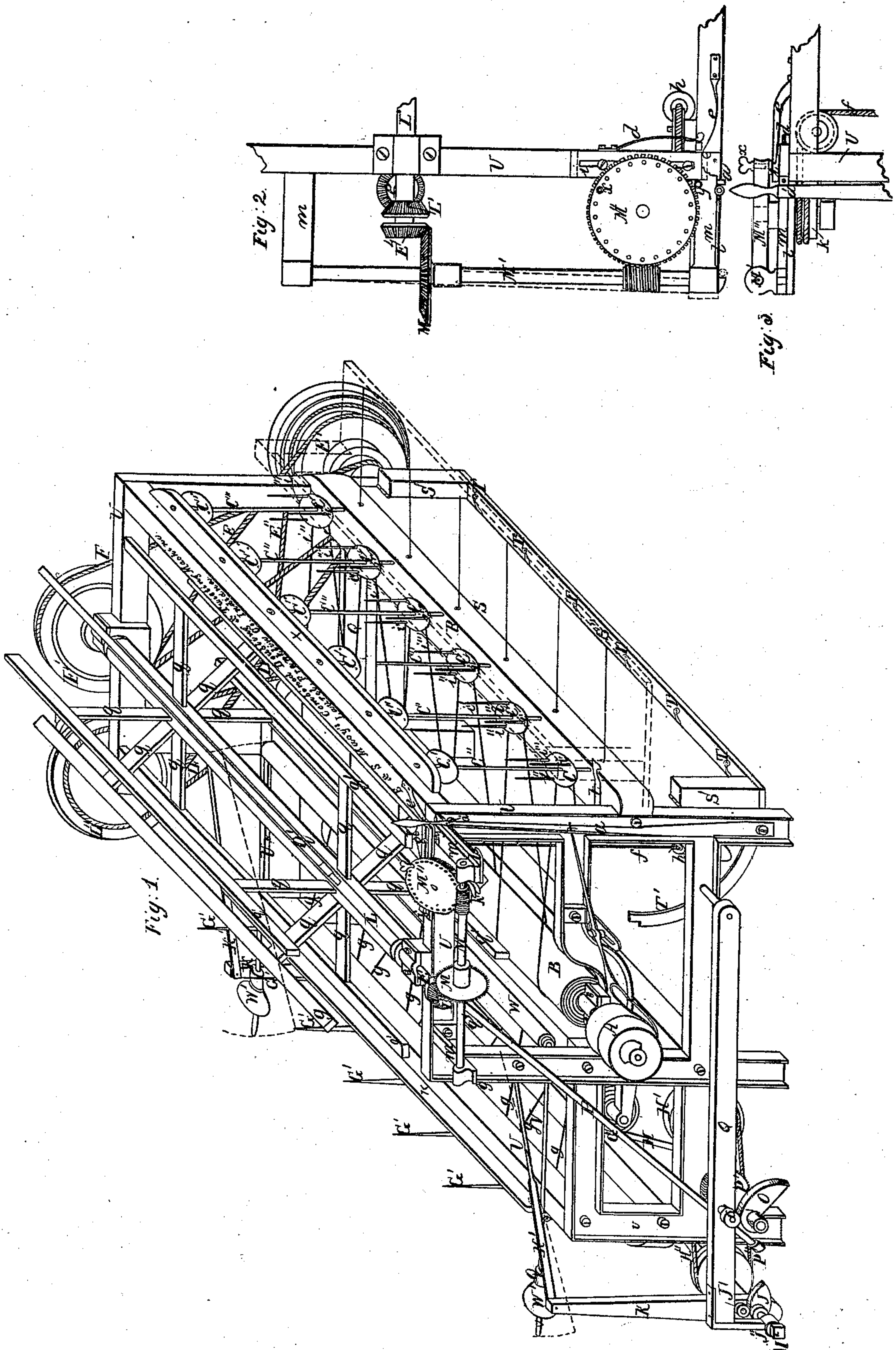


E. & S. Macy.
Cordage Mach.

N^o 8875.

Patented Apr. 13, 1852.



UNITED STATES PATENT OFFICE.

E. MACY AND S. MACY, OF LAUREL, INDIANA.

REELING-MACHINE.

Specification of Letters Patent No. 8,875, dated April 13, 1852.

To all whom it may concern:

Be it known that we, ELIAS MACY and SIMEON MACY, both of Laurel, in the county of Franklin and State of Indiana, have invented a new and useful Improvement in Machinery for Reeling and Measuring Yarns, Thread, and other Textile or Fibrous Substances; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, which are made a part of this specification, to wit—

Figure 1 which is a perspective view of the machine complete, as arranged and used for wool yarns, (with the addition of a reeling board and winding apparatus, for which no claim is made under the present application, and of which no further description will be given in this specification); Fig. 2, is an elevation of stop motion and counting apparatus. Fig. 3 plan of the same.

