

INSTRUCTIONS

FOR THE

WILCOX & GIBBS

SILENT SEWING MACHINE.

TRADE



MARK.

London :

WILCOX & GIBBS SEWING MACHINE COMPANY,

150, CHEAPSIDE, E.C., and 135, REGENT STREET, W.

Entered at Stationers' Hall.

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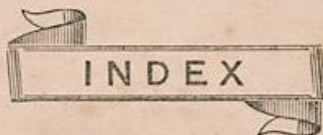
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**SPECIAL NOTICE.**

Special attention is requested to the following places in these instructions:—

|         |                      |
|---------|----------------------|
| Page 9. | Paragraph 4 (b).     |
| „ 10.   | „ 7 (a).             |
| „ 12.   | „ 9 and 10.          |
| „ 13.   | „ 13 (b), last part. |
| „ 31.   | „ 27.                |
| „ 39.   | „ 37 and 38.         |



THE HAND MACHINE.

The Machine is fastened by a thumb-screw to the Hand Appliance in the same manner as to the Stand; and, by merely removing it from one to the other, may be worked either by Hand or Foot, at pleasure.

The Instructions of course are mostly applicable to both Hand and Treadle movements.

*Follow the instructions precisely as they are given, item by item, as far as paragraph 10, the cotton being out of the needle, and the belt off the large wheel at the beginning. If you meet with difficulties (you will not if you follow the instructions), refer to paragraph 10 for assistance.*

*The figures 1, 2, 3, &c., denote the paragraphs, the letters (a), (b), (c), &c., the items under the paragraphs. For the purpose of explanation, references are made thus:—(1, c, d), meaning paragraph 1, items (c) and (d)*

I.—INSTRUCTION FOR LEARNING THE USE OF THE MACHINE.

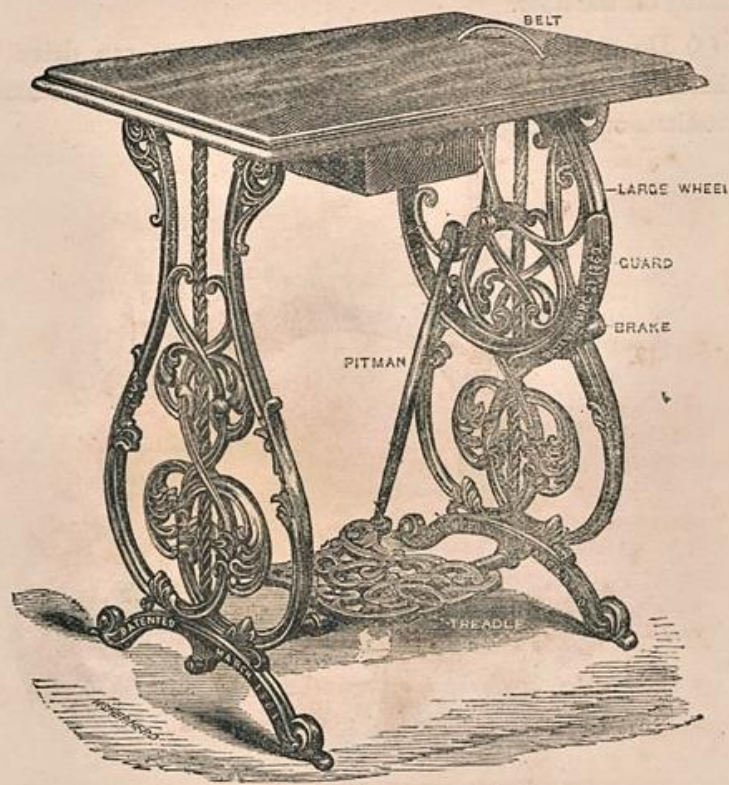


FIG. 1.—NAMES OF THE PARTS OF THE STAND.

1.—To work the treadle.

- (a) Draw your chair close to the stand.
- (b) Slip the belt off the wheel.
- (c) Place the right foot on the treadle (not too far forward), so that the hollow of the foot shall be directly over the treadle rod, the left foot resting on the floor.

(d) Turn the large wheel by pressing alternately with the toe and heel.

(e) The same with the left foot on the treadle, the right foot resting on the floor.

(f) Do not undertake anything else till you can drive the wheel steadily and slowly with so little force that you are hardly conscious of exerting any.

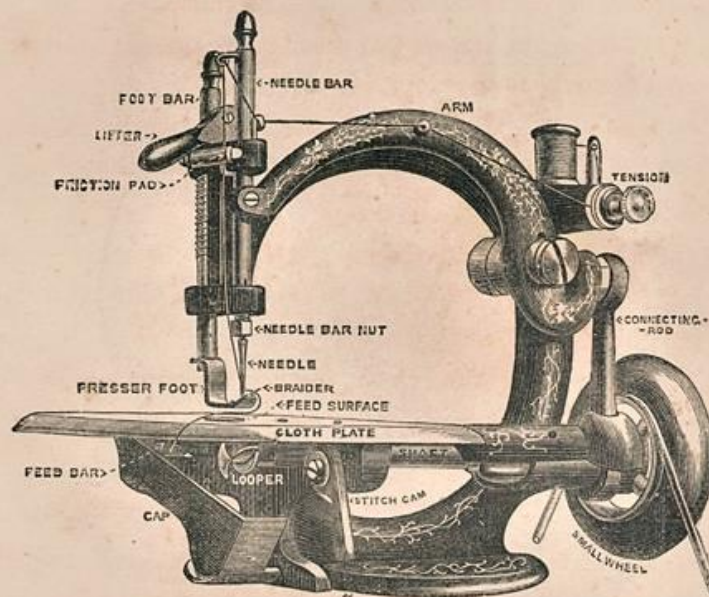


FIG. 2.—NAMES OF THE PARTS OF THE MACHINE.

2.—To work the machine by means of the treadle.

- (a) Put on the belt, which should not be slack.
- (b) Gently turn the reel until the cotton is withdrawn from the eye of the needle.
- (c) Lift the presser-foot by turning the handle of the lifter over to the left.
- (d) Work the treadle (1, c, d) till an easy, steady movement is acquired.

(e) Do not undertake anything else till you have perfect control over the movements of the machine by means of the foot; that is, can drive it slowly, or rapidly, at will; and can stop it and start it, without touching it with the hand.

### 3.—To hold the work, as in making a straight seam.

- (a) Stop the machine with the needle up.
- (b) Place on the feed-surface a strip of calico.
- (c) Let down the presser-foot upon it by turning the handle of the lifter over to the right.
- (d) Rest the left hand upon the cloth, gently pressing it against the cloth-plate in front of the needle (fig. 21).
- (e) Turn the machine.
- (f) Pass the cloth through the machine in the same manner, folded lengthwise in two thicknesses, then in three, &c., before threading the needle.
- (g) Do not attempt to sew till you can work the machine with an easy and regular motion on several thicknesses of calico.

### 4.—To sew a straight seam.

- (a) Taking the cotton just below the friction-pad, draw from the reel enough to extend about three inches beyond the eye of the needle.
- (b) Thread the needle from left to right and pass the cotton under the presser-foot back toward the left (fig. 15).
- (c) Compare fig. 2, also 13 (b), to see that the machine is properly threaded.
- (d) Place the cloth, folded lengthwise in two thicknesses, in the machine (3, b).
- (e) Let down the presser-foot upon it (3, c), the cotton being held fast between the presser-foot and the cloth.

(f) Place the left hand on the cloth in front of the needle (3, d).

(g) Turn the machine, keeping the cloth straight before the needle.

### 5.—To take the work out of the Machine.

- (a) Stop with the needle up.
- (b) Draw about three inches of cotton from the reel (4, a).
- (c) Taking the cotton at the right of the eye of the needle, cut it off by drawing it against the sharp edge of the opening of the presser-foot, and draw the slack cotton through the eye to the right of the needle.
- (d) Lift the presser-foot.
- (e) Take the work out of the machine by drawing it from you.
- (f) Do not attempt anything further till you can sew straight seams uniformly and well without any difficulty.

### 6.—To sew a curved seam.

(a) While the machine is in operation, gradually turn the cloth to the right, or left, keeping it all the time gently drawn back in front of the needle (3, d).

### 7.—To turn a corner.

- (a) Stop with the needle up.
- (b) Lift the presser-foot (2, c).
- (c) Turn the cloth quarter around to the right, or left, and adjust it so that the next stitch will be of the proper length.
- (d) Let down the presser-foot (3, c).
- (e) Start the machine (3, d).

