(No Model.)

A. C. DAKIN.

TENSION DEVICE FOR ENDLESS BANDS OF SPINNING MACHINES.

No. 458,444. Patented Aug. 25, 1891.

Fig. 1.

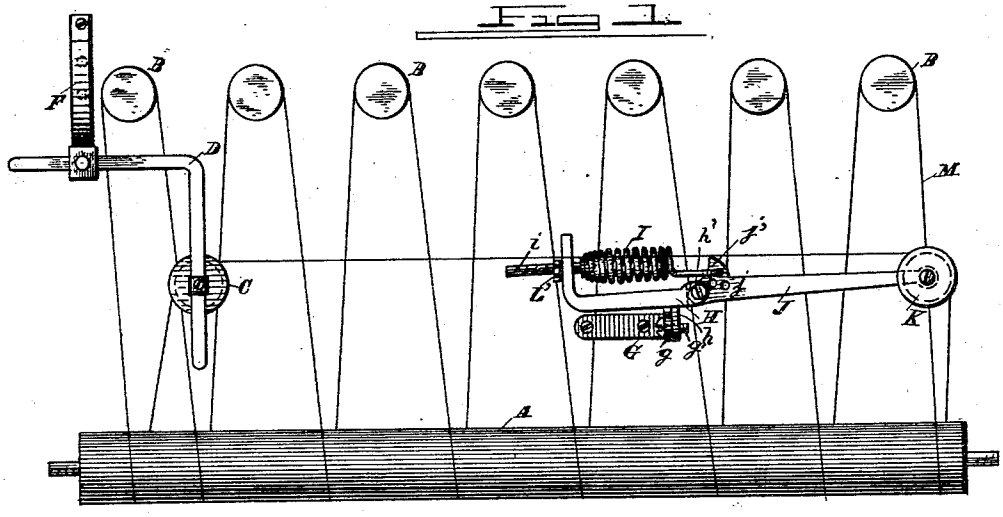


Fig. 2.

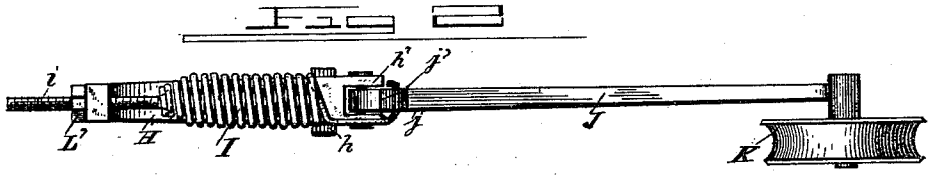
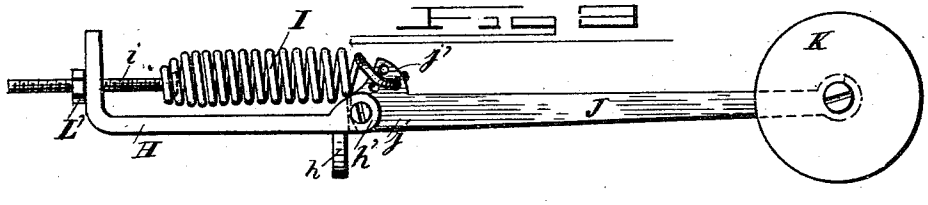


Fig. 3.



WITNESSES

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ARCHELAUS C. DAKIN, OF CLINTON, MASSACHUSETTS.

TENSION DEVICE FOR ENDLESS BANDS OF SPINNING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 458,444, dated August 25, 1891.

Application filed December 13, 1890. Serial No. 374,590. (No model.)

To all whom it may concern:

Be it known that I, ARCHELAUS C. DAKIN, of Clinton, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Tension Devices for Endless Bands of Spinning-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a plan view of a section of a spinning-mule or bobbin-winding machine, showing my improved endless-band tension device in use. Fig. 2 is a top view of the tension device removed. Fig. 3 is a side view thereof.

This invention is an improved tension device for the endless bands of spinning-mules, bobbin-winding machines, &c.; and its object is to keep an even tension on the band at all times, though the band be slightly tightened or shortened owing to atmospheric or other causes, also to enable the degree of tension to be regulated or adjusted; and it consists in the novel construction and combination of parts, hereinafter clearly described and claimed.

Referring to the drawings by letters, A designates the driving-cylinder; B B B, the series of spindle-whirls opposite the cylinder and arranged as usual.

C designates a loose pulley adjustably mounted by a sliding collar and set-screw or in any suitable manner on one arm of a right-angled crank-rod D, the other arm of which is adjustably secured to a bracket F, suitably mounted on the frame, so that pulley C stands between the whirls and cylinder and can be adjusted by the rod lengthwise of the cylinder or transversely thereto by shifting it on the rod.

G designates a bracket attached to the frame or other suitable support about centrally between the bobbins and cylinder and below the same and having an upstanding end *g*.

H designates an L-shaped casting having a short laterally-projecting stud *h* near the end of its longest arm, which stud is set against arm *g* of bracket G and firmly secured thereto by a screw or bolt *g'*, as shown, so that casting H is held in a horizontal position.

J designates a lever-arm having one end *j* enlarged and pivoted between eyes *h'*, formed on the end of casting H, adjoining stud *h*, so that the lever can swing in a horizontal plane. The end *j* is provided with an angular projection *j'*, in which are a series of perforations, and the corners of this end are adapted to contact with the end of the casting and limit the swinging of the lever and yet allow sufficient play thereto to insure the efficient working of the device.

I designates a coiled spring having one end hooked into one of the perforations in projection *j'*, and its other end is connected to a threaded pin *i*, which passes through a perforation in the extremity of the short arm of casting H and is secured by a nut L,' as shown, by which means the spring can be tensioned to any degree required. On the free end of lever J is mounted a loose pulley K.

M designates the endless belt, which runs from cylinder A to the first or end whirl B, thence back to the cylinder, thence to the next whirl, back to the cylinder, and so on alternately from cylinder to whirl until all have been belted, it passing from the last whirl to the cylinder, thence to and partly around pulley K, thence to and partly around pulley C to the starting-point on the cylinder, as shown in the drawings. Pulley C is adjusted to take up all extra length or slack of belt, and spring I is tensioned sufficiently to put the desired tension on the belt through lever J and pulley K. It will be observed that the point of connection of spring I with lever J is eccentric to the pivotal connection of the latter on bracket H, and these points are so calculated that as lever J is turned the spring I will be swung also or turned without being perceptibly elongated. Hence a uniform spring-tension is maintained on the belt, although the lever J may be vibrated slightly, so as to move pulley K toward or from the cylinder, and thus any slight variations in the belt from wear or atmospheric conditions will not affect the tension thereof, and by means of the nut L' the tension may be made great

or little. In correct working position lever J stands about in line with the longest arm of casting H, and spring I is parallel therewith.

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

1. The combination, with the whirls, the cylinder, the endless belt, the adjustable pulley C, and its supporting-rod D, of the tension device consisting of a swinging lever J, carrying a pulley K on its free end and having a perforated projection *j'* at its pivoted end, and a coiled spring I, connected to said projection and to a fixed point on the frame and lying in a plane about parallel with that of the lever, substantially as and for the purpose specified.

2. The herein-described band-tension device for spinning-machines, &c., consisting of the L-shaped casting H, the lever J, having an enlarged head *j*, formed with a perforated projection *j'* and pivotally connected to the longest arm of the casting and carrying a pulley K on its free end, and the spring I, connected to said projection and to the short arm of the casting, all substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ARCHELAUS C. DAKIN.

Witnesses:
THOMAS L. WALSH,
FRANK E. HOWARD.