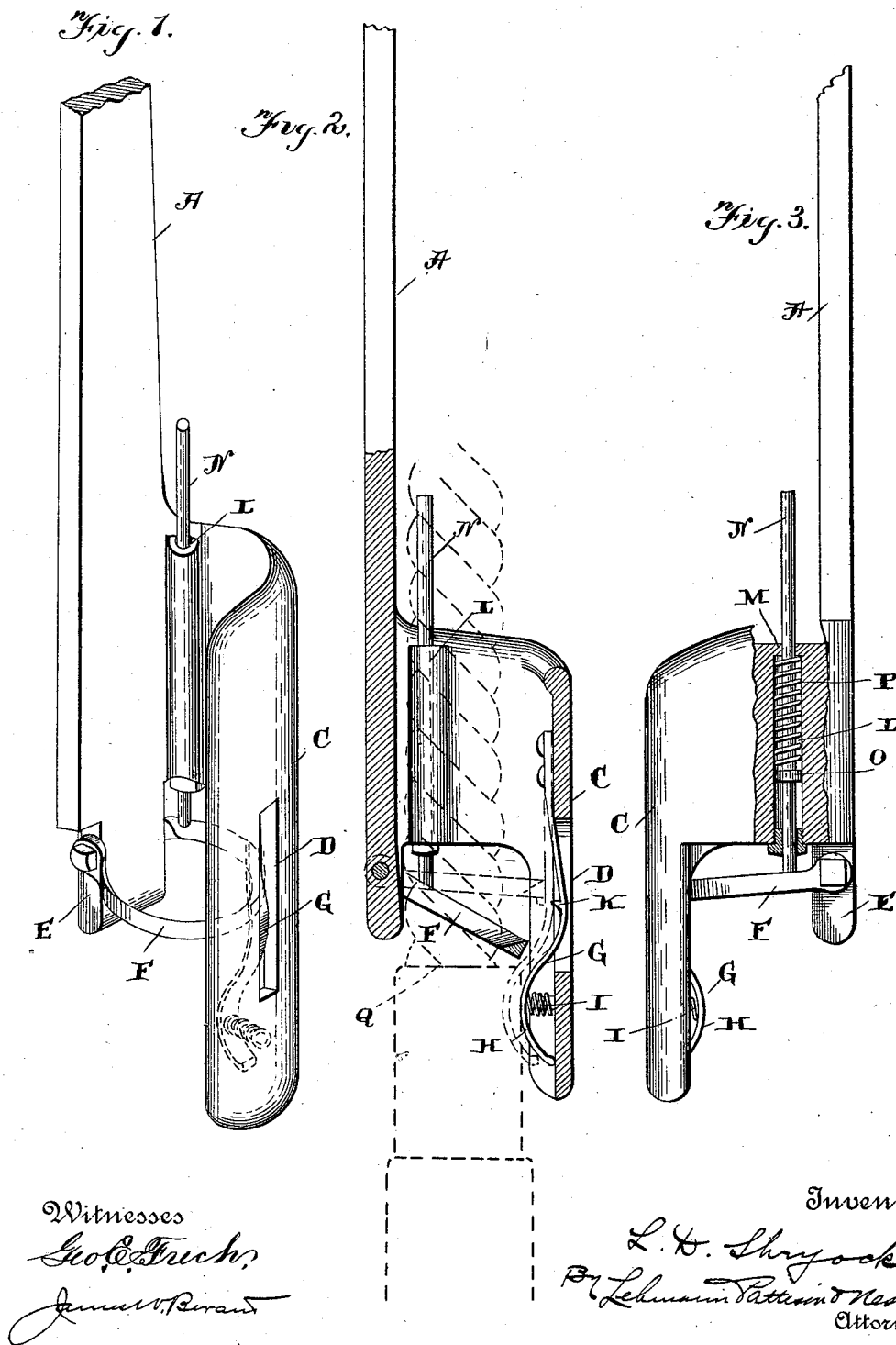


(No Model.)

L. D. SHRYOCK.
ROPE CUTTER.

No. 541,018.

Patented June 11, 1895.



UNITED STATES PATENT OFFICE.

LEONARD D. SHRYOCK, OF MARIETTA, OHIO.

ROPE-CUTTER.

SPECIFICATION forming part of Letters Patent No. 541,018, dated June 11, 1895.

Application filed November 21, 1894. Serial No. 529,494. (No model.)

To all whom it may concern:

Be it known that I, LEONARD D. SHRYOCK, of Marietta, in the county of Washington and State of Ohio, have invented certain new and useful Improvements in Rope-Cutters; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improved rope cutter; and the object of the same is to provide an effective device for severing the ropes of well boring tools close to the socket when the tools have become lodged in the bore.

