O. E. WAIT.
Spool and Bobbin.

No. 208,774. Patented Oct. 8, 1878.

Fig. 1.

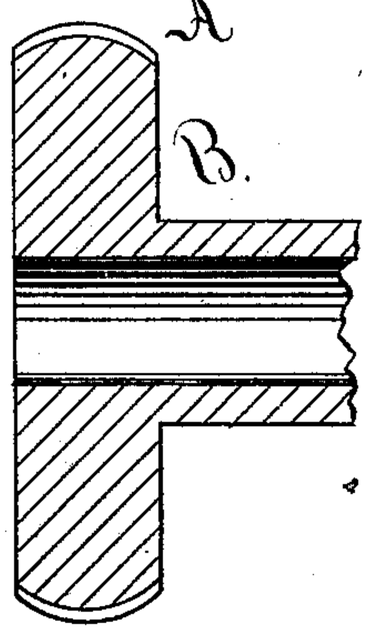


Fig. 2.

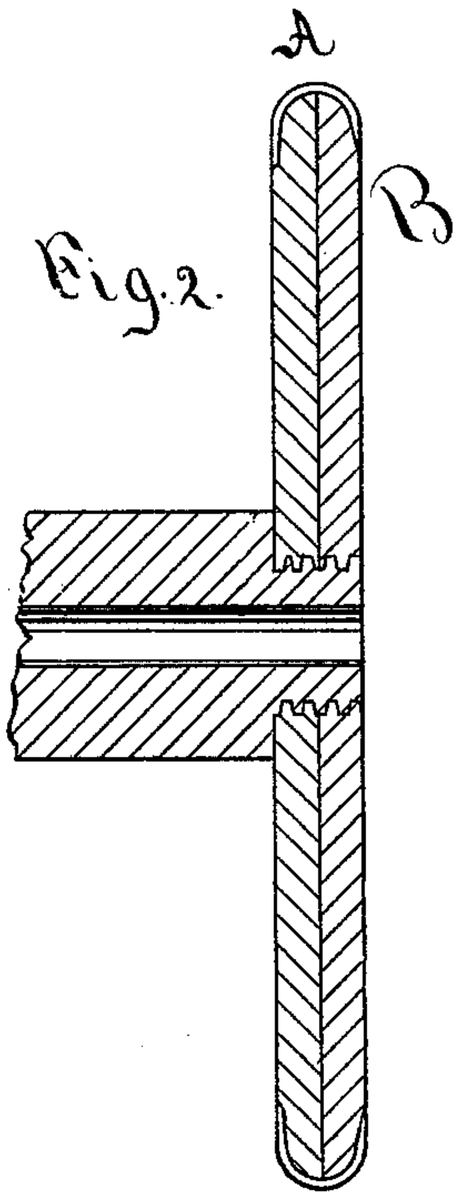
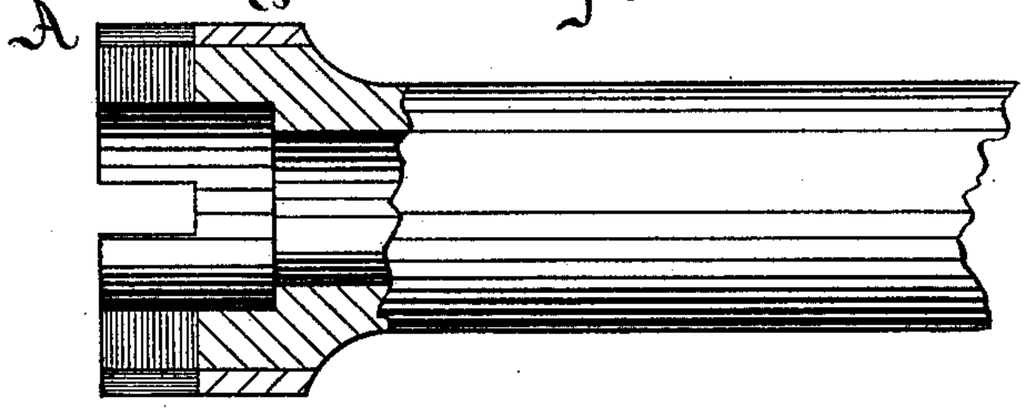


Fig. 3



Witnesses.
P. J. Markley
W. B. Thomson.

Inventor.
Oscar E. Wait
By James Shepard atty.

UNITED STATES PATENT OFFICE.

OSCAR E. WAIT, OF ROCKPORT, MASSACHUSETTS.

IMPROVEMENT IN SPOOLS AND BOBBINS.

Specification forming part of Letters Patent No. **208,774,** dated October 8, 1878; application filed January 4, 1878.

To all whom it may concern:

Be it known that I, OSCAR E. WAIT, of Rockport, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in the Manufacture of Spools and Bobbins, of which the following is a specification:

My invention relates to that class of spools and bobbins which are used in the manufacture of textile fabrics; and its object is to prevent, in an inexpensive way, wooden spools and bobbins from splitting and splintering, and, furthermore, to give them a hard and smooth surface over an elastic coating, which will not easily become dented or bruised in the rough uses to which spools and bobbins are ordinarily subjected.