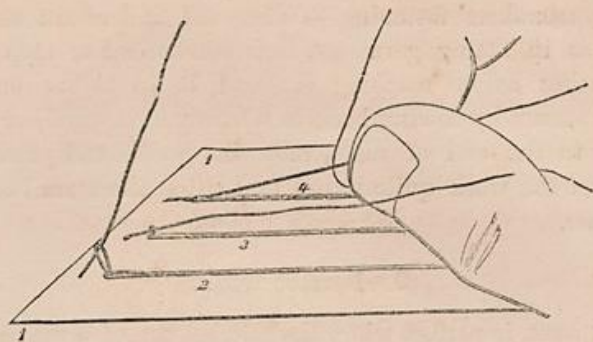


FIG. 3.—FASTENING OFF THE SEAM.

## 8.—To fasten the end of a seam.

(a) Tighten the knot by drawing the thread backward upon the seam, just as it is taken out of the machine (Fig. 3).

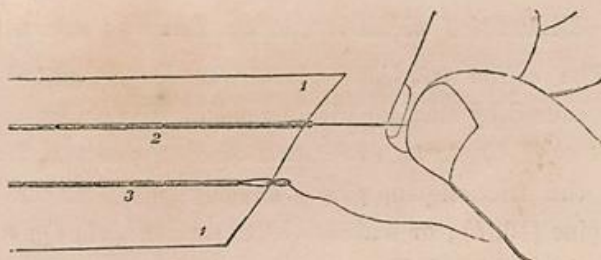


FIG. 4.—FASTENING OFF AT THE EDGE.

(b) When the fastening occurs at the edge of the cloth, it may be done by taking two stitches beyond the cloth, and tightening the knot thus tied by drawing on the end of the thread (Fig. 4).

(c) At the beginning of a seam, the self-fastening is complete, as the machine leaves it.

(d) When the seam is cut or broken, only one of the ends requires fastening. To fasten it, insert a pin in the first disengaged loop, pull the end of the thread out, and draw it backward upon the seam as in Fig. 4.

(e) Dressmakers' fastening.—When the ends of a seam are to be cut, as in fitting garments, it is convenient to stop two or three inches before reaching the end, begin at the end, and finish the seam by sewing back to where you stopped, or having stitched to the end of seam, raise the needle and presser-foot, then turn the work quite round and stitch the seam back for a few inches.

## 9.—Perfect work.

(a) A seam is perfect when the stitches are of a suitable, uniform length, and are well and uniformly drawn up, and *when the thread will not break if the cloth is stretched lengthwise the seam.*\* When work is imperfect according to this standard, the imperfection is always due to inattention to the instructions. (See particularly, Instruction for Practical Work, 27, a, b, c, d.)

## 10.—Difficulties which learners sometimes encounter.

(a) The *cotton winding around the looper and breaking.* This is caused by starting without placing the cotton under the presser-foot (4, b); or with the presser-foot up; or with the cotton out of the friction-pad, glass tension-washers, or one of the thread-pins (13, b); or with too loose tension (27, c); or with a too short stitch (27, b).

When the cotton gets wound around the looper (indicated by the repeated snapping of the cotton), the cap covering the looper should be drawn down and the cotton cut away from the looper with scissors.

(b) The *breaking of the cotton* may be caused by a knot; or by its catching on the reel; or by its getting off the reel and around the reel-pin; or by the cotton being too coarse (37, a); or the tension too loose or too tight (27, c); or the stitch too short (27, b); or by a thick seam against the presser-foot, or under the

\* Samples of work, *whether satisfactory or not*, should be frequently sent to us, for a few weeks after receiving the machine, especially during the first few days.

presser-foot and not upon the feed-surface, taking the pressure of the presser-foot off the feed-surface so as to prevent its action.

(c) *Irregularity of the stitches* may arise from too loose tension (27, c); or from holding the work back in front of the needle with too much force (27, d); or from using too coarse cotton, or a too short stitch (27, b).

(d) The machine never fails to work perfectly when the Instructions are followed, but if it should not work satisfactorily, application should be made to us by letter, enclosing sample of its work with full explanation.

*\*\* The machine should not be taken to pieces or tampered with. A screw-driver should never be used.*

## II.—INSTRUCTION FOR MAKING ALL THE CHANGES WHICH THE MACHINE EVER REQUIRES.

### 11.—To change the length of Stitch.

(a) To lengthen the stitch, push the handle of the stitch cam from you.

(b) To shorten the stitch, pull the handle towards you.

### 12.—To change the tension.

(a) To loosen the tension, turn the tension-screw to the left.

(b) To tighten the tension, turn the tension-screw to the right

### 13.—To change the cotton.

(a) Remove the reel from the reel-pin, and draw the cotton out.

(b) To thread the machine—Place the reel upon the reel-pin; pass the cotton through the thread-pin next the reel; the thread-pin on the arm; the thread-pin on the frame of the machine next the needle-bar; the thread-pin at the top of the needle-bar; and (the presser-foot being down) through the eye of the needle. Taking the cotton on each side of the glass tension-washers

draw it between them. Taking the cotton just below the friction-pad, draw it into the notch of the friction-pad, between the friction-pad and the flat spring behind it (fig. 2).

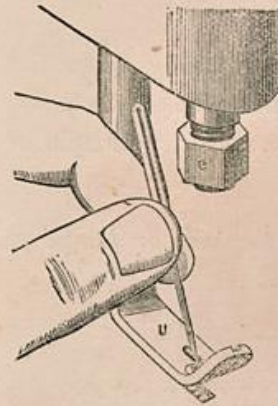


FIG. 5.—TAKING OUT, OR INSERTING THE NEEDLE.

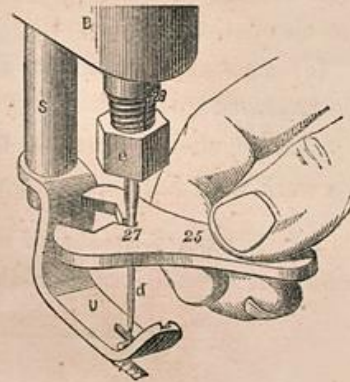


FIG. 6.—PUSHING UP THE NEEDLE.

### 14.—To change the needle.

(a) To take out the needle.—The needle being up, loosen the needle-bar nut slightly by turning it to the left with the needle-wrench; and draw the needle out of the needle-bar.

(b) To set the needle.—Drop the point of the needle to be set through the needle-hole in the cloth plate (fig. 5); enter the shank of the needle in the hole in the needle-bar nut, and turn it round till the groove in the shank is toward the left, and the needle enters the needle-bar. Place the notch of the needle-wrench astride the needle below the shank, and push it up as far as it will go (fig. 6). Press the finger gently against the side of the needle to keep it in position, and with the needle-wrench tighten the needle-bar nut, by turning it to the right.

### III.—INSTRUCTION FOR KEEPING THE MACHINE IN ORDER.

#### 16.—To oil the machine.

(a) Remove the machine from the stand, wipe the working parts of both, and apply the best sperm oil wherever friction occurs, as follows :—

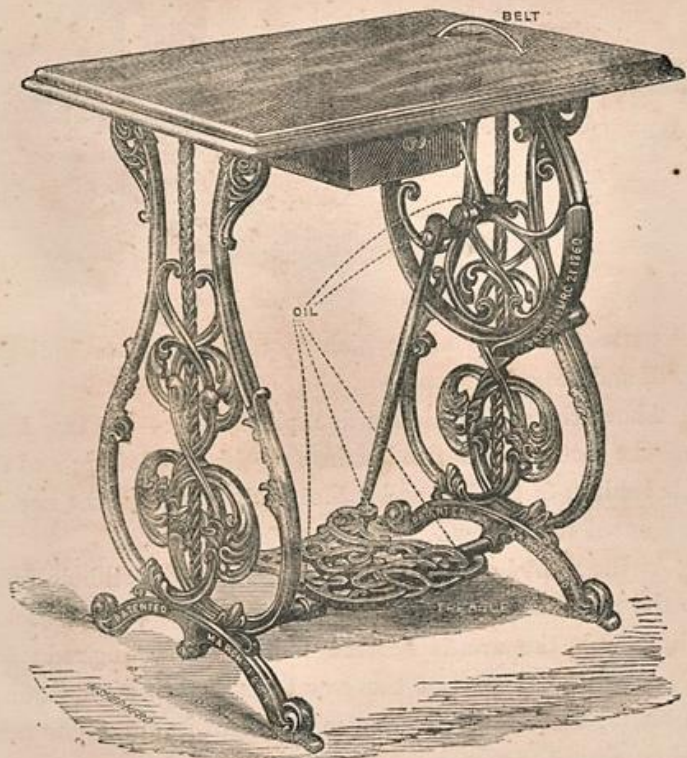


FIG. 7.—WHERE TO OIL THE STAND.

