D. E. SKEDGELL.

TENSION DEVICE FOR SPOOLERS.

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1,403,454. Patented Jan. 10, 1922.

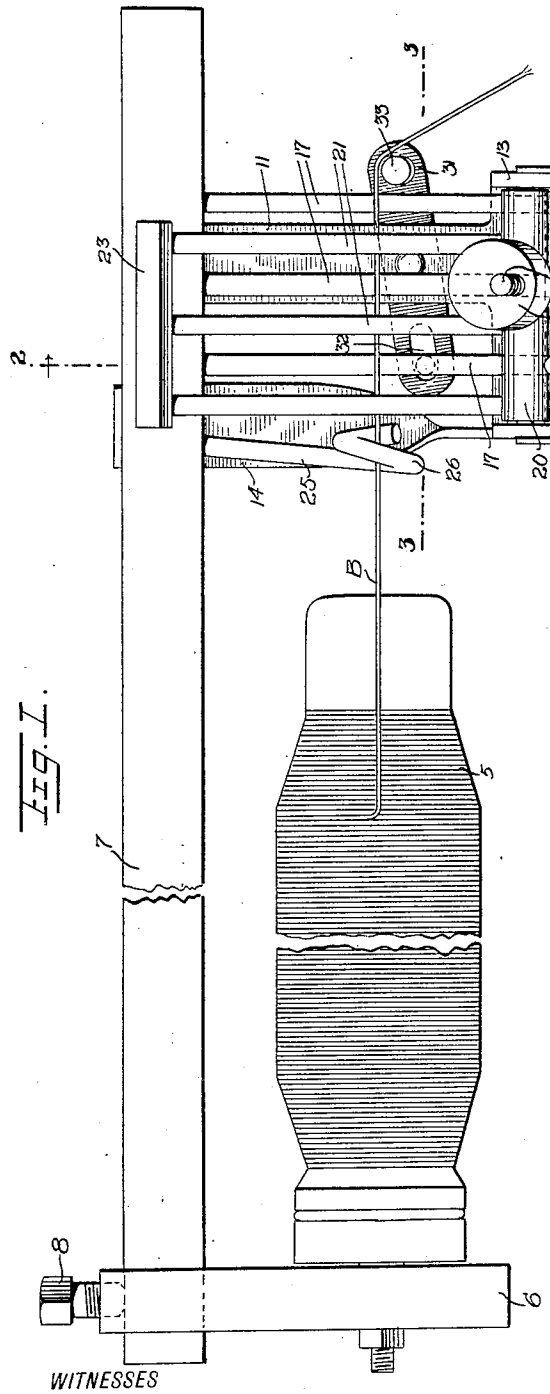


Fig. 1.

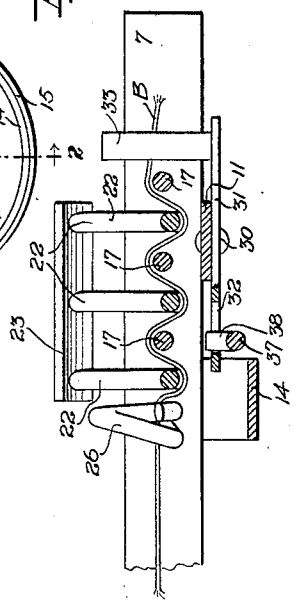


Fig. 3.

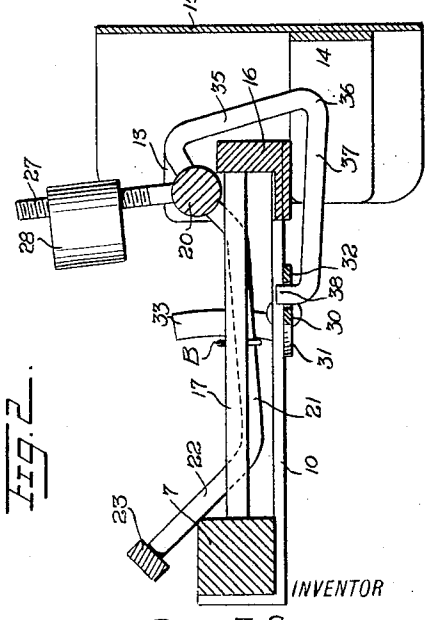


Fig. 2.

WITNESSES

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DAVID E. SKEDGELL, OF NORTH TIVERTON, RHODE ISLAND.

TENSION DEVICE FOR SPOOLERS.

1,403,454. Specification of Letters Patent. Patented Jan. 10, 1922.

Application filed January 27, 1921. Serial No. 440,451.

To all whom it may concern:

Be it known that I, DAVID E. SKEDGELL, a citizen of the United States, and a resident of North Tiverton, in the county of Newport and State of Rhode Island, have invented a new and Improved Tension Device for Spoolers, of which the following is a full, clear, and exact description.

