(Model.) 3 Sheets—Sheet 1.

A. A. FISHER & A. HART.

TUCKING ATTACHMENT FOR SEWING MACHINES.

No. 263,778. Patented Sept. 5, 1882.

Fig. 1.

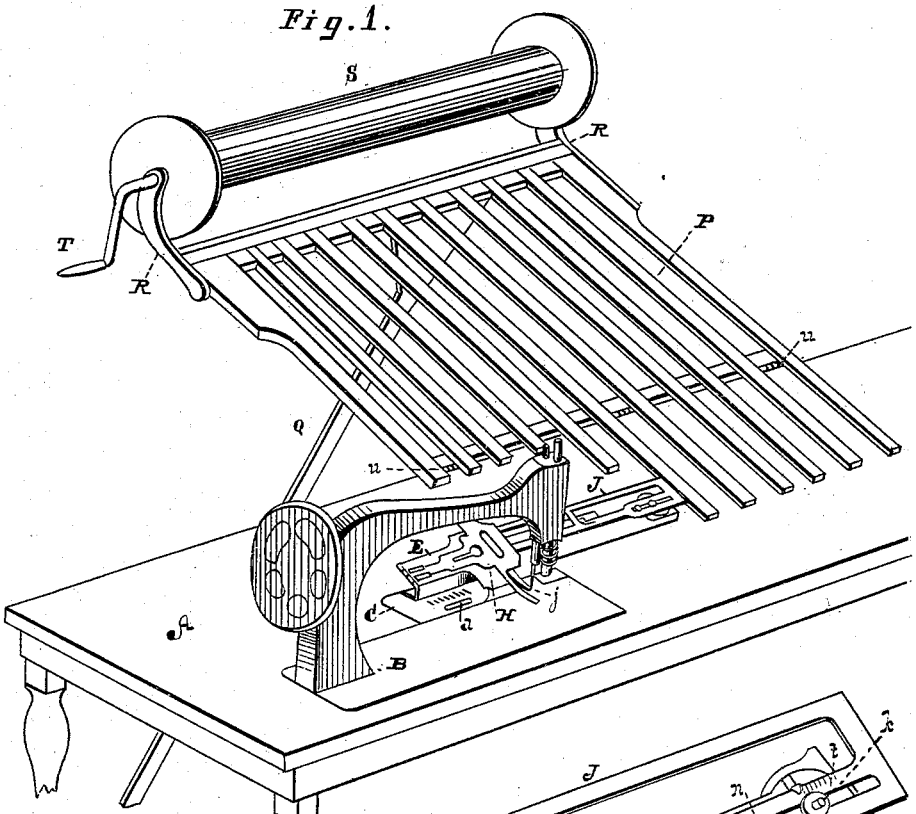
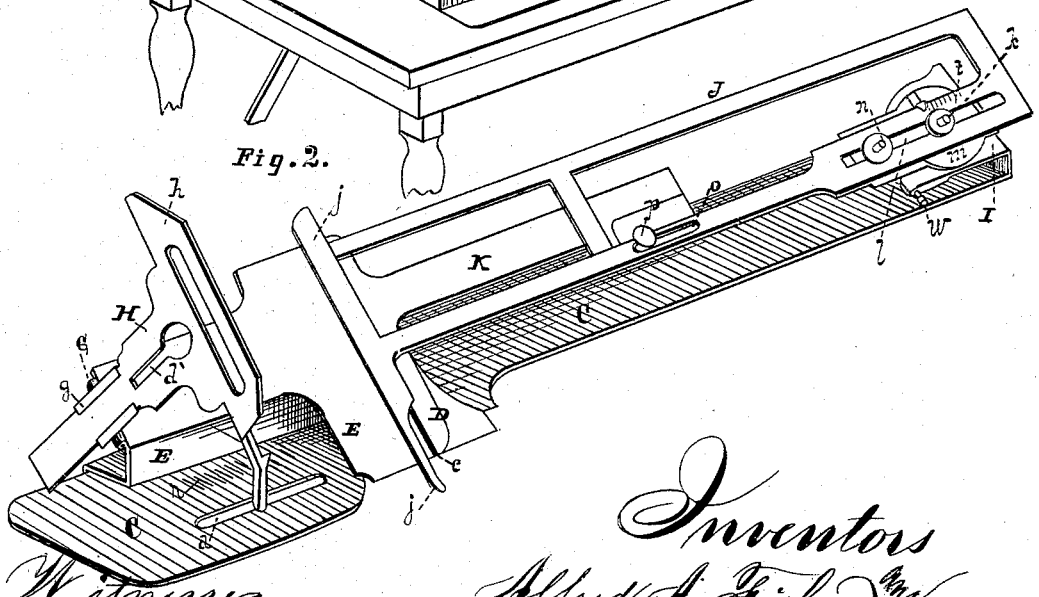


