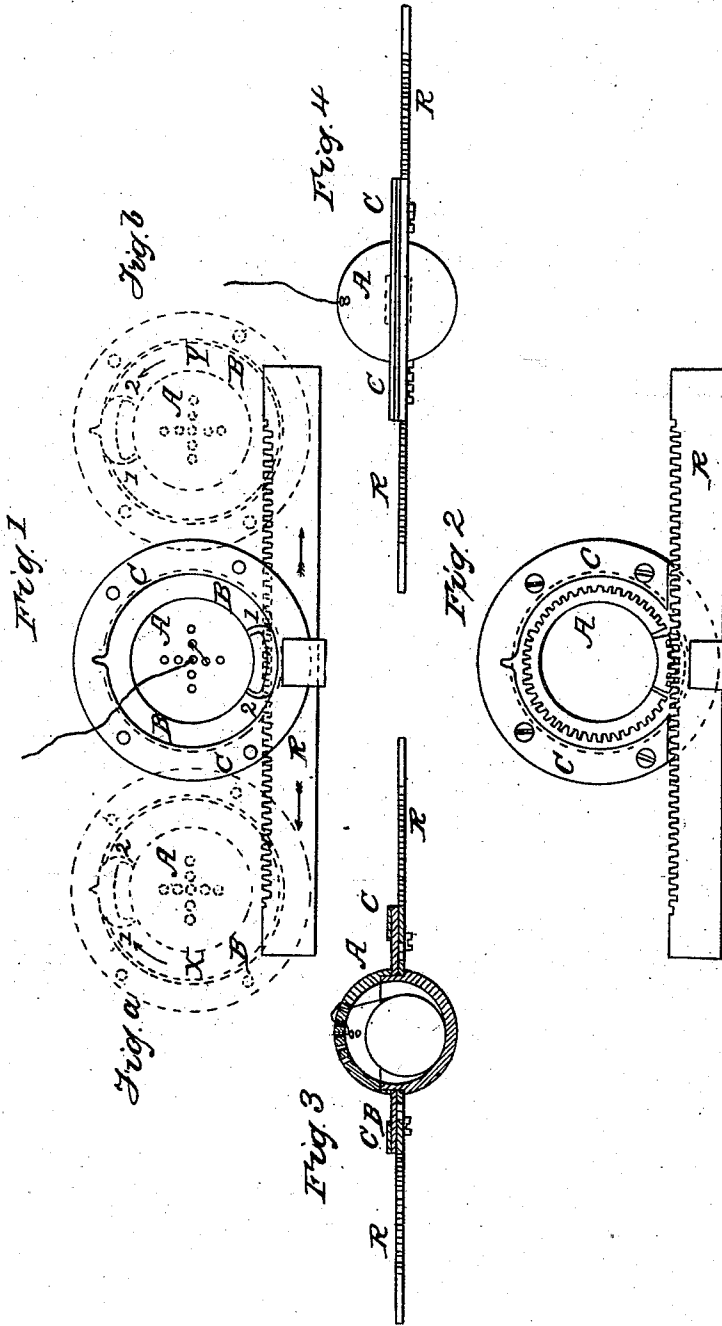


J. E. A. GIBBS.
Sewing Machine.

No. 16,914.

Patented March 31, 1857.



UNITED STATES PATENT OFFICE.

JAMES E. A. GIBBS, OF MILLPOINT, VIRGINIA.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 16,914, dated March 31, 1857.

To all whom it may concern:

Be it known that I, JAMES E. A. GIBBS, of Millpoint, in the county of Pocahontas and State of Virginia, have invented certain new and useful Improvements in Sewing-Machines; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a top view of my improved machine. Figs. *a* and *b* show the thread-case A in two different positions in relation to the tangent rack R. Fig. 2 is a bottom view; Fig. 3, a side elevation, and Fig. 4 a section through *xy* of Fig. 1.

The nature of my invention consists in constructing a hollow thread-case of a spherical oval, or any other similar shape for containing a ball of thread, having no fixed axis of rotation, and combining the said hollow spherical thread-case with any mechanism that will impart to it such revolving and reciprocating motion that the axis of revolution be in a permanent position, the said axis passing through the hole through which the thread issues; also, in encircling the spherical thread-case at or near its largest periphery with a plate or belt having two hooks facing each other in a plane perpendicular to the axis of revolution; also, in guiding the revolving hook-plate by a stationary circular groove having a hole through it between its inner periphery and the outer periphery of the revolving plate, so arranged as to allow the needle to pass in the proper time at every alternating revolution of the thread-case.

A is a spherical case constructed in two parts, which are secured together by any convenient means, so as to allow of the insertion of a ball of thread. The upper hemisphere is furnished with a central hole, through which the thread passes. There are a number of other holes on its vicinity for the purpose of increasing the resistance of friction by passing the thread through several holes before it issues through the central one. At or near the largest circumference of the globular thread-case is a plate, B, situated in a plane which is perpendicular to the axis passing through the central thread issue. In this plate two hooks are wrought, facing each other and at

such distance from each other that they correspond to the terminus of each single revolution or part of such revolution. The plate B is encircled by a stationary guide-groove, C, the latter having a notch or orifice, through which the needle is to pass, and so disposed in relation to the hooks that they are compelled to pass through the loop when presented.

In Figs. *a* and *b*, I have represented the tangent rack as drawn to the ends of its motion, and the hooks, one on each side of the needle-hole, so as to show the hooks in the act of passing through the loop.

The motion to the thread-case is imparted by any suitable mechanism. The annexed drawings show a tangent rack meshing into the circular cogs upon the spherical thread-case.

The *modus operandi* is as follows: Supposing the needle of a lock-stitch machine to have passed through the cloth and to be about to withdraw, leaving a loop under the cloth, the hook 1, which is now placed in readiness to enter the loop, is caused to revolve and twist the thread a turn or part of a turn, so as to pass the loop of the needle-thread around and over the thread-case. When the needle is again brought down, the other hook, 2, then faces the next loop presented, and by the return revolution twists the thread a turn or part of a turn in the contrary direction, and so forth. It is obvious that the thread is not twisted continually in one direction, which is the case in shuttles revolving in one direction only; but every single twist is untwisted by each successive operation. By cutting away a larger portion of the periphery of the rim or plate which surrounds the thread-case, leaving just sufficient of the rim to keep it steady in the stationary groove, and then placing the hooks farther apart, it will not be necessary to give the thread-case a full revolution, but only to reciprocate the hooks through a part of a circle sufficient to cause the hooks to pass the needle at the commencement of their return motion.

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

1. Making a series of lock-stitches with a

double hook reciprocating its motion of a single revolution or part of such revolution, substantially as herein set forth.

2. In combination with a sewing-machine, the hollow thread-case, of a spherical, oval, or any other similar form, for containing a ball of thread, having no fixed axis of revolution.

3. Attaching to the globular thread-case a plate or its equivalent furnished with two hooks, which are placed symmetrically in the manner specified, and combining the whole with any suitable mechanism that will impart

thereto a reciprocating motion of a single revolution or part of such revolution when the axis of revolution is fixed, substantially as set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

JAMES E. A. GIBBS.

Witnesses:

A. POLLAK,
CHAS. EVERETT.