Oct. 12, 1926. 1,602,447

W. E. OLSON

TENSION DEVICE FOR WINDING MACHINES

Filed March 24, 1924 2 Sheets-Sheet 1

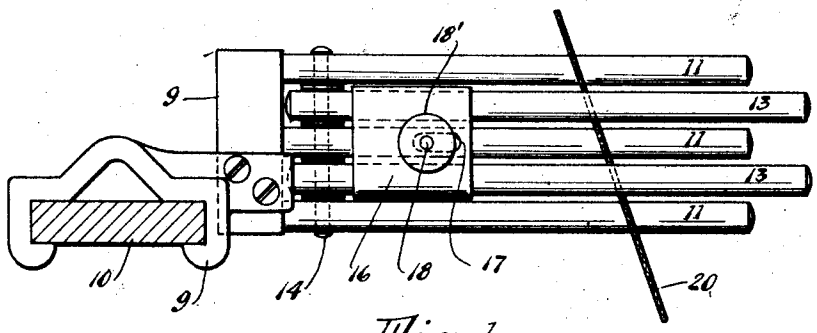


Fig. 1

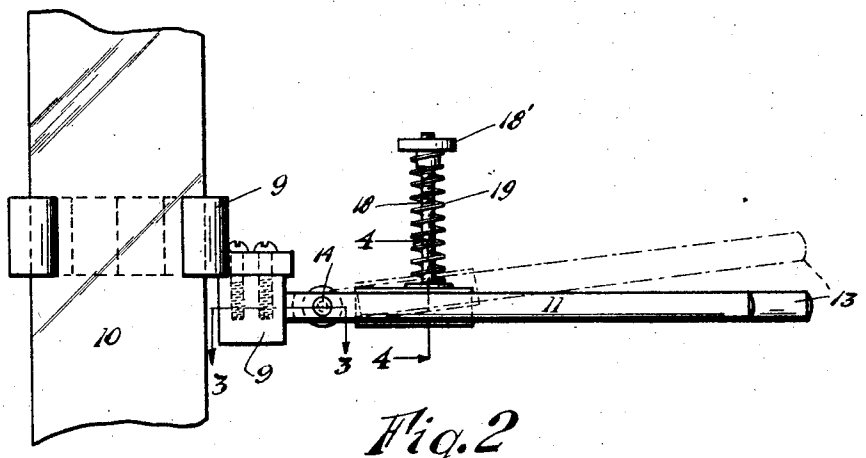


Fig. 2

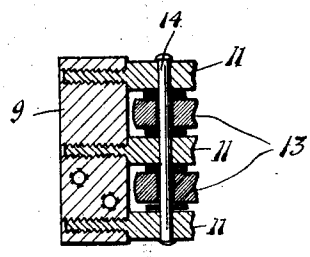


Fig. 3

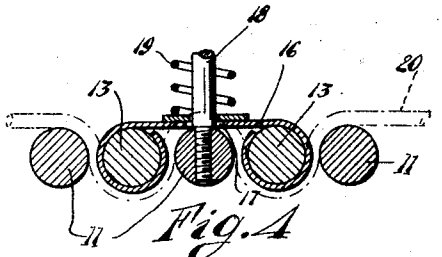


Fig. 4

Witnesses:
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B. G. Richards

Inventor:
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By Joshua R. H. Wood
His Attorney

Oct. 12, 1926. 1,602,447

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TENSION DEVICE FOR WINDING MACHINES

