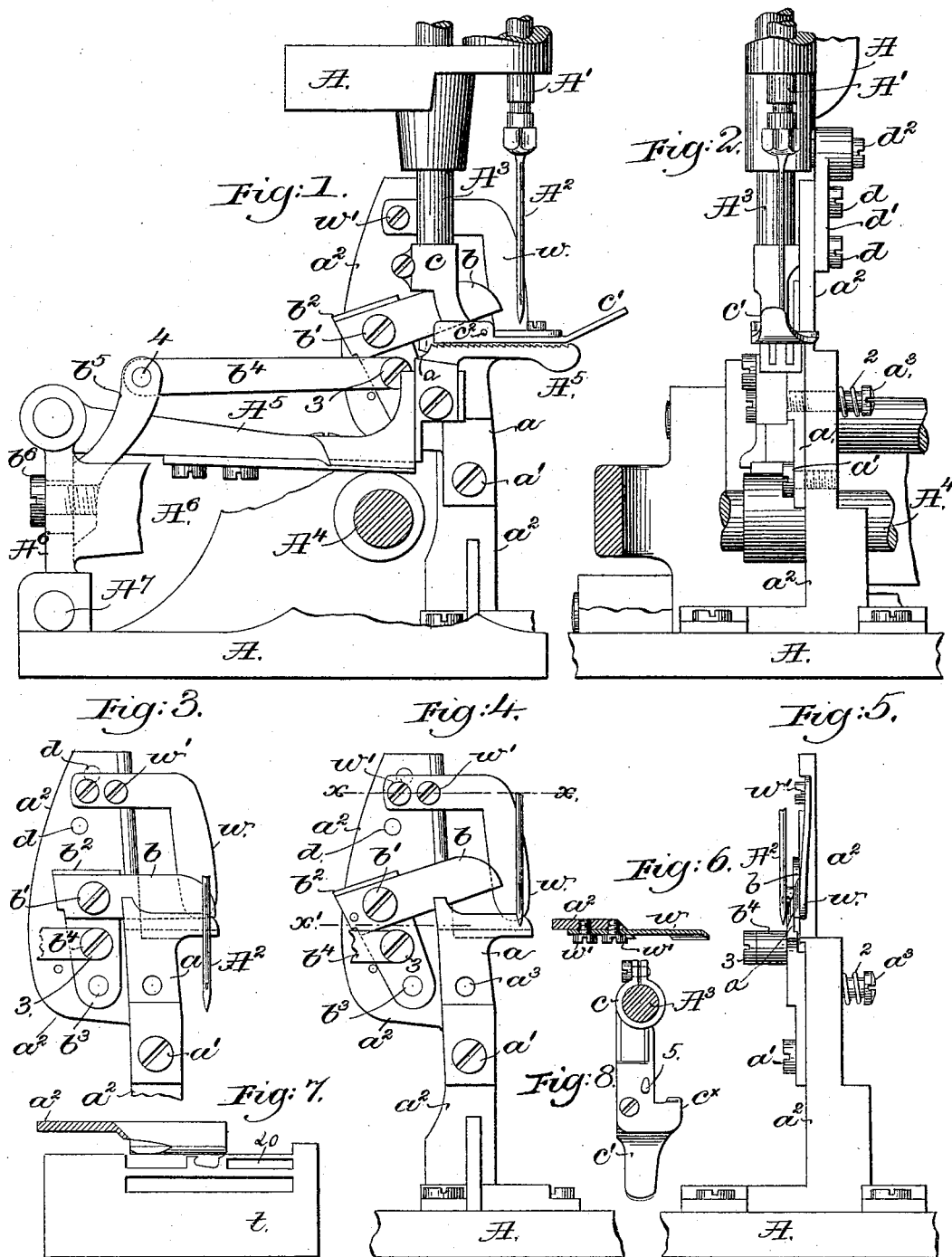


(No Model.)

