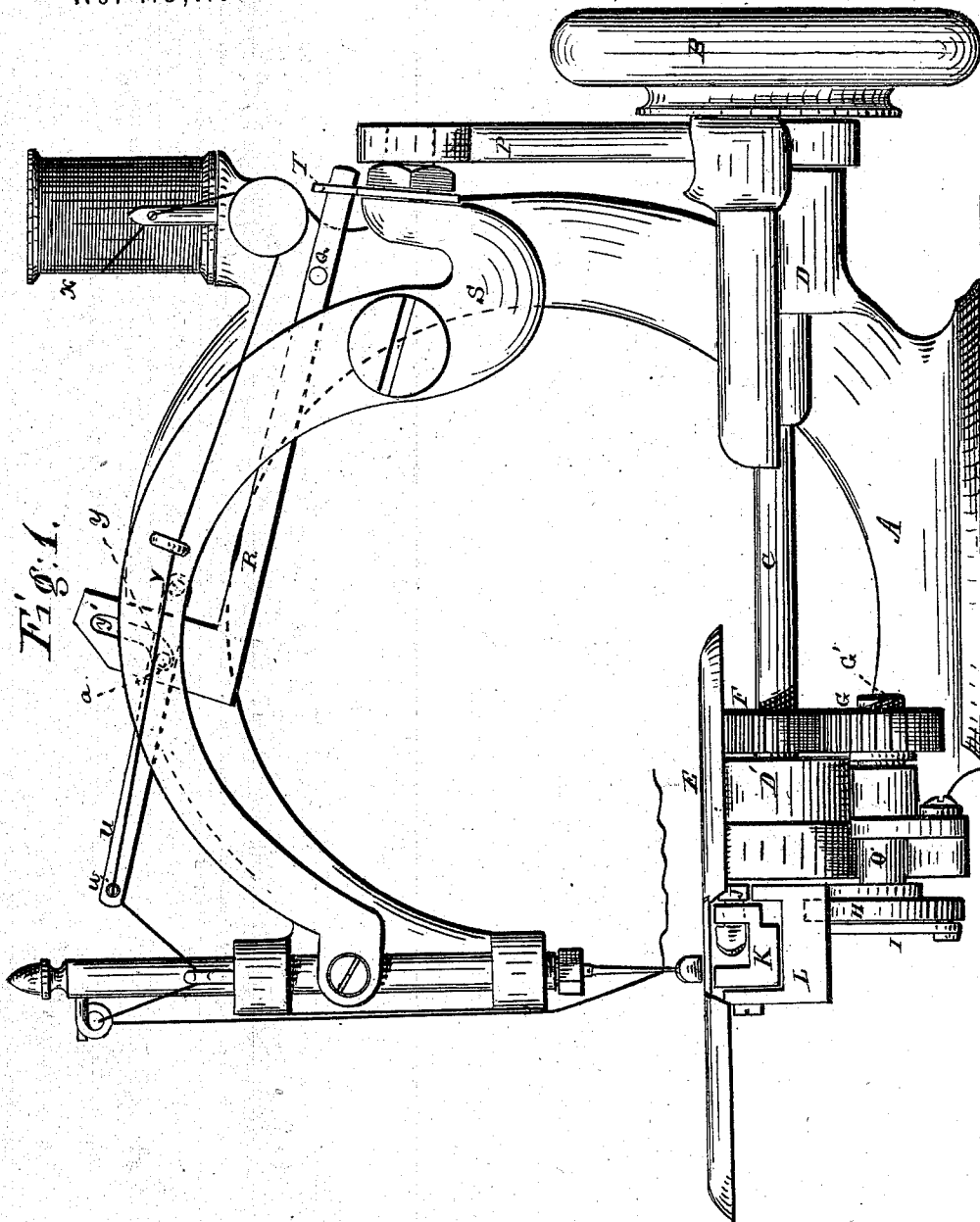


WILLIAM SIDENBERG.

Improvement in Sewing-Machines.

Patented May 23, 1871.

No. 115,117.



Witnesses—

*Gustavus Sidenberg*  
*Henry Sidenberg*

Inventor—

*William Sidenberg*

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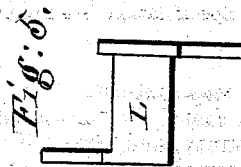
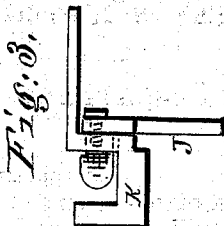
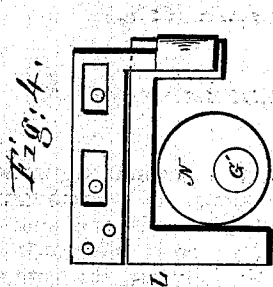


Fig. 6.

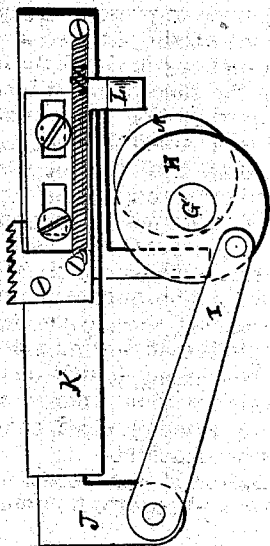
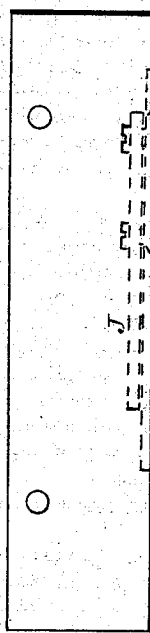


Fig. 2.



