E. DUBINI.

APPARATUS FOR WINDING AND CLEANING SILK AND OTHER FIBERS.

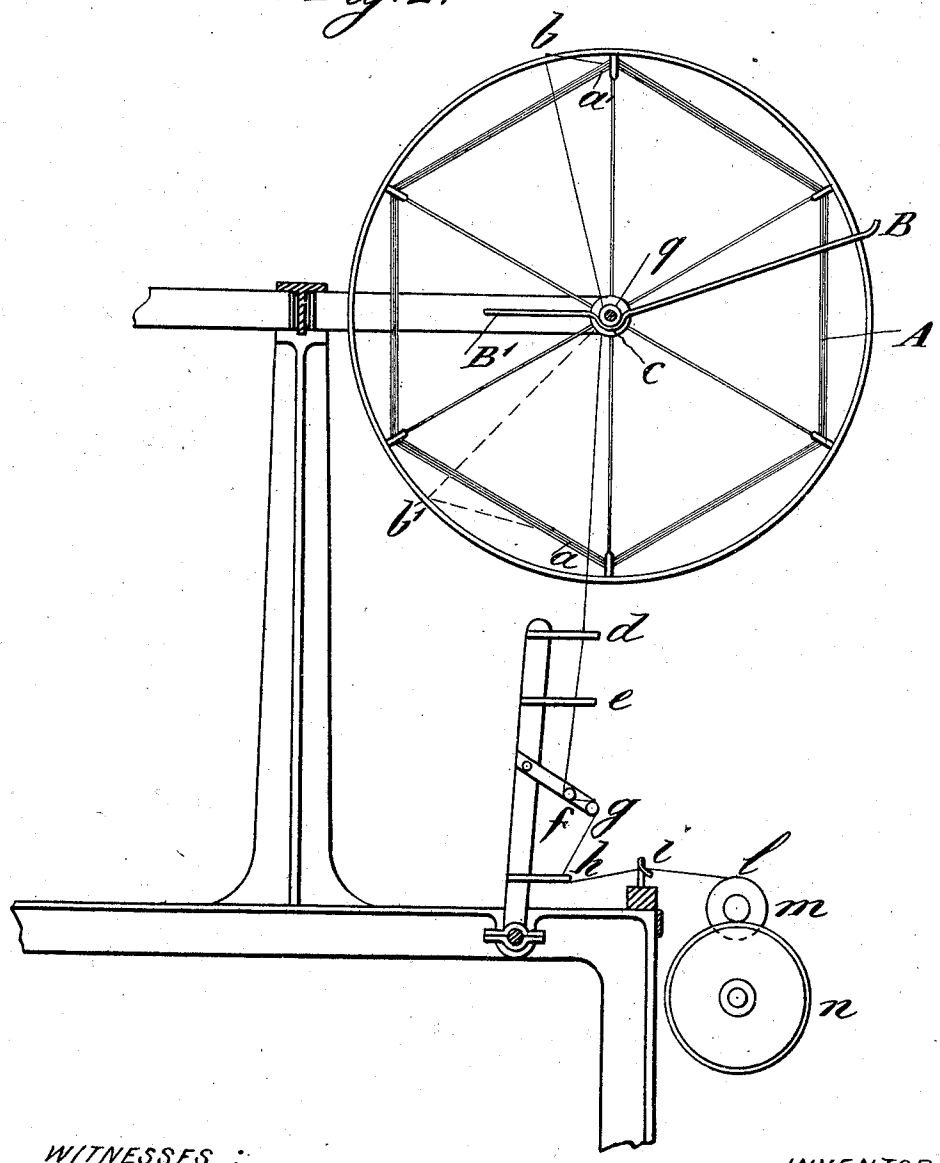
APPLICATION FILED MAR. 25, 1908.

923,032.

Patented May 25, 1909.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES :

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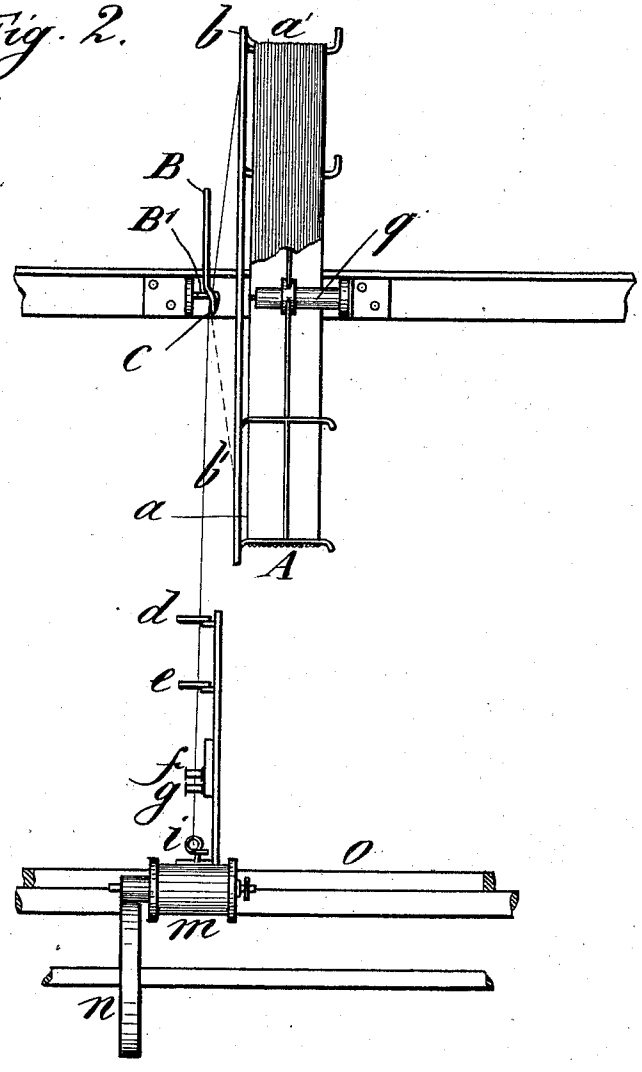
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2 SHEETS—SHEET 2.