W. J. DEVALL.  
TRIMMING MECHANISM FOR SEWING MACHINES.

No. 454,010.

Patented June 9, 1891.



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## TRIMMING MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 454,010, dated June 9, 1891.

Application filed November 7, 1890. Serial No. 370,591. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM J. DEVAL, of Pittsfield, county of Berkshire, State of Massachusetts, have invented an Improvement in Sewing-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention has for its object the production of a simple and reliable trimming mechanism for use on sewing-machines, especially those used to stitch and trim knitted goods close to the seam being stitched.

In accordance with my invention a stationary blade, supported, preferably, below and disconnected from the cloth-plate and extended up through a slot in the throat-plate parallel to the feeding device, stands with its cutting-edge at one side of the presser-foot, and between it and a movable shear-like blade or arm forming the second member of the cutting mechanism, the said movable blade or arm working at one side, (herein shown as the right-hand side of the stationary blade,) while the presser-foot holds the material down close to the other or left-hand side of the stationary blade. Holding the material at one side of and extended across the top of the stationary blade and causing the movable blade to meet the material at the other side of the stationary or underblade enables the material to be trimmed quite close to the knitted seam, closer, in fact, than is possible when the movable blade is located between the presser-foot and the stationary blade.

Figure 1 is a partial front elevation of a sufficient part of a sewing-machine with my improvements added to enable my invention to be understood, the usual cloth and throat plates being omitted; Fig. 2, a view taken from the right of Fig. 1; Figs. 3 and 4, details showing the cutting mechanism in different positions; Fig. 5, a right-hand view of the parts shown in Fig. 4; Fig. 6, a section in the line  $x$ , Fig. 4; Fig. 7, a top view of the throat-plate and blade and stand below the line  $x'$ , Fig. 4; Fig. 8, a top view of the presser-foot.

I have selected a machine of the kind represented in United States Patent No. 299,569 in connection with which to illustrate my in-

vention, and in the drawings A represents the frame-work; A', the needle-bar; A<sup>2</sup>, the eye-pointed needle; A<sup>3</sup>, the presser-bar; A<sup>4</sup>, the main shaft; A<sup>5</sup>, the feed-bar, and A<sup>6</sup> the feed-rocker pivoted at A<sup>7</sup>. The parts mentioned are common to the said patent, so need not be further described, and in practice the under thread-carrier will be and the parts described may be actuated as provided for in the said patent.

In accordance with my invention the lower blade or member  $a$  of the cutter is secured at its lower end by a shouldered screw  $a'$  to a suitable stand or bracket  $a^2$ , and at a point above the said screw the said blade receives a screw  $a^3$ , which is also extended through the said stand, a spiral spring 2 (shown in Fig. 2 as surrounding the said screw between its head and the said stand) acting to keep the upper end of the said blade  $a$  pressed toward and against the movable blade or arm  $b$  of the cutting mechanism, the rotation of the said screw enabling the surfaces of the said blades to be kept properly against each other, as is necessary to enable the cutting mechanism to cut smoothly.

The blade  $b$  is connected by screw  $b'$  to an arm  $b^2$ , pivoted at  $b^3$  on the stand  $a^2$ , the said arm having jointed to it at 3 a link  $b^4$ , in turn jointed at 4 to an ear  $b^5$ , adjustably connected by a set-screw  $b^6$  (see Fig. 1) to the feed-rocker, so that as the ear is raised or lowered the blade  $b$  may be moved more or less.

By pivoting the blade-carrying arm  $b^2$  on the stand  $a^2$  below the throat-plate the knife or blade  $b$ , as it is moved to co-operate with the blade  $a$  to cut the material has given to it a movement to produce a draw cut, which is of very material advantage in cutting the material accurately.

