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A. J. L. MORITZ

1,884,805

SPOOL HOLDER

Filed Sept. 23, 1931

Fig. 1.

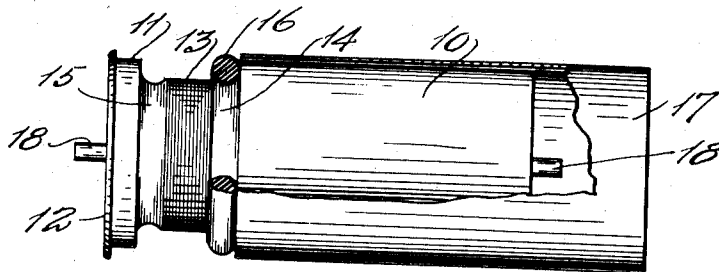


Fig. 2.

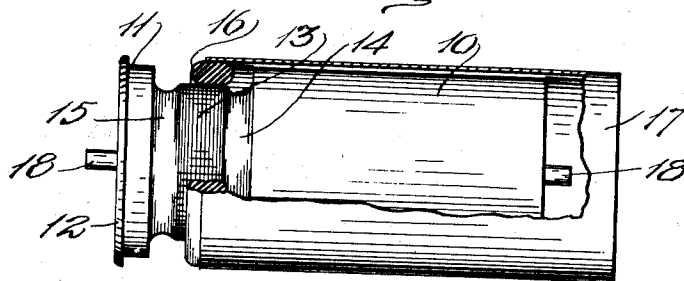
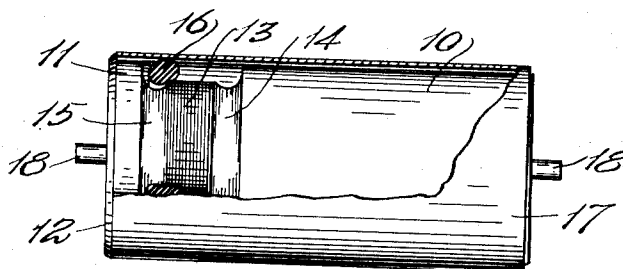


Fig. 3.



Inventor

A. J. L. Moritz
By *Forster & Codier*

Attorney

UNITED STATES PATENT OFFICE

ADRIAN J. L. MORITZ, OF ENKA, NORTH CAROLINA, ASSIGNOR TO AMERICAN ENKA CORPORATION, OF ENKA, NORTH CAROLINA, A CORPORATION OF DELAWARE

SPOOL HOLDER

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This invention relates to textile machinery and has special reference to spool holders for throwing machines.

More particularly the invention relates to removable cores for the spools or bobbins onto which the yarn is wound in such a machine.

The spools or bobbins used in throwing machines are usually in the form of very thin and light cylinders. These spools are driven by a roll rotating at a constant speed and engaging the outer surface of the material wound on the spool so that the yarn is wound on the spool at a constant lineal speed. The driving contact is thus a frictional contact between the driving roll and the outer surface of the yarn on the spool. It is therefore necessary that such spools, which are themselves of light weight, should be urged toward the driving roll with more force than can be derived from the weight of the spool and yarn thereon, especially at the beginning of a winding operation when there is but little yarn on the spool. In order to provide this force it is desirable to weight the spools and arrange for their resting on the driving roll so that the force of gravity may be utilized to produce the proper desired frictional driving contact. A convenient way to accomplish this weighting is to provide a core onto which such spools may be removably fitted. It is also convenient to provide this core with trunnions or gudgeons so that it may be properly held in place in the throwing machine.

The principal object of the present invention is to provide a novel and improved construction of core for the spools or bobbins used in such throwing machines, and wherein novel provision is made for frictionally holding the spools on the core, this provision acting to urge the spool into its fully seated position on the core, the core being equipped with suitable journals or gudgeons.

With the above and other objects in view the invention consists in general of certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawing and specifically claimed.

In the accompanying drawing, like char-

acters of reference indicate like parts in the several views, and:—

Figure 1 is a side elevation, partly broken away and showing the improved core with a spool pushed partly thereon and about to be engaged with the friction producing means.

Figure 2 is a view similar to Figure 1 but showing a further step in the operation of seating the spool on the core.

Figure 3 is a similar view but showing the spool fully seated on the core.

