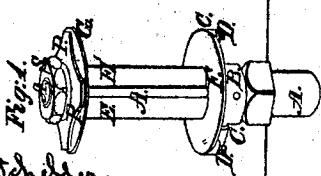
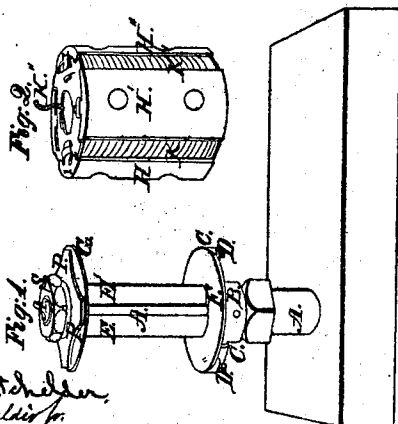
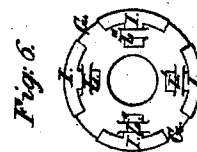
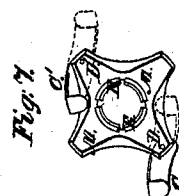
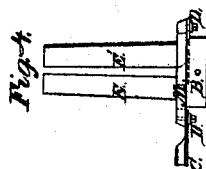
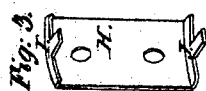
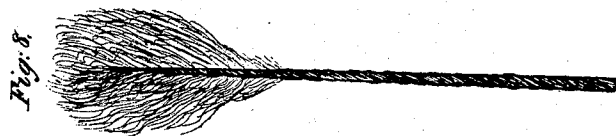
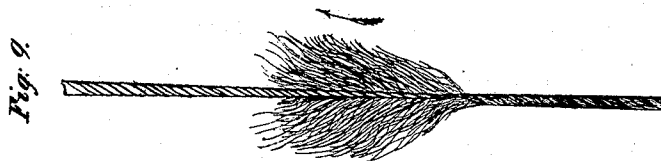


J. A. BAZIN.
BOBBIN FOR TWISTING, SPINNING, AND LAYING MACHINES.
No. 31,945. Patented Apr. 9, 1861.



Witnesses
John M. Schilder,
Samuel R. Schilder.



Inventor
James Amory Bazin

UNITED STATES PATENT OFFICE.

JAMES A. BAZIN, OF CANTON, MASSACHUSETTS.

BOBBIN FOR SPINNING-MACHINES.

Specification of Letters Patent No. 31,945, dated April 9, 1861.

To all whom it may concern:

Be it known that I, JAMES A. BAZIN, of Canton, in the county of Norfolk and State of Massachusetts, have invented an Improvement in Bobbins for Spinning, Twisting, and Laying Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters marked thereon.

Figure I is a perspective view of the bobbin and spindle; Fig. II, perspective view of the coil with its inclosing case; Fig. III, perspective view of the bobbin clamps; Fig. IV, view of the movable core or barrel of the bobbin; Fig. V, view of the washer or brace; Fig. VI, end view of the bobbin; Fig. VII, base of the core of the bobbin; Fig. VIII, shows the manner in which the fibers are drawn in to the twisted yarn; Fig. IX, a yarn that has been pieced in the ordinary manner, and the outer ends of the fibers afterward thrown loose from the center.

My improvement relates to the construction of the bobbin, and has no reference to the flier that carries the yarn or to any other part of the spinning, twisting or laying machine.

In the process of spinning nearly all of the fibers are caught by one end in the twist of the yarn, while the other end is often merely wound around upon the outside. Thus, as the twist moves on, the fibers are all smoothed down in one direction, and the yarn thus formed becomes nearly cylindrical and so remains as long as the friction upon the yarn is in the same spiral direction.

After the yarn has been spun, it is very important, in each operation to which it may subsequently be subjected in any further process of manufacture, that the same degree of smoothness and strength it originally possessed should be preserved. To effect this it is necessary that friction should not be applied to it in a direction opposite to that with which it was originally spun, and in which the fibers were laid. But in the usual manner of making bobbins and removing the yarn from them, the direction of the friction is reversed at each subsequent operation to which the yarn is subjected, thus making it rough and shaggy—diminishing its strength, and rendering it liable to be drawn apart where it has been pierced in the ordinary manner.

