C. CARLETON.

Sewing-Machine Attachment.

No. 110,737. Patented Jan. 3, 1871.

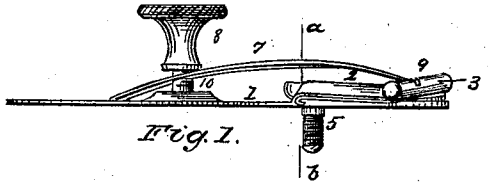


Fig. 1.

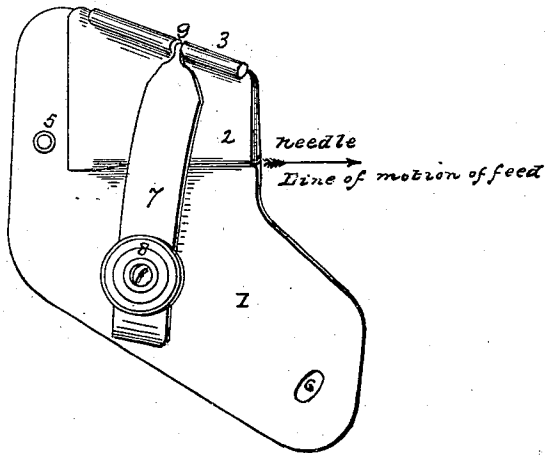


Fig. 2

Fig. 3

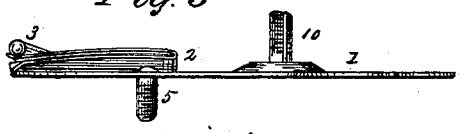


Fig. 4

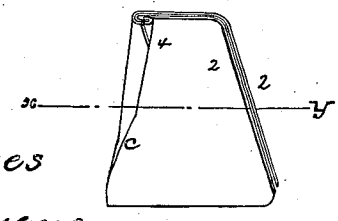


Fig. 5

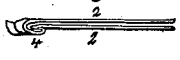
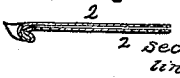


Fig. 6



2 section through line x-y.

Witnesses

L. W. Rogers

Edward E. Odell

Inventor

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UNITED STATES PATENT OFFICE.

CYRUS CARLETON, OF BROOKLYN, NEW YORK, ASSIGNOR TO WILCOX & GIBBS SEWING MACHINE COMPANY, OF NEW YORK CITY.

IMPROVEMENT IN HEMMERS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **110,737**, dated January 3, 1871.

I, CYRUS CARLETON, of Brooklyn, in the county of Kings and State of New York, have invented certain new Improvements in Folding-Guides for Sewing-Machines, of which the following is a specification:

Nature and Objects of the Invention.

My invention relates to guides for folding cloth, commonly called "hemmers and fellers," and it has for its object to perfectly fold and guide the cloth.

To this end my invention consists in certain combinations and arrangements of parts fully set forth in the following description.

Description of the Drawing.

Figure 1 is a rear view of my improved folding-guide, taken from the right-hand side of Fig. 2, the line *a b* showing the line of motion of the needle of the machine. Fig. 2 is a top view. Fig. 3 is a front view from the left-hand side of Fig. 2, where the cloth enters the guide. Fig. 4 is an under-side view of the folding-plates 2 detached from the guide. Fig. 5 is an end view of Fig. 4, and Fig. 6 is a sectional view through the line *x y*.

General Description.

The plate 1, which serves to hold the guide upon the cloth-plate of the sewing-machine, is made substantially in the form shown in Fig. 2, and is provided with a screw, 5, which passes through a hole in the cloth-plate and is secured to it by means of a thumb-nut. It is capable of being adjusted in position with regard to the needle and line of feed by being turned upon the screw 5 as a center, and is held in place by the screw used to hold the ordinary gage used upon all sewing-machines, which passes through the slot 6.

The folding-plates 2, which act upon the cloth to guide and fold it, are arranged with a sufficient space between them to allow one thickness of the cloth to pass between them without pressure, the top plate being slightly elastic, and both plates being flat at the front end, where the cloth enters.