Fig. 2.



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(Model.) 3 Sheets—Sheet 2.

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Fig. 3.

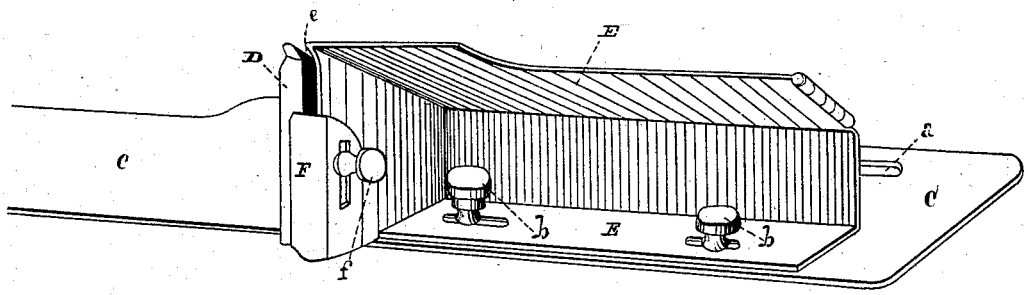

Fig. 4.

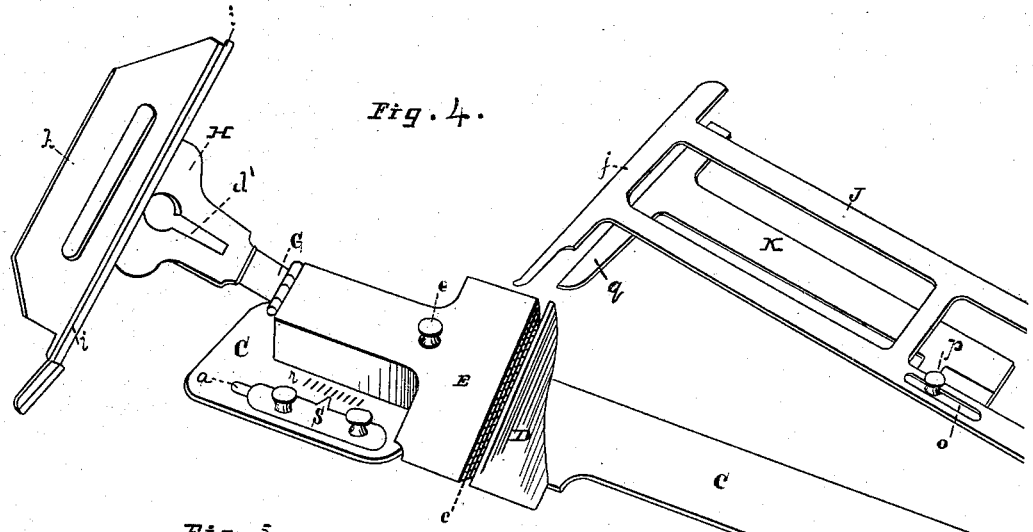

Fig. 5.

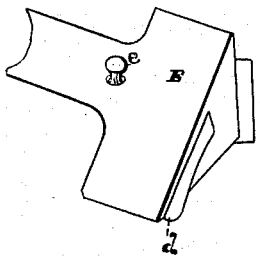

Fig. 6.

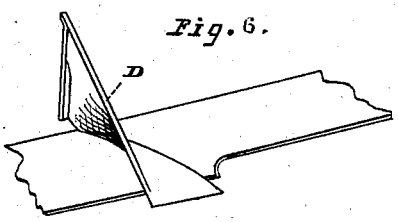

Fig. 7.

