H. CREWDSON.

SPINNING BOX MOUNTING.

APPLICATION FILED DEC. 9, 1919.

1,381,805. Patented June 14, 1921.

Fig. 1.

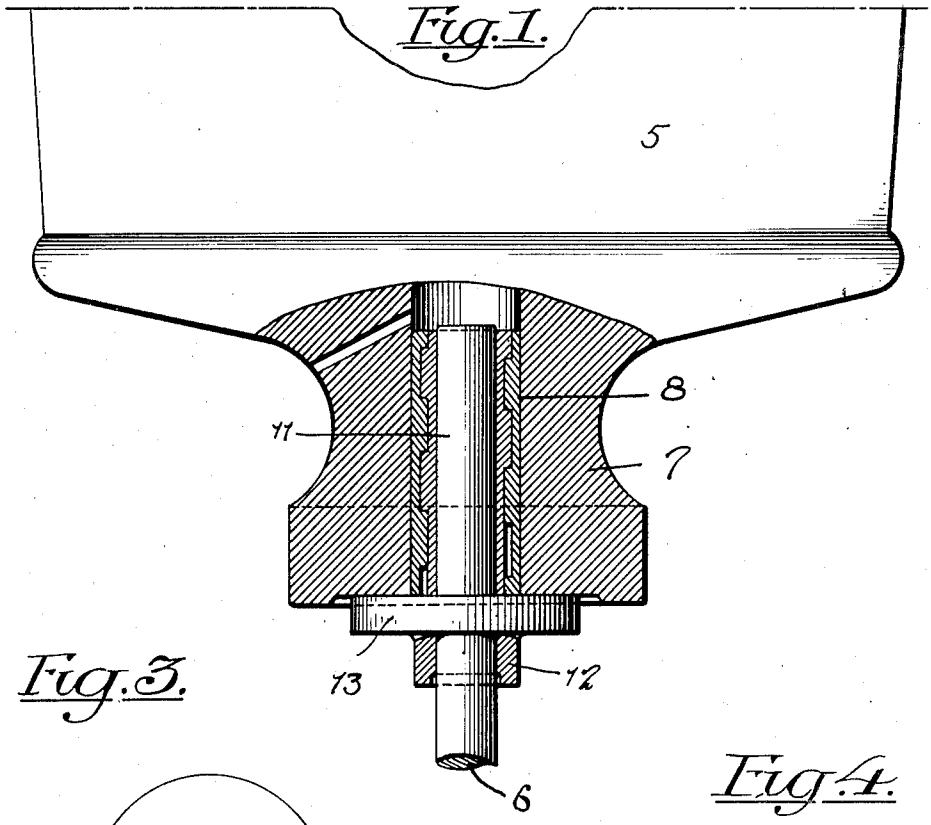


Fig. 3.

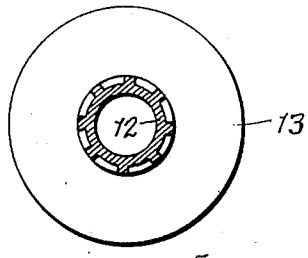


Fig. 4.

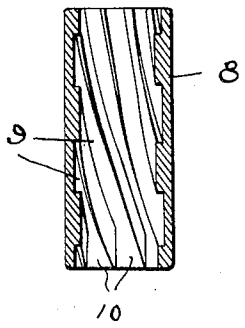
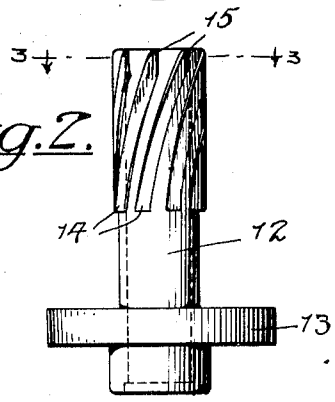


Fig. 2.



Inventor:-

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UNITED STATES PATENT OFFICE.

HENRY CREWDSON, OF ROANOKE, VIRGINIA, ASSIGNOR OF ONE-HALF TO COURTAULDS, LIMITED, OF LONDON, ENGLAND, AND ONE-HALF TO THE VISCOSE COMPANY, OF ROANOKE, VIRGINIA.