A, Fig. 1 indicates the fast and loose driving pulleys, which give motion to the whole machine. B, the band drum. C, the whirls of the spindles, the upper surfaces of which are flat, and the lower grooved, in the usual form for round bands; i' i' being the bands to drive the same; i'' i'' the spring bobbin tongues, any required number of which may be used (commonly three). These (the bobbin tongues) are screwed or riveted into the plates or whirls, C, C.

C', C', are the doubling plates at or near the tops of the spindles, having small eyes slotted out, through which the yarn is passed, and are so arranged that the eyes are directly over the points of the bobbins; and after the yarn leaves the eye, it is passed around the spindle sufficiently for the required friction, and then through the tube in the upper end of the spindle, and is attached to the reel, which draws the thread from the spindle as fast as it is doubled and twisted. D, a pulley on the end of the shaft of the drum B; from which pulley the band D', passes to the pulley D'', which is a coned carrier, from which carrier the band E passes to the coned pulley E'; and from the latter the band F passes to the grooved pulley F', and drives the reel. L, the axis or shaft of the reel, of which q q are the arms, and q' q' are the bars, two of the arms being hinged to let down and allow

the skeins to be drawn off easily. L' is a bevel pinion on the shaft L of the reel, which engages the bevel wheel M on a worm shaft M', and the latter engages the worm wheel M''. This worm wheel has a pin at x , extending down so as to engage a clutch, on the slide i , and carry i , forward until it forces m , against the spring lever a , throwing it out of its stop, and at the same time disengaging m , from its stop y , when the spring d , carries m , in the direction of its force, thus disengaging the worm shaft M' from the worm wheel M'', at the same time that the spring handle a , is passing to the stop i , by means of the trip b , stops the machine whenever the cut, or knot is full, or any required measure (as will be hereinafter explained) is on the reel. This movement disengages the worm wheel M'', from the worm shaft M', and the worm wheel M'' is carried back to the point from which it started by means of the weight h , attached to a cord passing over a small grooved pulley k , on the inside of the frame U, and around the small grooved pulley k , on the lower end of the shaft of the worm wheel, M''. The small thumb screw x in M'' is used to regulate the amount of yarn wound upon the reel, which is done by moving said screw from one to any other of the holes in M'', thus regulating the count at pleasure and with the greatest accuracy. This screw extends downward, below the wheel, and comes in contact with the clutch on the slide i , thus preventing the wheel from revolving too far back when operated on by the weight h .

The machine may be stopped, and started, at pleasure by means of the spring handle a , without disengaging the counting or measuring gear; but if the counting gear has been disengaged, the machine cannot be started without engaging such gear, as the spring arm engages the pin a' , in m , and carries it back, and secures it by means of the stop y . The small spring e , forces m , back to the stop y , and keeps m , steady from any jarring of the machinery until forced back by the worm wheel M''. The bearings of the worm shaft M' are swiveled so as to allow m to move parallel.

R, is the step rail for the doubling and twisting spindles.

X, is the collar rail for the spindles C', C''. U, U, the frame of the machine, being usually of cast iron, with wooden cross rails.

Having as above described our improvement, and its movements generally, as well as the manner of its construction, its operation may be described as follows: Bobbins
5 or spools of thread or yarn, being placed upon the bobbin tongues, the thread is passed through the eyes 5, 5, in Figs. 2, and 3, then once or more around the spindle, so as to afford the required friction, then be-
10 tween the arms 7', 7', through the eyes 6, 6, the tube 6', and attached by a hook to the bar of the reel. The counting gear having been properly adjusted, the machine is put in operation, as above described, by
15 the handle *a*, when the thread will be doubled, twisted, and reeled upon the reel, until the cut or knot is made up, when the machine is stopped by its own action, and the count gear adjusted properly, as above
20 described. The machine may be again set in motion and the operations repeated. The operation for wool is the same, the yarn being passed through the small slotted eyes in the plate of the spindle C', C', and passed

around the spindle, above the plate, suffi- 25
ciently for the required friction; then through the tube or nose of the spindle, and attached to the bar of the reel.

We do not claim to have invented a self acting stop motion to stop the machine 30
when a given length of yarn has been wound upon the reel this having already been applied to machines similar to ours, but

What we do claim is—

Constructing and arranging the stop mo- 35
tion substantially as described so that by adjusting it the length of yarn wound upon the reel before it is stopped may be regulated at pleasure and all the skeins wound under
the same adjustment will have the same 40
length.

Witness our hands this 26th day of Sep-
tember A. D. 1851.

ELIAS MACY,
SIMEON MACY.

Attested by—

W. N. DOUGHTY,
W. S. WILLIS.