

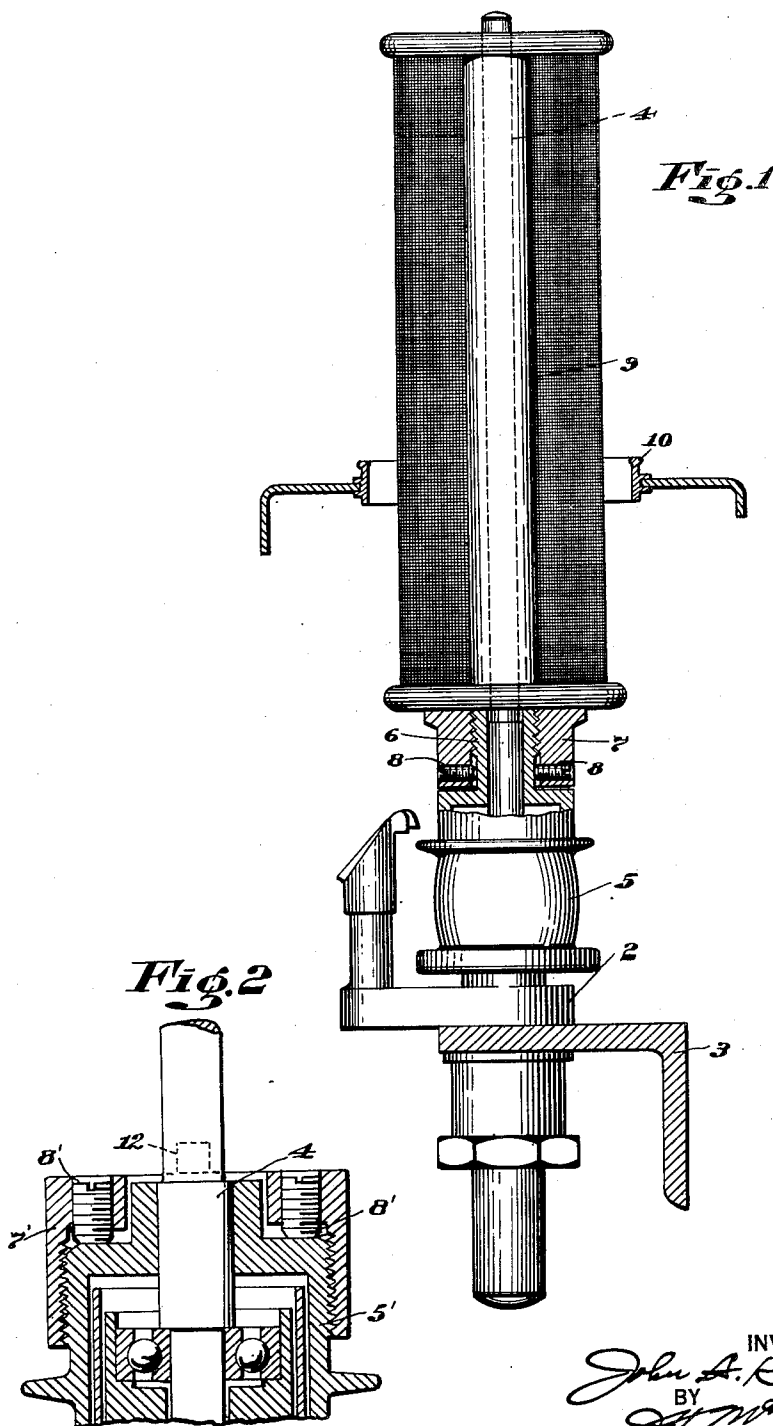
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SPINDLE STRUCTURE FOR SPINNING AND TWISTER FRAMES

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SPINDLE STRUCTURE FOR SPINNING AND
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In setting up a spinning or twister frame, and in making the adjustments required in changing from one kind of work to another, it is desirable to produce and to maintain a very definite vertical relationship between the spinning rings and the respective spindles with which they cooperate. This is particularly true when the yarn is wound on a spool or any other type of support for the yarn body in which the limits of traverse of the ring rail should bear a very definite and exact relationship to the spool heads or similar parts of some other support.

The general position of the yarn body on its support can be predetermined and changed by making suitable adjustments in the builder motion or in its connections with the ring rail, but this often is not sufficient to produce the desired results. The present invention aims to devise a convenient and satisfactory means for accomplishing this object.

The nature of the invention will be readily understood from the following description when read in connection with the accompanying drawing, and the novel features will be particularly pointed out in the appended claims.

In the drawing,

Figure 1 is a side elevation, partly in vertical section, of a spindle structure constructed in accordance with this invention; and

Fig. 2 is a vertical, fragmentary view of a modification.

