

C. H. WILLCOX.
Sewing Machine.

No. 44,491.

Patented Sept. 27, 1864.

Fig: 1.

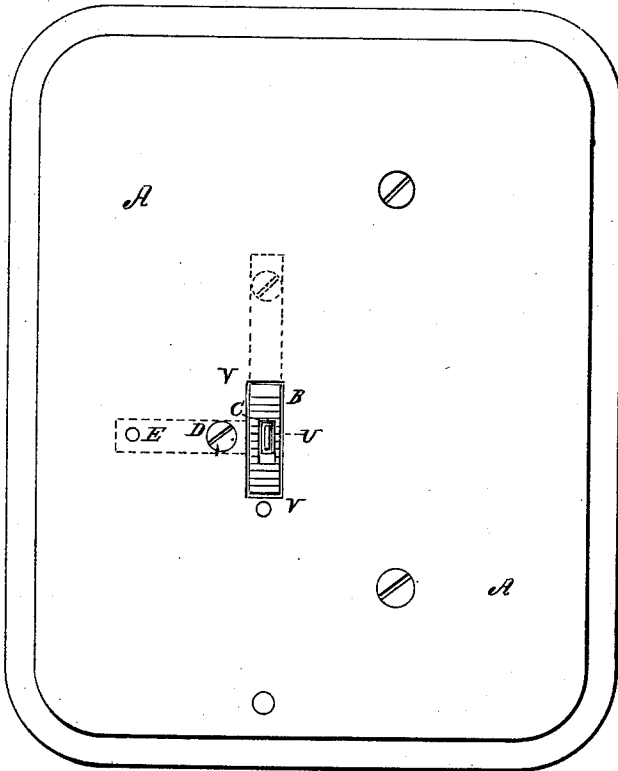


Fig: 2.

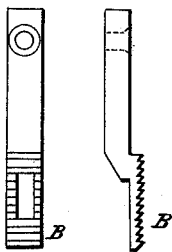
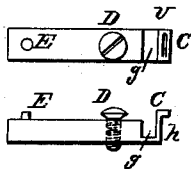


Fig: 3.



Inventor:

Chas. H. Willcox
by *A. P. [Signature]*
Att'y.

Witnesses:

J. L. Coombs
Jules Devaurein

UNITED STATES PATENT OFFICE.

CHARLES H. WILLCOX, OF NEW YORK, N. Y., ASSIGNOR TO JAMES WILLCOX,
OF SAME PLACE.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 44,491, dated September 27, 1864.

To all whom it may concern:

Be it known that I, CHARLES H. WILLCOX, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Sewing-Machines; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 represents a plan of the cloth-plate of a sewing-machine with the present improvement applied thereto; Fig. 2, a plan and side view of the improved feed-bar detached; Fig. 3, a plan and side view of the improved "needle-hole piece" detached.

Most arrangements of feed-surface and needle-hole heretofore constructed are found to be more or less defective, since, under some circumstances, owing to part of the foot or presser covering portions of the cloth-plate through which no feeding device projects, seams or other suddenly-increased thickness of material cannot without assistance be fed through the machine. The difficulty in the way of encompassing the needle-hole in the cloth-plate with a four-motion feed-surface has been the apparent impossibility of supporting that portion of the cloth-plate in which the needle-hole is made without leaving a break in the feed-surface on one or more sides of the needle-hole where the same is connected with the rest of the cloth-plate. The novel arrangement which is the subject of this invention obviates these difficulties and permits the feed-surface to entirely encompass the needle-hole, which is in a separate piece fastened onto the under side of the cloth-plate, and projects upward through a hole in the cloth-plate and through a hole in the center of the feed-surface flush with the upper side of such plate. This needle-hole piece also acts as a guard to prevent the loop being thrown out from the wrong side of the needle for the looper or hook to enter.

Pieces having different sizes of needle-holes can be readily substituted, according to the kind of work to be performed. The needle-hole pieces can be made of steel and hardened, and thereby rendered much more durable than heretofore.

My invention therefore consists in making the needle-hole of sewing-machines in a separate piece of metal of such a shape as to ad-

mit of a four-motion feed-surface acting simultaneously upon all the four sides of the needle-hole, whereby a more regular and perfect feed of the material is insured. This needle-hole piece in some machines may also be made of such a shape as to insure the proper presentation of the loop to the looper, and so facilitate the entrance of the looper therein. It will be found advantageous to make the needle-hole piece of hardened steel, and to render it readily removable from the machine, so that they may be changed and replaced with facility.

As these improvements may be readily applied with but slight alteration to any single or double thread machine using a four-motion feed, I will only show the manner in which it may be applied to that known as the "Willcox & Gibbs sewing-machine."

In the said drawings, A is the cloth-plate, in which is made an oblong slot or hole, V, and through this slot works the feed-surface B. Through a hole in the center of the feed-surface projects the needle-hole piece C, which is fastened onto the under side of the plate by the screw D and adjusted to its proper position by the steady-pin E. It has the needle-hole U and the slot or groove *g*, Fig. 3, made in it to permit the proper movement of the feed-surface B, which, it will be perceived, is intended to operate on all four sides of the needle-hole. The surface *h* of the needle-hole piece, close to which the needle passes, acts so as to throw the loop to the proper side of the needle to be caught by the looper.

Having now described my invention and the manner in which the same is or may be carried into effect, I shall state my claim.

In the sewing-machines having a feed known as the "four-motion feed" I claim—

The making of the hole through which the needle works in a separate piece of metal secured to the cloth-plate, the feed-surface operating on all four sides of such needle-hole, as hereinbefore described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHAS. H. WILLCOX.

Witnesses:

A. HATCH,
JAMES KILNER.