(No Model.)

# J. J. HEYWOOD.

## DRIVING BAND FOR SPINDLES.

No. 377,937. Patented Feb. 14, 1888.

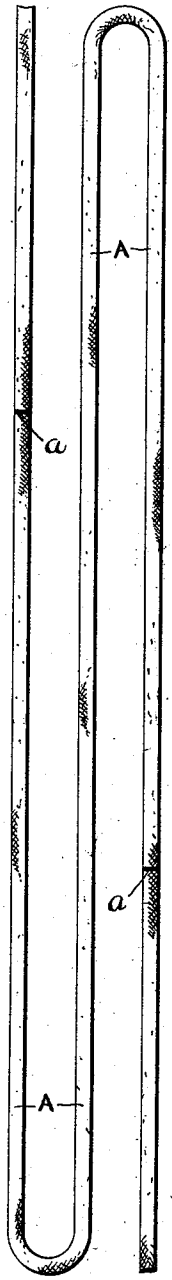



FIG. 1.

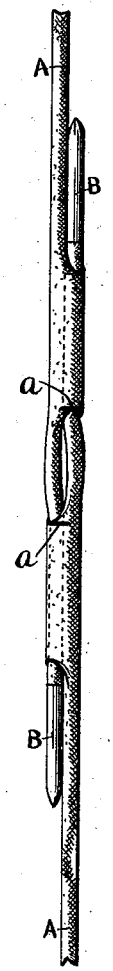



FIG. 3.

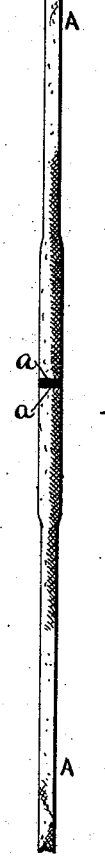



FIG. 4.

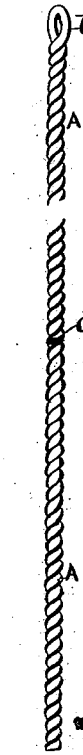



FIG. 7.




FIG. 6.

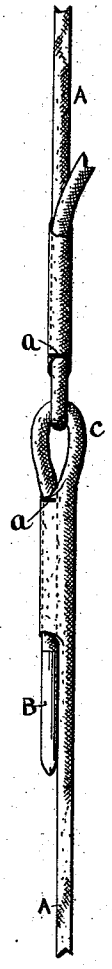



FIG. 5.




FIG. 2.

WITNESSES.

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# UNITED STATES PATENT OFFICE.

JOHN JAMES HEYWOOD, OF FALL RIVER, MASSACHUSETTS.

## DRIVING-BAND FOR SPINDLES.

SPECIFICATION forming part of Letters Patent No. 377,937, dated February 14, 1888.

Application filed May 20, 1887. Serial No. 238,846. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN JAMES HEYWOOD, of Fall River, county of Bristol, and State of Massachusetts, have invented a new and useful Improvement in Bands for Driving Spindles, &c.; and I do hereby declare the following specification, taken in connection with the accompanying drawings, forming a part of the same, to be a description thereof.

This invention relates to bands for driving spindles, &c.; and the improvement consists in marking the bands to show just where their ends should be joined to produce a finished or endless band of the right length; and it also consists in tipping the ends of the marked bands, so said ends may be readily passed through the body of the band to connect and fasten said ends, as hereinafter described and claimed.

Bands constructed before my invention, as far as I am aware, have had no mark or marks thereon to determine just where the ends thereof should be tied or joined to make the endless band the right length to do its work properly. In applying an unmarked band to a frame the band is passed around the drum or cylinder and the whirl of the spindle. It is drawn to what is judged to be the proper tension, and its ends are tied or joined. Some of the bands on the frame will be too tight, producing too much friction between the spindle and its bearings and consuming too much power in consequence, as well as causing the bands to wear quickly, and some will be too loose, the result being uneven work performed by the frame. It is very desirable, therefore, that the bands should all be of the same length when on the frame, and this object it is the intention of my invention to accomplish, and in addition thereto to furnish a band whose ends can readily be passed through its body portion to secure said ends.

