J. G. NICHOLS.

Sewing-Machine Shuttle.

No. 161,265. Patented March 23, 1875.

*Fig. 1.*

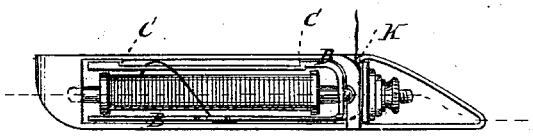



*Fig. 2.*

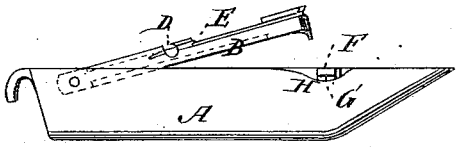
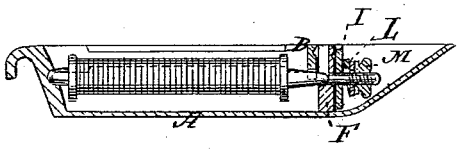



*Fig. 3.*

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# UNITED STATES PATENT OFFICE.

JOHN G. NICHOLS, OF NEW EUREKA, KANSAS.

## IMPROVEMENT IN SEWING-MACHINE SHUTTLES.

Specification forming part of Letters Patent No. **161,265**, dated March 23, 1875; application filed October 3, 1874.

*To all whom it may concern:*

Be it known that I, JOHN G. NICHOLS, of New Eureka, Jackson county, Kansas, have invented a new and useful Improvement in Sewing-Machine Shuttles, of which the following is a specification:

This invention relates to certain improvements in that class of sewing-machine shuttles which are provided with vertical spring-pressed tension-disks; and it has for its object to produce a shuttle which can be threaded with ease and celerity.

The invention consists in the arrangement of a stationary vertical tension-plate and a movable spring-pressed tension-disk, in such relation to the side walls of the shuttle that the thread, after having first been passed over one side bar of a pivoted yoke or bobbin-retaining frame, is conducted through a notch in the opposite bar along a groove in the same, and is then guided to pass readily between the tension-plates or disks by means of a groove or notch in the stationary disk, and a notch in the upper edge of the shuttle-wall, a slotted eye formed in the opposite shuttle-wall being located in line with the tension device, so that the thread after its exit from the same is at once guided or caused to pass into said slotted eye, which completes the threading operation.

Figure 1 is a plan view of a shuttle contrived according to my invention. Fig. 2 is a side elevation of the shuttle; and Fig. 3 is a longitudinal sectional elevation taken on the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

A represents the body of the shuttle; B, the latch, which I propose to make with two arms joining together at the ends, and one having the offsets at C, to provide room for the thread, which I cause to pass up from the bobbin between the arm and the wall of the shuttle; then across to the other arm, wherein I arrange a notch, D, for the thread, instead of an eye, and from the notch along the side next to the wall to the end. I make a groove from the notch D to where a portion of the arm is cut away, to allow the thread to pass to the end piece F, at the end of the bobbin-chamber. On the opposite side of the said end piece, next to the tension-plate I, I round the upper corner and make a notch beneath to retain the thread as it passes through the notch K in the wall of the shuttle. In the end of this end piece, at the end of the notch H in the wall of the shuttle, I make a notch, G, for the thread leading directly to the space between said end piece and the movable tension-plate I, which I arrange against the side of said end piece, and thus utilize the latter for the stationary tension-plate, and at K I make another little notch in the wall of the shuttle to receive the thread as it comes from the tension-plates, and passes away to the machine.

By placing the tension-plates in this way, I get ample room for using a conical coiled spring, L, between the tension-plate I and the adjusting-nut M, by which I get a wide range of movement, and thereby have a much softer tension, which is capable of finer adjustment than the spring-disk is.

I am aware of the existence of sewing-machine shuttles which are provided with a tension device consisting of a fixed and a spring-pressed disk; also, that shuttles having a slotted eye formed in one of the side walls for the passage of the thread, are not new. I therefore disclaim all broadness of invention in respect to the spring tension device and slotted eye, and desire it to be distinctly understood that my invention consists in certain minor details of construction, but principally in the peculiar arrangement and combination of parts or devices designed to make up a shuttle which can be threaded with great ease and celerity.

The facility with which my shuttle can be threaded will be rendered apparent when it is considered that the thread is guided to pass between the tension-plates by the notches in the shuttle-wall and in the end of the fixed tension-plate. The thread upon its passage from the tension device will at once enter the slotted eye in the shuttle-wall, as the same is located in a direct line with the former.

It will be perceived that I rely upon the tension-disks to exert the requisite pressure upon the thread by frictional contact alone, the thread not being wound or passed around anything, but simply drawn between the ten-

sion-disks, the groove in one of the disks preventing the thread from slipping out.

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

The combination of the shuttle-body A, having a notch, H, and a slotted eye, K, in its opposite side walls, the fixed tension-disk or end plate F, provided with a notch, G, the spring-pressed tension-plate I, the pivoted latch or bobbin-retaining frame B, having a notch, D, and groove E, all constructed and relatively arranged as herein shown and described.

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Witnesses:

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