

*M. Day:
Spinning Mach.*

N^o 1,189.

Patented Jun. 24, 1839.

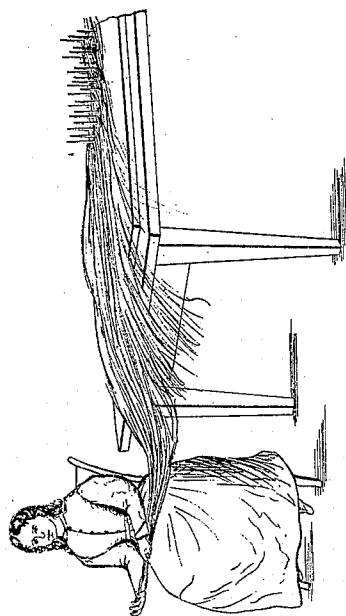


Fig. 1.

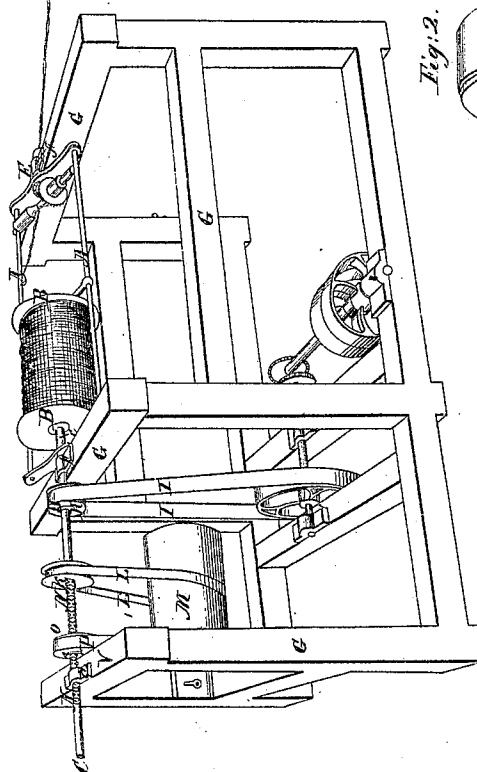


Fig. 2.

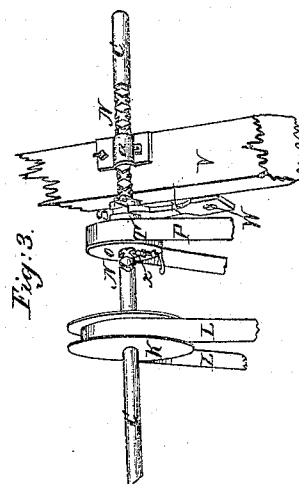


Fig. 3.

UNITED STATES PATENT OFFICE.

MOSES DAY, OF ROXBURY, MASSACHUSETTS.

MACHINE FOR SPINNING FLAX, HEMP, AND OTHER FIBROUS MATERIALS.

Specification of Letters Patent No. 1,189, dated June 24, 1839.

To all whom it may concern:

Be it known that I, MOSES DAY, of Roxbury, Norfolk county, Massachusetts, have invented a new and useful Improvement in Machinery for Producing a Reciprocating Rectilinear Motion, which invention may be applied to machinery for spinning hemp, flax, or other fibrous materials and also in any machinery where such motion is required.

These improvements, the principles thereof, the application of said principles, by which the same may be distinguished from other inventions, together with such parts or combinations I claim as my invention, I have herein set forth and described in the following words and accompanying drawings, which, taken in connection, form my specification.

My invention is for the object and purpose of producing a reciprocating rectilinear motion, of the bobbin or spool through the flier, in order to distribute or wind the yarn on the bobbin as the same is spun or twisted, and delivered by the regulating capstan.

Figures 1, 2, and 3, denote my invention.

A, A, represents a flier and B, B, a bobbin or spool, constructed in the manner in which I have usually manufactured the same.

The bobbin B is fitted on an axis C C, which plays through the tubular axis or neck D of the flier, A A, Fig. 1. The neck, D, together with the opposite neck E, of the flier A, A, revolve in suitable bearings or boxes, F F, Fig. 1, attached to the framework, G G G G, as seen in the drawings. A pulley H Fig. 1, is attached to one end, of the tubular neck D, of the flier A A, for the purpose of driving or giving a revolving motion to the flier by means of a belt I I, proceeding from the driving machinery.

The shaft or axis C C of the bobbin has a pulley K affixed thereon (see Figs. 1 and 3), around which pulley a belt L L passes to and around a long drum M, (see Fig. 1), the axis, of which drum revolves in suitable bearings attached to any proper part of the framework. A double threaded, or right and left screw, N N, (see Figs. 1, 2 and 3) is formed on the spindle or rod C C of a length of little less than the length of the bobbin in order that the bobbin may have a due degree of vibration. This will be readily understood by mechanics who are accustomed to cutting such screws.

A pulley O, (Figs. 1, 2, and 3,) playing

loosely on the spindle or axis C C is driven by a band or belt P, proceeding from the drum M. Directly in the rear of this pulley a groove, S, is cut or formed in its axis as seen in Fig. 3, the said axis being a tube playing on the spindle C C. A fork, T on one end of a piece of metal U, (Fig. 3) enters this groove, the other end of said piece of metal U, being secured to the side of the rail V of the framework, by a bolt W or in any other convenient, and proper manner. A small fork or tongue of metal X (Figs 2 and 3) supported and turning in proper bearings Y Y, (see Fig. 2), and held in its place by a pin, Z, rests in the groove of the screw N N. The spindle C C is supported during its reciprocating motions by the box A (Figs. 1, and 3.)

Having thus described the different parts of my improvement, I shall now proceed to explain their operation together and in the bobbin.

As the flier revolves, the thread drags the bobbin around and also the spindle to which the bobbin B B is attached and of course the belt L L being fixed on the spindle C C, will drive or impart a rotary motion to the drum M, through the means of which the pulley O will be caused to revolve by the belt, P. Now if we should construct the pulley O, of the same diameter of the pulley K, it will be seen that it will have an equal motion to that of K, and therefore while the spindle revolves, the fork or tongue X will remain stationary in the groove of the screw N N, and will not act on said screw; but if we form the pulley O, a little larger, or smaller, than the pulley K in diameter as the case may require, then the pulley O will revolve with a less or greater speed than that of the pulley K, causing the fork X to press against the thread of the screw N N, and move the spindle and bobbin laterally in one direction until the fork X arrives at one end of the screw, when by the well known operation of this screw, the lateral motion of the spindle would be reversed, and the bobbin moved, in an opposite direction in order to distribute the yarn therein. By this arrangement of machinery I am enabled to use a very coarse right and left, screw and thus the effects of friction and wear of the parts is so, sensibly diminished as to render this arrangement of great, practical utility.

As there are many methods, of applying friction to the spindle, in order to retard the

bobbin, to cause it to take up the thread, any one which may be found advantageous may be adopted.

That which I consider as new and claim
5 as my invention is—

The pulley O, with its tongue or fork X, the drum M and pulley K, in combination with the double threaded screw, (the threads of which cross each other), in the manner,
10 and for the purpose described.

In testimony that the above is a true description of my invention and improvement I have hereto subscribed my signature this third day of June in the year eighteen hundred and thirty nine.

MOSES DAY.

Witnesses:

WM. J. HUBBARD,
EZRA LINCOLN, Jr.