

No. 614,014.

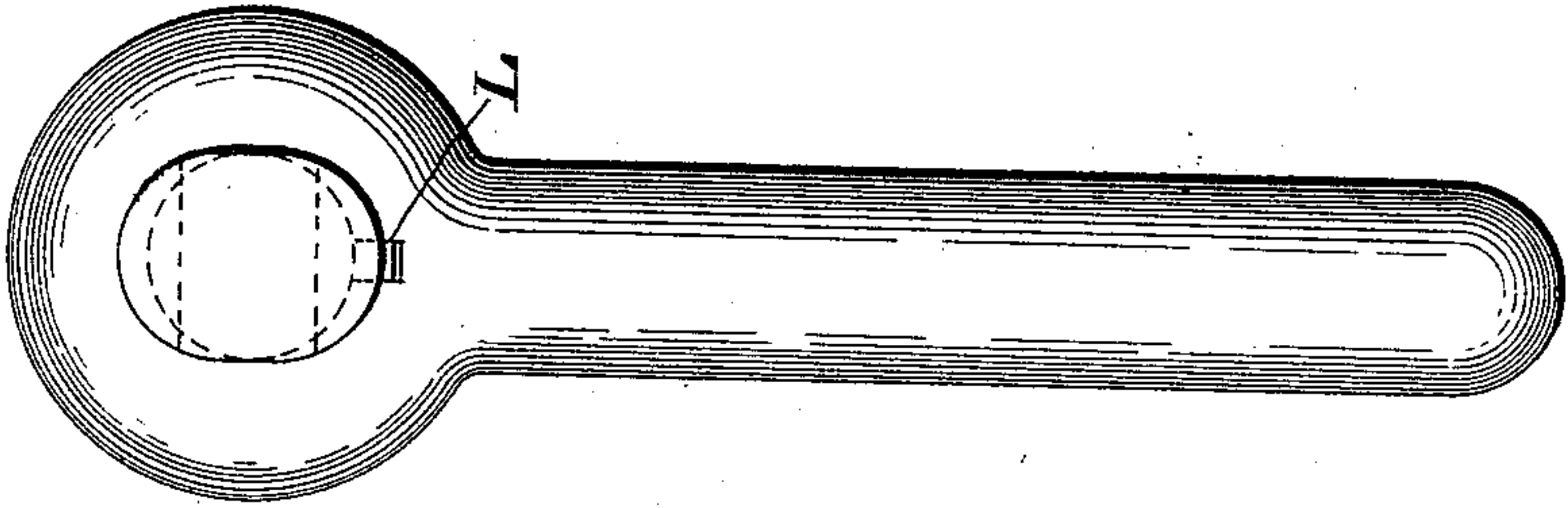
**A. E. LINE.
SHACKLE.**

Patented Nov. 8, 1898.

