(No Model.)

W. D. HUSE.

THREAD TENSION DEVICE FOR SEWING MACHINES.

No. 467,103. Patented Jan. 12, 1892.

Fig. 1.

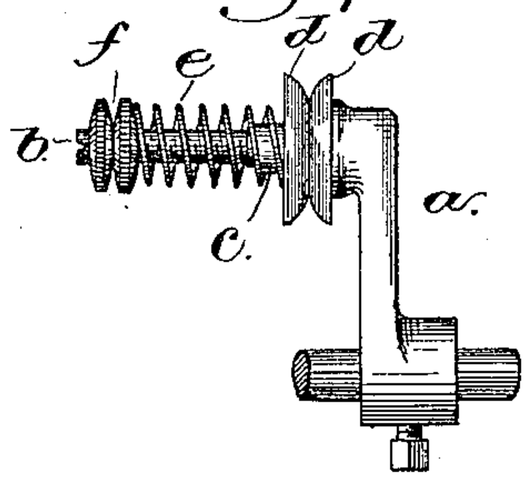
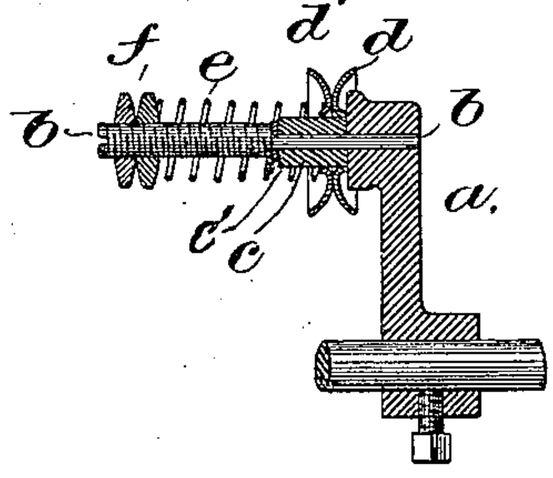


Fig. 2.



Witnesses.
Edward C. Allen
Fred S. Greenleaf.

Inventor.
Warren D. Huse.
by Lemby & Gregory attys.

UNITED STATES PATENT OFFICE.

WARREN D. HUSE, OF LACONIA, NEW HAMPSHIRE.

THREAD-TENSION DEVICE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 467,103, dated January 12, 1892.

Application filed March 30, 1891. Serial No. 386,977. (No model.)

To all whom it may concern:

Be it known that I, WARREN D. HUSE, of Laconia, county of Belknap, State of New Hampshire, have invented an Improvement in Thread-Tension Devices, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

In sewing and other machines it is customary to conduct the thread from the spool to the eye-pointed needle or looper through a tension device made adjustable as to its force to thereby put upon the thread the proper amount of tension.

A tension device very largely in use is composed, essentially, of two washers surrounding a screw-threaded spindle, about which is a spiral spring acted upon at one end by an adjusting-nut, the opposite end of the spring resting against one of the said disks, the said disk acted upon by the spring being pushed against the other disk, the movement of which in the direction of the length of the spindle is prevented by a suitable stop.

The tension device referred to is objectionable, because the metal spindle upon which the said disks are mounted is soon cut by the threads, and thereafter the friction or abrasion of the thread is such as to break the same. To increase the durability and efficiency of this class of tension device and enable the same to be run for a very much longer period of time and without materially enhancing the cost thereof, I have provided the spindle with a vitreous sleeve or coating, against which the thread fast between the disks bears, the said thread not being at all injured by the vitreous sleeve or coating, the sleeve or coating not being at all cut by the thread.

Figure 1 in elevation represents a thread-tension device embodying my invention, and Fig. 2 a section thereof.

Referring to the drawings, let it be supposed that *a* represents a suitable stand or arm supported in any usual manner upon any usual part of any usual sewing or other machine in which the tension device is to be employed. This arm has a threaded spindle or stud *b* attached thereto and provided with a shoulder *c'*, (see Fig. 2,) and a vitreous surface or sleeve *c* is applied to said stud between the shoulder thereof and the stand. This vitreous surface or sleeve is surrounded by two independent disks or washers *d d'*, preferably of thin metal, struck up into the form represented. The washer *d'* is acted upon by a suitable spiral spring *e* outside the threaded portion of the spindle or stud *b* to press it against the disk or washer *d*, a suitable nut or nuts *f* by their adjustment upon the threaded spindle *b* in one or the other direction increasing or decreasing the stress of the spring.

Prior to my invention all the parts referred to, with the exception of the vitreous sleeve or coating for the spindle, are old; yet the combination of the said parts with the said vitreous sleeve or coating greatly improves the machine containing the tension device, for the vitreous sleeve or coating will not be cut into or worn by the thread; nor will the said sleeve or coating wear the thread in any way.

The tension device herein described may be used for a long time without injury, whereas a tension device differing from it only by the absence of the vitreous sleeve or coating can be used but for a comparatively short space of time in a manufacturing-machine where it is subjected to constant use.

I claim—

The herein-described tension device, consisting, essentially, of a stand, a threaded stud attached thereto and provided with a shoulder, a sleeve of vitreous material applied between the shoulder on the stud and the said stand, two independent tension-disks, as *d d'*, mounted upon the said sleeve, a spring acting to press one of said disks toward the other, and an adjusting-nut whereby the thread passing between the said tension-disks and subjected to tension thereby is permitted to contact with the said vitreous sleeve and prevent wear upon the stud, the shoulder of the stud holding the sleeve in place.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WARREN D. HUSE.

Witnesses:
GEO. W. GREGORY,
EDWARD F. ALLEN.