(No Model.)

G. JAQUITH.

THREAD SEPARATOR FOR RING SPINNING FRAMES.

No. 296,574. Patented Apr. 8, 1884.

Fig. 1.

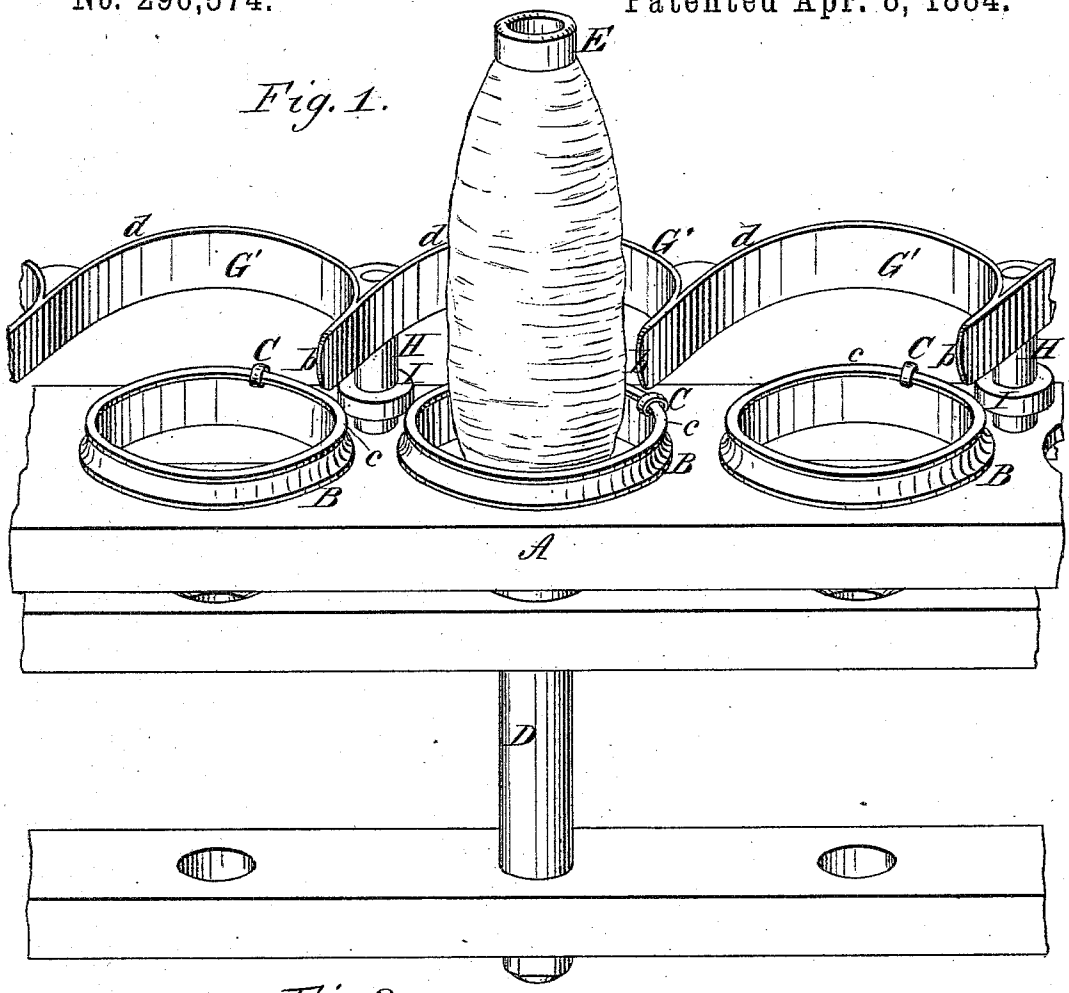
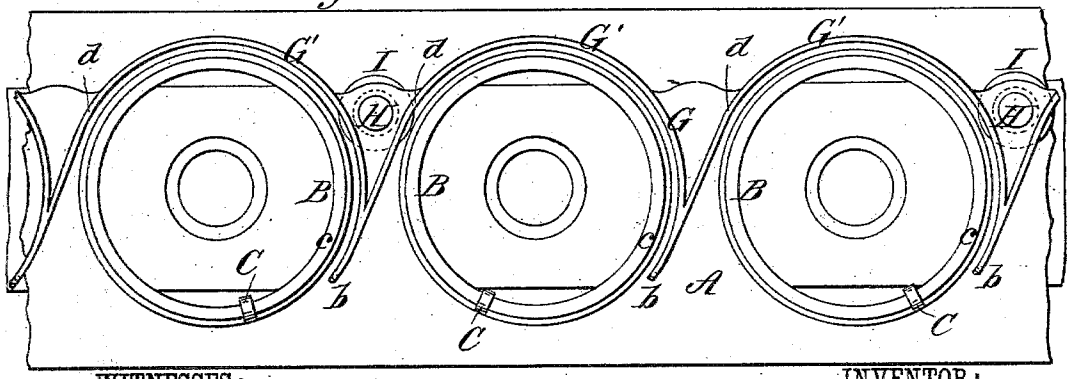


Fig. 2.



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UNITED STATES PATENT OFFICE.

GILMAN JAQUITH, OF MAYSVILLE, KENTUCKY, ASSIGNOR TO HIMSELF AND JANUARY & WOOD, OF SAME PLACE.

THREAD-SEPARATOR FOR RING-SPINNING FRAMES.

SPECIFICATION forming part of Letters Patent No. 296,574, dated April 8, 1884.

Application filed July 8, 1882. (No model.)

