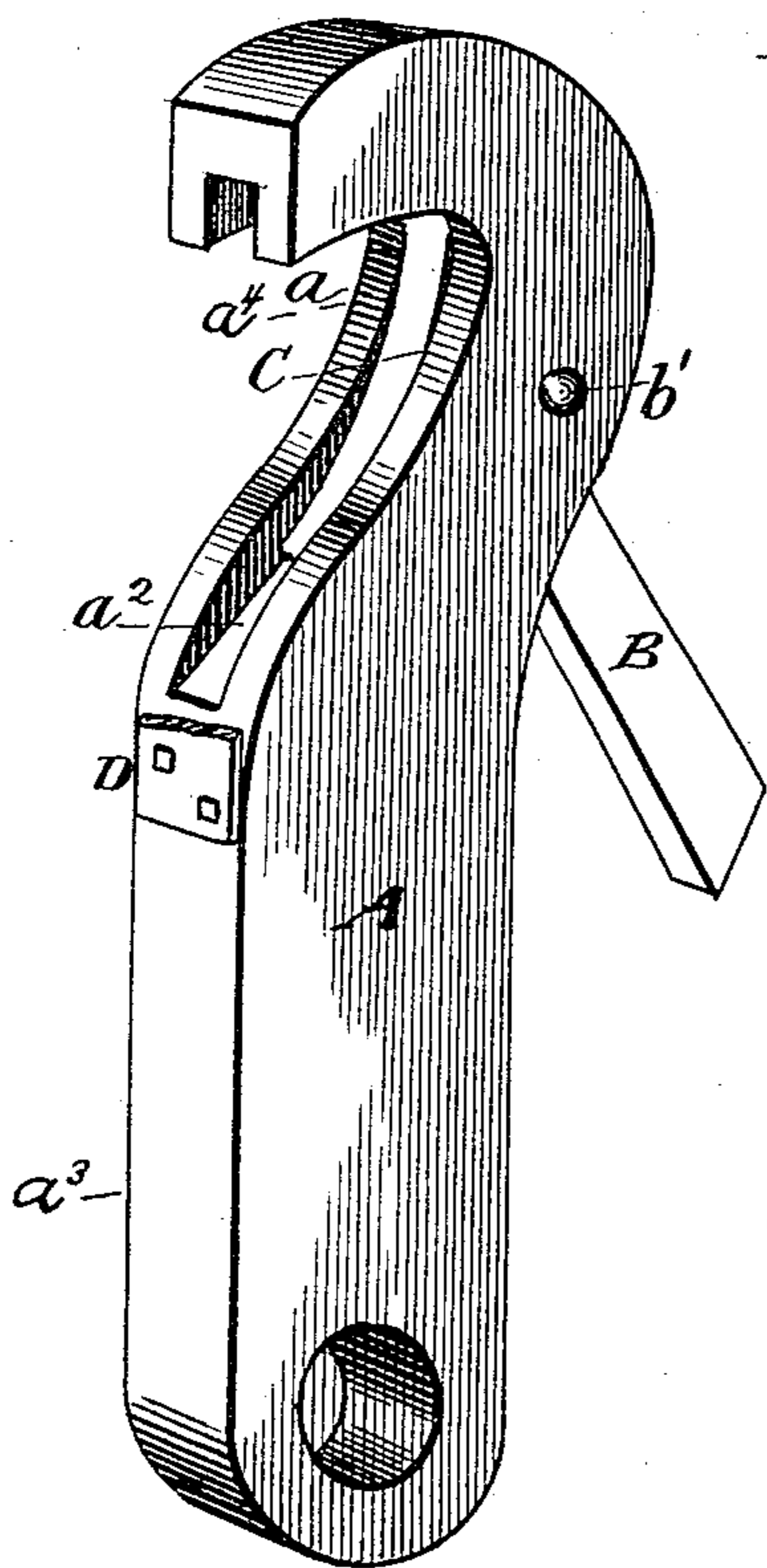


Fig. 2.

