(No Model.)

R. A. BAUER.

BAG STRING CUTTER.

No. 407,567. Patented July 23, 1889.

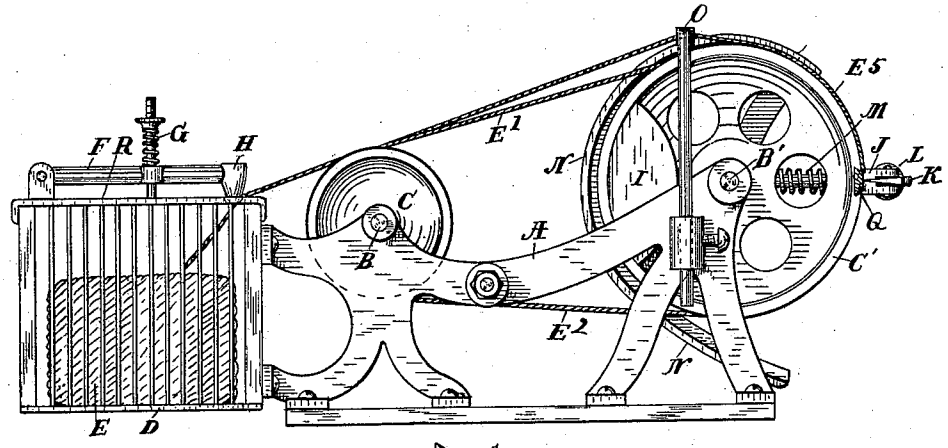


FIG. 1.

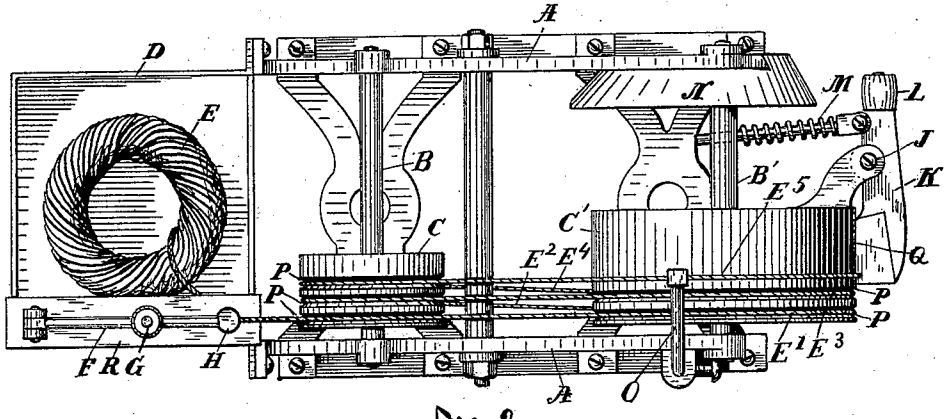


FIG. 2.

Witnesses

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Inventor

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By his Attorneys

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UNITED STATES PATENT OFFICE.

ROBERT A. BAUER, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR OF ONE-HALF TO HENRY G. KREKEL, OF SAME PLACE.

BAG-STRING CUTTER.

SPECIFICATION forming part of Letters Patent No. 407,567, dated July 23, 1889.

Application filed March 8, 1889. Serial No. 302,536. (No model.)

To all whom it may concern:

Be it known that I, ROBERT A. BAUER, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Bag-String 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 appertains to make and use the same.

My invention relates to a device adapted for cutting twine into convenient lengths for bag or other strings; and it consists in the construction, arrangement, and combination of the various parts hereinafter described, and particularly pointed out in the claims, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a side elevation, and Fig. 2 a plan, of a device embodying my invention.

Like letters of reference refer to like parts in each of the figures.

A represents the frame of the device, in which are journaled two shafts B and B′, upon which are secured two grooved pulleys C and C′. The pulley C′ has the arm J, to which is pivoted the knife K, provided with the roller L, for engaging with the cam N, (secured to said frame,) and the spring M, for actuating said knife. Said pulley C′ also has a wooden block Q attached to its face for the edge of the knife to strike upon.