The stand requires oiling in five places, as indicated in fig. 7, viz :—the two bearings of the treadle ; the oil-hole in the lower end of the pitman, leading to the pitman-pin ; the oil-hole in the upper end of the pitman, leading to the crank-pin ; the oil-hole in the wheel-hub, leading to the wheel-stud.

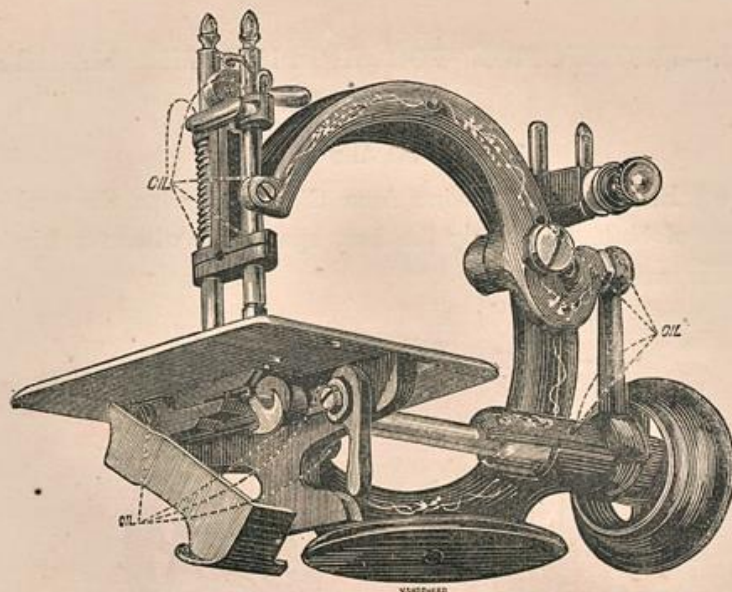


FIG. 8.—WHERE TO OIL THE MACHINE.

The parts of the machine which require oiling, are indicated in fig. 8, and are as follows :—

(1) Above the cloth-plate are five places, viz :—the two bearings of the foot-bar ; the two bearings of the needle-bar ; and the oil-hole leading to the ball-and-socket joint by which the needle-bar is secured to the arm.

(2) At the right hand are four places, viz :—the oil-hole leading to the arm-stud ; the oil-hole leading to the ball-and-socket joint by which the arm is secured to the connecting-rod ; the oil-hole in the lower part of the connecting-rod behind, leading to the shaft ; the oil-hole leading to the shaft in front, one inch and a half from the wheel.

(3) Under the cloth-plate are four places, viz :—the oil-hole under the right-front corner of the cloth-plate, leading to the shaft ; the oil-hole leading through the feed-bar to the shaft, under the looper ; behind the feed-bar, between the looper and stitch-cam ; the stud on which the feed-bar slides, two inches back of the looper.



(b) After oiling (the presser-foot being up) work the machine rapidly for a minute, to distribute the oil over the working parts and wipe the superfluous oil.

(c) When sewing on dressed calico, &c., the needle-bar and the parts under the cloth-plate need frequent oiling, as the oil is rapidly absorbed by the dust which is beaten out of the cloth.

(d) Should the machine become sticky by long disuse, neglect, or exposure to dust, it should be plentifully oiled and wiped, over and over again, till it works perfectly free.

(e) The very little attention requisite to keep it in the best condition is amply repaid by the pleasantness of its working.

(f) After being used, the machine should be wiped with the cloth with which it is wiped before and after oiling. The oil it contains is quite sufficient to prevent rust.



FIG. 9.—THE BELT CUT OFF. FIG. 10.—THE END TAPERED.

#### 17.—To tighten the belt.

(a) Unscrew one end of the belt from the ferrule, cut it off a little with a sharp knife (fig. 9.), and taper the end just enough to allow it to enter the ferrule (fig. 10.)

(b) Holding the ferrule in the left hand, take the other end of the belt in the right hand, twist it to the left six full turns to avoid kinking, and screw it into the ferrule as far as possible.

(c) Neither end of the belt should go more than half-way through the ferrule.

### IV.—INSTRUCTION FOR LEARNING THE USE OF THE ATTACHMENTS.

#### 18.—The narrow hemmer.—(See also 23.)

(a) Place the hemmer-screw in the large hole in the cloth-plate in front of the needle.

(b) Let the end of the check-plate of the hemmer drop into the small hole in the cloth-plate in front of the needle.

(c) Secure the hemmer with the hemmer-nut underneath the cloth-plate.

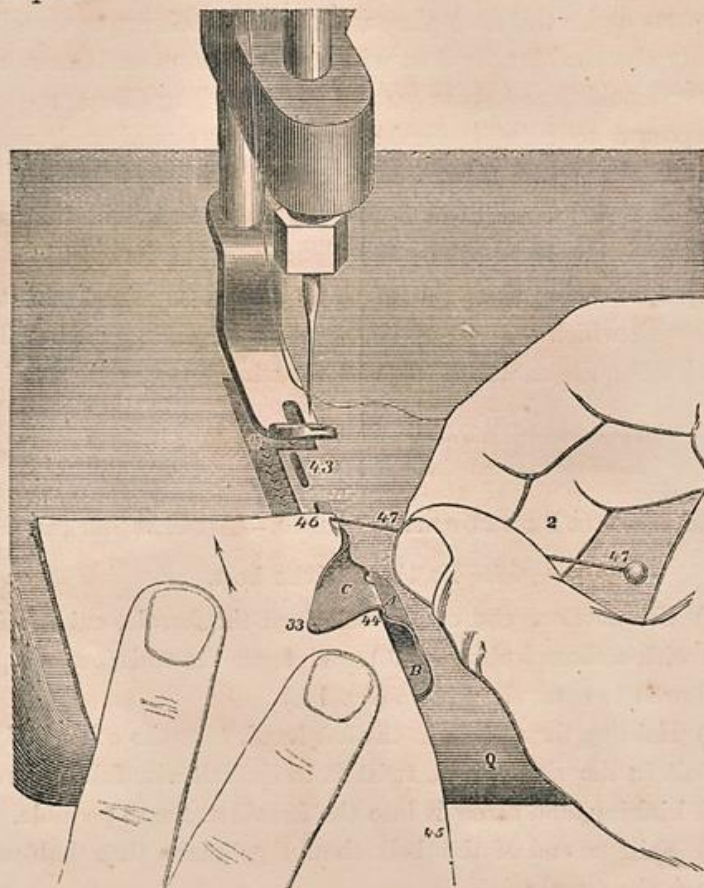


FIG. 11.—PLACING THE WORK IN THE NARROW HEMMER.

(d) Place the end of a strip of calico under the lip (33, in fig. 11) of the hemmer.

(e) Taking the edge of the cloth in front of the hemmer in the right hand, and, placing the forefinger of the left hand on the cloth at the left of the lip of the hemmer, press it straight

forward, between the blades of the hemmer, about half-way to the needle.

(f) With the point of a pin draw the calico straight forward, through the blades of the hemmer, under the needle, till it is quite over the feed-surface, keeping the edge of the cloth close against the corner (44, in figs. 11 and 13) of the hemmer.

(g) Let down the presser-foot.