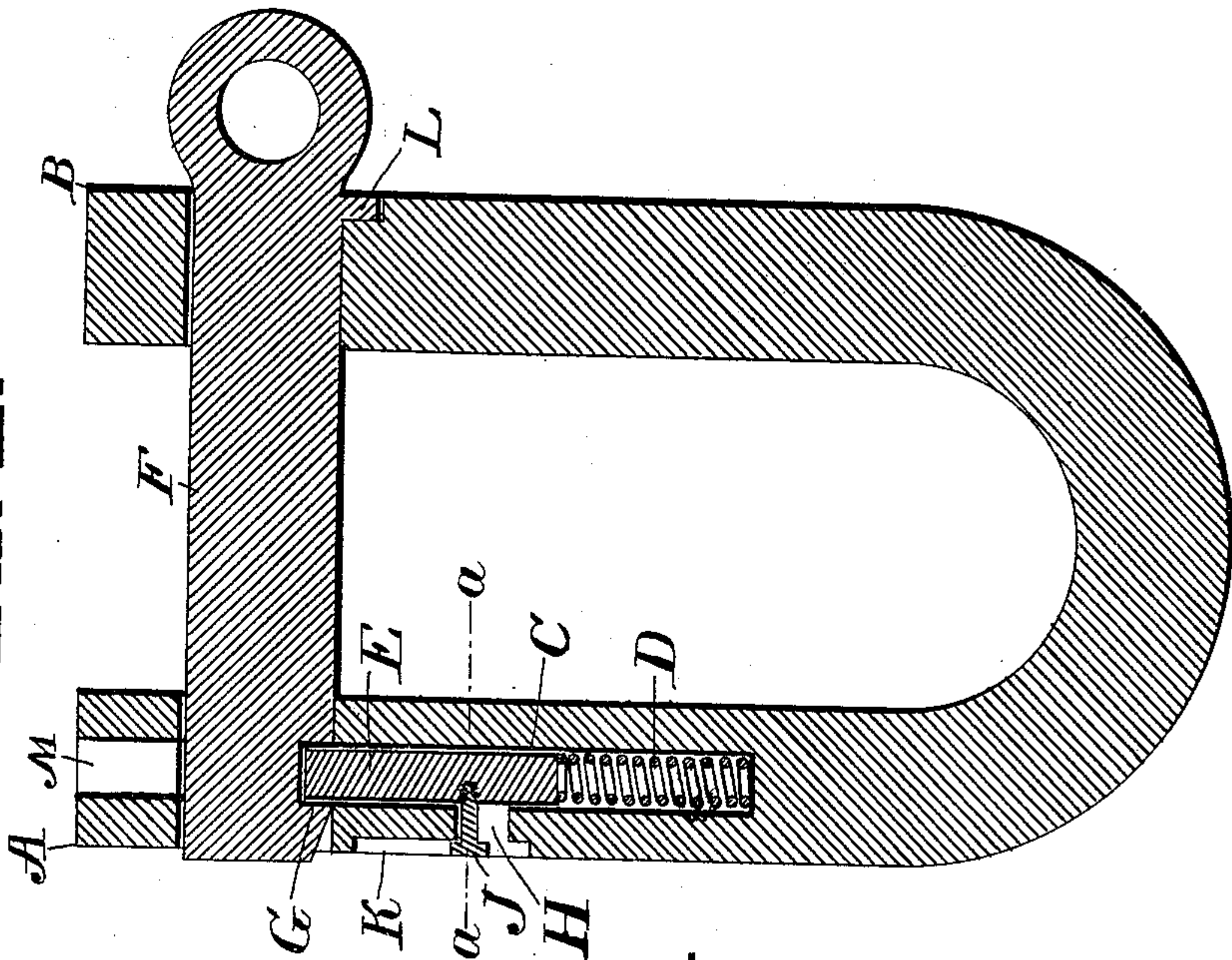
(Application filed Apr. 18, 1898.)

(No Model.)

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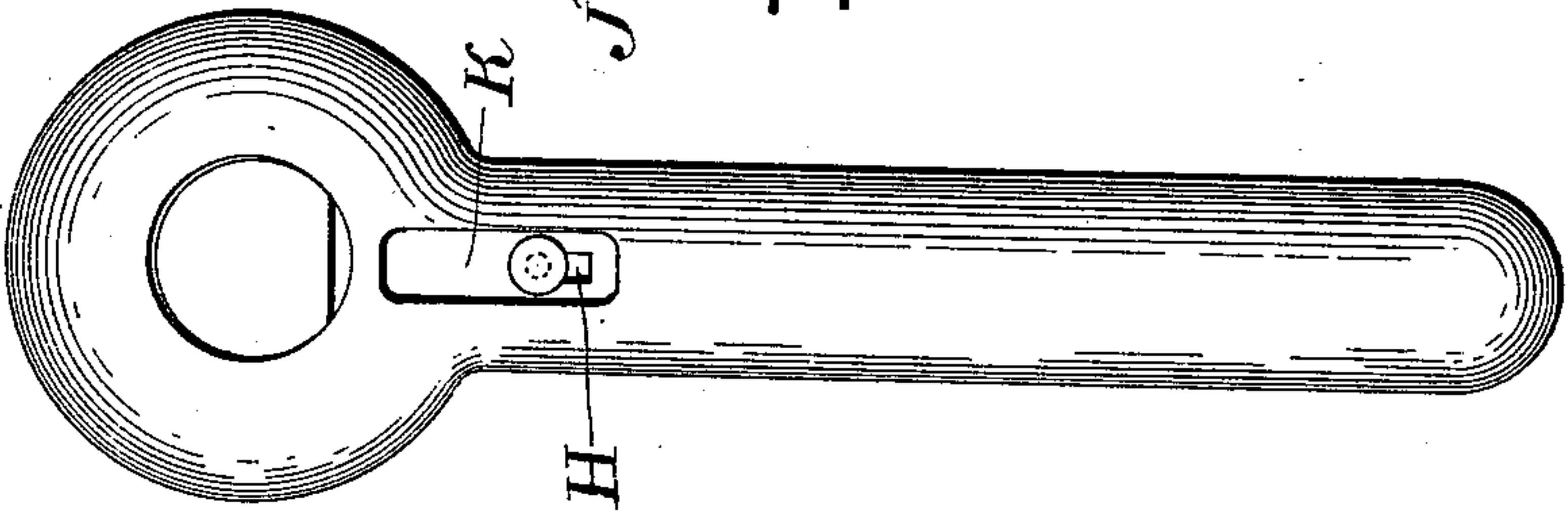


Figure 1

Witnesses

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UNITED STATES PATENT OFFICE.

