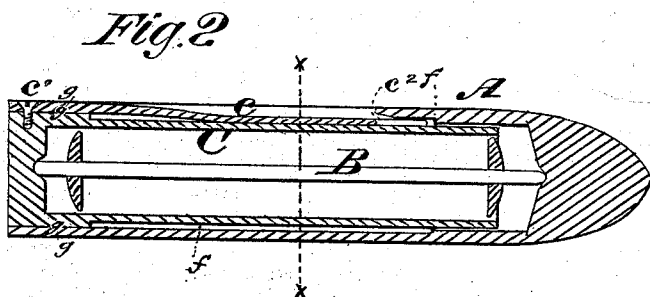
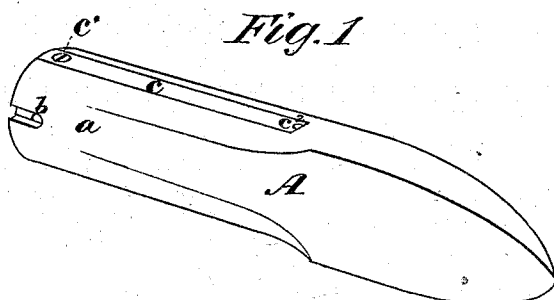


T. CRANE.
Shuttles for Sewing-Machines.

No.150,533.

Patented May 5, 1874.



Witnesses:

R. T. Campbell.
J. A. Campbell

Inventor

Thomas Crane

by
Marion Fenwick & Son

UNITED STATES PATENT OFFICE.

THOMAS CRANE, OF FORT ATKINSON, WISCONSIN, ASSIGNOR OF ONE-HALF
HIS RIGHT TO MELVIN A. JONES, OF SAME PLACE.

IMPROVEMENT IN SHUTTLES FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **150,533**, dated May 5, 1874; application filed
August 21, 1873.

CASE B.

To all whom it may concern:

Be it known that I, THOMAS CRANE, of Fort Atkinson, in the county of Jefferson and State of Wisconsin, have invented a new and Improved Sewing-Machine Shuttle; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 is a perspective view of the improved shuttle. Fig. 2 is a diametrical section through the same. Fig. 3 is a cross-section in the plane *xx*. Fig. 4 is a view of the bobbin-case.

Similar letters of reference indicate corresponding parts in the several figures.

This invention and improvement in shuttles for sewing machinery relate to a new way of applying tension to the thread on its way from the shuttle-bobbin to the cloth; also, to an improved mode of allowing the thread to draw freely from the bobbin, as will be hereinafter explained.

The following description of my invention will enable others skilled in the art to understand it.

In the accompanying drawings, A represents the shuttle-case, which presents a tapered point of the usual well-known form, and a cylindrical or nearly cylindrical body, *a*, which is hollow and open at the butt, as shown in Fig. 2. Into this shuttle-case is inserted a bobbin, B, and a bobbin-case, C. The bobbin B, which has nothing peculiar about it, has its end bearings in the case A and case C, respectively. The bobbin-case is hollow, for containing the bobbin, and is slotted from its open end to its enlarged head *g*, as at *e*, through which slot the thread passes out from the bobbin, and is wound once spirally around the reduced portion of the case C before it passes out of the shuttle-case A, as indicated by dotted line, Fig. 4. The enlarged cylindrical portion *g* of the bobbin-case A is of such diameter as will cause it to fit tightly into the shuttle-case. The other portion of this

case C is somewhat smaller in diameter so as to leave a space, *f*, between it and the shuttle-case, to allow the thread to be wound spirally around it, as shown and stated, without impinging on the inner bore of the shuttle-case A. On the outer surface of the bobbin-case a tension-spring, *c*, is applied, which is secured on the enlarged portion *g* by means of a set-screw, *c*¹, and extends longitudinally over the reduced portion of the bobbin-case nearly to the open end thereof, and is held upon the same by a greater or less pressure, which is regulated by means of the said set-screw *c*¹. The free end of this tension-spring *c* is notched at *c*², as shown in Fig. 4, and through this notch the thread is passed after carrying it around the shuttle-case, and beneath the tension-spring.

It will be seen, by reference to Figs. 1, 2, and 3, that the shuttle-case A is slotted so as to expose the spring *c* when the bobbin-case is inserted into the shuttle-case. This affords access to the screw *c*¹, for adjusting the tension, and allows the thread to be drawn directly out through the notch *c*². At *b* the shuttle-case A is notched, and the bobbin-case perforated to allow the insertion of a pointed instrument for withdrawing the bobbin-case from its shuttle-case. By means of the slot *e* the thread is allowed to be drawn from the bobbin at right angles to its length, which, in connection with the provision made for drawing the thread spirally from the bobbin-case between the shuttle-case and the bobbin-case, allows the thread to run freely from the bobbin, and thus prevents the thread from dragging and binding the bobbin in its bearings.

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

1. The slotted bobbin-case C and its shuttle A, constructed and combined substantially as herein described, whereby the thread is permitted to be passed through a slot of the case, around said case inside of the shuttle, and then through a hole in the

shuttle, and the thread which is between the shuttle and the bobbin-case has a longitudinal traversing space afforded it, as set forth.

2. The shuttle tension-spring, in combination with the slotted bobbin-case C and the shuttle A, substantially as and for the purpose described.

3. The bobbin-case, which is of smaller diameter than the interior chamber of its shuttle, when provided with an enlargement substantially in the manner and for the purpose herein described.

4. The shuttle with the diameter of its chamber reduced, to form a bearing to sustain the end of the case in lieu thereof, in combination with the slotted case, with its diameter increased at *g*, substantially as described.

THOMAS CRANE.

Witnesses:

M. A. JONES,
HENRY OGDEN.