Jan. 1, 1924 1,479,230

J. R. FEDERLINE

TENSION DEVICE

Original Filed Jan. 10, 1923 2 Sheets-Sheet 1

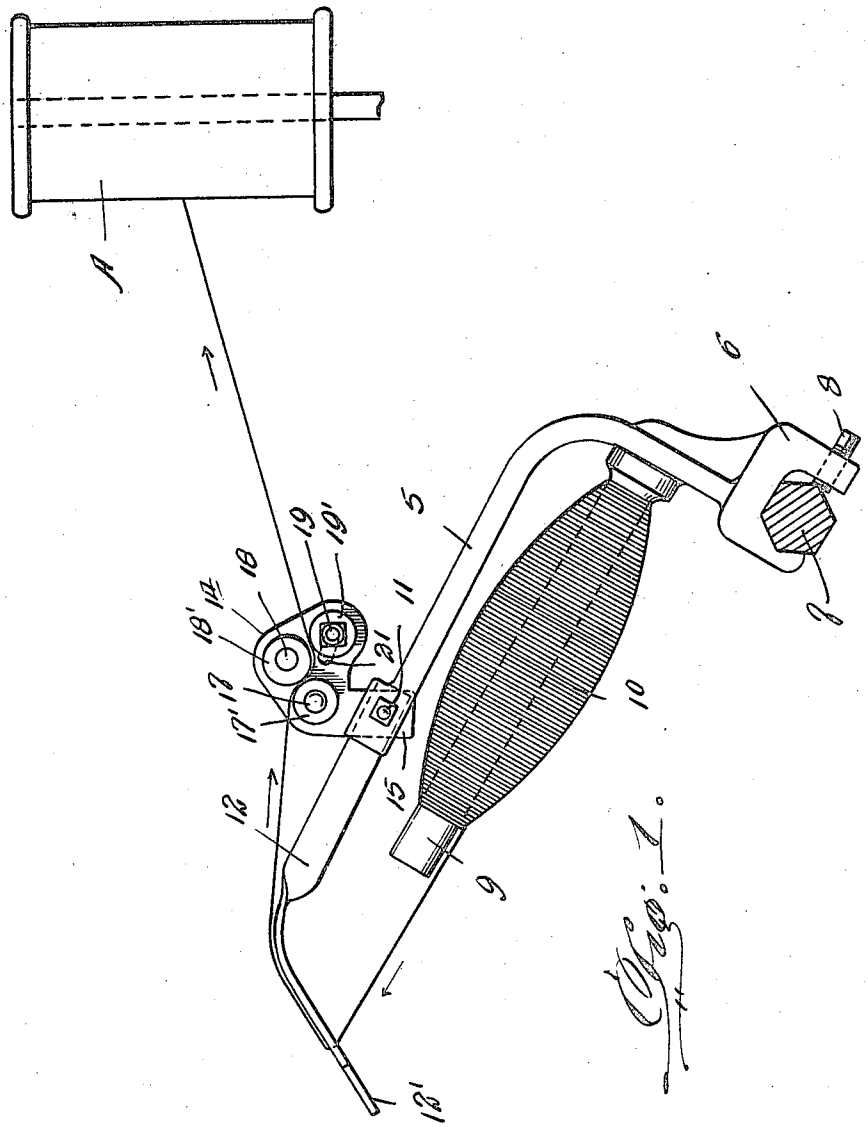



Fig. 1.

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Original Filed Jan. 10, 1923 2 Sheets-Sheet 2

Fig. 3.

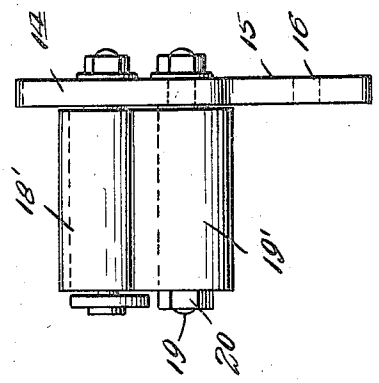



Fig. 2.

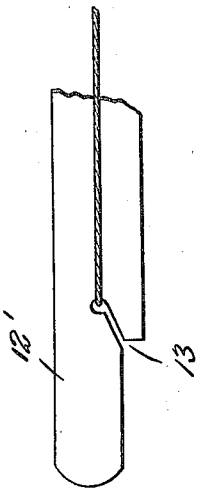
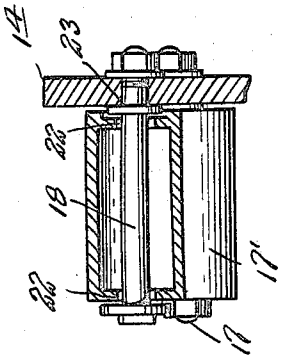



Fig. 4.




