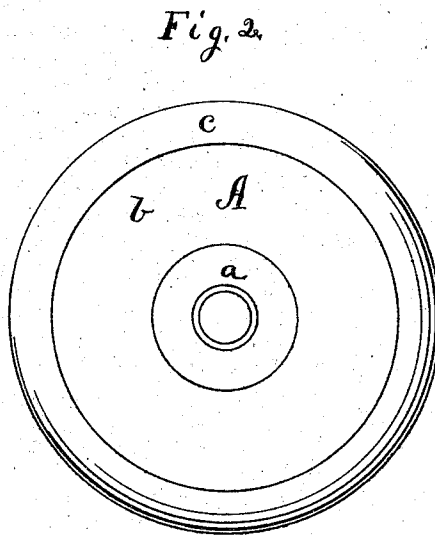
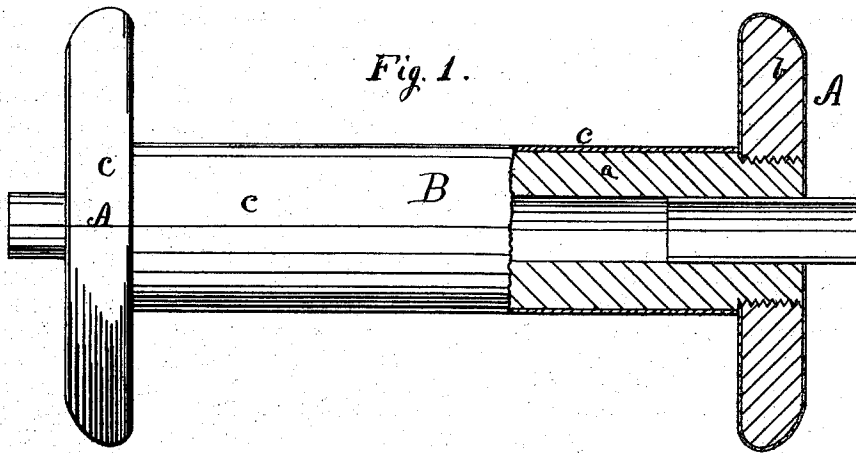


F. E. DARROW & O. E. WAIT.
Spools.

No. 156,413.

Patented Nov. 3, 1874.



Witnesses.

Henry A. Mitchell
Henry B. Cook

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By James Shepard Atty.

UNITED STATES PATENT OFFICE.

FRANKLIN E. DARROW AND OSCAR E. WAIT, OF LYNN, MASSACHUSETTS.

IMPROVEMENT IN SPOOLS.

Specification forming part of Letters Patent No. **156,413**, dated November 3, 1874; application filed February 27, 1874.

To all whom it may concern:

Be it known that we, FRANKLIN E. DARROW and OSCAR E. WAIT, both of Lynn, county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Spools, of which the following is a specification:

In our improved spool the barrel and the insides and rounded edges of the head are covered with rawhide, as hereafter described.

In the accompanying drawing, Figure 1 is a partial side elevation and central section of a spool which embodies our invention, and Fig. 2 is an end view of said spool.

A A designate the heads, and B the barrel. The main portion or body of these parts is made of wood, the wood in the barrel being designated *a* and that in the heads *b*, and they are formed after the usual manner of forming wooden spools.

We take the barrel B and heads A A before they are attached together, and for the heads we take a disk of rawhide, and, by soaking or other means, make it pliable and soft. One side of this disk is then covered with glue or other adhesive cement and glued to the inside of the head, and is also drawn over the rounded edge of the head and glued thereto. It is then immediately placed in dies or clamps, which bear and press the hide firmly upon the rounded edge of the head, and hold it in place until the hide is thoroughly dried, so as to retain its shape. In the process of drying the shrinkage has a tendency to remove the wrinkles at the edge of the hide, and also the hide shrinks, so as to close firmly upon the edge of the spool-head and hold the wood firmly together, so that it will not split, or, if previously split, so that it will bend it together. A portion of the hide at the center of the head is removed, so that the barrel can be inserted in the head, and the outer surface of the hide *c* is then turned smooth in the same manner as horn or similar substances are turned. A strip, or pieces of hide previously softened and one side covered with glue, is then wound firmly around the barrel, and, when dried, it is turned smooth and round. The barrel and heads so covered may be attached together either before or after the hide is turned, as may be desired.

When smoothed the surface of the hide may be gummed and polished or finished in

any desired manner. It is, of course, evident that bobbins may be covered in the same manner.

We are aware that a disk of rawhide has previously been glued to the flat side of a spool or bobbin head, as shown in the patent to Horatio Clarke, June 28, 1853; but the rounded edge, which is the most exposed portion, was not protected, and the strength of the hide was imparted to the head only by means of the adhesiveness of glue. We are also aware that a spool-head has been previously covered with metal, as shown in the patent to Alexander Carmichel, May 10, 1870.

In our improved spool the hide increases the weight of the finished spool but little, if any; and if, in use, the hide is bruised, it is so elastic as to partially or wholly resume its shape, so as to leave but little or no indenture therein; whereas a like bruise in a metal-covered or a wooden head would make a permanent indenture that would be liable to catch and break a thread running off the spool.

The hide, in shrinking, draws firmly against the wood, so as to bind itself thereon and retain its place even without the aid of glue; whereas metal will have a tendency to spring away from the wood a little as it leaves the die, so that the wood may be liable to become loose and rattle within the metal covering.

The spools, by being thus covered with rawhide, can be made of light and cheap woods. Rawhide is not only elastic, but is subject to nearly the same influences of dry and moist air as is wood. Therefore, in case the wood, either in the barrel or head, is, by the action of the atmosphere, caused to shrink or swell, the rawhide covering will accommodate itself thereto.

A proper die for covering the head is shown in our patent dated February 24, 1874.

We claim as our invention—

A spool or bobbin having a rawhide casing, which extends over its barrel and over the inner surface and rounded edge of its head or heads, all substantially as described, and for the purposes set forth.

FRANKLIN E. DARROW.
OSCAR E. WAIT.

Witnesses:

JAMES B. SILSBEE,
W. J. HEATH.