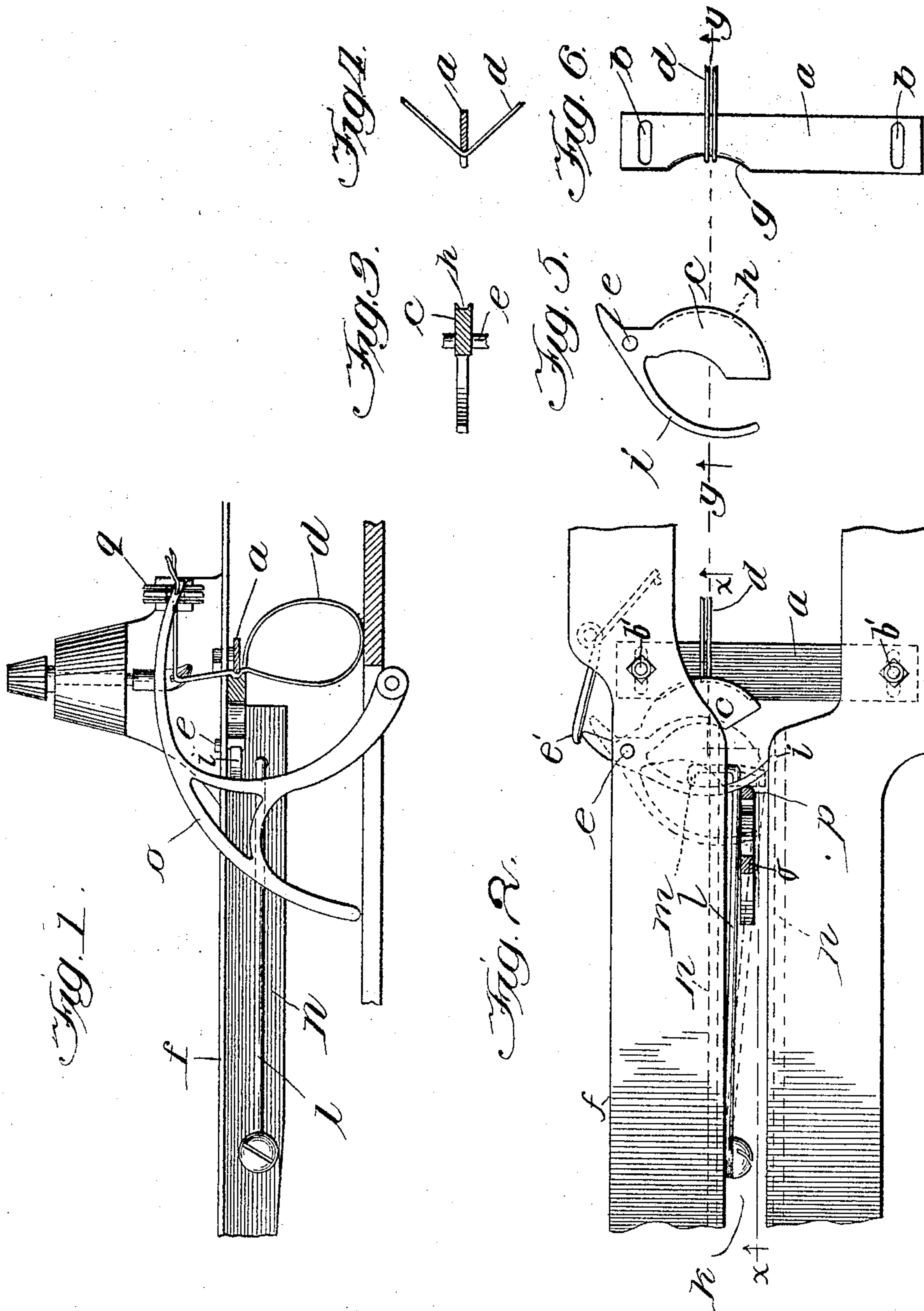


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W. STOFFEL.
KNOTTING MECHANISM FOR HARVESTER BINDERS.
APPLICATION FILED DEC. 21, 1904.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM STOFFEL, OF McHENRY, ILLINOIS.

KNOTTING MECHANISM FOR HARVESTER-BINDERS.

No. 803,311.

Specification of Letters Patent.

Patented Oct. 31, 1905.

Application filed December 21, 1904. Serial No. 237,752.

To all whom it may concern:

Be it known that I, WILLIAM STOFFEL, of McHenry, McHenry county, Illinois, have invented certain new and useful Improvements in Knotting Mechanism for Harvester-Binders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof, and in which—

Figure 1 shows my said new device in sectional elevation, taken on the plane xx of Fig. 2. The position of the mechanism is that in which the bundle has been formed and the knotting of the twine is to begin. Fig. 2 shows my said new device in plan view with my device shown in full lines in the open position and in broken outlines in the closed position. Fig. 3 shows the pivoted jaw or lock and its spring on the cutting-plane yy . Fig. 4 shows the bar against which the jaw c works with twines over its edge, the bar cut on the same plane yy . Fig. 5 shows the jaw and its spring in plan view. Fig. 6 shows the bar with fragments of twine in plan view.

