No. 853,371. PATENTED MAY 14, 1907.

F. W. NIMS.

TAPE PULLEY FOR SPINNING OR TWISTING MACHINES.

APPLICATION FILED MAR. 11, 1904.

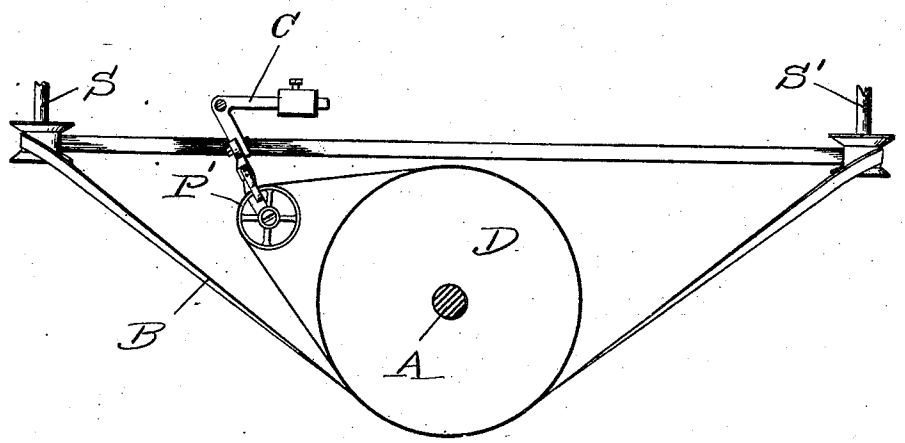


Fig. 1.

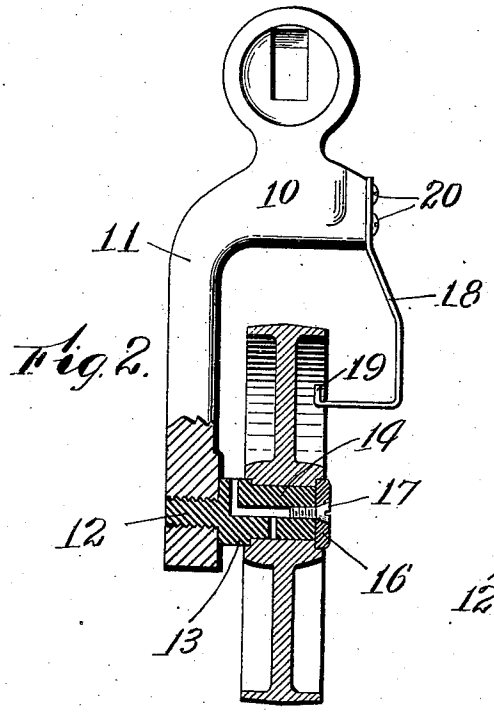


Fig. 2.

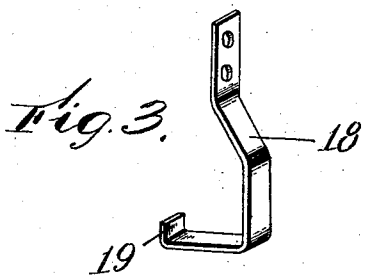


Fig. 3.

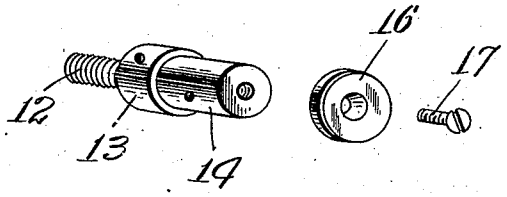


Fig. 4.

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UNITED STATES PATENT OFFICE.

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TAPE-PULLEY FOR SPINNING OR TWISTING MACHINES.

No. 853,371. Specification of Letters Patent. Patented May 14, 1907.

Application filed March 11, 1904. Serial No. 197,704.

To all whom it may concern:

Be it known that I, FRANCIS W. NIMS, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Tape-Pulley for Spinning or Twisting Machines, of which the following is a specification.

