

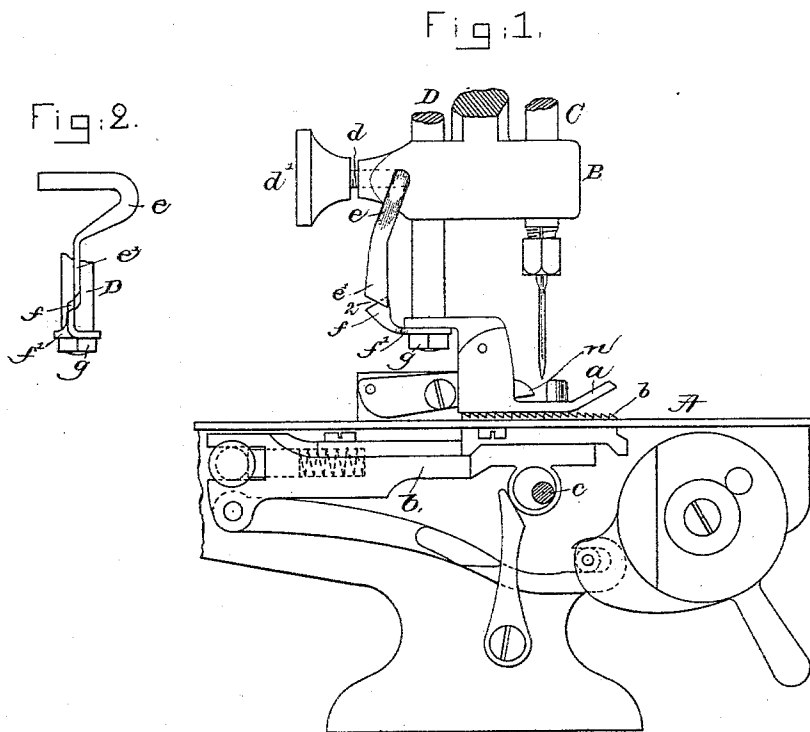
(No Model.)

C. F. WILCOX.

THREAD CUTTING MECHANISM FOR SEWING MACHINES.

No. 401,399.

Patented Apr. 16, 1889.



Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES F. WILCOX, OF IPSWICH, MASSACHUSETTS.

THREAD-CUTTING MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 401,399, dated April 16, 1889.

Application filed January 3, 1888. Serial No. 259,624. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. WILCOX, of Ipswich, county of Essex, and State of Massachusetts, have invented an Improvement in Thread-Cutting Mechanism for Sewing-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

When stitching together knitted fabrics upon sewing-machines for the production of hosiery, shirts, &c., it is customary to run the sewing-machine by power, and after the two edges of a piece of knitted fabric for the production of one article have been united it is customary to immediately present between the feed and presser-foot the edges of a second article, the sewing-machine stitching continuing from one to the next article, leaving the different articles attached together by means of a line of stitches, the stitch being usually a chain-stitch. In this class of work after one article, the edges of which have been sewed together, passes from under the presser-foot the operator cuts the connected articles apart by severing the stitches which join one to the next article, and in so doing, especially when the articles are joined by a chain-stitch, the thread is often drawn upon improperly, so that the sewed fabric becomes puckered, or the stitch in the fabric or article near the point where the connecting-stitches are severed is drawn tighter than at other portions of the article. To obviate this difficulty, the connecting-stitches should be severed by a shear cut, which will cut them quickly without any liability of straining the thread. To do this rapidly and by a part of the sewing mechanism itself, and thus render it unnecessary for the operator to keep shears or a knife ready at hand, I have provided the sewing mechanism with a cutting mechanism located at the rear of the presser-foot and composed of two members, one of which is made movable with relation to the other by or through the rising of the presser-foot. In accordance with my invention the cutting mechanism is so constructed and combined as to act substantially as do shears and make a shear cut.

My invention consists, essentially, in the combination, with a sewing-machine, of a

thread-cutting mechanism having a stationary and a movable member, the movable member deriving its movement from the presser-foot or its bar.

