

T. S. PARKER.

TRIMMING ATTACHMENT FOR SEWING MACHINES.

No. 314,710.

Patented Mar. 31, 1885.

Fig. 1.

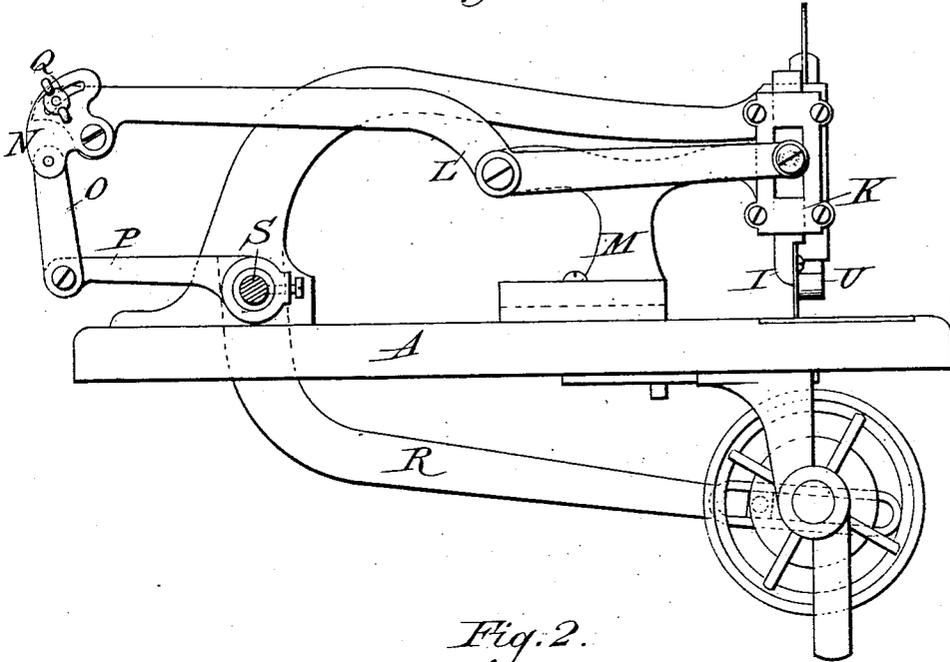
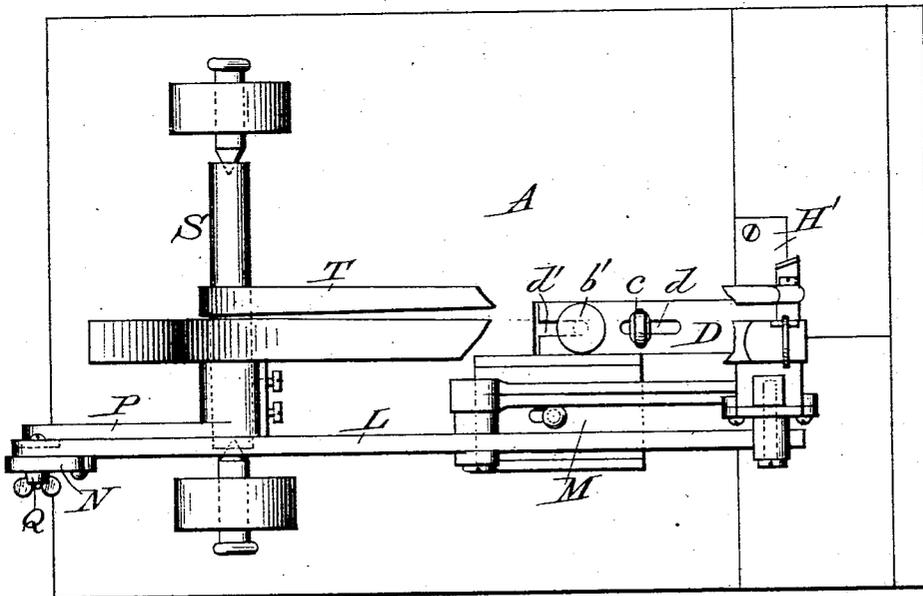


Fig. 2.



