(No Model.) 2 Sheets—Sheet 1.

J. W. DEWEES.

TRIMMING ATTACHMENT FOR SEWING MACHINES.

No. 381,537. Patented Apr. 24, 1888.

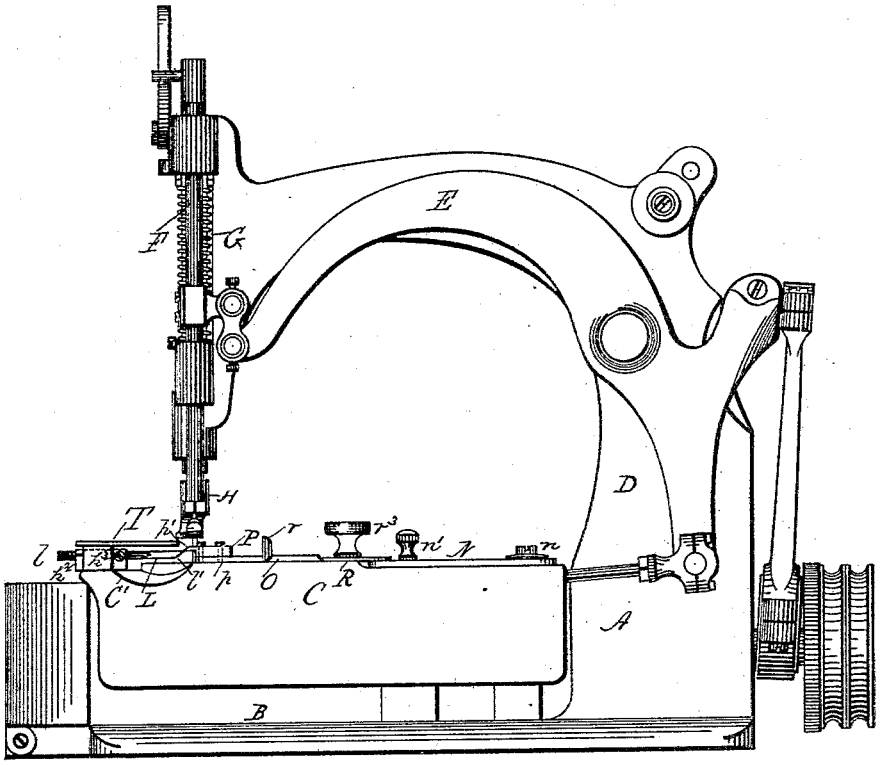

Fig. 1.

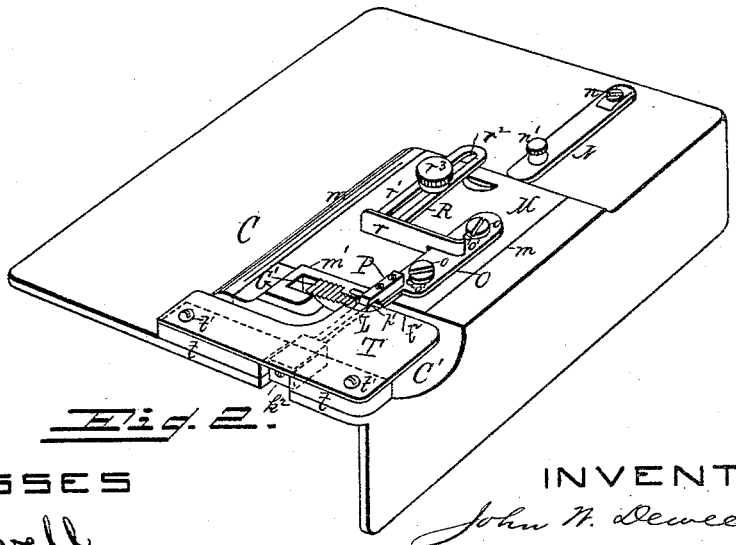

Fig. 2.

WITNESSES

William H. Powell.

W. Irving Trotter.

INVENTOR

John W. Dewees,

By Connolly Bros,

Attorneys.

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J. W. DEWEES.

