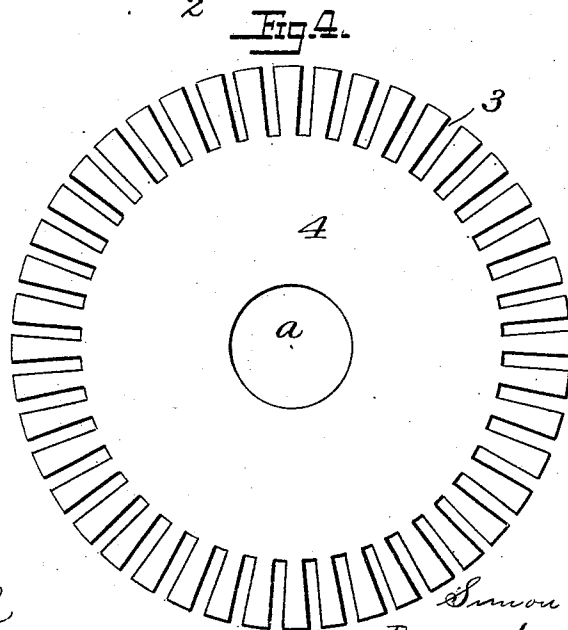
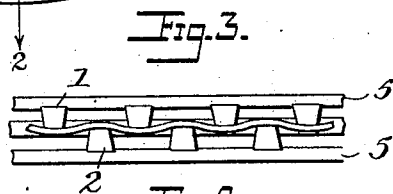
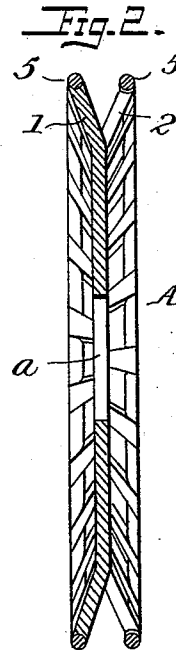
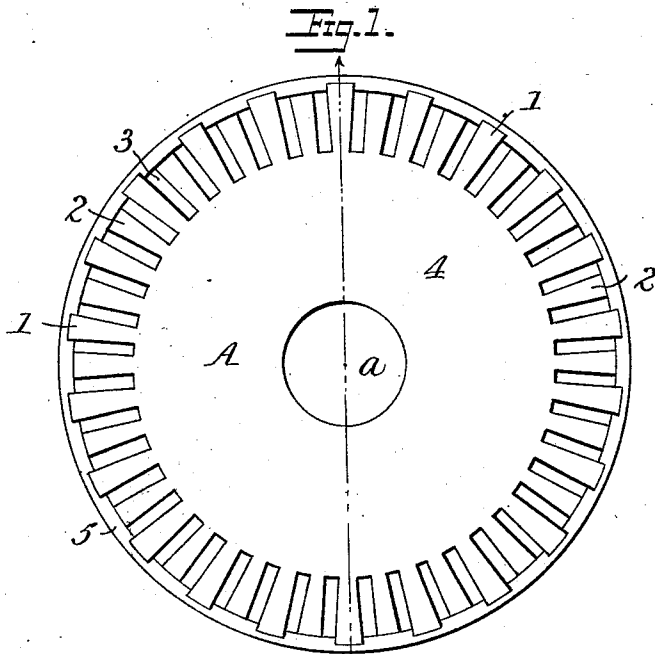


(No Model.)

S. W. WARDWELL, Jr.
WHEEL FOR THREAD TENSION.

No. 531,082.

Patented Dec. 18, 1894.



Witnesses
Jno G. Hinkel
A. J. Dobson

Inventor
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UNITED STATES PATENT OFFICE.

SIMON W. WARDWELL, JR., OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE
UNIVERSAL WINDING COMPANY, OF PORTLAND, MAINE.

WHEEL FOR THREAD-TENSION.

SPECIFICATION forming part of Letters Patent No. 531,082, dated December 18, 1894.

Application filed March 7, 1894. Serial No. 502,776. (No model.)

To all whom it may concern:

Be it known that I, SIMON W. WARDWELL, Jr., a citizen of the United States, residing at Boston, Suffolk county, State of Massachusetts, have invented certain new and useful Improvements in Wheels for Thread-Tension, &c., of which the following is a specification.

My invention relates to that class of wheels or disks having peripheral grooves over which a thread or cord is conducted in a spooling or sewing machine, and to which wheels friction is applied in some way so as to apply a tension to the said thread or cord; and my invention consists in a wheel or tension device constructed and arranged substantially as will hereinafter be more particularly described.

Figure 1 is a side view enlarged of my improved tension wheel; Fig. 2, a section on the line 2—2, Fig. 1; Fig. 3, a diagram illustrating the course of the thread at the edge of the wheel; and Fig. 4, a plan view illustrating the manner of cutting out the plate or disk to form the wheel.

The body of the wheel A consists of a circular disk of metal cut away or notched around the entire periphery so as to leave a series of radial fingers or projections and intermediate spaces 3, the said fingers being of an even number. After the blank has been cut out to the shape shown in Fig. 4, one half of the fingers 1 are bent to one side and the other half of the fingers 2 are bent to the opposite side, each at the same angle to the body 4 of the plate, and a ring 5 of wire or other material is then soldered to the extreme ends of each series of fingers, and as the fingers could not then be turned in to the position of the plane of the plate without bringing their ends laterally toward each other, the said rings 5 serve as a means of maintaining the fingers in their inclined positions to the plane of the body 4 of the plate. I thus make a wheel having a V-shaped groove, the said groove being formed of alternate bars, 1, 2, separated by intermediate spaces and inclined in opposite directions, each series connected to a surrounding ring 5 at the end.

The wheel is provided with an opening a,

or it may have a stud or axle so as to turn upon its center in suitable bearings in a thread or cord winding machine, or sewing machine, or other machine, where the thread must be passed around a wheel to which friction is in some way applied so as to secure a proper tension.

In the ordinary tension wheels having continuous V-shaped grooves in the peripheries, it is necessary to wedge the thread into the groove so tightly in order to secure a heavy friction that it interferes with the delivery of the thread from the wheel; but with a wheel of the character above described where the V-shaped receptacle for the thread consists of fingers or bars alternately inclined in opposite directions, the thread will, while lying lightly in the groove, assume the waved course indicated in Fig. 3, so that it is almost impossible under ordinary circumstances to draw it longitudinally independently of the turning of the wheel.

As before stated, the fingers, 1, 2 alternate with intermediate spaces, the object of which is to impart a more gradual wave or bend to the thread than would be the case if the edge of one finger was on the same plane as the adjacent edge of the other, and this further prevents the abrading of the thread by bending it sharply around the edges of the fingers.

Without limiting myself to the precise construction and arrangements of parts shown and described, I claim as my invention—

A thread tension device comprising a plate or disk having two series of alternating radially disposed fingers or projections bent to different sides at an angle to the body of the plate, the said fingers or projections being separated by intermediate spaces, and each series being connected or secured by a circumferential rim or band, substantially as described.

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

SIMON W. WARDWELL, JR.

Witnesses:

PHILIP E. BRADY,
WILLIAM CASEY.