(No Model.)

T. J. SANDS.

SECTION TENSION INDICATOR FOR YARN DRESSERS.

No. 437,134. Patented Sept. 23, 1890.

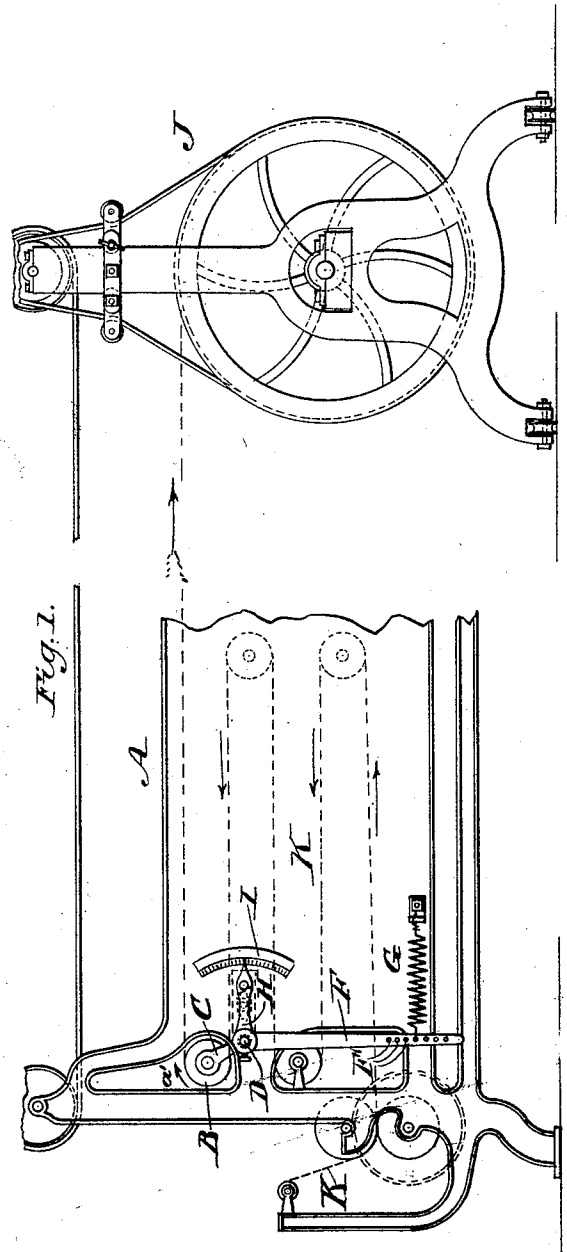


Fig. 1.

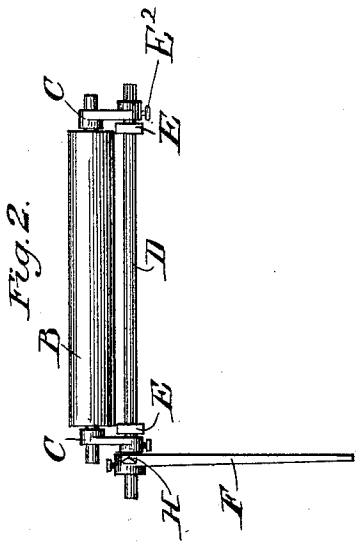


Fig. 2.

WITNESSES:

John A. Ellis.
C. Sedgwick

INVENTOR:

J. J. Sands

BY Munn & Co.

ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

THOMAS J. SANDS, OF BROAD BROOK, CONNECTICUT.

SECTION TENSION-INDICATOR FOR YARN-DRESSERS.

SPECIFICATION forming part of Letters Patent No. 437,134, dated September 23, 1890.

Application filed February 20, 1890. Serial No. 341,228. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. SANDS, of Broad Brook, in the county of Hartford and State of Connecticut, have invented an Improved Section Tension-Indicator for Yarn-Dressers, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved tension-indicator for yarn-dressers, so as to enable the operator to see at a glance how much tension is required on the winding-reel.

The invention consists of various parts and details and combinations of the same, as will be fully described hereinafter, and pointed out in the claims.

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

Figure 1 is a side elevation of my improvement attached to a yarn-dresser connected with the winding-reel in the usual manner, and Fig. 2 is an end elevation of my improvement.

In the yarn-dresser A, of any approved construction, is located the roller B, mounted to rotate in bearings in the arms C, said arms C being secured by binding-screws E^2 or other means to the oscillating shaft D, mounted in suitable bearings attached to the side frames of the yarn-dresser A.

On one end of the shaft D is secured the arm F, provided in its outer end with a series of apertures F′, to one of which is secured one end of the spring G, attached by its other end to the side frame of the yarn-dresser A. The arm F is provided with an arm or pointer H, which indicates measurements on the graduated scale I, secured to the side frame of the dresser A.

The operation is as follows: The yarn-dresser A is in direct connection with the winder J, of any approved construction, on which the yarn is wound after passing through the dresser A. The yarn K passes in sections of certain lengths through the dresser A, as indicated by the arrows, and when the reel of the winder begins to take up the section of yarn then the reel takes the yarn as long as it is delivered from the dresser, as the reel of the winder is rotated by suitable means from the dresser. Now, when the yarn accumulates on the reel of the winder J, then the reel would take up more yarn than is delivered by the dresser on account of the enlarged diameter of the reel, which still travels at the same speed. This would naturally produce a strain on the yarn K, as the latter is not delivered any faster from the dresser. This strain on the yarn is avoided by adjusting a tension device on the belts operating the reel of the winder J, and the said device when properly adjusted and the diameter of the reel is increased causes the belts of the reel to slip. My improvement tells the operator when and how much this tension on the belts of the reel of the winder J has to be adjusted, as the slightest abnormal strain on the yarn K in the direction toward the reel causes the roller B to swing in the direction of the arrow a', so that the shaft D oscillates to one side and causes the pointer H to change its position on the graduated scale I, so that the operator can see at a glance on the said scale I how much he has to adjust the tension on the winder, so as to cause the roller B to assume its former normal position. This return movement of the roller is accomplished by the spring G. The operator can dress every section of a warp to the same tension as the first section of said warp.

The roller B can always be held adjusted in its normal position before starting a new section of yarn over the dresser A by adjusting the spring G to the respective aperture F′ in the arm F.

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

1. In a yarn-dresser, a tension-indicator consisting in a rock-shaft provided with two upwardly-projecting arms, a downwardly-extending arm provided with a spring and a pointer also secured to said shaft, a roller B, journaled in said upwardly-projecting arms, and a scale for the pointer, substantially as set forth.

2. The combination, with the yarn-dresser and its winder, of a rock-shaft D, provided with upwardly-extending arms C, a roller B, journaled therein, around and from which the yarn passes to the winder, a downwardly-extending arm F, connected at its upper end with said shaft and having a spring at its lower end, and a pointer on said shaft provided with a scale, substantially as set forth.

THOMAS J. SANDS.

Witnesses:
LOUIS C. WERNER,
FRANK R. STRUNZ.