Prior to my invention devices have been provided for cutting the rope at or near its upper end leaving the greater portion thereof in the well to add to the obstruction caused by the tools, and my aim is to overcome the objection by providing the device aforesaid, which is fully illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the device. Fig. 2 is an elevation partly in section, showing the same in position over a rope, with the knife sprung down through the medium of the rope-socket. Fig. 3 is a sectional view of the reverse side of the lower portion of the device illustrated in Fig. 2.

A designates a stem secured in the usual manner to the line, and arranged at one side of the lower end of the stem is the curved frame C slotted at its outer side as shown at D. The lower extremity thereof is reduced transversely as indicated at E and pivotally secured thereon is the curved knife F, the same being beveled upon its upper side to form the cutting edge upon its concave surface as shown. Secured at one end to the inner wall of the frame C is the spring G having its free lower end curved at H and arranged between the curved portion and the said inner wall of the frame is the coiled spring I. The slot D permits the spring G to move outward or laterally for the purpose presently to be stated. Carried by the inner side of the said spring is a lug K which is adapted to support the curved knife normally in a horizontal position as indicated in Fig. 1.

Upon the inner edge of frame C is formed

the vertical passage L having shoulder M at its upper end and movable through this passage is rod N carrying between its ends the shoulder O, and encircling the rod between said shoulders M and O is the coiled spring P which serves to press said rod normally downward, and the same bearing against the upper side of the knife exerts a pressure thereon at all times when the knife is in a horizontal position, so that when the same is released by an outward movement of spring G it will be forced downward to an inclined position by said rod.

In operation when the tools have become stuck in the bore the knife cutting device is threaded upon the rope and the same is let down into the well with the rope extended through the curved portion of the frame and the knife as indicated in Fig. 2. The downward movement is continued until the rope socket Q is reached which serves to press outward the free end of spring G releasing the curved knife in the manner before described, permitting it to assume the position indicated in Fig. 2 so that by an upward pull upon the knife supporting line the tool rope will be severed in a diagonal line at a point adjacent to the socket as will be readily understood.

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

1. In a rope cutter, a vertically movable support, knife F encircling the rope and pivoted to the support, and a trippable support for holding the knife from engagement with the rope, substantially as shown and described.

2. In a rope cutter, a vertically movable support, a knife embracing the rope and pivoted to swing vertically on the support, and a trippable support for holding the knife raised from a cutting position, substantially as shown and described.

3. In a rope cutter, a vertically movable support, a curved knife sharpened upon its concave edge and pivoted to swing vertically on the support, said knife being adapted to embrace the rope, and a trippable support for the free portion of the knife for holding it raised from engagement with the rope, substantially as shown and described.

4. A rope cutter comprising a frame, a

swinging rope embracing knife, spring G secured at one end to the frame and adapted to engage the free edge of the swinging knife for the purpose stated, and the free end of
5 said spring curved inward at H to engage the rope socket, substantially as shown and described.

5. An improved rope cutter comprising a frame, a swinging rope embracing knife therein, the frame being provided with slot D, spring G adapted to be extended outward into said slot, the lug on the spring for supporting the free edge of the knife, the inward bend at the lower end of the spring G for the purpose
15 stated, and the coiled spring arranged between said free end and the frame, substantially as shown and described.

6. An improved rope cutter comprising the stem reduced at its lower end, the curved
20 knife pivoted to said reduced portion, the curved frame C at the lower end of the stem, and the outwardly movable spring support G for engaging and holding the free edge of the knife, substantially as shown and described.
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7. An improved rope cutter comprising the frame having a vertical passage formed therein, a swinging rope embracing knife in the frame, a means for supporting the free edge

of the knife for the purpose stated, and the
30 spring-depressed rod in the vertical passage for bearing constantly upon the knife, substantially as shown and described.

8. An improved rope cutter comprising a frame having a vertical passage provided
35 with a shoulder at its upper end, a rod movable in the passage with the shoulder between its ends, and a coiled spring on the rod between said shoulders, the swinging rope embracing knife upon which the said spring act-
40 uated rod exerts a constant pressure, and a device for supporting the knife out of engagement with the rope, substantially as shown and described.

9. An improved rope cutter comprising a
45 knife and a device for holding the same from engagement from the rope, and a spring for forcing the knife to the rope and there holding it when the knife is disengaged from said holding device, substantially as shown and
50 described.

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

LEONARD D. SHRYOCK.

Witnesses:

W. H. GOODWIN,
J. W. HOLDEN.