ILLUSTRATED

DIRECTIONS

FOR USING

"THE DAVIS"

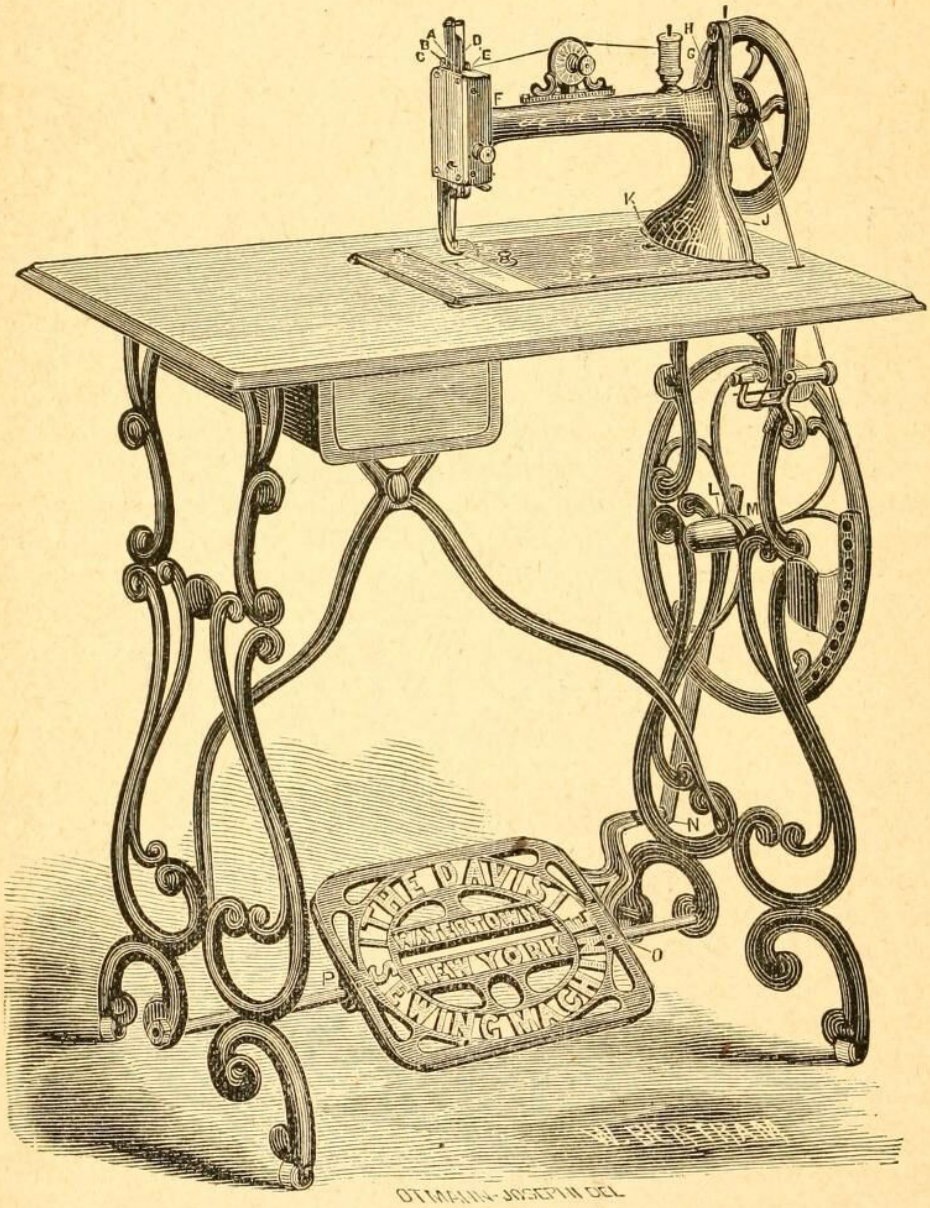
VERTICAL FEED

SEWING MACHINE

AND ITS ATTACHMENTS.

WATERTOWN, N. Y.
J. S. ROBINSON'S STEAM PRINTING ESTABLISHMENT.
1879.

Fig. 1.


A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
THE DAVIS
WATERTOWN
NEW YORK
SEWING MACHINE

DIRECTIONS

FOR OPERATING

THE DAVIS SEWING MACHINE.

