

(No Model.)

J. R. RANDOLPH.
SHUTTLE FOR SEWING MACHINES.

No. 562,774.

Patented June 23, 1896.

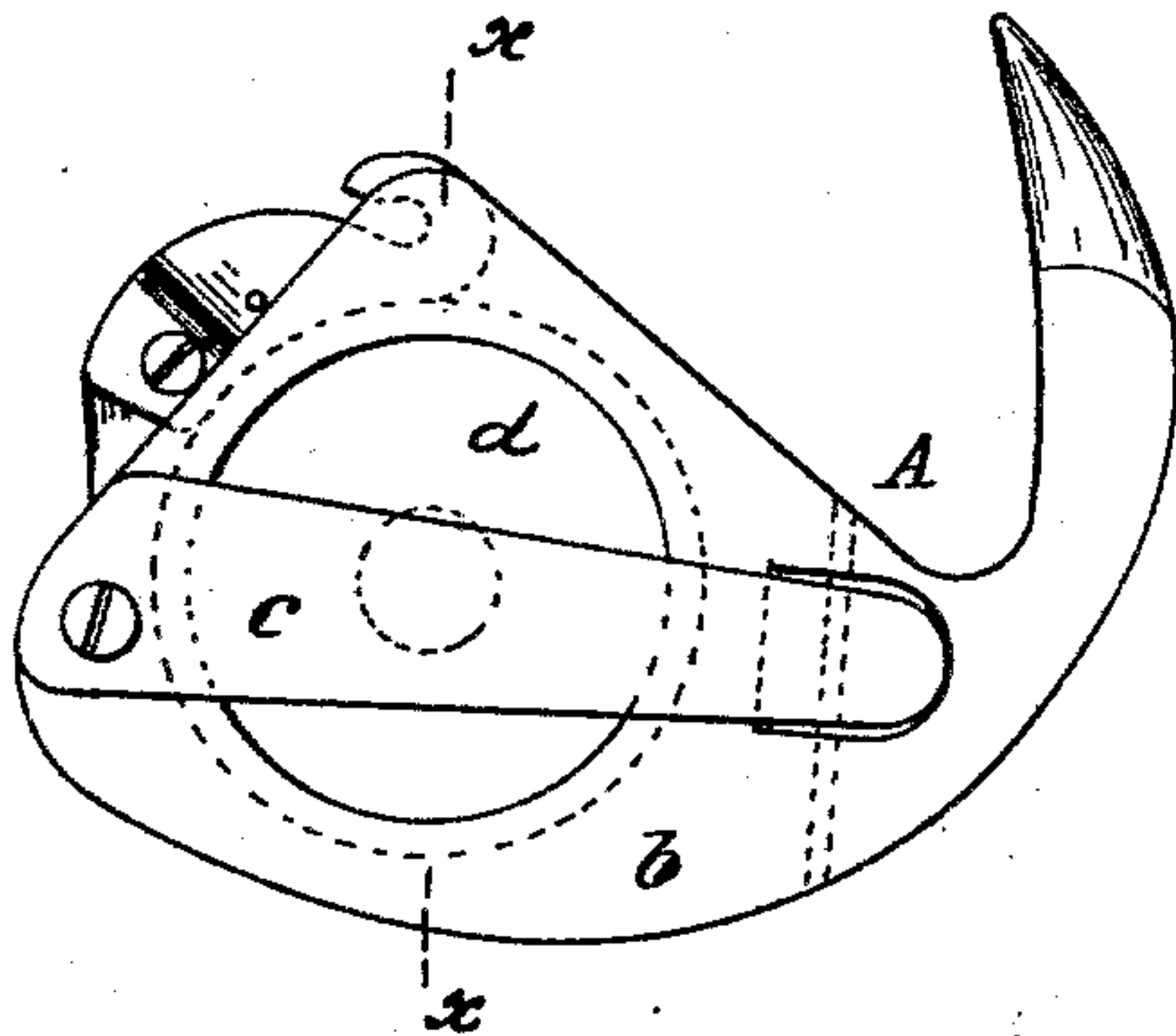


Fig. 1.