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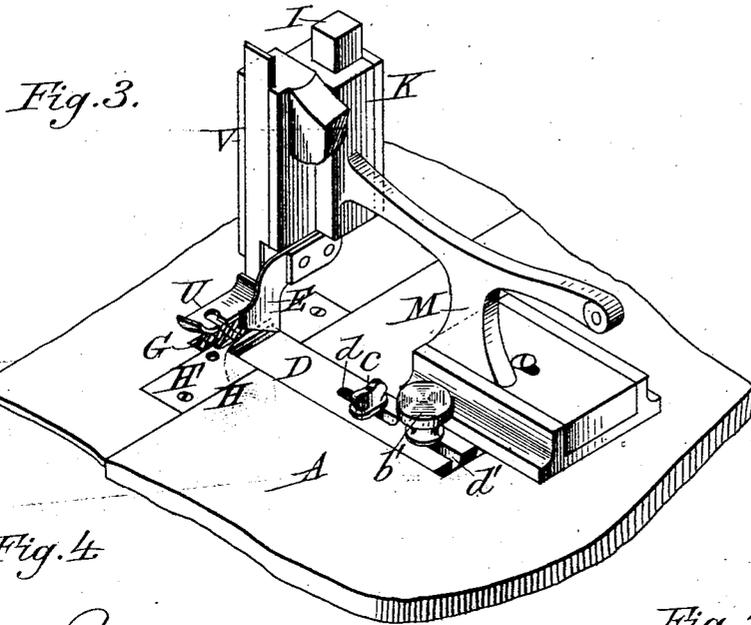


Fig. 4.

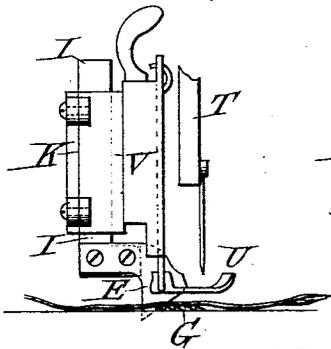


Fig. 7.

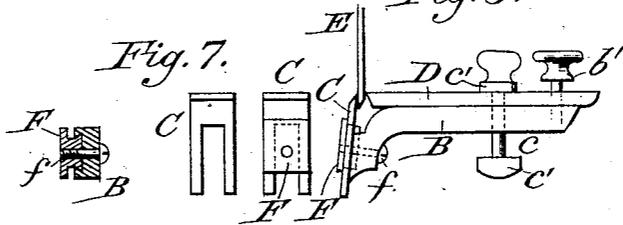


Fig. 5.

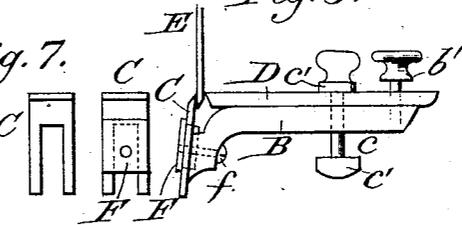


Fig. 8.

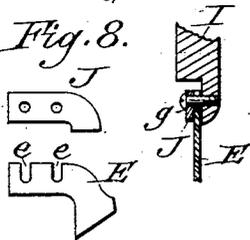


Fig. 6.

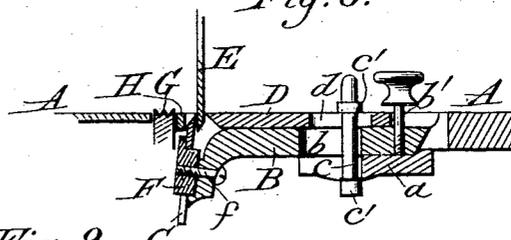


Fig. 9.