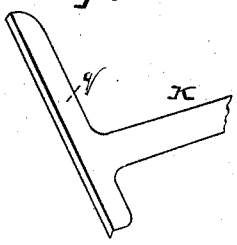

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Fig. 8

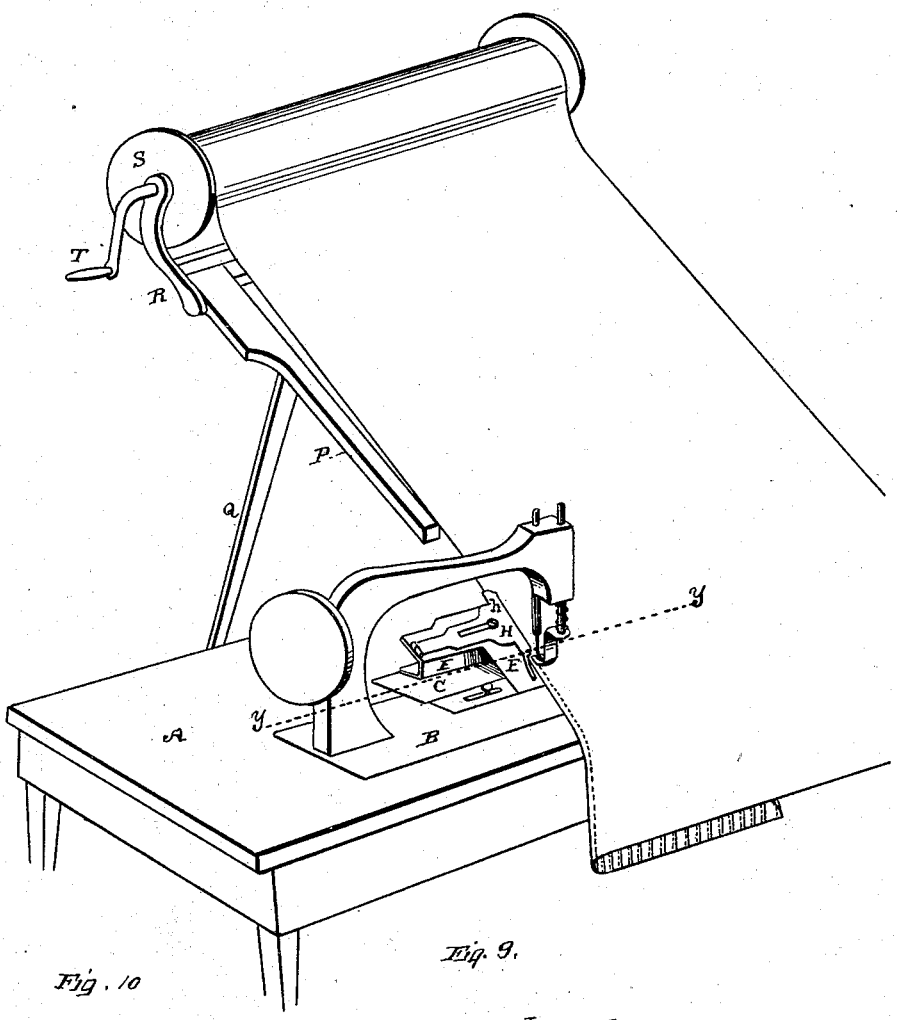


Fig. 9.

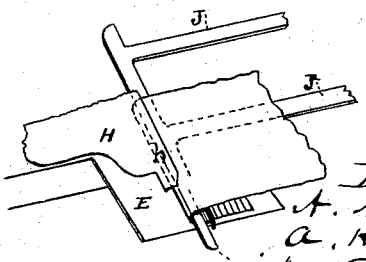
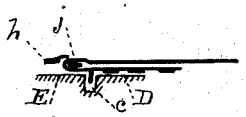


Fig. 10



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Inventors:
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A. Hart, by
A. H. Evans & Co. Atty

UNITED STATES PATENT OFFICE.

