(No Model.)

J. REID.

BAND TIGHTENER.

No. 337,081. Patented Mar. 2, 1886.

Fig. 1.

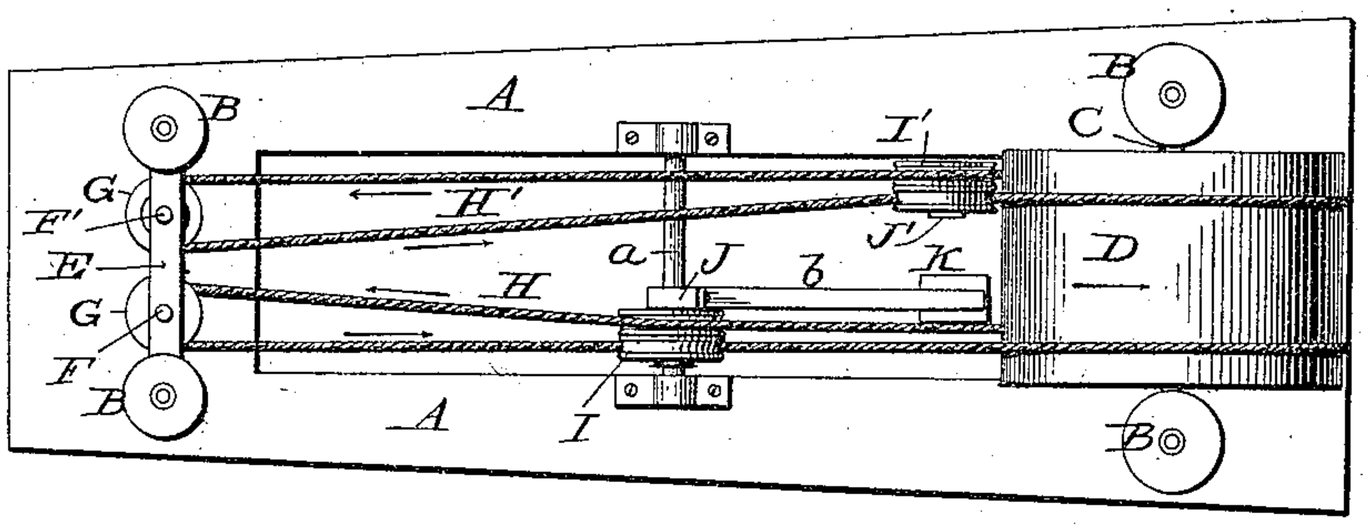


Fig. 2.

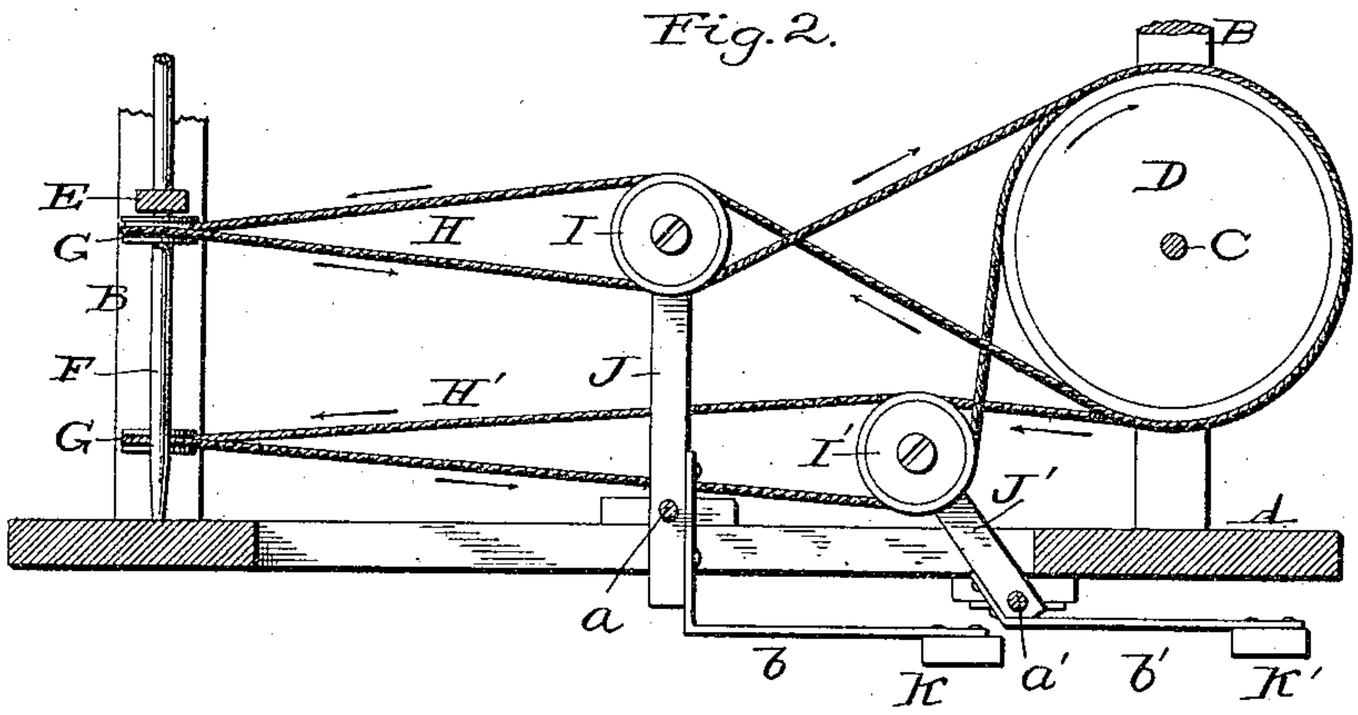
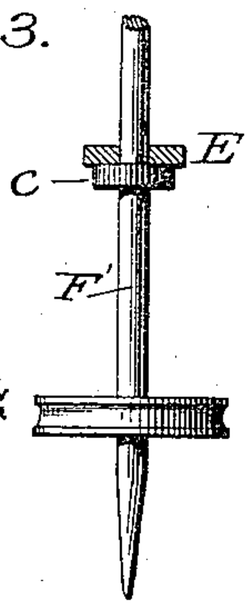


