C. N. CASS.
Rope-Reel.

No. 221,395. Patented Nov. 11, 1879.

Fig. 1.

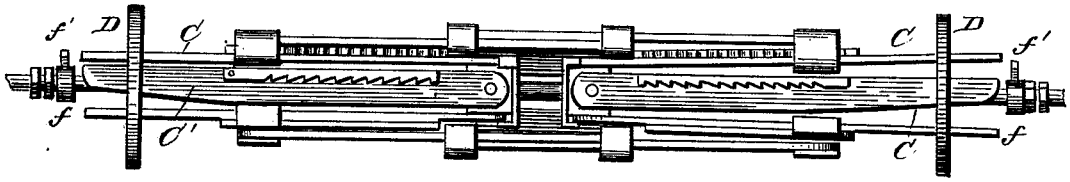


Fig. 2.

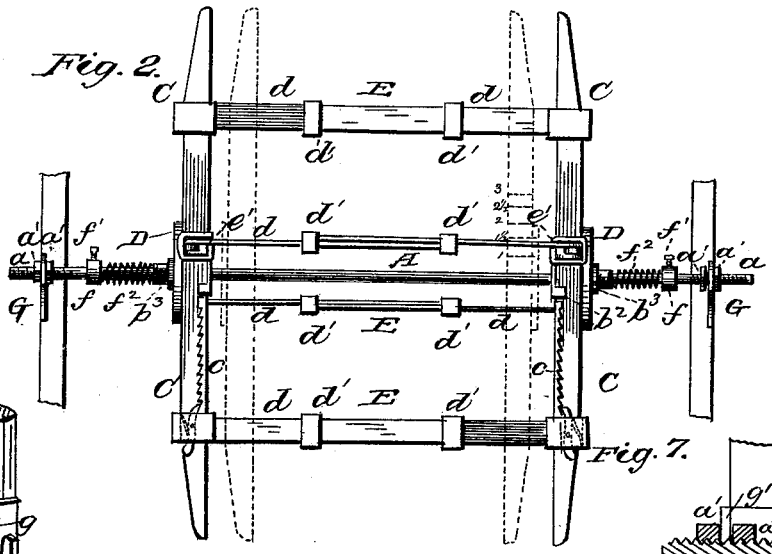


Fig. 6.

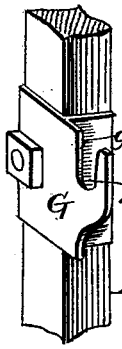


Fig. 7.

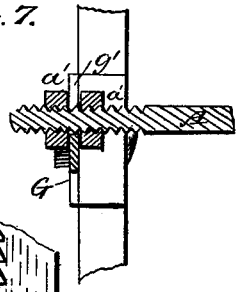


Fig. 3.

Fig. 4.

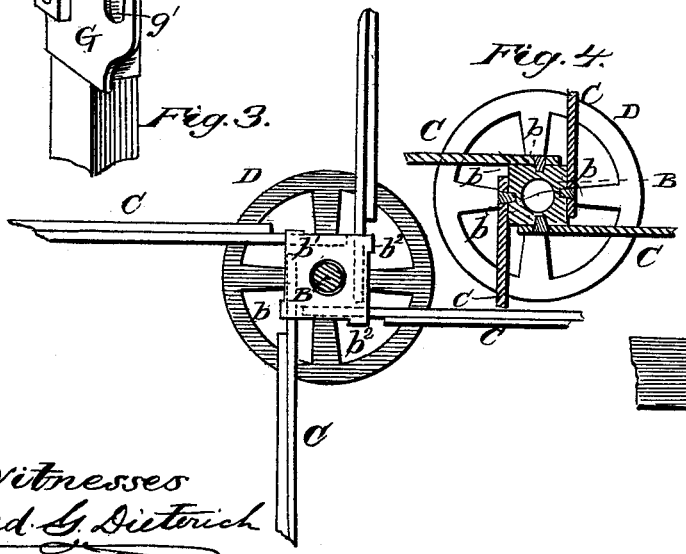
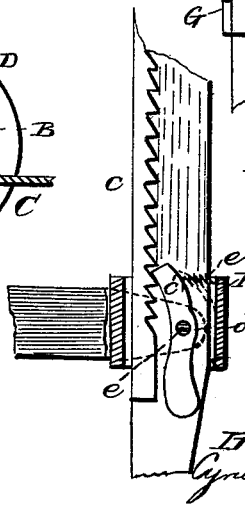


Fig. 5.



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UNITED STATES PATENT OFFICE.

CYRUS N. CASS, OF DECATUR, ILLINOIS.

IMPROVEMENT IN ROPE-REELS.

Specification forming part of Letters Patent No. **221,395**, dated November 11, 1879; application filed April 2, 1879.

To all whom it may concern:

Be it known that I, CYRUS N. CASS, of Decatur, in the county of Macon and State of Illinois, have invented certain new and useful Improvements in Rope-Reels; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being made to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a plan view of my improved reel when closed; Fig. 2, a side elevation of the same when open; Fig. 3, end view; Fig. 4, sectional view of the same; Figs. 5, 6, and 7 are detail sectional views.

This invention relates to new and useful improvements in the class of rope-reels that may be collapsed and inserted through the coil of rope and then be readjusted, and more particularly to improvements upon my former Patent No. 209,020, dated October 15, 1878; and the invention consists in the general construction, combination, and arrangement of parts, all as will be hereinafter fully described, and specifically pointed out in the claims.