Figure 1 represents in front elevation a sufficient portion of a Willcox and Gibbs sewing-machine with my improvements added to enable my invention to be understood; and Fig. 2 represents the stationary member of the cutting mechanism detached from the head, and the removable member with part of the presser-bar.

Referring to the drawings, the bed-plate A, the head B, supposed to be at the front of the usual overhanging arm, the needle-bar C and the presser-bar D therein, the presser-foot *a*, the feed *b*, the hook-shaft *c*, and the eccentric thereon to move the feed are and may be all as usual. The head B, as herein shown, near the presser-bar D, has secured to it by a screw, *d*, having an enlarged head, *d'*, a shank, *e*, the lower end of which is shaped to form a blade, *e'*, the cutting extremity of the said blade being placed at an angle to the surface of the bed-plate. The second member of the cutting mechanism consists of a blade, as *f*, attached to a plate, *f'*, herein shown as applied to the presser-bar D, and interposed between the shank of the presser-foot and a set-nut, *g*, the upper end of the said blade *f* being set at an inclination with relation to the surface of the bed-plate. The cutting-edges of the blades *e'* and *f* are placed at acute angles to each other, or so placed with relation each to the other as to leave a space, as 2, within which the operator may place the thread made into stitches and connecting two succeeding articles, which have been stitched upon the machine, in order that the said blades *e'* and *f*, in their movement one with relation to the other vertically, may with a shear cut sever the said stitches sharply and cleanly without any drag or pull upon the stitches, which would tend to shirr or pucker the new fabric.

In practice, as the feed-points of the feed-bar rise to engage the under side of the fabric lying between the bed-plate and the under side of the presser-foot to feed the fabric, the said feed acts to lift the presser-foot and its bar, and with it the knife or blade *f*, so that in practice the said blade *f* has a very rapid rising-and-falling motion. The thread or any

similar thing being placed in notch 2, between the end of the blade *e'* and the end of the blade *f*, will be quickly and instantly severed.

I do not desire to limit my invention to the exact construction or shape of the two members forming my improved cutting mechanism, and instead of them I may employ cutters or blades of any other well-known or suitable shape, so long as one of the members or blades is stationary and the other is connected to and moves with the presser-foot.

I am aware that shears operated automatically have been used in connection with stitching mechanism to trim the edges of fabric parallel to the line of stitching, but my thread-cutting mechanism could not be used for such purposes.

In practice the presser-bar will have the usual lever by which to lift it when it is desired to place material under or remove it from under the presser-foot, and when the presser-foot is lifted for such purpose, it rising more at such time than when acted upon by the feed, the upper end of the cutter member or blade *f* rises far enough to pass its edge entirely beyond and above the beveled lower end of the stationary member *e'*, thus closing the V-shaped space 2 between the two cutter members, one cutting member or blade acting as a shield or cover for the other.

In Fig. 1 I have shown a trimming-blade, *n*, of usual construction, attached to an edge-guide and adapted to trim the edge of the fabric close to and parallel to the seam.

My invention is also applicable to machines for sewing straw-braid and for sewing leather, for in straw-work the material is very tender

and must not be drawn by pulling the stitch unduly when cutting the thread, and so, also, in leather-work, where the thread is very strong and cannot be broken, the shear-cutter for the thread is very useful and avoids the use of hand-shears.

I claim—

1. The combination, with a sewing-machine presser-bar, of a cutter or blade rigidly attached thereto, and thus vertically movable therewith as the said bar is lifted slightly at each stitch by the action of the feed against the presser-foot, and a stationary cutter or blade contiguous to the said movable cutter or blade, said cutters or blades serving to operate with a shearing effect to sever threads which may be inserted between their ends, substantially as set forth.

2. In a sewing-machine, the combination, with the head B and the cutting-blade *e'*, having a shank, *e*, by which it is secured to the said head, of the presser-bar D, and the blade *f*, having a shank or plate, *f'*, by which it is attached to the said bar, said blades being contiguous to and parallel with each other, and one or both of them having inclined ends to form a V-shaped notch into which the thread to be severed may be inserted, substantially as set forth.

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

CHARLES F. WILCOX.

Witnesses:

CHARLES A. SAYWARD,
JOSEPH SPILLER.