

C. JENKINS.
BOBBIN SPINDLE.
APPLICATION FILED SEPT. 30, 1908.

936,904.

Patented Oct. 12, 1909.

Fig. 1.

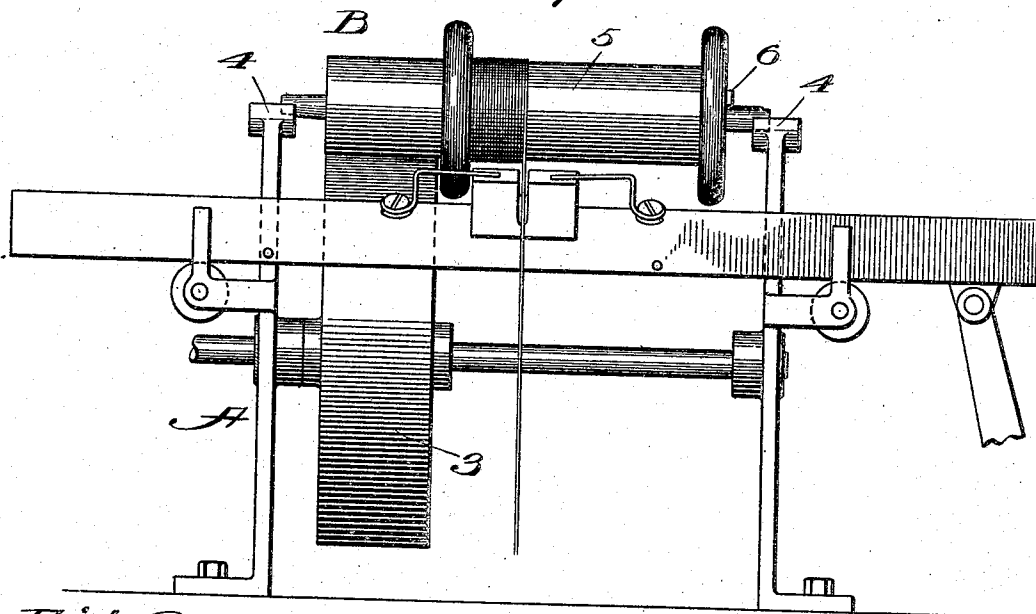


Fig. 2.

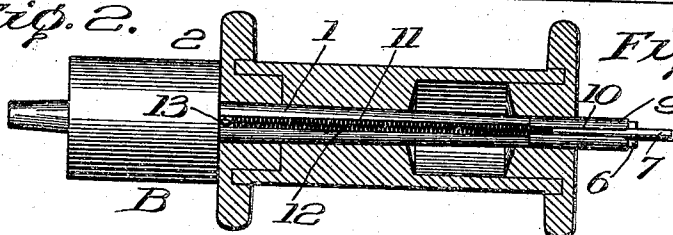


Fig. 5.

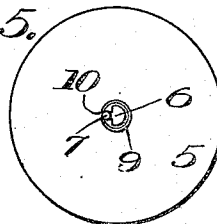


Fig. 3.

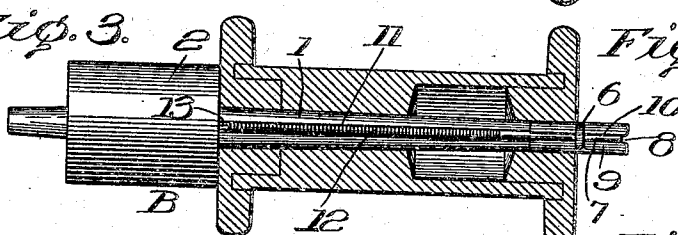


Fig. 6.

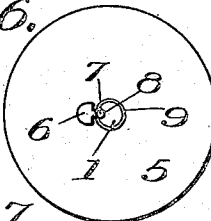


Fig. 4.

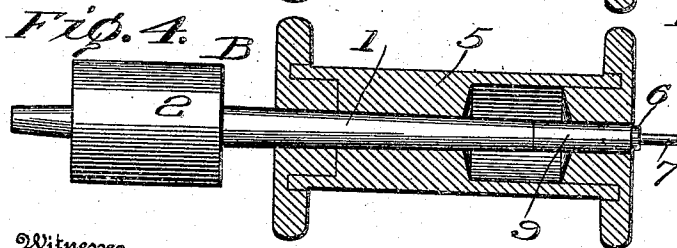
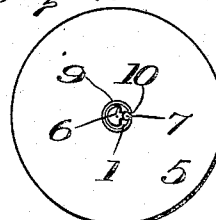


Fig. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES JENKINS, OF DANVILLE, PENNSYLVANIA.

BOBBIN-SPINDLE.

936,904.

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To all whom it may concern:

Be it known that I, CHARLES JENKINS, a citizen of the United States, residing at Danville, in the county of Montour and State of Pennsylvania, have invented new and useful Improvements in Bobbin-Spindles, of which the following is a specification.