To hold the coils, when wound, in such

a manner that they may be safely removed, from the spindle on which they were originally wound, to the creels, or other parts of the machinery where they are to be used, so that they can be unwound from the inside without disturbing the fiber; is the object of my present invention, which consists mainly in so constructing the bobbin that the central core or axis can be removed when the bobbin is filled, and suitable casings or clamps applied to the periphery of the bobbin heads, by means of which casings, clamps or binders the coil of yarn, thread or strand is retained in the same form as when wound upon the bobbin, and can be drawn off from the center of the coil instead of being taken from the outside in the manner heretofore known and practiced.

The perspective view, Fig. I, represents the bobbin in its position upon the spindle ready for the yarn to be wound upon it. When in this condition, the clamps H, Fig. III, are not attached to the heads, F and G, of the bobbin.

The spring core, Fig. IV, consists of a ring or short tube B secured to the under side of plate M which is nearly in the form of a Greek cross, as shown in Fig. VII. From the upper side of this plate rises the spring core consisting of four slips of metal E E', in length equal to the distance between the heads of the bobbin. These slips, combined, are nearly in a circular form, slightly tapered from the base to the top, so that when placed upon the spindle or axis A they form springs and remain in close contact with the spindle. Upon the under side of the plate M two catches or clasps C C' are attached and turn upon the pivots D D', the free ends being in the form of a hook or clasp which enters the staple or loop L L' upon the under side of the lower head of the bobbin.

To set up the bobbin ready for winding, the central core B E is first slipped upon the fixed spindle A, the lower head F of the bobbin is then dropped upon the core and held fast by the clasps C C'. The upper head G is next put on, then the washer or bearing plate P, and upon this the nut S which is screwed home upon the plate P, and the bobbin is ready to receive the yarn.

When the bobbin is full the clasps C C' are thrown back and the clamps H are attached to the heads by means of the prongs I and J which enter the loops L in the heads of the bobbin, thus inclosing the coil of yarn K K'

which is then removed from the spindle and is in the form shown in Fig. II. When the coil, thus inclosed, is to be unwound, the yarn, thread or strand is drawn from the inside through the opening in that head of the bobbin which was at the bottom during the process of winding, and when thus drawn out, will be in the same condition that it was in previous to being wound—neither gaining nor losing in the twist. And as it issues from the coil, the motion of the yarn will be in such a direction that the fibers will be smoothed down instead of being raised from the surface of the yarn, thus producing a smooth and uniform article instead of the rough and shaggy surface that is given by the reversed motion of the fibers and yarn in the methods heretofore known and practiced.

The structure of yarn is shown in Figs. VIII and IX and it will be readily perceived that when the end is pieced up as in Fig. IX, all friction should be in the direction of the arrow and not in opposition to the lay of the fibers. By my plan of drawing the yarn from the center of the coil this object is fully accomplished.

As it is sometimes necessary, for some of the purposes of sounding, to have a greater length of line than can conveniently be wound in one coil, the difficulty can be obviated by the use of my improved bobbin, by winding a sufficient number of coils in succession so that the last turn or fake of one coil shall be connected with the first turn of the next, until a sufficient length of line is wound. By saturating these coils with tallow, or any other slightly adhesive substance, while they are confined in their casings, these

casings can be removed and the whole inclosed in a single tube or casing from which the line can be drawn off in the same manner as from a single coil.

In unwinding the coils it will be found advantageous to have a small round pin standing up in the center, as the tendency of a very hard twisted yarn or line to kink might otherwise cause some of the fakes of the coil to turn over and thus obstruct the passage of the line.

It is obvious that such modifications in the form or proportions of the different parts of my improvement as may be found expedient to adapt it to the various purposes for which bobbins or spools are required, may be made without departing from the principles of my invention; but

What I claim and desire to secure by Letters Patent is—

1. The improved bobbin, constructed substantially in the manner and for the purposes herein described.

2. The method of holding the coils of yarn or strands, so that they can be safely removed from the spindles on which they are wound, and applied to the creel or other part of the machine in which they are to be used, by means of connecting the movable heads of the bobbin with clamps or their equivalents, substantially as and for the purposes above described.

3. Combining the movable heads with the core, or its equivalent, in the manner and for the purposes described.

JAMES AMIVAUX BAZIN. [L. s.]

In presence of—

JOHN M. BATCHELDER,
SAML. BATCHELDER, Jr.