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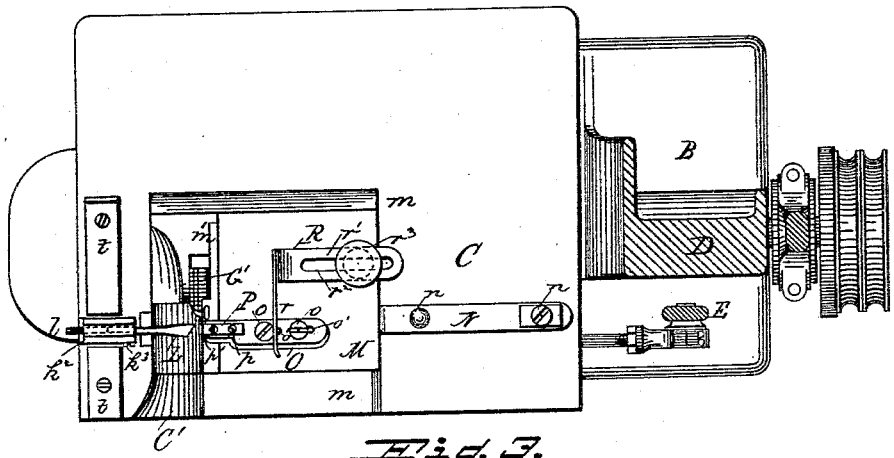

Fig. 3.

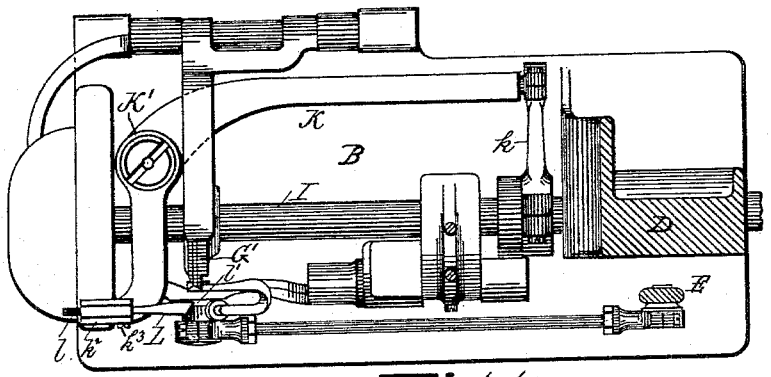

Fig. 4.

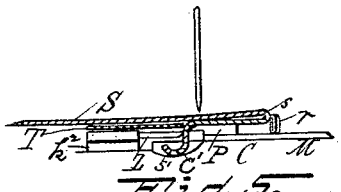

Fig. 5.

WITNESSES.
Wilbur Powell.
W. Irving Trotter.

INVENTOR.
John W. Dewees,
By Connolly Bros,
Attorneys.

UNITED STATES PATENT OFFICE.

JOHN W. DEWEES, OF PHILADELPHIA, PENNSYLVANIA.

TRIMMING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 381,537, dated April 24, 1888.

Application filed March 9, 1886. Serial No. 194,603. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. DEWEES, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Welt or Hem Trimmers for Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a side elevation of a sewing-machine embodying my improvements in trimmers therefor. Fig. 2 is a perspective of cloth-plate of sewing-machine with trimmer. Fig. 3 is a plan view of the cloth-plate of the sewing-machine and the trimming parts thereon, the needle-arm, the eccentric lever for operating the needle-bar, and the needle-operating lever being shown in cross-section, and the bridge removed. Fig. 4 is a plan view of the bed-piece of the machine with the cloth-plate removed, showing the operative mechanism below the cloth-plate and one of the trimmer-jaws, the needle-arm and the eccentric link for moving the needle-operating lever being shown in cross-section. Fig. 5 is a vertical section through cloth-plate and bridge, showing trimming-jaws and needle in elevation and a piece of fabric being hemmed and trimmed.