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# UNITED STATES PATENT OFFICE.

JOHN R. FEDERLINE, OF BELTON, SOUTH CAROLINA.

## TENSION DEVICE.

Application filed January 10, 1923, Serial No. 611,705. Renewed November 26, 1923.

*To all whom it may concern:*

Be it known that I, JOHN R. FEDERLINE, a citizen of the United States, residing at Belton, in the county of Anderson and State of South Carolina, have invented certain new and useful Improvements in Tension Devices, of which the following is a specification.

My invention relates to improvements in tension devices primarily adapted for attachment to the conventional form of bobbin holders for applying tension to the thread from the bobbin as the same is being wound upon a spool for permitting of this thread to be properly wound upon the said spool.

A further object resides in the provision of such a device that is comparatively simple of construction, each of application to any and all types of bobbin holders and highly efficient in operation.

The nature and advantages of the invention will be better understood when the following detailed description is read in connection with the accompanying drawings, the invention residing in the construction, combination, and arrangement of parts as claimed.

In the drawings forming part of this application, like numerals of reference indicate similar parts in the several views, and wherein:—

Figure 1—is a plan view of a conventional type of a bobbin holder showing my improved tension device mounted thereon, clearly disclosing the manner in which the same functions in applying tension to the thread as the same is being unwound from the bobbin to the spool.

Figure 2—is a fragmentary plan view of the usual bobbin holder guide for guiding the thread from the bobbin to my tension device.

Figure 3—is a side elevational view of my tension device per se, and

Figure 4—is a fragmentary cross sectional view of the tension device constructed in accordance with the present invention.

Having reference to the drawings, and particularly to Figure 1, there is shown a bobbin holder of conventional form 5, having the usual clamping jaw 6 formed upon one end thereof, which jaw is adapted for engagement upon the usual rod 7 on the spooler frame to be secured thereto by a set screw 8. The bobbin holder 5 is formed with the usual spindle (not shown) and supporting the bobbin 9 upon which is wound the thread 10.

The end of the bobbin holder opposite from that of the jaw 6, has secured thereto through the instrumentality of a bolt and nut connection 11, a thread guide 12, which guide is in the form of a flat strip of material, extending for a portion of its length in alinement with the major portion of the bobbin holder 5, and is bent forwardly as at 12′ and has the usual thread slot 13 cut therein.

My improved tension device constitutes the provision of a substantially triangular shaped plate 14, which is formed at one of its corners with a pendent leg 15. This leg has an opening 16 therein adjacent its bottom end, which permits of the attachment of the tension device to the bobbin holder, through the instrumentality of the before mentioned bolt and nut connection 11. Adjacent the corners of this triangular plate 14, there are laterally projecting spindles 17, 18 and 19. Upon the spindles 17 and 19 are disposed solid rollers 17′ and 19′ respectively, these rollers adapted for free rotary movement upon their said spindles. The outer end of the spindle 19 is screw threaded for receiving thereon a wedge nut 20 and by a careful consideration of Figure 1, it will be noted that the spindle 19 has its inner end disposed within a slot 21 of the before mentioned triangular plate 14.

The uppermost spindle 18 has freely rotatable thereon a shell roller 18′, the opposite ends thereof being provided with relatively large openings 22, for permitting this roller to have close contact with the other rollers 17′ and 19′. It will thus be seen that when the thread 10 engages between the three rollers as shown in Figure 1, and is in the act of being wound upon a spool A, the shell roller 18′ will lie upon the twine between the rollers 17′ and 19′ and consequently applying a tension thereto, and in view of the specific mounting of the spindle 19 for the roller 19′, this tension may be increased or decreased at will by merely loosening the wedge nut 20 and adjusting the spindle within its slot, it being understood that each of the spindles are provided with an integrally formed washer 23, which has close contact with the triangular plate 14

for spacing the inner ends of each of the rollers a slight distance away from the said plate.

In view of the above description, it is believed by me that the operation and advantages of my improved device will be readily grasped by those somewhat skilled in the art, and even though I have herein shown and described the preferred embodiment of the present invention, it is nevertheless to be understood that minor changes may be made therein, without departing from the spirit and scope of the invention as claimed.

What I claim as new is:—

In a tension device for bobbin holders, a supporting member mounted upon the bobbin holder, a pair of stationary spindles and an adjustable spindle carried by the supporting member, solid rollers carried by one of the stationary spindles and the movable spindle, and a shell roller carried by the other spindle for the purposes described.

In testimony whereof I affix my signature.

JOHN R. FEDERLINE.