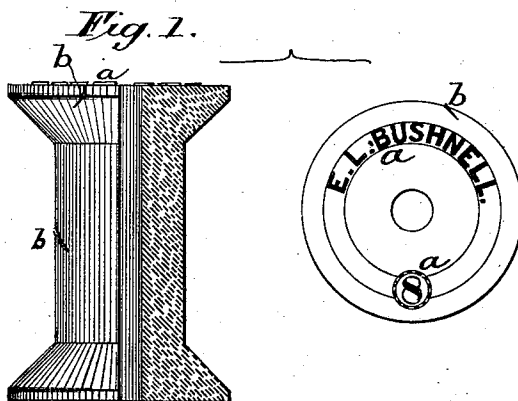
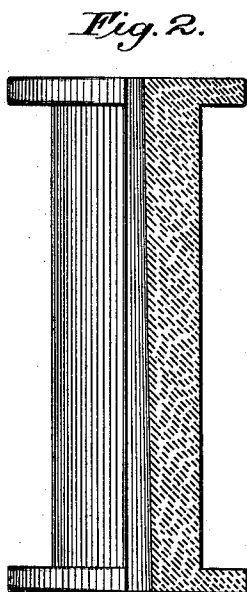


(No Model.)

E. L. BUSHNELL.
Manufacture of Spools and Bobbins from Plastic
Material.

No. 237,809.

Patented Feb. 15, 1881.



Attest.

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UNITED STATES PATENT OFFICE.

EDWIN L. BUSHNELL, OF POUGHKEEPSIE, NEW YORK.

MANUFACTURE OF SPOOLS AND BOBBINS FROM PLASTIC MATERIAL.

SPECIFICATION forming part of Letters Patent No. 237,809, dated February 15, 1881.

Application filed January 17, 1881. (No model.)

To all whom it may concern:

Be it known that I, EDWIN L. BUSHNELL, of Poughkeepsie, in the county of Dutchess and State of New York, have invented certain Improvements in Processes of Manufacturing Spools from Plastic Materials, of which the following is a specification.

My invention relates to spools and bobbins designed to have thread or yarn wound upon them, and the object of the invention is to reduce the cost of manufacture and give them greater durability and better finish; and to this end the improvement consists in pressing the spool or bobbin into shape in a mold or molds from a plastic material, such as paper-pulp, at the same time forming upon the spool or bobbin such characters, marks, projections, and other features as may be required.

Hitherto it has been the custom to manufacture spools and bobbins from wood, generally turning them from the solid, but sometimes making them in parts or sections, which are firmly united by glue or equivalent means. This method of construction necessitated the application of the necessary marks or characters, and of the means for holding the ends of the thread by a special operation, and was needlessly expensive; besides this, the expansion and contraction of the wood frequently give rise to much annoyance because of the consequent tightening and loosening of the thread thereon.

By my method of manufacture I reduce the cost, produce a spool which will neither shrink nor swell, and without additional expense provide the same with the permanent marks or characters required.

In preparing to carry out my process I provide molds or dies adapted to give the required internal and external shapes to the spools or bobbins. These dies will be divided or made in sections to permit the removal of the molded spool, and will have central punches or mandrels to form the central bore or opening therein. Paper-pulp of wood, straw, or other cheap material, or similar plastic material or compound, is then placed in the dies and pressure applied to such extent and for such time as may be necessary to render the spools hard and smooth and give them permanent form. They are then dried and, if desired, dipped in varnish or other material to give them a higher degree of finish.

In the accompanying drawings, Figure 1 represents a spool. Fig. 2 represents a bobbin. In each case the view shows the device partially in elevation and partly in section.

The letters and characters *a* and the notches *b* may be omitted, if desired.

Having thus described my invention, what I claim is—

1. As an improvement in the art of manufacturing spools and bobbins for thread, molding the same of plastic material, as described.

2. As a new article of manufacture, a spool or bobbin composed of a plastic material pressed into form and hardened, as shown and described.

EDWIN L. BUSHNELL.

Witnesses:

ALLISON BUTTS,
A. H. WILKINSON.