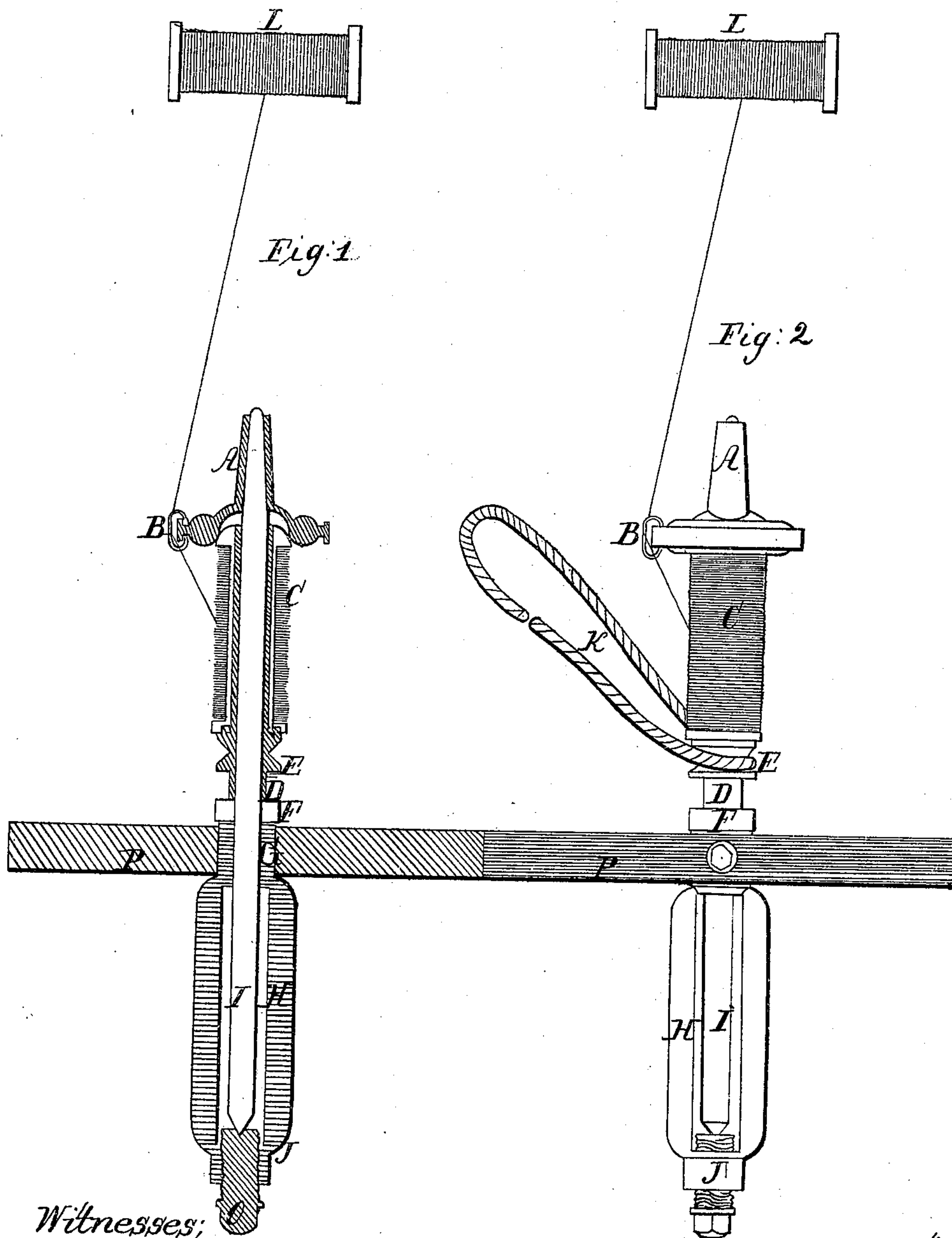


G. Singleton. Silk Spinner.

Nº 98,309.

Patented Dec. 28, 1869.



Witnesses;
J F Ruston
L N Levmunt

Inventor;
George Singleton

United States Patent Office.

