(No Model.)

W. M. KIZER & C. W. CLINK.

ROPE REEL.

No. 329,053. Patented Oct. 27, 1885.

Fig. 2.

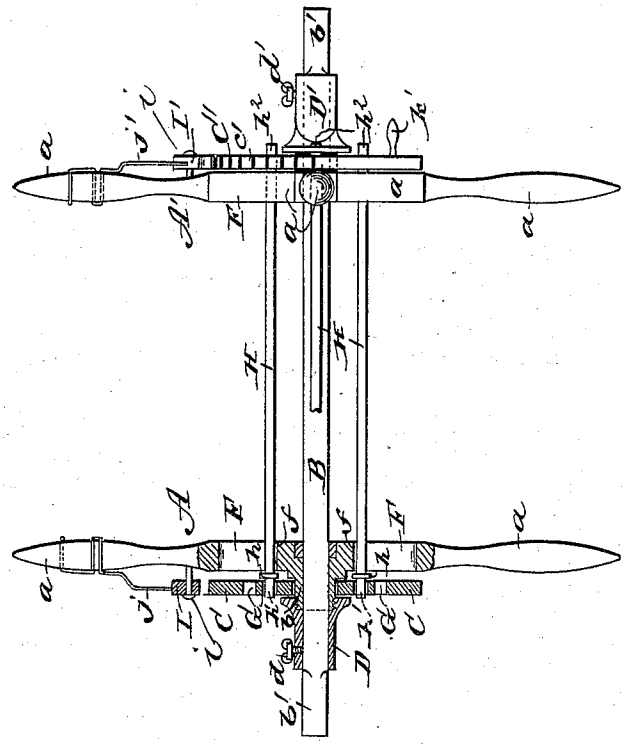
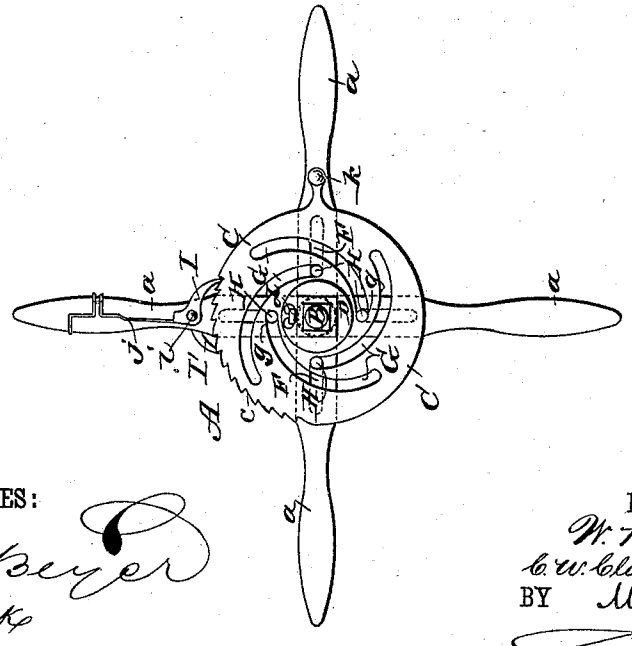


Fig. 1.



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UNITED STATES PATENT OFFICE.

WILLIAM M. KIZER AND CHARLES W. CLINK, OF WINFIELD, MICHIGAN.

ROPE-REEL.

SPECIFICATION forming part of Letters Patent No. 329,053, dated October 27, 1885.

Application filed July 12, 1884. Serial No. 137,587. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM M. KIZER and CHARLES W. CLINK, of Winfield, in the county of Montcalm and State of Michigan, have invented a new and Improved Rope-Reel, of which the following is a full, clear, and exact description.

The object of our invention is to provide a simple, inexpensive, and efficient reel device for holding coils of rope or twine for the convenience of storekeepers and others in tying up packages or retailing the rope.

The invention consists in a rope or twine reel constructed with connected end frames provided with radial slots, rotatable disks mounted next the end frames and provided with cam or eccentric slots, and cross-rods entering the radial and eccentric slots, so that upon turning the disks the rods may be expanded to tighten within the coil of rope.

The invention consists, also, in various details of construction and combination of parts of the reel, whereby it is made extensible or adjustable endwise, and may be readily dismembered to receive the rope coil, and whereby also the rods may be held fully expanded and securely against the inside of the coil, all as hereinafter fully described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is an end elevation of our improved rope-reel, and Fig. 2 is a longitudinal and partly sectional elevation of the same.