Fig. 2.



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APPARATUS FOR WINDING AND CLEANING SILK AND OTHER FIBERS.

No. 923,032. Specification of Letters Patent. Patented May 25, 1909.

Application filed March 25, 1908. Serial No. 423,159.

To all whom it may concern:

Be it known that I, ERCOLE DUBINI, manufacturer, subject of the King of Italy, residing at Milan, in the Kingdom of Italy, No. 2 Piazza Belgioioso, have invented new and useful Improvements in Apparatus for Winding and Cleaning Silk and other Textile Fibers, of which the following is a specification.

The aim of the present invention is to facilitate the speedy winding of silk and other textile fibers as well as to unite in one sole operation the winding and cleaning processes, thus causing a considerable saving in the handicraft and allowing of the production of waste being greatly diminished.

According to the present invention the silk carrying swifts can be placed below the frame (as in the ordinary winding mechanisms) as well as above the same (this latter disposition is generally more convenient), but the characteristic feature is that the swifts remain immovable and are provided with a disk or hoop of metal or other smooth material disposed laterally and with a greater diameter than that one of the swift. This hoop can also be a double one and can consist of a simple ring having a circular section, or only an outer convex contour; it can be connected with the swift or independent thereof. However, the swift must be susceptible of being turned by hand by the attendant, so that she may be able to correct, if necessary, the disposition of the skein, or find its end on the outer side thereof. It can have the common shape with expansible rays moved either by friction, or by endless screw, or by toothed wheels. It can be with one or more hinged rays, or of any other system, capable of keeping the silk skein well spread and in good order.

The thread which is unwound from the skein, rests on the border of the hoop or disk and is led to a thread guide, placed on the outside. The thread-guide consists in a fast or movable support and can be formed as an open or curled ring or otherwise and consists of any smooth material, metal, glass, china-ware, or it can, as shown in the drawing, be shaped as a shank disposed in the way indicated and which serves for taking up the thread and leading same automatically to the point desired. On leaving the said guide the thread is passed to a cloth-cleaner, which also acts as a guiding and stretching device; then it passes to a controllable tightening device whence it proceeds to an eyelet by the motion of which it is traversed from end to end of the bobbin. If the winding and cleaning processes are carried out in one operation, a steel-plate cleaner is inserted either between the tightening device and the traversing eyelet or between the cloth-cleaner and the tightening device.

The new arrangement, as far as the disk or hoop and the swift are concerned, can also be applied to the old winding frames, in order to carry out the two processes of winding and cleaning in one operation. Besides that it can also be applied to the old cleaning frames in which the bobbin taken from the winding frame is rewound on to a fresh bobbin.

In the drawing is only shown by way of example a way of carrying out the present invention.

Figure 1 is a side view; Fig. 2 a front view of a part of an improved winding and cleaning frame embodying my invention.

The swift —A— is placed on the top of the frame and the hoop —*b*—*b*′— is fixed to the swift. As already told, the swift —A— suspended upon the pivot —*q*— remains immovable during the unwinding of the thread, but, if necessary, it can be turned in order to distribute the skein regularly and find the end of same.

—B— B′— indicates one of the different forms of the thread-guide; if the thread is thrown on the hook at —B—, it simply slips down, so as to reach the point —*c*— as soon as the winding bobbin is put into motion.

It is shown in the drawing, how the thread at —*a*— or —*a*′— is unwound from the skein placed on the swift —A— when slipping on the stationary hoop —*b*— *b*′— it passes to the point —*c*— of the thread guide —B— B′— then it goes on to the thread cleaner —*d*—, from there to the steel-plate cleaner —*e*— whereupon it proceeds to the tightening device —*f*—*g*—, to the guide —*h*— and then again to the eyelet —*i*— of the traversing motion rod —*o*— and lastly to the point —*l*— on the bobbin —*m*— which is revolved by means of the pulley —*n*—.

As it is shown in the drawing, the whole mechanism can be accommodated within the pitch of 16 cm. commonly in use in silk winding frames.

Having now fully described this my invention and how the same is to be carried out, what I claim is:

1. A machine for winding and cleaning silk or other textile fabrics, comprising a normally stationary swift, a ring arranged laterally with respect to the swift and coaxial therewith, a thread guide comprising a support arranged radial to the ring, the free end extending beyond the periphery of the ring and being upturned for engaging the thread, and provided with a loop at the axis of the swift for the purpose set forth.

2. A device of the class described, comprising a swift, a ring coaxial therewith and lateral to the swift, and a thread guide comprising a support projecting beyond the periphery of the ring and arranged radial thereto, the said support having a loop at the axis of the swift and having its free end upturned for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ERCOLE DUBINI.

Witnesses:
B. CARLO SALVOTTI,
M. SIERSELOEFEN, Jr.