This invention relates to bobbin spindles for winders and doublers and relates more particularly to means for holding the bobbin firmly in place while at the same time permitting of the ready removal of the bobbin from the spindle.

The invention has for one of its objects to improve and simplify the construction and operation of devices of this character so as to be comparatively simple and inexpensive to manufacture, reliable and efficient in use, and conveniently manipulated.

Another object of the invention is the provision of a spindle having a key connected with a spring to engage the outer end of the bobbin to hold the latter against the head of the spindle, the key being guided on the top of the spindle and capable of being turned to extend over the top of the spindle for allowing the bobbins to be slipped on and off the latter.

With these objects in view and others, as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawing, which illustrates one embodiment of the invention, Figure 1 is a side elevation of a bobbin spindle showing it in operative position in the supporting frame or holder. Fig. 2 is a side elevation of the spindle showing a bobbin thereon in section and having the key in released position. Fig. 3 is a similar view showing the key in locked or set position. Fig. 4 is a side view of the spindle opposite from that shown in Fig. 2 with the bobbin partially removed. Figs. 5, 6 and 7 are end views, respectively, of Figs. 2, 3 and 4.

Similar reference characters are employed to designate corresponding parts throughout the views.

Referring to the drawing, A designates the apparatus in which the spindle is mounted for turning the bobbin during the winding of the thread thereon, and this apparatus may be of any approved construction as the

same does not constitute any part of the present invention. The spindle B consists of a tapering shank or stem 1 formed contiguous with a cylindrical head or wheel 2 which engages with a pulley 3 of the apparatus A for rotating the spindle, the spindle being mounted in bearings 4. On the shank 1 of the spindle is a bobbin 5 of any approved design, size or construction and the same is held in place against the head 2 by a key 6. This key is attached to a piece of round wire 7 at a point intermediate the ends thereof to constitute a stem and this stem is movable longitudinally in a superficial guideway 8 extending longitudinally of the shank 1 at the tip thereof. When the shank is made of wood, the tip is provided with a metal sleeve or ferrule 9 which is slit longitudinally to provide a slot 10 through which the key 7 projects, and the slot is narrower than the diameter of the stem 7, so that the latter will move back and forth without danger of lateral displacement through the slot 10. The shank 1 is provided with a superficial groove 11 that extends longitudinally thereof and aligns with the slot 10 and in this groove 11 is a helical extension spring 12 of fine wire which has its inner end anchored at 13 and its outer end fastened to the inner end of the stem 7. The key 6 is in the form of a laterally-extending ear attached to the stem 7 and is of such size that when disposed over the end of the spindle, it will lie within the periphery of the latter so that the bobbin 5 can slip freely on or off the spindle shank. When it is desired to remove the bobbin from the spindle, the latter is taken out of the apparatus A and the head 2 grasped in one hand and the bobbin 5 in the other and the bobbin pulled outwardly until the key is beyond the tip or outer extremity of the shank 1 of the spindle, as shown in Fig. 4. While held in this position, the bobbin is given a partial turn to throw the key over the end of the tip of the bobbin to the position shown in Fig. 7 from that shown in Fig. 6, it being understood that the key will be held frictionally engaged with the bobbin during this turning movement so that the key will also turn, and as soon as the key is disposed across the end of the spindle, the bobbin can be slipped freely off the same. It will thus be seen that it is unnecessary to take hold of the key directly to release the same. Another bobbin is then slipped over the spindle

and the key disengaged from the end of the spindle by taking hold of the projecting end of the stem 7, Fig. 2, and turning the key from the position shown in Fig. 5 to that shown in Fig. 6, when the stem is released so that the spring 12 will draw the key inwardly against the outer end face of the bobbin. The key adjusts itself to bobbins of various lengths and the spindle can be used on different types of bobbins.

From the foregoing description, taken in connection with the accompanying drawing, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention, together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claims appended hereto.

Having thus described the invention, what I claim is:—

1. A bobbin spindle comprising a head, a shank thereon, a key on the shank for holding a bobbin in place on the spindle, and a tension means for holding the key in engagement with the bobbin, said means being covered by the bobbin when the latter is in position on the spindle.

2. A bobbin spindle including a shank having a straight longitudinally-extending groove in its surface, a spring extending lengthwise in the groove, a member connected with the spring and movable longitudinally on the spindle, and a key on the member for engaging a bobbin on the spindle to prevent movement thereof.

3. A bobbin spindle including a shank, a longitudinally-extending guideway at the tip thereof, a key slidably mounted in the guideway for releasably holding a bobbin on the spindle, and a helical extension spring connected with the key for maintaining the latter in engagement with the bobbin.

4. A bobbin spindle comprising a shank having a longitudinal groove in its surface, a sleeve on the spindle provided with a slot alining with the groove, the outer surface of the sleeve being flush with the surface of the shank, a member engaged in the groove and held therein by the sleeve for sliding movement, a spring connected with the member, and a key attached to the member and projecting out of the said slot to engage the outer end of a bobbin on the spindle.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES JENKINS.

Witnesses:

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IRVING ORR.