M. C. HAWKINS.

SHUTTLE FOR SEWING MACHINES.

No. 103,610. Patented May 31, 1870.

Fig. 1.

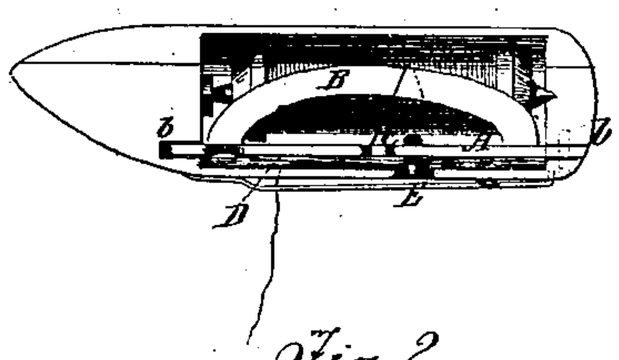

Fig. 2.

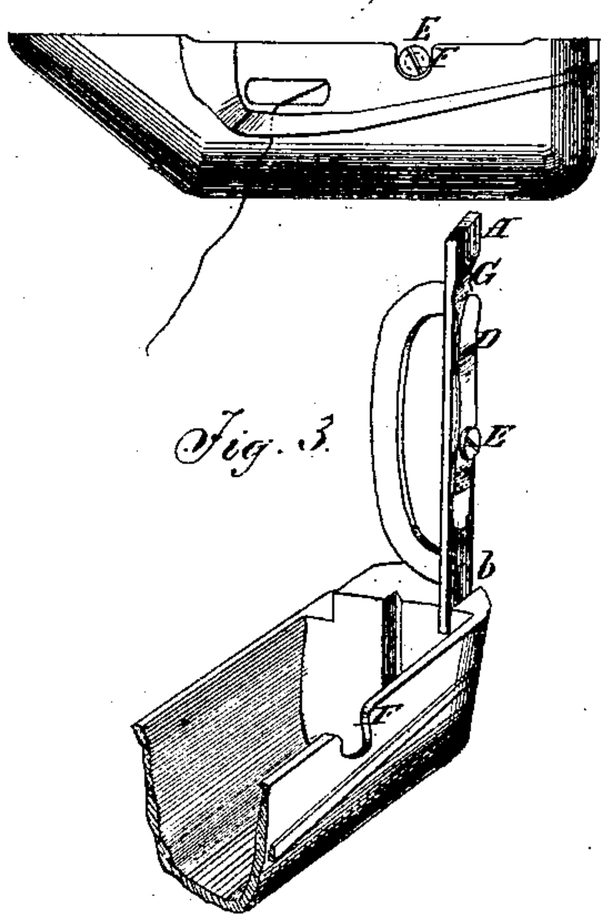

Fig. 3.

Witnesses:

Gustave Dieterich

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MOSES CHAMPERO HAWKINS, OF EDINBOROUGH, PENNSYLVANIA.

Letters Patent No. 103,610, *dated May* 31, 1870.

IMPROVEMENT IN SHUTTLE FOR SEWING-MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, MOSES CHAMPERO HAWKINS, of Edinborough, in the county of Erie and State of Pennsylvania, have invented a new and improved Shuttle Thread-Guide and Tension; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to improvements in attachments to sewing-machine shuttles, for guiding the thread and regulating the tension thereof, and consists in the application to a bar set in the shuttle, at the top, near one side and parallel therewith, and hinged or pivoted at one end of a curved thread-guide, arranged to cause the thread to be delivered from the bobbin in lines perpendicular to the axis, and a spring tension-plate and adjusting-screw, so arranged that the tension may be adjusted without removing the shuttle from the race.

Figure 1 is a plan view of a shuttle with my improved arrangement of guide and tension devices;

Figure 2 is a side elevation of the same; and

Figure 3 is a perspective view of a part of the shuttle, showing the guide and tension devices turned up on the pivot for applying or removing the shuttle.

Similar letters of reference indicate corresponding parts.

A is a small bar of metal, placed in the top of the shuttle, flush therewith, in recesses *b*, one at each end, and so that the said bar extends along the inside and near to the side wall through which the thread is delivered. It is pivoted at the rear end, so that it may be raised out of the way for applying or removing the bobbin.

To this bar A is attached, in a horizontal plane, the curved thread-guide bar B, over which the thread passes from the bobbin to the notch *c* in the plate A, previous to passing through the tension devices.

This curved plate has the effect to cause the thread to draw from the bobbin in lines perpendicular to the axis thereof, either at the ends or at any point between the said ends, as will be clearly understood by inspection of the drawing.

D is the spring tension-plate attached to the outer side of the plate A by a set-screw, E, and arranged to receive the thread between it and the plate A, at the point where it comes through the notch C.

The side of the shuttle is notched at F, and the head of the set-screw is maintained in the said notch, so that it may be reached with a screw-driver, for adjusting the tension when the shuttle is in the shuttle-race.

A curved recess, G, is made in the side of the plate A, at the end of the spring D, to facilitate the adjustment of the thread when a new bobbin is put in.

The thread passes through the hole H in the side of the shuttle, after passing under the tension-spring.

Having thus described my invention,

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

The combination, with the shuttle provided with the recesses *b* at the ends and the notch F at the side, of the bar A, curved thread-guide B, adjustable tension-spring D, and screw E, all constructed and arranged substantially as specified.

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Witnesses:

H. M. CURTIS,

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