ALFRED A. FISHER AND ALBERT HART, OF SAN FRANCISCO, CALIFORNIA, ASSIGNORS TO THE PACIFIC TUCKING AND MANUFACTURING COMPANY, OF SAME PLACE.

TUCKING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 263,778, dated September 5, 1882.

Application filed July 27, 1881. (Model.)

To all whom it may concern:

Be it known that we, ALFRED A. FISHER and ALBERT HART, of the city and county of San Francisco, State of California, have invented a Tucker Attachment for Sewing-Machines; and we hereby declare the following to be a full, clear, and exact description thereof.

Our invention relates to certain improvements in sewing-machines—namely, a novel attachment the object of which is to tuck goods automatically, and a further attachment to hold the goods and direct them to the tucker. The former consists in a means for holding the cloth and gaging the width of the tuck and guiding and securing the goods when adjusted, and in a means for fixing the width of the space between the tucks so that it will be accurate. The latter consists in a reel attachment and frame in combination with the tucker, whereby large quantities of goods—such as a bolt—may be handled with facility. Minor details of construction whereby certain improved results are obtained complete the invention. All of this will be fully seen in the following description, and by reference to the accompanying drawings, in which—

Figure 1 shows perspective of devices in position. Fig. 2 shows a view of our tucker. Fig. 3 shows a rear view of the same. Fig. 4 shows view of tucker open. Figs. 5, 6, and 7 show details of construction. Fig. 8 is a perspective view, showing the material being tucked. Fig. 9 is a vertical sectional view of the guides and goods being tucked adjacent to the sewing-point. Fig. 10 is a perspective view of the same.

Let A represent the table of a sewing-machine, with the operating mechanism of the needle, &c., (marked B.)

C represents the base-plate of the tucking attachment. This is secured to the top of the machine by means of set-screws through a slot, *a*. Upon its upper surface is rigidly secured a cross-piece, D, having the shape of a plow, the upper edge of which is inclined upwardly toward the rear. Upon the plate C is another piece, E, of a similar inclination to that of D. It is secured to the plate by means of thumb-screws *b*, passing through slots in the bottom of the piece E, whereby said piece may be pushed up to or drawn away from piece D. A slot (marked *c*) is intended to be formed between the two pieces D and E, and by having the piece E movable the width of this slot may be regulated, for purposes hereinafter shown.

Attached to the inner end of the piece E is a guide-plate, *d*, which is in the slot *c*, and lays the tuck which is placed in the slot *c* flat, as will be more fully seen in the course of the operation.

At the back of the piece E is a sliding guard, F, having a slot through which a thumb-screw, *f*, passes into the piece E. This guard F is a sheet-metal piece, bent at right angles, one of its sides covering the rear end of the slot *c*, and it is adapted to slide up and down over the back of said slot. Upon the other end of the piece E is a hinge, G, having side guides, *g*, in which the end of a piece which I call the "upper" or "outer" guard fits. This guard I mark H. It consists of a long end or shank and a wide cross end, *h*, the rear of which has a shoulder or flange, *i*. The shank has a slot, *d'*, in it, the end of which is enlarged, and is adapted to fit over a thumb-screw, *e*, secured in the piece E. Its head *h* has a small projection or continuation of the flange *i*, which guards the goods past the needle. The operation of this piece is as follows: It is intended to be laid flat upon the piece E, extending toward the slot *c*, and when not in use to be thrown back out of the way. Suppose, now, that this piece is thrown back, and we wish to bring it forward. We move it on the hinge G. The enlarged head of the slot *d'* fits over the screw *e*. We can now push the guard nearer to the slot *c*, for the slot *d'* will pass under the screw-head *e* around the shank of the screw, and the shank of the guard will slip forward in the hinge. When we want to throw it back we push it until its slot *d'* will lift over the screw *e* and allow it to be folded back. The object of this will be seen hereafter. Upon the other end of the base-plate C is a support or bearing, I, in the center of which is a pivot-pin, *k*.

