

J. M. GRIEST.

PLAITER FOR SEWING MACHINES.

No. 268,398.

Patented Dec. 5, 1882.

Fig. 1.

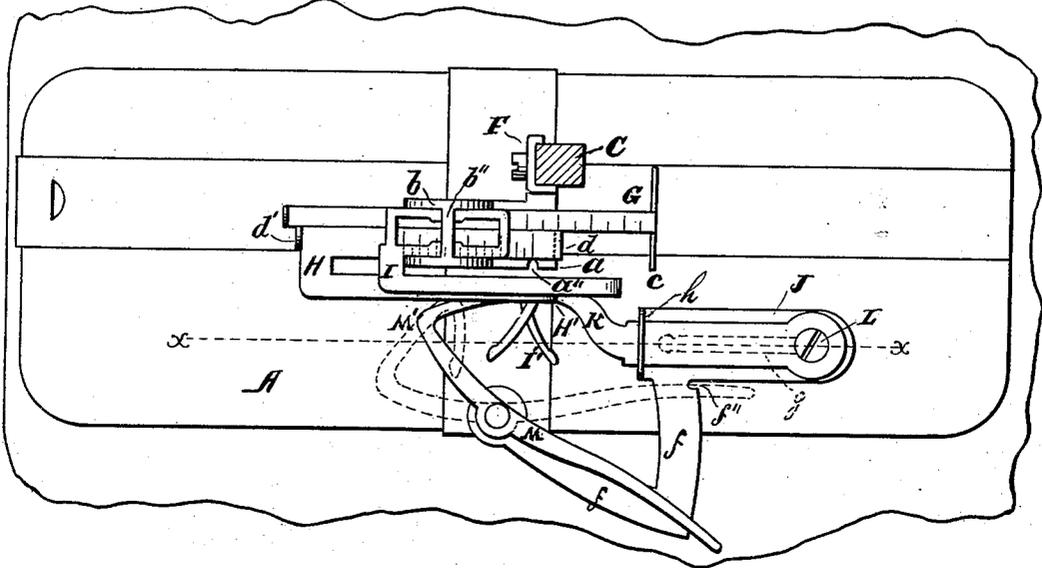
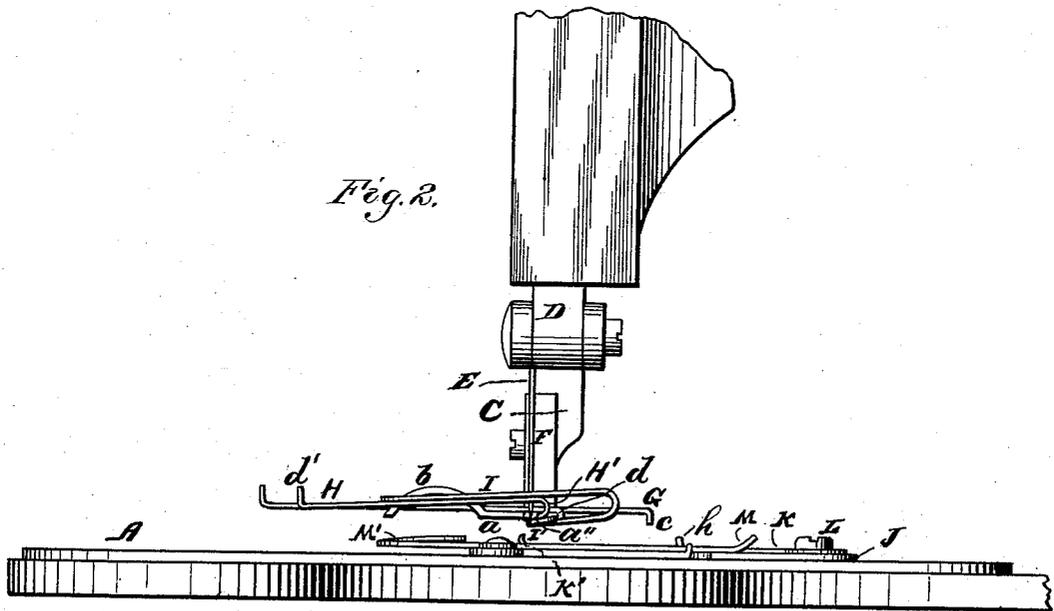


Fig. 2.



Witnesses

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# UNITED STATES PATENT OFFICE.

