(No Model.)

G. W. BURGESS.

SEWING MACHINE SHUTTLE.

No. 278,503. Patented May 29, 1883.

Fig. 1.

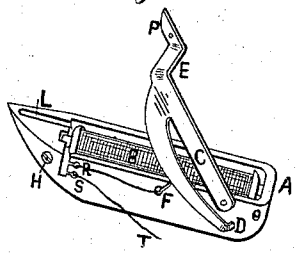


Fig. 2.

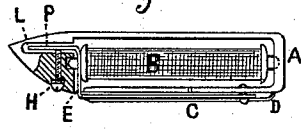
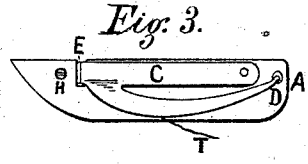


Fig. 3.



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GEORGE W. BURGESS, OF BOSTON, MASSACHUSETTS.

SEWING-MACHINE SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 278,503, dated May 29, 1883.

Application filed March 6, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. BURGESS, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Sewing-Machine Tension Devices, of which the following is a specification.

The object of my invention is to provide a tension device adapted to operate in connection with a flat bent spring shuttle latch and the shuttle-body by means of an adjusting-screw and frictional devices arranged to bear against the thread in such manner as to render a more perfect tension upon the same, whereby very fine or coarse thread may be employed upon the bobbin of the shuttle and control its removal therefrom by the movement of the shuttle in a more uniform manner, and also permit the thread to be inserted or applied within the tension devices with greater ease and facility than heretofore, wherein the common shuttle-latch is employed; and it consists in the peculiar construction, combination, and arrangement of the various parts of the tension device of the shuttle and its latch, as hereinafter more fully described, and set forth in the claims.

Figure 1 represents a perspective view of a sewing-machine shuttle with the mode of producing the tension applied thereto, the latch being raised. Fig. 2 represents a sectional top plan of the same. Fig. 3 represents a side elevation.

A represents the shuttle, of usual construction, and provided with the bobbin B, journaled within the bearing at each end of the shuttle A, which is provided with the flat bent spring steel latch C, pivoted at its rear end to the side of the shuttle, near its heel, and provided with a spring-catch, D, as heretofore. The front end portion of the said latch C is bent at a right angle, forming a narrower friction-bar, E, the lower edge of which rests upon the top of the journal of the bobbin, and its inner face bears slightly against the oval outer face of the bobbin-head. The frictional contact thereon prevents the bobbin from revolving too far at the sudden movements of the shuttle, so as to prevent the thread from unwinding from the bobbin only as fast as it may be drawn through the tension formed upon the thread T as it passes through the hole F in the side of the shuttle and is brought into contact with the inner face of the flat spring-latch C, the tension thereon being regulated by means of the adjusting-screw H, passing horizontally through a portion of the front end of the shuttle A and entering the longitudinal groove L, formed near the straight side thereof, and its end having a bearing against the side of the right-angle extension P, formed upon the end of the said spring-latch C, which is adapted to be received within the said groove L when the latch is closed, as shown in Fig. 2. Now, in order to more nicely apply the tension of the thread T and insure the more perfect operation of the same, I pass the said thread inwardly through the slot or hole R, formed in the side of the shuttle near the forward end thereof, and thence outward through a similar hole or slot, S, just below the former slotted hole, R, thus passing the thread T around the small short tongue formed by the said slotted holes R and S. By this construction the tension upon the shuttle-thread is made more variable, and is rendered more uniform and the devices more durable, being less effected by the sudden concussions as the shuttle is reciprocated. By arranging the said thread-tension holes R and S near the front or forward end of the shuttle, and one directly above the other, the frictional contact of the spring-latch C is adapted for a more variable adjustment to the size and quality of the thread used, as the bearing of the latch upon the same is secured at a point near the free end of such spring-latch; or such frictional contact is farther removed from the pivot of the latch, consequently more variable, thereby permitting greater nicety of tension upon the shuttle-thread.

Having thus described my invention, what I claim is—

1. The combination, with the shuttle A, of the pivoted spring-latch C, provided with the right-angle friction-bar E, extending transversely across the journal of the shuttle-bobbin, and having the extension P, adapted to be adjusted within the longitudinal groove L, formed near the opposite side of the shuttle, by means of the adjusting-screw H, whereby the said spring-latch C may produce a tension upon the thread and a friction upon the bobbin, as and for the purposes set forth.

2. The shuttle A, having the thread-tension

holes R and S formed near the forward end thereof, and in different horizontal planes, and connecting with the vertical latch-slot, and provided with the adjustable spring tension latch C and adjusting-screw H, substantially as shown and described.

3. The shuttle A, provided at its forward end with a central bearing for the bobbin, and the longitudinal groove L, formed near the side of the same, and having pivoted to one side thereof the spring-latch C, provided with the right-angle friction-bar E, extending transversely across the journal of the bobbin, and having the arm P, extending within the said groove L and adapted to be adjusted therein by means of the adjusting-screw H, passing from the spring side of the shuttle, so as to produce a tension upon the thread and a frictional tension upon the bobbin and increase the frictional bearing of the said adjusting-screw, substantially as shown and described, as and for the purposes set forth.

GEORGE W. BURGESS.

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