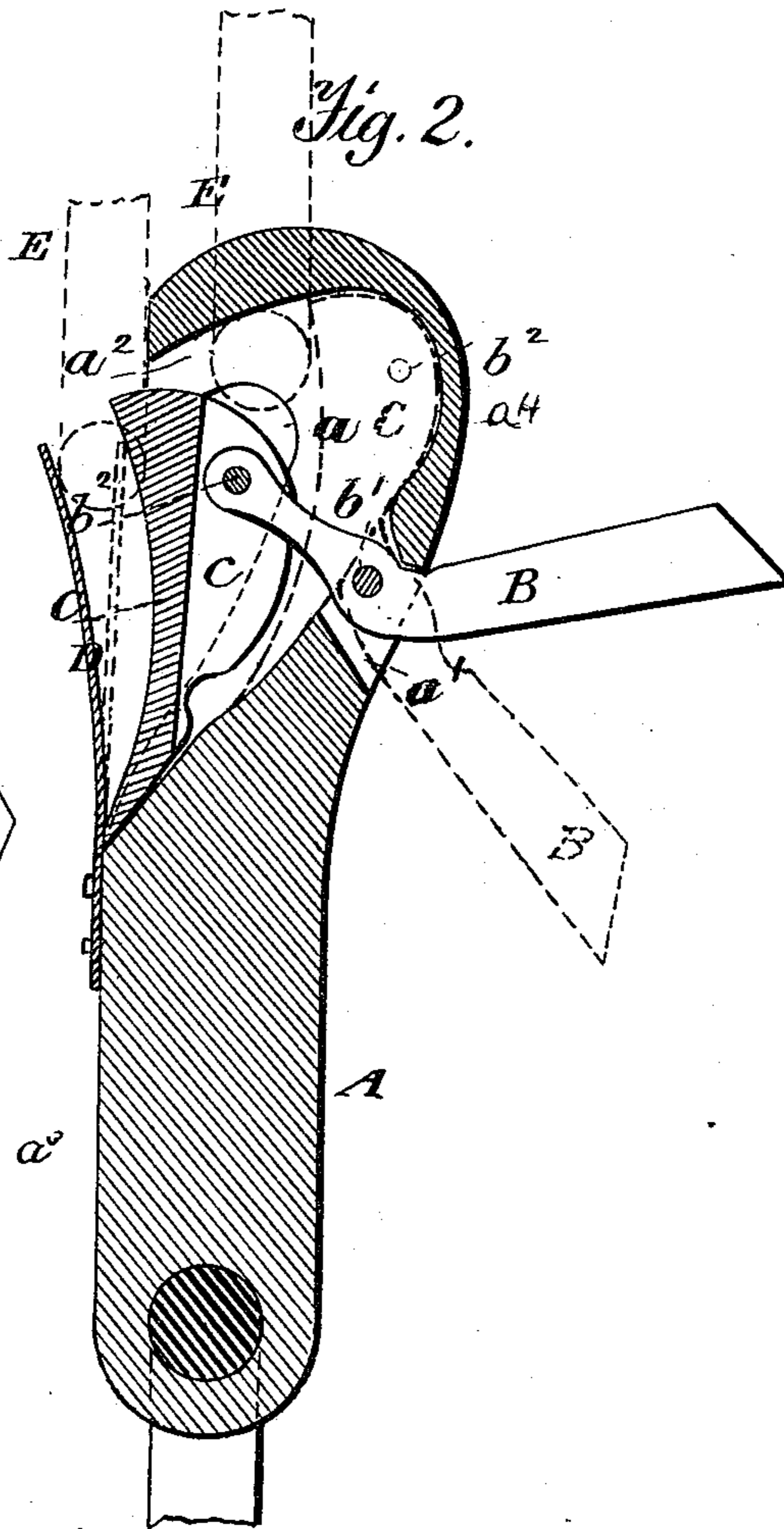
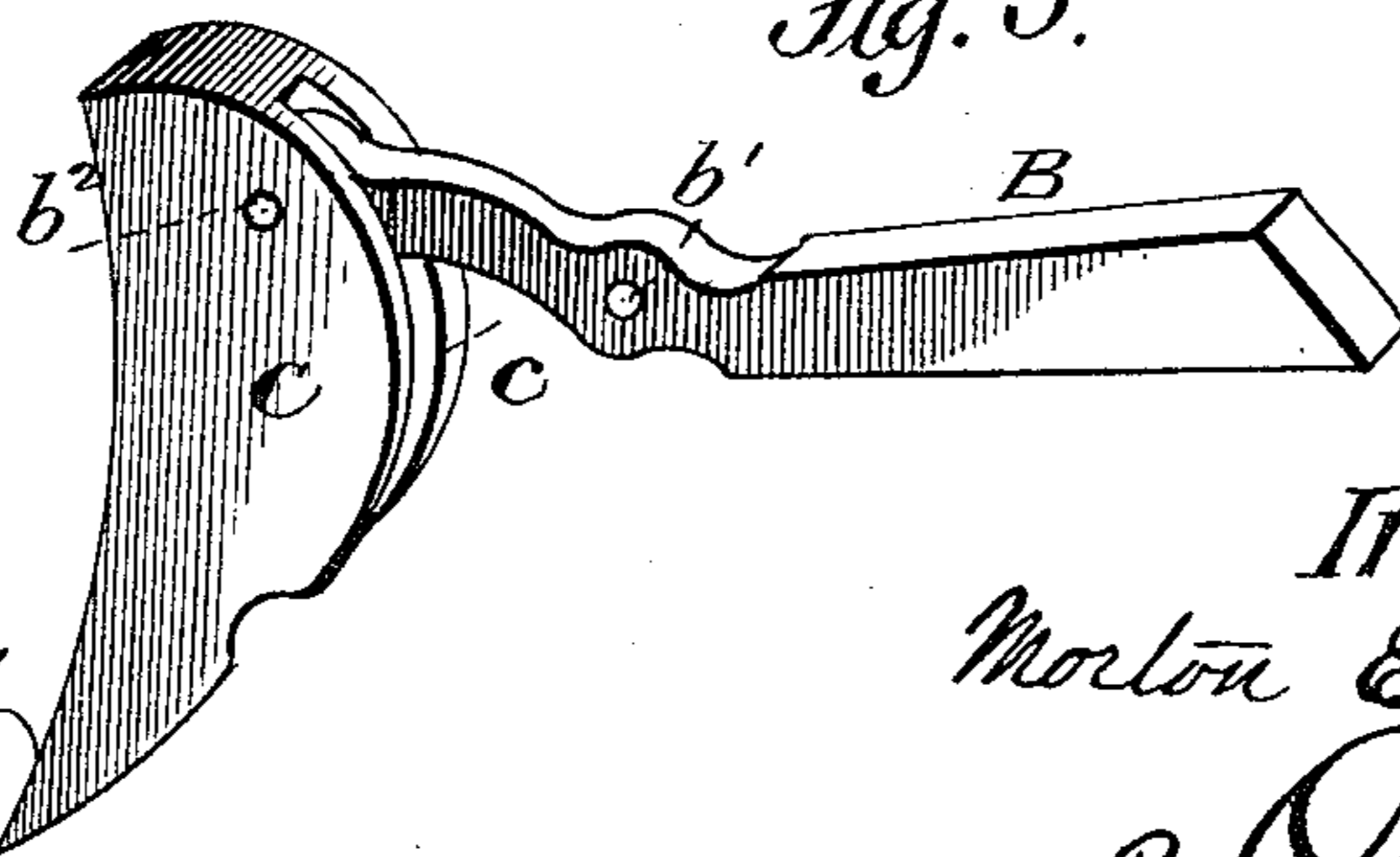


