(No Model.)

L. BINNS.

SPINDLE DRIVING DEVICE FOR SPINNING MACHINES, &c.

No. 380,784. Patented Apr. 10, 1888.

Fig. 1.

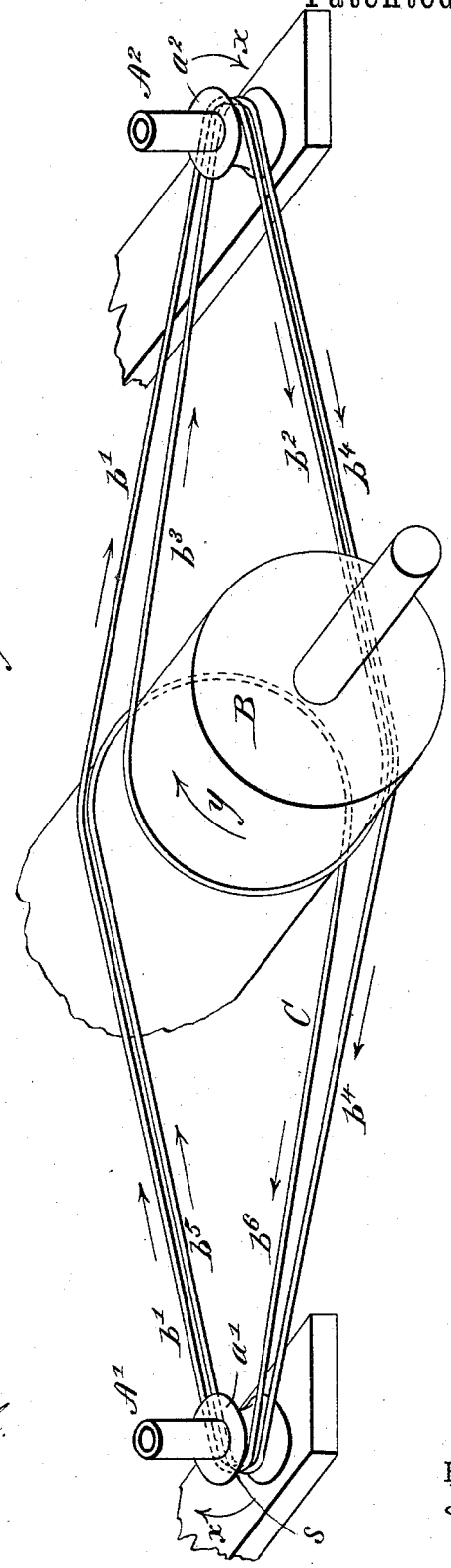
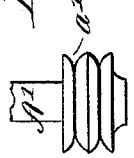


Fig. 2.



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LEEDHAM BINNS, OF PHILADELPHIA, PENNSYLVANIA.

SPINDLE-DRIVING DEVICE FOR SPINNING-MACHINES, &c.

SPECIFICATION forming part of Letters Patent No. 380,784, dated April 10, 1888.

Application filed February 25, 1887. Serial No. 228,868. (No model.)

To all whom it may concern:

Be it known that I, LEEDHAM BINNS, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Spindle-Driving Devices for Spinning and Twisting Machines, of which the following is a full, clear, and exact description.

This invention has for its object the driving, by one and the same band, of two spindles on opposite sides of a spinning or spinning and twisting frame, or on opposite sides of the drum which drives the spindles; and the invention consists in a novel combination, with the driving-drum and with said spindles or their whirls, of the band by which the spindles are driven, substantially as hereinafter described, and pointed out in the claim.

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 represents a view in perspective of the driving-drum in part and a pair of spindles in part on opposite sides of said drum, and a band connecting the whirls on said spindles with said driving drum or cylinder. Fig. 2 is an elevation of a spindle in part, with a double-V-shaped whirl in place of an open or single-grooved whirl, as shown in Fig. 1, attached.

It is immaterial, so far as my invention is concerned, whether an open whirl, such as shown in Fig. 1, be used on the spindles or the double-V one shown in Fig. 2.

A' A^2 indicate two spindles of a spinning or spinning and twisting frame, arranged upon opposite sides of their driving-drum B, and C is the single band which drives said spindles through the whirls a' a^2, secured upon them. Supposing it be required to drive these spindles A' A^2 in the directions indicated by the arrows x x, and the driving drum or cylinder B rotate as indicated by the arrow y, I start or pass one end or portion (marked b') of the band, commencing at a point marked s, from or around the one side of the whirl a', and continue it, as shown by arrow applied to said portion b', across or over the top of the drum B, but not around the latter, to and around in front of the second whirl, a^2, of the spindle A^2, from whence the band, as marked b^2, is passed under and over the drum B, back again, as indicated by the portion b^3, to and around the spindle-whirl a^2, thence, as marked b^4, across and under the drum to the first spindle-whirl, a'. From this point the band is continued around the front of the first spindle-whirl, a', then, as shown for the portion of it marked b^5, is continued and passed across to and over and around the drum B, and from under it back, as indicated by the portion marked b^6, to and in front of the first spindle-whirl, a', to the point s, from which the portion b' started, and the two ends of the band secured by any suitable fastening. The several arrows applied to the portions b', b^2, b^3, b^4, b^5, and b^6 of the band indicate the respective directions in travel of said portions to drive the spindles A' A^2, as indicated by the respective arrows x x. By this mode of banding the two spindles A' A^2 or their whirls on opposite sides of the drum B, I get a substantial and firm hold of each spindle-whirl, with an increased length of band for the two spindles, each spindle-whirl being firmly secured and driven direct from the drum by the one band. A band, too, less than one-half the size of separate bands used to drive the two spindles will drive both spindles more perfectly, thereby insuring a more perfect twist with less power and at a reduced cost of the band.

Where double-grooved whirls are used, such as shown in Fig. 2, different portions of the band will run in different grooves. Duplicate whirls arranged one above the other on each spindle, practically forming but a single whirl and being the equivalent of such, may be used, if desired.

The spindles may be run in the opposite direction to that here shown, if required, by simply reversing the motion of the drum without changing the invention for banding the two spindles on opposite sides of the drum by a single band, the directions in travel of the several portions of which being of course correspondingly changed.

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

The combination, with the driving drum or cylinder and the two spindles with their whirls on opposite sides, respectively, of said drum, of the band passing from the whirl of one of said spindles across and over the drum, but not around it, to and around in front of the whirl of the opposite spindle, from thence around the drum back to the whirl of the last-named spindle, then across and under the drum, but not around it, to the whirl of the first-named spindle, and from thence around this last-named whirl in front, then back and around the drum to the point on said last-named whirl from which the band started, as set forth.

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Witnesses:
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