No. 784,762. PATENTED MAR. 14, 1905.

E. T. SHEPARD.

RAWHIDE BUSHING.

APPLICATION FILED JUNE 24, 1904.

Fig. 1.

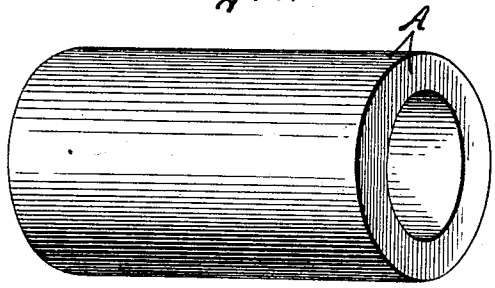


Fig. 2.

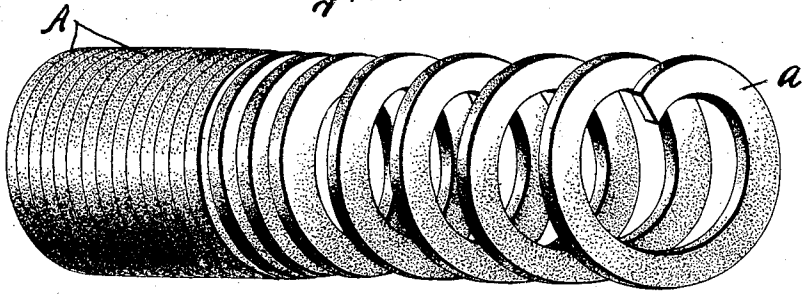
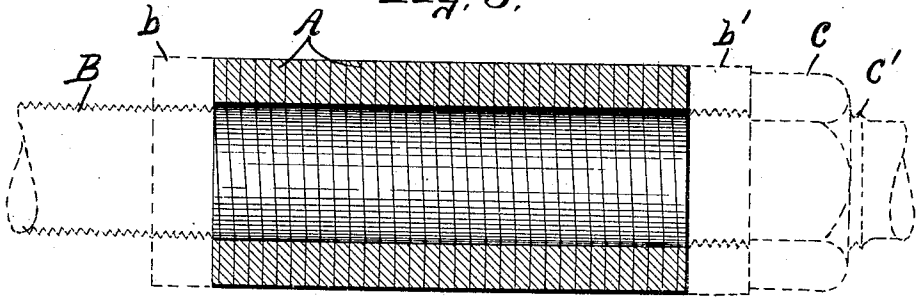


Fig. 3.



Witnesses:
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No. 784,762. Patented March 14, 1905.

UNITED STATES PATENT OFFICE.

EDGAR T. SHEPARD, OF ONEIDA, NEW YORK, ASSIGNOR TO ONEIDA STEEL PULLEY COMPANY, OF ONEIDA, NEW YORK, A CORPORATION OF NEW YORK.

RAWHIDE BUSHING.

SPECIFICATION forming part of Letters Patent No. 784,762, dated March 14, 1905.

Application filed June 24, 1904. Serial No. 213,977.

To all whom it may concern:

Be it known that I, EDGAR T. SHEPARD, of Oneida, in the county of Madison, in the State of New York, have invented new and useful Improvements in Rawhide Bushings, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to improvements in rawhide sleeves, which are particularly useful as self-lubricating bearings or bushings for shafts, loose pulleys, and analogous uses.

My object is to produce a sleeve or bushing from a continuous strip of rawhide, which is wound spirally to form a cylinder of the desired diameter and has its helices adhesively secured together under pressure, whereby the waste of material, labor, and cost of the completed article are reduced to a minimum. One advantage of this spiral continuity of the strip is that the fiber or grain of the rawhide is allowed to remain in its natural state, thus retaining its original tenacity or toughness and presenting an unbroken bearing in the direction of rotation of the revolving part to which it is applied.

Other objects and uses will be brought out in the following description.

In the drawings, Figure 1 is a perspective view of my improved bushing as finished. Fig. 2 is a view similar to Fig. 1, showing some of the helices extended. Fig. 3 is a lengthwise sectional view through the bushing seen in Fig. 1, showing by dotted lines one means for pressing the helices together.

Similar reference characters indicate corresponding parts in all the views.

A represents one size of my improved sleeve or bushing, which is formed from a continuous strip *a* of rawhide or equivalent material, or if the bushing is of unusual size it may be formed from two or more strips. Each strip is cut from the hide without waste and is then wound spirally upon a shaft or form, as B, Fig. 3, of suitable length and diameter to form a series of helices, and to the adjacent faces of these helices is applied an adhesive substance, such as glue or cement. Any means may be employed to firmly press the helices together; but I have shown the shaft B as provided with opposed shoulders *b* and *b'*, Fig. 3, one of which, as *b'*, is adjustable lengthwise on the shaft by means of a nut *c*, which engages a threaded portion *c'* on said shaft. This winding of the strip may be effected in the usual manner of winding thread or wire upon bobbins or spools or by attaching one end of the strip to the collar *b* and then rotating the mandrel or shaft, the remaining portions of the strip being held in the hand or by a suitable gripping device (not shown) so that the strip may be wound under the tension. After the strip is thus wound the nut *c* may be tightened to firmly press the adhesive faces of the helices together, and the adhesive is then allowed to set, whereupon the sleeve may be turned or trued and finally finished on the same mandrel complete and ready for use.

It is now apparent that by making the bushing from a continuous strip the usual waste of material and labor in forming it of laminations or sections is avoided and that the continuity of the strip in the direction of rotation of the part to which it may be applied affords greater tenacity and reduces the liability of disintegration or segregation under torsional strains.

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

1. A cylindrical bushing for shaft and loose-pulley bearings consisting of a continuous strip of rawhide wound spirally and having its helices adhesively secured together.

2. The herein-described bushing consisting of a strip of rawhide coiled upon itself and having its helices pressed into close engagement with each other and secured together.

In witness whereof I have hereunto set my hand this 20th day of June, 1904.

EDGAR T. SHEPARD.

Witnesses:
M. F. CHAMBERLIN,
O. W. STURDEVANT.