(No Model.)

M. B. HELIKER.

BELT COILER FOR THRASHING MACHINES.

No. 346,042. Patented July 20, 1886.

Fig. 1.

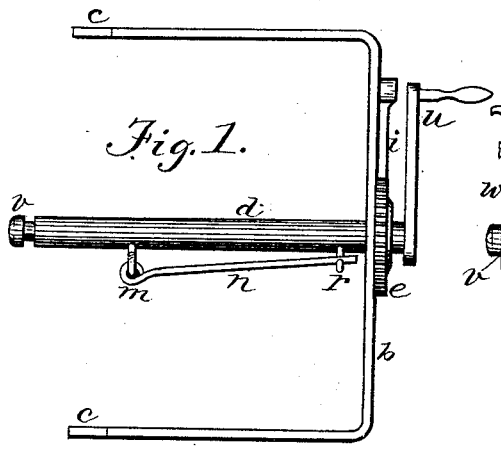


Fig. 2.

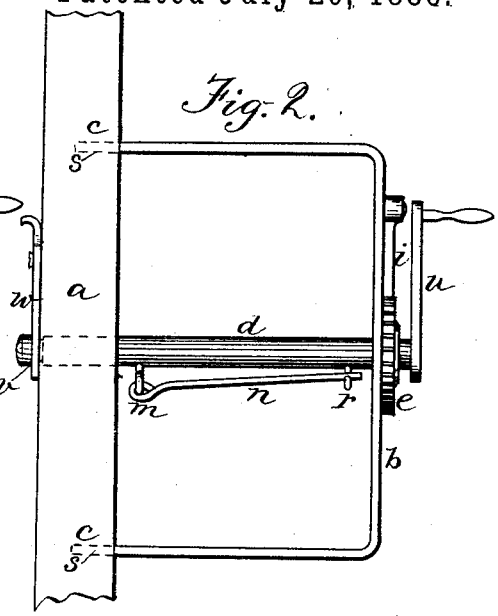


Fig. 3.

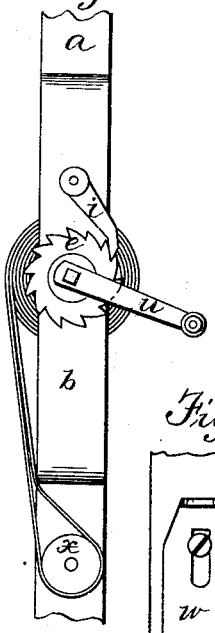


Fig. 5.

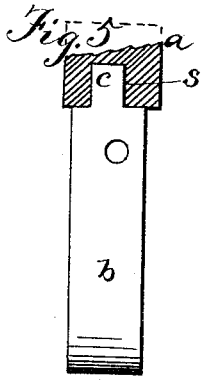


Fig. 4.

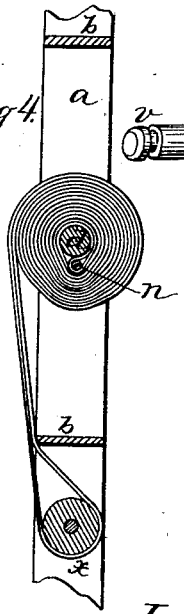


Fig. 6.

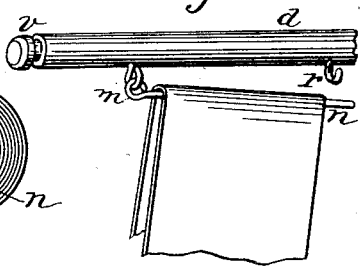
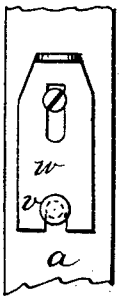


Fig. 7.



Witnesses:
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A. B. Rawlings.

Inventor:
Merlin B. Heliker
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UNITED STATES PATENT OFFICE.

MERLIN B. HELIKER, OF FARMINGTON, MICHIGAN.

BELT-COILER FOR THRASHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 346,042, dated July 20, 1886.

Application filed March 4, 1886. Serial No. 194,050. (No model.)

To all whom it may concern:

Be it known that I, MERLIN B. HELIKER, a citizen of the United States, residing at Farmington, in the county of Oakland and State of Michigan, have invented new and useful Improvements in Belt-Coilers for Thrashing-Machines, of which the following is a specification.

In steam-driven thrashing-machines the driving-belt, when not in use, is removed from the pulleys and rolled up, so as to be carried in compact form upon the machine.

