

(No Model.)

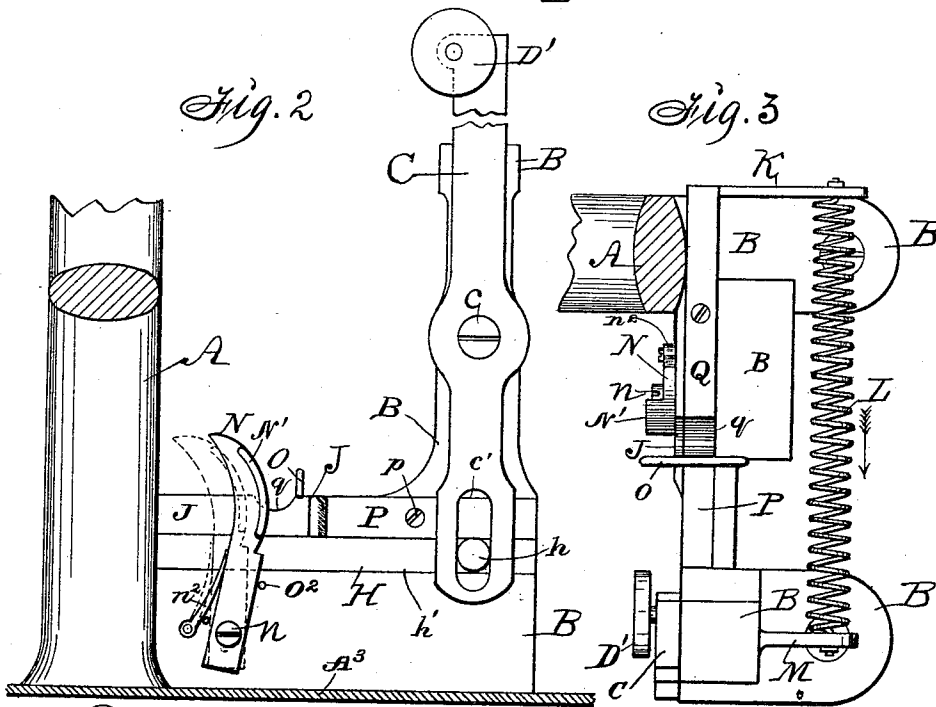
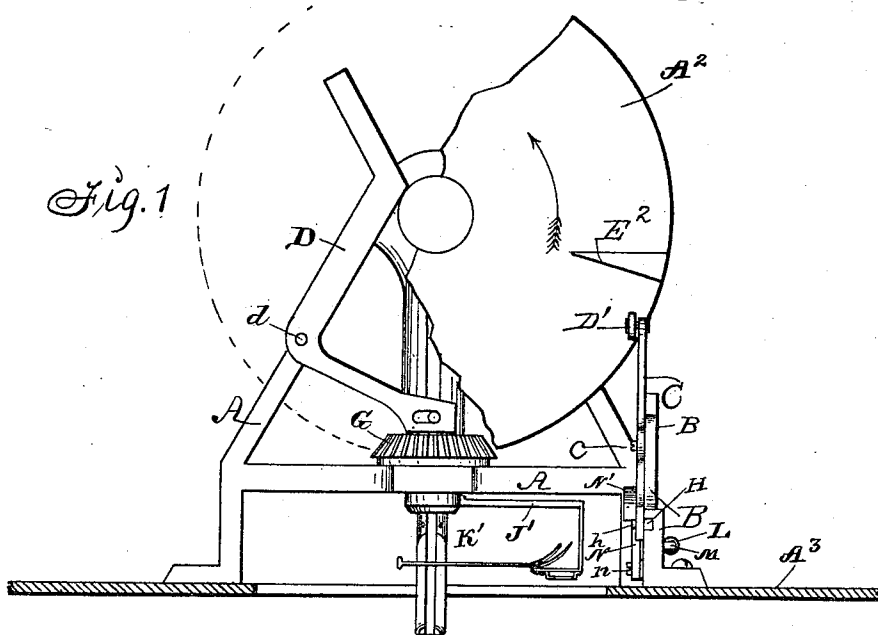
2 Sheets—Sheet 1.

O. H. WATKINS.

BAND CUTTER AND HOLDER FOR GRAIN BINDERS.

No. 459,666.

Patented Sept. 15, 1891.



Witnesses:
W. B. Smith.
R. H. Orwig.

Inventor:
O. H. Watkins,
By Thomas G. Orwig, att'y.

O. H. WATKINS.

BAND CUTTER AND HOLDER FOR GRAIN BINDERS.

No. 459,666.

Patented Sept. 15, 1891.

Fig. 4.