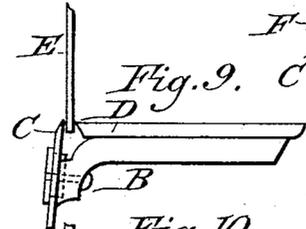
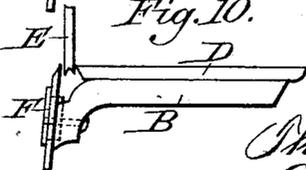


Fig. 10.



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UNITED STATES PATENT OFFICE.

THOMAS S. PARKER, OF SCHENECTADY, NEW YORK.

TRIMMING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 314,710, dated March 31, 1885.

Application filed November 24, 1882. Renewed July 23, 1884. (No model.)

To all whom it may concern

Be it known that I, THOMAS S. PARKER, a citizen of the United States, residing at Schenectady, in the county of Schenectady and State of New York, have invented certain new and useful Improvements in Sewing-Machine Trimmers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to that class of sewing and trimming machines that are used for trimming the edges of knit fabrics and similar goods while the same are being sewed.

The drawings show a machine in which a lower stationary knife is arranged in an inclined or nearly vertical position between the upper movable knife and the feed mechanism, being adjustably secured to a knife-carrying bar having a longitudinal adjustment within a slot formed in the cloth-plate, said bar supporting a horizontal stationary knife; and the invention consists in the means of securing and adjusting the movable and stationary knives, and in certain novel features in the construction, arrangement, and combination of parts, as hereinafter more fully set forth.

In the annexed drawings, illustrating the invention, Figure 1 is a rear elevation. Fig. 2 is a plan. Fig. 3 is a perspective detail. Fig. 4 is an end view. Fig. 5 is a side view of the mechanism for supporting and adjusting the lower knives, and shows the relative position of the upper and lower knives. Fig. 6 is a longitudinal section of the bed or cloth plate and lower knife-carrying bars, and shows the relative arrangement of the upper and lower knives and the feed mechanism. Fig. 7 shows detail views illustrating the construction of the lower vertically-inclined knife and the manner of attaching and adjusting the same. Fig. 8 shows detail views illustrating the manner of attaching the upper knife to its carrying-bar. Figs. 9 and 10 are details illustrating modifications in the form of the cutting-edge of the movable knife, and also show-

ing the movable knife arranged with a stationary knife on each side, as hereinafter described.

Like letters of reference are used to designate the same parts throughout the several views.

The cloth-plate A is recessed or slotted longitudinally for the reception of the bar B, to which the lower knife, C, is connected, as hereinafter described.

As represented in Fig. 5, the bar B is supported by a slotted or bifurcated plate, *a*, that is secured beneath the cloth-plate. The bar B is provided with a slot, *b*, through which is passed a shouldered stud, *c*, that also passes through a slot, *d*, formed in a horizontal knife, D, that rests upon the knife-carrying bar B.

It will be seen that by turning the stud *c* after it has been passed through the slots *d* and *b* the shoulders *c' c'* at each end of the stud will be made to bear or bind against the upper surface of the knife D and under surface of the plate *a*, so as to hold a bar, B, and knife D in position.

It will be observed that the lower portion of the bifurcated plate *a*, as shown in Fig. 6, is provided with a slight swell, against which the lower shoulder, *c'*, of the stud *c* binds when the stud is turned to the position shown in Fig. 6. By turning the stud *c* into the position shown in Fig. 5 it may be withdrawn through the slots *b* and *d*. The rear end of the knife D is recessed or slotted at *d'* to fit around the shank of a handle, *b'*, that is attached to the knife-carrying bar B. The forward end of the knife-carrying bar B is curved down, as shown in Figs. 5 and 6, to form a bearing for the lower knife, C, and is so formed that the nearly vertical lower knife, C, can be arranged or inclined at an angle with the upper knife, E. This curved or inclined portion of the bar B is grooved to receive a tongue or projection on the rear side of a clamping-plate, F, as shown in horizontal section in Fig. 7, said tongue or projecting portion of the plate or clamp F being also caused to pass through the slotted or bifurcated portion of the knife-blade C, a screw, *f*, being used to connect the parts.