Like reference-letters denote like parts throughout.

The object of my invention is to produce a mechanism which will hold the twine from slipping, and thereby insure the tying of bundles instead of occasional failures, as is now the case, because from various causes the twine is caused to slip from its holds while the knot is being formed, and thereby said failure to work is produced. To overcome said difficulty, I construct my said device in substantially the following manner, namely: Across the longitudinal slot k in the breastplate and under the knotter I secure a transverse bar a , having transverse slots b at each end for bolt-holes, whereby said bar may be adjusted so that it may fit properly to the jaw c , which works against it and with which the bundle-tying twine d is held. Said jaw, as hereshown, is pivoted at one of its ends on a bolt e , which passes through the breastplate f .

At one side of the center of the bar a is a concave edge g , into the center of which the twine is placed, as shown in Figs. 2 and 6, and the free end of the jaw c is so curved on its contacting edge as to fit over the entire length of the curve g as nearly as possible. The final adjustment of the parts is made by means of the slots b in the ends of the bar a and bolts b' in said slots.

The contact edge of the jaw c is provided with a groove h , into which passes the bar a ,

whereby the twine d is held securely from slipping by comparatively slight pressure on said jaw.

From the pivot e of the jaw rises a curved spring i , which passes nearly across the entire width of the slot k of the breastplate and its free end is curved inward or toward the jaw c , so that the twine in passing through the slot k may slip away from said spring and pass on to its proper place.

To further insure against the chance of the twine being caught and held on the parts i and c , a long straight spring l is fastened to one side n of the slot k and passed forward to the opposite side of said slot and opposite the end of the jaw c , from whence it is bent sharply on itself, so that said bent part stands transversely across the slot k and is passed through the wall n and plays freely in it and is held by a turn or knot m at its end from coming out or reaching to the opposite slot-wall.

The needle o enters the slot k at its rear end and its contact and motion pushes the spring l against the side n and passes forward and contacts with the free end of the spring i , and thereby closes the jaw c on the curve g at the same time the needle passes onward, and the springs i yields until it touches the jaw c at about the time the needle has passed to the end of its forward stroke. When the needle has arrived at the end of its forward motion, the bundle has been surrounded with the twine, as indicated in Fig. 1, and the knotter has begun to tie the knot. The jaw c now holds the twine so tightly to its place that slipping at that place is made impossible, so that whatever twine may be needed in making the knot is drawn from the frictional holding-plates or twine-holder q , and which may now be done more easily, because under this arrangement the twine-holder q does not require the same degree of frictional resistance that is required under the old arrangement, and thereby is attained the object of my invention—namely, the perfect tying of the twine to every grain-bundle.

My said mechanism has therefore to be placed between the bundle and the knotter or part which makes the knot in the twine, and it acts at its full power the moment after the bundle-compressor has reached its maximum position.

The spring e' is arranged to act on the short end of the jaw c between the pivot e and the spring e' , so as to open the jaw c .

The twine slips from the springs i l and

jaw *c* when the ends of said parts are sufficiently inclined to the plane of motion of the twine, and the position of the knotter being on the far side of the needle will bring the
5 cord to the position shown.

What I claim is—

1. The combination with a slotted breast-plate, a knotter a needle, and a twine-holder, of a bar across the slot and an oscillating jaw
10 touching edge to edge with said bar.

2. The combination with a slotted breast-plate, a knotter a needle, and a twine-clamp, of a bar across said slot and a grooved oscillating jaw meeting edge to edge with said bar.
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3. The combination with a slotted breast-plate, a twine-clamp, and a needle, of a bar across said slot and an oscillating jaw closed by said needle and a spring to open said jaw.

4. The combination with a slotted breast-plate, a twine-clamp and a needle, of a bar
20 across the slot, a jaw and an oscillating cord-guide in said slot.

5. The combination with a slotted breast-

plate, a twine-clamp and a needle, of a bar across the slot, a pivoted jaw provided with a
25 spring and a spring to open said jaw, said jaw and bar meeting edge to edge.

6. The combination with a slotted breast-plate, and a twine-clamp, of an adjustable bar across the slot and an oscillating jaw, said jaw
30 and bar meeting edge to edge, and means to close and open said jaw said means including a needle.

7. The combination with a slotted breast-plate, a twine-clamp and a needle, of a bar
35 across the slot a jaw to close on said bar and a spring interposed between the needle and jaw.

8. The combination with a slotted breast-plate a needle and a twine-holder, of a twine-
40 clamp across the slot and means to close and open said clamp.

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Witnesses:

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