SPINNING-BOX MOUNTING.

1,381,805. Specification of Letters Patent. Patented June 14, 1921.

Application filed December 9, 1919. Serial No. 343,640.

To all whom it may concern:

Be it known that I, HENRY CREWDSON, a subject of the King of Great Britain and Ireland, residing at 101 Arbutus avenue, in the city of Roanoke, county of Roanoke, and State of Virginia, have invented certain new and useful Improvements in Spinning-Box Mountings, of which the following is a specification.

My invention relates to spinning box mountings, and particularly to the connection between the spinning spindle and spinning box such as is commonly used in the manufacture of artificial silk. The object of my invention is to provide a non-slip connection between the box and spindle, which connection can be readily effected, and by which the excessive wear, as well as objectionable speed variation, now common as a result of the slippage between the parts, is eliminated.

In the accompanying drawings—

Figure 1 is a broken side elevation of a spinning box in which my invention is embodied in one form;

Fig. 2 is a side elevation of a spindle mushroom;

Fig. 3 is a section on the line 3—3 Fig. 2; and

Fig. 4 is a vertical section through the bushing of a spinning box.

It is now customary to mount the hard rubber spinning box 5 on the spinning spindle 6 by a friction fit. This results in excessive wear between the parts due to slippage, causes objectionable speed variation in the drive of the box, during the spinning operation, and increases upkeep and maintenance costs. By the present invention I provide a positive drive connection between the parts, which obviates these troubles.

The hub 7 of the box has molded therein a bushing 8, in the inner face of which are cut wide spiral channels 9 of very steep pitch. At the lower end of the bushing these channels are flared to afford wide mouths 10. On the tapered end 11 of the spindle 6 is driven the sleeve 12 with its mushroom flange 10, on which the hub of the spinning box is supported in driving position. On the outer face of the mushroom sleeve are formed spiral ribs 14 of similar steep pitch, the upper ends of which are beveled at 15 to facilitate their entry into the enlarged mouths 10 of the channels 9 in the bushing 8.

While the pitch of the spiral ribs and channels may be varied, I prefer to make it so steep that the box passes through barely a quarter turn during its positioning and withdrawal movement. The ribs 14 need not be carried the full depth of the sleeve, but may be halted at any suitable point: as here shown their extent is about three-fifths of the depth of the sleeve. Obviously, the engagement between the spiral ribs and the grooves is facilitated by beveling the entering ends of the ribs to a point and expanding the mouths of the spiral channels. Of course, when the box is seated against the mushroom flange 13 it is positively held by the ribs and grooves against slippage, and the usual wear between the parts and the variations in drive speed are thereby eliminated. It will be noted also that the threads are cut in a direction such that on rotation of the spindle during the drive, the box is held positively down upon the mushroom in fixed position.

Various modifications will readily occur to those skilled in the art, which do not depart from what I claim as my invention.

I claim—

1. A spindle, a mushroom thereon, a spinning box freely resting on said mushroom, and a steep pitch screw connection between said mushroom and spinning box to prevent slippage on the drive of the spindle.

2. A spindle, a mushroom thereon, a spinning box freely resting on said mushroom, and a steep pitch screw connection between said mushroom and spinning box to prevent slippage on the drive of the spindle, the threads being cut in a direction such that on the rotation of the spindle the drive of the latter tends to hold the box in fixed position on the mushroom.

3. A spindle, a mushroom thereon, a spinning box freely resting on said mushroom, a steep pitch screw connection between the box and mushroom sleeve, the threads of the screw being wide, but beveled at their entering ends to facilitate engagement with the coöperating tap channels.

4. A spindle, a mushroom thereon, a spinning box freely resting on said mushroom, a steep pitch screw connection between the box

and mushroom sleeve, the mouths of the tap channels being flared to facilitate the entry of the threads therein.

5. A spindle, a mushroom thereon, a spinning box freely resting on said mushroom, a steep pitch screw connection between the box and mushroom sleeve, the threads of the screw being wide, but beveled at their entering ends to facilitate engagement with the coöperating tap channels, and the mouths of the tap channels being flared to permit the ready entry of the screw threads.

In testimony whereof I have signed my name to this specification.

HENRY CREWDSON.