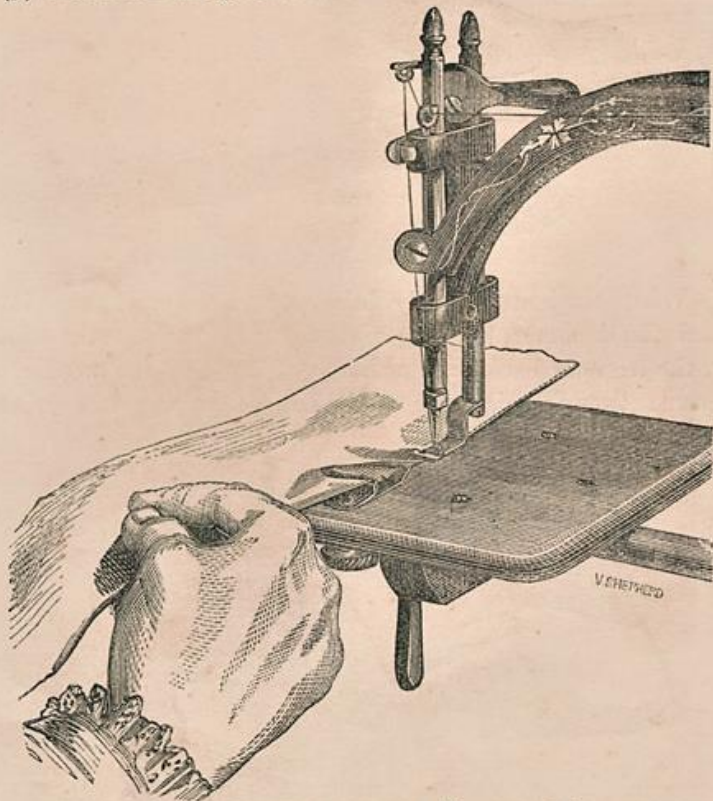


FIG. 12.—HEMMING WITH THE NARROW HEMMER.

(h) Taking the edge of the cloth in the right hand in front of the cloth-plate, turn the machine, allowing the edge of the cloth to be drawn between the fingers, and guiding it slightly to the right so as to keep it steadily against the corner of the hemmer (fig. 12).

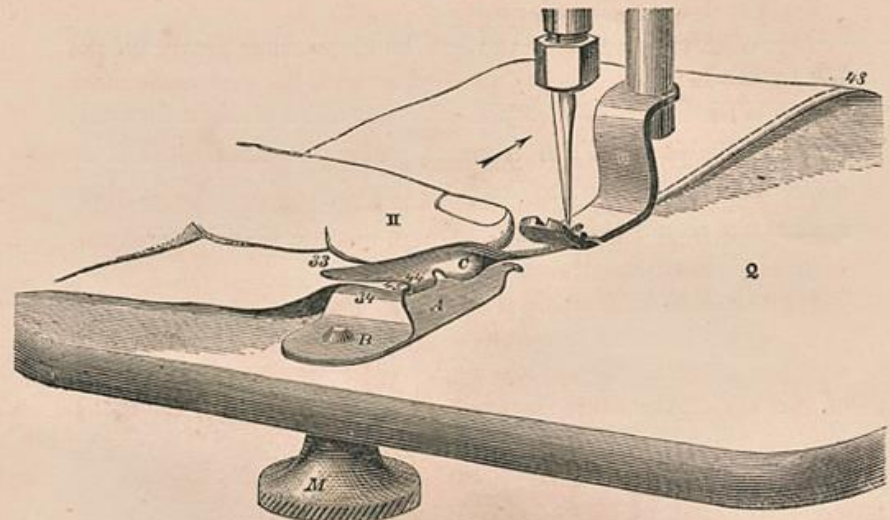


FIG. 13.—FINISHING A NARROW HEM.

(i) When the hem is nearly finished, and the end of the cloth reaches the hemmer, the finger should gently press the cloth upon the hemmer blades, immediately in front of the needle, at the same time keeping the work straight at the left of the hemmer (fig. 13).

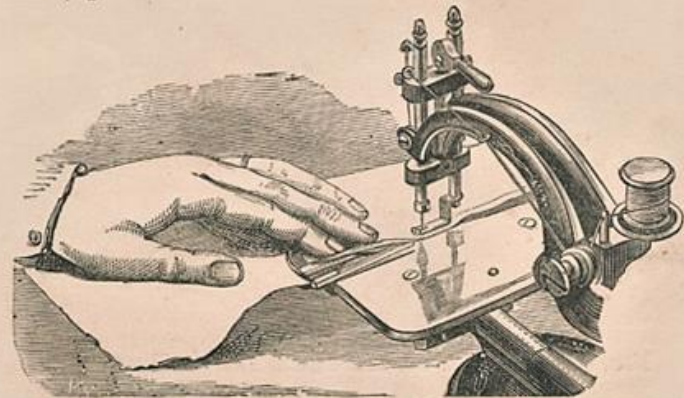


FIG. 14.—HEMMING, WITH THE MEDIUM HEMMER.

19.—The Medium Hemmer.—(See also 29.)

- (a) Attach the medium hemmer to the cloth-plate (fig. 14.)  
 (b) Insert the edge to be hemmed as in the narrow hemmer (18, d, e, f.)

(c) Let down the presser-foot.

(d) With the fingers of the left hand pressing gently on the left of the hemmer (fig. 14), proceed as with the narrow hemmer (18, *h, i*.)

**20.—The Wide Hemmer as a Feller.**—(See also 30.)

(a) Fold a piece of calico, six inches long and four inches wide, lengthwise from a point one inch from one corner, to a point one inch and a half from the opposite corner.

(b) Cut it in half where it is folded.

(c) Place the smaller piece upon the other, the narrow ends together, the bias edge of the under piece projecting the width of the lip of the wide hemmer (three-sixteenths of an inch)

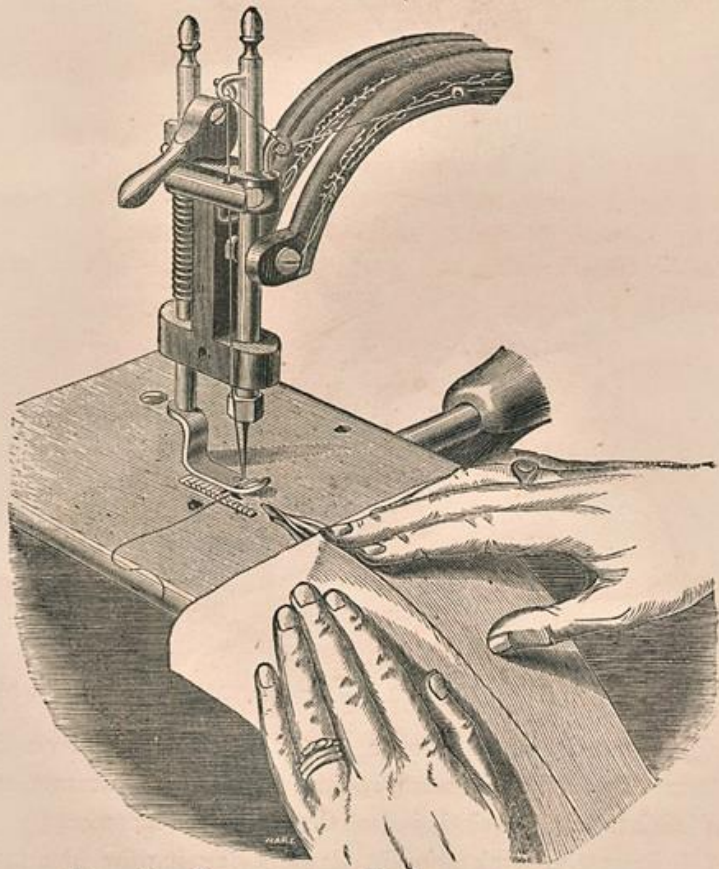


FIG. 15.—PLACING THE WORK IN THE FELLER.

beyond the bias edge of the upper piece; and stitch them together beginning at the narrow end and sewing close on the edge of the upper piece.

(d) Open the work flat, and with the thumb-nail crease the wide edge down over the narrow one, as in felling by hand.

(e) Attach the wide hemmer to the cloth-plate (18, *a, b, c*.)

(f) Beginning with the wide end of the work, insert the wide edge which is to be felled down, under the lip of the hemmer (fig. 15).