Witnesses

Guillaume Sidenberg  
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# UNITED STATES PATENT OFFICE.

WILLIAM SIDENBERG, OF NEW YORK, N. Y.

## IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 115,117, dated May 23, 1871.

*To all whom it may concern:*

Be it known that I, WILLIAM SIDENBERG, of the city, county, and State of New York, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a specification:

My invention relates to that class of sewing-machines known as the Wilcox & Gibbs, and is applicable to such other machines as use only one thread, in order that a single-thread machine may be converted into a double-thread or lock-stitch machine, and again returned to a single-thread when required. The first part of my invention consists in the arrangement of a removable shaft and an adjustable and removable shuttle-race and feeding mechanism, which will be more fully described hereinafter. The second part of my invention consists in an arrangement of thread-controlling levers for governing the slack thread when making the lock-stitch.

Figure 1 is a side elevation of a Wilcox & Gibbs single-thread sewing-machine, converted by my attachments into a double-thread or "lock-stitch" machine. Fig. 2 is a plan or top view of the shuttle-race detached. Fig. 3 is an end view of the shuttle-race, also detached, showing the driving-bar of the shuttle-carrier. Fig. 4 is a side elevation of a yoke for operating the feed-bar. Fig. 5 is an end elevation of the same, and Fig. 6 is a front view of the shuttle-driving and feeding mechanism.

Like letters indicate similar parts in all the figures.

A in the annexed drawing represents the frame of a Wilcox & Gibbs sewing-machine, which is peculiarly adapted to my improvements, and which I have represented as having been converted into a double or two-thread machine by these attachments. B is the driving-pulley, with shaft C, through which motion is imparted to the mechanism for moving the shuttle and feed-bar; also, for operating the compound slotted lever for governing the loose or slack thread from the upper spool. This shaft C is supported in bearings D cast upon the frame A. The front bearing D' also serves as a bed for the table E, upon which the material being sewed is placed, and upon which to mount and secure the adjustable shuttle-race and feed mechanism. Upon the front end of this shaft C is secured a cog-wheel, F, which

connects with a second cog-wheel, G, of the same dimensions, on a removable shaft, G', through which wheels and shaft C rotating motion is imparted to the crank-wheel H. To this crank H is pivoted the connecting-rod I, whose opposite end is secured to the shuttle-carrier J, resting in the shuttle-race K, and through which a reciprocating motion is obtained to move the shuttle back and forth in sewing. Surrounding this shuttle-race K is fitted, so as to slide back and forth, a yoke, L, for moving up and down and forward the feed-foot attached thereto to present the material being sewed to the needle, a coiled spring, M, drawing the feed-bar or yoke back the distance required to form the succeeding stitches. The upward and forward motion of the yoke carrying the feed-foot is obtained through the eccentric N upon the shaft O of the cog-wheel G.

Various methods of giving motion to the shuttle and feed mechanism may be adopted, and in the arrangement represented here I have shown one as being sufficient to illustrate my invention of an adjustable and removable shuttle mechanism and feed, so as to convert a Wilcox & Gibbs single-thread sewing-machine into a double or two-thread shuttle-machine to form the lock-stitch without injury or alteration, so that it may, when required, be returned to the single-thread machine.

The connecting-rod P and needle-arm and bar remain intact and require no detailed description here.

Upon the frame A is pivoted at Q a slotted bar, R, to which a vibrating motion is given by being connected with the arm S through a link, T. A second bar, U, is also pivoted to the frame A at V, and through an opening, W, near its front end, the thread from the spool X passes on its way to the needle.

To give the required intermittent motion to the bar U so that the upper thread may remain at rest during the passage of the shuttle through its loop in forming the stitch, and to prevent slack or loose thread above the table E during the descent of the needle to the material being sewed, a curved slot, Y, is formed in and near the extreme end of the bar R, into which slot Y a pin, *a*, secured to the secondary bar U, extends and is operated.

By the vibration of this slotted bar R the requisite intermittent motion is obtained by

the pin passing into the lower curved end, as shown in dotted lines, Fig. 1, while, and at the time the needle is rising to its highest position, and when the needle-bar begins to descend, it rapidly relieves the upper thread by the pin passing round the curve and into the straight part of the slot, allowing the bar U to suddenly descend, and then remaining in the straight part Y' of the slot until the needle bar or arm commences to rise, when the pin again passes into the curved part of the slot, drawing up the upper thread to tighten and form its part of the stitch.

Having thus fully described my improvements in sewing-machines, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The combination, with the frame A and shaft C, of the removable shaft G' and its cams, and the removable shuttle-race, connecting-rod, driver, and feeding mechanism, when all are constructed substantially as described, and operated from the shaft C, for the purpose set forth.

2. The slotted levers U R, constructed and operated as described, to govern the loose or slack thread, as set forth.

WILLIAM SIDENBERG.

Witnesses:

GUSTAVUS SIDENBERG,  
A. H. NONES.