Before the machine leaves our hands, it has been minutely inspected, and every mechanical defect corrected; it has been tested with various sizes of thread ranging from No. 40 linen to 150 cotton, and found to work satisfactorily in every respect. When unpacked, the machine should be found in complete running order, with a sample of work under the presser foot, as it came from the hands of the inspector, and the machine threaded ready for sewing. Parties who have never seen the machine before, should first observe how it is threaded—but if from any cause the machine should become unthreaded in transportation, the operator should observe the directions for threading given hereafter.

OILING THE MACHINE.

This is the most important rule to be observed, for care in oiling the bearings insures durability and ease of motion, and prevents premature wear. To oil the inside work of the head raise the needle bar to its highest point and put one drop in each of the five holes on the head, in front and rear of the three bars; the same quantity in the holes on both ends of the arm and on top of and on the back side of the back hanger, (which is between the arm and hand wheel) and a drop on the lower end of the back hanger to lubricate the slides. Put one drop in the hole in centre of bed plate, under the arm, and on the journal of the balance wheel; a drop on the bearing at each end of the pitman, and of the treadle.

All places where the machine should be oiled are indicated by the letters A B C D E F G H I J K L M N O & P, in Fig. 1 page 2.

Run the machine several revolutions swiftly, and the oil will be distributed on the bearings; then wipe off all excess of oil, that it may not soil the work or clothing. If the machine runs hard by means of poor oil, or if it becomes gummy by long standing, use a little kerosene oil, which will soon remove the gum, after which apply a little good fresh oil.

Fig. 2.

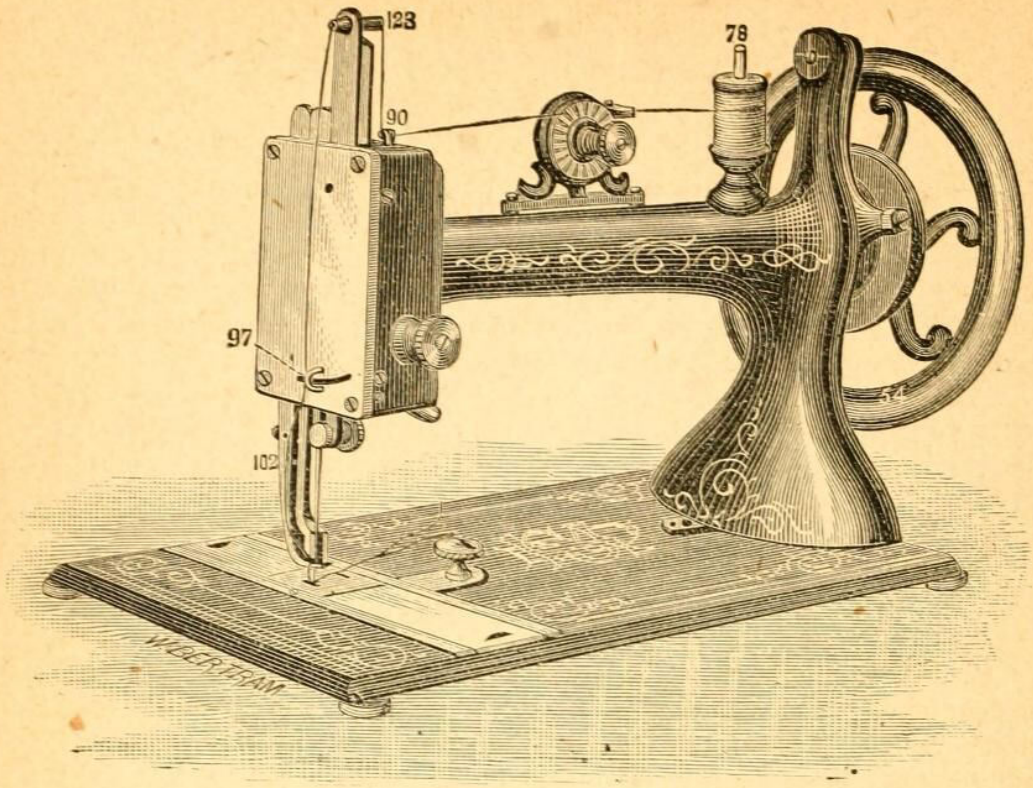


Fig. 3.

