

(No Model.)

C. A. GATES.
SEWING MACHINE TRIMMER.

No. 490,846.

Patented Jan. 31, 1893.

Fig. 1.

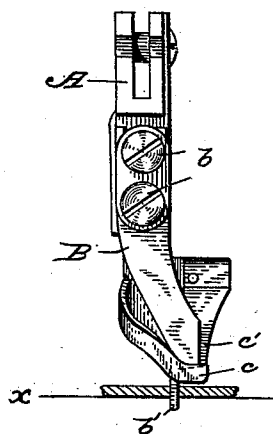


Fig. 2.

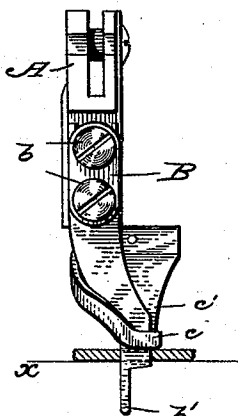


Fig. 3.

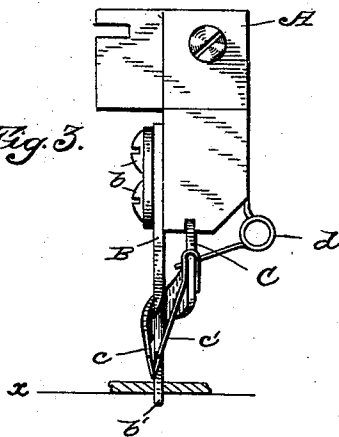


Fig. 4.

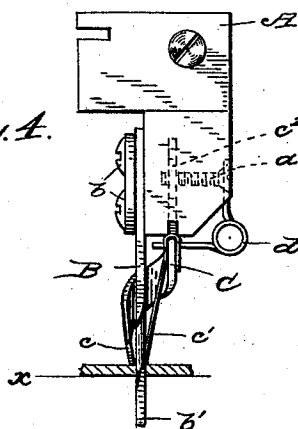


Fig. 5.

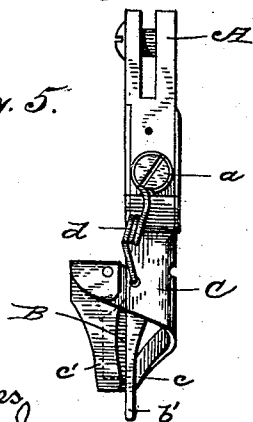
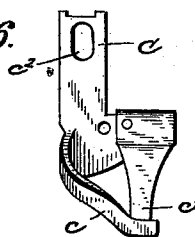


Fig. 6.



Witnesses
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UNITED STATES PATENT OFFICE.

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SEWING-MACHINE TRIMMER.

SPECIFICATION forming part of Letters Patent No. 490,846, dated January 31, 1893.

Application filed June 18, 1892. Serial No. 437,153. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. GATES, a citizen of the United States, residing at Gloversville, in the county of Fulton and State of New York, have invented certain new and useful Improvements in Sewing - Machine Trimmers, of which the following is a specification, reference being had therein to the accompanying drawings.

10 In the use of sewing machine trimmers there is sometimes a difficulty in sewing soft goods, such as knit fabrics and soft, spongy leather, in properly severing the material to be trimmed off, particularly in the use of a vertically reciprocating trimming knife.

15 My invention has for its object to provide a yielding pressing device which will co-operate with a trimming knife in such a manner as to hold the work taut at the moment when the trimming knife descends upon the same to sever the surplus edge to be trimmed off. To this end I mount in the knife carrying-stock or knife-carrier a pressing device which normally extends below the cutting edge of the knife and which is movable downward with said knife as it descends, the pressing device reaching the material just before the knife does, so as to press upon the same in a yielding manner, and the said pressing device being lifted from the work after the trimming knife leaves the latter.

20 My improved pressing device consists preferably of two thin plates formed of spring metal and arranged to press against the opposite sides of the trimming knife when the latter is between them, the said plates being in contact with each other when the knife rises above their lower ends. Thus when the knife-carrying stock descends the lower ends or edges of these presser plates, while the same are in contact with each other, will first reach the material, bearing upon the same with a yielding pressure. The trimming knife now descends between the said presser plates and by forcing them slightly apart they will stretch or hold taut the material so that as the edge of the knife reaches the latter the knife will form a smooth, clean cut, owing to the fact that the material is stretched

50 taut at the point where it is to be severed by the knife.

