

L. LYON.

Shuttle for Sewing Machines.

No. 105,820.

Patented July 26, 1870.

Fig. 1

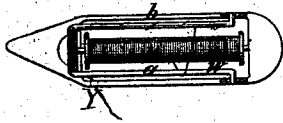
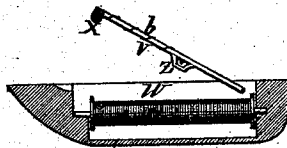


Fig. 2



Witnesses:

E. Mahlers

Rudolph Meisters

[Signature]

Inventor:

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Attys

UNITED STATES PATENT OFFICE.

LUCIUS LYON, OF NEW YORK, N. Y.

IMPROVEMENT IN SHUTTLE FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **105,820**, dated July 26, 1870.

To all whom it may concern:

Be it known that I, LUCIUS LYON, of the city, county, and State of New York, have invented a new and useful Improvement in Shuttles; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

Figure 1 represents a shuttle in plan view. Fig. 2 shows the shuttle in longitudinal section, the tension-bar being thrown up.

Similar letters indicate corresponding parts. My invention consists in arranging, within a shuttle, a tension-bar which is provided with a tube, and also in providing the tension-bar with parallel sides and an eye, whereby the thread is uniformly delivered and its tension regulated.

The bobbin U is confined within the shuttle by means of a swinging tension-bar, V, of the shape of a hollow parallelogram, open at one end, which is arranged to swing and close down within the shuttle-cavity W, being hinged to the inner sides of the shuttle at one end of that cavity.

The hinges in this example are formed by bending the ends of the bar at its open end outward and inserting them into holes made for them in the sides of the shuttle.

The closed end of the bar V shuts down upon or over that journal of the shuttle-bobbin which rests in an open bearing and keeps it in place, and, when the bar is swung up, the bobbin can be taken out by raising the one end out of the open bearing and sliding the other end out of its bearing.

The bar V serves not only to confine the bobbin, but also to regulate the discharging or unwinding of the thread from the bobbin, and to obtain the necessary tension, and to conduct the thread to the place of discharge, where it leaves the shuttle in a uniform manner.

The parallel sides *a b* of the said tension-bar V are made round and they are clear of the adjacent sides of the shuttle, and the transverse part or end of the bar, which shuts

down over the left-hand end (observing Figs. 4 and 5) of the bobbin, connects the two sides of the bar.

The transverse part or end of the bar is thickened for a portion of its length, so that its lower edge can reach down to the open bearing of the bobbin, while the outer surface is flush with the face of the shuttle. Through this lower thickened part I form a tube or groove, X, which guides the thread from the under side of the shuttle to the upper side, about in line with and a little forward of the outlet Y in the top of the shuttle.

That side of the tension-bar V which is designated by the letter *b* has an eye, Z, on its lower edge, through which the thread is passed before it is wound upon said part *b* of the tension-bar, as shown in the drawing.

The course of the thread is as follows: On leaving the bobbin the thread is passed behind, and thence upward over the part *a* of the bar V, thence across the cavity W over the bobbin, and through the eye Z of the part *b*; thence upward, over, and around the part *b* as many times as are required to create the necessary degree of tension or resistance on the thread to prevent a too free delivery; thence through the tube X to that side of the shuttle where the thread passes out, and thence to the outlet-passage Y.

This part of my invention enables me to regulate the tension with advantage and facility, and insures a great degree of uniformity in the delivery of the shuttle-thread, whether the bobbin is delivering from its ends or from its central portion, or from full or empty bobbins.

What I claim as new, and desire to secure by Letters Patent, is—

1. The tension-bar V, arranged within the shuttle, and provided with a tube, X, substantially as and for the purpose described.

2. The combination, with the shuttle, of the bar V, having sides *a b*, with an eye, Z, substantially as and for the purpose described.

LUCIUS LYON.

Witnesses:

C. WAHLERS,
E. F. KASTENHUBER.