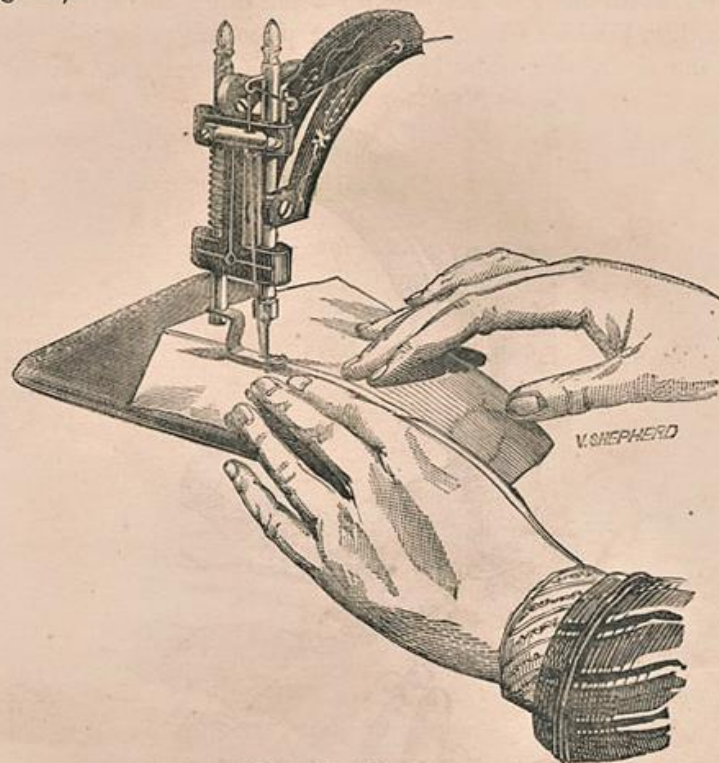


FIG. 16.—FELLING.

(g) Place the second finger of the right hand flat on the extreme end of the first seam, against the lip of the hemmer, and the left hand on the cloth just at the left of the hemmer.

(h) Press the work straight forward, drawing the edge to be

felled down between the blades of the hemmer till the end of the cloth is quite over the feed-surface, keeping the first seam steadily against the lip of the hemmer.

(i) Let down the presser-foot.

(j) Press the end of the second finger of the right hand against the lip of the hemmer, and turn the machine, allowing the cloth to be drawn between the finger and the lip of the hemmer, thereby keeping the first seam steadily against the lip of the hemmer, and with the left hand keeping the work smooth in front of the needle till the fell is finished (fig. 16.)

### 21.—The Wide Hemmer as a Hemmer.—(See also 31.)

(a) Taking a strip of calico, fold down about an inch on one side.

(b) Place the calico on the cloth-plate with the folded edge under and on the right.

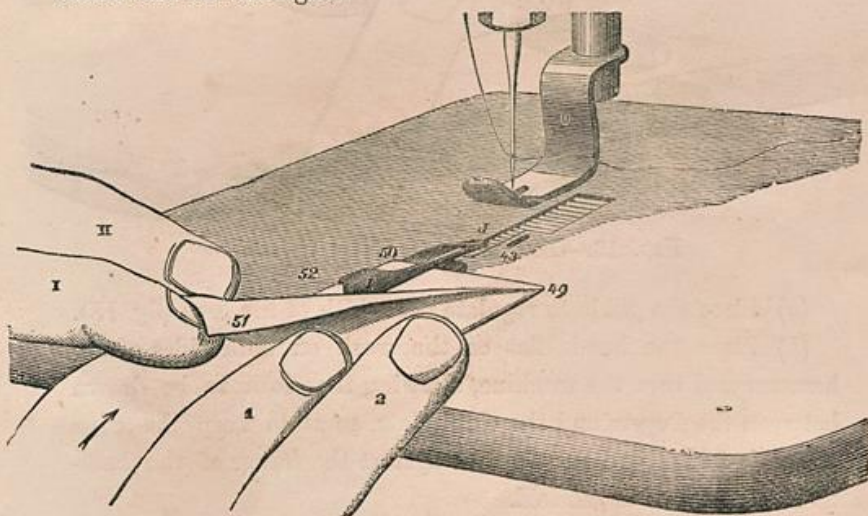


FIG. 17.—BEGINNING A WIDE HEM.

(c) Place the further corner of the folded edge under the lip of the hemmer (fig. 17)

(d) Place the second finger of the right hand flat upon the extreme end of the cloth, close against the lip of the hemmer.

(e) Press the cloth straight forward, drawing the edge which is folded underneath between the blades of the hemmer until the end of the cloth is quite over the feed-surface, keeping the edge which is folded underneath close against the corner of the hemmer.

(f) Let down the presser-foot.

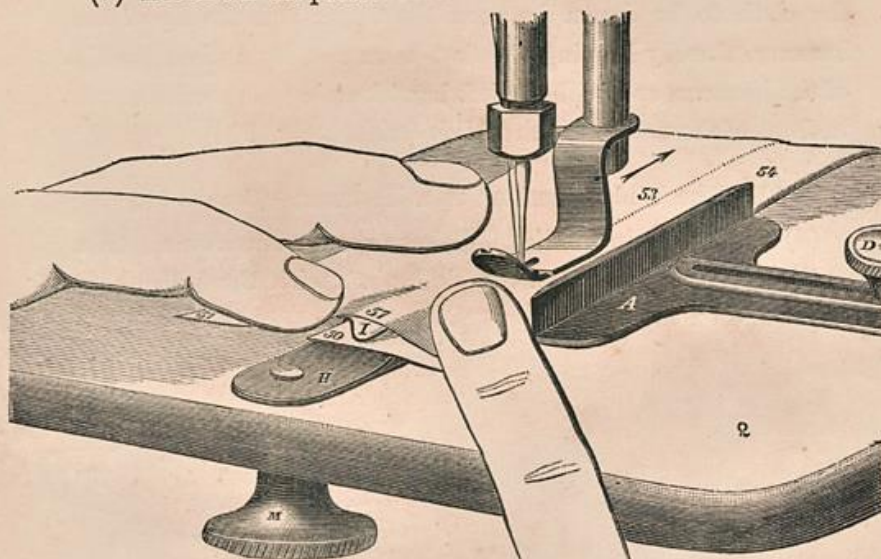


FIG. 18.—FINISHING A WIDE HEM.

(g) Place the guide to regulate the width of the hem (fig. 18).

(h) Place the hands flat on the work on both sides of the hemmer and turn the machine, allowing the cloth to be drawn between the fingers and the cloth-plate, so as to keep the edge which is folded underneath close against the corner of the hemmer till the hem is finished.

### 22.—The Tucker.

(a) Attach the Tucker to the cloth-plate with the guide-screw (fig. 19).

(b) Connect the tucker-wire with the needle by means of the small sliding hook on the wire (fig. 19).

(c) Place between the creasing angles, under the flat-spring and against the guide of the tucker (fig. 19), a piece of calico with the right hand edge folded underneath for the first tuck.

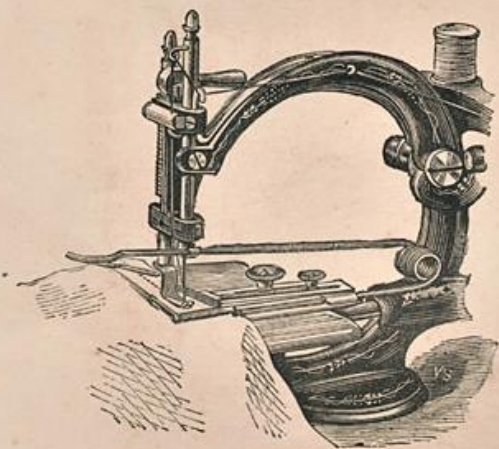


FIG. 19.—TUCKING.

(d) Turn the machine, holding the work so that it does not drag, and the folded edge uniformly against the guide. This stitches the first tuck and creases the fabric for the second.

(e) Take the work out of the machine and fold it as it has been creased by the tucker, place it in the machine (22, c), stitch the second tuck while the tucker is creasing the fabric for the third (22, d), the preceding one passing under the creasing blade; and so on.

(f) The position of the guide on the tucker determines the width of the tucks, and the position of the tucker on the cloth-plate determines the distance between the tucks (32, a).