In the construction of the improved core the core is formed of hard wood or other suitable material and the core body 10 is of cylindrical form and is connected by a peculiar neck to a head having a short cylindrical portion 11 of the same diameter as the body 10. A flange 12 projects peripherally of the head at the end remote from the body. The neck consists of a central cylindrical portion 13 of considerably less diameter than the body and of grooved portions at each side of the central portion 13, a grooved portion 14 connecting the central portion with the body 10 and the second grooved portion 15 connecting the central portion with the head 11. The central portion may be provided with a roughened surface preferably formed by circumferential scratches as shown in the drawing. Mounted on this neck portion is a highly elastic ring 16 of rubber or other similar material. This ring is of normal circular cross section and is of such dimensions that its cross sectional diameter is greater than the width of each of the grooved portions 14 and 15. Moreover the cross sectional diameter of the ring is such that it projects beyond the periphery of the body 10. At 17 is the spool which is here shown as in the form of a thin cylinder, the body 10 being of such size that the spool 17 has a free sliding fit on said body. Gudgeons or journals 18 project axially from the ends of the core.

With the core and spool separated the elastic ring 16 lies in the groove 14. To seat the spool on the core the spool is pushed on, as in Figure 1, until it engages the ring 16, whereupon further movement of the spool toward the head will roll the ring out of the groove 14 and onto the portion 13, thereby flattening

the ring as in Figure 2. Continued movement of the spool in this way finally brings the end of the spool into contact with the flange 12 as in Figure 3. The portion 13 is made slightly wider than the head 11, so that, with the spool fully seated, the ring does not seat in the bottom of the groove 15 but rests on the edge between this groove and the portion 13 as shown in Figure 3. In this position the ring tends to roll into the groove but this tendency is resisted by the engagement of the spool with the flange 12. The ring 16 therefore urges the spool firmly into its fully seated position. Obviously, the spool may be removed from the core by simply drawing it off, whereupon the ring will roll back into the groove 14 ready for the seating of a further spool.

There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

It is obvious that changes may be made in the form and construction of the device without departing from the material character thereof. It is accordingly to be understood that the invention is not confined to the exact form herein shown and described but is to include all forms coming within the scope claimed.

What is claimed is:

1. A core or holder for spools including a cylindrical body, a cylindrical head, a neck connecting said body and head and having a cylindrical central portion of less diameter than the central portion and grooved portions at each side of the central portion connecting the latter with the body and head respectively, and an elastic ring normally seated in the groove adjacent the body and projecting peripherally beyond the body.

2. A core or holder for spools including a cylindrical body, a cylindrical head, a neck connecting said body and head and having a cylindrical central portion of less diameter than the central portion and grooved portions at each side of the central portion connecting the latter with the body and head respectively, and an elastic ring normally seated in the groove adjacent the body and projecting peripherally beyond the body, said ring being circular in cross section and having a cross sectional diameter greater than the width of said grooves.

3. A core or holder for spools including a cylindrical body, a cylindrical head, a neck connecting said body and head and having a cylindrical central portion of less diameter than the central portion and grooved portions at each side of the central portion connecting the latter with the body and head respectively, and an elastic ring normally seated in the groove adjacent the body and projecting peripherally beyond the body, said head having a peripheral flange at the end remote from the body and the width of the head being

slightly less than the width of said central portion.

4. A core or holder for spools including a cylindrical body, a cylindrical head, a neck connecting said body and head and having a cylindrical central portion of less diameter than the central portion and grooved portions at each side of the central portion connecting the latter with the body and head respectively, and an elastic ring normally seated in the groove adjacent the body and projecting peripherally beyond the body, said ring being circular in cross section and having a cross sectional diameter greater than the width of said grooves, said head having a peripheral flange at the end remote from the body and the width of the head being slightly less than the width of said central portion.

5. A core or holder for spools including a cylindrical body, a cylindrical head, a neck connecting said body and head and having a cylindrical central portion of less diameter than the central portion and grooved portions at each side of the central portion connecting the latter with the body and head respectively, and an elastic ring normally seated in the groove adjacent the body and projecting peripherally beyond the body, said head having a peripheral flange at the end remote from the body and the width of the head being slightly less than the width of said central portion, said central portion having its surface roughened to cause rolling movement of said ring.

6. A core or holder for spools including a cylindrical body, a cylindrical head, a neck connecting said body and head and having a cylindrical central portion of less diameter than the central portion and grooved portions at each side of the central portion connecting the latter with the body and head respectively, and an elastic ring normally seated in the groove adjacent the body and projecting peripherally beyond the body, said ring being circular in cross section and having a cross sectional diameter greater than the width of said grooves, said head having a peripheral flange at the end remote from the body and the width of the head being slightly less than the width of said central portion, said central portion having its surface roughened to cause rolling movement of said ring.

In testimony whereof I affix my signature.

ADRIAN J. L. MORITZ.