My invention consists in the process of covering and protecting wooden spools and bobbins, in whole or in part, by means of glue or other adhesive cement and a fibrous material, in such manner that the glue or cement will firmly unite the fibrous material to the wood, and also fill the interstices, and when finished leave an elastic coating having a hard, smooth, and glossy surface; also, in the product of said process, all as hereinafter described.

In the accompanying drawings, Figures 1 and 2 are sectional views of spool-heads which embody my invention; and Fig. 3 is a sectional view, partly in elevation, of the end of a bobbin which embodies my invention.

In Figs. 1 and 2 the coating A is applied to the edge of the head, and in Fig. 3 it is applied to the large end. B designates the bobbin in all the figures.

In case the bobbins or spools are designed for use with wet yarn, then water-proof cement must be the adhesive material, which may be made by adding linseed-oil, shellac, or some similar substance to common glue.

In case the spools or bobbins are for use with dry thread or yarn, then common glue will answer the purpose.

I take a bobbin, B, the head of which is made of one or more pieces of wood or other glue-adhesive material, as shown respectively in Figs. 1 and 2, and cover the same with a thick flouring coat of the adhesive cement upon all the parts desired to be specially protected. I then wind the parts thus covered by the cement with a fibrous material in the form of rolls or roving as it leaves the cards, and quickly and firmly press the same upon or embed it into the coat of cement. Another coat of cement is then applied, covering the fiber and completely saturating it and filling all the interstices of the fibrous material. This saturating may be facilitated by thoroughly steaming or damping the fiber before applying it. When thus coated with the successive layers of cement and fiber it is laid away to dry. When dry the spool or bobbin is placed in a lathe, and finished the same as though it were made entirely of wood.

Any kind of fiber may be used, either long or short; but the strongest material of medium length gives the best results.

Cattle-hair, cotton, and hemp, in about equal parts, carded together and applied as above described in the form of roving and finished by a coat of cement, make a strong, durable, and elastic covering, excelled by none and equaled only by the rawhide covering.

In case short fiber is employed, such as hair, paper-pulp, or short cotton and wool, the fiber may be mixed with the cement, and a thick coating of the mixture applied, which would adhere to the wood, and also cover the fiber, filling the interstices, so that the bobbin might be finished in a lathe, and produce substantially the same product.

Long fiber might be saturated with the cement and wound upon the bobbin to cement it to the wood, and a coat of cement applied to fill the interstices after winding; but I consider the method first described as the most desirable.

The coating I give these bobbins or parts of them resembles rawhide, which is, in fact, a combination of fiber and gelatine, the fiber giving it strength and the gelatine enabling it to be finished with a smooth and glossy surface, and, although quite hard, it is elastic.

The covering A is an artificial compound of fiber and gelatine, which is strong and elastic, and, when finished, has a hard and smooth surface.

A slight coat of varnish has not body enough to effectuate the result desired by me. I do not use varnish unless mixed with other material, and I do not apply a slight coat, but a

coating about equal to the thickness of the rawhide covering for bobbins.

In order to get the requisite body to fill the interstices of the fiber, something more in the nature of gelatine than common varnish must be employed, especially in order to produce the requisite smooth edge for the head of a spool or bobbin shown in Figs. 1 and 2.

I have not specifically pointed out the parts of the spools or bobbins to be covered, as I desired to apply the coating to the ends, edges, or any part requiring special protection, or to the whole bobbin, if desired. The parts which are most exposed to wear and fail first vary according to the style and uses of bobbins, and the covering will be applied accordingly.

By my invention a first-class, strong, and durable spool or bobbin is produced at a very small cost, while the composition may be applied on parts which are difficult to cover with rawhide or with metal.

I am aware of the English Patent No. 1,427 of 1861, and also that spools and bobbins have been covered in part with rawhide, also with metal; and, further, that spools and bobbins have been made of metal and sometimes of composition throughout, all of which, including the matter in said English patent, is hereby disclaimed.

I claim as my invention—

1. The process herein described of coating and protecting wooden spools and bobbins, which consists in applying adhesive cement directly to the wood, embedding fibrous material therein, and finishing with an external coat of cement, substantially as described, and for the purpose set forth.

2. The process herein described of coating and protecting wooden spools and bobbins, which consists in applying glue or cement and fibrous material, the fiber being firmly united to the wood by means of the cement, which also fills the interstices of the fibrous material, substantially as described, and for the purpose specified.

3. The process herein described of coating and protecting wooden bobbins, which consists in applying adhesive cement, a mixture of cattle-hair, cotton, and hemp carded together in about equal parts, and then a finishing-coat of cement, substantially as described, and for the purpose specified.

4. The process herein described for covering or protecting spools and bobbins, which consists in applying adhesive cement and fibrous material in the form of roving to the parts to be protected, substantially as described, and for the purpose specified.

5. A wooden spool or bobbin coated in whole or in part with fibrous material and gelatine, the same forming a smooth and elastic coating, firmly united to the wood by means of the gelatine which constitutes a part of said coating, substantially as described, and for the purpose specified.

OSCAR E. WAIT.

Witnesses:
JOSEPH MANNING,
REUBEN BROOKS.