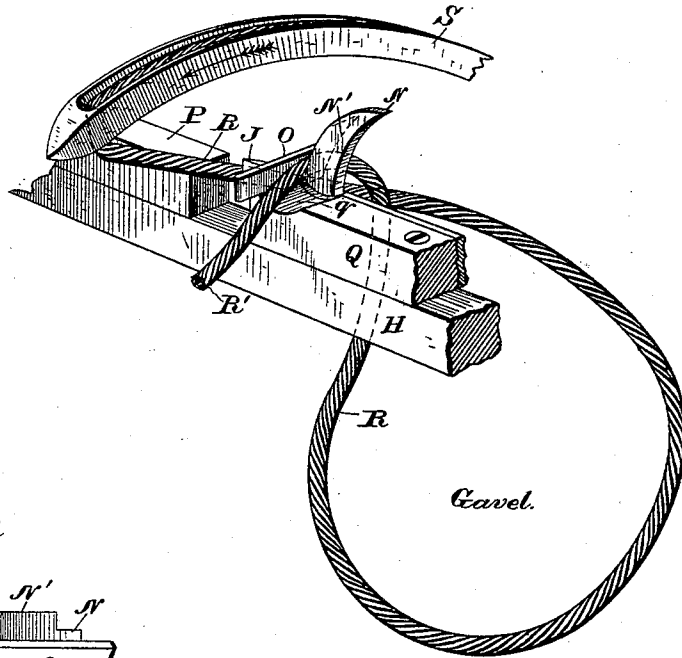


Fig. 6.

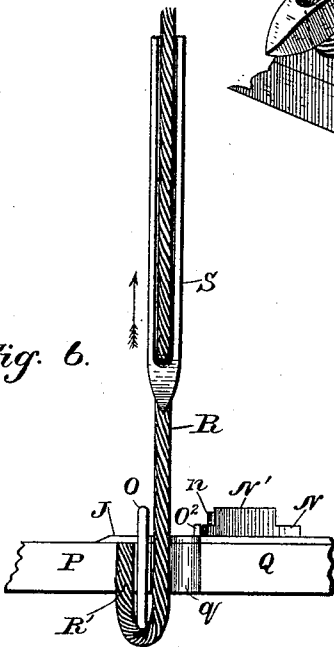
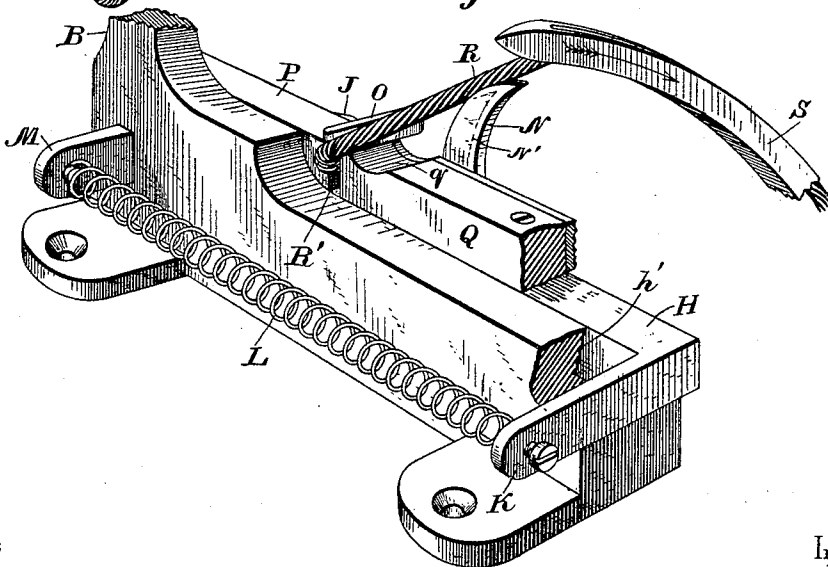


Fig. 5.



Witnesses

Rey C. Bowen
N. J. Collamer,

By his Attorneys,

Inventor

O. H. Watkins
C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

ORLA H. WATKINS, OF ELDORA, IOWA.

BAND CUTTER AND HOLDER FOR GRAIN-BINDERS.

SPECIFICATION forming part of Letters Patent No. 459,666, dated September 15, 1891.

Application filed April 7, 1890. Serial No. 346,980. (No model.)

To all whom it may concern:

Be it known that I, ORLA H. WATKINS, a citizen of the United States, and a resident of Eldora, in the county of Hardin and State of Iowa, have invented a new and useful Twine or Band Cutter and Holder Attachment for the Knotter of a Grain-Binder, of which the following is a specification.

This invention relates to harvesters, and more especially to the band cutters and holders used in the knotting-machines on grain-binders, and the object of the same is to produce certain improvements in devices of this character.

To this end the invention consists of the details of construction hereinafter more fully described and claimed, and as illustrated on the two accompanying sheets of drawings, wherein—

Figure 1 is a side elevation of this device complete. Fig. 2 is an enlarged front elevation of the cutting devices with the knife closed. Fig. 3 is a plan view of Fig. 2. Fig. 4 is a perspective detail taken from the rear, showing the needle ascending and the knife as open. Fig. 5 is a similar view showing the needle descending and the knife as closed. Fig. 6 is a plan view of Fig. 5.

Referring to the said drawings, the letter A designates a frame rising from the breast-plate A³, and B is an upright, also rising from this breast-plate, and hence connected with the frame.

