# T. B. De Forest.

## Winding Bobbin.

No. 956.
31,960.

Patented Apr. 9, 1861.

Fig: 1.

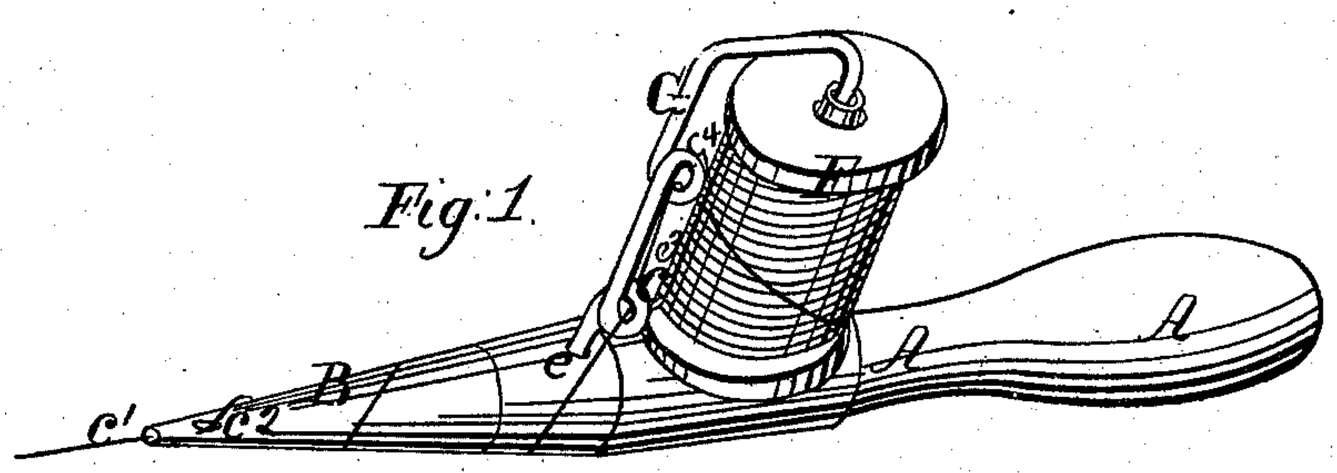



Fig: 2.

