

No. 811,141.

PATENTED JAN. 30, 1906.

J. GOOD.
TENSION DEVICE.
APPLICATION FILED SEPT. 26, 1904.

Fig. 1.

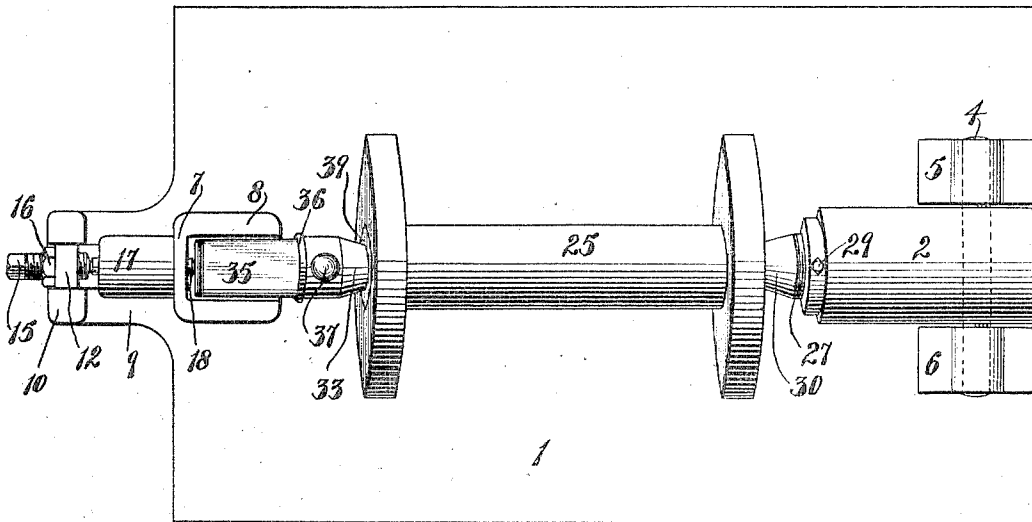
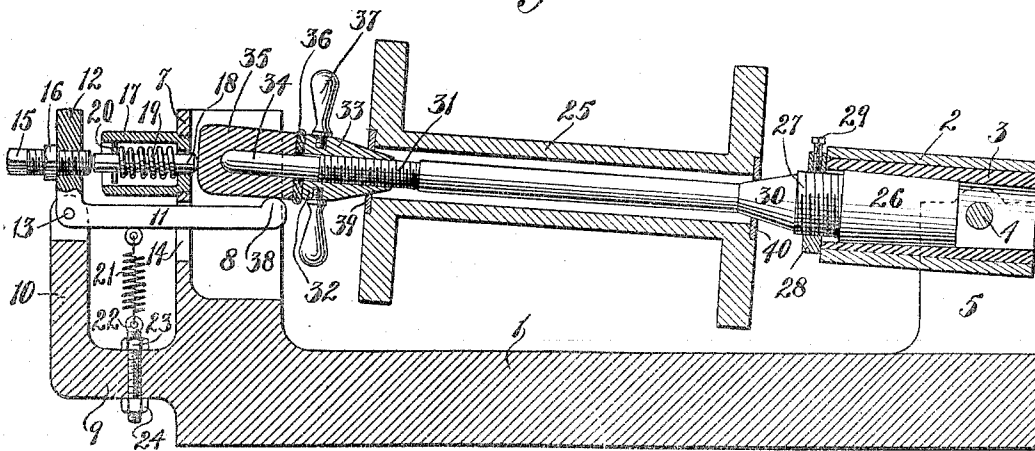


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN GOOD, OF NEW YORK, N. Y., ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE JOHN GOOD CORDAGE CO., A CORPORATION OF NEW YORK.

TENSION DEVICE.

No. 811,141.

Specification of Letters Patent.

Patented Jan. 30, 1906.

Application filed September 26, 1904. Serial No. 225,923.

To all whom it may concern

Be it known that I, JOHN GOOD, a citizen of the United States, and a resident of the borough of Brooklyn, in the city and State of New York, have invented a new and useful Improvement in Tension Devices, of which the following is a specification.

My invention relates to an improvement in means for controlling the unwinding of thread, twine, or cord from bobbins and spools, the object being to provide a device in which an even tension is exerted upon the material being unwound.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 represents the device in top plan with a spool in position to show the operative relation of the parts, and Fig. 2 is a longitudinal vertical section through the same.

A suitable base is denoted by 1. A tubular bearing 2 is provided with a lining-tube 3, having a tapered bore, as shown. This tubular bearing is hinged to swing in a vertical plane upon a pintle 4, supported by lugs 5 and 6, uprising from the base 1. Spaced from the lugs 5 and 6 I provide an upright 7 on the base 1, which upright is provided with a vertical recess 8 open through its top and inner face. An L-shaped bracket 9 10 is located to the front of the upright 7, the horizontal base of the bracket being denoted by 9 and the upright arm by 10. A two-armed rocking lever 11 12 is hinged to swing vertically on a pivot 13, carried by the arm 10 of the bracket. The horizontal arm 11 of the lever projects inwardly through a slot 14 in the upright 7 into the interior of the recess 8. The vertical arm 12 of the lever is provided with a set-screw 15, having a lock-nut 16. The upright 7 is provided with a socket-piece 17, screwed or otherwise secured in alignment with the set-screw 15. A spring-actuated pin 18 is fitted to slide in the socket-piece 17, the inner end of the pin projecting through the bottom of the socket-piece into the recess 8 in the upright 7 above the arm 11 of the rocking lever. A spring 19 is interposed between the bottom of the socket-piece and an abutment 20 on the pin 18, tending to hold the outer end of the pin pressed against the inner end of the set-screw 15.