To all whom it may concern:

Be it known that I, GILMAN JAQUITH, of Maysville, in the county of Mason and State of Kentucky, have invented certain new and useful Improvements in Thread-Separators for Ring-Spinning Frames, of which the following is a full, clear, and exact description.

In ring-spinning more or less difficulty has been experienced by manufacturers from the fact, as often is the case, that when one thread breaks, or rather when the thread refuses to pass through the traveler by reason of a bunch, or by reason of a fine splinter getting crosswise thereof, the same slacks up, and will generally sweep down several contiguous threads. Again, especially when spinning at very high speeds, no little difficulty has been found in so adapting the tension of the thread, which is done by the weight of the traveler, as to prevent unnecessary breakages; and here it may be stated that from the time the frame starts after doffing until the bobbin is full the tension is constantly varying or decreasing by reason of the diminishing acuteness of the angle which the thread assumes, so that if a traveler be used which is light enough to give the required tension to the thread when the bobbin first begins to fill, the tension will be so light when it gets partially, or say two-thirds, full that the weight of the traveler is not sufficient to keep the thread from throwing or bulging out, and thus two or more threads come in collision, thereby causing the breakage of one or more thereof. To prevent these bulging threads from coming in contact with each other, separators are used, the same consisting of pieces of wire or thin castings, or plates of steel, tin, or other hard substance, introduced between the spindles and serving as guides for the threads. Thus separate pieces of wire have been bent partially around each adjacent pair of rings, on which the travelers run, and the ends of said wires bent down and passed through the rail sufficiently near the rings to provide for the travelers clearing them and forming supports on the front side of the center of the rail or working side of the frame.

My invention consists in such a construction of separator as that its small columns or supports are arranged back of the center of the ring-rail, thus leaving the front or working side open or clear, and in such proximity to each pair of rings as that each of said supports serves as a traveler-cleaner for two rings, as hereinafter more fully explained.

It also consists in a continuous construction of separator throughout the whole length of the ring-rail, and in a special and advantageous form and disposition relatively to the rings of the several separating or guiding surfaces of the separator, substantially as hereinafter described.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 represents a view in perspective, as seen from the front, mainly, of a ring-rail, in part, with my improved separator applied to certain of the rings, and with one of the bobbin-spindles and bobbins in place; and Fig. 2 is a plan view of the same, omitting the spindle and bobbin.

A indicates the ring-rail of a spinning-frame, and B B the rings arranged therein and thereon, and of which there may be any number in a row or series. C C are the travelers, which run upon said rings, and D is one of the spindles, and E its bobbin.

The separator is made continuous the whole length of the spinning-frame or ring-rail, and is made up of a series of separators, G′, to take in the several rings. Each of these individual separators commences at a point, *b*, about one-fourth (more or less) of the diameter of the ring back of its front on the right-hand side of the ring as viewed from the front of the frame, and at about one-eighth of an inch (more or less) outside of a vertical line extended upward from the outer margin, *c*, of the upper portion of the ring. From said point *b* each separator G′ is curved in concentric relation with the ring backward and around the ring, as it were, to a point, *d*, thereby including about one-half of the circumference of the ring, and from this point *d* it is extended in a diverging direction until it intersects the starting-point *b* of the next adjacent separator

G′, and so on indefinitely throughout the whole length of the rail. The "compound separator" as these individual separators G′, combined in the one structure, may be termed, may stand at about two and one-half inches (more or less) above the ring-rail, and may be of a strip-like construction of one inch (more or less) in depth. Such compound separator, which takes in two or more individual separators, is carried by small upright supports or columns H, arranged centrally between every other ring B B at or in proximity to the backs thereof. These supports H have enlargements or projections I at such a height as to be on a level with the paths of the travelers C C, and in such proximity to the rings that the travelers in making their circuits around the rings barely or only just clear the projections I. These projections, which are virtually portions of the supports or columns H, constitute traveler cleaners or clearers by knocking off all cotton or fibers of cotton or lint adhering to the travelers. The importance of this will be best understood by stating that ordinarily the traveler through which the thread passes becomes choked by reason of fibers of cotton and lint becoming detached from the thread in passing through the same and the accumulation of such cotton or lint about the traveler in the form of a wad or bunch, and which, by reason of the great velocity with which the traveler is propelled, not only increases the weight of the traveler, but, presenting a somewhat bulky substance, it meets with great resistance from the atmosphere, so that the tension of the thread is increased in part by the increased weight of the traveler, and in part by the increased resistance of the atmosphere.

By the arrangement of the traveler-cleaners I, as described, each cleaner, which is but a part or enlargement of the support H it is attached to, serves to clean the travelers C on two rings, B B. The construction of such traveler-cleaners I, by making them enlargements of or projections from the supports H, is, in part, that said supports H may be carried as far back of the centers of the rings as practicable, thus leaving the front or working part of the ring-rail open so that the travelers on the rings are easily reached by the fingers of the operator, no matter on what part of the rings they may stop.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the ring-rail A, the rings B, and supports H, of a series of united separators, G′, provided with points *b*, each separator being curved from the said points concentric with and about one-half of the circumference of the rings, and thence diverging to the point of the adjacent separator, and secured thereto, substantially as herein shown and described.

2. The combination, with the ring-rail, the rings, and travelers, of the united curved separators G′, the supports H, arranged between alternate pairs of rings in proximity to the backs thereof, and the clearers I, formed or arranged upon said supports on a level with the paths of the travelers, substantially as herein shown and described, whereby the supports serve to support both the separators and clearers, as set forth.

GILMAN JAQUITH.

Witnesses:
C. S. WOOD,
W. H. JANUARY.