In the drawings, A represents a round central shaft, upon which the reel revolves. B B represent two journal-boxes mounted upon said shaft, each having four square sides, *b*, and to each of which sides is pivoted an arm, C, of the reel. The ends of the journal-boxes facing each other have square flat faces b' perpendicular to the axial line of the rotation of the reel. These faces b' of the journal-boxes extend beyond the square sides *b* thereof the full thickness of the arms C, and serve as shoulders to prevent said arms from falling toward each other when raised to a position at right angles with the central shaft, A. A portion of each face b' of the journal-box, at the corners thereof, about one-half inch in width, is extended still farther and bent over the sides of the journal-box, forming lips or braces b^2 projecting over each of the arms C, whereby said arms are held steadily against the sides of the journal-boxes, to which they are pivoted.

D D represent wheels for securing the arms C in an upright position, said wheels screwing onto the outside projecting screw-threaded portions, b^3, of the journals, as clearly shown in Fig. 2.

Each of the pivoted arms C has firmly fixed to one of its sides a ratchet-plate, *c*, with which a pivoted spring dog or pawl, c', engages, by which the contractible and extensible reel-bars E are held firmly or secured in any desired position upon the arms C. The arms C are provided with index scales or figures, whereby the reel-bars may be accurately adjusted to fit any size rope-coil before the reel is inserted therein.

Each of the reel-bars E is composed of two sections, *d d*, and which are made contractible and extensible, as follows: Each of said sections is provided at one end with a slide-loop, d', sufficiently large to receive both sections; and these sections are put together by reversing the free end of each section, which will pass through the loop of the other section, by means of which the arms can be extended or contracted to correspond with the length of the rope-coil. The free ends of these bars *d* are provided with holes d^2, by which the loops F, provided with a stud or pin, *e*, on the inside thereof, are pivoted to said bars, said loops having a slot, e', through the same, on the sides facing each other, for permitting free motion of the ends of the bars therein, or of the loops around the ends of the bars.

The spring pawls or dogs are also centrally pivoted upon the stud or pin *e*, to which the bars are pivoted; and said pawls or dogs are held into engagement with the teeth of the ratchet-plate by a spiral or other suitable spring, e^2, having its ends respectively secured to pins or studs on one end of the pawls or dogs, and projecting from the ends of the loops, all as clearly shown in Fig. 5.

Upon the shaft A, between the wheels D and the bands *f*, adjustable thereon, and secured in position by set-screws f', are arranged spiral springs f^2, the object of which is to press the arms C close against the ends of the rope-coil, and thus prevent the coil from becoming loose or spreading laterally, while the ratchet-plates and pawls or dogs on the arms of the reels are for the purpose of extending the reel-bars (when the rope-coil is mounted thereon)

as far away from the central shaft as possible, so that the coil will not become loose at the core; also to adjust the reel-bars to any sized core of rope-coil; and, finally, to create sufficient friction to prevent the reel from turning without the application of force thereto.

The frame or bearings by which the central shaft is rigidly secured in position are composed of the plates G G, each provided with a right-angled flange, *g*, by which they can be secured to any surface having a square angle. The ends of the shaft are provided with screw-threads *a*, upon which the lock-nuts *a' a'* are screwed, and between said lock-nuts the plates G are secured, by means of the shaft A fitting in the slots *g'* thereof.

It will be observed that all the parts of my improved reel are composed of metal.

To pack or ship my improved reel, the wheels D thereof are unscrewed from the journal-boxes and slipped along on the central shaft toward the ends thereof, when the arms and bars are folded down close to the central shaft, (the wheels of a working reel not occupying more than a space three inches in diameter,) and the fellies of the wheels slipped over the ends of the arms, thus securing the parts in a compact package.

To insert my improved reel within a rope-coil, the arms at one end of the reel are raised at right angles to the central shaft, and the wheel screwed onto the journal, thus holding the arms in an upright position. The spiral spring is then moved on the shaft so as to abut against the outer end of said journal-box, and secured in that position by the band and set-screw. The set of arms at the other end of shaft are then collapsed, and, with the shaft, thrust through the core or central opening of rope-coil, (the reel-bars being first set on the pivoted arms, according to the size of the coil.) I then press the coil on the shaft toward the end having the arms already secured in position, after which the set of arms passed through the coil are raised and secured in position by screwing the other wheel on its journal-box and then bringing the band close against the journal-box and securing it thereto by its set-screw, when the reel is ready to be attached by its plates G to proper bearings or supports, and secured thereto by set-screws.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a rope-reel, the combination of the pivoted arms C, having the ratchet-plates *c*, and the reel-bars E, having the loops F, provided with the dogs or pawls *c'*, substantially as and for the purpose specified.

2. In a rope-reel, the combination of the sectional contractible and extensible and radially-adjustable bars E, and the pivoted arms C, provided with the pivoted and slotted loops F, substantially as and for the purpose herein shown and described.

3. In a rope-reel, the combination of the journal-boxes B, having projecting screw-threaded portions b^3, and the wheels D, substantially as and for the purpose herein shown and described.

4. In a rope-reel, the combination, with the arms C, of the journal-boxes to which said arms are pivoted, having the extended faces *b'* and right-angled lips or braces b^2, substantially as and for the purpose herein shown and described.

5. In a rope-reel, the combination, with the slotted plates G *g g'*, of the central shaft, having screw-threaded ends, and lock-nuts *a' a'*, substantially as and for the purpose herein shown and described.

6. In a rope-reel, the combination, with a stationary central shaft, of two series of pivoted arms, adapted to be adjusted toward or from each other on said shaft, and provided with pivoted and slotted loops F and contractible and extensible reel-bars, adapted to be adjusted on said arms toward or from the central shaft, substantially as and for the purpose herein shown and described.

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