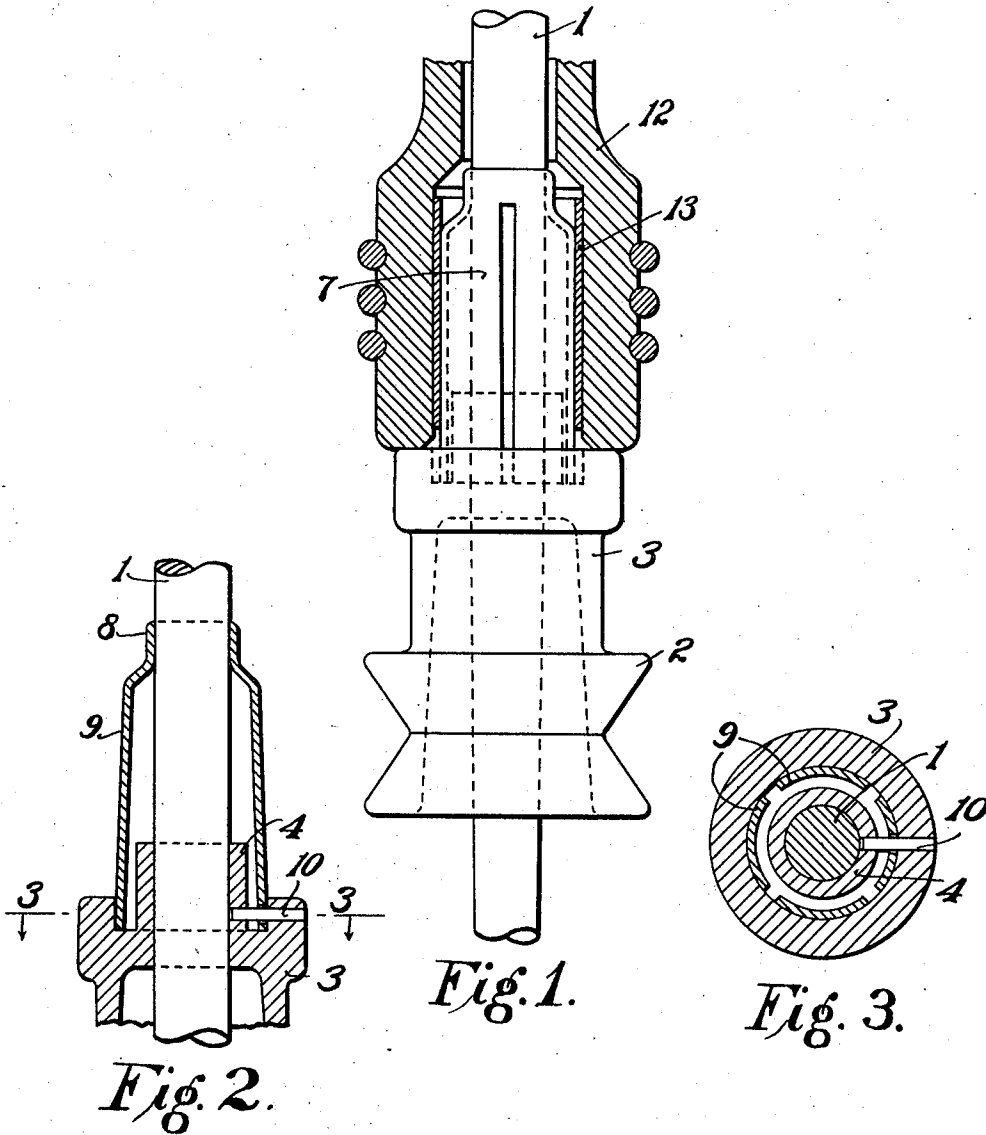


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 SPINDLE FOR SPINNING, TWISTING, AND LIKE MACHINES.
 APPLICATION FILED MAY 31, 1912.

1,058,780.

Patented Apr. 15, 1913.



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UNITED STATES PATENT OFFICE.

ALBERT H. MORTON, OF LOWELL, MASSACHUSETTS.

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Specification of Letters Patent.

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Application filed May 31, 1912. Serial No. 700,717.

To all whom it may concern:

Be it known that I, ALBERT H. MORTON, a citizen of the United States, residing at Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Spindles for Spinning, Twisting, and the Like Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to spindles for spinning, twisting and the like machines, and more particularly to the bobbin clutching means which are employed in connection with such spindles.

The object of the present invention is to reorganize and improve the bobbin clutching means used for clutching bobbins in driving engagement with the spindles of spinning, twisting and the like machines.

To this end, the present invention consists in the improvement in bobbin and spindle connecting means hereinafter described and particularly defined by the claim.

In the accompanying drawings illustrating the preferred form of the invention:—Figure 1 is an elevation of a spindle embodying the invention in its preferred form and showing in section a bobbin applied thereto; Fig. 2 is a detail illustrating a sectional elevation of a portion of the spindle; and Fig. 3 is a section taken upon the line 3—3 of Fig. 2, looking in the direction of the arrows.

In the illustrated embodiment of the invention, the spindle blade 1, its whirl 2 and the whirl base 3 are, except as hereinafter pointed out, of any usual or preferred construction. The collar or blade gripping portion 4 of the whirl base 3 embraces the spindle blade with a driving fit and rigidly secures the whirl to the blade. The upper face of the whirl base constitutes a bobbin rest for supporting and vertically positioning the bobbin on the spindle. The blade gripping portion 4 of the whirl base is extended above the bobbin rest and is adapted to be received in the opening in the lower end of the bobbin.

In accordance with the present invention, the bobbin is tightly clutched to the spin-

dle by a clutch member 7, which consists of a collar 8 loosely embracing the spindle blade 1 and having a plurality of depending arms 9 formed integral therewith. The arms 9 are bowed outwardly adjacent the collar and then project lengthwise of the spindle to present a substantially cylindrical surface to the interior of the bobbin. The free ends of the arms 9 are loosely received in a bobbin supporting annular recess formed in the bobbin rest and a pin 10 secured in the bobbin rest and passing through a slot formed in one of the arms 9 serves to lock the clutch member to the spindle and to prevent the removal or displacement of the clutch member. With this construction and arrangement the clutch has provision for both a vertical and a lateral movement. The clutch member is formed of a resilient material to cause it to expand and grip the interior of the bobbin, and the several arms 9 are each provided with a broad engaging face, (see Fig. 3) to cause them to frictionally grip the interior of the bobbin with a driving engagement. The bobbin 12 is of the usual form having an enlarged bore at its lower end provided with a bushing 13. The diameter of the bore is slightly less than the diameter of the surface formed by the clutch members, thus causing the arms to be contracted when the bobbin is applied to the spindle and clutching the bobbin firmly to the spindle.

The present invention is not limited to the illustrated embodiment thereof, as it may be embodied in other forms within the scope of the following claim:

A spindle for spinning and the like machines, having, in combination, a spindle blade, a clutch member consisting of a plurality of resilient arms extending lengthwise of the spindle and integrally connected at their upper ends to a collar loosely embracing the spindle blade, said clutch member being supported at its lower end, and means to lock the clutch member against rotation and longitudinal movement relative to the spindle, substantially as described.

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Witnesses:

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