In the accompanying drawings Figure 1 is a side view of the knife-carrying stock of a sewing machine trimmer with my invention applied thereto, and Fig. 2 is a similar view showing the position of the parts when the knife has descended to cut the material. Fig. 3 is a front view of my invention with the parts in the position shown in Fig. 1, and Fig. 4 is a view similar to Fig. 3 but with the parts in the position shown in Fig. 2. Fig. 5 is a view of my improved trimming device from the side opposite that shown in Figs. 1 and 2, and Fig. 6 is a detail view of the presser device removed from the knife stock by which it is carried.

A denotes the knife carrying stock of a sewing machine trimmer, the said stock to be attached to the knife bar in the usual manner.

B is the trimming knife attached to the stock A by the screws *b*, the said knife being provided with the usual finger *b'* which extends down into and remains in the slot in the throat plate when the knife is lifted.

C denotes the stock of the presser device, the said stock being provided with two plates or fingers *c* and *c'* which are arranged on opposite sides of the blade or cutting portion of the knife B, the said plates being of spring metal and so bent or constructed as normally to press against each other, or against the blade of the trimming knife. In other words the inner faces of the lower ends of the presser plates or fingers *c* and *c'* are normally in a plane which is within the vertical line of the body of the knife B so that as the said knife descends between them they will be moved slightly laterally by the wedge-shaped or tapering edge portion of the knife. A spring *d* attached to the knife-carrying stock A, by means of the screw *a*, serves normally to force the pressing device downward or outward from the said stock A, and the said stock C of the said pressing device is provided with a slot *c²* through which passes the inner end of the screw *a* which serves to attach the said spring *d* to the said knife-carrying stock A, the downward or outward movement of the

said pressing device relative to said stock A being thus limited by the wall or web of metal formed at the upper end of the said slot c^2 and which comes in contact with the inner end of the said screw.

The operation of my invention is as follows: The parts being in the position shown in Figs. 1 and 3, with the knife slightly lifted from the work lying upon the throat plate the upper surface of which latter is denoted by the line x , and a downward movement being imparted to the knife-carrying stock in the usual manner, the lower ends or edges of the plates c and c' will first come in contact with the material, said plates being at this moment in contact with each other, and as they are yieldingly connected with the knife stock the knife is free to continue its downward movement after they are stopped, in their descent, by the material. Further downward movement of the knife-carrying stock now causes the knife to descend between the presser plates, and as the knife thus descends between said plates the latter will be forced slightly asunder, as shown in Fig. 4, thereby slightly stretching the material, upon which they are now held with a yielding pressure, thereby drawing the said material taut across the edge of the knife, so that the latter will make a smooth, clean cut.

I do not wish to be understood as limiting my invention to the exact construction herein shown, as it has been found that a single yielding presser plate the lower end or edge of which is adapted to bear upon the edge of the material, contiguous to the knife, against which latter it yieldingly bears, may be employed to good advantage.

Having thus described my invention I claim and desire to secure by Letters Patent:

1. In a sewing machine trimmer, the combination with a stock or carrier and a trimming knife attached thereto, of a presser device having a yielding connection with the knife stock or carrier and consisting of a spring plate the inner face of the lower end of which is normally in the vertical plane of the knife, so as to bear against the latter with a yielding pressure as the knife descends, and

being thus adapted to be moved laterally slightly by the knife when in contact with the work.

2. In a sewing machine trimmer, the combination with a knife carrier and a trimming knife or blade attached thereto, of a presser device having a yielding connection with said knife carrier, said pressing device consisting of a spring plate or plates the inner faces of the lower ends of which are normally in the vertical plane of the knife so as to be moved laterally slightly by the latter as it descends, and the said spring plate or plates, owing to their yielding connection with the knife carrier, being adapted to press upon the work or material with a yielding action.

3. In a sewing machine trimmer, the combination with the knife carrier or stock and a trimming knife or blade attached thereto, of a pressing device having a yielding connection with said knife carrier, said pressing device comprising two thin plates of spring metal arranged on opposite sides of the said knife and normally in contact with each other below the edge of the knife, and being thus adapted to be forced asunder slightly, when in contact with the material, as the knife descends between them.

4. The combination with the stock or knife carrier A, of the knife B attached thereto, the presser device consisting of the stock C carrying the spring plates c and c' normally in contact with each other below the edge of the knife, the said stock being provided with a slot c^2 , the spring d for forcing the said pressing device downward, and the screw a which attaches the said spring to the said stock or knife carrier A and the inner end of which enters the said slot c^2 to limit the downward or outward movement of the said pressing device relative to the said stock or knife carrier.

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

CHARLES A. GATES.

Witnesses:

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MARTIN GETMAN.