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W. J. ELVIN ET AL
YARN PACKAGE SUPPORT

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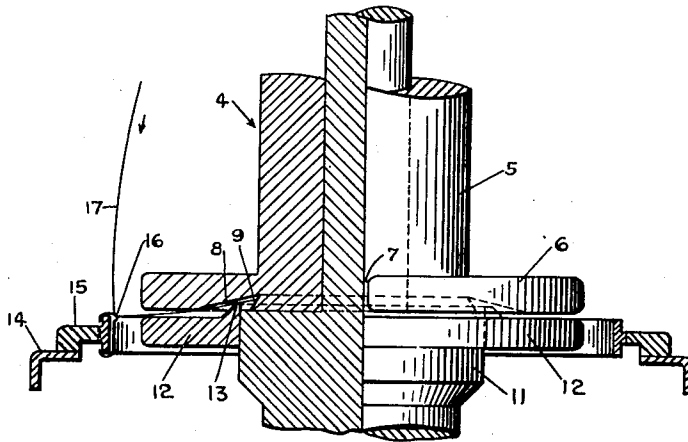


Fig. 1

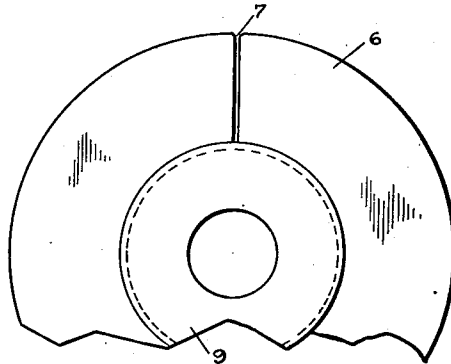


Fig. 2

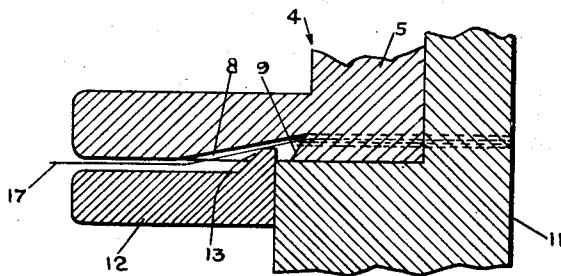


Fig. 3

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YARN PACKAGE SUPPORT

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3 Claims. (Cl. 242—130)

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This invention relates to yarn package supports, and relates more particularly to yarn package supports, such as a bobbin, adapted to receive a magazine wrap or transfer tail.

Yarn package supports of the type with which the present invention is concerned are usually provided with a slot or groove in the base flange in which the transfer tail is wound automatically or semi-automatically. The transfer tail which is the inner end and supplementary length of the first yarn wound on the yarn package support is usually applied when the twisting and winding machine reaches full speed so that the yarn contains full twist. A time factor of twenty seconds after starting the machine is normally satisfactory. The transfer tail must be positively and safely secured during the filling of the yarn package, yet freely available for tying directly to the outer end of the yarn on another package for the purpose of effecting smoothly a transfer from a depleted package to an adjacent full yarn package without stoppage or interruption in the delivery of the yarn drawn from a creel or other yarn package holder on which two or more yarn packages are supported.

Heretofore, bobbins or other yarn packages having a comparatively wide radial slot or slots in the lower flange have been employed. With such yarn packages, the yarn was let into a slot and a short extension, which was provided below the flange, received the transfer tail. Other yarn packages had a lower flange in which was formed a peripheral groove in which was run in the transfer tail. In both of these types of yarn package supports the yarn representing the transfer tail was exposed to atmospheric conditions. The time of this exposure varies from a few hours, as when bobbins are filled at high feed rates at the metier, to as many as fifty hours or more where similar bobbins are filled at relatively slow speeds on down-twisters. This exposure to atmospheric conditions resulted in soilage of the yarn forming the transfer tail. This soilage is sufficient to degrade fabric woven therefrom for white or pastel shades, the soilage remaining visible even after normal scouring.

It is accordingly an important object of this invention to provide a novel arrangement for winding yarn on a yarn package support adapted to receive a transfer tail without soilage of the yarn forming the transfer tail.

Another object of this invention is the provision of a novel yarn package support adapted to receive a transfer tail.

Other objects of this invention, together with

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certain details of construction and combinations of parts, will appear from the following detailed description and drawing.

In the accompanying drawing wherein a preferred embodiment of our invention is shown,

Figure 1 is a fragmentary front elevational view, partly in section, showing the yarn package support on the spindle of a winding device,

Figure 2 is a fragmentary bottom view of the yarn package support of this invention, and

Figure 3 is a fragmentary cross-sectional view, on an enlarged scale, of the yarn package support, showing more clearly how the yarn forming the transfer tail is placed on the yarn package support.

Like reference numerals indicate like parts throughout the several views of the drawing.

Referring now to the drawing, the yarn package support, generally indicated by reference numeral 4, comprises a barrel 5 having a base flange 6 provided with a radial slot 7. The bottom of the flange is recessed, as shown at 8, to form a tapered hub 9, the bottom of which is in the same plane as the plane of the bottom surface of the flange.

Onto the top of whorl on spindle 11 is attached in any suitable manner as by a light force fit a ring 12 of fiber or other material. The ring 12 is provided with an integral annular projection 13 which extends into the recess 8 of the flange 6. This projection prevents excessive flow of air around the slot 7 and the hub 9 on which the transfer tail is adapted to be wound.

The transfer tail is placed on the hub 9 by suitable mechanism wherein the rails 14 carrying the ring 15 and traveler 16 being caused by manual, semi-automatic or automatic means, for example, by means shown in Patent No. 2,261,239 to Elvin et al., to go downward beyond the bottom flange on one of the first few traverse strokes. This causes the yarn 17 being packaged to enter slot 7, wind around hub 9 and then leave the slot. The portion of yarn wound on the hub becomes the transfer tail. In Figure 1, the ring rail is shown in the position required for winding the transfer tail. Once the transfer tail is wound, the rail does not again come below the end of the normal traverse stroke filling the yarn package.

It is to be understood that the foregoing detailed description is given merely by way of illustration and that many variations may be made therein without departing from the spirit of our invention.

Having described our invention, what we desire to secure by Letters Patent is:

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1. In combination with a spindle of yarn twisting and winding machine, a ring mounted on top of a whorl on said spindle, a projection on said ring, a yarn package support comprising a barrel having a base flange thereon, a hub concentric with and of smaller diameter than said flange and a recess in said flange surrounding said hub, the construction and arrangement being such that the projection on said ring extends into said recess.

2. In combination with a spindle of yarn twisting and winding machine, a ring mounted on said spindle, an annular projection on said ring, a yarn package support comprising a barrel having a base flange thereon, a hub concentric with and of smaller diameter than said flange and a recess in said flange surrounding said hub, the construction and arrangement being such that the annular projection on said ring extends into said recess.

3. In combination with a spindle of a yarn twisting and winding machine, a ring mounted on said spindle, an annular projection on said ring,

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a yarn package support comprising a barrel having a base flange thereon, a tapered hub concentric with and of smaller diameter than said flange and a recess in said flange surrounding said tapered hub, the construction and arrangement being such that the annular projection on said ring extends into said recess.

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