Referring first to Fig. 1, the construction there shown comprises a spindle base 2 mounted in the usual manner on a box rail 3. A spindle blade 4 is mounted in said base for rapid rotation around its own axis, and it carries a whirl 5 by means of which the spindle may be driven in the customary manner. Usually the whirl has a pressed or forced fit with the spindle blade.

According to the present invention the whirl, instead of being provided with the usual acorn, has a screw-threaded tubular extension or nipple 6 projecting upwardly from the main body thereof, and a support 7 for the yarn package is internally screw-threaded on to the nipple 6. Consequently, by rotating this support relatively to the whirl, it can be adjusted vertically, and with a high degree of accuracy, into the desired position to support the bobbin. When so adjusted it may be secured in a fixed relationship to the whirl by turning up one or more set screws 8—8 which are threaded through the support, their inner ends bearing against a non-threaded cylindrical portion of the nipple which connects the threaded area with the main body of the whirl.

With such an arrangement it is a very simple matter to adjust the support 7 so that it will position the spool 9 in the desired relationship to the spinning ring 10 with which it cooperates. Such adjustment may be changed readily to suit the requirements of yarn of different characteristics.

The construction shown in Fig. 2 is much like that illustrated in Fig. 1. It differs from it, however, in that the body of the whirl is externally screw-threaded, and the spool support 7' is made in the form of a shouldered sleeve, its larger section being internally threaded to cooperate with the screw-threaded portion of the whirl. The latter member, above its screw-threaded area, is reduced in diameter, thus providing an annular horizontally disposed shoulder, and the locking screws 8'—8' are threaded vertically through the thicker portion of the support 7' where they bear on said shoulder. In either case the support 7 or 7' may be provided with the usual key 12 projecting upwardly from the seat on which the spool 9 rests so as to engage the latter and drive it positively.

The construction illustrated in Fig. 2 is usually preferred for the reason that the locking screws exert their thrust in a direction parallel to the axis of the threaded areas and close to the threads. Consequently, there is no material danger of springing the spindle or cramping the whirl.

While I have herein shown and described preferred embodiments of my invention, it will be understood that the invention is susceptible of embodiment in other forms without departing from the spirit or scope thereof.

Having thus described my invention, what I desire to claim as new is:

1. A spindle structure of the character described, comprising the combination with a spindle blade, a base in which said blade is mounted for rotation around its own axis and a whirl secured on said blade to revolve therewith, of a spool support mounted on said whirl for vertical adjustment.

2. A spindle structure of the character described, comprising the combination with a spindle blade, a base in which said blade is mounted for rotation around its own axis and a whirl secured on said blade to revolve therewith, of a spool support mounted on said whirl for adjustment around the axis of said spindle into different vertical positions.

3. A spindle structure of the character described, comprising the combination with a spin-

dle blade, a base in which said blade is mounted for rotation around its own axis and a whirl secured on said blade to revolve therewith, of a spool support mounted on said whirl for vertical screw-threaded adjustment relatively thereto.

4. A spindle structure of the character described, comprising the combination with a spindle blade, a base in which said blade is mounted for rotation around its own axis and a whirl secured on said blade to revolve therewith, said whirl having a nipple projecting from its upper end, a spool support adjustable vertically on said nipple, and means for securing said support in various positions of adjustment relatively to the whirl.

5. A spindle structure of the character described, comprising the combination with a spindle blade, a base in which said blade is mounted for rotation around its own axis and a whirl secured on said blade to revolve therewith, said whirl having an externally screw-threaded nipple projecting from the upper end thereof, a spool support threaded on said nipple, and means cooperating with said support to lock it in various positions of adjustment on the whirl.

6. A spindle structure of the character de-

scribed, comprising the combination with a spindle blade, a base in which said blade is mounted for rotation around its own axis and a whirl secured on said blade to revolve therewith, said whirl being externally screw-threaded, a spool support having an internally threaded portion to engage the screw-threaded portion of said whirl, and means for locking said support in its adjusted position on said whirl.

7. A spindle structure of the character described, comprising the combination with an upright spindle blade, a base in which said blade is mounted for rotation around its own axis and a whirl secured on said blade to revolve therewith, said whirl having an externally screw-threaded body portion and being provided with a reduced portion above the screw-threaded area and spaced therefrom by an annular shoulder positioned at approximately right angles to said screw-threaded part, a spool support in the form of a shouldered sleeve threaded on said screw-threaded body of the whirl, and one or more locking screws threaded vertically through said support and bearing on said shoulder to lock the support in its adjusted position on the whirl.

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