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J. P. SWEET.

Improvement in Self-acting Mules for Spinning.

No. 122,786.

Patented Jan. 16, 1872.

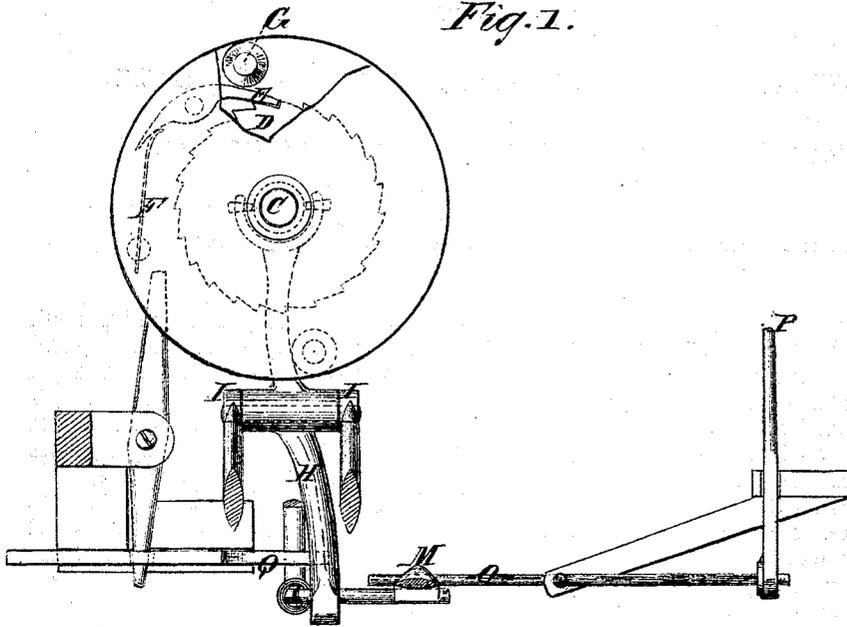


Fig. 1.

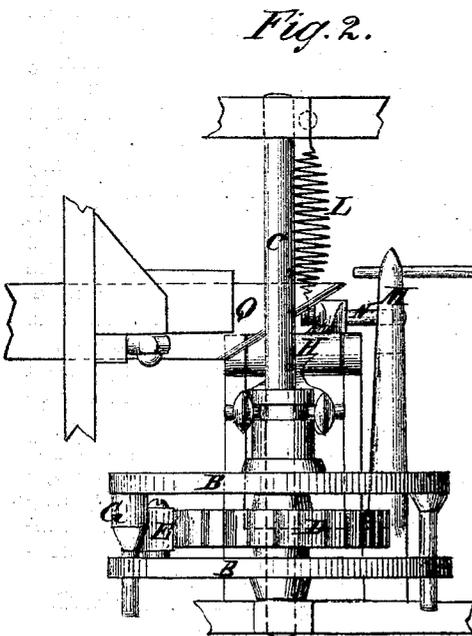


Fig. 2.