It will be seen that by simply loosening the

screw *f*, without removing the clamp *F*, the knife *C* may be adjusted vertically to compensate for wear.

By referring to Figs. 5 and 6 it will be observed that the cutting-edge of the lower knife, *C*, is flush with the cloth-plate, while the knife itself is arranged between the feed mechanism *G* and the upper knife, *E*.

Adjoining the feed mechanism, and between it and the lower knife, is a bridge-piece, *H*, that may be integral with the cloth-plate or formed as a portion of a separate plate, *H'*, that is attached to the cloth-plate, as shown in Figs. 2 and 3. This bridge-piece serves to support the goods against the action of the cutting mechanism while in operation. If desired, however, the bridge-piece may be dispensed with, the feed being then arranged more closely to the lower knife, against the cutting-edge of which the goods will be closely borne by the action of the presser-foot.

By arranging the cutting-edge of the lower knife, *C*, between the upper knife and the feed it is apparent that the cutting or trimming will be done in such a manner as to leave the sewed edges of the goods or fabric perfectly smooth, thus avoiding the rough edges that result when the position of the knives is reversed. This manner of arranging the cutting mechanism—namely, with the lower vertical knife *C* between the upper knife and feed—also does away with the usual necessity of providing devices for clamping the goods on the side of the upper knife furthest from the needle.

Instead of the tendency of the upper or movable knife or cutter to draw the goods down and away from the lower or stationary knife, as in some other machines, it will be seen that the effect produced by the arrangement of devices above described will be directly opposite, as the upper or movable cutter will draw the goods taut against the lower cutter, thereby producing a smooth-cut edge, and at the same time dispensing with any clamping device. The upper knife, *E*, and lower knife, *C*, are both capable of vertical and endwise adjustment to and from the line of stitch. It will be seen that the manner of arranging the lower knife, *C*, as above described readily admits of this adjustment, and also permits the knife to be entirely removed when required. The lower knife, *C*, together with its supporting-bar *B*, may be readily removed by turning the clamping-stud *e*, so as to unlock it from its place under the bed or cloth plate of the machine. The horizontal knife *D*, that rests on the knife-carrying bar *B* flush with the bed-plate, is also removable, and may be adjusted longitudinally to hold the upper or movable cutter, *E*, against the edge of the lower vertical cutter, *C*, at the same time forming with the bridge-piece *H* a slot or opening, in which the upper knife reciprocates, and aiding in keeping the goods from being drawn down by the action of said knife. This horizontal knife *D*, while preferably constructed and arranged as shown, may, if desired, be

made in one piece with the knife-carrying bar *B*, and instead of the stud *e* a thumb-screw and nut or other similar fastening device may be employed. The upper or movable knife, *E*, is preferably attached to the lower end of a vertically-reciprocating bar, *I*, by means of a clamp, *J*, and screws *g g*, as shown in Fig. 8, so that it may be readily removed or be adjusted vertically by simply loosening said screws and clamp without entirely removing the same. It will be seen that the clamp *J* is perforated for the passage of the screws *g g*, while the upper edge of the knife-blade *E* is notched at *e e* for a similar purpose, the notches permitting the knife to be adjusted without removing the clamp or screws. Instead of attaching the knife in this manner, however, it may be connected to the bar *I* by any ordinary or suitable means. The vertically-reciprocating bar *I*, that carries the movable knife *E*, is supported in a box or casing, *K*, that is slotted on one side, as shown in Fig. 1, to permit the knife-carrying bar to be connected to a vibratory lever, *L*, that is pivoted to an adjustable support, *M*, which also carries the box or casing *K*. This construction is similar to that shown in Letters Patent No. 270,467, granted to me January 9, 1883, and need not be particularly described at this time. The rear end of the lever *L* is connected at two points to a slotted segment, *N*, that is also connected to a link, *O*, that has a pivoted connection with a lever, *P*, that is adjustably connected to a rock-shaft, *S*, by means of a sleeve and set-screws, as shown in Figs. 1 and 2. The slotted segment *N* has a pivoted connection with the lever *L* and link *O*, and is provided with a thumb-screw and nut, *Q*, by which the lever *L* may be adjusted and secured to vary the throw of the movable knife *E*.