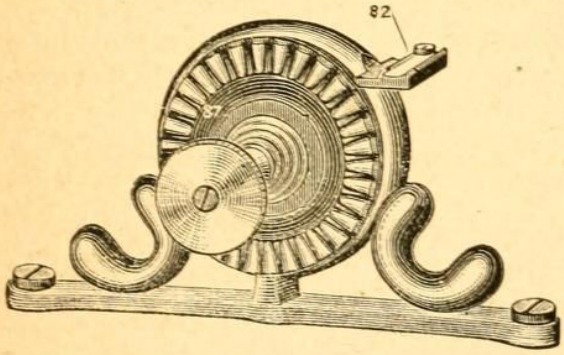


Fig. 5.

Fig. 6.

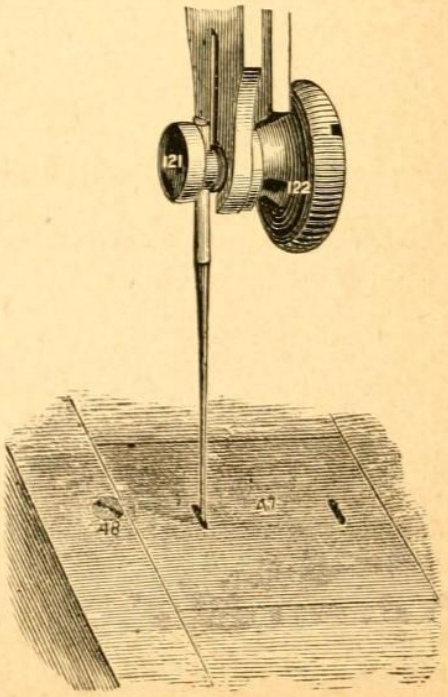
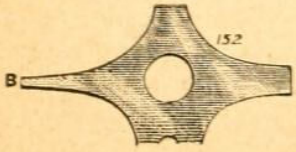


Fig. 4.



THREADING THE MACHINE.

SEE FIGS. 2 AND 3, PAGE 4.

First raise the needle bar to its highest point; place the spool of thread on the spool pin 78 (Fig. 2). Pass the thread under the check spring 82 Fig. 3), then over and around the tension wheel 87 once only; then through the thread guide 90 (Fig. 2); then through the thread tube 123 (Fig. 2); then through the eye of the take up 97 (Fig. 2), *back of the staple;* then through the eye of the needle, leaving the thread about three inches long.

SETTING THE NEEDLE.

SEE FIG. 6, PAGE 4.

Hold the needle between the thumb and first finger of the left hand and pass the point down through the slot in the throat plate 47; then pass the shank up through the hole in the needle yoke 121, with the flat side to the needle bar, and hold it in place by turning the needle nut 122 to the right.

Now observe a mark or cut filed across the edge of the needle bar about one inch from the top. Turn the hand wheel 54 (see Fig. 2) so as to bring this mark down on a level with the top of the head, *and hold it there.* Loosen the nut 122, and place the needle so the eye will be on a level with the throat plate 47. Secure it firmly by the nut 122. The side A of the combination Screw Driver (Fig. 4, Page 4) can be used to tighten the nut.

The bottom of the loop should be one-eighth of an inch below the point of shuttle just as it enters the loop. If very coarse cotton, linen or silk be used, the needle should be set a little lower than the directions indicate, and a little higher for very fine thread.

TO REMOVE THE NEEDLE.

Loosen the needle nut 122, and the needle can readily be taken out.

THE THROAT PLATE

is provided with two slots. The larger one is adapted to the use of a No. 3 or 4 needle, the smaller one for all smaller sizes. To adjust the throat plate, loosen the screw 48 (see Fig. 6, page 4) which holds it in place, and slide the plate out, reverse it and slide it back, taking care to have the plate in such position that the needle in going down will pass *close to* the front end of the slot, but without touching the end or either side.

Fig. 7.