JOHN M. GRIEST, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO  
WALTER SCATES, OF SAME PLACE.

## PLAITER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 268,398, dated December 5, 1882.

Application filed April 20, 1881. (Model.)

To all whom it may concern:

Be it known that I, JOHN M. GRIEST, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful improvements in Tuckers or Plaiters for Sewing-Machines, of which the following, in connection with the accompanying drawings, is a specification.

In the drawings, Figure 1, Sheet 1, is a top or plan view of a tucker or plaiter embodying my invention. Fig. 2, Sheet 1, is an edge view thereof, showing one part applied to the raised presser-foot of the machine and the other attached to the cloth-plate. Fig. 3, Sheet 2, is an end view of the parts shown in Fig. 2. Fig. 4, Sheet 2, is a section in the plane of line *x x* of Fig. 1, showing the position of the parts when the presser-foot is lowered, and also showing the position of the cloth in the tucker or plaiter. Fig. 5, Sheet 2, is a perspective of the parts adapted to be applied to and to be raised and lowered by the presser-foot of the machine. Fig. 6, Sheet 2, is a perspective of the parts adapted to be applied to the cloth-plate, also showing some of the said parts in detail. Figs. 7, 8, 9, and 10, Sheet 2, are perspectives in detail of the parts shown together in Fig. 5.

Like letters of reference indicate like parts.

A represents the cloth-plate of a sewing-machine. B is the serrated feed-plate of the machine. C is the presser-foot bar; D, the needle-bar, and E the needle. All these parts belong to the sewing-machine, and their construction and operation are well known. They constitute no part of my invention; but I have referred to them thus briefly in order that I may indicate with facility the relation they bear to those parts in which my invention is embodied.

F is a false or substitute presser-foot, suitably adapted for attachment, removably, to the presser-foot bar, as indicated in the drawings.

*a* is that part of the presser F which is adapted to press upon the goods, and the part *a* is arranged to be above or over the feed B when the presser F is applied to the presser-bar.

*a''* is a needle-notch in the part *a*. An arched bridge, *b*, having cross-bars *b'* and *b''*, projects from the part *a*, as clearly shown in Fig. 7.

G is a gage passing underneath the bar *b''*

and resting freely on the parts *a* and *b'*. One end of this gage is bent vertically downward, as shown at *c*, and the other upward, as shown at *c'*. The downward flange thus made constitutes the working part of the gage, and the upward flange serves as a handle by means of which the gage may be set with facility, it being understood that the gage may be moved back and forth upon its seat. This gage is graduated, as shown.

H is a scroll-plate, and H' is a scroll thereon. This plate also rests on the parts *a* and *b'*, and passes underneath the bar *b''*. The plate H is capable of being moved back and forth on its seat, and is turned down at one end, as shown at *d*, to restrict its movement in one direction. The other end is turned up, as shown at *d'*, to facilitate adjustment. The plate H is also graduated, as shown. The position of the scroll H' with respect to the flange *d* is such that when the said flange is in contact with the edge of the part *a*, as shown in Fig. 5, the said scroll will be just opposite the needle-notch *a''*, as is also there indicated; and the graduating-lines on the plate H should begin at the notch *a''* when the said plate is in the position shown and described. In the example shown the graduating-lines are one-eighth of an inch apart on the gage G and one-sixteenth of an inch apart on the scroll-plate H, and in both cases there may be intermediate space-lines, as shown.

I is a horned plate, and I' is its horn.

I'' is a slightly-arched elastic or yielding part, forming a part of the plate I, and *ee* are projections extending slightly up from the part I''. The part I'' passes directly underneath the bridge *b*, and lies upon the gage G and scroll-plate H. The projections *ee* receive between them the cross-bar *b''*, as indicated in Fig. 5, and hence the plate I is prevented from being moved back and forth underneath the bridge *b*, it being understood that the spring action of the part I'' is such that it may be forced under the bridge *b*, so that the projections *ee* will engage the bar *b''* on both its edges. By this means the gage G and scroll-plate H are also held firmly in place, but not so firmly as to be prevented from being adjusted in the manner described. The form and arrangement of the plate I is such that

the horn I' will lie beneath the scroll H' and project laterally therefrom, and also such that the said scroll will ride on said plate while being adjusted, as is clearly indicated in Fig. 5.

5 This horn is opposite the notch *a''*.

The parts of the tucker, so far as now described, are thus connected together, and may be termed the "upper" parts or portion of the tucker, as they are all connected either directly  
10 or indirectly to the presser-foot of the machine during use. They may be termed the "upper group of parts."

