March 23, 1926. **1,577,870**

J. C. POTTER

SPINDLE DRIVE FOR SPINNING MACHINES

Filed August 16, 1922

Fig. 1.

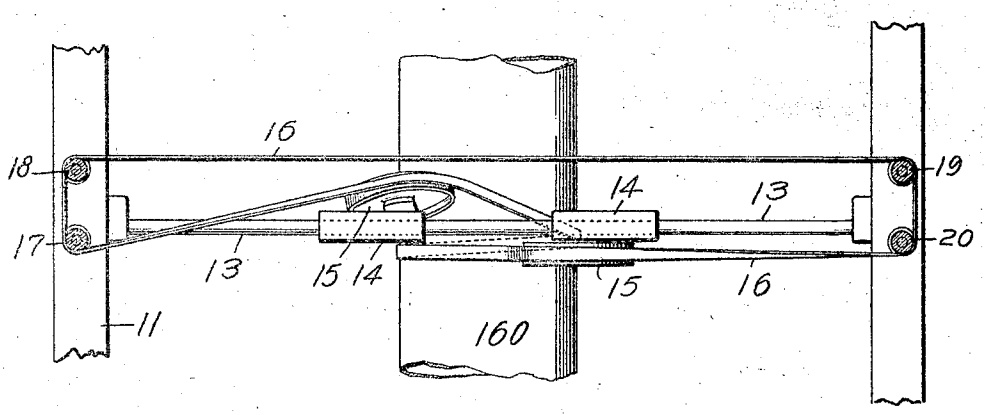
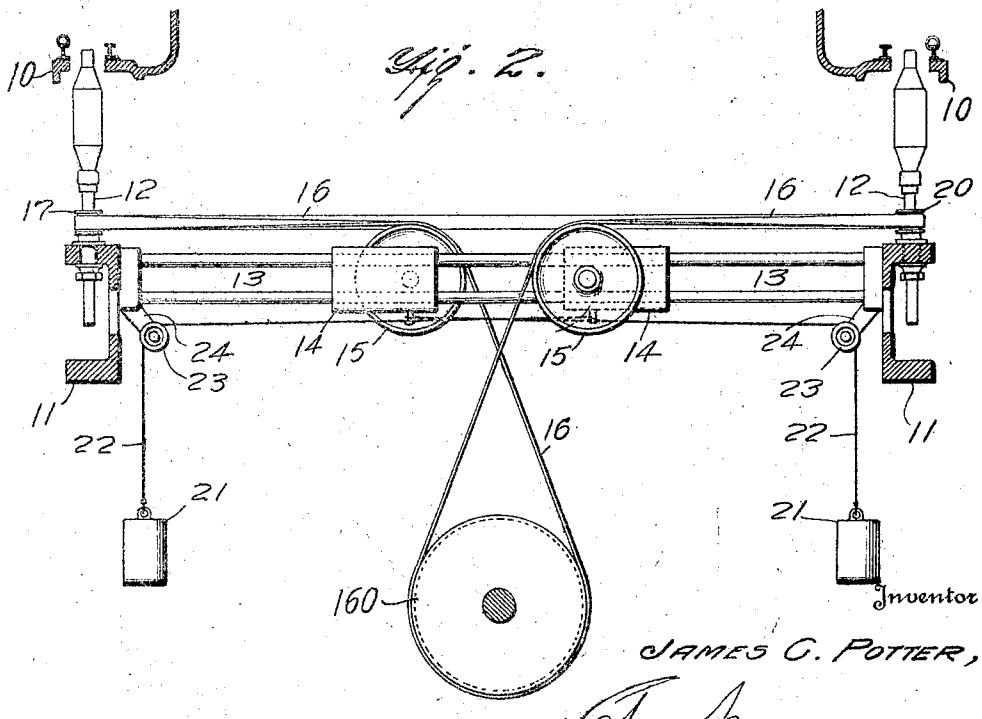


Fig. 2.



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UNITED STATES PATENT OFFICE.

JAMES C. POTTER, OF PAWTUCKET, RHODE ISLAND.

SPINDLE DRIVE FOR SPINNING MACHINES.

Application filed August 16, 1922. Serial No. 582,260.

To all whom it may concern:

Be it known that I, JAMES C. POTTER, residing at Pawtucket, Rhode Island, a citizen of the United States, have invented certain new and useful Improvements in Spindle Drives for Spinning Machines, of which the following is a specification.