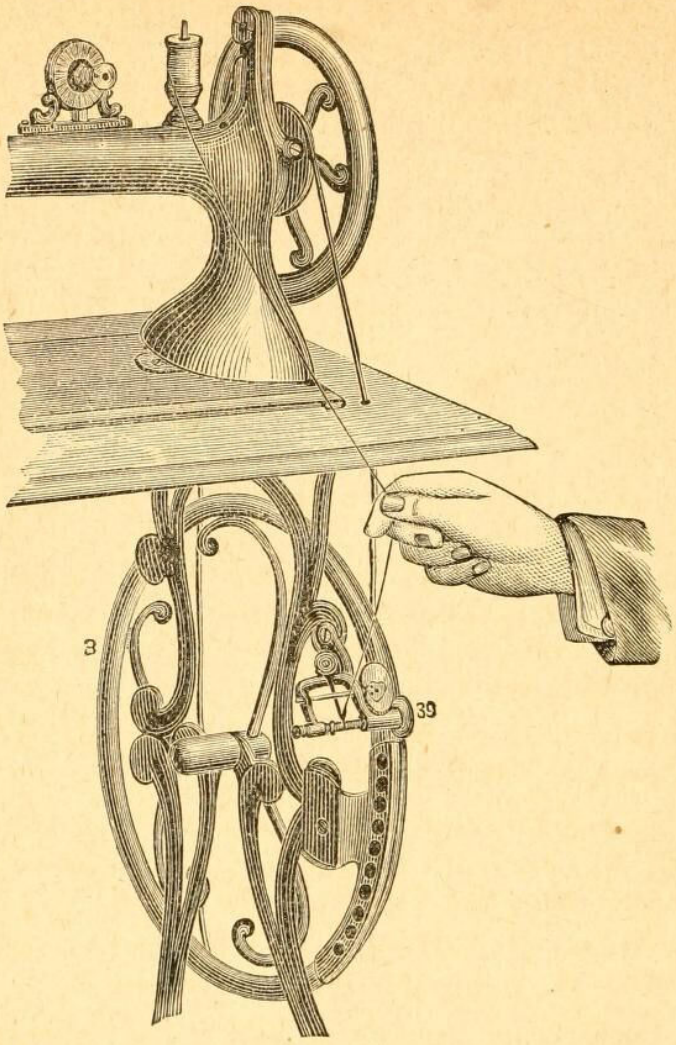
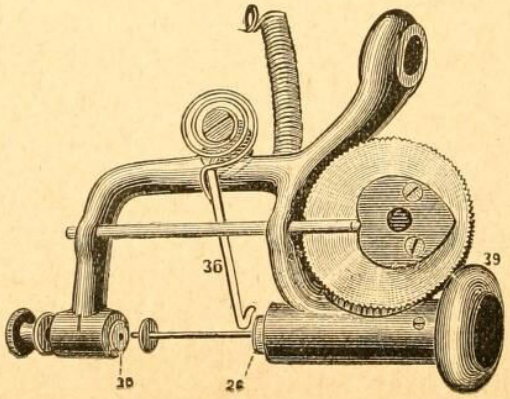


Fig. 8.



WINDING THE BOBBIN.

SEE FIGS. 7 AND 8, PAGE 6.

The bobbin winder will be found attached to the right leg of the stand, and held up by a spiral spring; this spring should always remain attached both to the winder and the table leg, holding the winder down to the large wheel when in use and also holding it back when not in use.

With the belt off bring the winder down so that the spooler rubber 39 will come in contact with the balance wheel 3 (Fig. 7).

Turn the wheel until the feed lever 36 reaches its right hand extremity, as shown in Fig. 8; place one end of the bobbin in the socket of the revolving spindle 26, and the other end in the socket of the step 30 (Fig. 8).

Now place the end of the thread between the brass bobbin head and the socket of the spindle 26; thence in hook of the feed lever 36.

Turn the balance-wheel *toward* you, holding the thread smoothly by the hand, as shown in Fig. 7. The feed lever 36 will distribute the thread evenly on the bobbin.

When sewing, the bobbin winder should always be up against the table leg, as shown in Fig. 1, Page 2.

Fig. 9.

