No. 791,661. PATENTED JUNE 6, 1905.

J. B. WATSON.

TENSION FOR SEWING MACHINES.

APPLICATION FILED APR. 18, 1904.

Fig. 1.

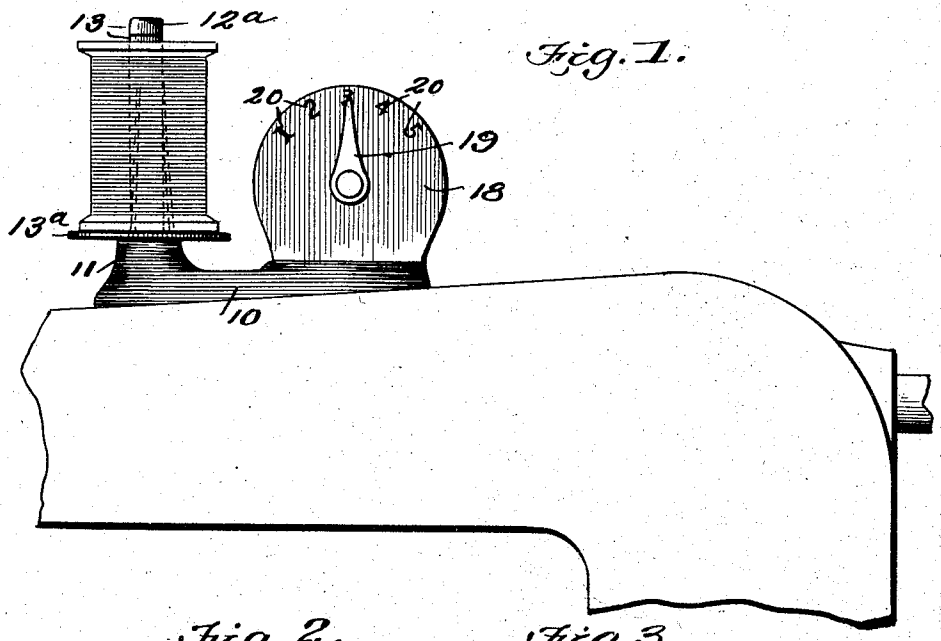


Fig. 2.

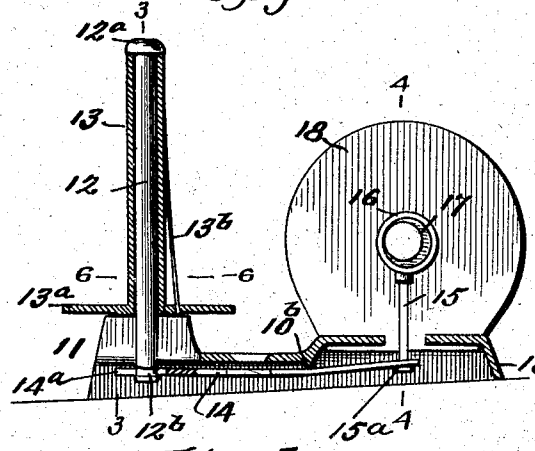


Fig. 3.

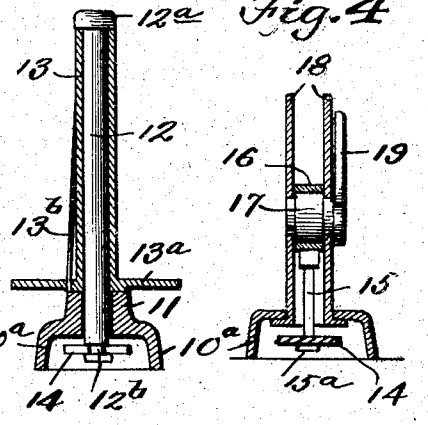


Fig. 4.

Fig. 5.

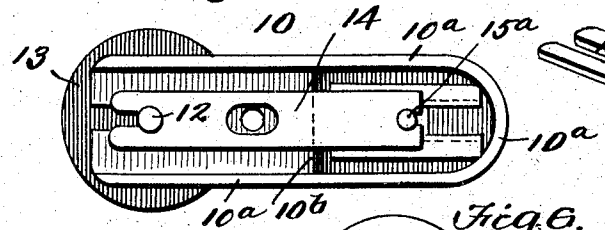


Fig. 7.

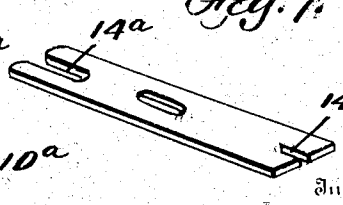
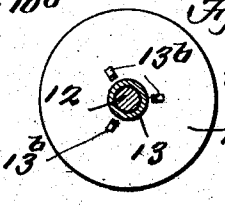


Fig. 6.



