Nov. 11, 1941. W. H. KIMPTON 2,262,145

CAP SPINNING APPARATUS

Original Filed July 2, 1940

FIG. 1

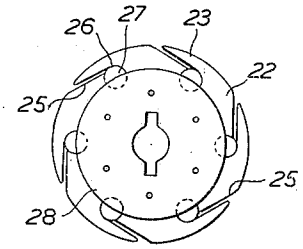


FIG. 2

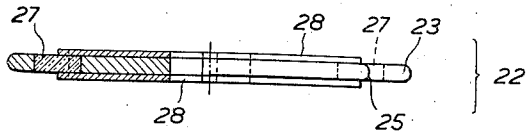
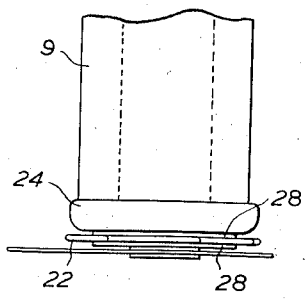


FIG. 3



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CAP SPINNING APPARATUS

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Original application July 2, 1940, Serial No. 343,535. Divided and this application February 28, 1941, Serial No. 381,003. In Great Britain July 19, 1939

3 Claims. (Cl. 57—129)

This invention relates to improvements in or relating to cap-spinning apparatus, this application being divided from U. S. patent application No. 343,535, filed July 2, 1940.

According to the invention, the throwing-on of the yarn in starting up a cap-spinning operation is facilitated by means of a notched disc resting on and supported by the spindle below the bobbin, the notches running angularly from the periphery of the disc to receive the thread presented to the disc and containing means to grip firmly the thread pulled into a notch. As the thread is thus picked up by the disc rotating with the spindle, it becomes attached to the bobbin to enable winding to start; and the tail of thread extending below the disc is cleanly broken away.

The means for gripping the thread may consist of soft rubber pads confined in recesses in which the notches terminate. Centrifugal force presses the pads outwards in their recesses, so that as the thread is pulled between a pad and the edge of the recess containing the pad it is firmly gripped.

The breaking away of the tail of yarn is particularly important in the cap spinning of threads of artificial filaments, such as cellulose acetate threads, since the high speed at which such threads are usually delivered to the cap spindles in the course of their manufacture makes manual severance close to the bobbin exceedingly difficult, and long lengths of lashing tails are frequently produced.

The rubber pads may conveniently be held in place in their recesses by means of plates secured to the faces of the disc so as to cover the recesses except for portions near the periphery of the disc sufficient to permit the entry of the thread to be gripped by the pads. The edge of the disc and the tips of the nibs formed by the notches are smoothed so as not to endanger the fingers of the operative. The disc may be recessed so as to engage driving lugs on the spindle.

The invention will be described in greater detail with reference to the accompanying drawing in which—

Figure 1 is a plan view of the throwing-on device;

Figure 2 is a part cross-sectional elevation of the device to a larger scale; and

Figure 3 shows a side elevation of the device in operative position below a cap bobbin.

Referring to Figures 1 and 2, the throwing-on disc **22** comprises a central plate, slightly larger than the bottom flange **24** of the bobbin **9** (see Figure 3), the edge of the plate **23** being notched acutely, as shown at **25**, each notch ending in a circular gap **26** filled by a soft rubber disc **27**. The several discs **27** are held in place by outer plates **28** secured to the disc **23** and partially overlapping the recesses **26**.

The disc **22** being positioned below a bobbin **9** as shown in Figure 3, the disc rotates with the bobbin so that when a thread is presented to the disc it enters one of the notches **25** and is drawn between the rubber pad **27** and the side of the recesses **26** into which the notch leads, and centrifugal force causes the pad to grip the thread firmly. When, as is usual, a loop is formed in the thread to be thrown-on, one limb of the loop enters the notch and the rotation of the disc **23** so tensions the other limb of the loop that it breaks and the thread gripped by the disc begins to wind on the bobbin.

Having described my invention, what I desire to secure by Letters Patents is:

1. A throwing-on device for cap-spinning apparatus, said device comprising a disc adapted to rest on and be rotated by the spindle below the bobbin, notches running angularly from the periphery of the disc to receive a thread presented to the disc, and resilient means in the notches to grip thread received in any notch.

2. A throwing-on device for cap-spinning apparatus, said device comprising a disc adapted to rest on and be rotated by the spindle below the bobbin, notches running angularly from the periphery of the disc to receive a thread presented to the disc and terminating in recesses, and soft rubber pads confined in the recesses to grip thread received in any notch.

3. A throwing-on device for cap-spinning apparatus, said device comprising a disc adapted to rest on and be rotated by the spindle below the bobbin, notches running angularly from the periphery of the disc to receive a thread presented to the disc and terminating in recesses, soft rubber pads confined in the recesses to grip thread received in any notch, and outer plates secured to the disc so as to partially overlap the recesses for the purpose of securing the rubber pads.

WILLIAM HARRY KIMPTON.