ALBERT EDWARD LINE, OF COWES, ENGLAND.

SHACKLE.

SPECIFICATION forming part of Letters Patent No. 614,014, dated November 8, 1898.

Application filed April 18, 1898. Serial No. 678,077. (No model.)

To all whom it may concern:

Be it known that I, ALBERT EDWARD LINE, a subject of the Queen of Great Britain, residing at Cowes, in the Isle of Wight, England, have invented certain new and useful Improvements in Shackles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to shackles.

The main object of my said invention is to provide means for readily, simply, and securely fixing the pin of shackle in the engaged position and for the equally ready disengagement of same at will. I attain this object by the means and devices substantially described herein and illustrated in the accompanying drawings, in which—

Figure 1 is a central sectional elevation of a shackle made according to my invention; Fig. 2, an end view of same on the face A of the shackle; Fig. 3, an end view on the face B of the shackle; Fig. 4, a sectional plan taken on the line *a a*.

Like letters indicate corresponding parts throughout the drawings.

In making a shackle according to my invention I provide a recess C in one arm of the shackle, and in the lower part of this recess I fit a spiral spring D, and on the top of same in the recess I fit a bolt E, arranged to project somewhat above the lower side of the pin-hole when in its normal position. At the under side of the pin F, at the point of same, I provide a recess G of a size and shape adapted to take the projecting top part of the bolt E.

When engaging the shackle, the pin F is inserted in the eyes of same in the usual manner; but meanwhile the bolt E and spring D are necessarily depressed when the end of pin F passes over the bolt, this being readily effected by reason of the point of pin being somewhat rounded or curved upward, as shown; but directly the pin is pushed home the bolt E shoots into the recess G in pin by reason of the reaction of the spring D, and the bolt thereby locks the pin in the engaged position, in which it remains until unlocked in manner hereinafter described.

In the face A of the shackle I provide a vertical slot H and pass through same a pin

J, the point of which is screwed into the bolt E. The slot is of sufficient length to allow of the necessary free up-and-down travel of the bolt E for the above-specified purpose. I further arrange that a recess K shall be provided in the face A of shackle of sufficient width and depth to take and house the head of the pin J, so that it is flush with the outside of shackle. This recess extends above the top of the pin-head, so as to admit of the insertion of a thumb or finger end, or the equivalent for same, for the purpose of pressing the bolt down when it is desired to release the pin F from the shackle. I further provide on the head of the pin F a projection L and a corresponding recess in the shackle to take the projection, which when in engagement prevents the pin from rotating in the shackle-eyes. The object of this device is to take the strain off the bolt E which would result if the pin F were free to rotate in the eyes of shackle.

My improvements are applicable to most if not all fittings commonly known as "shackles," made of any known metals or combinations of same.

I can, if preferred, plug the hole M after forming the recess C in shackle, such hole being made during the operation of boring or otherwise forming the said recess, and after this is done it will not be required.

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

1. In combination, the shackle having openings for its pin, an axial opening intersecting one of the pin-openings and a radial slot intersecting said axial opening; a spring mounted in the base of said axial opening; a sliding bolt mounted in the said axial opening and normally extended into the pin-opening by said spring; a pin engaging said bolt through said radial slot for retracting said bolt; and the shackle-pin provided with a recess to be engaged by said sliding bolt when extended, substantially as described.

2. In combination, the shackle having openings for its pin, an axial opening intersecting one of the pin-openings and a radial slot intersecting said axial opening; a spring mounted in the base of said axial opening; a sliding bolt mounted in the said axial opening

and normally extended into the pin-opening by said spring; a pin engaging said bolt through said radial slot for retracting said bolt; the shackle-pin provided with a recess 5 to be engaged by said sliding bolt when extended; and means independent of said sliding bolt, for preventing the rotation of said shackle-pin, substantially as described.

3. In combination, the shackle having openings for its pin, an axial opening intersecting one of the pin-openings and a radial slot intersecting said axial opening, and a shallow recess surrounding the outer opening of said radial slot and elongated at one end; a spring 10 mounted in the base of said axial opening; a sliding bolt mounted in the said axial open-

ing and normally extended into the pin-opening by said spring; a pin engaging said bolt through said radial slot for retracting said bolt, with a head working in said shallow recess, the outer surface of said head being flush with the surface of the shackle; and the shackle-pin provided with a recess to be engaged by said sliding bolt when extended, substantially as described. 20

In testimony whereof I affix my signature in the presence of two witnesses. 25

ALBERT EDWARD LINE.

Witnesses:

CHARLES BRASNETT,
THOMAS BARNETT HALL.