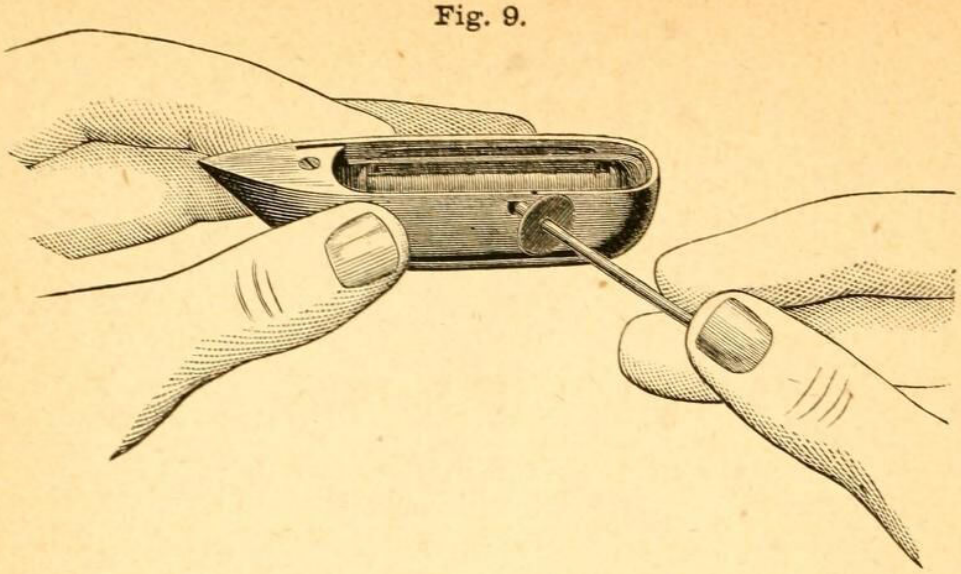


Fig. 10.

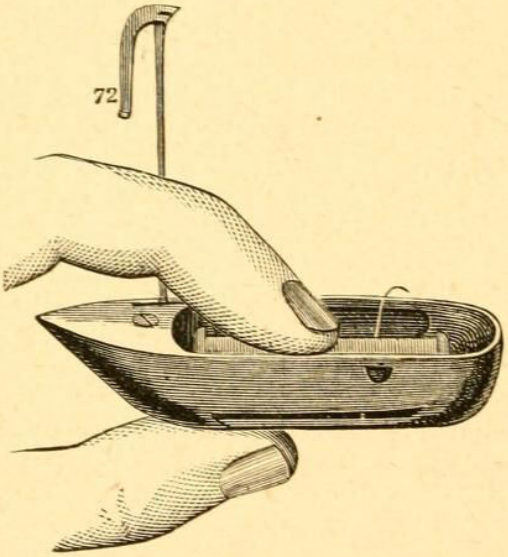
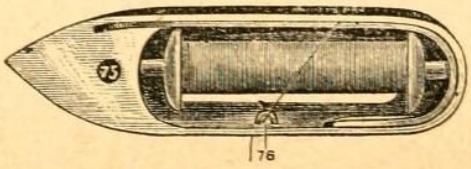


Fig. 11.



THREADING THE SHUTTLE.

SEE FIGS. 9, 10 AND 11, PAGE 8.

Depress the end of the latch 72 (Fig. 10) with point of bobbin, as shown in Fig. 9, raising the latch to a perpendicular position as shown in Fig. 10; place one end of the bobbin in the hole in front end of shuttle, allowing a little loose thread from the bobbin to hang over that side of the shuttle to which the latch is attached. The thread should draw from lower side of the bobbin.

Hold the bobbin in place, as shown in Fig. 10; close the latch as shown in Fig. 11. The latch forms the distributing bar as well as holding bobbin in place.

Thread downward through the staple 76 (Fig. 11) and out through the large slot, leaving the thread about three inches long.