Fig. 3.



Witnesses:
Jas. L. DuHamel
Walter S. Dodge.

Inventor:
John Reid,
by Dodger Lee,
his Attys.

UNITED STATES PATENT OFFICE.

JOHN REID, OF ALMONTE, ONTARIO, CANADA.

BAND-TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 337,081, dated March 2, 1886.

Application filed June 10, 1885. Serial No. 168,256. (No model.) Patented in Canada June 8, 1885, No. 21,834.

To all whom it may concern:

Be it known that I, JOHN REID, of the town of Almonte, in the county of Lanark, Province of Ontario and Dominion of Canada, mechanic, have invented a new and useful Improvement in Band-Tighteners, of which the following is a specification.

My invention relates to band-tighteners, designed more particularly for spinning-machines; and it consists in the employment of double-grooved pulleys carried by pivoted counterweighted levers.

In the drawings, Figure 1 is a top plan view of a part of a spinning-frame with my improvements applied thereto; Fig. 2, a side view of the same, partly in section; and Fig. 3 shows a spindle detached.

A indicates a framing, at both ends of which are uprights B, those at one end carrying a shaft, C, and drum D, while those at the forward end carry a cross-arm, E.

F F′ are the spindles to be driven, having their lower ends stepped in the frame A and their upper ends passing through the cross-beam E, as shown in Figs. 2 and 3. The spindles F F′ are each provided with a grooved pulley, G, keyed or otherwise firmly secured thereon.

H H′ indicate the bands, which pass around the pulleys G and also around the drum D and tightener-pulleys I I′, as shown. The band H passes around the drum D, crosses itself, passes about opposite sides of grooved wheel I and about the wheel G on the spindle F. The band H′ takes a similar course, passes about drum D, crosses itself, passes on opposite sides of wheel I′ and around wheel G on spindle F′, as shown.

The tightener-pulleys I I′ are each made double—that is to say, each is provided with two complete annular grooves—as shown in Fig. 1, and each is carried at the end of a pivoted lever, J J′, carrying at its other end weights K K′.

The lever J is pivoted on a shaft, *a*, on the upper side of the frame A, in advance of the lever J′, and has a rearwardly-extending arm, *b*, to which its counter-weight K is attached. The lever also extends upward a considerable distance, so as to bring the center of its pulley I about in line with the pulley G on the shaft of spindle F.

The lever J′ is much shorter than the lever J; is in rear of the latter; is pivoted at *a′* to the under side of the frame, and is likewise provided with an arm, *b′*, to which its counter-weight K′ is attached.

The lever J′ is made shorter, for the reason that the pulley G on its shaft F′ is lower down than the pulley on the other shaft, and its object is to bring the center of the pulley I′ in line with pulley G. This arrangement of pulleys G and I I′ prevents any slipping that might occur owing to the inclined position of the bands.

In the drawings I have shown the invention as applied to a spinning-machine; but I wish it understood that I do not limit myself to its use in this particular connection, as it may obviously be applied to other machines.

The weights K K′ serve to keep the pulleys in their proper positions, and to exert a constant tension on both parts of the band. By having the pulleys I I′ doubly grooved, rubbing of the band against each other is prevented and the necessary and proper direction given to the belts.

As the arms J J′ are rocked or tipped upon their pivots, the tendency is to tighten the bands. To prevent the spindle F′ from rising from the seat, I provide the spindle F′ with a collar, *c*, which prevents any upward movement of the spindle.

I am aware that it has been proposed to provide a spinning-frame with pendent tension-regulators, and I do not wish to be understood as claiming such idea, broadly.

Having thus described my invention, what I claim is—

1. In combination with frame A, drum D, and wheel G, band H, pivoted arm J, and double-grooved pulley I, all arranged as shown.

2. In combination with frame A, drum D, and wheel G, band H, passing about said drum and wheel, pivoted arm J, double-grooved pulley I, carried by said arm, and a weight, K, also carried by arm J, as and for the purpose explained.

3. The combination, with two wheels, of a crossed band passing about both of said wheels, and a double-grooved tightener-wheel running upon different sides of said band at a point between its ends and carried by a pivoted arm, substantially as described and shown.

Dated this 3d June, 1885.

JOHN REID.

Witnesses:
J. A. GEMMILL,
G. J. HAWKINS.