From about the point *c*, Fig. 4, the plates are gradually turned over upon themselves, so as to act upon the edge of the goods and deliver it in a single turn of a width equal to the size of the outlet near the needle.

The tapering form of the plates 2 causes more cloth to be drawn in than is required for the turn, in order to insure the edge being kept in the corner of the folding end of the plates, so that as the cloth is drawn forward by the feed of the machine its edge will strike against the guide-piece 4, inserted diagonally in the folding end, and the excess of cloth will be forced out sidewise from the plates. This arrangement of parts insures the edge of the cloth being always kept in contact with the folding-surfaces of the plates, so that it issues from the guide in a perfect manner to be acted upon by the sewing mechanism. After the plates 2 are thus formed they are secured to the plate 1 in the position shown in Figs. 1, 2, and 3.

Upon the outer edge of the upper plate, 2, in a line diagonal with the line of motion of the edge of the cloth, there is secured a rigid pressure-bar, 3, upon which pressure is applied by the supplemental spring 7 and the thumb-nut 8. The end of the spring 7 is held in the slot 9 in the pressure-bar, and its pressure is distributed equally over the edge of the plate 2 by virtue of the non-elastic nature of the pressure-bar. This pressure upon the cloth between the plates 2, being some distance to one side of the line of feed, causes the cloth in its forward movement to draw in against the edge of the folding-surface between the plates, and keeps the same always in its place without any guiding from the hands of the operator.

The pressure of the spring 7 is capable of adjustment for heavy or light goods by means of the thumb-nut 8, as the pressure suitable for one kind of material would not answer for another. A piece of thin flexible material, as silk, for example, under a pressure suitable for heavier material, would be forced in between the plates 2 much too rapidly, so that it would double upon itself and fail to be properly acted upon by the folding-surfaces, while a light pressure upon a piece of material having more body, as alpaca, would not draw it in between the plates far enough.

It will thus be seen that the pressure upon the edge of the upper plate, 2, draws the cloth

in its forward movement in against the edge of the folding-surfaces, and that the amount of cloth drawn in is governed by the amount of pressure given to the bar 3. The harder the pressure the more the cloth will draw in as it is acted upon by the feeding mechanism of the machine.

The screw 10, upon which the thumb-nut A works, is split, as shown in Fig. 3, for the purpose of giving greater friction to the thumb-nut, in order to hold it in place and prevent it from turning accidentally.

This manner of constructing and arranging the parts herein described renders the guide, after proper adjustment, perfectly automatic in its operation of controlling, guiding, and turning the edge of cloth, and makes it entirely independent of the skill of the operator, so that a perfect hem of any required length may be formed by it when properly attached to a sewing-machine.

I am aware that a spring-pressure has been applied to cloth in a line to one side of and at a distance from the guiding-edge in sewing-machines, an example of which may be seen in the patent to S. P. Chapin, dated February 19, 1856, and I therefore do not claim, broadly, such a device.

Claims.

I claim as my invention—

1. The broad flat hem-turning plate 2 2, folded and bent centrally to turn over the edge of the cloth, its outer edges only being in contact, and inclined, as shown, to press on the cloth outside of the seam the whole length of the plate, in order to force the cloth inward, all constructed and operating substantially as described and specified.

2. The combination, with the folding and guiding plates 2 2, of the diagonal guide-piece 4, arranged at the delivery-point of the hemmer to automatically guide the turned edge of the cloth and present it properly to the sewing mechanism, and to force the excess of cloth sidewise from between the plates 2, substantially as described and specified.

3. The independent adjustable pressure device, consisting of the non-elastic bar 3, spring 7, and screw and nut 8 and 10, in combination with the folding-guide 2, constructed and operating substantially as described and specified.

CYRUS CARLETON.

Witnesses:

JAS. DURGIN,

EDWARD E. OSBORN.