A spring 21 is attached to the arm 11 of the

rocking lever and to a set-screw 22, provided with lock-nuts 23 24, which set-screw extends through the base 9 of the bracket 9 10. This spring 21 serves to counterbalance in a measure the spring 19 and is adjustable as to tension by means of the screw 22 and lock-nuts 23 24, above referred to.

The spool is denoted by 25, and it is removably mounted on its spindle, as follows: The spindle is provided with a tapered head 26, which fits within the tapered bore of the bearing-tube 3. The spindle is provided with a screw-threaded portion 27 adjacent to the inner end of the head 26, which screw-threaded portion is engaged with an adjusting-collar 28 for regulating the closeness of fit between the tapered periphery of the head 26 and the bore of the bearing-tube 3. A set-screw 29 is provided for locking the collar 28 in its desired adjustment. Adjacent to the inner end of the screw-threaded portion 27 the spindle is provided with a tapered seat 30 for supporting one end of the spool 25. The spindle is further provided with a screw-threaded portion 31 adjacent to the other end of the spool 25, which screw-threaded portion is engaged by a removable nut 32, having a tapered seat 33 for supporting the adjacent end of the spool 25. The spindle is further provided with a reduced plain end 34, which is fitted to receive a thrust-block 35, fitted to the recess 8 in the upright 7. A suitable packing 36 may be interposed between the nut 32 and the inner end of the thrust-block 35. The nut 32 may also be provided with suitable handles 37 for the purpose of readily inserting and removing the nut. When the parts are in position, the bottom of the thrust-block 35 rests upon the rounded end 38 of the rocking lever 11 12 and the outer end of the thrust-block is engaged by the inner end of the sliding pin 18. The weight of the spool will be transmitted through the thrust-block 35 to the arm 11 of the rocking lever, and the arm 12 of the rocking lever will force the sliding pin 18 with greater or less force against the outer end of the thrust-block 35.

As the tapered head 26 of the spindle becomes worn the collar 28 may be unscrewed a sufficient distance to permit the head to enter the lining-tube 3 an additional distance.

The ends of the spool 25 are provided with

plates 39 40, of brass or other suitable material, which plates engage the tapered seats 30 33 as the nut 32 is screwed inwardly for securely gripping the spool against movement on the said seats.

In operation the wound spool is placed upon the spindle, and the removable tapered seat is then screwed thereon to clamp the spool onto the spindle. The thrust-block is then inserted onto the free end of the spindle, and the spindle is then inserted into position with its thrust-block resting upon the arm 11 of the rocking lever 11 12 and engaged by the sliding pin 18. As the thread is unwound from the spool the weight of the spool decreases, thus causing the arm 12 of the rocking lever to press with gradually lessening force against the pin 18. This will lessen the pressure of the pin against the thrust-block of the spindle.

It will be seen that this friction attachment does not interfere at all with the ready insertion and removal of the spools. Furthermore, the amount of friction may be readily adjusted to the utmost nicety in a simple manner.

What I claim as my invention is—

1. A spool-carrying spindle, a rocking bearing for receiving the spindle-head and a tension device for supporting the free end of the spindle.

2. A spool-carrying spindle having a tapered head, a rocking bearing having a tapered bore for receiving the head, means for adjusting the position of the head with respect to the bearing and means for supporting the free end of the spindle.

3. A spool-carrying spindle having a tapered head and a screw-threaded portion adjacent thereto, a rocking bearing having a tapered bore for receiving the head, an adjusting-collar engaging the screw-threaded portion and the bearing for adjusting the position of the head within the bore and means for supporting the free end of the spindle.

4. A spool-carrying spindle having a tapered head, a rocking bearing having a tapered bore for receiving the head and a tension device for supporting the free end of the spindle.

5. A spool-carrying spindle having a ta-

pered head, a screw-threaded portion and a fixed tapered seat adjacent to each other.

6. A spool-carrying spindle having a tapered head, a screw-threaded portion and a tapered seat adjacent to each other and another screw-threaded portion spaced therefrom and a removable tapered seat arranged to engage said last-named screw-threaded portion.

7. A spool-carrying spindle, a bearing for its head and a tension device for supporting the free end of the spindle comprising a rocking lever one arm of which supports the spindle and a sliding pin interposed between the end of the spindle and the other arm of the lever.

8. A spool-carrying spindle, a rocking bearing for its head and a tension device for supporting the free end of the spindle comprising a rocking lever, an adjusting-screw carried by one arm of the lever, the other arm of the lever serving to support the spindle and a sliding pin interposed between the adjusting-screw and the end of the spindle.

9. A spool-carrying spindle, a rocking bearing for receiving the spindle-head and a tension device for supporting the other end of the spindle comprising a thrust-block on the free end of the spindle, a spring-actuated rocking lever one arm of which engages the bottom of the thrust-block and a spring-actuated sliding pin interposed between the other arm of the lever and the thrust-block.

10. The combination with a suitable base of a spool-carrying spindle, a rocking bearing carried by the base for receiving the head of the spindle, an upright having a vertical recess therein, a thrust-block carried by the free end of the spindle located within said recess and a spring-actuated tension device engaging the thrust-block for supporting the free end of the spindle.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 23d day of August, 1901.

JOHN GOOD.

Witnesses:

FREDK. HAYNES,
HENRY THIEME.