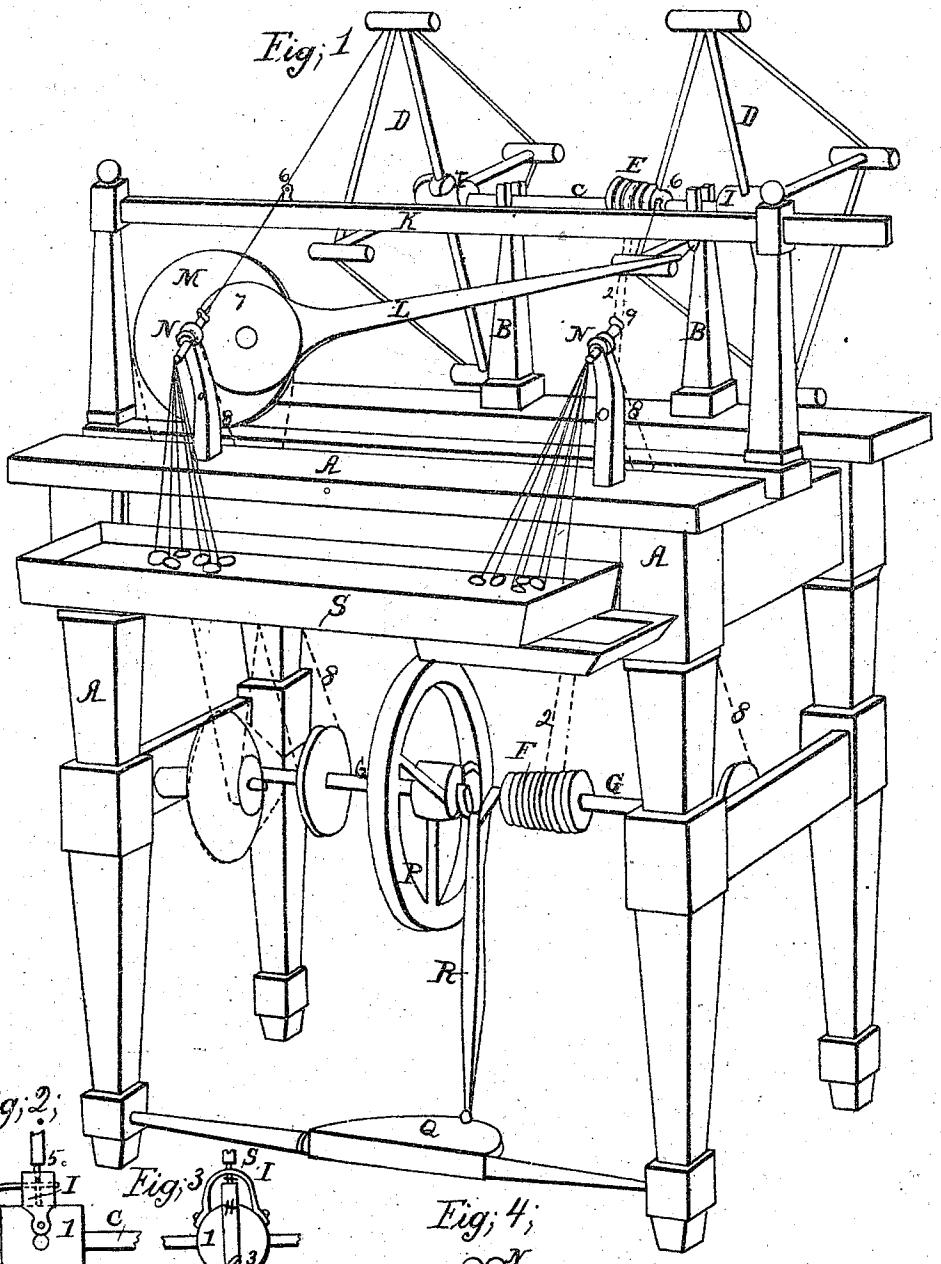
J. S. Harris.

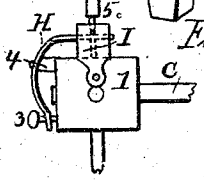
Silk Spinning Mach.

No. 3,684. Patented Jul. 30, 1844.