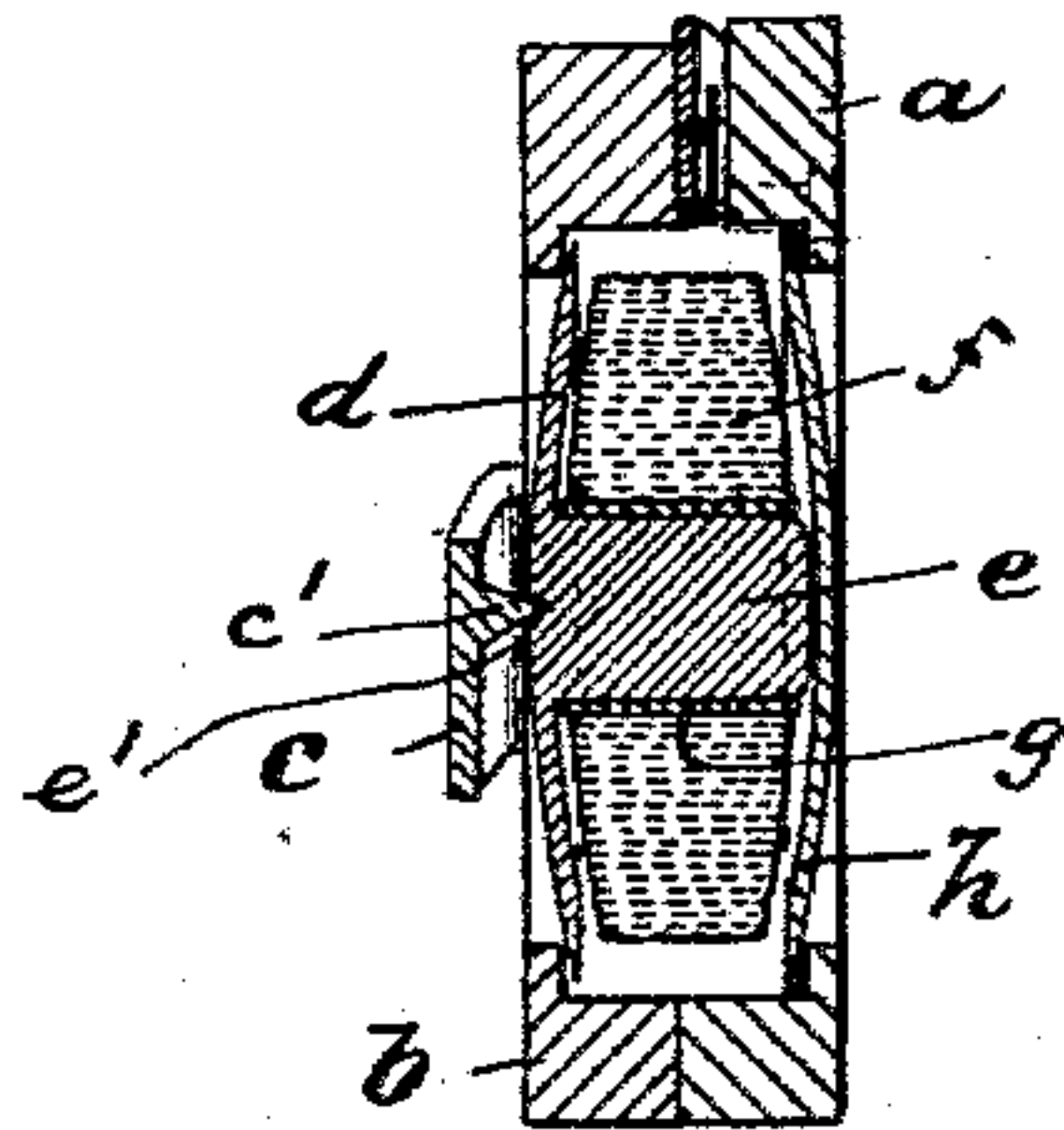


Fig. 2.

