United States Patent

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[54] **TWISTING AND FORMING DEVICE FOR TEXTILE SPINNING AND TWISTING MACHINES**
3 Claims, 2 Drawing Figs.

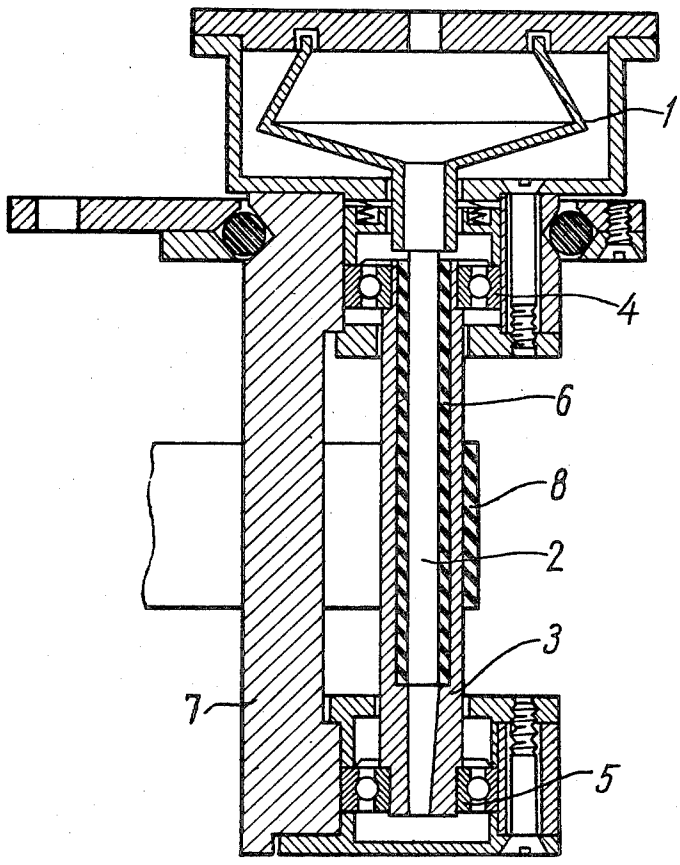
[52] **U.S. Cl.** **57/58.89,** 64/27
[51] **Int. Cl.** **D01h 1/08**
[50] **Field of Search** 57/58.89, 58.93, 92, 100, 129, 130, 132, 135; 64/11, 27

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ABSTRACT: In a textile spinning and twisting machine the spindle supporting the chamber is mounted in a driven hollow shaft. A resilient tubular member is utilized to interconnect the spindle and the hollow shaft to obviate a transfer of harmful vibrations from the spindle to the hollow shaft.