J represents the under or inner guard. It consists of a light frame, having a cross-head,

j. Its other end has a longitudinal slot, *l*. Under this portion of the guard is a bearing, *m*, having a central hole, which fits over the pin *k* on the bearing I. It has a pin, *n*, which fits through the slot *l*, and is provided with a nut to secure it. The object of this construction is to move the guard back and forth in a line with the base-plate C, in order to adjust the distance of its cross-head *j* from the needle, and also to allow the entire guard to be turned out of the way. This is done by the bearing *m* turning on the bearing I, and by the thumb-nut and pin *n*, past which the slot *l* moves. The bearing I is inclined similarly to the pieces D and E, so that the guard J lies at an angle with the base-plate as it extends between the bearing and the pieces D and E.

About the middle of the guard J is a slot, *o*. Under the guard is a plate, K, its rear end having a pin, *p*, which fits through the slot *o* and is tightened by a nut. Its other end has a cross-head, *q*, with a turned-down edge or lip adapted to fit within the slot *c* its entire length. It will be seen that this plate K is adjustable, because it is intended always to fit its head within the slot *c*, and this it could not do when the guard J, to which it is attached, or the base-plate C, is moved unless it be provided with an adjustment of its own.

An examination of the operation of the device will show these parts described more clearly.

Given a piece of cloth upon which it is desired to make a tuck one-eighth of an inch wide, the entire device is attached to the sewing-machine, as shown in Fig. 1, in such a position that the cloth, when fed off of it, will pass directly under the needle. We then adjust the cross-head of the under guard, J, so that it shall extend beyond the line of the needle one-eighth of an inch, and the cloth is then folded over this end so that one fold lies under the guard and the other above it. We then fold the upper guard, H, over upon the top layer of cloth and adjust it forward so that the flange *i* of its cross-head shall abut against the cross-head of the guard J, thus holding the cloth between them, so that it cannot vary the width of the tuck. The cloth is then fed down the incline under the needle, and we have our first tuck completed. We fold back the upper guard and turn the under guard away and remove the cloth. Now we want a space between our tucks of three-sixteenths of an inch, still maintaining the one-eighth tuck. It is obvious that this distance must be in some way measured from the tuck first made. In order to do this we place the first tuck in the slot *c*, and by adjusting the plate or guide K under the guard J so that its lip will fit into the slot *c* the tuck is held firmly in the slot, though allowed to slip along. The tuck being thus held, we can, by putting each successive tuck in the slot, always maintain the same space between the tucks. But to determine this space, in the first instance, we must set the slot *c* a certain distance to the right of the sewing-point. This is done by loosening the thumb-screws in the slot *a* and moving the whole base-plate C to the right of the sewing-point a sufficient distance to obtain the required three-sixteenths space. We now place our first tuck in the slot *c*. The base-plate having been moved, the guard J will have to be adjusted so that its cross-head shall extend beyond the needle, as before, to make the one-eighth tuck. These two adjustments are required, because in moving the slot *c* over to maintain the space between the tucks the entire device is moved, and with it the tuck-guard J. This latter must then be adjusted to make the required width of tuck. This is done by loosening the thumb-nuts over the pins *k* and *n* in the slot *l*. Now, in these two adjustments accuracy is required, and for this purpose we here show measuring-gages—one on the base-plate, as shown at *r*, consisting of a number of lines to which a pointer, *s*, is directed, and the other at *t* upon the end of the guard J, to which a pointer is also directed. These gages are made to correspond, so that when the base-plate is moved we can know just how much to move our guard J. The tuck being in the slot *c*, and the plate or guide K being adjusted to fit therein and hold it, and the guard J being adjusted, the cloth is folded over its cross-head, and the upper guard, H, is brought over to hold it in place. The second tuck is then made. Each tuck is passed through the slot *c* to maintain the proper distance between it and the next; and as the tucks are made the cloth extends out between the inclined piece D and the end of the device, having plenty of room. The curved piece or strip *d* in the slot *c* lays the tuck over flat as it passes through the slot, so that there will be no catch or hinderance of any kind.

The plow shape of the piece D prevents the cloth from being caught in the device. We have before explained that the piece E is adjustable. This is to vary the width of the slot *c* to conform to different thicknesses of cloth. The adjustable plate or guard F, at the back of the slot, supports the tuck in the slot, and may be raised or lowered for different widths of tucks.

The guard J, after being used some time, may require to be set up a little. This is done by the set-screw *w*, the end of which impinges against the guard, and may be made to hold it back when desired.