This invention relates to that class of spinning or twisting frames which are employed in spinning worsted and other materials.

The especial object of this invention is to combine the tape pulleys and their supports in such a manner as to permit the more ready removal and replacement of the driving tapes.

In the accompanying drawing, Figure 1 is a diagrammatic view of sufficient parts of a spinning or twisting frame to illustrate the application of this invention thereto. Fig. 2 is an enlarged view partly broken away of one of the tape-pulleys and its supporting frame. Fig. 3 is a detail view of one of the tape retaining hooks, and Fig. 4 is a detail view of the bearing stud and its end-piece.

In that class of spinning or twisting frames to which this invention relates, the spindles are driven from a central drum by means of driving tapes which are looped around one or more of the spindles. The tension of the driving tape is regulated by counterweighted pulleys.

In this class of machines as heretofore constructed, each of the tape-pulleys has been mounted between arms of a fork or yoke, and on this account when a tape is to be removed or replaced, it has heretofore been necessary to take out each pulley from place in its yoke by removing the bearing or pin thereof.

The especial object of this invention is to provide for mounting the tape-pulleys in such a way that the bands or tapes are held from becoming displaced or tangled together, but which, nevertheless, will permit the driving tapes being removed or replaced without taking the tension pulleys off of their bearings.

Referring to the accompanying drawing and in detail, D designates a central driving drum or pulley mounted upon the shaft A. From the driving drum D a loop of the driving-tape B passes around the whirls of one or more spindles S and S′. A second loop of said band passes around the tape pulley P′. The tape pulley P′ is connected to a bell-crank lever C having a substantially horizontal arm carrying an adjustable weight for regulating the tension of the driving tape. These parts, with the exception of the tape-pulleys and their supports, may be of the ordinary form.

The manner in which each tape pulley is mounted on a support is most clearly illustrated in Fig. 2. As shown in this figure, a casting 10 is provided with a single arm 11. Threaded into the arm 11 is a bearing pin 12.

As shown most clearly in Fig. 4, the bearing-pin 12 is provided with an enlarged section or shoulder 13 and with a bearing portion 14. Bored longitudinally from the end of the pin 12 is a central channel having an upwardly extending oil-hole in the enlarged portion or shoulder 13 and a downwardly extending passage for the bearing portion 14. The hub of the pulley is provided at its opposite faces with counterbores for receiving the shoulder 13 and end piece 16 respectively. The end-piece or disk 16 is fastened onto the end of the bearing pin 12 by means of the central screw 17 which also serves to close the oil-channel. By means of this construction, I have found in practice that the counterbored chambers at opposite sides of the pulley hub will prevent the fibers of wool or other material from working their way into the pulley bearing, while, at the same time, the bearing can be thoroughly lubricated through the oil-channel.

The tape pulley being supported entirely from one side, the tape may be slipped onto and off therefrom as required.

To prevent the tape from becoming snarled, should it be accidentally displaced from a pulley while the machine is in operation, I provide a sheet metal hook 18 which can be fastened in place by screws 20. The end of the hook 18 extends in past the edge of the rim of the pulley and the end 19 is turned out toward the pulley rim to insure catching and holding the tape when displaced from the pulley, although the hook will not prevent the tape from being readily set in place without removing the pulley from its supporting stud.

I am aware that numerous changes may be made in applying my tape pulley to spinning or twisting frames, and that changes may be

made in the proportions and construction of parts. I do not wish, therefore, to be limited to the construction I have herein shown and described, but

What I do claim and desire to secure by Letters Patent of the United States is:—

1. In a spinning or twisting frame, the combination of a pulley and its fork, said pulley being supported entirely in one arm of the fork, while the other arm of the fork forms a guard for preventing a tape from being displaced.

2. In a spinning or twisting frame, the combination of a pulley, a fork therefor, one arm of the fork having a stud or pivot-pin on which the pulley is journaled, and the other arm of the fork extending in past the edge of the pulley rim to form a guard for preventing a band or tape from being displaced.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

FRANCIS W. NIMS.

Witnesses:

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PHILIP W. SOUTHGATE.