Fig. 3.



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UNITED STATES PATENT OFFICE.

MORTON E. PUGH, OF ST. JOSEPH, MISSOURI.

CABLE-LEVER HOOK.

SPECIFICATION forming part of Letters Patent No. 379,721, dated March 20, 1888.

Application filed November 12, 1887. Serial No. 254,983. (No model.)

To all whom it may concern:

Be it known that I, MORTON E. PUGH, of the city of St. Joseph, in the county of Buchanan and State of Missouri, have invented certain new and useful Improvements in Cable-Lever Hooks; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My invention relates to an improvement in connecting-hooks, and it is more especially adapted for use in connection with the grading and excavating apparatus described and claimed in my pending application filed November 17, 1887, Serial No. 255,455.

The object of my invention is to provide a hook which shall, when connecting a weight or other load with a driving or pulling power, be capable of immediately disconnecting the power and load without stopping the movement of either of them; and my invention consists in certain novel features of construction and combinations of parts, more fully described hereinafter, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my complete device, showing the detaching-tongue in the position it assumes when connecting the driving-power with a load, the guard-spring being broken away; Fig. 2, a central longitudinal section of the same, showing the position of the detaching-tongue when disconnecting the connecting-hook; and Fig. 3, a detached view, in perspective, of the detaching-tongue and operating-lever.

In the drawings, the reference-letter A represents a connecting-hook provided with a shank, a^3 , and an upwardly and outwardly and inwardly and downwardly curved hook portion, a^4 , thus forming a holding-recess, and the inner or engaging face of said recess is formed with its ends diverging outwardly from the innermost or deepest portion of the holding-recess, and said engaging-face is provided throughout its entire longitudinal length with a central guide-groove and seat, a^2 , in which operates a cam-shaped detaching-tongue, C.

The groove a^2 gradually increases in depth from the outer diverging ends of the engaging-face of the holding-recess, until opposite the innermost or deepest portion of the holding-recess the groove is of such depth that its edges will extend beyond the outer edge of the detaching-tongue, when the same is withdrawn into the seat in its normal position, as shown in Fig. 1, and explained hereinafter.