The presser-foot shown consists of a socket portion  $c$  and a foot or plate  $c'$ , pivoted thereon at  $c^2$ , so as to rock when the foot passes over a seam, all as usual. The foot has at its inner side a lug  $c^x$ , which crosses the material at right angles to the line in which it is to be cut, and the stationary blade  $a$  stands close to the straight inner side of the presser-foot, the lug aiding in smoothing out the edges of the material to be cut off. The upper end of the stand  $a^2$  is steadied by being connected by screws  $d$ , extended through an arm

$d'$ , attached to the overhanging arm of the frame by a screw  $d^2$ .

It will be understood that the knitted goods to be stitched together and trimmed will rest in usual manner upon a throat-plate  $t$  (see Fig. 7) and on the usual cloth-plate in which the throat-plate is held, and that the prongs of the feeding dog or bar will rise through usual slots in the said throat-plate to engage and feed the material. The throat-plate is provided at one side with a suitable notch 20, in which stands the blade  $a$ , the latter, as shown, standing close to the straight right-hand side 5 of the presser-foot. (See Fig. 8.)

The blade  $b$  in its movement works at the right-hand side of the blade  $a$ ; or, in other words, the blade  $a$ , the top of which is beveled downwardly and forwardly toward the operator, so that the point of the blade  $a$  falls substantially opposite the usual needle-hole in the throat-plate, is located between the presser-foot and blade  $b$ , so that the material being stitched is fed upon the blade  $a$  and between the presser-foot and usual throat-plate, (the latter shown separately in Fig. 7,) holding the knitted goods closely to one side of the blade  $a$ , while the blade  $b$  descends past the blade  $a$  at its opposite or right-hand side, the material to be cut being thus drawn across the blade  $a$ .

Stretching and drawing the material across the blade  $a$ , as stated, not only insures clearer and evenier cutting, but also enables the material to be cut closer to the seam than should the blade  $b$  be made to descend at the left-hand side of the blade  $a$ , raised above the throat-plate and between the said blade and presser-foot.

To further aid in keeping the superimposed edges of the knitted material from curling up opposite the stitch making and trimming point, I have combined with the two blades a thumb  $w$ , it consisting of a metal plate, herein represented as of L shape and fixed to the stand  $a^2$  by screws  $w'$ .

I do not broadly claim shear-like blades to constitute a trimming-cutter, as I am aware

that such blades have been used in many different forms.

I claim—

1. In a trimming mechanism, the lower blade  $a$ , the presser-foot and throat-plate to hold the material at one side the said blade, and the movable blade to act on the material at the side of the blade  $a$  opposite that occupied by the presser-foot, combined with the stationary thumb, independent of the presser-foot, to rest upon and keep down the material adjacent to that side of the movable blade  $b$  farthest from the presser-foot, to operate substantially as described.

2. In a trimming mechanism for sewing-machines, the throat-plate, the stand  $a^2$ , the arm  $b^2$ , pivoted below the throat-plate, the movable blade  $b$ , connected to said arm, means to move the said arm, and the laterally-yielding lower blade  $a$ , combined with the presser-foot resting on and holding the material between itself and the said throat-plate at one side of the blade or cutter  $a$ , the blade  $b$  cutting the material at the opposite side of the cutter  $a$ , whereby the material being trimmed parallel to the line of stitching is drawn or stretched across the blade  $a$ , substantially as described.

3. The blade  $a$ , the stand  $a^2$ , to which it is connected near its lower end, the screw  $a^3$ , connected to the said blade and extended through the stand, and the spring 2, interposed between the head of the said screw and the said stand, combined with the blade  $b$  and means to actuate it, substantially as described.

4. The feed-rocker  $A^6$ , the stand  $a^2$ , the arm  $b^2$ , the stationary blade  $a$ , the movable blade  $b$ , and link  $b^4$ , combined with the adjustable ears  $b^5$ , to operate substantially as described.

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

WILLIAM J. DEVAILL.

Witnesses:

ED. S. DAVENPORT,  
WALTER F. HAWKINS.