Filed March 24, 1924 2 Sheets-Sheet 2

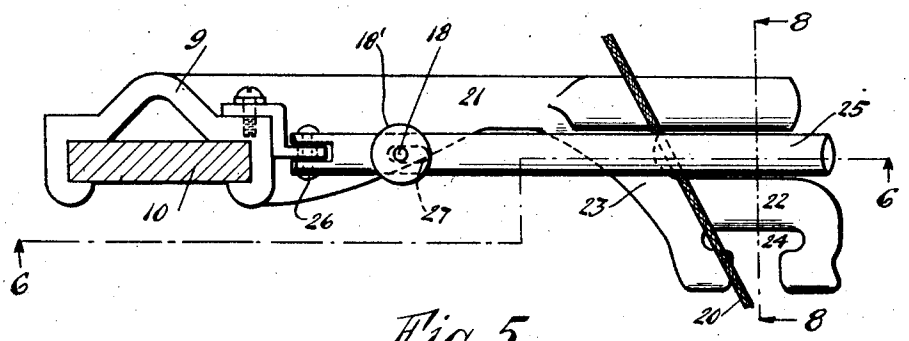


Fig. 5

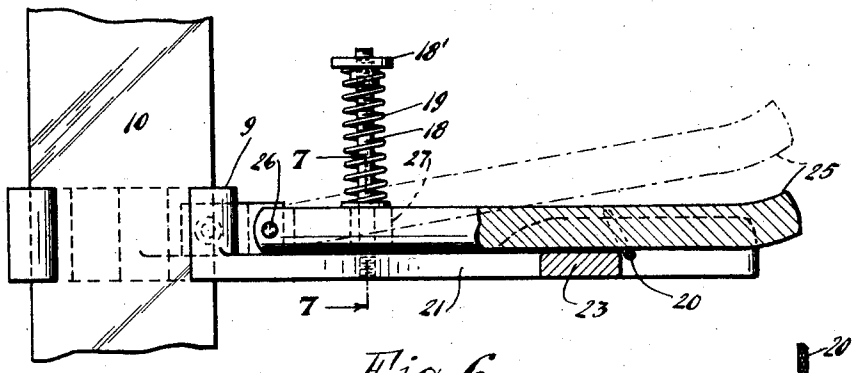


Fig. 6

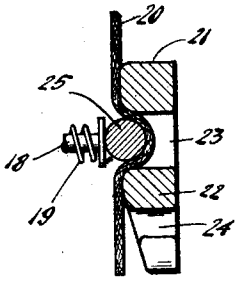


Fig. 8

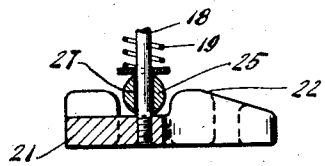


Fig. 7

Witnesses:
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Patented Oct. 12, 1926. 1,602,447

UNITED STATES PATENT OFFICE.

WALTER E. OLSON, OF CHICAGO, ILLINOIS.

TENSION DEVICE FOR WINDING MACHINES.

Application filed March 24, 1924. Serial No. 701,407.

My invention relates to improvements in tension devices for winding machines and the like, and has for its object the provision of an improved construction of this character adapted and arranged to exert tension on a thread, strand of yarn or the like, being fed into a winding machine or the like, which is of simple construction and highly efficient in use.

Other objects will appear hereinafter.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which,

Fig. 1 is a side view of a device embodying the invention.

Fig. 2 is a view at right angles to Fig. 1;

Fig. 3 is a section taken on line 3—3 of Fig. 2;

Fig. 4 is an enlarged section taken on line 4—4 of Fig. 2;

Fig. 5 is a view of a modified form of construction;

Fig. 6 is a section taken on line 6—6 of Fig. 5;

Fig. 7 is a section taken on line 7—7 of Fig. 6, and

Fig. 8 is a section taken on line 8—8 of Fig. 5.

The form of construction illustrated in Figs. 1 to 4 inclusive comprises a suitable bracket 9 adapted and arranged to be secured to a suitable supporting bar 10. The bracket 9 carries three parallel guide rods 11 rigidly secured thereto, the guide rods 11 being arranged in spaced relation to each other with spaces between them. Additional guide rods 13 are pivotally mounted in the spaces between the rods 11 on a pivot pin 14 as shown, the rods 13 being somewhat longer than the rods 11 so as to project beyond the ends thereof to facilitate manipulations of said pivoted rods. A bridge or yoke 16 is secured to the rods 13 and rests upon the central rod 11, said bridge being provided with a slot 17 fitting over a post 18 rigidly secured to the central rod 11. The post 18 is provided with an adjustable head 18′ threaded thereon and a compression spring 19 is imprisoned between the head 18′ and the bridge 16 whereby the guide and clamping rods 13 are yieldingly held in spaces between the rods 11 and the tension thereon rendered adjustable. By this arrangement it will be noted that the rods 13 rest normally in the spaces between the rods 11 and thereby clamp the yarn or thread between them as indicated.

In use the device is mounted in convenient position to permit the passage of a thread or strand 20 therethrough and to the winding machine.

As will be noted from the dotted lines in Fig. 4 the thread or strand 20 will thus be caused to assume a tortuous path passing under the yieldable guide and clamping members 13 so that the tension on the thread or strand tends to raise the members 13 out of the spaces between the members 11 and thus relieve the resistance on the thread or strand. By this arrangement the thread or strand will have sufficient resistance always exerted thereon to introduce sufficient tension therein for proper winding operations and this tension will be automatically relieved when other tension is introduced into the thread or strand. In this way a substantially uniform tension will always be exerted on the thread or strand greatly facilitating the winding operations. The specific form and arrangement of the parts is a simple and effective one for the purpose.

In the modified form of construction illustrated in Figs. 5, 6 and 7, the bracket 9 carries an integral guide arm or finger 21 and a co-operating guide finger 22 is formed integral therewith and adjacent thereto, a web 23 joining the fingers 21 and 22 and passing under the said space. The finger 22 is also provided at its outer side with a guide notch 24 through which the strand or thread 20 may be passed if desired. A clamping finger 25 is pivoted on the bracket 9 at 26 and yieldingly held in position by means of the spring 19 operating on the post 18 which passes through a slot 27 in the finger 25. By this arrangement also the thread or strand being fed to the winding machine will be forced to assume a tortuous path and automatically yielding resistance exerted thereon.

While I have illustrated and described the preferred forms of construction for carrying my invention into effect, these are capable of variation and modification without departing from the spirit of the invention. I therefore do not wish to be limited to the precise construction disclosed but desire to avail myself of such variations and modifi-

cations as come within the scope of the appended claim.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

A device of the class described comprising five adjacent parallel cylindrical guide rods; a pivot pin extending through said guide rods adjacent one end thereof; a bridge secured to the second and fourth guide rods and provided with a central slot, said second and fourth guide rods being extended beyond the other rods; a post secured to the third or central guide rod and projecting through the slot in said bridge; a head threaded on said post; and a compression spring on said post, substantially as described.

In testimony whereof I have signed my name to this specification.

WALTER E. OLSON.