The cam-shaped detaching-tongue is preferably formed of a flat piece of metal of such thickness as to allow the same to freely slide in the guide-grooves back and forth across the holding-recess, and it is somewhat elliptical in general form, its outer edge being slightly concaved to conform to the inward curve of the engaging-face of the holding-recess when the hook is being used and the tongue is withdrawn into its seat, so that its outer edge will not project beyond the edges of the seat. The greatest width or deepness of the tongue is preferably at its upper portion and from thence it tapers downward to its lower end, and the inner face of the tongue is rounded at the upper or deepest portion and gradually curves downward to the narrow or lower portion of the tongue, so that the inner face of said tongue will fit snugly in and conform to the inner surface of the groove and seat.

The inner edge of the detaching-tongue is deeply grooved, as shown at c , and pivoted in the upper portion of said groove at b^2 is one end of a bent operating lever, B, which extends through a slot, a' , extending from the groove a^2 through the hook portion a^4 , and the lever B is pivoted at its bend b' in said slot a' . Thus it is evident that when the hook is being used the tongue is withdrawn into the seat in the engaging-face of the holding-recess, and when it is desired to disengage the hook the tongue is forced from its seat and slides out into the holding-recess, guided by the diverging groove, and extends across said recess from one end of the groove to the other, and thus gradually fills and closes the recess as it moves outwardly from the seat.

The handle or free end of the lever B can be made of any suitable length, as found most desirable when the hook is used in different ways.

E represents a link or the like engaging

with the hook portion. A guard-spring, D, is secured to the shank portion a^3 and extends over the concave surface a^2 , to prevent a link or the like engaging the hook from dropping out if the strain upon the hook suddenly slackens.

The operation of my device is as follows: The tongue being withdrawn into its seat, as shown in Fig. 1, a driving or pulling power and a load are connected by means of the hook, and when the point is reached where it is desired to disconnect the power and load the operator simply throws up or down (as the case may be) the operating-lever B, which operation pushes out the detaching-tongue, and as the tongue moves outward, guided by the lower portion of the slot a^2 , it forces link E or the like from engagement with the hook portion, as shown in Fig. 2, and then the disconnection has been effected, the lever is thrown in the opposite direction, and the tongue is guided by the upper portion of groove a^2 back into its seat in the deepest portion of said groove.

It is evident that numerous slight changes might be made in the construction and operation of my device without departing from the spirit and scope of my invention; hence I do not wish to limit myself strictly to the construction herein shown and described; but

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

1. In the hook herein described, a hook portion provided with a holding-recess having its inner or engaging face provided with a longitudinal groove, in combination with a detaching-tongue adapted to extend across said holding-recess and slide in the same, guided by said groove, and a lever whereby said tongue is operated to or from its seat, substantially as described.

2. In the hook herein described, a hook portion provided with a holding-recess having its engaging-face provided with a longitudinal groove gradually increasing in depth to the innermost portion of the holding-recess to form a seat, in combination with a cam shaped detaching-tongue adapted to normally rest in

said seat, and a lever fulcrumed in the hook and pivoted to the tongue, whereby said tongue is moved to and from its seat across the holding-recess, guided in its movement by the groove, for the purpose substantially as described.

3. In the hook herein described, a hook portion provided with a holding-recess having its inner or engaging face provided with a longitudinal groove, forming a guide, and a seat at the inner portion of the recess, in combination with a cam-shaped detaching-tongue having its outer face concaved and its inner face rounded and tapering downward, said tongue sliding in the guide-groove through the holding-recess and normally resting in said seat, and an operating-lever, substantially as described.

4. The hook herein described, provided with a longitudinal groove in the inner or engaging face of its hook portion, said groove increasing in depth to form a seat in the inner portion of the engaging-face, in combination with a cam-shaped detaching-tongue normally resting in said seat beneath the outer edges of the groove and having its inner face grooved, and a lever fulcrumed in the hook portion and having its inner end pivoted in the groove in the detaching-tongue and its opposite end extended to form a handle, substantially as described.

5. In the hook herein described, a hook portion provided with a holding-recess having a longitudinal groove in its inner or engaging face, and a guard-spring extending over said holding-recess, in combination with a cam-shaped detaching-tongue adapted to slide in said holding-recess, guided by said groove, and a lever pivoted in a slot extending through the rear of the hook portion and having its inner end pivoted to the inner face of the detaching-tongue and its opposite end extended to form a handle, substantially as described.

In testimony that I claim the foregoing as my own invention I affix my signature in presence of two witnesses.

MORTON E. PUGH.

Witnesses:

C. F. STROP,
S. P. REYNOLDS.