Witnesses.

M. L. Blondel.

E. B. McBath.

Inventor

J. B. Watson.

By O'Meara & Brock

Attorneys

No. 791,661. Patented June 6, 1905.

UNITED STATES PATENT OFFICE.

JOSEPH B. WATSON, OF LLANO, TEXAS.

TENSION FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 791,661, dated June 6, 1905.

Application filed April 18, 1904. Serial No. 203,818.

To all whom it may concern:

Be it known that I, JOSEPH B. WATSON, a citizen of the United States, residing at Llano, in the county of Llano and State of Texas, have invented a new and useful Tension for Sewing-Machines, of which the following is a specification.

This invention relates generally to sewing-machines, and more particularly to an improved form of tension device for the thread, the object being to provide a cheap, simple, and efficient device which can be applied to and used in connection with any kind of sewing-machine and by means of which the thread can be kept at the proper tension, thereby preventing slack during the sewing operation.

Another object of the invention is to provide a device in which the tension can not only be quickly and easily slackened or tightened, but one which will clearly indicate the degree of tension and one in which it will only be necessary to move the indicating-finger in order to increase or decrease the tension.

With these objects in view my invention consists, essentially, of a base carrying a vertical pin upon which is arranged the usual spool-holding sleeve, the upper end of the pin having a head which engages the upper end of the sleeve, the lower end of said pin being connected to regulating means carried by the base, whereby the pressure of the head upon the sleeve can be regulated, as described, and consequently the tension of thread.

The invention consists also in certain features of construction and arrangement, which will be fully described hereinafter and pointed out in the claims.

In the drawings forming a part of this specification, Figure 1 is a view showing the practical application of my invention. Fig. 2 is a vertical longitudinal section. Fig. 3 is a transverse section on the line 3 3 of Fig. 2. Fig. 4 is a section on the line 4 4 of Fig. 2. Fig. 5 is an inverted plan view. Fig. 6 is a section on the line 6 6 of Fig. 2, and Fig. 7 is a detail view of the spring-lever.

In carrying out my invention I employ a cast-metal base 10, which is connected to the arm of the sewing-machine by means of a screw or in any other manner. This base 10 has a boss 11 at one end, through which passes a round pin 12, having a head 12^a at its upper end, and turning upon this shaft 12 and resting upon the boss 11 is the usual spool-holding sleeve 13, having the base-flange 13^a and ribs or pins 13^b, which prevent the spool turning on the sleeve. The upper end of this sleeve is engaged by the head 12^a of the pin 12, and the tension is regulated by increasing or decreasing the pressure of the head upon this sleeve, and this is accomplished by means of a spring-lever 14, fulcrumed in the base and connected at one end to the lower end of the pin 12 and at the other end to the lower end of a rod 15, which is carried by a band 16, encircling an eccentric 17, mounted between the plates 18, connected to the base, the eccentric-shaft 17 carrying an indicating-finger 19 at one end and which is adapted to point to figures "20," produced upon the adjacent face of the plate for the purpose of indicating the tension. The base is flanged, as shown at 10^a, and the spring-lever 14 is fulcrumed upon a cross-rib 10^b. This lever is slotted, as shown at 14^a, to engage the grooved end 12^b of the pin 12, and the opposite end is slotted, as shown at 14^b, to receive the headed end 15^a of the rod 15. Thus it will be understood that to increase the tension the finger 19 is moved to the right, and to decrease it it is moved to the left, and these movements move the rod 15 up or down, and thus communicates motion to the spring-lever, which acts upon the pin and regulates the tension of the thread through the pressure of the head upon the end of the sleeve.

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

1. The flanged base, having a boss at one end and parallel plates at the opposite end, said base also carrying a fulcrum-point, a headed pin mounted in the base, a sleeve arranged upon said shaft and resting upon the boss, a pin mounted in the plates, and carrying an eccentric, an indicator-finger connected to the end of the eccentric-shaft, a band encircling the eccentric, a rod carried by the band and a spring-lever arranged in the base

and slotted at each end, one end engaging the rod and the other the lower end of the pin, for the purpose set forth.

2. A tension device for sewing-machines comprising a base, a sleeve arranged upon said base, a pin passing through the sleeve and provided with a head, adapted to bear upon the upper end of the sleeve, a spring fulcrumed in the base and connected at one end to the lower end of the pin, a rod connected to the opposite end of said spring, a band carried by said rod and an eccentric-shaft encircled by the band, said shaft being movable whereby the tension of the spring is increased and decreased.

JOSEPH B. WATSON.

Witnesses:
JOHN A. CHISM,
H. P. TIDD.