In the accompanying drawings, Figure 1 represents a band marked near its ends to show the length the band should be when its ends are properly joined. Fig. 2 shows the same with the ends of the band tipped with metal or other material to facilitate the passing of said ends through the body of the band. Fig. 3 shows one method of joining the ends of the band. Fig. 4 represents a part of the band with its ends joined. Fig. 5 shows another method of joining the ends. Fig. 6 shows a part of this band with its ends joined. Fig. 7 represents part of a twisted band, one end of which is marked and the other formed into a loop, to which the first end is to be secured.

The bands A may be either braided or twisted, those shown in all the drawings but Fig. 7 being of the former variety. In marking bands near both ends, as shown in Figs. 1 and 2, the result may be conveniently attained by winding a quantity of the banding around and along a cylinder or drum whose circumference is, say, eight inches greater than the length the bands are to be, a tension being preferably applied to the banding during such winding substantially equal to the tension the bands are to have when in use upon a frame.

By means of a proper marking tool or implement moved longitudinally of the drum two lines eight inches apart are drawn or marked across the convolutions of banding, and such convolutions are then cut apart on a line midway between the lines of marking, thus dividing the wound banding into distinct bands, the length of each of which between the marks *a a* thereon is the desired length the band is to be when its ends are joined, there being left four inches projecting beyond the mark at each end for convenience in joining the ends, as indicated at Fig. 1.

When the bands are of the kind having a loop at one end, as shown in the twisted band illustrated in Fig. 7, but one mark, *a*, is applied to the band, and that to the end opposite the looped end *b*. In such a band the junction of the ends is effected by passing one or more strands of the marked end of the band through the loop *b* until the mark *a* comes to the loop, and then tying said strands in a well-known manner, the mark *a*, which has been placed the required distance from the loop *b*, determining the finished length of the band.

From the foregoing it will be readily seen that by marking the bands, as described, they will all be of the same length and have the same tension when applied to a frame, and that skilled labor need not be employed to apply the bands, as the marks show so plainly where the junction of the ends should be made that boys may do the work.

In securing the ends of bands to each other the junction may be effected by passing said

ends longitudinally through the body of the band, as shown in Fig. 3, the ends being entered at the marks *a a* and then pulled through, so as to bring the marks *a a* together, as shown in Fig. 4, the projecting ends being cut off where they emerge. The ends may also be joined by returning one end upon itself and passing it back longitudinally through the body of the band, thereby forming a loop, *c*, as shown in Fig. 5, then inserting the other end of the band through said loop and passing said end back through the body of the band, each end entering the body at the marks *a a*, and finally pulling upon the ends to close the space between the marks, as shown in Fig. 6, the ends being cut off where they emerge.

In order to enable the ends of the band to be quickly and conveniently inserted into the body thereof at the marks *a a*, and to be passed longitudinally through the body the desired distance, I provide the ends of the band with tips B, of any preferred material and form, as shown in Figs. 2, 3, and 5, thereby furnishing a band which, from being marked as described, can have its proper applied length readily and easily determined, and from being tipped can have its ends quickly and conveniently passed through its body to secure the same.

What I claim, and desire to secure by Letters Patent, is—

1. As an improved article of manufacture, a braided or twisted band for driving spindles, &c., having an indicating mark or marks thereon, substantially as described, to show where the ends should be joined to make the band the proper length, substantially as set forth.

2. As an improved article of manufacture, a braided or twisted band for driving spindles, &c., having indicating-marks thereon, substantially as described, to show where the ends should be joined to make the band the proper length, and having its ends provided with tips, substantially as described, to enable them to be readily passed through the body of the band, substantially as set forth.

JOHN JAMES HEYWOOD.

Witnesses:
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HENRY J. STAPELTON.