A² is a disk turning in the direction of the arrow and having upon one face a cam E², which at each revolution of the disk engages a roller D' at the upper end of an arm C, the latter being pivoted at c to the upright B and having a slot c' in its lower end.

D is a bell-crank lever pivoted at d to the frame A and operating the knotter K', and G is a gear mounted on the spindle of said knotter and rotated at each revolution of the disk A² by a gear-segment on the other side of this disk. (Not here shown.)

The letter J' designates an arm projecting from the spindle of the knotter and carrying the fingers, all as more fully shown and described in an application for patent filed by me on April 7, 1890, and serially numbered 346,981, and hence forming no part of the present invention.

In a recess h' in the front of the upright B, near its lower end, slides a bar H, which at one end has a pin h, engaging the slot c' in the arm or lever C, and projecting rearwardly from the other end of this bar H is an arm K, connected by a coiled spring L, with a projection M at the rear side of the upright B. By this construction, when the cam E² strikes the roller D' and moves the lever C the bar H is caused to slide in the recess h' against the tension of the spring L, and as soon as the cam E² has passed by the roller the spring L returns the bar H to its normal position.

Detachably secured upon the bar H is a block Q, having in its upper face a recess q, and projecting upwardly from this block near its inner end is a transverse plate O.

N is a finger, pivoted at n to the face of the upright B, and having near its upper end a transverse lip N', adapted to impinge against the plate O, and this finger is pressed normally inward against a stop O², by a spring n².

The letter J designates a knife secured to the face of the block Q, extending beyond the inner end of the same and normally passing over the front edge of a stationary jaw P, which is secured, as by a screw p, to the base of the upright B, above the recess h' therein.

The letter S designates a needle, and R is the band, twine, or wire which is fed through the same and which is adapted to pass around the gavel beneath the breast-plate A³.

In the operation below I make no mention of the manner in which this band is knotted, as this forms no part of the present invention.

The parts being in their normal position, as seen in Fig. 2, and the disk A² rotating, the cam E² strikes the roller D' and retracts the block Q to the position seen in Fig. 4, the needle S then ascending and drawing the band R between the stationary jaw P and the edge of the knife J, the turn about the gavel having been previously made. The roller D' then moving off the cam E², the spring L causes the block Q to move inwardly, thereby causing the knife J to move over the corner of the jaw P and sever the band, the end R' thereof being clamped between the abutting ends of the jaw P and the block Q, as seen in Fig. 5. The needle S next returning, as shown in this figure, of course passes over

the recess *g* in the block Q, because the latter has been moved beneath the needle, and this movement draws the band R around the rear end of the plate O and between this plate
5 and the lip N' on the finger N.

Upon a repetition of the operation above described the first movement thereof, whereby the block Q is moved outwardly, releases the end R' of the band from between this
10 block and the jaw P, but simultaneously clamps it between the abutting faces of the plate O and the lip N', thus holding the end of the band, but leaving the opening between the knife and the jaw clear for the passage
15 of the band from the eye of the needle, as seen in Fig. 4. The manner in which this band is passed around the rear end of the plate O and held between the block Q and jaw P is also well seen in Fig. 6.

20 What is claimed as new is—

1. In a band cutter and holder, the combination, with a jaw, a bar carrying a block opposite the end of the jaw, means for reciprocating said bar, and a knife on the block
25 moving across the corner of the jaw, of a transverse plate on the block near its end, and a spring actuated finger pivotally mounted on a fixed support adjacent the knife and in rear of the plate, by which it is struck when
30 the block is moved from the jaw, substantially as described.

2. In a band cutter and holder, the combination, with a jaw, a bar carrying a block opposite the end of the jaw, means for reciprocating said bar, and a knife on the block
35 moving across the corner of the jaw, of a

transverse plate across the block at its end, the block having a recess or depression in rear of said plate, a finger pivotally mounted on a fixed support and having a lip contact-
40 ing with the plate when the block is moved from the jaw, and stops limiting the movement of said finger, substantially as described.

3. In a band cutter and holder, the combination, with a jaw, a bar carrying a block opposite the end of the jaw, means for reciprocating said bar, and a knife on the block moving across the corner of the jaw, of a plate secured upon the block at its end and projecting beyond the face thereof, a finger
45 pivoted to an upright and having a curved free end provided with a lateral lip contacting with the projecting end of the plate when the block is moved from the jaw, and a spring pressing said finger forwardly, substantially
50 as described.

4. In a band cutter and holder, the combination, with a block having a transversely-projecting plate, a knife extending from the end of the block, and means for moving the
60 block at intervals, of a jaw opposite the end of the block and a finger in rear of the plate, the movements of the block alternately throwing the plate and finger and the ends of the jaw and block in contact, but producing a cut-
65 ting action only when said ends come together, as and for the purpose hereinbefore set forth.

ORLA H. WATKINS.

Witnesses:

CHARLES C. BULKLEY,
MARTIN P. SMITH.