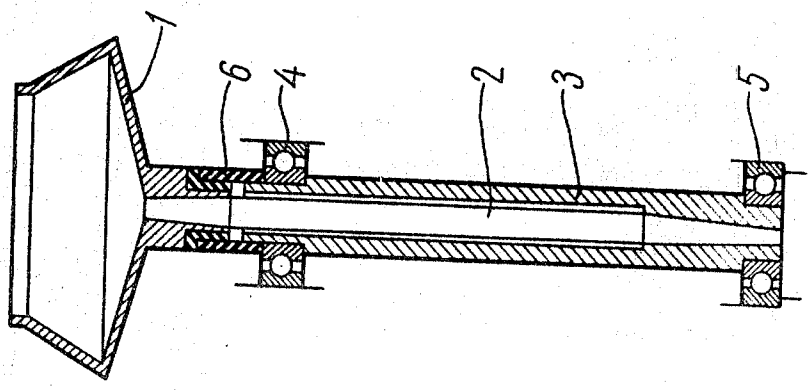


FIG. 2

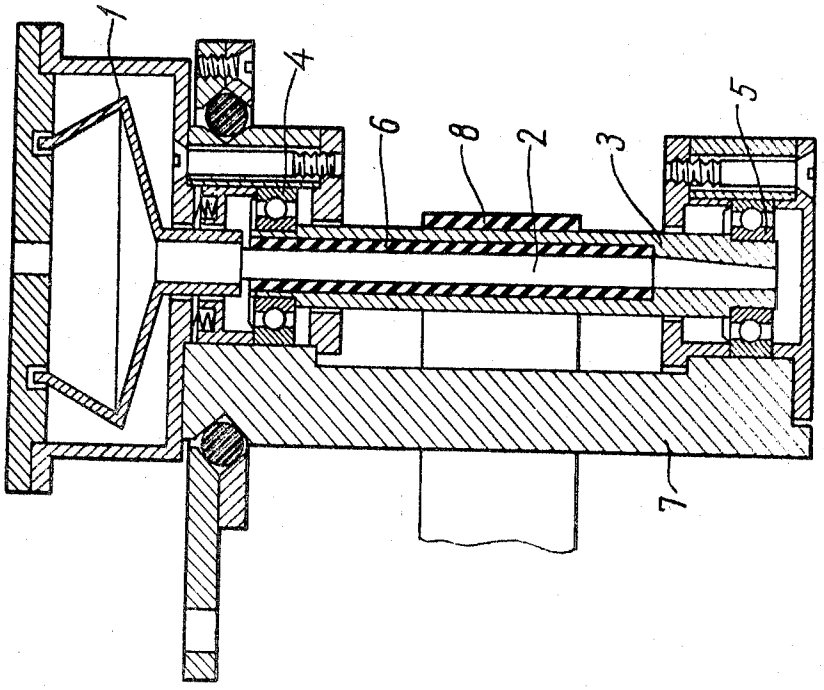


FIG. 1

TWISTING AND FORMING DEVICE FOR TEXTILE SPINNING AND TWISTING MACHINES

This invention relates to textile machines, and more particularly to twisting and forming devices for spinning and twisting machines.

Known in the prior art are devices for spinning and twisting machines comprising a twisting device made in the form of an electrical spin mounted on a spindle installed in the hollow shaft rotating in supports.

Disadvantages of this device are that great self-oscillations and extraneous shocks arise in the process of operation which impair the durability of the supports bearing the hollow shaft. This in turn deteriorates the quality of produced yarn.

The object of the present invention is to provide a twisting and forming device for textile machines which would ensure the required service life of the supports and good quality of the yarn.

Said object has been attained by the provision of a novel twisting and forming device for textile machines comprising a spindle mounted in a hollow shaft by means of a resilient member connecting the spindle with the hollow shaft at least in the upper portion of said hollow shaft.

It is expedient that the resilient member be positioned between the spindle and the hollow shaft, and should preferably be arranged along the entire length of the shaft.

The resilient member may be in the form of a tube interposed between the spindle and the hollow shaft.

The resilient tube may be also put on the hollow shaft to connect one end of the shaft with the spindle.

For a better understanding of the invention it will be further illustrated by a description of an exemplary embodiment with reference to the appended drawings in which:

FIG. 1 shows the general view of the twisting and forming device according to the invention;

FIG. 2 is a modified version of the present invention illustrating a resilient member connecting the spindle with the hollow shaft.

The twisting and forming device for spinning and twisting textile machines comprises:

a chamber 1 (FIG. 1) installed on a spindle 2, which spindle 2 is mounted in a hollow shaft 3 rotating in ball bearing supports 4 and 5, and a resilient member 6 connecting the spindle 2 with the hollow shaft 3, for damping oscillations arising during rotation of the chamber 1. The member 6 installed between the spindle 2 and the hollow shaft 3 is made in the form of a tube mounted on the spindle 2 and manufactured of rubber capable of damping oscillations of the spindle 2 when the latter passes the critical speed and also self-oscillations during the stabilized operation. The resilient member 6 damping vibrations of the spindle 2 in relation to the hollow shaft 3, installed along the entire length of the latter (FIG. 1) ensures more effective damping of the spindle 2.

FIG. 2 shows another version of the embodiment of the resilient member 6. In this case the member 6 made in the form of a resilient tube is mounted on the hollow shaft 3 to connect one end of the hollow shaft with the spindle 2.

The hollow shaft 3 and the chamber 1 installed on the spindle 2 are driven through a pulley 7 (FIG. 1) by a belt or tape 8. The belt or tape 8 is made seamless to eliminate unnecessary loads on supports 4 and 5.

What we claim is:

1. In combination with a textile spinning and twisting machine including a spindle, means defining a chamber supported on said spindle, a hollow shaft provided with a longitudinal axis, said spindle being supported in said hollow shaft along said longitudinal axis, and means for rotating said hollow shaft about said longitudinal axis, the improvement comprising a unitary resilient member interconnecting said spindle and said hollow shaft, said unitary resilient member being fixedly interposed between said spindle and said hollow shaft such that said spindle and said chamber are caused to rotate with said hollow shaft, with minimal vibration being transferred from said spindle to said hollow shaft, and with minimal relative movement between said spindle and said hollow shaft.

2. The combination as claimed in claim 1 wherein said resilient member is tubular and longitudinally extends substantially along he entire length of said spindle internally of said hollow shaft.

3. The combination as claimed in claim 1 wherein said resilient member is tubular and externally surrounds a portion of said spindle and externally surrounds a portion of said hollow shaft proximate said chamber.