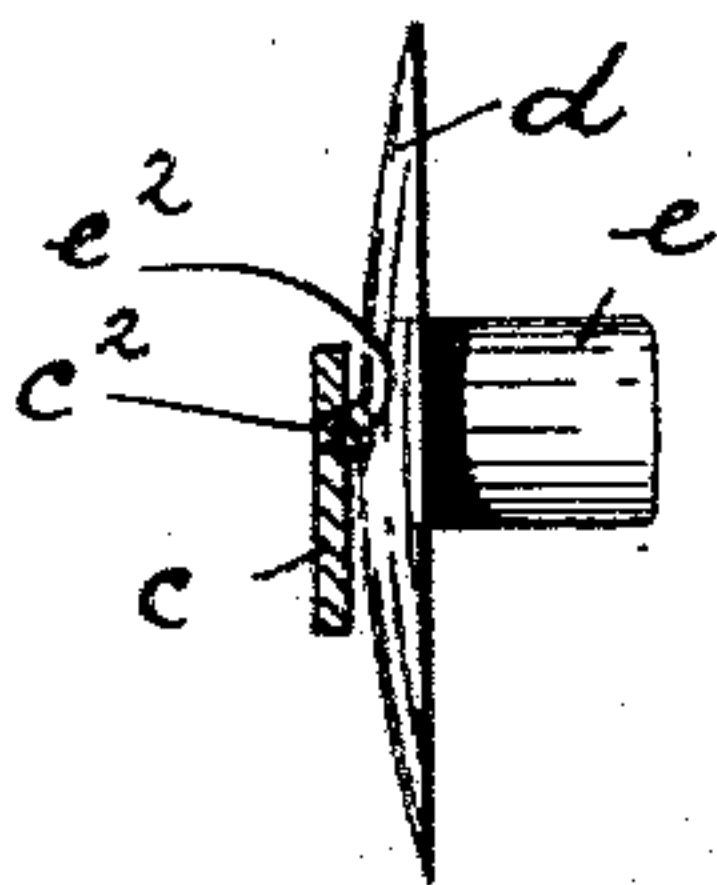


Fig. 3.

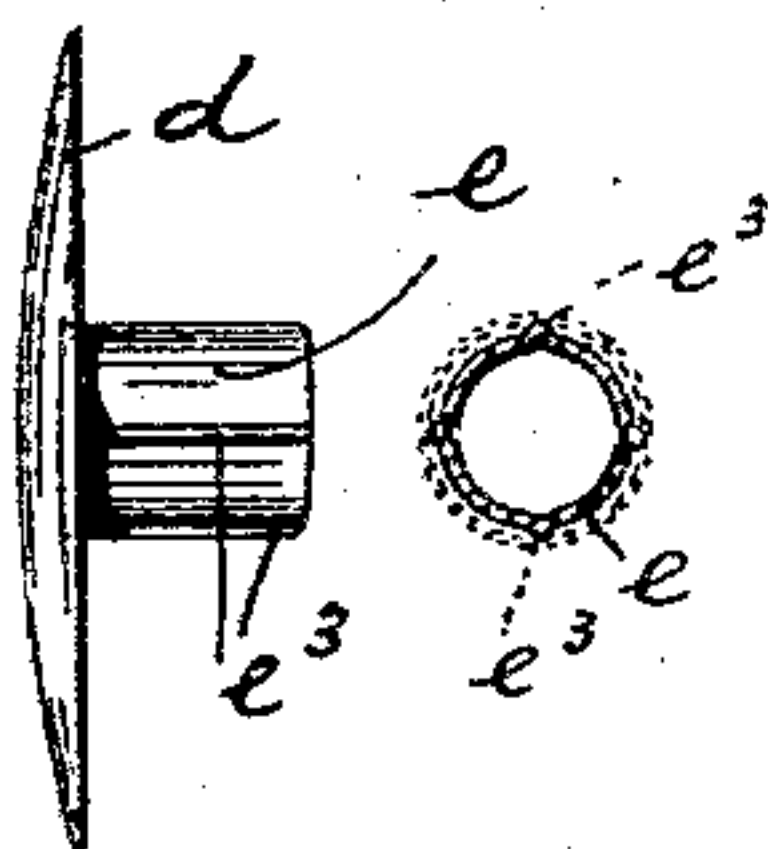


Fig. 4.