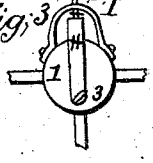
Fig; 1



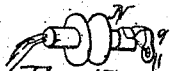
Fig; 2;



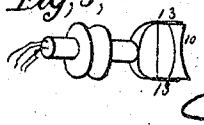
Fig; 3



Fig; 4;



Fig; 5;



Inventor;

James S. Harris

UNITED STATES PATENT OFFICE.

JAMES S. HARRIS, OF POULTNEY, VERMONT.

SILK-REEL.

Specification of Letters Patent No. 3,684, dated July 30, 1844.

To all whom it may concern:

Be it known that I, JAMES S. HARRIS, of Poultney, in the county of Rutland and State of Vermont, have invented new and useful Improvements on Machines for and the Manner of Reeling Silk from Cocoons; and I do hereby declare that the following is a full, clear, and exact description of the construction and the operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view, of my silk reel. Its frame A, is about two feet square and three feet in height. B, B, are upright slot bearings about eight inches apart upon which the shaft C, revolves. This shaft is the axis of the reels D, D, and is about fifteen inch long—its ends being slightly tapering project about four inches from the bearings aforesaid. My reels D, D, are made single so as to wind but one thread or skein each at one time, each of these reels consisting of the hub 1 and 4 arms. One of the reels is fitted to each end of their axis C, so that a single reel may be pressed on to its axis and turn with it, and also that the same may be removed or slipped off from its axis when it is required to change a reel. The mode of operation by this arrangement is to remove a reel, with silk, from its shaft aforesaid, and place the same upon a pivot upon which it may turn, and to twist the silk directly from the reel without transferring the silk to swifts or bobbins.

E is a pulley connected by the band 2, to the pulley F, upon the shaft G, whereby motion is imparted to the shaft aforesaid.

To prevent any injury to the silk upon the reel by undue tension, and to remove the silk from the reel I, cause one arm of the reel D, to bear upon the metallic spring H, as shown in Figs. 2 and 3. This spring is curved and rests upon the hub 1, as shown in Fig. 2. 3 is a bolt and screw passing through the lower end of the spring and from thence into the hub aforesaid.

The arm of the reel at 5, is metallic and passes through the stay I, and also through a slit in the end of the spring aforesaid, and thence into a mortise in the hub 1, so as to slide up and down, and also bears upon the spring aforesaid by means of a shoulder. By turning the screw 3 forward this arm of the reel is brought to its natural position, but by turninig this screw backward this arm is permitted to slide toward the center of the hub.

K, is a transverse rail, with the guides 6, 6, through which the thread passes. This rail may be caused to traverse by any known mechanism which will effect a traverse motion.

L is a rod connecting the traverse rail K, to the eccentric wheel 7. This wheel is made fast to the pulley M, at such distance from its center as will give the intended traverse motion, and motion is transmitted to this pulley from the shaft G, with bands and intermediate pulleys.

Fig. 4, represents my contra twister, wherein N, is a revolving metallic tube connected by the band 8, to the shaft G, by which it is moved. The twister 9 is attached to the end of this tube, and is curved and extends across the mouth of the tube, with the eyelet, 11, in its end through which the thread passes. The thread is first drawn through the tube N, and next through the eyelet 11, and also through the guide 6 to the reel to which it is attached, and this contra twist may be given to the thread as shown in Fig. 5, wherein 10 is a small glass or metallic spool suspended by pivots upon two arms 13, 13, before the mouth of the tube. In this manner the thread is first drawn through the tube and thence once around the spool. In either mode of putting twist into the thread it will escape before it winds on to the reel.

S, is a boiler placed in front of the machine.

Q, is a step and shaft suspended by pivots. R, is a rod or pitman connecting the step to the crank 14. The performer sits in front of the machine and moves it by the feet upon upon the step Q.

What I claim as my invention and desire to secure by Letters Patent is—

The spring H, being graduated by the screw 3, in combination with the sliding arm of the reel D, being constructed and operating substantially as herein described; and I do not claim the contra twisters 9, and 10, as shown in Figs. 5 and 6.

JAMES S. HARRIS.

Witnesses:

H. C. KELLOGG,

I. B. BEAMAN.