March 30, 1926. 1,578,870

E. J. THOMSON

SPOOL OR BOBBIN

Filed Oct. 27, 1924

Fig. 1.

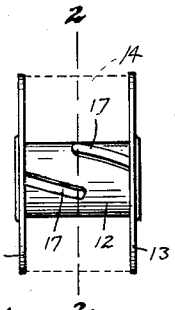


Fig. 2.

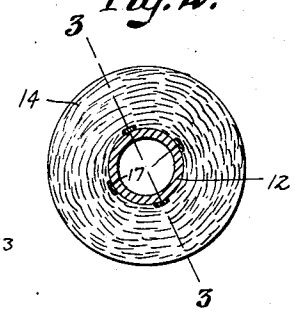


Fig. 4.

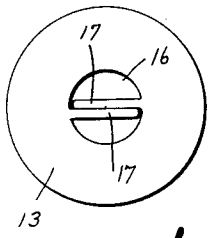


Fig. 5.

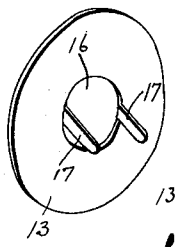


Fig. 6.

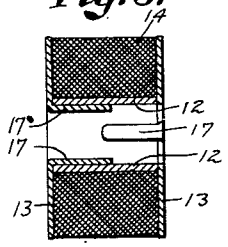
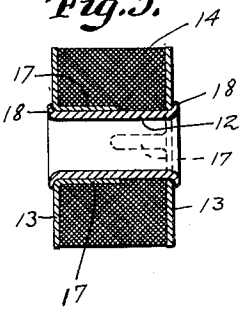


Fig. 3.



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Patented Mar. 30, 1926. 1,578,870

UNITED STATES PATENT OFFICE.

EDWARD J. THOMSON, OF QUINCY, MASSACHUSETTS, ASSIGNOR TO SUMMIT THREAD COMPANY, OF EAST HAMPTON, CONNECTICUT, A CORPORATION OF MAINE.

SPOOL OR BOBBIN.

Application filed October 27, 1924. Serial No. 746,043.

To all whom it may concern:

Be it known that I, EDWARD J. THOMSON, a citizen of the United States, residing at Quincy, in the county of Norfolk and State of Massachusetts, have invented new and useful Improvements in Spools or Bobbins, of which the following is a specification.

This invention relates chiefly to a bobbin, adapted to be rotatively mounted in the bobbin-case element of a sewing-machine shuttle, the complete bobbin including a tubular paper core, annular paper heads secured to opposite ends of the core, said core and heads forming a spool, and a thread mass universally wound on the core between the heads.

The object of the invention is to provide improved means for firmly securing the heads in their operative position on the core, so that they are free from liability of being displaced outward from the ends of the core, by pressure of the ends of the thread mass against their inner sides during the operation of winding the thread.

Of the accompanying drawings forming a part of this specification,—

Figure 1 is a side view of the spool, without the thread mass.

Figure 2 is a section on line 2—2 of Figure 1, showing the thread mass wound on the spool.

Figure 3 is a section on line 3—3 of Figure 2.

Figure 4 is a side view, showing one of the heads partially completed.

Figure 5 is a perspective view, showing the head prepared for application to the core.

Figure 6 is a view similar to Figure 3, showing a modification.

The shuttle bobbin shown by the drawings is enlarged.

The same reference characters indicate the same parts in all of the figures.

In the drawings, 12 designates the paper core, and 13, 13 the annular heads of the spool portion of a sewing-machine bobbin. 14 designates a thread mass universally wound on the core between the heads.

In carrying out my invention, I cut out the central portion of each head to form therein a central orifice 16, and a plurality of tongues 17, integral with the head and including portions of the material originally forming the center of the head, each tongue being joined at one end to the head and elsewhere free. One tongue is joined to the head at one edge of the orifice, and the other at the opposite edge. Each tongue has a length substantially equal to the diameter of the orifice, so that the bearing of each tongue on the core, carried as hereinafter described, is elongated.

I then bend the tongues 17 inwardly from the heads, leaving the orifices 16 unobstructed. I next assemble the core and the heads in such manner that the tongues bear on a surface of the core between the heads.

In the preferred construction shown by Figures 1 to 5, inclusive, the orifices 16 are formed to receive the end portions of the core, and the tongues are caused to bear on the external surface of the core, so that when the thread mass is wound on the core, the tongues are firmly clamped by said mass upon the core. The clamping is effected during the formation of the first or inner layer of the thread mass, so that during the completion of the thread mass, the heads are firmly supported against outward displacement by the pressure of the layers forming the main portion of the thread mass against the inner sides of the heads. The result is a close contact between the ends of the thread mass and the inner sides of the heads, so that there are no crevices liable to receive portions of the thread unwound from the mass.

The orifices 16 are, in this instance, of sufficient size to receive the ends of the core, and said ends may be slightly upset or flanged, as indicated at 18 in Figure 3.

The tongues may be arranged to bear on the inner surface of the core, as shown by Figure 6, in which case they are not clamped against the core by the thread mass, and are caused to adhere to the inner surface of the core by an adhesive.

It is obvious that when the tongues bear on the outer surface of the core, they may be caused to adhere thereto by an adhesive before the formation of the thread mass. Owing to the elongation of the tongues, they have a sufficiently elongated bearing on the core to cause effective retention of the heads in their operative positions on the core.

The tongues may be so formed that they lie obliquely on the core, as shown by Figure 1.

The invention may be embodied in spools

or bobbins of larger size than those usually employed in sewing-machine shuttles, and the spool elements may be made of any suitable material or materials.

I claim:

1. A shuttle bobbin comprising a spool including a tubular core, annular heads having central orifices receiving the ends of the core, and tongues integral with the heads and projecting inwardly therefrom, said tongues bearing on the external surface of the core between the heads; and a thread mass wound on the core between the heads and clamping the tongues against the external surface of the core.

2. A spool element comprising a tubular core on which a thread mass may be wound, and annular heads of greater diameter than the core, centrally cut away to form in each a central circular aperture, and two tongues integral with the head, one tongue being joined to the head at one edge of the aperture, and the other tongue at the opposite edge, the tongues being bent inward from the heads, and secured to a surface of the core, and their length being substantially equal to the diameter of the head apertures, so that each tongue has an elongated bearing on the core.

3. A spool element comprising a tubular core on which a thread mass may be wound, and annular heads of greater diameter than the core, centrally cut away to form in each a central circular aperture, and two tongues integral with the head, one tongue being joined to the head at one edge of the aperture, and the other tongue at the opposite edge, the tongues being bent inward from the heads and seated on the external surface of the core, so that they are pressed by the thread mass against said surface, the length of the tongues, being substantially equal to the diameter of the head apertures, so that each tongue has an elongated bearing on the core.

In testimony whereof I have affixed my signature.

EDWARD J. THOMSON.