J may be termed the "base-plate," or lowermost part of the tucker. This plate has extending from it an angular arm, *f*, in which  
15 are the notches *f'* *f''*. A slot, *g*, enlarged somewhat at its forward end, is also made in the plate J. The forward end of the plate J has an upturned flange, *h*, thereon, in which is  
20 a slot, *h'*.

K is a scroll-plate, having thereon the scroll K' and passing through the slot *h'*.

L is a screw passing through a fitting opening in the plate K, and also through the slot  
25 *g*. The stem of the screw L has an annular groove, *i*, on its stem just underneath the head, as shown in the detail thereof in Fig. 6. By passing the screw L through the plate K and then through the widened or enlarged end  
30 of the slot *g*, and pushing it along into the narrow part of the said slot, it will hold the plates J and K together, which are to be connected to the cloth-plate of the machine by turning the said screw into a suitable hole  
35 therein. The plate J may then be moved back and forth with relation to the screw, the plate K remaining fixed. To prevent the plates J and K from being accidentally separated, the enlarged part of the slot *g* may be contracted in  
40 any known way after the screw has been inserted in the narrower part of the said slot.

M is a horned arm, and M' is its horn. This arm is pivoted near its center to the forward end of the arm *f*. On the rear end of the arm  
45 M is a small depending tongue, *j*, adapted to enter the notches *f'* *f''*. By raising the rear end of the arm M sufficiently to draw the tongue *j* from the notch in which it may be resting, the arm may be shifted so that the said  
50 tongue will enter the other notch made to receive it. The arm M may thus be moved out and in or shifted to and from the scroll K', as indicated by the dotted lines in Fig. 1, and it will be locked in either position, by means of the  
55 tongue *j* and notches *f'* *f''*, sufficiently to prevent accidental displacement. The parts applied to the cloth-plate of the machine should be so arranged that the scroll K' will stand just in front of the elbow of the horn I' and in  
60 front of the scroll H', as indicated in Figs. 2, 3, and 4. When the arm M stands in the notch *f'* the inner elbow of the horn M' should pass over and a little way beyond the scroll K'. This will bring the elbow of the horn M' over  
65 the elbow of the horn I' and into the scroll H' when the parts are applied to the machine and

the presser-foot is lowered, as will be perceived by referring to Figs. 1, 2, 3, and 4.

To set the adjustable parts for work I proceed as follows: If the tucks are to be one-fourth of an inch wide, for example, set the scroll-plate H so that the " $\frac{1}{4}$ " mark thereon  
70 will be directly opposite the needle-notch *a''*, or in the line of the stroke of the needle. The inner face of the scroll H', which was at the needle,  
75 will thus be carried one-quarter of an inch to the right of it. Then loosen the screw L and set the plate J so that the horn M' will be away from the scroll H' about the one thirty-second part of an inch, or will so stand when the  
80 tongue *j* rests in the notch *f'*. If it be desired to have the folds stitched without spaces between them, set the gage G so that the " $\frac{1}{4}$ " mark thereon will be in a line with the needle. If spaces are desired between the tucks, set the  
85 gage G as much farther from the needle as the width of the spacing is intended to be made. The attempt to raise the presser-foot should never be made without first carrying the tongue  
90 *j* to the notch *f''*, in which it should rest when the presser-foot is up.

To arrange the goods for work, raise the presser-foot as described, and as shown in Figs. 2 and 3. Then introduce the cloth between the raised parts of the tucker and those  
95 upon the cloth-plate. The right-hand edge of the cloth should extend as far to the right of the needle as the first tuck is to be from said edge. Now lower the presser-foot and carry the arm or lever M to the notch *f'*. This will  
100 hold the fabric for being stitched, as indicated in Fig. 4, in which N represents the fabric, it being understood that one end of the fabric (if it is not an endless article) passes over the feed of the machine, as the fabric must also  
105 do if endless. The gage G may be set at the edge of the fabric for making the first tuck, and thereafter it may be adjusted in the manner described. I desire to state that it is preferable that the gage G should not rest upon  
110 the goods, but serve merely as a visual gage. The machine may now be set in operation, when the fold or tuck will be fed (with the goods) underneath the presser and over the feed and be stitched along or near the line of its junction with the goods. It is not essential that  
115 the fold should be begun at the end of the fabric. When the end of the tuck is reached, finish the tuck as usual, carry the lever M to the notch *f''*, and raise the presser-foot. If a skirt or other tubular garment is being tucked,  
120 set back the lever M by the time the stitching has reached to within about an inch of its place of beginning, and withdraw the material after the tuck has been finished. After the goods  
125 have been withdrawn, proceed as before for making another tuck, directing the goods so that the line of stitching just made shall pass in a line directly underneath the edge of the gage G.

