SPindle for spinning and twisting machines

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This invention relates to improvements in spindles for spinning and twisting machines.

Spindles for spinning or twisting machines are known comprising a hollow support shaft into the interior of which the bobbin or the spindle proper is introduced. The end of the spindle is supported at its lower end on the edge of the support shaft and is guided by a pin which is introduced into the interior of said shaft.

In order to prevent the spindle from leaving the support when the bobbin is removed, a bobbin rail is provided which holds the spindle in position without depriving it of its normal function.

Spindles of the foregoing kind suffer from the disadvantage that there is a considerable amount of friction between the parts which must accordingly be lubricated periodically to reduce wear and to ensure good operation.

An object of the present invention is to provide a spindle of the foregoing kind in which wear due to friction of the parts is substantially reduced.

A further object of the invention is to obviate the necessity for provision of the bobbin rail and thus to remove another point at which wear occurs.

The invention has for a further object the provision of continuous lubrication of the spindle parts and thus to ensure smooth running of the device.

With the foregoing and other objects in view the present invention consists in a spindle for spinning and twisting machines of the kind comprising a spindle proper, including a bobbin receiving portion and an integral spindle mounting portion constituted by a rod, and a hollow support shaft, adapted to be mounted in said machine, in the interior of which said rod is rotatably mounted, characterized by a tube screwed into said support shaft, said spindle mounting rod being housed in said tube, a footstep bearing point on the bottom end of said rod, and a bearing rockably mounted in said tube for receiving said point and supporting said rod.

In order that the invention may be more readily understood, reference is made to the accompanying drawings, which illustrate diagrammatically and by way of example two embodiments of spindle in accordance therewith, and in which:

Fig. 1 is a longitudinal section of the spindle;

Fig. 2 is a similar view of the upper portion of the device showing the unlocking of the spindle from the support tube; and

Fig. 3 is a view partly in section of the lower part of another embodiment having a reservoir for lubricant.

The embodiment shown in Fig. 3 is a similar to the above-described embodiment but with an interchangeable oil reservoir 14 secured to the lower end of the support shaft or spindle carrier 1.

The bobbin receiving portion and an integral spindle mounting portion constituted by a rod, and a hollow support shaft, adapted to be mounted in said machine, in the interior of which said rod is rotatably mounted, characterized by a tube screwed into said support shaft, said spindle mounting rod being housed in said tube, a footstep bearing point on the bottom end of said rod, and a bearing rockably mounted in said tube for receiving said point and supporting said rod.

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References Cited in the file of this patent

UNITED STATES PATENTS

1,869,632  Sweet ----------------- Aug. 2, 1932
1,947,972  Davis ----------------- Feb. 20, 1934