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MEANS FOR STRETCHING FILAMENTS

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MEANS FOR STRETCHING FILAMENTS

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6 Claims. (Cl. 18—8)

1. In a device for imparting a stretch to filaments, means for drawing the thread at a constant speed, a disk, guide means on the disk, weight-actuated means for pressing the guide means against the filament at a plurality of points, and a stop for preventing movement of said guide means beyond a predetermined point.

2. A device for stretching artificial filaments comprising a thread guide, a drawing roller, a pair of thread guides normally positioned upon opposite sides of the filament upon rotation of the member about its pivot, and a weight carried by said member and adapted to alter the tension exerted by the pair of thread guides upon the thread.

3. A device for stretching artificial filaments comprising a thread guide, a drawing roller, a pair of thread guides normally positioned upon opposite sides of the filament upon rotation of the member about its pivot, and a weight carried by said member and adapted to alter the tension exerted by the pair of thread guides upon the thread, and means for regulating the extent of movement of said weight.

It is known that in the manufacture of rayon, such as viscose rayon, copper ammonia rayon, acetate rayon, etc., the threads are subjected to a certain amount of stretching during and after the spinning process, and for this purpose many different means such as thread guides of various forms have been proposed.

This invention presents a considerable improvement over the known methods, insofar as it permits a regulation of the stretching of the thread, by means of thread guides, to any desired amount, and makes the stretching conditions absolutely uniform at any number of spinning places.

Furthermore, the arrangement permits to start with the stretching process without imparting to the thread the full tension or stretch and also permits afterwards to obtain the full braking effect by means of a simple movement.

Other objects of my present invention will become apparent from a perusal of the following description and a study of the accompanying drawing, in which:

Figure I discloses a diagrammatic side elevation of my new arrangement in operation, and Figure II shows a similar diagrammatic side elevation, with the brake out of operation.

In Figure I the thread a comes from the spinning bath, is laid over the simple thread guide b, then passes in zigzag form around the thread guides c and d. It then reaches the positively driven drawing roller e around which it is wound once, or several times, and then travels to a take-up spool, or the spinning pot f. The thread guides c and d are fixed to a disk, moving on the shaft g. The disk may be turned by the handle h.

The lever i carrying the weight l, which strikes against the arrester m, is connected with the disk f. Figure I shows the working position of the arrangement, which can be exactly regulated, but care should be taken that either the arrester m can be adjusted on a scale and fixed on the machine frame, or the lever i, on the movable disk f, or the thread guides c and d adjusted on the movable disk f.

In using the device not only the dimensions of the thread guides b, c and d are chosen uniformly in all spinning places, but, by the various means available also the exact position of the thread guides and of the thread and therefore the angles of the thread passing over the guides can be arranged in perfect uniformity for all spinning places.

The rotatory movement of the disk f has not for its purpose only the adjustment of the guides c and d uniformly from place to place, but it also enables one to switch off the brake friction of the thread guides c and d when the spinning is started.

This is explained in Figure II. By means of the handle h the lever i with the arresting weight l may be laid back to the arresting arrangement m' so that the thread c may pass without friction, between the thread guides c and d. As soon as the spinning is started, the braking arrangement is turned back to the braking position as shown in Figure I. The arresting weight l has been chosen in such a way that the braking arrangement will not be loosened under the tension of the thread.

I may instead of the arresting weight l also use other devices for securing the position of the braking arrangement, such, for example, as catches etc.

Having now fully set forth my invention as required by the patent statutes, what I desire to claim is:

1. In a device for imparting a stretch to filaments, means for drawing the thread at a constant speed, a disk, guide means on the disk, weight-actuated means for pressing the guide means against the filament at a plurality of points, and a stop for preventing movement of said guide means beyond a predetermined point.

2. A device for stretching artificial filaments comprising a thread guide, a drawing roller, a pair of thread guides normally positioned upon opposite sides of the filament between the filamented thread guide and the drawing roller, said pair of thread guides being mounted on a pivoted member and adapted to contact with opposite sides of the filament upon rotation of the member about its pivot, and a weight carried by said member and adapted to alter the tension exerted by the pair of thread guides upon the thread.

3. A device for stretching artificial filaments comprising a thread guide, a drawing roller, a pair of thread guides normally positioned upon opposite sides of the filament between the filamented thread guide and the drawing roller, said pair of thread guides being mounted on a pivoted member and adapted to contact with opposite sides of the filament upon rotation of the member about its pivot, a weight carried by said member and adapted to alter the tension exerted by the pair of thread guides upon the thread, and means for regulating the extent of movement of said weight.
4. A device for stretching artificial filaments comprising a thread guide, a drawing roller, a pair of thread guides normally positioned upon opposite sides of the filaments between the first mentioned thread guide and the drawing roller, said pair of thread guides being mounted on a pivoted member and adapted to contact with opposite sides of the filament upon rotation of the member about its pivot, and means for adjusting the tension exerted upon the thread by the pair of thread guides.

5. An apparatus for imparting a stretch to an extruded filament, comprising means for positively drawing the filament at a constant speed, means for retarding the filament and guiding it to the drawing means, spaced contact members positioned on opposite sides of the filament between said drawing and guiding means, said contact members being adapted to rotate about a common center to contact with and apply a regulatable tension upon opposite sides of said filament.

6. An apparatus for imparting a stretch to an extruded filament, comprising means for positively drawing the filament at a constant speed, means for retarding the filament and guiding it to the drawing means, and spaced contact members positioned on opposite sides of the filament between said drawing and guiding means, the said contact members adapted to contact with and apply a regulatable tension upon opposite sides of said filament and adapted to be moved out of contact with said filament.

RUDOLF ETZKORN.
CERTIFICATE OF CORRECTION.


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It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 1, lines 89 and 101, claims 2 and 3 respectively, for "first mentioned" read filaments; and lines 90 and 102, of said claims, for "filamented" read first mentioned; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 19th day of February, A. D. 1935.

Leslie Frazer
(Seal)
Acting Commissioner of Patents.