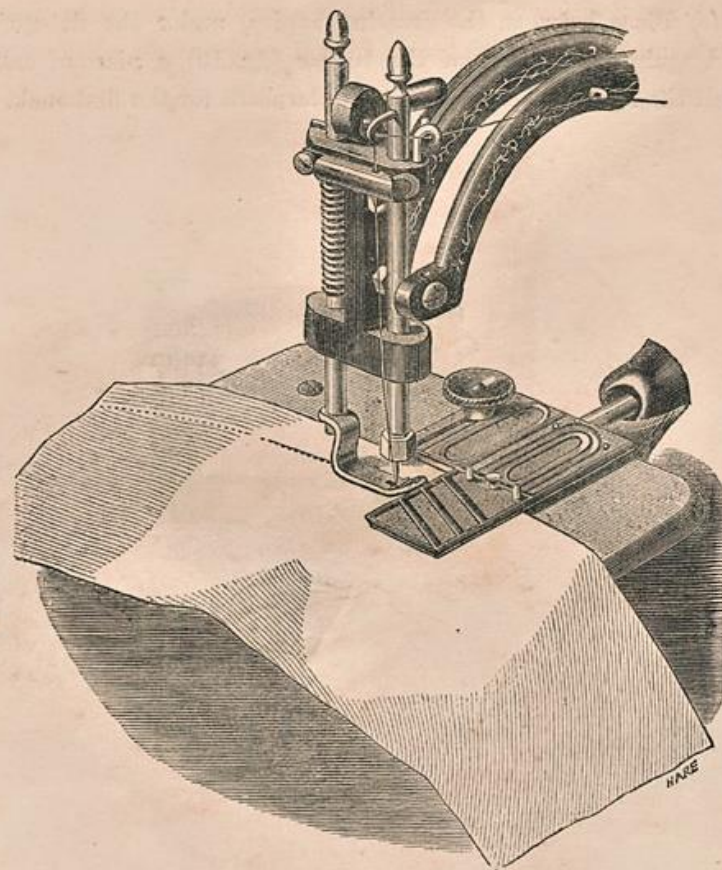


FIG. 20.—THE SELF-SEWER GUIDING THE WORK.

### 23.—The Self-Sewer.

(a) Attach the self-sewer to the cloth-plate with the guide-screw (fig. 20).

(b) Draw the cloth between the plates of the self-sewer, against the guide-pins and forward till it is quite over the feed surface.

(c) Let down the presser-foot.

(d) Turn the machine, holding the work so that it does not drag.

(e) The position of the Self-sewer on the cloth-plate determines the distance of the seam from the edge of the cloth.

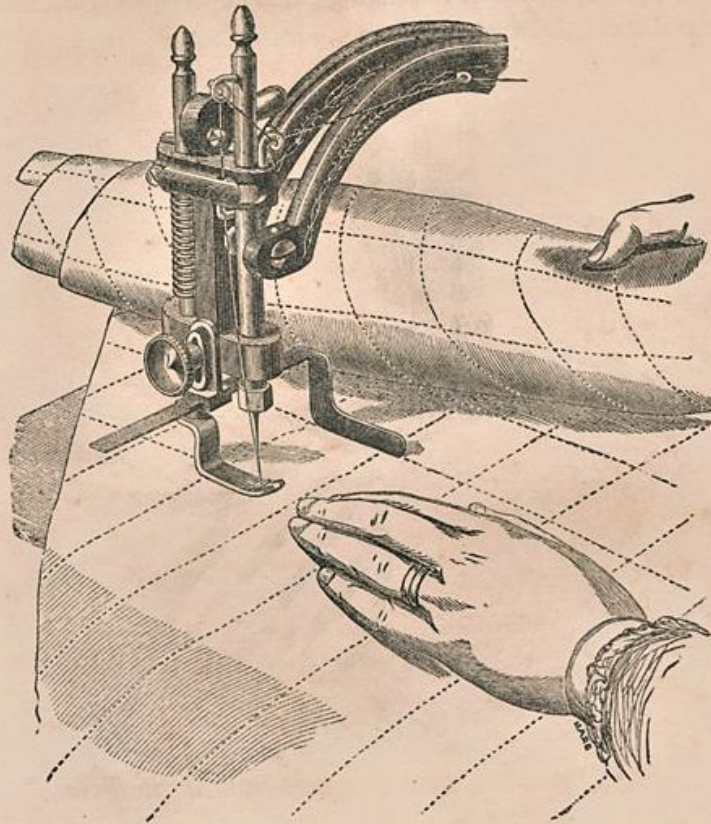


FIG. 21.—QUILTING.

**24.—The Quilter.**—(See also 33).

(a) Attach the quilter to the frame of the machine between the needle-bar and the foot-bar by means of the guide-screw (fig 21).

(b) Place a piece of calico on a piece of wadding, and stitch along the right-hand side of it.

(c) Place the work to the right so that the stitching is under the guide of the quilter (fig 21).

(d) Turn the machine, and keep the preceding line of stitching steadily under the guide of the quilter; and so on.

(e) The position of the sliding guide of the quilter determines the distance between the lines of stitching.

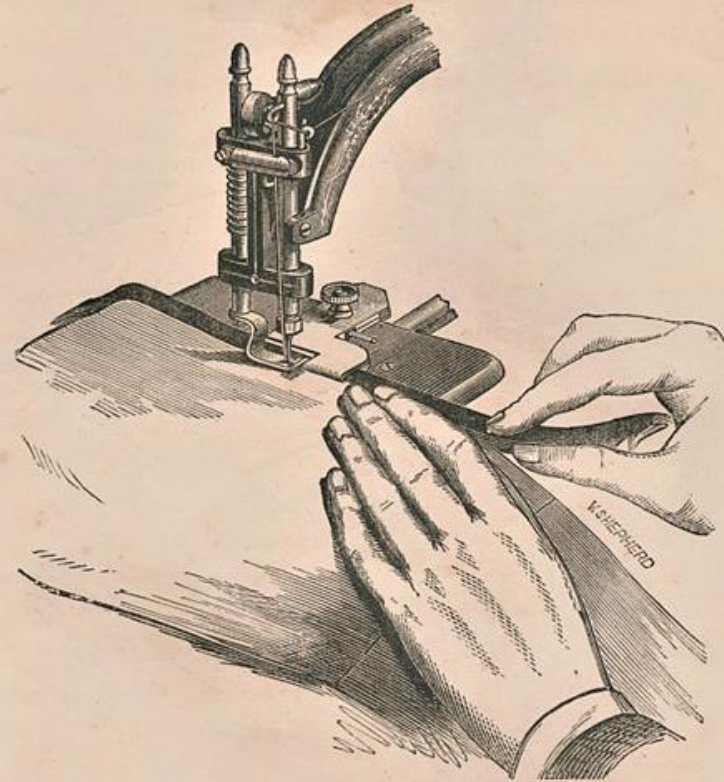


FIG. 22.—BINDING.

**25.—The Binder.**

(a) Attach the binder to the cloth-plate with the guide-screw (fig 22.)

(b) Insert the binding between the hooks of the binder, adjusting the sliding block to the width of the binding, so that it will pass freely through the hooks without escaping from them.

(c) Place a piece of cloth between the hooks.

(d) Draw the cloth together with the binding forward till it is quite over the feed-surface.

(e) Let down the presser-foot upon the binding, which is folded upon the edge of the cloth.

(f) Turn the machine, assisting the feed at first by drawing gently on the binding, and guide the work slightly to the right so as to keep the edge of the cloth close against the sliding block of the binder (fig. 22.)

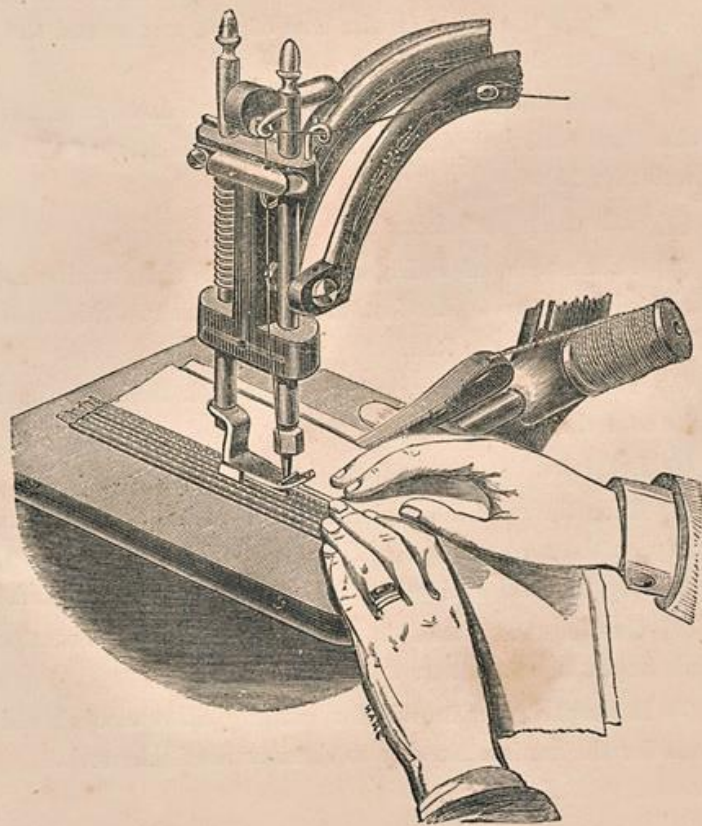


FIG. 23.—CORDING.