The present invention relates to new and useful improvements in tension devices, and it pertains more particularly to tension devices adapted for use on machines or other structures for spooling yarns.

It is the object of the invention to so construct a device of this character that as the strain upon the yarn increases, the tension of the tension device is reduced.

With the above and other objects in view, reference is had to the accompanying drawings, in which—

Figure 1 is a top plan view of a device constructed in accordance with the present invention;

Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1;

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 1.

Referring more particularly to the drawings, the reference character 5 designates the spindle from which the yarn is taken, and said spindle is rigidly supported from a bar 6 adjustably secured to a portion of the frame 7, by means of a bolt, screw or the like 8.

The tension device comprises a frame 10, said frame being suitably secured to the bar 7 in any desired manner. This frame 10 embodies a bar 11 projecting from the bar 7 and having secured to its outer end a plate 12 from which are struck vertical ears 13. Projecting from the bar 7, is a plate 14, and upon the outer end of said plate 14 is secured a bar or shield 15 substantially semi-circular in cross-sectional form. Rigidly secured to the bar 7 and a transverse bar 16 carried by the member 10, is a plurality of rods or bars 17, these rods or bars being spaced with relation to each other.

Pivotally mounted in the vertical ears 13, is a transversely extending circular member 20, and rigidly carried by said member 20, are a plurality of spaced bars or fingers 21, the outer end of each of which is bent upwardly as indicated by the reference character 22. Rigidly carried by the outer extremities of the bent portions 22, is a transversely extending bar 23, by means of which the free ends of the fingers 21 are maintained in proper spaced relation.

Mounted upon the bar 7 in such a position as to lie between the tension device and the spindle 5, is a guide 25, preferably formed of a single piece of wire having an eye 26 formed in its free end. Rigidly secured to the transversely extending circular member 20 and projecting vertically therefrom, is a threaded member 27, and adjustably mounted upon said threaded member 27, is a weight 28, which weight serves to rock the member 20 about its pivotal points in order that the fingers 21 will at all times under normal conditions occupy a position between the rigid rods 17.

Pivoted to the frame member 11, as at 30, is a transversely extending lever 31, and one end of said lever 31 is slotted as at 32. Secured to the other end of the lever 31 is a vertically-disposed rigid member 33, the purpose of which will be hereinafter more fully described.

Rigidly secured to the circular member 20 and projecting rearwardly and downwardly therefrom is an arm 35, bent as at 36 and extending forwardly as at 37. This arm 35 has a right-angular free extremity 38 lying within the slot 32 of the pivoted lever 31.

From the above it will be apparent that as the plate 31 is rocked about its pivotal point 30, the right-angular end 38 will be moved forwards or to the left in Fig. 2, which action tends to rock the fingers 22 to a position where they will not lie between the bars 17, in a manner to be hereinafter more fully described.

The device operates in the following manner.

The yarn designated by the reference character B is carried from the spindle 5 through the eye 26 of the guide 25 and is passed between the several bars 17 and fingers 21 as more clearly shown in Fig. 3. Upon leaving the fingers 21, the yarn passes into engagement with the vertical member 33 carried by the pivoted lever 31, as more clearly shown in Fig. 1. As the yarn is removed from the spindle 5, it will be apparent that the tension of the device will serve to take up any slack therein since under the influence of the weight 28, the fingers 21 under

normal conditions, maintain a position between the bars 17. If, now, the yarn is subjected to undue strain by means of its engagement with the vertical member 33, the lever 31 will be rocked about its pivotal point 30, which action serves to rock the circular member 20 through the medium of the lever 35 to lift the fingers 21 in order that the tension on the arm may be released until the strain has been removed, after which the fingers 21 will again assume their normal position between the rigid bars 17 for the purpose of supplying the necessary tension to the yarn B.

I claim:

A tension device comprising a substantially U-shaped frame, a plurality of rigid fingers rigidly mounted in said frame, a plurality of rigid fingers pivotally mounted in said frame and adapted to normally occupy a position between the fingers rigidly mounted in the frame, a transversely extending shaft for pivotally mounting said pivoted fingers, a vertically extending member provided with a screw thread, a counterweight adjustably mounted on said vertically extending member and having threaded engagement therewith, said vertically extending member being adapted to move the pivoted fingers in the spaces between the rigid fingers, a lever rigidly secured to the shaft and extending downwardly and forwardly of the U-shaped frame to a position therebeneath, a second pivoted lever pivotally mounted in the frame and engaging the free end of said lever carried by the shaft upon which the pivoted fingers are mounted, and means adapted for engagement by the vertically extending member for rocking said second-mentioned pivoted lever about its pivotal point to rock the shaft about its pivotal point and move the pivoted fingers relative to the rigid fingers, as and for the purpose set forth.

DAVID E. SKEDGELL