In an application for Letters Patent heretofore filed by me, dated August 11, 1884, Serial No. 140,295, I have shown and described trimming mechanism adapted and designed to trim or sever the edge of material outside the line of stitching of a hem or welt. Such mechanism embraces among others the following parts, namely: a fixed jaw or anvil, a horizontally-reciprocating knife or chisel, the edge of such knife or chisel being adapted and designed to be moved against or in opposition to the face of the anvil or fixed jaw, and a cloth-plate having a vertical slot through which the edge of the fabric to be trimmed off passes.

My present invention relates to certain improvements on the construction embodied in said application, and have for their object to provide a construction in which the cutting-tools of the trimmer operate in the manner of a pair of shears, or in such way that the edges of the trimmer-jaws will cross one another, and in which the cloth-plate, instead of being slotted, has a recess or depression below the plane of its upper surface for the purpose of receiving the edge of the fabric to be removed.

My improved construction further relates to the provision of a slide on which the fixed jaw of the trimmer is mounted, said slide being fitted in guides or ways and arranged, as hereinafter described, so that it can be readily removed from the machine when desired, and when in position will be firmly and securely held.

My present improvements still further refer to the combination, with a trimming attachment designed and adapted to effect a horizontal cut of the fabric to be trimmed off, of an adjustable guide or gage for regulating the distance from the edge of the fabric of the line of stitching and of trimming, or the width of the hem.

My improvements consist in the peculiar construction and combinations of parts hereinafter fully described and claimed.

Referring to the accompanying drawings, A represents a sewing-machine, which is provided with any usual or suitable stitch-forming mechanism, and comprises a bed-piece, B, a cloth-plate, C, a needle-arm, D, a needle-operating lever, E, a needle-bar, F, a presser-bar, G, a feed-bar, G′, a presser-foot, H, a main shaft, I, and the other parts usually pertaining to a sewing-machine.

K represents a lever fulcrumed on a post, K′, which projects from the bed-piece of the machine, and connected at its inner end by a link, *k*, with an eccentric on the main shaft I, whereby a vibratory motion in a horizontal plane is communicated to said lever. Said lever has at its outer end a head, k^2, which moves in a slot in the cloth-plate C, and in which is fitted a cutting-tool, L, which is preferably in the form of a chisel, having an adjusting-screw, *l*, that is fitted in the head k^2 and abuts against the butt-end of the chisel, whereby the latter can be adjusted longitudinally in said head k^2. A lateral screw, k^3, holds the chisel in its adjusted position. M represents a plate fitted in guides or ways *m m* on the cloth-plate C, and it can be moved in said guides only as far as the throat-plate *m′*. Said plate M may be moved outwardly or rearwardly from the guides *m m* when a dog or bar, N,

which is pivoted on the cloth-plate at *n* and provided with a handle, *n'*, is turned or swung around to permit such movement. When said bar occupies the position shown in Figs. 1 and 3, its free end meets the edge of the plate M and prevents said plate from moving back. The plate M carries a stock, O, fastened in position by screws *o o*, which pass through slotted openings *o' o'* in said stock and enter threaded openings in plate M. Said stock carries a stationary jaw, P, fastened in position by screws *p*. The jaw P has a beveled cutting-edge, *p'*, which is arranged relatively to the cutting-edge *l'* of the moving jaw L in such manner that when the jaw L is moved the edges of the two jaws will pass one another, producing a shear cut. The cloth-plate C has a depression in the form of a concave groove, C', into which the depending edge of the fabric to be trimmed off enters, said depression being below the jaws of the trimmer. This groove is an advantage over the slot of my aforementioned application, inasmuch as it prevents the cut-off portion of the fabric from interfering with the working mechanism below the cloth-plate.

R represents an L-shaped guide and gage having an arm, *r*, transverse of the machine and parallel with the line of feed of the latter, and another arm, *r'*, with slot r^2, into which enters a set-screw, r^3, passing into plate M. This gage forms a guide for the folded edge of the fabric and also a means of adjusting the distance between the line of stitching and such folded edge to regulate the width of the hem.

