April 15, 1924. 1,490,512

J. P. HILL ET AL

SPOOLER CUP TENSION

Filed Feb. 10, 1923

Fig. 1.

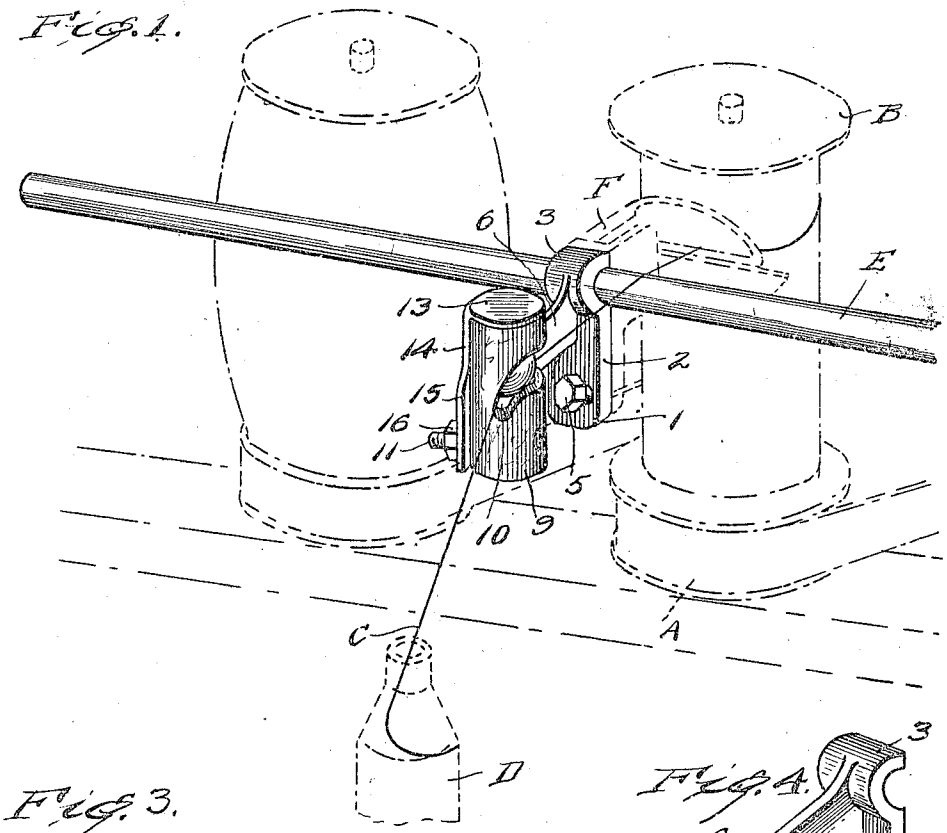


Fig. 3.

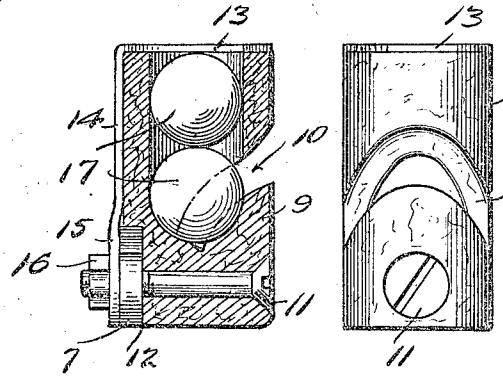
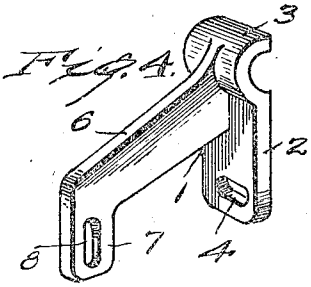


Fig. 2.

Fig. 4.



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UNITED STATES PATENT OFFICE.

JAKE P. HILL AND JOHN G. ROACH, OF AVONDALE, NORTH CAROLINA.

SPOOLER-CUP TENSION.

Application filed February 10, 1923. Serial No. 618,401.

To all whom it may concern:

Be it known that we, JAKE P. HILL and JOHN G. ROACH, citizens of the United States, residing at Avondale, in the county of Rutherford and State of North Carolina, have invented certain new and useful Improvements in a Spooler-Cup Tension, of which the following is a specification.

