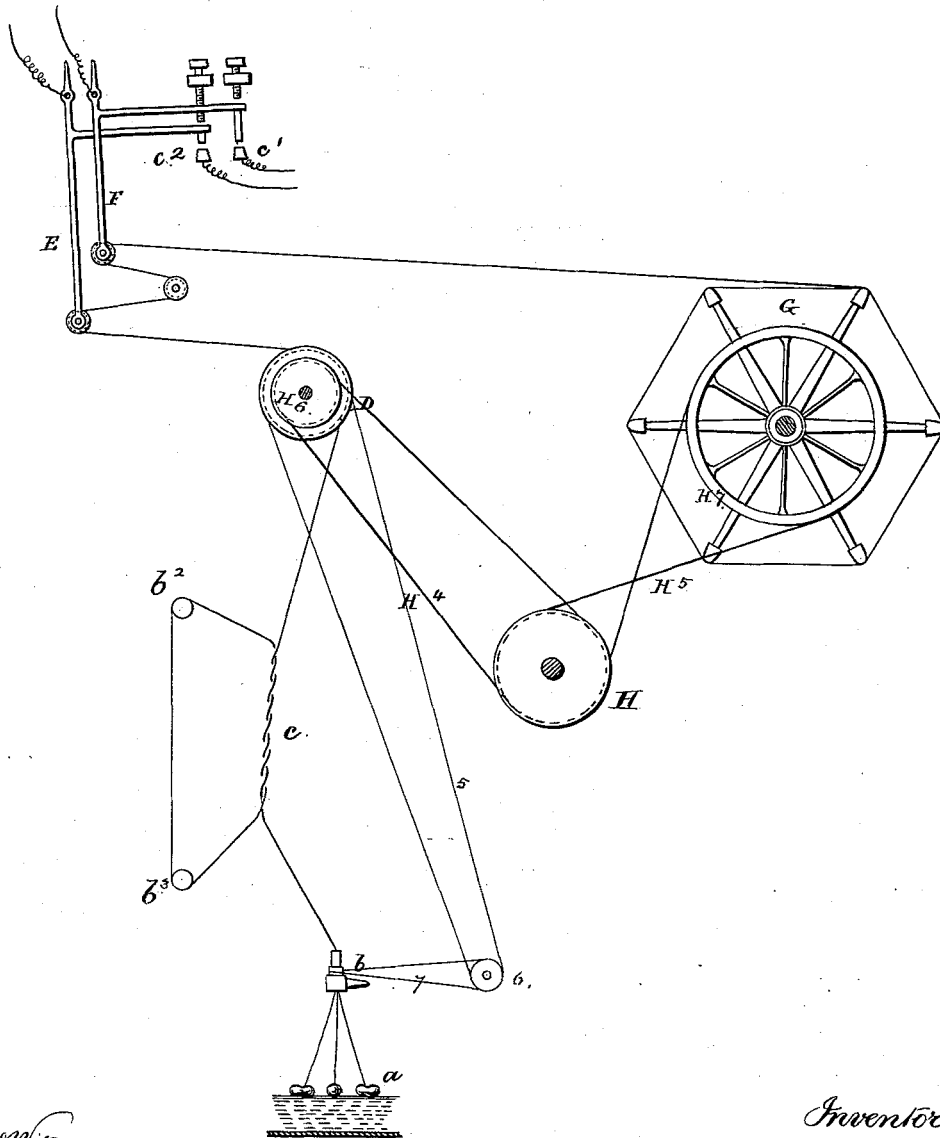


(No Model.)

E. W. SERRELL, Jr.  
SILK REELING MACHINE.

No. 334,619.

Patented Jan. 19, 1886.



Witnesses

Chas H. Smith  
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Inventor

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for Lemuel W. Serrell  
att

# UNITED STATES PATENT OFFICE.

EDWARD W. SERRELL, JR., OF NEW YORK, N. Y.

## SILK-REELING MACHINE.

SPECIFICATION forming part of Letters Patent No. 334,619, dated January 19, 1886.

Application filed April 23, 1884. Serial No. 129,022. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD W. SERRELL, Jr., of the city, county, and State of New York, United States of America, temporarily residing at Chabeuil, in the Department of Drôme, in the Republic of France, have invented a new and useful Improvement in Silk-Reeling Machines, of which the following is a specification.