The letters A A′ indicate, respectively, the two end frames of the reel, each of which are made in the example shown of a pair of bars framed together at their centers and at right angles to each other, and so as to form the four arms *a a a a*, which may be shaped as handles at their outer ends. We connect the end frames, A A′, by a central shaft, B, and we propose to mount the end frame A tightly on the shaft, and the opposite frame, A′, loosely thereon.

On the centers of the end frames, A A′, and at the outside face, we fix or form hubs *b b*, on which are mounted so as to turn freely the disks or plates C C′, outside of the respective end frames, A A′.

Suitable collars or thimbles, D D′, are placed on the shaft B outside of the disks C C′, and these collars have set-screws *d d′*, by which they may be fixed on the shaft to hold the disks in place on their hub-bearings.

We prefer to make the shaft B square in cross-section between the outer ends of the opposite collars D D′, and we make the shaft round at each end outside of the collars, to form end journals, *b′ b′*, which may enter suitable bearings in a stand for supporting the reel clear of the table, counter, or floor, so that the reel may turn as the twine or rope is unwound from it.

Each of the arms *a* has a lengthwise slot, F, near the joint of the arms with each other and radiating from the central shaft, B, and each of the end disks, C C′, has a series of eccentric or cam slots, G, corresponding in number with the radial slots F of the adjacent end frame of the reel.

Before the end disk C is applied to the reel-shaft outside of the end frame A a rod, H, is passed through the slot F of each arm *a* of the frame until a collar, *h*, on the rod comes against the face of the arm. The disk C then is placed on its hub-bearing *b*, and so that the ends *h′* of all the rods H will pass into the inner ends, *g*, of the corresponding cam-slots G, the rods then being on the inner ends, *f*, of the slots F. The opposite end frame, A′, and the disk C′ will then be passed upon the shaft B, and with the ends h^2 of the rods H passed into the inner ends of the radial and cam slots of the frame A′ and disk C, respectively, and the collar or thimble D′ will then be fixed on the shaft outside of the disk C′. The coil of rope or twine is slipped onto or around the rods H before the end frame A′ is placed on the shaft.

With this construction, when the opposite end disks are turned, the eccentric or cam slots of the disks C C′ will carry the rods H outward along the radial slots of the reel-frames A A′ and spread the several rods H apart, so as to take hold of the inside of the coil of twine or rope to bind it firmly to the reel, so as to revolve only as the reel revolves, and not slip around the reel, which would quickly entangle the twine.

To hold the rods H expanded tightly to the

inside of the coil of twine or rope, we provide pawls I I′ for the respective end frames, which pawls are pivoted on pins *i i′*, respectively, to one of the arms *a* of each frame, and engage ratchet-teeth *c c′* on the end disks, C C′. Springs *j j′*, made preferably of elastic wire and fastened to the arms of the end frames, hold the pawls into the ratchet-teeth.

We have arranged the cam-slots G of the opposite disks C C′, so that the disks are to be turned by their handles *k k′* in reverse directions to expand the rods H evenly or parallel with each other; consequently the opposite pawls I I′ and their respective ratchet-teeth *c c′* on the disks are reversely arranged; but it is evident that the cam-slots of the opposite disks may be arranged to expand the rods H by a movement of both disks in the same direction, in which case the opposite end pawls and ratchet-teeth will be arranged alike. On raising the pawls from the teeth the bars H may be moved inward or toward each other again by a reverse motion of the cam-slot disks, as will be readily understood.

The end frame A′, with its disk C′, may be moved to any point along the shaft B, and there held by its collar D′, so that coils of twine or rope of any size may be clamped between the end frames to be unwound from the reel, as required for use.

There may be more or less than four of the rods H, as shown, and the number of the slots F G at each end of the reel will of course correspond with the number of the rods.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A rope-reel constructed with connected end frames having radial slots, rotatable disks or plates mounted at the sides of the end frames and provided with cam or eccentric slots, and rods for supporting the rope coil entered into the radial and cam slots of the end frames and disks, respectively, substantially as herein shown and described.

2. The combination, in a rope-reel, of the connected end frames, A A′, having radial slots F, the disks C C′, having cam-slots G, and the rods H, entering the slots F G, substantially as herein shown and described.

3. The combination, in a rope-reel, of the end frame, A, provided with slots F and fixed to the shaft B, the disk C, having slots G and mounted to turn on a bearing, *b*, of the frame A, the rods H, passed through the slots F G of frame A and provided with the collars *h* between the frame and the disk, the collar D, fixed to the shaft B outside of the disk C, the loosely-mounted and correspondingly-slotted end frame, A′, and rotatable disk C′, and the collar D′, substantially as shown and described.

4. The combination, with the radially-slotted end frames, A A′, and eccentrically-slotted disks C C′, of the spring-pawls I I′, substantially as shown and described.

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Witnesses:
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