

E. BOUSCAY.  
Sewing-Machine Shuttle.

No. 207,004.

Patented Aug. 13, 1878.

Fig. 1.

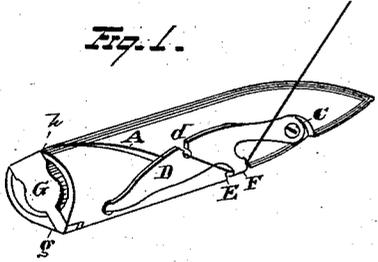


Fig. 2.

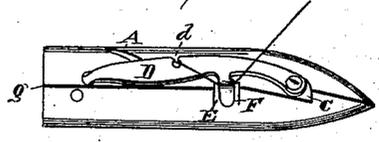


Fig. 3.

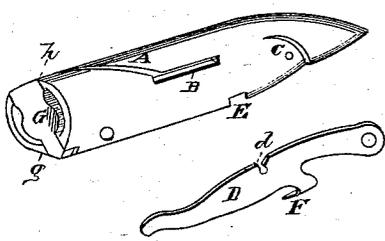
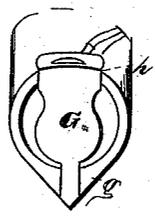


Fig. 4.



WITNESSES

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ELOI BOUSCAY, OF NORWALK, OHIO.

## IMPROVEMENT IN SEWING-MACHINE SHUTTLES.

Specification forming part of Letters Patent No. 207,004, dated August 13, 1878; application filed April 11, 1878.

*To all whom it may concern:*

Be it known that I, ELOI BOUSCAY, of Norwalk, in the county of Huron and State of Ohio, have invented certain new and useful Improvements in Sewing-Machine Shuttles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in sewing-machine shuttles; more especially in that class of the same which does not require the thread to be passed endwise through an eye formed in the shuttle, but which provides an open end slot extending forward from the heel of the shuttle, so as to permit the thread to be passed laterally into said slot, and from thence carried forward to be connected with the tension-spring. Hitherto, the tension-springs used with this class of shuttles have been of such character as required them to be removed, raised, or otherwise displaced from their operative position upon the shuttle, in order to engage the thread therewith.

My invention is designed to obviate any necessity of thus displacing the spring or of operating the main body of it at all in the process of engaging the thread therewith, and hence to produce a shuttle provided for use with a tension-spring, the whole being adapted so that the shuttle can be threaded and the thread be held in tension without passing the same endwise through eyes formed either in the shuttle or in the spring, and without displacing the said spring or passing the thread beneath the main body thereof. The shuttle is made with an open-end slot extending diagonally forward from the heel, and a longitudinal slot connecting therewith, the same permitting the thread which is passed laterally into said slots to connect with the tension-spring by passage through an open-slotted eye formed therein. From thence the thread is looped under an angular-arm projection, the bent portion of which fits into a recess made in the outer side of the shuttle, and by bringing the thread up against the side of the main body of the spring it is held in proper tension by the spring-pressure of said angular arm.

The forward side body of the shuttle is also recessed, in order to receive the corresponding portion of the spring, and the tension of the spring is adjustably controlled by a set-screw.

My invention further consists in the combination, with a shuttle provided with a notch in its heel, and also with the slot which leads therefrom, of a lid whose free end is held in said notch by the spring-pressure of the slotted shuttle, said lid being hinged directly to the shuttle, which latter has its body of increased thickness at this point. This construction differs from the manner hitherto employed for securing the lid to the shuttle, in that formerly a bar or independent piece having the lid hinged thereto connected the latter with the shuttle. My improvement adapts the lid to be hinged directly to the body of the shuttle, and hence dispenses with the said independent connecting-piece.

Referring to the drawings, Figure 1 is an end perspective view of the shuttle. Fig. 2 is a side view. Fig. 3 shows the shuttle and tension-spring detached from each other. Fig. 4 is a rear-end view of the shuttle.

The shuttle is made with the slot A extending diagonally forward from its heel, and also with the longitudinal slot B connecting therewith. A longitudinal recess, C, is formed in its forward side body, in which the corresponding portion of the tension-spring D is seated, and adjustably secured therein by a set-screw. A transverse recess, E, is formed just in the rear and to one side of this longitudinal recess, the same being adapted to receive the bent portion of the angular arm F, which projects from the side of the tension-spring. The thread is passed laterally into the diagonal slot at the heel of the shuttle, and carried along the same and the longitudinal slot with which it connects into the open-slotted eye *d* formed in the tension-spring on the side next thereto, and opposite the side on which the angular arm F is formed. It is then carried over the spring, and, by means of the recess and the angular arm fitting therein, it is passed under the latter, and brought up so as to come in contact with the side of the main body of the spring. It is thus held in proper tension by means of the spring-pressure of the said angular arm, and the process of looping or engag-

ing the thread under the same is readily and easily done.

The heel of the shuttle is made thickened on one side thereof, as shown at *g*, in order to provide bearings in which to support the hinged joint of the lid *G*. The side of the heel opposite thereto is provided with the notch *h*, with which the rear portion of the diagonal slot of the shuttle communicates. Into this heel-notch of the shuttle the free end of the lid fits, and is locked therein by the spring-pressure exerted upon the lid on account of the two-part formation of the shuttle caused by the said diagonal slot. The double purpose and function of this latter slot is thus seen, in that it serves to guide the thread, and also to lock the lid of the shuttle when the latter is in close position.

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

1. The combination, with a shuttle, of a tension-spring formed with the angular-arm projection, adapted to permit the thread to be passed beneath the same without displacement of the main body of the spring, substantially as set forth.

2. The combination, with a shuttle formed with the transverse recess in its outside body, of a tension-spring provided with the angular-arm projection fitting into said recess, and which is adapted to have the thread passed

under the same, and thereby secured in proper tension without passage endwise through an eye thereof or by being passed beneath the main body of the spring, substantially as set forth.

3. The combination, with a shuttle formed with the diagonal open-end slot and the connecting longitudinal slot, of the tension-spring, which is made with the open-slotted eye and the angular-arm projection, beneath which latter the thread is passed, the same being adapted to have the thread held in proper tension without passage endwise through eyes formed either in the shuttle or spring, and without being passed beneath the main body of the spring, substantially as set forth.

4. The combination, with a shuttle provided both with a notch in its heel and with the slot which leads therefrom, of a lid, whose free end is held in said notch by the spring-pressure of the slotted shuttle, said lid being hinged directly to the body of the shuttle, which latter is formed of increased thickness at this point, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 8th day of April, 1878.

ELOI BOUSCAY.

Witnesses:

M. D. WILLIAMS,  
M. G. COUGHLAN.