

UNITED STATES PATENT OFFICE.

JOSEPH E. TYNAN, OF PATERSON, NEW JERSEY.

EQUALIZING DRIVING DEVICE FOR BOBBINS.

SPECIFICATION forming part of Letters Patent No. 619,806, dated February 21, 1899.

Application filed March 8, 1898. Serial No. 673,083. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH E. TYNAN, a citizen of the United States, residing at Paterson, in the county of Passaic and State of New Jersey, have invented a new and useful Equalizing Driving Device for Bobbins, of which the following is a specification.

My invention relates to machines in which threads are wound upon bobbins placed in a horizontal position upon the machines. It is especially useful where fine threads are to be wound from skeins onto bobbins.

The object of my invention is to provide a driving device to revolve the bobbin in order to wind the thread or threads upon it and that will at the same time equalize the driving force applied to the bobbin. I attain this object by the method shown in the accompanying drawings.

Figure 1 represents a front view of a bobbin in a horizontal position mounted on a spindle running in bearings, with driving-pulleys to revolve the bobbin. Fig. 2 is a side view of the same mechanism.

A is the bobbin on which the thread is to be wound.

A' is a driving-head forming part of the bobbin.

B is the spindle on which the bobbin is mounted, and B' is a driving-head affixed to the spindle.

B² is a spring upon the spindle used to hold the bobbin firmly thereon.

The pulleys C and D, mounted on the shaft E, will impart motion simultaneously to the driving-head A', fixed to the bobbin, and to the driving-head B', fixed to the spindle extending through the bobbin.

At F are shown bearings for the spindle B, which are attached to the machine. The ends of the spindle are confined by the sides of the bearing F, but are held clear of the bottom of the same, as shown at F'. This allows the whole weight of the spindle, bobbin, and driving-heads to rest upon the surface of the pulleys C and D.

Heretofore the doubly-driven spindle and

bobbin have not come into general use for several reasons. When the bobbin is driven by having its heads rest upon driving-wheels or a drum, the heads of the bobbin become roughened. Where fine threads are being manipulated and it is necessary in subsequent operations to draw them from the heads of the bobbin, it is absolutely essential that the bobbin-heads should be smooth, and for that reason it is impracticable to use the heads of the bobbin for driving purposes. Where the heads have not been used for driving, loose driving-heads have been employed, being placed upon the spindle after the bobbin is placed thereon; but owing to the fact that the operator has to handle these loose driving-heads, removing them from the spindle and replacing them thereon every time a bobbin is doffed, the inconvenience, loss of time, and danger of dropping and losing the driving-heads are very great.

In my invention I get the advantage of the double drive, while there is no roughening of the heads of the bobbin, and the operator has no loose driving-heads to remove and replace.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination with a winding-spindle having at one end a driving-head, of a bobbin having at one end a driving-head, and driving-pulleys to come in contact with the driving-head upon the spindle and the driving-head upon the bobbin, when the bobbin is placed upon the spindle, to drive them simultaneously, substantially as and for the purpose described.

2. A winding-spindle having a driving-head, a bobbin having a driving-head, bearings for the winding-spindle, and means to drive the bobbin and spindle simultaneously, substantially as and for the purpose described.

JOSEPH E. TYNAN.

Witnesses:

LEONARD J. TYNAN,
RICHARD A. HEALY.