(No Model.)

G. H. DIMOND & W. F. DIAL.

SEAM TRIMMING MECHANISM.

No. 568,896. Patented Oct. 6, 1896.

Fig. 2.

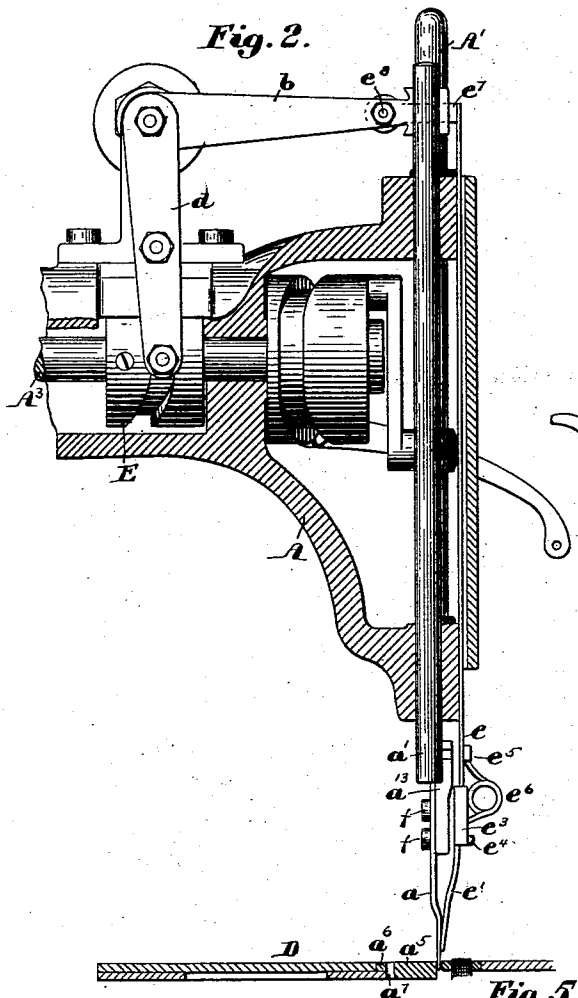


Fig. 1.

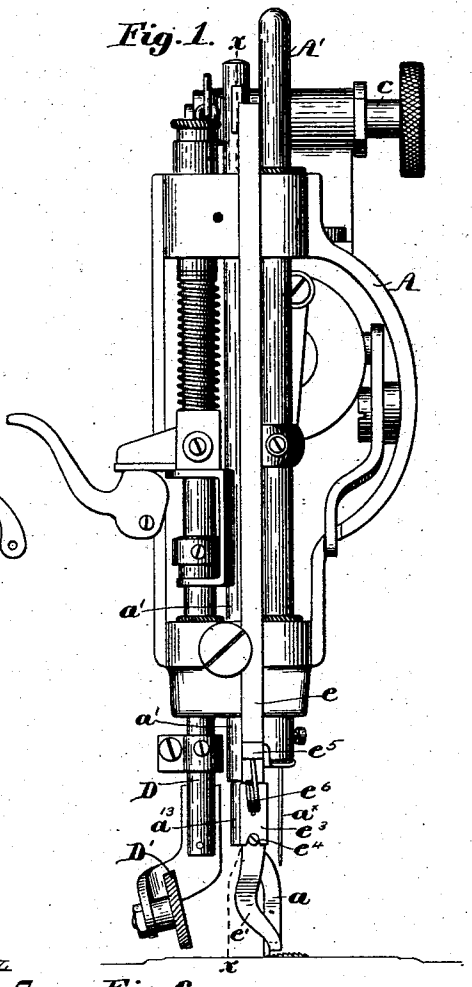


Fig. 3.

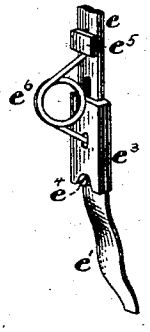


Fig. 4.

Fig. 5.

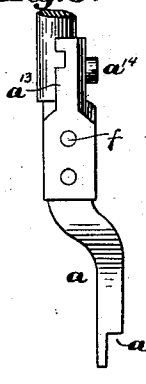
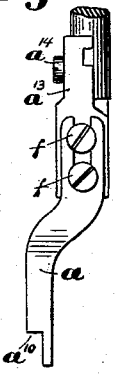


Fig. 6.



Witnesses:
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UNITED STATES PATENT OFFICE.

GEORGE H. DIMOND AND WILBUR F. DIAL, OF BRIDGEPORT, CONNECTICUT, ASSIGNORS TO THE WHEELER & WILSON MANUFACTURING COMPANY, OF SAME PLACE.

SEAM-TRIMMING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 568,896, dated October 6, 1896.

Application filed July 13, 1896. Serial No. 598,973. (No model.)

To all whom it may concern:

Be it known that we, GEORGE H. DIMOND and WILBUR F. DIAL, of Bridgeport, county of Fairfield, State of Connecticut, have invented an Improvement in Seam-Trimming Mechanism, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to improve and simplify the mechanism employed in trimming parallel to the seam material while being stitched, our improvement being especially applicable for use in connection with very light, thin, and soft material.