NOTE.—*Be sure that the latch is closed and fastened securely before placing the shuttle in the machine.*

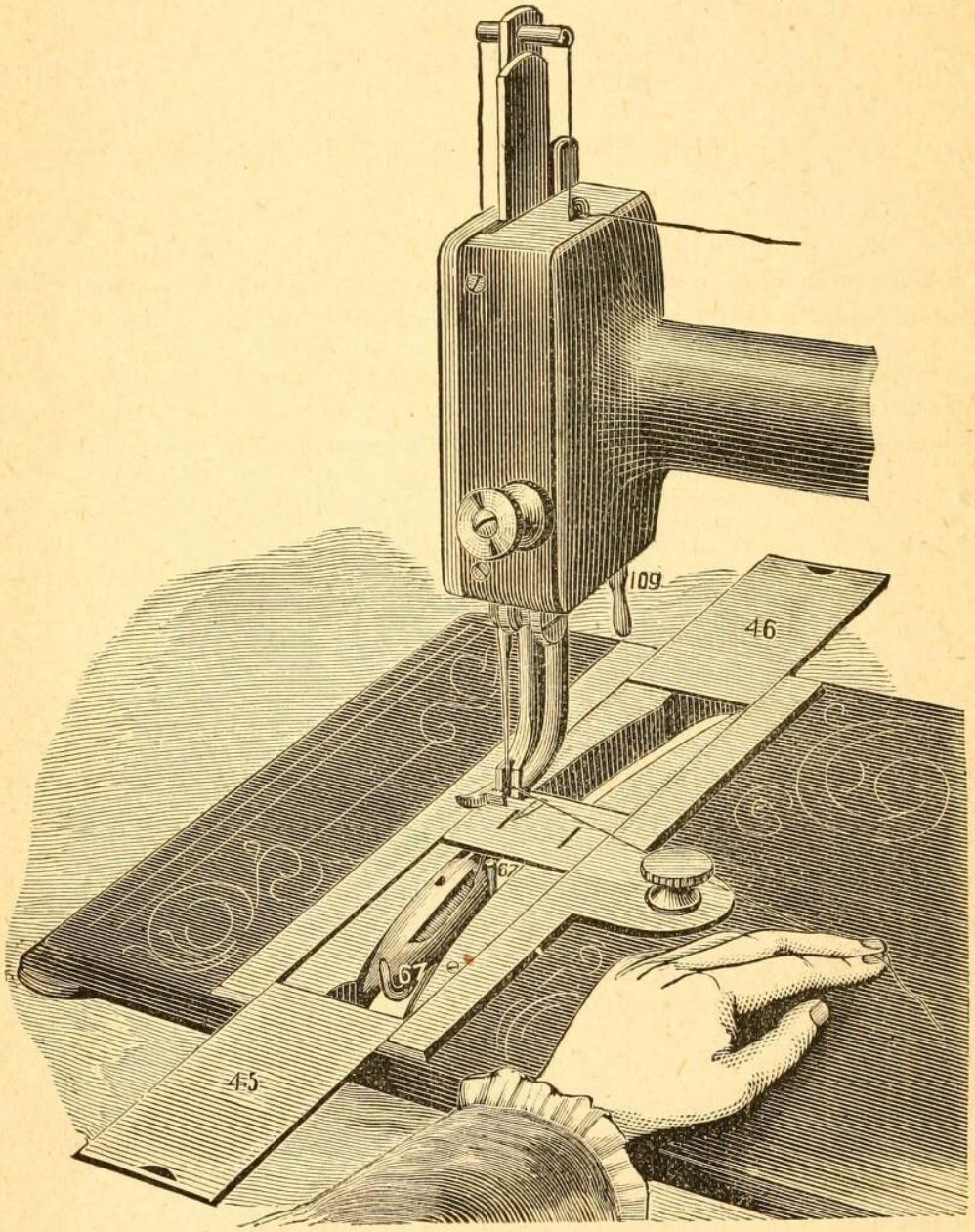
SHUTTLE TENSION.

The tension on the shuttle thread is formed by the pressure of the pad spring on the under side of the bobbin, and this is regulated by the small screw 75 (see Fig. 11) in point of shuttle.

Turn this screw to the *right to increase* the tension, and to the *left to decrease it*, using the small point B of the combination screw driver (Fig. 4, Page 4).

When the machine leaves our hands, the tension in the shuttle *has been set about right for all kinds of work and thread*, and therefore *rarely needs altering*.

Fig. 12.



TO PLACE THE SHUTTLE IN THE MACHINE.

SEE FIG. 12, PAGE 10.

Withdraw the front race cover 45, and place the shuttle between the prongs 67 of the shuttle carrier, *point first* and *toward the operator*.