## 26.—The Corder.

(a) The needle being about half-way down, and the presser-foot up, place the corder-foot, from behind, under the presser-foot, the hook of the corder-foot against the needle.

(b) Let down the presser-foot upon the corder-foot, the hook of the latter entering the hole in the former just behind the needle.

(c) Push the corder-foot forward so that its hook holds fast to the presser-foot.

(d) Pass the cord (which should be of uniform size, and not too large) through the tubes on the bow of the corder, and the tube at the end, next the corder-foot.

(e) Attach the corder to the cloth-plate with the hemmer-nut; and set the cord reel pin in the oil-hole at the left of the small wheel (fig. 23).

(f) Lift the presser-foot.

(g) Fold a piece of calico, and place it in the machine so that the tube next the corder-foot is between the two thicknesses of calico and against the fold.

(h) Draw the work forward, together with the cord, till it is quite over the feed surface.

(i) Let down the presser-foot.

(j) Turn the machine, assisting the feed at first by drawing gently on the cord, and guide the work slightly to the right, as to keep the cord against the fold till the seam is finished.

(k) Cut the cord; take the work out; and sew the succeeding cords in the same manner.

(l) In preparing materials for cording allowance should be made for the contraction due to the nature of the work.

## V.—INSTRUCTION FOR PRACTICAL WORK.

### 27.—To adapt the seam to the requirements of the work.

(a) The character of the seam is determined by the three following circumstances, viz. :—length of stitch, degree of tension upon the thread, and the amount of force with which the cloth is held back in front of the needle.

(b) The length of the stitch should depend upon the nature of the work. Ordinarily a short stitch is appropriate for fine work and thin material, and a long stitch for coarse work and thick material (11, *a*, *b*).

(c) The tension must always be sufficient to draw up the stitches uniformly, but not tight enough to pucker the cloth. In general, work which the needle penetrates easily requires a loose tension, and work which the needle penetrates with difficulty requires a tight tension (12, *a*, *b*). A short stitch requires a much tighter tension than a long stitch.

(d) The work should be held back in front of the needle with some force, but not enough to overcome the action of the feed, or interfere with its perfect regularity (3, *d*).

(e) To make a seam very elastic (as on elastic cloth, or generally on the bias), shorten the stitch, or hold the work well back in front of the needle, or both.

(f) The tension should be rather loose than otherwise in the following cases, viz. : in sewing cloth which has been shrunk, for the cotton will shrink also; and in sewing two thicknesses

of light dress material, especially silks, for such seams incline to “draw.”

(g) In sewing across a thick seam, it is necessary to assist the feed until the obstacle is fairly under the presser-foot; in sewing across a very thick seam, it is also well to lift the presser-foot a little at every stitch. The belt should not be slack.

(h) Dressed calicoes, &c., are much more easily sewed when rubbed with hard, white soap. Leather and paper, if very thick, require the leather needle. In sewing difficult material, it is advantageous, when a tight tension is required, to use a coarser cotton, without using a coarser needle, for example, No. 2 needle with 30 or 40 cotton.

### 28.—Narrow Hemming.—(See also 18.)

(a) In beginning a hem at the extreme end of the cloth on very light material, it is convenient to assist the feed by drawing gently on the end of the cotton till the cloth is fairly upon the feed-surface.

(b) In hemming very light material, such as fine pocket-handkerchiefs, nainsook muslin, &c., the work should be held quite firmly and steadily, but not too much against the corner of the hemmer. If the work is not held uniformly, the hem will be irregular; if it is held too much against the corner of the hemmer, too much cloth will be turned down, so that the raw edge will project from under the hem; if it is held too far from the corner of the hemmer, the edge will not be turned under at all.

(c) In hemming an outer curve, a bias edge, or silk, place the point of the finger upon the cloth a little forward of the lip of hemmer, pressing partly against the cloth-plate and partly



against the side of the hemmer, allowing the cloth to be drawn under the finger (fig. 13).

(*d*) To sew lace, edging, or other trimming, on a narrow hem, stitching the hem at the same time.—Pass the lace, or other trimming, through the opening in the side of the presser-foot, guiding it slightly to the left, so as to keep the edge under the needle while the hem is being stitched.

(*e*) The hemmer-blades should never be bent. The narrow hemmer may be adjusted, if required, by twisting the upright part of the blade.

### 29.—Medium Hemming.—(See also 18 & 19.)

(*a*) The Medium Hemmer is used for house, table, and bed-linen; flannels, damasks, serges, etc., dress-flounces, and trimming generally.

(*b*) It is used in the same manner as the Narrow Hemmer, but its greater width necessitates more care to keep the work well in the hemmer. The material being inserted in the same manner as in the Narrow Hemmer (18, *d*, *e*, *f*), place the fore-finger of the left hand on the right of the hemmer, to keep the work well between the blades, while the rest of the hand is occupied in preventing the work from being dragged out of position by its own weight.

(*c*) The stitch lever should be pushed down as for a long stitch, though a long stitch will not be produced, as owing to the length and width of the blades the work is drawn along less rapidly.

(*d*) In passing a seam through any of the hemmers, the end of the seam should be trimmed as closely as can be done without weakening it; also the under side of the seam, or join, should be cut off at the corner, so as to lessen the thickness of the material which is to pass through the hemmer, and the work should be so prepared that the loose edges of the seam shall be drawn (not pushed) through the hemmer (fig. 25), that is, so that the loose edges of the seam, or join, shall lie backward toward the operator.

### 30.—Felling.—(See also 20.)

(*a*) Felled seams are usually on the bias, and should therefore be very elastic (27, *e*).

(*b*) The first seam of a fell on the bias should always be stitched from the narrow end of the work.

(*c*) In sewing the second seam, the stitch should be a little longer than in the first seam, as the feed is hindered somewhat by the feller.

(*d*) To fell across a seam (29, *c*).

(*e*) In joining two selvages the feller is not required. The edges may be lapped the width of a fell, and each edge stitched down.

### 31.—Wide Hemming.—(See also 21.)

(*a*) The edge to be hemmed should be cut instead of torn.

(*b*) If the edge is stretched through being torn or otherwise, the cloth where the seam is to be sewed must be stretched to an equal length.

(*c*) The hem must be folded down by hand on the wrong side about one-eighth of an inch wider than the width of hem desired.

(*d*) To hem across a seam (29, *c*).

(e) To hem across a felled seam not on the bias, at the narrow end of the work, as at the bottom of a pair of drawers.—The first seam of the fell should begin at the end of the cloth; and the second seam should end at the fold of the hem; when the edge should be trimmed, if not quite even, and hemmed (29, c).

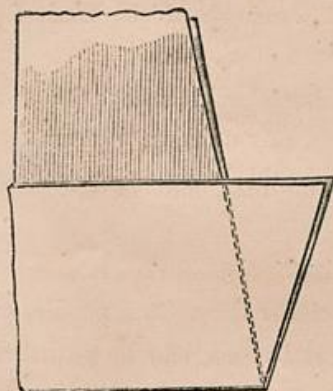


FIG. 24.—CORNERS TO BE CUT OFF.

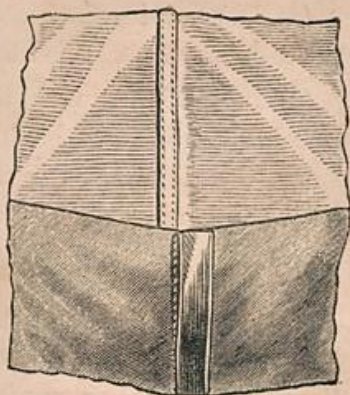


FIG. 25.—EDGE CLIPPED AND TURNED BACK.

(f) To hem across a felled seam on the bias, at the wide end of the work, as at the bottom of the side of a chemise.—Before the two pieces are stitched together, place them one upon the other, the wide ends together, fold down the hem, and cut off the projecting corners (fig. 24); stitch the first seam of the fell quite to the end of the cloth, and begin the second seam at the fold of the hem; clip the edge felled down at the same point, and turn it back, so that it will be drawn (not pushed) through the hemmer (fig. 25); trim the edge to be hemmed if it is not quite even, when the hem is ready to be stitched.

