P. EVENS, Jr.

Thread Tension for Sewing Machines.

No. 53,527. Patented March 27, 1866.

Fig. 1.

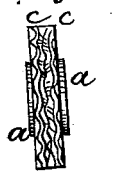


Fig. 2.

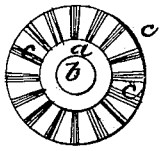
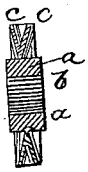


Fig. 3



WITNESSES.

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PLATT EVENS, JR., OF CINCINNATI, OHIO, ASSIGNOR TO THE FLORENCE SEWING MACHINE COMPANY, OF FLORENCE, MASSACHUSETTS.

IMPROVEMENT IN THREAD-TENSIONS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **53,527**, dated March 27, 1866.

To all whom it may concern:

Be it known that I, PLATT EVENS, Jr., of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Thread-Tension Wheels or Surfaces for Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents an edge view of the wheel in question. Fig. 2 represents a side view thereof, and Fig. 3 represents a transverse section taken centrally through the tension-wheel.

To properly regulate the tension upon thread used in sewing-machines has occupied much thought and study, and many patents have been granted therefor; but a perfect thread-tension is a matter yet to be discovered or developed. There is another feature connected with the tension of the thread that causes much difficulty—viz., preventing the slip or loosening up of the thread upon the tension-wheel when the thread is cut off at the end of the seam, which allows it to slack on the wheel, and until this slack is all taken up again, when the machine or the sewing is again started, there will of course be irregular stitches made.

I am aware that appliances have been made to the tension-wheel to prevent this slipping or slacking up of the thread when cut, and that they succeed; but in some cases these appliances soon wear out, and in others involve additions to the surface of the wheel where the thread winds around that may be exceptionable in point of expense or durability.

To avoid this slipping of the thread by the metallic surfaces of the wheel alone, and without any extraneous application to that surface, is the object and purpose of my invention; and my invention consists in the use of corrugated surfaces adjacent to each other, the projections upon one of the corrugated surfaces being opposite the depressions of the opposite corrugated surface, so that the turn or turns of the thread around the wheel shall have a zigzag instead of a regular circular coil, and have many angular deflections, which hold it to the surfaces, and thus prevent the slipping or slacking up when the thread is parted.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

a represents a hub of metal, having a suitable hole, *b*, through it for receiving the shaft or journal, upon or with which the wheel is to turn as the thread is drawn to the sewing-point. Upon the perimeter of this hub are secured the two flaring corrugated disks or flanges *c*, which may be in close contact where they are joined to the hub, and flaring toward their perimeters for the easy reception of the thread, which has one, two, or more full turns around the wheel so made. The corrugations *e* run radially from the center of the wheel, and the projections on one of the flanges are placed opposite the depressions of the other flange, so that a thread laid in between them and encircling the wheel shall have in it a series of angular deflections and many points of impact with the corrugated surfaces, which prevent it from slipping when the thread is cut or parted.

The corrugations are put into the flanges, which are made of thin sheet metal by means of dies, or, in other words, the flanges are stamped up, and thus cheaply made, and may be soldered or otherwise united to the hub *a*.

I am aware that the grooves in pulley or belt wheels have been roughened so as to give more bite upon the belt which partially encircles the pulley; but this I regard as involving a different construction, effect, and application, as the belt for a driving power is not presumed to be parted, and certainly is not cut, as the thread of a sewing-machine is, at the end of every seam; nor would the slacking of a driving-belt, if it occurred, result in any such irregularity as is incident to the slacking of a thread in a sewing-machine; nor are the depressions of one corru-

gated flange set opposite the projections of its mate or fellow, as I propose to attain the many deflections given to the thread laid or wound between the corrugated surfaces.

Having thus fully described my invention, what I claim is—

Making and regulating tension in sewing-machines by giving the thread a zigzag direction in its turns around the tension-wheel.

PLATT EVENS, JR.

Witnesses:
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SAML. BELLIS.