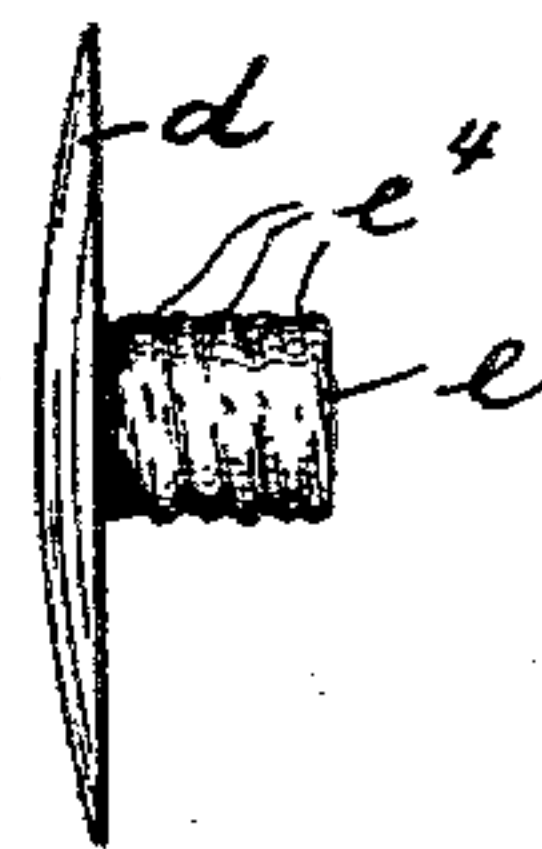


Fig. 5.

WITNESSES:

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INVENTOR:

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ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN R. RANDOLPH, OF NEWARK, NEW JERSEY, ASSIGNOR OF ONE-HALF
TO JOHN J. MAGOVERN, OF SAME PLACE.

SHUTTLE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 562,774, dated June 23, 1896.

Application filed November 21, 1895. Serial No. 569,649. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. RANDOLPH, a citizen of the United States, residing in Newark, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Shuttles for Sewing-Machines and Bobbins Therefor; 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide a bobbin-holder for the reception of the bobbin, so that said bobbin-holder is bound to revolve with the bobbin; and also to provide means for centering the bobbin-holder in the sewing-machine shuttle, to reduce the friction between said holder and the shuttle, and to thus render the device more durable.

The invention consists in the improved bobbin-holder, its centering means, and in the combination and arrangement of the various parts, substantially as will be hereinafter more fully described, and finally embodied in the clauses of the claim.

In the accompanying drawings, Figure 1 is a side view of a shuttle provided with my improvements; Fig. 2, a sectional view on the line *xx* of Fig. 1; Fig. 3, a detail view illustrating a modified form of bobbin-holder-centering device, and Figs. 4 and 5 detail views of two forms of bobbin-holders applicable for the object of my invention.

In said drawings, *A* represents a shuttle similar to that known as the "Singer oscillating shuttle," and consisting of the two side sections *b* and *a*, hinged in the usual manner and held together by the traversing spring *c*. Between the sections *a* and *b* is arranged the bobbin-holder, consisting of the metallic disk *d*, of slightly smaller diameter than the opening or cavity in the shuttle, and of the pin or tube *e*, projecting centrally from said disk. The end of the pin or tube *e* rests against the circular plate *h*, arranged in the cavity of the shuttle, and said circular plate *h* is prevented from rotation by any desired and well-known means. Between said disk *d* and circular