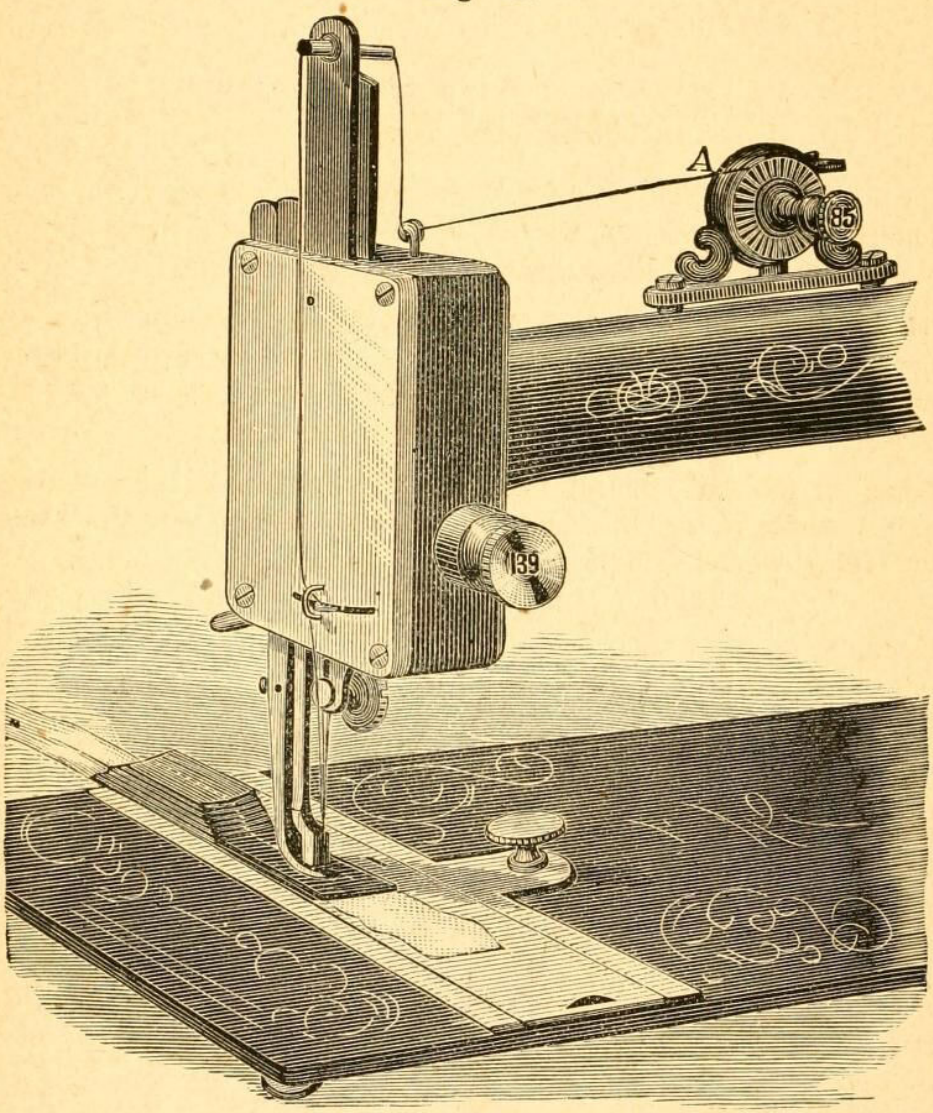
NOTE.—It is sometimes more convenient to withdraw the back race cover 46, and put the shuttle in its place when the prongs are in the back part of the race. This is especially the case when some of the attachments are in use.

TO DRAW UP THE LOWER THREAD.

Hold the upper thread slack with the left hand; turn the hand wheel *over from you* with the right hand slowly, until the needle has passed down and up again to its highest point. The upper thread will form a loop in the shuttle race through which the shuttle will pass, and the needle, when it rises, will draw the lower thread up through the slot in the throat plate. Close the race cover (or covers, if both have been withdrawn, as shown in Fig. 12) and draw the ends of the thread back.

NOTE.—*Never run the Machine with the race covers open*, except it is done with the hand, and *very slowly*.

Fig. 13.



COMMENCING TO SEW.