GEORGE SINGLETON, OF ROCKVILLE, CONNECTICUT, ASSIGNOR TO HIMSELF, JAMES F. PRESTON, AND JOHN N. LEONARD, OF SAME PLACE, ROBERT SINGLETON AND E. KELLOGG ROSE, OF PATERSON, NEW JERSEY, AND LEONARD & LOCKHART OF CHICAGO, ILLINOIS.

Letters Patent No. 98,309, dated December 28, 1869.

IMPROVEMENT IN SPINDLE FOR SPINNING SILK.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE SINGLETON, of the village of Rockville, county of Tolland, and State of Connecticut, have invented certain new and useful Improvements in Silk-Spinning Machinery; and I do hereby declare that the following is a full and exact description thereof, enabling others skilled in the art to make and use the same, reference being had to the accompanying drawings, in which—

Figure 1 is a section, through vertical centre, and Figure 2, an outline view.

In the thread-like state of silk, as it is obtained from the worm, it is too fine and frail to be useful until it has been subjected to the process of doubling and twisting.

In the manufacture of sewing-silk, this is done by winding a number of threads together upon a bobbin, which is then placed on a revolving spindle, and the threads are twisted together as they are reeled off from this upon another bobbin, L.

The object of my invention is to spin silk with more speed and regularity than can be accomplished with the machinery now employed for that purpose.

The chief difficulty encountered in spinning at an extra high speed, has been that the proper tension could not be maintained.

This could be obviated if the speed of the spindle were at all times the same, as, in that case, the tension could be set at that point, but as the speed varies, this cannot be done; therefore, a compensator, to govern the tension, is required.

My invention consists in a device or devices to accomplish this result.

A is the compensating top, which is slipped over the tapering upper end of spindle I, and which is held in its place by its own weight. The motive for making it movable is to admit of the adjustment or removal of bobbins C.

I is the supporting-stem of all the other revolving parts. It extends from the top A down through thimble D, washer F, rail-seat G, to adjustable step o.

The thimble D, which receives and revolves the bobbin, is revolved by means of an endless belt or cord, K, passing around the wheel E.

F is the separate bottom bearing of D. It fits loosely around I, and rests upon G.

G H is the support for the whole. It slips up through rail P, at G, where it is made fast by means of a set-screw, and extends downward to a hollow vertical boss, J, which is provided with a screw-thread, through which the wooden step o is screwed, and on which the spindle I rests.

A is provided at its outer edge with a T-shaped bead, as shown in fig. 1.

B is a traveller, which fits loosely over the bead, and which is free to revolve or travel in grooves formed by the T-shaped bead.

This traveller B is the tension-device through which passes the thread to be twisted.

As thimble D is not made fast to I, and fits it loosely, I only receives its motion from the friction of D revolving around it, and not by any positive means. This is done so that thimble D, bobbin C, and traveller B will revolve much faster than A and I, for the following reason:

If A were made stationary, and the traveller B left to revolve around it in the grooves as fast as the bobbin revolved, the result would be this: If the thimble D and bobbin C were making one thousand revolutions per minute, the strain upon the thread, necessary to revolve the traveller equally as fast, would be just what is required to keep it from kinking; but if the speed be increased from one thousand to five thousand revolutions, the thread would immediately break by the extra strain or power required to revolve the traveller.

Operation.

The compensating top A is so weighted that it and I do not revolve as fast as C, D, and B, by one thousand revolutions per minute; as, for example, if C, D, and B, are making five thousand revolutions per minute, A and I are making but four thousand. By this means, the traveller B is carried along by the top A to within one thousand revolutions of that of C and D, leaving the thread to equalize the speed of B, C, and D, by which means there is no perceptible difference or variation in the tension on the thread, no matter what the speed may be after it attains one thousand revolutions.

I do not claim the principle of varying the speeds of the bobbin and traveller, as herein described; but

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

The compensating top A, in combination with traveller B, hollow revolving thimble D, and revolving spindle I, all arranged and operating as described, and for the purpose set forth.

GEORGE SINGLETON.

Witnesses:

J. T. PRESTON,
J. N. LEONARD.