My invention relates more particularly to ring spinning frames in which the rings are stationarily supported and the traversing motion in building the cop is imparted to the spindles, a machine of this type forming the subject of my United States Patent No. 1,401,729 issued December 27, 1921. In the frame shown as one embodiment of the invention of that patent the tin roller for driving the spindles partakes of the up and down movement of the spindle traversing frame. The object of my present invention is to stationarily support the tin roller, and to provide a tape drive therefrom to the traversing spindles which at all points in the vertical movement of the spindles will maintain an efficient driving connection between the tin roller and the spindle whirls. My invention consists in whatever construction is described or included within the terms or meaning of the appended claims.

In the annexed drawings;

Fig. 1 is a top plan view of enough of a spinning frame to illustrate the application of my invention thereto;

Fig. 2 is a section on the line 2—2 of Fig. 1.

Referring in detail to what is shown in the drawings the stationary ring rails, 10, and the rings and travelers thereon and the rails, 11, which support the spindles, 12, and the builder motion by which the traverse of the spindle rails is affected may be the same as in my above mentioned patent or of any other construction or arrangement.

Extending between and attached to the spindle rails is a support consisting of a pair of horizontal bars 13 for two horizontally movable slides 14, so that the latter may move horizontally in the space between the two spindle rails and upon such slide is journaled a guide pulley, 15, over which the drive tape, 16, passes from the stationarily supported tin roller, 160, to the whirl 17, of one of the spindles, and thence to the whirl, 18, of an adjacent spindle on the same rail, 11, and thence across to the directly opposite spindle whirl, 19, on the other rail and from the latter such tape passes to the adjacent spindle whirl, 20, which is directly opposite the spindle whirl, 17, and from such whirl, 20, the tape passes over another guider roller, 15, and thence to the opposite side of the tin roller, 16. The rollers, 15, are out of alinement, and one of them is set slightly askew to clear the two runs of the tape in opposite directions from the tin roller. Each pulley carrying slide is normally pulled or moved in a direction to maintain a constant tension on the tape at all times in the traversing motion of the spindle rails which movement of the slide may be produced in any desired way as for example by a weight, 21, suspended by a chain or cord, 22, which at one end is fastened to the slide, and passes horizontally therefrom to and over a roller 23, supported by a bracket, 24, from the arm, 13, adjacent the spindle rail. When the spindle rails ascend and thus the distance vertically between the tin roller and the guide pulleys increase the pulleys move horizontally away from each other, and in the direction to lift their respective weights, while when the spindle rails move downward and the guide pulleys 15, approach the tin roller, 16, the guide pulleys under the pull of the weights move towards one another, and the sliding motion of the respective guide pulleys during the upward movement of the spindle rails carries each pulley towards that spindle whirl (12 or 20) from which the tape directly runs, and such sliding movement when the spindle rails descend carries each pulley away from that spindle whirl to which the tape directly runs and thus the tape is paid out or taken up in strict compensation with the varying distances up and down between spindle whirls and stationary tin roller.

What I claim is:

1. A spinning frame having traversable, rotatable spinning members arranged in rows, a stationarily supported driving roller situated between such rows of rotatable members, a driving band passing from opposite sides of said roller to said rotatable members, a pair of to and fro movable band supports partaking of the traversing movement of said members, and means normally tending to move such band supports in a direction towards one another.

2. A spinning frame having traversable spindles arranged in rows, a stationarily supported driving roller situated between

such rows of spindles, a driving band passing from opposite sides of said roller to said spindles, a pair of to and fro movable band supports partaking of the traversing movement of said spindles, and means normally tending to move such band supports in a direction towards one another.

3. A spinning frame having traversable, rotatable spinning members arranged in rows, a stationarily supported driving roller situated between such rows of rotatable members. a driving band passing from opposite sides of said roller to said rotatable members, a pair of to and fro movable band supports partaking of the traversing movement of said members, and means normally tending to move such band supports in a direction towards one another, said band supports being pulleys.

4. A spinning frame having traversable rotatable spinning members arranged in rows, a stationarily supported driving member situated between such rows, a driving band passing from opposite sides of said roller to said members, and band-tensioning means acting simultaneously upon each of the portions of the band situated upon opposite sides of the roller there being a tensioning means for each portion of the band.

5. A spinning frame having traversable rotatable spinning members arranged in rows, a stationarily supported driving member situated between such rows, a driving band passing from opposite sides of said roller to said members, and band-tensioning means acting simultaneously upon each of the portions of the band situated upon opposite sides of the roller, said band-tensioning means being oppositely movable pulleys.

6. A ring spinning frame having parallel traversable spindle supporting rails, arms extending from one rail towards the other, a stationarily mounted driving roller, a band passing from opposite sides of said roller to opposite spindles, and a band-tensioning device mounted on each arm and free to move to and fro thereon.

In testimony whereof I hereunto affix my signature.

JAMES C. POTTER.