(No Model.)

C. HARDY.

BOBBIN.

No. 385,667. Patented July 3, 1888.

Fig. 1.

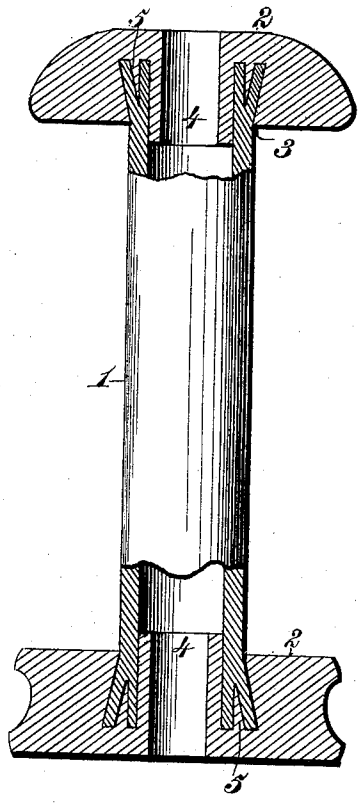


Fig. 3.

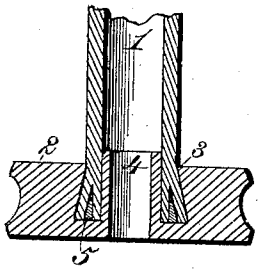


Fig. 2.

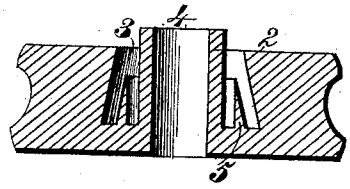
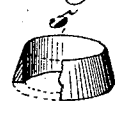


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES HARDY, OF NASHUA, NEW HAMPSHIRE.

BOBBIN.

SPECIFICATION forming part of Letters Patent No. 385,667, dated July 3, 1888.

Application filed January 28, 1888. Serial No. 262,256. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HARDY, a citizen of the United States, residing at Nashua, in the county of Hillsborough and State of New Hampshire, have invented new and useful Improvements in Bobbins, of which the following is a specification.

My invention relates to the manufacture of bobbins, and the purpose thereof is to provide a simple and inexpensive construction, whereby the head and barrel may be united in such manner that exposure to wet, blows, or other extraneous force shall not remove the head or rupture the joint between it and the barrel.

The invention consists in the several novel features of construction and new combinations of parts, hereinafter fully set forth, and then defined in the claims.

In the accompanying drawings, Figure 1 is a view of a bobbin with the ends in section, showing my invention. Fig. 2 is a central transverse section of one of the bobbin-heads with the barrel removed. Fig. 3 is a central longitudinal section of one end of a bobbin, showing a slight modification in construction. Fig. 4 is a perspective view, partly broken away, showing the spreading-ring.

In the said drawings, the reference-numeral 1 designates the barrel of an ordinary bobbin having ends or heads 2. These parts are made separately and afterward united to economize the material.

In the head 2 of the bobbin I form an annular recess or chamber, 3, surrounding the central neck, 4, of a size and diameter to just admit the tubular end of the barrel 1. This chamber increases or expands in diameter outwardly as it extends toward the outer end of the head, forming an inner wall to said chamber, which is parallel with the axis of the bobbin, and an outer wall which forms a small angle therewith, the entire chamber resembling the frustum of a hollow cone, as seen in Fig. 2. In the bottom of said chamber I form an annular wedge, 5, integral with the head 2, and having its inner and outer surfaces substantially parallel with the inner and outer surfaces of the chamber 3, the edge of the wedge being somewhat below the entrance to the said chamber.

In uniting the parts a kerf or split is formed in the end of the barrel, and the parts being covered with glue or cement the end of the barrel is introduced in the chamber 3 and driven to place, the wedge entering the kerf or split and spreading the barrel until it entirely fills the chamber, as seen in Fig. 1.

I may form the wedge 5 separately, as shown in Fig. 3, and introduce it within the chamber 3 before the end of the barrel is driven in. In this form of construction I may make the wedge or spreading annulus of either wood or metal.

This invention provides a simple, cheap, and exceedingly-strong construction, whereby the term of service of the bobbin is materially prolonged.

It will be seen that by my invention the barrel and head are united by cement upon both the internal and external surfaces of the former. Moreover, by splitting the tenon and inserting the annular wedge, the chamber in the head is filled by the tenon only, and not by the tenon and wedge lying against opposite faces of the annular chamber. The mortise also does not extend through the head, and thereby a finished and smooth outer surface is provided on each head, whereby also the wedge is prevented from working out.

The expansion or increased width of the annular chamber may be upon either side of the same or upon both sides equally.

What I claim is—

1. A bobbin consisting of the heads and barrel separately formed, and each of the former provided with an inwardly-expanding annular chamber extending partially through it, and a wedge arranged upon and supported by the base of each chamber and entering the ends of the barrel between its inner and outer surfaces to spread and wedge the said ends in the chambers of the heads, substantially as described.

2. A bobbin having in its head an annular recess expanding outwardly or radially and provided with an annular wedge integral with the head, the converging walls of said wedge being substantially parallel with the walls of the recess, substantially as described.

3. The combination, with a bobbin-head having a recess, 3, concentric with the neck 4, the width of said recess increasing toward the outer end of the head and provided with an annular

integral wedge, 5, of the barrel 1, lying in said recess and receiving the wedge in an annular split, whereby the end is spread to fill the recess, substantially as described.

4. A bobbin having in its heads annular recesses cut from the inner or adjacent faces toward, but not to, the outer faces, and expanding in width as they enter the heads, annular wedges lying in said recesses and having an expansion corresponding with that of the recesses, and a barrel, the ends of which enter said recesses and are spread by said wedges, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES HARDY.

Witnesses:
R. T. SMITH,
C. L. LOVELAND.