It will be perceived from the foregoing description and from reference to the drawings  
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that the pivoted horn or folder M' serves a three-fold purpose: First, it may be withdrawn from the fold to admit of an endless fold or tuck being finished; second, it permits the presser to be raised and the cloth to be introduced freely between the working parts; and, third, it folds the tuck over the lower or stationary horn or folder at starting.

It will also be perceived that when the parts are brought together, as when in operation, the fabric is entirely inclosed between the horns or folders and the scrolls operating in connection with them, so that it will be impossible for the width of the same tuck to be varied, or to vary the distance of any line of stitching from the edge on the reverse side, or to do other imperfect work. It is unnecessary, therefore, for the operator to hold the fabric against the edges of one or both the horns or folders, as has been required heretofore.

It will also be observed that all the folding parts are close to the needle, and that the goods are allowed to be fed freely. The lower scroll, by being rigidly held while in use and not being adjustable with relation to its fastening-screw, always maintains its proper relations with respect to the fixed folder above it and to the needle while the adjustable parts are being adjusted. It will be wholly unnecessary for the operator to manipulate the goods, except for the purpose of guiding them with respect to the gage G, in the manner described.

It will also be perceived that the horn M' moves to the left and is drawn in that direction out of the fold when the arm M is moved to the notch f''. The parts applied to the cloth-plate of the machine may be termed the "lower group."

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a tucker or plaiter consisting of two independent groups or parts, one adapted for attachment to the presser-foot bar of a sewing-machine and the other for connection to the cloth-plate, of a fixed horn or folder in the upper group and a horn or folder movably connected to a base-plate in the lower group, and arranged, substantially as described, to permit its working end to be moved to and from the upper folder in or nearly in a line extending across the fold, substantially as and for the purposes specified.

2. The combination, in a tucker or plaiter, of the adjustable scroll H' and the fixed horn or folder I' on the bent plate I, substantially as shown and described, and for the purposes set forth.

3. The combination, in a tucker or plaiter,

of the adjustable scroll H', and the horn or folder M M', pivoted to an adjustable base-plate, substantially as and for the purposes specified.

4. The combination, in a tucker or plaiter, of the scroll-plate K, arranged to lie below the goods, the fastening-screw L, passing through the said plate, the fixed horn or holder I', arranged to lie above the goods, and the slotted plate J, having an arm carrying the pivoted horned arm M', substantially as and for the purposes specified.

5. The combination, in a tucker or plaiter, of the fixed horn or folder I' and the scroll K', the said scroll being adapted and arranged to hold the fold against the said folder as the goods pass through the attachment and confine the material in its passage around the folder, substantially as shown and described, and for the purposes set forth.

6. The combination, in a tucker or plaiter, of the fixed horn or folder I', arranged to lie above the goods, the scroll K', arranged to lie below the goods, and the adjustable horn or folder M', lying above the folder I', all adapted and arranged to confine the goods and prevent them from leaving the folders, substantially as and for the purposes specified.

7. The combination, in a tucker or plaiter, of the adjustable horn or folder M', arranged to lie below the goods and in the tuck or fold, the fixed scroll H', arranged to receive the folded edges of the goods, and the fixed horn or folder I', arranged below the scroll H', and arranged to lie over the goods and underneath the folds, substantially as and for the purposes specified.

8. The combination, in a tucker or plaiter, of the fixed horn or folder I', the adjustable horn or folder M', the fixed scroll H', and the adjustable scroll K', all arranged substantially as specified with relation to each other, for the purposes set forth.

9. The combination, in a tucker or plaiter, of the fixed horn or folder I', the scroll K', adapted to be made stationary with relation to the said horn by means of a fastening-screw passing through the plate, of which the said scroll is a part, and adapted and arranged to connect the said scroll to the cloth-plate of a sewing-machine, and in the position shown and described with relation to the said horn, the adjustable horn or folder M', and the fixed scroll H', as and for the purposes set forth.

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Witnesses:

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