T represents a plate, which I call a "bridge," as it extends partly over the groove C' in the cloth-plate and forms a support for the fabric being hemmed and trimmed, preventing the body of the fabric from coming in contact with the moving trimming-jaw. Said plate is supported above the plane of the moving jaw L upon blocks *t t*, fastened to or made integral with the cloth-plate C, there being sufficient space between the adjacent ends of said blocks to permit free movement of said jaw. The plate T is secured to the blocks *t t* by screws *t' t'*. The inner edge, t^2, of said plate is parallel with the line of feed of the machine from the front or operator's side of the latter until it comes to the trimmer-jaws, and thence it curves or turns to the left, as shown, the groove C' having a similar curve or deflection to the left, thus allowing the feed-bar to take hold of the body of the fabric after it has been stitched and trimmed.

In operation the material, S, to be trimmed and sewed is folded to form a welt or hem, as shown in Fig. 5, the folded or curved edge *s* resting against the side *r* of the guide R, the depending edge of the fabric *s'* passing downwardly between the edges of the jaws and entering the groove in the cloth-plate, the body of the fabric resting on the bridge T. As the stitching operation proceeds the moving jaw L vibrates against the depending edge of the fabric and across the stationary jaw, thereby effecting a severance or trimming of the fabric by a shear-cutting action. By having the moving jaw of the trimmer on the outer or left-hand side of the machine and the stationary jaw on the right, which is the reverse of the arrangement shown in my aforementioned pending application, the tool of said moving jaw is readily accessible for adjusting purposes to take up wear, &c.

It will be noted that the arrangement of the jaws is such that the material is trimmed before being stitched, whereas in my said pending application the trimming follows the stitching.

What I claim as my invention is—

1. In combination with the stitch-forming mechanism of a sewing-machine, a trimming attachment comprising a stationary jaw having a horizontal cutting-edge and located in a horizontal plane, and a moving jaw or chisel, also having a horizontal cutting-edge and located in a horizontal plane, said moving jaw being adapted and designed to be moved across the stationary jaw, the edges of both jaws passing, whereby a horizontal shear cut is obtained, substantially as shown and described.

2. In combination with the stitch-forming mechanism of a sewing-machine, a vibrating lever, K, adapted and designed to be moved in a horizontal plane, a cutting tool or jaw carried thereon having a horizontal cutting-edge, and a stationary jaw, P, having a horizontal cutting-edge, *p'*, said jaws being located in a horizontal plane, and the moving jaw being adapted and designed to move horizontally past the edge of the stationary jaw, substantially as shown and described.

3. In combination with the stitch-forming mechanism and cloth-plate of a sewing-machine, a slide, M, a cutting-tool, P, mounted thereon and having a horizontal cutting-edge, *p'*, a moving jaw, L, having a horizontal cutting-edge, and located in a horizontal plane, said jaws being adapted and designed to effect a horizontal shear cut, and means for vibrating said moving jaw, substantially as shown and described.

4. The combination, with the cloth-plate of a sewing-machine and a movable trimming-jaw, L, of a slide, M, carrying a cutter or trimmer jaw, P, and a pivoted dog-bar, N, substantially as shown and described.

5. The combination, with the stitch-forming mechanism of a sewing-machine, of a cloth-plate, C, having a depression or groove, C', and two horizontally-disposed trimming-jaws, one of which is stationary, and the other is provided with means whereby it is moved horizontally, the edges of said jaws being over said groove and designed and adapted to trim the depending edge of fabric in the latter, substantially as shown and described.

6. The combination, with the cloth-plate of a sewing-machine and a movable trimming-jaw, L, of a slide, M, having a trimming-jaw,

P, and an adjustable guide and gage, R, on said slide, substantially as shown and described.

7. The combination, with the stitch-forming mechanism, feed-bar, and presser-foot of a sewing-machine, of trimming devices located in front of said foot and presser bar, said trimming devices being in a horizontal plane and having horizontal cutting-edges, and having means for imparting a horizontal motion transverse to the line of feed thereto, whereby fabric to be trimmed and hemmed has its superfluous edge or part outside the line of stitching removed by a horizontal cut in advance of the formation of the stitch, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 25th day of February, 1886.

JOHN W. DEWEES.

Witnesses:
M. D. CONNOLLY,
WILL H. POWELL.