For the purpose of carrying the belt I provide a coiling attachment for the machine, consisting of a belt-rod having a pin for fastening the belt thereto, which is adapted to be automatically unfastened from the belt in the operation of uncoiling the latter for use, as hereinafter described. The belt-rod is contained within a metal yoke-strap, which is removably fastened by tenons, and by said belt-rod and a slide-latch, to the side of the frame or other part of the machine. The inner end of said belt-rod passes through and turns in a bearing in said machine-frame, and is provided at its outer end with a crank by which to coil the belt, and with a ratchet and pawl by which to hold the coiled belt tight upon the rod. A slotted slide-latch on the inside of the machine-frame locks with the inner shouldered or grooved end of the belt-rod to fasten the latter to the machine; and the belt-rod serves to hold the yoke-strap in its tenon fastenings, as hereinafter specified, and shown in the drawings, in which—

Figure 1 represents a detached view of the belt-coiling device. Fig. 2 shows the device as attached to the frame. Fig. 3 shows an end view of the device with the belt coiled thereon. Fig. 4 shows a transverse section through the coiled belt. Fig. 5 shows a plan view of the yoke-frame with one of its tenons fitting in its mortise. Fig. 6 shows the belt-rod and the means for holding the belt; and Fig. 7 shows the slotted slide-latch for fastening the coiling-rod to the frame.

The framing of the thrashing-machine is represented at *a;* but the support for my device may either be a part of said frame or a fixed bar upon its side or any other convenient part thereof.

The housing for the coiling device is a metal yoke-strap, *b*, with two right-angled ends, which terminate in tenons or shoulders *c*, while the middle part of said yoke-strap has a central hole for the coiling-rod *d*, the inner end of which passes through a hole in the frame or bar, so that the belt-rod has its outer bearing in the middle part of said yoke-strap and its inner bearing in the frame when the coiler is attached for use. The belt-rod carries a ratchet, *e*, on its outer end, against the middle part of the yoke-strap, *b*, and the latter has a pawl, *i*, to hold the ratchet when the belt is coiled tight. The belt-rod is longer between the frame or bar and the middle part of the yoke-strap than the belt is wide; and as a means of connecting the belt to the rod, so that it may be coiled thereon, I provide a holding-pin, *n*, which is hung by a universal eye-joint, *m*, at one end to the rod, and at its free end is set into a hook, *r*, on the rod, and thus serves to loop the belt to the rod. The hook *r* stands with its open end in the direction in which the belt is coiled or wound, so as to hold the pin parallel with the belt-rod in turning the latter to coil the belt, and thereby render it certain to connect the belt to the rod, and to maintain such connection during and at the end of the coiling operation. When the belt has been completely uncoiled for removing it for use, the pin will be automatically unhooked by the belt pulling it out of the hook as the latter turns back, leaving the pin free to fall down, so that the belt will slide off and free itself from the pin at once by reason of the capacity of the latter to swing out of the hook upon the universal-joint connection.

In applying the attachment to the thrasher-frame the belt-rod is inserted in the frame-opening and the tenoned ends of the strap are inserted in corresponding mortises, *s*, in said frame, so as to bring the grooved or shouldered end *v* of the rod a little beyond the inner side of said frame to receive the slide-latch *w*, which secures the belt-rod and serves to also fasten the yoke-strap to said frame in a secure manner.

The removal of the device is effected by unfastening the slide-latch *w* from the groove of the belt-rod.

Below and outside of the yoke-strap I place

an idle-roll, *x*, on which the free end of the belt is held when wound tightly; or the free end of the belt may be tied to either end of the yoke-strap or to a pin. The belt-rod has a crank, *u*, by which it is turned and the belt wound upon it; and to uncoil the belt the pawl is turned out of contact with the ratchet. The coiler being attached to the machine the belt is looped over the pin *n* and coiled upon the rod *d*, its free end being secured as stated. As the pin *n* is attached at one end to the coiling-rod by a joint which permits the pin to move in any direction, and as the free end of the latter lies in a hook on said rod, the tension of the belt in winding will keep the pin in the hook, and thus fasten the belt on the pin; but in unwinding the belt for use it will, when completely unwound, pull the end of the pin off the hook, and thus automatically release the belt from the pin. In fact the pin is released by the unwinding action of the rod, and falls out of the hook as the end of the belt is turned under the rod. The joint of the pin is made by an eye on the winding-rod and the bent end of the pin, so that the latter can swing freely in any direction on its joint, and is thus allowed to fall out of its confining-hook, as stated.

I claim—

1. In a belt-coiler for thrashing-machines, the combination, with a frame and a suitable housing, of the coiling-rod having a hook, *r*, arranged as described, a pin connected by a universal joint to said coiling-rod, and means for detachably fastening said coiling-rod and housing to said frame, substantially as described.

2. The combination, with the frame and yoke-strap, of the belt-coiling rod having a hook, *r*, and a groove or shoulder at one end and a crank and ratchet at the other, a pin jointed to said rod, the pawl attached to said yoke-strap, and the slide-latch, substantially as herein set forth.

3. The combination, in a belt-coiler for thrashing-machines, of the mortised frame and yoke-strap having tenoned ends *c*, the rod *d*, having the hook *r* and a grooved end and the ratchet and crank, the pawl *i*, and the slide-latch *w*, all arranged and constructed as herein set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

MERLIN B. HELIKER.

Witnesses.

HORACE A. GREEN,

ALBERT A. MURRAY.