This attachment may be used with any machine, and small pieces of cloth may be fed to it with the hand; but when large pieces of cloth—as, for instance, a bolt—are to be tucked some device for holding it must be used. This being an automatic tucker, the hand is not needed for anything but to hold the goods, so that another device may be made to effect the same object. It is to the accomplishment of this result that this tucker is specially adapted.

In Fig. 1 is shown our holding device for large pieces of goods. It consists of a rack, P, hinged to the table A of the machine, as

shown at *u*. It is supported by a hinged leg, Q, which rests upon the floor. Upon its outer end are brackets R, upon which is journaled a roller reel or drum, S, easily removable from the bearings. T represents a handle to wind the drum. This device is so placed as to be at the same angle and continue the inclination of the pieces D and E, so that the cloth is directed upon the said pieces down an inclined plane, and will not catch in any way. The bolt is rolled upon the reel S, and the feeder of the machine continues to draw it down under the needle. It is kept in line with the needle by being rolled upon a drum (not shown) as fast as it is tucked and passes the needle. It is therefore entirely automatic, and large pieces of cloth may be as readily handled as small ones. The whole rack may be swung down beside the machine out of the way.

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

1. In combination with a sewing-machine, the tucking attachment consisting of the base-plate C and the guard J, with its cross-head *j*, said guard being adapted to be adjusted by means of the slot *l*, thumb-nut, and pin *n*, and adapted to swing by means of the bearings I and *m* and thumb-nut and pin *k*, arranged substantially as herein described.

2. The base-plate C, having a transverse inclined piece, D, and a transverse inclined piece, E, between the ends of which a slot, *c*, is formed, in combination with the adjustable and swinging tucking-guard J, arranged substantially as and for the purpose herein described.

3. The base-plate C, having a slot, *a*, and thumb-screws, whereby it is adjustable upon the table of a sewing-machine, and having transverse inclined pieces D and E, the latter of which is adjustable by means of the slots and screws *b*, whereby a slot, *c*, adapted to be adjusted in width is formed between their edges, in combination with the adjustable and swinging tucking-guard J, with its cross-head, arranged substantially as and for the purpose herein described.

4. The base-plate C, having a slot, *a*, and thumb-screw, whereby it is adjustable, and having transverse inclined pieces D and E, forming a slot, *c*, between them, in combination with the adjustable and swinging guard J, with its cross-head *j*, and the under plate or guide, K, having a cross-head, *q*, provided with a lip or flange adapted to fit into the said slot *c*, said plate being rendered adjustable by means of the slot and pin *p*, arranged substantially as and for the purpose herein described.

5. The base-plate C, having a transverse inclined piece, D, and a transverse inclined piece, E, between which is formed a slot, *c*, said piece E having a curved guiding plate or piece, *d*, near its lower end within the slot *c*, substantially as and for the purpose herein described.

6. In combination with the inclined pieces D and E, the adjustable sliding guard or support F at the rear, substantially as and for the purpose herein described.

7. The base-plate C, having inclined transverse pieces D and E, forming a slot, *c*, and the adjustable and swinging guard J, with its cross-head *j*, in combination with the upper guard H, having a slot, *d'*, adapted to fit over a screw, *e*, said guard being hinged to the piece E by the hinge G, and adapted to slide in said hinge, whereby it may be folded over upon and adjusted against the guard J, arranged substantially as and for the purpose herein described.

8. A tucking attachment for sewing-machines, in combination with the hinged frame or rack P, hinged thereto, the hinged leg or support Q, and the roller reel or drum S, arranged and used substantially as herein set forth.

9. In a sewing-machine tucker, substantially as herein described, adapted to receive and direct the cloth to the needle, the inclined pieces D and E, in combination with the inclined frame or rack P, preserving the angle of inclination of the pieces D and E, and hinged to the sewing-machine table, the hinged leg or support Q, and the roller reel or drum S, arranged and used substantially as herein set forth.

In witness whereof I have hereunto set my hand.

ALFRED A. FISHER.
ALBERT HART.

Witnesses:
J. H. BLOOD,
M. G. KENNEDY.