The present invention relates to a spooler tension having for its principal object to provide a tensioning device disposed between bobbins and spools and engaging the thread while winding upon the spools from the bobbins for obtaining a maximum amount of yardage on the spools without breaking the thread.

Another very important object of the invention is to provide a tensioning device of this nature which is simple and efficient in construction, reliable in operation, inexpensive to manufacture, capable of being assembled readily with a winding mechanism, durable, and otherwise well adapted to the purpose for which it is designed.

For the purpose of illustrating our invention, we have shown in the accompanying drawing that form thereof which is at present preferred by us, since the same will give in practice satisfactory and reliable results, although it is to be understood that the various instrumentalities of which our invention consists can be variously arranged and organized and that our invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described.

In the drawing—

Figure 1 is a perspective view of the device embodying our invention,

Figure 2 is an elevation of the cup member thereof,

Figure 3 is a vertical section through the cup member, and

Figure 4 is a detail perspective of the bracket.

Referring to the drawing in detail it will be seen that a conventional winding mechanism A is illustrated as actuating a spool B upon which the yarn C stored in the bobbin D is to be wound. This yarn or thread passes through our tensioning device so that a maximum amount of thread may be wound upon the spool B without the danger of straining the thread too much thereby eliminating the possibility of the thread becoming broken to a great extent. The usual rail E is disposed adjacent the spool B and supports the usual guide F for the thread C.

Our tensioning device is supported by a bracket 1 including a cap plate 2 the upper portion of which is curved as at 3 for engagement with the rail and the lower portion is of flat construction and provided with a transversely extending slot 4 so that a bolt 5 may be passed therethrough and thus the cap 2 may be drawn in firm engagement with the guide F forming a clamp therewith for engagement with the rail E. An arm 6 projects from the cap 2 and terminates in a depending lug 7 having the vertically arranged slot 8 therein. The tensioning device proper is in the form of a cup shaped member 9 the upper end of which is open and the side of which is provided with a curved slot 10 the ends of which are below the intermediate portion. A bolt 11 extends transversely through the lower portion of the cup shaped member 9 and the threaded portion thereof is disposed in a recess 12 for receiving the lug 7 and the bolt 11 passes through the slot 8 thereof. A closure cap 13 preferably of the disk type is disposed over the open end of the cup shaped member 9 and is provided with the depending arm 14 offset at 15 so as to fit over the lug 7 and engage the end of the bolt 11 so as to be held in place with the lug 7 by a nut 16 threaded on the bolt 11. A pair of superimposed balls 17 are disposed in the cup shaped member 9 and the thread C passes through the bottoms of the slot 10 under the lower ball 17 and the weight of this ball aided by the upper ball tensions the thread. Of course only one ball can be used if desired and the additional ball is merely used for giving additional weight and therefore more tension and has been found more efficient in operation. The slots 4 and 8 allow the cup shaped member 9 to be adjustable as may be found necessary in accommodating the device to the spool and bobbin.

Having thus described our invention, what we claim as new, is:—

1. In combination, a rail, a bracket including a cap, means for clamping the cap to the rail, an arm extending from the cap and provided with a depending lug having a vertical slot therein, a cup shaped member having a slot therein and a recess at its bottom for receiving said lug, a bolt ex-

tending transversely through the cup shaped member into the recess and piercing the slot of the lug, a nut threaded on the bolt for holding the cup shaped member in adjusted engagement with the lug, and a ball disposed within the cup shaped member for bearing upon a thread passing through the slot of the cup shaped member in the manner and for the purpose specified.

2. A tensioning of the class described including a cup shaped member having a slot therein, a cap for the opening of the cup shaped member, an arm depending from the cap alongside of the cup shaped member, a bracket including an arm, a bolt passing through the cup shaped member and engaging the two arms, a nut threaded on the bolt for holding the cup shaped member in firm engagement with the bracket arm, and a ball within the cup shaped member for bearing against a thread positioned in its slot all in the manner and for the purpose specified.

In testimony whereof we affix our signatures in presence of two witnesses.

JAKE P. HILL.
JOHN G. ROACH.

Witnesses:
J. C. HAMES,
J. B. WATKINS.