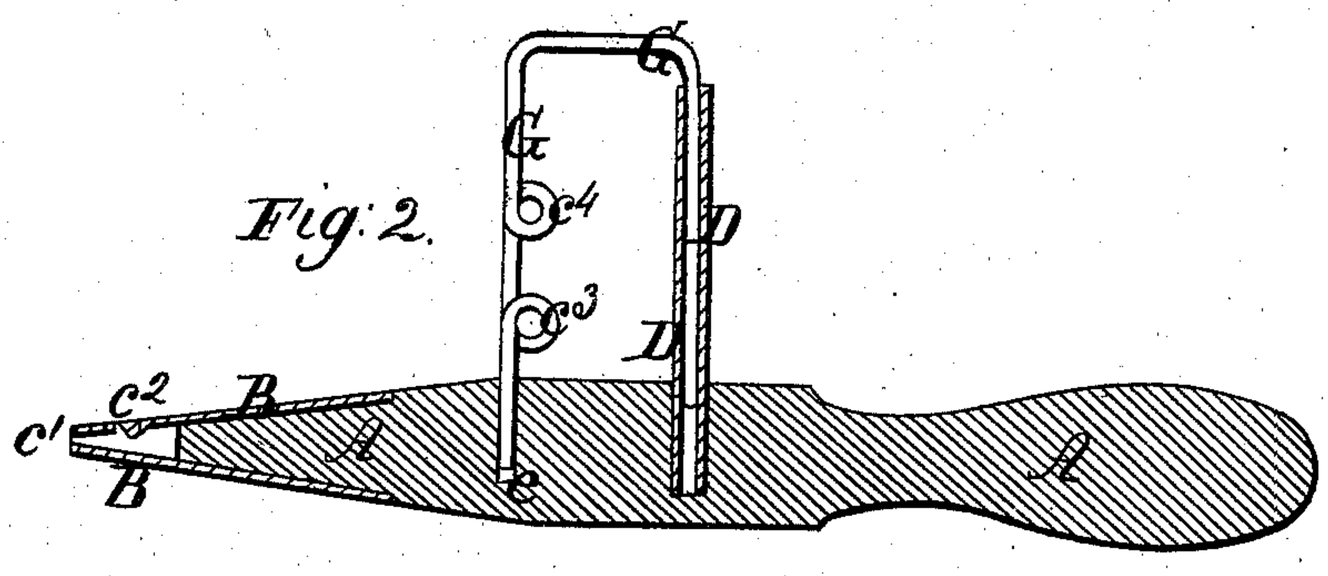
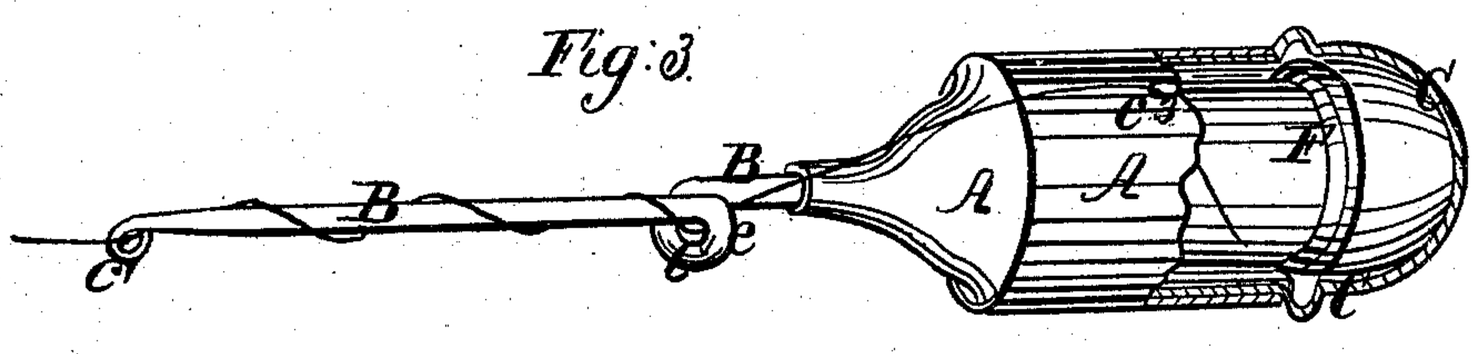



Fig: 3.




Witnesses;
H. J. Scottgood
Chas. D. Richards

Inventor;
Thomas B. De Forest

# UNITED STATES PATENT OFFICE.

THOMAS B. DE FOREST, OF BIRMINGHAM, CONNECTICUT.

## THREAD-WINDING GUIDE.

Specification of Letters Patent No. 31,960, dated April 9, 1861.

*To all whom it may concern:*

Be it known that I, THOMAS B. DE FOREST, of Birmingham, in the county of New Haven and State of Connecticut, have invented a new and useful Thread-Winding Guide; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

My invention relates to a new article of manufacture having for its object a portable and conveniently handled guiding instrument, whereby thread may be guided onto a rotating bobbin or spool from another spool; whereby the uniform filling or winding of the said rotating bobbin is facilitated; and my said invention has for a further object; a conveniently located and arranged holder for the spool from which thread is to be guided and wound onto the rotating bobbin. And to these ends my said invention consists: in combining with a convenient handle or holder, guides for the thread, and a frictional tension arranged substantially in the manner hereinafter specified; and my said invention further consists; in combining with the handle or holder and the guides for the thread, a spool holder which forms part of or is attached to the handle, and is so arranged as to permit the ready removal of the spool.

In the accompanying drawings, forming part of this specification, Figure 1 represents a perspective view of a form of my invention which I prefer. Fig. 2 shows a longitudinal section of the same with spool F removed.

