R. J. HART.

BALING MACHINE.

APPLICATION FILED MAR. 6, 1909.

947,039. **Patented Jan. 18, 1910.**

Fig. 1.

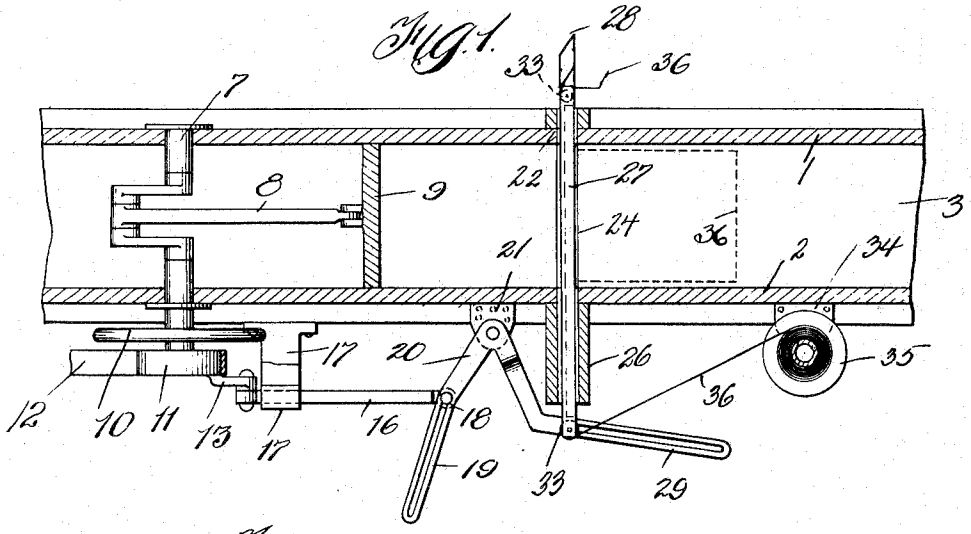


Fig. 2.

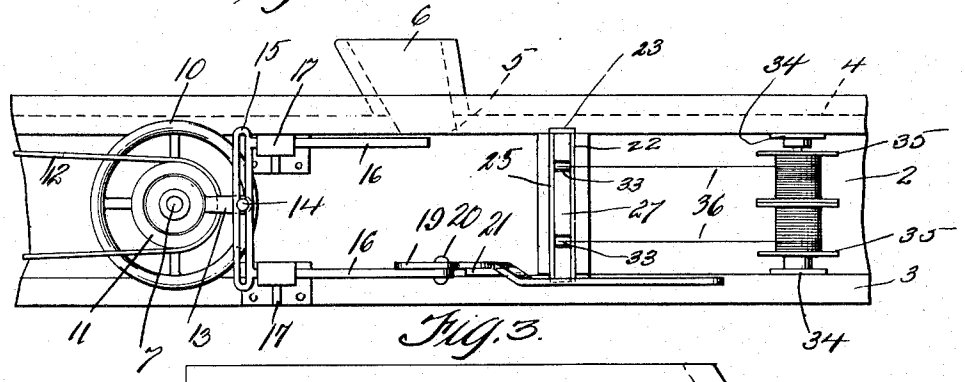


Fig. 3.

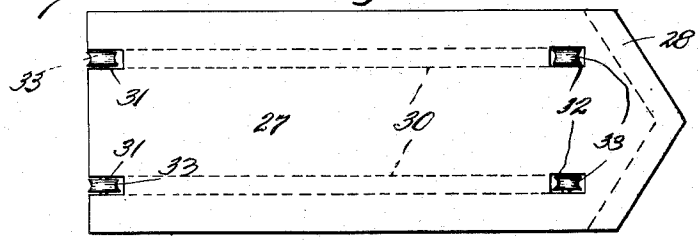
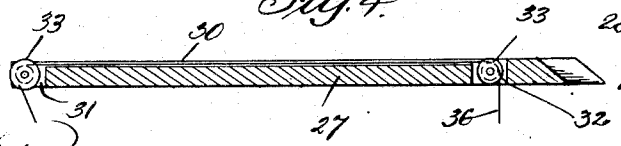


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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BALING-MACHINE.

947,039. Specification of Letters Patent. Patented Jan. 18, 1910.

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To all whom it may concern:

Be it known that I, RICHARD JASON HART, a citizen of the United States of America, residing at Marietta, in the county of Washington and State of Ohio, have invented certain new and useful Improvements in Baling-Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a combined knife and needle for hay and straw baling machines, and the invention has for its object to provide a machine of the above type with a knife for severing material in the machine and carrying wires for binding the material when cut and pressed into bales or bundles.