plate *h* and on the pin or tube *e* is arranged the thread-bobbin *f*, consisting of a paper tube *g*, upon which the thread is wound. In either case the bobbin (or its carrying paper tube) is so arranged on pin *e* that it is prevented from rotation or revolving on said pin. This is accomplished by a tight fit of said bobbin on the pin, but preferably the pin or tube is provided with longitudinally-arranged ribs or projections *e*³, as in Fig. 4, or with substantially spiral ribs *e*⁴, as in Fig. 5. Instead of the ribs or projections a corrugated or roughened surface on the pin or tube *e* can be used for obtaining substantially the same result—viz., increasing the friction between the bobbin and its carrying-pin. The disk *d* is also provided in its center with a socket or dent *e'*, adapted to receive the pin or projection *c'*, made integral with or arranged on the inside of the spring *c*, and thus forming a centering device for the bobbin-holder. In Fig. 3 of the drawings this arrangement is shown reversed. The spring *c* is provided with a hole or socket *c*² and the disk *d* with a projection or pin *e*², adapted to engage the said hole or socket.

From the foregoing it can be seen that by having the bobbin fitting tightly on the pin or tube *e* the said bobbin is bound to revolve with the said pin, and the thread is thus prevented from spilling and winding around the pin, which would cause the thread to become fast and to break. As the disk *d*, carrying the said pin *e*, is centered, the friction between said disk and the shuttle is greatly reduced, and an even stitching thus obtained.

I do not intend to limit myself to the precise construction shown and described, as various alterations can be made without changing the scope of my invention; but

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination with the sewing-machine shuttle having a circular cavity, and with its clamping-spring, of a pin or projection on said spring, a circular disk loosely arranged in said shuttle and provided with a central socket or dent adapted to receive said pin or projection, a pin projecting from said disk for the reception of the bobbin and means on said pin for increasing the friction between

the bobbin and the pin, substantially as and for the purposes described.

2. The combination with the sewing-machine shuttle having a circular cavity, of a
5 revoluble disk included by said cavity, a stationary plate also included by said cavity, a central pin projecting from said disk for the reception of the thread-bobbin and abutting
10 against said plate, and a series of ribs or projections on said pin, substantially as and for the purposes described.

3. The combination with the sewing-machine shuttle having a circular cavity, of a
15 revoluble disk included by said cavity, a stationary plate also included by said cavity, a central pin projecting from said disk for the reception of the thread-bobbin and abutting
20 against said plate, a series of ribs or projections on said pin and means for centering said disk and pin substantially as described.

4. The combination with a sewing-machine shuttle having a clamping-spring, of a circular plate included by said shuttle, a bobbin-holder arranged between the plate and the
25 clamping-spring, adapted to revolve within the shuttle and comprising a disk having a

shank which abuts against the plate, and is adapted to carry a bobbin, and means for securing a bobbin to the shank in such manner that it is prevented from revolving independent of said pin. 30

5. The combination with a sewing-machine shuttle having a circular cavity, and with its clamping-spring, of a revoluble disk and a stationary circular plate included by said
35 cavity, the diameter of the plate being greater than the diameter of the disk, means on one side of the disk for centering said disk against the clamping-spring, a pin on the outer side thereof for the reception of the thread-bobbin
40 and means on the pin for increasing the friction between said pin and the thread-bobbin, substantially as and for the purposes described.

In testimony that I claim the foregoing I
45 have hereunto set my hand this 16th day of November, 1895.

JOHN R. RANDOLPH.

Witnesses:

ALFRED GARTNER,
WM. D. BELL.

It is hereby certified that in Letters Patent No. 562,774, granted June 23, 1896, upon the application of John R. Randolph, of Newark, New Jersey, for an improvement in "Shuttles for Sewing-Machines," an error appears in the printed specification requiring correction as follows viz: In line 39, page 2, the word "outer" should read *other*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 21st day of July, A. D., 1896.

[SEAL.]

JNO. M. REYNOLDS,
Assistant Secretary of the Interior.

Countersigned:

S. T. FISHER,
Acting Commissioner of Patents.