Heretofore in reeling silk from cocoons by automatic machinery—such, for instance, as that shown in Letters Patent granted to me in France, No. 147,624, deposited February 25, 1882, and granted May 9, 1882; in Austria, granted May 17, 1882, No. 10,629, and in German Empire, dated March 28, 1882, No. 19,885, and my corresponding United States application, No. 129,196, filed April 25, 1884—the filaments of the cocoons, having first been brought together and passed through the agate in the tabular revolving filament-attaching device over the water-basin, and only partially consolidated into a thread, were immediately passed around the feeding-drum, and afterward passed through the croisure or consolidating device during their passage to the reel. By proceeding in aforesaid manner it has been found that the threads upon the feeding-drum, being only partially consolidated and quite wet, were apt to split and adhere to the drum and be wound upon it. It also happened that the unequal motion of the thread at the croisure or consolidating and drying device interfered with the action of the levers that control the action of the filament-supplying and stop-motion devices in the machines shown in such patents and applications, in opening and closing the electric circuits embracing such levers, such unequal motion being caused by the two parts of the running thread not moving upon each other with the same freedom at all times in consequence of inequalities in the thread.

The object of my invention is to prevent any unequal motion of the thread at the croisure affecting the levers that control the action of the filament-supplying and stop-motion devices, and I accomplish this by consolidating and drying the thread at a croisure between the filament-attaching device and the feeding-drum.

In the drawing I have represented my improvement by a diagram.

*a* represents cocoons in a water-basin, and the filaments from these cocoons pass to the lance-bout or filament-attaching device *b*, which consists of a revolving hollow cylinder containing a perforated agate, through which the filaments are passed. Upon the exterior of this cylinder there is a hook that takes a cocoon filament from a magazine of cocoons and wraps it around the running thread whenever the latter falls below the standard size. In the aforesaid application and my application for patent, No. 129,021, filed April 23, 1884, this lance-bout and also the cocoon-magazine and the means for operating them are fully shown and described, and also the electric-circuit connections and devices for stopping and starting the reel. My present invention is available as an addition to the devices therein set forth.

The endless cord 5, pulley 6, and cord 7 to the lance-bout *b* illustrate the driving devices that may be employed to rotate the lance-bout from the drum *D*.

*D* represents the feeding-drum, around which the thread is passed one or more times, and from thence the thread is led around pulleys upon the levers *E F*, respectively, and then goes to the reel *G*, upon which it is wound. This reel *G* is revolved at a greater surface speed than that of the feeding-drum *D*, which produces a certain tension upon the thread, and if the thread is of the maximum size the tension of the thread keeps the lever *E* from its contact-point *e*. If the size of the thread falls below the maximum standard, then the resistance of the thread is diminished, and the lever *E* falls upon its contact-point *e* and closes an electric circuit, which brings into operation the devices that cause filaments to be added to the running thread until said thread is brought up to the required standard of size, at which time the resistance of the thread becomes sufficient to move the lever *E* and break the circuit at *e*. All the devices thus far described and their operation are the same as those set forth in my said applications, and do not require to be repeated.

To accomplish the object of my present invention, I make the croisure *c* between the

filament-attaching device and the drum D. This croisure is made by passing the thread from the filament-attaching device *b* up around a roller, *b*<sup>2</sup>, then down around a roller, *b*<sup>3</sup>, and  
 5 then twisting the free end of the thread a few turns around the part of the thread passing from *b* to *b*<sup>2</sup>, and then leading the free end of the thread to and around the feeding-drum D; but this croisure might be made by twist-  
 10 ing the running thread around a stationary thread or wire.

By making the croisure between the thread-attaching device *b* and the feeding-drum D, any unequal motion of the thread at the croi-  
 15 sure does not affect the regulating-levers E F, because the drum D, around which the thread passes, is between the levers and the croisure, and such unequal motion has only the effect of slightly varying the tension of the running  
 20 thread between the croisure and the feeding-drum D. The lever F closes at *c*' an electric circuit, if a thread breaks, to a magnet, that brings into action devices for stopping the  
 25 reel, as set forth in my said applications.

H represents a pulley upon a continuously-revolving shaft, which shaft may be the driving-

shaft of the machine, and from this pulley motion is transmitted to the drum D and reel G by means of belts H<sup>4</sup> H<sup>5</sup> and pulleys H<sup>6</sup> H<sup>7</sup>.

Although I have shown the circuit-closing  
 30 levers E F and their pulleys around which the silk filament passes between the drum D and the reel G, this present invention is available for rendering uniform the action upon  
 35 the thread in stretching the same between the drum and reel, regardless of the devices employed in connection with the thread between such drum and reel.

I claim as my invention—

The combination, with the revolving lance-  
 40 bout or filament-attaching device *b*, of a feeding-drum, D, for drawing the thread through the croisure at *c*, a reel upon which the thread is wound, and means, substantially as speci-  
 45 fied, for rotating the reel and feeding-drum and stretching the silk between the reel and drum, substantially as and for the purposes specified.

EDW. W. SERRELL, JR.

Witnesses:

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 CHARLES F. THIRION.