By means of the adjustable support *M*, which is capable of an endwise adjustment in a bracket attached to the cloth-plate, the movable knife *E* may also be adjusted laterally to or from the edge of the stationary knife *C*. The horizontal knife *D* may be used as a lower knife either with or without the lower inclined knife, *C*.

When the knife *D* is used in connection with the knives *C* and *E*, the several knives will be arranged as shown in Figs. 5, 6, 9, and 10. There will thus be one upper knife and two lower knives, one horizontal and the other vertical, or nearly so, and the cutting-edges of the lower knives will form a slot with cutting-edges for the reception of the cutting-edge of the upper knife. In this case the upper knife will be preferably made in the form of a punch, as shown in Fig. 9, so as to present to the fabric a square or rectangular surface, or it may be grooved longitudinally on its lower end to form a cutting-edge on each side, as shown in Fig. 10.

It will be seen that whenever it is desired to change the distance between the line of cut and the line of stitch, which is done by adjusting the upper knife, *E*, laterally, the lower

knives, C and D, can then be readily adjusted to bear on both sides of the upper knife, thus forming a perfect-fitting slot, within which the upper knife may be operated.

5 It is obvious that if the upper knife or cutter, E, is made with rectangular edges, as shown in Fig. 9, and is arranged in the slot formed by the cutting-edges of the lower knives, C and D, it will act as a punch against the cutting-edges of said lower knives, so as to sever
10 the fabric with a clean cut and leave it with a smooth edge.

The rock-shaft S is actuated by a lever, R, and connected mechanism in the ordinary
15 manner, as represented in Fig. 1, the feed mechanism, needle-arm T, and upper knife, E, being thus simultaneously operated. The presser-foot U is connected with the head V in the ordinary manner.

20 From the foregoing description the operation of the machine will be readily understood, and need not be further explained.

What I claim as my invention is—

1. In a sewing-machine trimmer, the combination of an upper movable knife, a lower
25 stationary knife arranged horizontally on one side of said upper knife, and a lower stationary knife arranged in a vertically-inclined position on the opposite side of the upper knife,
30 substantially as described.

2. In a sewing-machine trimmer, the combination of an upper knife, a slotted cloth-plate, a nearly vertical lower knife adjustably
35 secured to a knife-carrying bar having a longitudinal adjustment within a slot formed in the cloth-plate, and means for securing said bar in position, substantially as described.

3. In a sewing-machine trimmer, the combination of an upper knife, a slotted cloth-plate, a nearly vertical lower knife, a knife-carrying bar curved at one end and provided
40 with an inclined bearing for said lower knife, means for adjustably securing said knife, a horizontal knife resting on the knife-carrying bar, and forming on one side of a slot that receives
45 the cutting-edge of the upper knife, and means for securing and imparting a longitudinal adjustment to the knife-carrying bar and horizontal knife, substantially as described.

4. In a sewing-machine trimmer, the combination of the slotted cloth-plate A, feed
50 mechanism G, bridge-piece H, movable knife E, slotted knife-carrying bar B, the lower stationary knife, C, adjustably secured to said bar by means of a clamp, F, and screws *f*, and
55 arranged in a vertically-inclined position with its cutting-edge between the upper knife and the feed, the horizontal slotted knife D, resting on the knife-carrying bar B, and the shouldered stud *e*, adapted to clamp said parts in
60 position, substantially as described.

5. In a sewing-machine trimmer, the combination of the movable knife E, the slotted cloth-plate A, the knife-carrying bar B, the lower stationary knife, C, having clamp F and
65 screw *f*, and means for imparting longitudinal adjustment to the lower knife-carrying bar, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS S. PARKER.

Witnesses:

BENJAMIN PARKER,
JOHN F. CLUTE.