THOMAS REEVE.

Improvement in Bobbin for Sewing-Machine Shuttles.

No. 126,332.

Patented April 30, 1872.

 $c = \frac{\int_{c}^{c} ds}{\int_{c}^{c} ds}$

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Witnesses.

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United States Patent Office.

THOMAS REEVE, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN BOBBINS FOR SEWING-MACHINE SHUTTLES.

Specification forming part of Letters Patent No. 126,332, dated April 30, 1872.

To all whom it may concern:

Be it known that I, Thomas Reeve, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Bobbins for Sewing-Machine Shuttles; and I do hereby declare the following to be a full, clear, and exact description of the same.

Bobbins for sewing-machines have been made of metal with a solid stem pointed at the ends; also of a hollow stem mounted upon a stationary rod, and a movable pointed spindle has been introduced within the hollow stem of the bobbin. In all these cases difficulties have existed. Where a hollow stem to the bobbin has been used and a solid spindle, the spindle adds considerable to the weight of the shuttle and the cost of the bobbin. Where the stem of the bobbin has been solid, difficulty is experienced in holding the bobbin while winding it with thread.

My invention is made for the purpose of overcoming these difficulties; and consists in removable points applied at the ends of the hole through the stem of the metallic bobbin. These removable points are made of thin sheet metal stamped up to a pointed shape, and hollow, so as to be very light and cheap. These points are inserted at the ends of the bobbin after the same has been wound full of thread; thus the hollow stem of the bobbin allows the same to be set upon the spindle in the winding-

machine as usual with spool-cotton, and then the removable ends are inserted before the bobbin is introduced in the sewing-machine shuttle.

In the drawing, Figure 1 is a section in about the ordinary size of a sewing-machine bobbin, and Fig. 2 is a section in larger size of the bobbin and hollow ends separately.

The bobbin is made of the tubular stem a and disk-heads b b, the same being of proper size and shape, and the disk ends are secured to the tube by spreading the ends of the tube. The ends c c are made hollow, of thin sheet metal, and pointed and slightly tapering, so that the same will enter the ends of the stem a with ease, but which will wedge firmly therein and leave the pointed ends projecting, as shown. The taper may be either in the movable ends c, or at the ends of the tube a.

I claim as my invention—

The metallic bobbin made with disk ends, held upon the tubular stem a, and the hollow pointed ends c c entering the ends of the stem, substantially as set forth.

Signed by me this 22d day of November, 1871.

THOMAS REEVE.

Witnesses:

GEO. T. PINCKNEY, CHAS. H. SMITH.