

(Model.)

A. LAUBSCHER.

FELLER AND HEMMER FOR SEWING MACHINES.

No. 461,581.

Patented Oct. 20, 1891.

Fig: 1

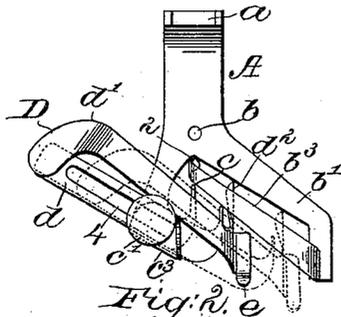


Fig: 4.

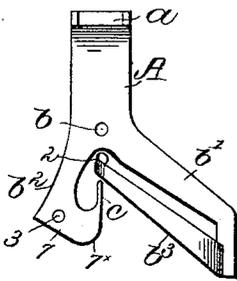


Fig: 3.

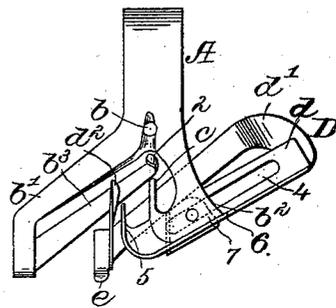


Fig: 2. e

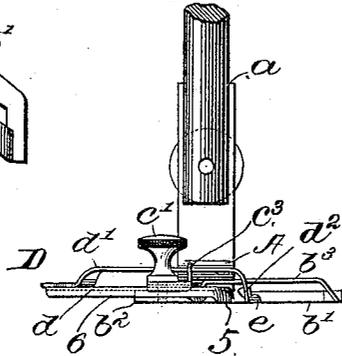


Fig: 5

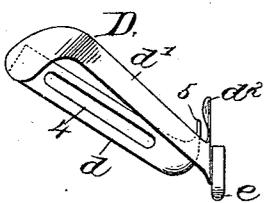


Fig: 5a



Fig: 6.

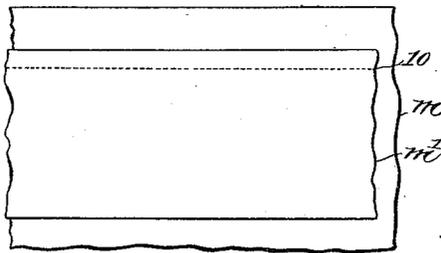


Fig: 7.

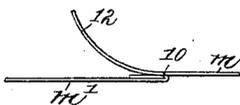


Fig: 8.



Witnesses.

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UNITED STATES PATENT OFFICE.

ALEXANDER LAUBSCHER, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE
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FELLER AND HEMMER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 461,581, dated October 20, 1891.

Application filed May 26, 1891. Serial No. 394,111. (Model.)

To all whom it may concern:

Be it known that I, ALEXANDER LAUBSCHER, of Bridgeport, county of Fairfield, State of Connecticut, have invented an Improvement in Adjustable Fellers and Hemmers, 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 construction of that class of sewing-machine attachments employed to fell and also to hem material.

In my invention the width of the fell and of the hem may be varied and the material be kept under control all the time, so as to positively insure uniform felling and hemming.

Another important feature of my invention consists in such construction of the parts that when adjusted for wider fell or hems, when more material is to be rolled over, the devices instrumental in rolling over the main part of the material, when the width of the fell or hem is to be increased, are moved diagonally to the length of the seam away from the needle-hole, as will be described.

Figure 1 is a top or plan view of a combined feller and hemmer embodying my invention, the dotted lines showing the parts adapted for the widest fell or hem the particular attachment is capable of making. Fig. 2 is a front elevation of the attachment shown in Fig. 1. Fig. 3 is an under side view of the attachment. Fig. 4 shows the main part of the foot with its curling-finger attached. Fig. 5 shows the adjustable gage and separator detached from the foot. Fig. 5^a shows the gage detached. Fig. 6 shows two pieces of cloth laid one upon the other for making the first seam of the fell; Fig. 7, a section of the cloth shown in Fig. 6 when one ply is laid out away from the other, and Fig. 8 shows a completed fell.

Referring to the drawings, A represents the main or foot part of my improved attachment, it having a shank *a*, adapted to be secured in any usual manner to any usual presser-bar, as by a screw. This foot-piece has a needle-hole *b* and two prongs *b'* *b''*, the

prong *b'* having attached to it a yielding or spring-like curling-finger *b''*, the end of which nearest the needle-hole is hooked, as represented at 2 in Fig. 4. The prong *b''* has a curling-point *c*, which is located slightly to one side of the needle-hole, the edge to be turned in passing over the point and into the curl in usual manner. I have provided the prong *b''* with a threaded hole 3 to receive a suitable thumb-screw *c'*, which is first passed through a gage-block *c''*, and thence through a slot 4 in the separator *d*, forming part of the adjustable guide D, to be described.