### 32.—Tucking.—(See also 22).

(a) The guide of the tucker should be placed at a distance from the needle, equal to the width of tuck desired; and the creasing angles at a distance from the needle equal to twice the width of tuck, and as much farther as the desired distance between the tucks.

### 33.—Quilting.—(See also 24.)

(a) In preparing the materials, allowance should be made for the contraction occasioned by the nature of the work.

(b) In quilting squares, the stitching should always be on a true bias, in order to produce a perfectly uniform appearance. In quilting diamonds, the stitching should be on an equal bias for the same reason.

### 34.—Gathering.

(a) It is not necessary to change either the cotton, needle, or length of stitch; but to simply press the edge to be gathered forward under the presser-foot. Where a great quantity has to be reduced to a given length, a stiletto or strong needle will be found useful for pushing the work forward on the right side of the presser-foot, while with the left hand it is pushed up on the left side.

(b) When the gathered work is sewed on a band, the gathering seam may be taken out.

### 35.—Braiding.

(a) Use No. 2 needle, and appropriate silk (37 a), a rather long stitch, and tight tension.

(b) The pattern should be on the right side of the fabric.

(c) Pass the braid through the braider (the channel under the bar across the presser-foot in front of the needle, fig. 26.)

(d) Assist the feed in starting by drawing gently on the end of the braid.

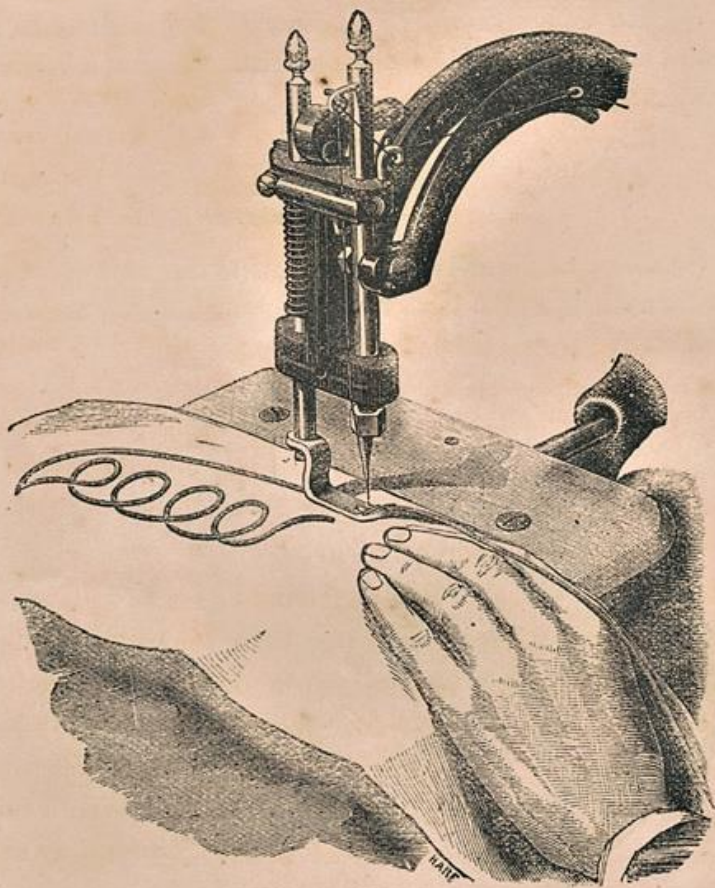


FIG. 26—BRAIDING.

(e) After turning a corner, when the presser-foot has been let down, the braid should be drawn back, so that there shall be no slack between the braider and the last stitch taken.

(f) In turning a sharp corner the braid should be turned over.

(g) In turning circles the presser-foot should be slightly lifted, to allow the work to turn more freely. This effect may be obtained by means of a small elastic band, which, placed round the lifter and the top of the foot-bar, keeps the former in a nearly upright position.

(h) The design should be chosen with few small turns, and traced on the wrong side of the material. Cloth and velvet are good substances to work upon.

### 36.—Embroidery.

(a) Use a needle and silk appropriate to the work (38 *f, g*), a medium stitch, and as loose tension as will draw up the stitches uniformly.

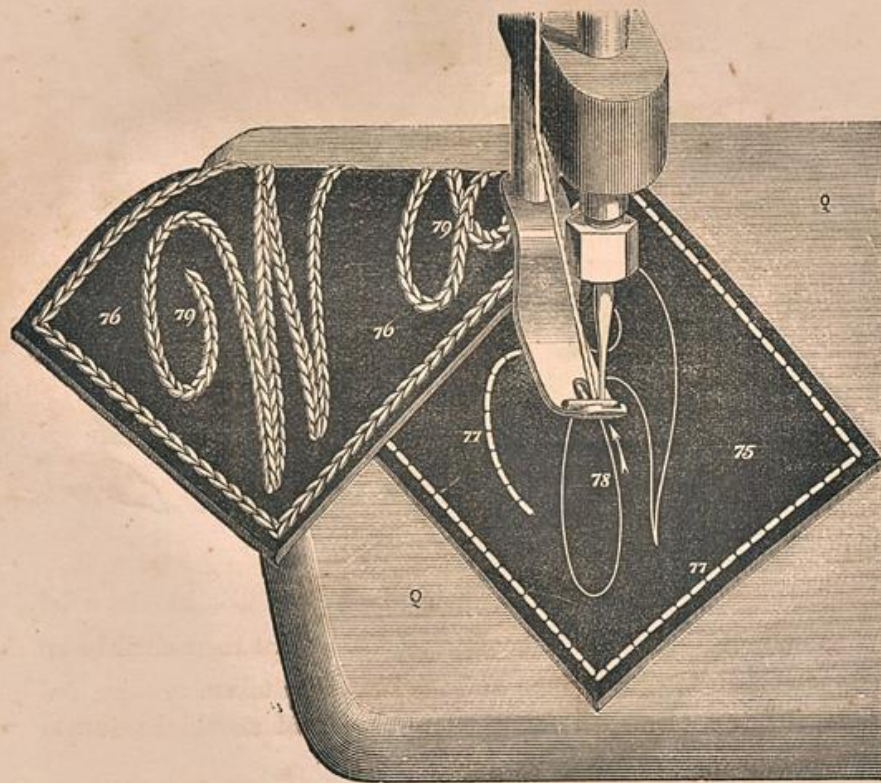


FIG. 27—EMBROIDERING.

(b) The pattern should be on the wrong side of the fabric and reversed (fig. 27).

## 37.—Cottons, Silks, &amp;c.

(a) Any good cotton, machine silk, or linen thread, may be used with the machine, and three sizes finer than would be used in doing the same work by hand.

(b) Cotton may be used when linen would be required in hand-sewing.

(c) The most useful sizes of cotton for family work are Nos. 60, 70, and 80.

## 38.—Needles.

(a) The size of needle appropriate for any kind of work is determined by the cotton or silk used. It should be large enough to allow the thread to pass through the eye with perfect freedom, but it should not be larger than is necessary for this purpose. Materials which are difficult to sew do not necessarily require a coarse needle (27, h).

(b) Number 0 is suitable for the very finest work.

(c) Number 1 is adapted to the finest work that ordinarily occurs in families, and is used with 80 to 150 cotton.

(d) Number 2 is adapted to ordinary family work, and is used with 60 to 80 white cotton, or 40 to 50 black.

(e) Number 3 is adapted to the heaviest of family work, and is used with 40 to 60 cotton.

(f) Number 4 is adapted to the heaviest work, and is used with the coarsest cotton. It is also adapted to embroidery, for which it is used with silk as coarse as will readily pass through the eye.

(g) Numbers 5, 6 and 7 are used for 'long-stitch' machines and embroidery.

(h) The leather-needle.—For sewing on leather and other materials difficult to pierce, a needle having a three-cornered point is furnished when required.

(i) A blunt needle may be detected by the noise it makes in sewing, and may be sharpened on an oil stone.

(j) A bent needle may be detected by rolling it on the table with the finger on the shank, and noticing whether the point moves in a straight line.

(k) Genuine needles are stamped on the shank, Pat. Mar. 19, 1861. *Spurious needles, besides being of inferior quality, are very liable to injure the machine.*

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