D is a basket for holding the ball of twine E.

R is a plate secured to the top of the basket and having a hole which is underneath and covered by the head H of the tension-bar F, pivoted to said plate R and provided with adjusting-spring G. O is a guide-arm secured to said frame and having an aperture through which the twine passes before coming upon the face of the pulley C′.

P P P P are V-grooves cut in the faces of said pulleys for receiving the twine.

The device operates as follows: The ball of twine E being placed in the basket D, the end E′ is carried out through said hole in the forward part of the plate R; thence forward over the pulley C in the groove nearest the outer edge; thence forward over and under the pulley C′, being received in the first groove of that pulley; thence backward (E^2) underneath and over pulley C in the second groove; thence forward over and under the pulley C′ in the second groove E^3; thence backward (E^4) under and over pulley C in the third groove; thence forward through the aperture in the guide-arm O and onto the plain part of the face of pulley C′ and block Q. (The number of these grooves and turns of the twine may be increased or diminished; but I prefer to use the number described and illustrated.) The tension being adjusted by spring G, if now the end E^5 of the twine be pulled forward (by hand or other power) the pulleys will revolve upon their axis. When pulley C′ has accomplished about one-fourth its revolution, the cam N engages the roller L of the rearwardly-extending arm of the knife K and lifts the knife off the face of the pulley, keeping it suspended above the block Q until it passes about the point indicated at E^5 in Fig. 1, where the cam is broken away, when, the roller L being disengaged, the knife K, actuated by the spring M, is brought forcibly down upon the block Q, severing the twine. The length of the string so cut will exactly equal the circumference of pulley C′, so that for different lengths of string different sizes of forward pulleys must be employed.

What I claim to have invented, and desire to secure by Letters Patent, is—

1. The improved bag-string cutter herein described, consisting of a frame having a grooved pulley mounted upon a shaft journaled in said frame, a second grooved pulley mounted on a shaft journaled in said frame, provided with a pivoted knife adapted to strike upon the face thereof, a spring for operating the knife, a cam adapted to lift said knife from the face of said pulley, and means of regulating the tension of the twine, substantially as described.

2. In a bag-string cutter, in combination with a frame, a grooved pulley journaled in said frame, provided with a knife adapted to strike upon the face thereof, and means for operating said knife and of regulating the tension of the twine, substantially as described.

3. In a bag-string cutter, in combination with a frame and a stationary cam secured to said frame, a pulley provided with grooves upon its face journaled in said frame and with a pivoted knife adapted to strike upon the face of said pulley, and a spring for operating the knife and having a roller adapted to said cam, substantially as described.

4. In a bag-string cutter, in combination with a frame and a stationary cam secured to said frame, a pulley having grooves upon its face for receiving the twine and provided with a pivoted knife actuated by said cam and secured to said pulley, having an operating-spring, a block of wood secured to the face of said pulley for receiving the blow of said knife, and means for adjusting the tension of said twine, substantially as described.

5. In a bag-string cutter, the combination, with a frame having a stationary cam secured thereto, of a pulley having grooves upon its face for receiving the twine and provided with a knife having an actuating-spring attached to said pulley adapted to said cam and a block for receiving the blow of said knife secured to the face of said pulley, a guide-arm for guiding the twine attached to said frame, and a pulley having grooves adapted to receive said twine journaled in said frame to the rear of said first-described pulley, and means for regulating the tension of said twine arranged to the rear of said second-described pulley, substantially as described.

6. In a bag-string cutter, substantially as above described, the combination, with a frame, of a grooved pulley having a wooden block secured to its face and a pivoted knife adapted to strike upon said block, a cam adapted to lift said knife, a supplemental grooved pulley journaled in said frame, a guide-arm arranged between said pulleys, and means for holding a ball of twine and regulating the tension of the twine as it is fed upon said supplemental pulley, substantially as described.

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

ROBERT A. BAUER.

Witnesses:
DENNIS L. ROGERS,
LUTHER V. MOULTON.