The guide D (see Figs. 1 and 3 and Fig. 5, where the same is represented as detached) consists, essentially, of the separator-bar and a spring-arm *d'*, herein represented as having a downwardly-curved lip or guiding-surface *d''*, which in practice is substantially parallel with the line of feed of the cloth through the attachment. The outer end of this spring-arm is provided with a projecting gage-finger *e*, attached to or made as a part of the spring-arm, the front end of the said gage-finger being preferably slightly upturned to facilitate the passage of the material under it. The inner end of the separator is shown as provided with a projection 5, which is extended toward the needle-hole, the face of the projection lying near the inner face of the lip *d''*, the said projection and the lip receiving between them the material in process of folding, the extreme edge of the material carried over the separator-bar and against the gage *c''* thereof passing between the curling-lip 2 and the point *c*, the upturned edge of the gage limiting the amount of the material turned in or under by the action of the curling device comprehending the finger and the point.

In this embodiment of my invention the separator is made of thin sheet metal subjected to the action of a die, so as to leave the guiding-edge 6 to contact with the edge 7 of the prong *b''*, and for the narrowest fell or hem, when the gage of which the separator forms a part, is adjusted fully to the left, viewing Fig. 1. The projection 5 referred to fits the curved surface 7^x of the prong *b''*, and also rests against the point *c*.

In Fig. 1, by the dotted lines, is shown the gage adjusted for the widest fell or hem which the present attachment is adapted to make, and in that figure it will be noticed that as the gage is adjusted to increase the width of the fell or hem the gage-finger *e* is carried not only to the right, but toward the operator, or away from the needle in the line of the feed, for it will be noticed that with a wide fell or hem where a much greater amount of material is to be rolled over and turned in that the attachment must prepare to turn in or over the material, forming, say, the outer edge of the hem, farther away from the needle than when the hem is narrow. This adjustment enables a longer curl to be made as the hem increases in width.

In operation let it be supposed that a fell is to be formed. The operator for this purpose will take the two piles of material *m m'* and superimpose them one upon the other, with the edge of one back from the edge of the other, as represented in Fig. 6, more or less according to the width desired for the fell. The operator, to facilitate this operation, will set the gage-finger *e* so that it will be at a distance from the stitching-point or needle-hole equal to the distance desired for the width of the fell, and will run the material under the attachment, stitching the same in the line 10, using the gage-finger *e* to establish the position for the outermost edge of the underlying ply. The material having been united together with one edge beyond the other, will then be opened out, as represented in Fig. 7, where the material is shown in section, and without any further manipulation of the hemmer or "attachment," as it is commonly called, more than merely lifting the bar to which it is secured, the operator will start the projecting edge 12 of what was the undermost ply up between the edge of the separator *d*, and the gage-lip *d*² entering the edge of the ply in between the two members of the curling device. When the presser-foot is lowered, the separator will rest upon the ply *m'*, and the guide-finger *e*, attached to the gage, will rest upon the ply *m* at the right-hand side of the seam 10, previously stitched, and in the further operation of the machine the usual feeding device (not shown) will carry the cloth through the attachment without any further attention on the part of the operator.

From the foregoing description it will be seen that for the two operations of felling the devices once adjusted aid the operator in in-

sureing the proper overlap, and thereafter exactly turns that amount of overlap smoothly and uniformly into a fell, as in Fig. 8.

To use the device as a hemmer, the gage having been adjusted for a hem of the desired width, the operator will pass the material from the left under the presser-foot and separator up between the end of the separator and the concave surface of the gage, over the top of the separator, and place the extreme edge of the piece to be hemmed against the vertical edge of the guide-block *c*³, the extreme edge at a point beyond the guide-block entering between the two members of the curling device.

The device shown is very simple in construction, is easily manipulated, is self-adapting to material of varying thickness, and by it uniform felling and hemming may be done.

I claim—

1. A sewing-machine attachment containing the following instrumentalities, viz: a foot, its attached diagonally-placed curling finger and point *c*, the diagonally-adjustable separator, and arm *d'*, having lip *d*², to operate substantially as described.

2. The foot having the point *c* and the attached finger *b*³, having a lip 2, combined with the separator *d*, made movable toward and from the point *c*, and the arm *d'*, having the lip *d*² and gage-finger *e*, to operate substantially as described.

3. The foot having the point *c* and the attached yielding arm *b*³, having a lip 2, and the guide *D*, consisting of a separator *d*, and a spring-arm *d'*, having a gage-finger, combined with an independent gage *c*³, substantially as described.

4. The foot having the two prongs *b' b*², the spring-like curling-finger *b*³, attached to the arm *b'*, the curling-point attached to the arm *b*², and the separator and its attached arm *d'*, having a lip *d*², and the flange 6 at one edge of the separator, the said separator and arm being made adjustable diagonally on the prong *b*², combined with means to hold the separator in adjusted position, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALEXANDER LAUBSCHER.

Witnesses:

GEO. W. GREGORY,
ISAAC HOLDEN.