

S. W. WARDWELL, Jr.

SHUTTLE FOR WAX THREAD SEWING MACHINES.

No. 262,161.

Patented Aug. 1, 1882.

Fig. 1

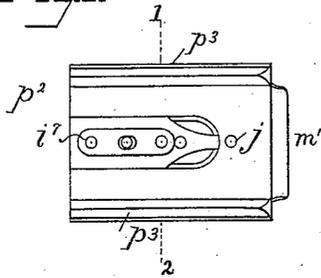


Fig. 3

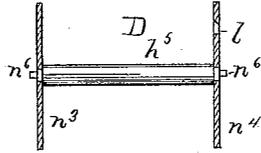


Fig. 4

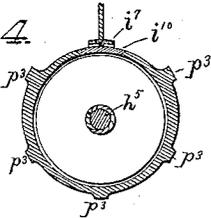


Fig. 2

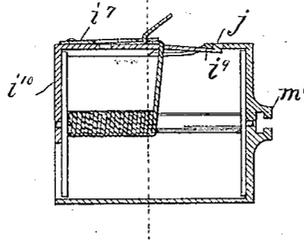
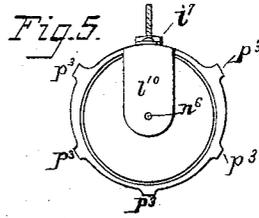


Fig. 5



Attest:

Courtney A. Cooper

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Inventor:

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By his attorney  
Charles E. Foster

# UNITED STATES PATENT OFFICE.

SIMON W. WARDWELL, JR., OF PROVIDENCE, RHODE ISLAND.

## SHUTTLE FOR WAX-THREAD SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 262,161, dated August 1, 1882.

Application filed August 1, 1879.

To all whom it may concern:

Be it known that I, SIMON W. WARDWELL, Jr., of Providence, Providence county, Rhode Island, have invented certain Improvements in Shuttles for Sewing-Machines, of which the following is a specification.

My invention consists of a shuttle for sewing-machines constructed, as fully described hereinafter, to avoid jamming the thread between the shuttle and race, facilitate the insertion and withdrawal of the bobbin, and prevent the displacement of the tension device and the extension of the inner end of the thread outside of the bobbin.

In the drawings forming part of this specification, Figure 1 is an external plan of the shuttle; Fig. 2, a longitudinal section; Fig. 3, a section of the bobbin. Fig. 4 is a cross-section on line 1 2 of Fig. 1. Fig. 5 is an end view of the shuttle.

The case  $p^2$  is a hollow cylinder, open at one end and closed at the other, and having the external rib or projection,  $m'$ , for connection with a segment at the end of a driving-rod, as described in Letters Patent No. 218,464, granted to me August 12, 1879.

The shuttle is adapted to a cylindrical race, and on the outside of the case are ribs  $p^3$ , which serve as bearings, so that if the thread should get between the shuttle and the race it will lie freely in the spaces between the ribs instead of being tightly jammed between the body and the race, as heretofore.

Between guiding-edges formed by cutting a slot in the top of the shuttle-case fits the upper portion of an L-shaped plate or bracket,  $i^{10}$ , the forward end of which is reduced to form a spring-finger,  $i^9$ , having a catch at the outer end, which springs up opposite a shoulder formed by an opening,  $j$ , in the case when the bracket is pushed into the position shown.

The vertical arm of the bracket is perforated in line with a recess in the head of the case to afford a bearing for a journal,  $n^6$ , at the end of the bobbin D, said bobbin consisting of a spindle,  $n^5$ , and circular heads  $n^3 n^4$ .

To the horizontal arm of the bracket, near its outer end, is pivoted a spring tension-plate,

$i^7$ , having openings for the passage of the bobbin-thread, which extends beneath the plate from openings in the horizontal arm of the bracket.

As the tension-plate  $i^7$  is pivoted at the end of the shuttle which is farthest from the needle when the thread is drawn, the tendency of any draft upon the thread will be to maintain it in its position in line with the shuttle or to restore it to such position should it be displaced from any cause.

By depressing the spring-finger  $i^9$ , which may be done by inserting a pin in the opening  $j$  and drawing out the bracket  $i^{10}$ , the bobbin may be at once released and removed, and it may be replaced and then secured by simply pushing the bracket into its position.

The end of the thread is secured to the bobbin prior to winding by passing it through an opening,  $l$ , and to avoid the possibility of this end projecting from being cut off too long, and creating friction, the edge of said opening is sharpened, so that by drawing on the end of the thread it will be cut off close to the face of the bobbin-head.

I claim—

1. A cylindrical shuttle for sewing-machines, provided with a series of three or more external parallel longitudinal ribs, arranged to bear upon the faces of the curved race to hold the body of the shuttle free from contact with the race and afford room for the reception of threads, as set forth.

2. The combination of a case having its top recessed and formed with guides, and a detachable L-shaped bracket fitting in the guides of the case, and having a spring-finger, adapted to engage with a shoulder of the case, substantially as set forth.

3. The bobbin provided with a recess,  $l$ , having a sharpened edge, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SIMON W. WARDWELL, JR.

Witnesses:

EDWIN J. PEIRCE, Jr.,  
FRED H. BISHOP.