A further object of the invention is to facilitate the operation of baling hay and straw, and to simplify the construction of a machine for this purpose by providing the same with a combined knife and needle.

The above objects are accomplished by a device applicable to various types of baling machines, and this device will be hereinafter considered in detail and then claimed.

Reference will now be had to the drawing forming a part of this application wherein there is illustrated the preferred embodiments of the invention, but it is to be understood that the structural details thereof can be varied or changed without departing from the spirit or scope of the invention.

In the drawings, Figure 1 is a horizontal sectional view of a portion of a baling machine equipped with my invention, Fig. 2 is a side elevation of the machine, Fig. 3 is a front elevation of the detachable combined knife and needle, and Fig. 4 is a horizontal sectional view of the same.

In the drawings I have illustrated a baling box comprising side plates 1 and 2, a bottom plate 3 and a top plate 4, said top plate having an opening 5 formed therein communicating with a chute 6 mounted upon said top plate.

Revolubly mounted in the side plates 1 and 2, is a crank shaft 7, having a pitman 8 connecting with a baling head 9 slidably mounted in the box. The shaft 7 protrudes from the side plate 2, and is provided with a hand wheel 10 and a pulley wheel 11, said pulley wheel being driven by a belt 12 from a suitable source of power. The pulley wheel 11 is provided with a crank 13 having a wrist pin 14 extending through a vertical slotted member 15, said member being carried by parallel guide arms 16, slidably mounted in brackets 17 carried by the side plate 2. The lower guide arm 16 is loosely connected, as at 18, to the slotted arm 19 of a bell crank lever 20, pivotally supported upon a bracket 21, carried by the side plate 2.

The side plates 1 and 2 are provided with diametrically opposed vertical slots 22, said slots having transverse liners 23 and 24 and vertical liners 25. Communicating with the slots 22 of the side plate 2 is a guide casing 26 for a combined knife and needle 27. One end of said knife is beveled, as at 28, while the opposite end is loosely connected to the slotted arm 29 of the bell crank lever 20. The face of the knife is provided with parallel longitudinal grooves 30, said grooves terminating in slots 31 at the connected end of the knife, and in slots 32 adjacent to the beveled end thereof. Rollers 33 are journaled in the slots 31 and 32.

The side plate 2 supports parallel bearings 34 for revoluble spools 35 upon which wire 36 is wound, the wire being adapted to pass over the rollers 33 at the connected end of the knife, through the grooves 30 and over the rollers 33 journaled in the slots 32.

As shown in Fig. 1, the machine is in position to receive the hay, and as the wires 36 are held, the combined knife and needle is withdrawn, this movement being accomplished through the shaft 7, crank 13, lower arm 16, and the bell-crank lever 20. Simultaneous with an outward movement of the combined knife and needle, the hay is packed and forced ahead by the head 9. As the head 9 moves the hay in the baling box, the wires 36 are carried forward by the hay as shown by dotted position in Fig. 1, the wires surrounding the outer end and sides of the bale. The combined knife and needle now moves inwardly and severs the hay, besides carrying the wires 36 across the rear end of the bale, where it can be cut and the ends of the wires surrounding the bale twisted and fastened. By again holding the ends of the wire, the combined knife and needle can recede to allow hay to be moved forward in the baling box.

Having now described my invention, what I claim as new, is;—

1. The combination with a baling box, of a combined knife and needle adapted to move transversely of said box, said knife having slots formed therein, rollers journaled in said slots, said knife having grooves

formed therein extending between said slots for wires adapted to pass over said rollers, means for moving said knife in and out of said box, said means including a crank shaft, a driven wheel carried thereby, a crank carried by said wheel, a slotted member movable by said crank, guide arms carried by said member, and a slotted bell crank lever connecting one of said guide arms with said knife.

2. The combination with a baling box, of a combined knife and needle adapted to move transversely of said box, said knife having slots formed therein, rollers journaled in said slots, said knife having grooves formed therein extending between said slots for wires adapted to pass over said rollers, and means for moving said knife in and out of said box.

3. The combination with a baling box, of a combined knife and needle adapted to move transversely in and out of said box, said knife having slots formed therein and grooves connecting said slots, and rollers journaled in said slots for retaining wires in engagement with said knife during the movement thereof.

4. The combination with a baling box, of a knife and needle adapted to move transversely in and out of said box, said knife provided in one face with wire-receiving grooves and having slots near its inner end through which the wires extend.

5. In a baling press, a baling chamber, and a combined knife and needle movable across the baling chamber for separating the material into bales and carrying the tying wires around the bales as the latter are formed.

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

RICHARD JASON HART.

Witnesses:
SAMUEL PAYNE,
MAX H. SROLOVITZ.