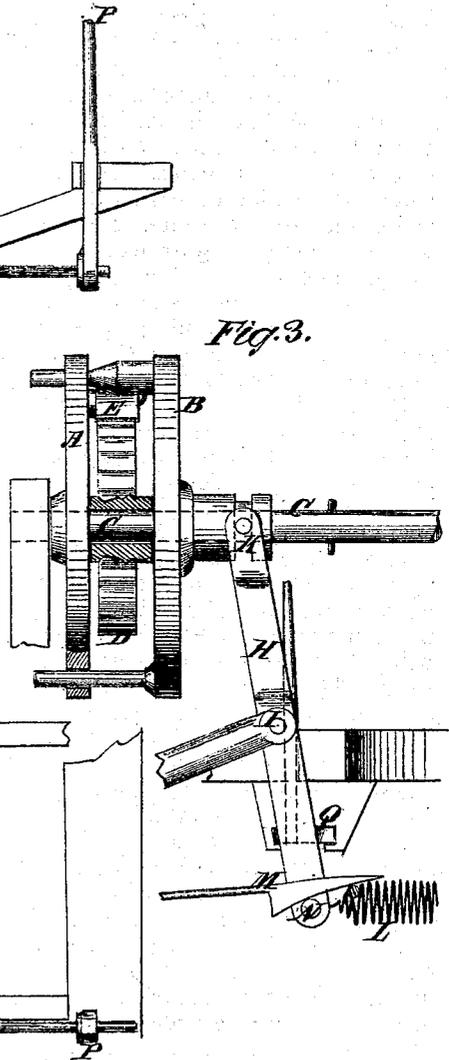


Fig. 3.

Witnesses:  
 John Becker.  
 Francis McCordle.

Inventor:  
 J. P. Sweet  
 PER *Merrill*  
 Attorneys.

# UNITED STATES PATENT OFFICE.

JOSEPH P. SWEET, OF HEBRONVILLE, MASSACHUSETTS.

## IMPROVEMENT IN SELF-ACTING MULES FOR SPINNING.

Specification forming part of Letters Patent No. 122,786, dated January 16, 1872.

*To whom it may concern:*

Be it known that I, JOSEPH P. SWEET, of Hebronville, in the county of Bristol and State of Massachusetts, have invented a new and Improved "Wind" Motion for Spinning-Mules; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

My invention relates to a new arrangement of apparatus constituting a positive "wind" motion, and the gearing and un gearing devices therefor, adapted for the Franklin mule.

Figure 1 is a side elevation of the improved apparatus. Fig. 2 is a plan view, and Fig. 3 is a partial front elevation, in which one of the parts is partly sectioned.

Similar letters of reference indicate corresponding parts.

A and B are disks on the "cylinder"-shaft C, fitted loosely to said shaft, and to be connected with the pulley which drives it. D is a ratchet-wheel, also on said cylinder-shaft, being between the disks and keyed to said shaft. The disk A carries a pawl, E, to engage the ratchet-wheel when brought down upon it and turn the cylinder-shaft C for operating the spindles to "wind on" the yarn, the said cylinder being the one which drives the spindles. When the "winding on" ceases the said pawl is to be disengaged from the ratchet-wheel by a spring, F, attached to disk A, which spring is to be so arranged with said pawl as to disconnect it from ratchet-wheel at the time the pawl is freed for the purpose. To cause this pawl to engage the ratchet-wheel at the proper time the disk B is fixed on the shaft so that it can slide toward and from the ratchet-wheel, and it carries a tapered pin, G, above the pawl, so arranged relatively to said pawl that when the disk B moves toward the

ratchet-wheel the tapered part of said pin will force the pawl down into the notches, and when said disk moves the other way the pin will release the pawl and allow the spring F to disengage it from the wheel. This disk is moved by a lever, H, pivoted to any suitable supports at I, connected to the grooved hub of the disk by a crotch, K, and connected at the lower end to a spring, L, which throws it against the ratchet-wheel when released from the holding spring-catch M. This catch engages the pin N at the time the disk is thrown back and holds it out of gear until the proper time for the wind motion to be put in gear, at which time said spring is tripped by the tripper O, which is set in action by the rod P, with which it is connected, being forced down by contact of any suitable stop or device for the purpose placed on the machine and arranged to cause it to act at the moment the winding on is required to begin. The disk is moved back to allow the pawl E to be thrown out to disconnect the wind motion by the dagger Q, arranged at the back of the machine in any suitable way for the lower end of the lever to come against its inclined face, or for said face to be thrust against it, by which the lever is forced back until the spring-catch M engages the pin N again, in which position it is retained until the time for the wind motion to take place and the rod F is acted on again.

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

The ratchet-wheel D, pawl E, tapered pin G, and the disks A B, combined with the cylinder-shaft C, the lever H, spring L, spring-catch M, dagger Q, and tripper O P, all constituting a positive "wind" mechanism, substantially as specified.

Witnesses: JOSEPH P. SWEET.

WM. P. SHAW,  
LYMAN W. DEAN.

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