Similar letters of reference denote the same part in both the figures, wherein—

A is a short wooden handle of such form as to be conveniently held in the hand; this handle is prolonged in front of the part which would be naturally grasped by the hand and is furnished at its end with a tapering metallic tube or ferrule B, which ferrule tapers to nearly a point leaving only a small opening $c'$ at its end; the handle A does not reach in to the end of the ferrule B. A hole $c^2$ is made through the side of the ferrule near its end.

In the wooden handle A a small metallic tube D is secured, projecting far enough above the surface of the handle (and at a right angle with it) to receive on it a spool of thread (F Fig. 1) as represented. A wire G fits into the tube D, and projecting above it is bent over at a right angle and is again bent downward, as shown, so that its end enters a hole $e$ in the handle at some distance from the spool F and in front of it.

Two loops or eyes $c^3$ and $c^4$ are formed in the wire G which eyes form guides to lead the thread from the spool. The course of the thread, when the instrument is prepared for use, is indicated in Fig. 1 by a red line; it is threaded first through the loops or eyes $c^4$ and $c^3$ and is then wound around the tapering ferrule B, as represented, sufficient number of times to produce a proper degree of tension to lay the thread tightly upon the bobbin to be wound, it is then threaded through the hole $c^2$ in the side of the ferrule B and out at the hole $c'$ at the end of the said ferrule.

To use the described winding guide; the end of the thread, which projects out of the hole $c'$, is secured to the bobbin to be filled, the said bobbin is then put into rotation and the winding guide is held, by the handle, with its point quite close to the rotating bobbin and is moved from end to end of the said bobbin to lay the thread evenly, which is delivered at a uniform tension by the instrument. To remove the spool F, to substitute another, the bent wire G is removed by being drawn out of the tube D and the spool can then be lifted off from the said tube. The wire G should fit into the tube tightly enough to prevent the spool from becoming accidentally displaced.

A modification of my invention is represented by Fig. 3 which shows a perspective view of the same, part being shown in section, and in which A is a metallic case of cylindrical form, open at one end but drawn down at the other in such a way as to receive a stout wire B which projects from the case and which is bent into two loops or eyes $c'$ and $c^2$ one of them being at the extreme end of the wire. C is a cover or head to close the open end of the case and slips into it as shown. F is a spool of thread in the case A which case forms at the same time a spool case and the handle by which the instrument may be held. A small hole $c^3$ is made through the side of the case A at about midway of its length.

To prepare this instrument for use the thread (indicated by a line in red) is brought out at the hole $c^3$ and is carried down, as

shown to the eye $c^2$ through which it is threaded and is afterward wound around the straight part of the wire B, between the eyes $c^2$ and $c'$, to form a frictional tension; it is then passed through the eye $c'$ in the end of the wire.

If it should be desired to use the described winding guide, temporarily with a different kind of thread from that on the spool (F) the said thread may be threaded through the eyes $c^2$ (Fig. 3) and $c'$ (the thread from the spool F being withdrawn from them) and the instrument may be used with this different thread without removing the spool F, the spool from which the thread is drawn being held in the lap. If preferred the instrument may constantly be used in the last described manner.

The principal use for which my invention is found valuable is in filling or winding the shuttle bobbins of sewing machines, and by its use such bobbins may be filled more uniformly and conveniently than by the usual mode, as the thread may be guided more regularly onto a rotating bobbin by the delivering point of the winding guide held close to the said bobbin, than when the thread is simply allowed to slip over the finger which must almost necessarily be held at some considerable distance from the bobbin.

A constantly equal tension is kept upon the thread by the frictional resistance applied between the receiving and delivering guides or eyes, which tends to uniformity of result. Cutting and burning the fingers by the rapid passing of the thread over them is avoided by use of the instrument.

I do not wish to be understood to limit my claim of invention to the particular form or dimension of my invention herein described and represented; but

What I claim as a new article of manufacture and desire to secure by Letters Patent, is—

A portable thread winding guide, substantially such as hereinbefore described.

In testimony whereof I have hereunto set my hand this first day of August, 1860.

THOMAS B. DE FOREST.

Witnesses:

H. J. Scott Good,

C. B. Richards.