Our invention is an improvement on that class of trimmers employing an independent yielding holding device to act on the material and hold it firmly while being cut.

In our invention we employ a cutter-bar having a knife-block attached thereto and carrying a knife, and for the best results said knife-block is made adjustable laterally to enable it to be placed at the proper position with relation to the needle to thus remove more or less of the material outside of the seam. In connection with this knife and its bar we employ a second independent bar, which actuates a yielding holding device, the latter being entirely disconnected from the knife-block and being also independent of the usual presser foot or roll. This second bar is moved by a lever acted upon by a cam, and by its use the strain on the cutter-bar and its wear in its bearings is reduced beyond what it would be if one bar carried both the knife and the holding device, and, further, such construction enables the holding device to be so located out of the way of the operator as to leave the knife easy of access for adjustment.

Our invention consists in a seam-trimming mechanism composed of a reciprocating bar having an attached knife-block and knife, a second independent bar having an attached yielding holding device coöperating with the knife, and means for reciprocating said bars in the proper time and order to operate substantially as will be described.

Figure 1 shows in front elevation a sufficient portion of a sewing-machine of well-known construction with our improvements added to enable our invention to be understood. Fig. 2 is a section of Fig. 1 in the line $x\,x$. Fig. 3 shows the yielding holding device enlarged with part of its carrying-bar; Fig. 4, a detail of the lower end of the said bar, and Figs. 5 and 6 show enlarged the knife and parts of its carrying-bar in two different positions.

The bed-plate D, the head A, the needle-bar A′, its actuating-shaft A^3, the knife-carrying bar a', the knife a, the cam E on the shaft A^3, the lever b for moving the knife-bar, the arm d, actuated by said cam and adapted to be coupled to an arm of said lever, are and may be all substantially as in our Patent No. 540,907, dated June 11, 1895, where the parts above referred to are designated by the same letters. The needle $a^\times$ is connected to the needle-bar in usual manner.

The cutter-block a^5, located in a hole in the usual needle-hole plate, and the spring a^6 to act upon and keep said block pressed toward the line in which the knife reciprocates, so as to form an opposed member to coöperate with the edge a^{10} of the knife in completing the cut, are and may be all as common in other sewing-machines. Herein the knife a is attached by screws f to a knife-block a^{13}, attached to the knife-bar by a screw a^{14}.

We have arranged in the head of the machine, in front of the knife-carrying bar a, a second independent bar e, which carries and actuates the yielding holding device, it consisting, essentially, of an arm e', depending from a slide e^3, shown as applied to the lower end of the bar e loosely, so as to slide or yield with relation thereto, as necessity requires, we having placed a spring e^6, between the down-stop e^4 and the up-stop e^5, fast on the bar e, said spring acting to hold the lower end of said slide against the down-stop e^4. As the bar e descends the holder e' meets the work near the line where it is to be cut and is arrested in its descent, while the bar e continues its descent, moving in said slide and compressing the spring e^6, the said holding device thus holding firmly, but with a yielding pressure, the material close to the point

where the edge a^{10} of the knife is to cut the material, said holding device serving to hold the material at right angles to the direction of the cut, thus enabling the cut to be made more effectually.

The bar *e* has at its upper end a right-angled extension e^7, provided with a hole which receives a bolt e^8, extended through a hole in the lever *b*, so that said lever becomes the actuator for said bar *e*.

By placing the bar *e* in front of the bar *a* the screws *f*, used to connect the knife to the block a^{13}, or it may be to the bar itself, are left fully exposed and of easy access to the operator when the knife is to be changed or adjusted up or down, and by employing an entirely independent bar for the yielding holding device it is possible to relieve the knife-bar *a'* of very much strain and wear.

If desired, the bolt e^8 may be withdrawn and the holding device be put out of action, leaving the knife in condition to be used.

The presser-bar D and its roller foot or presser are and may be of usual construction.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A seam-trimming mechanism, composed of a cutter-block, a reciprocating bar having an attached knife, a second bar having an attached independent yielding holding device coöperating with the knife, and means connected with and for reciprocating both of said bars in the proper time and order, to operate, substantially as described.

2. A knife-bar, an attached knife, a second bar arranged parallel to the same, a holding device mounted loosely on said second bar, a spring interposed between said holding device and said bar, a rotating shaft, and a cam thereon, combined with a lever connected directly with both said bars whereby they are operated, substantially as described.

3. In a seam-trimming mechanism, a knife-bar, an adjustable knife-block attached thereto and a knife mounted on said block, combined with a second bar having an attached independent yielding holding device coöperating with said knife, means connected with and for reciprocating both of said bars in the proper time and order, a needle-hole plate and a cutter-block to operate, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

GEORGE H. DIMOND.
WILBUR F. DIAL.

Witnesses:
ISAAC HOLDEN,
B. C. HAMILTON.