The Machine being fully threaded above and below, and lower thread drawn up, as heretofore explained, the presser bar 102 raised, and needle bar at its highest point (as shown in Fig. 2, page 4), you are ready to sew.

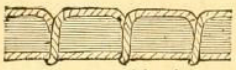
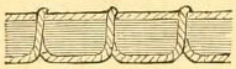
Place the goods under the presser bar, with the needle directly over the point where you wish to begin the stitching; lower the presser bar by the presser lifter 109, (see Fig. 12, page 10) and start the machine by turning the hand wheel *over from* you with the right hand.

NOTE.—If it is found difficult to get a regular and easy motion to the treadle at first, it should be learned by running the machine *before it has been threaded*, with the *shuttle out* and with the *presser bar raised*.

TO REMOVE THE WORK FROM THE MACHINE.

Stop the machine with the needle at its highest point; take hold of the thread at A, (see Fig. 13, page 12) and draw two or three inches off from the tension and spool, leaving the thread "slack"; raise the presser bar and draw the work steadily out from you toward the back part of the machine; cut the threads about two inches from the needle.

THE TENSIONS.

The object to be attained is to have the stitch alike on both sides of the fabric. This is accomplished by means of the tensions, or strain upon both threads. The tension upon both threads should be as nearly alike as possible, and tight enough *only* to make a smooth, firm seam. If the threads are the *proper size for the material used*, and both tensions right, the threads will be drawn and locked together *in the centre of the goods*, thus :  If the upper tension is *too loose* (or the lower one too tight) the lower thread will lie *straight along the under side of the goods*, thus :  the upper thread showing in loops on the under side. On the contrary, if the upper tenson is *too tight* (or the shuttle tension too loose) the *upper thread will lie straight on the upper side* of the goods, thus :  the lower thread showing in loops on the upper side.

To *tighten the upper tension*, turn the tension nut 85 (See Fig. 13 Page 12) *to the right.*

To *loosen the upper tension*, turn the tension nut *to the left.*

As the shuttle tension has been set right for general work when the machine leaves our hands, as before explained, any needed regulation of the stitch in this respect should ordinarily be made by changing the upper tension. If, however, when the upper tension is regulated so the lock is in the centre of the goods, both threads appear to be loose, and the stitches and seam not smooth and firm, the *shuttle tension is too loose*, and should be *tightened* by turning the tension screw 75 to the right, (See Fig. 11, Page 8) then tightening the upper tension correspondingly.

If the under thread cannot be properly drawn up without having the upper tension so tight that the thread breaks, or if when the tensions are evenly balanced the goods are "drawn" or "puckered," (this will occur only in sewing very light and "slazy" fabrics) the *shuttle tension is too tight* and should be loosened by turning the shuttle tension screw to the left ; then loosen the upper tension to correspond.

NOTE.—"The Davis" *requires less change of tension* than *any other machine*, in fact no change is necessary in any ordinary work.

The above particular explanation is given that every operator may *fully understand the principles of the tensions.*

LENGTH OF STITCH.

The length of stitch is regulated by turning the stitch adjuster knob 139 (see Fig. 13, page 12) to the right or left. Turn the knob to the right to shorten the stitch. Turn it to the left to lengthen the stitch.

TO TIGHTEN THE BAND.

If the band becomes loose so as to slip, cut a short piece off and hook the ends together again. It will be found necessary to shorten it several times, and until the "stretch" will all be taken out.

SIZE OF NEEDLE AND THREAD.

Machine sewing does not require so coarse a thread as hand sewing—every stitch being double. The size of the thread to be used must determine the size of the needle. The following sizes of Silk, Cotton and Linen are used with the sizes of needle affixed, viz: For—

200 to 100 Cotton	}	or 000 to 00 Silk	}	use	00 Needle
100 " 90 "					
90 " 70 "	" "	00 " 0 "		"	0 "
70 " 50 "	" "	0 " B "	or 100 to 90 Linen	"	1 "
50 " 30 "	" "	B " D "	" 90 to 70 "	"	2 "
30 " 10 "	" "	D " EE "	" 70 to 50 "	"	3 "
10	" "	E " FF "	" 50 to 40 "	"	4 "

The foregoing may be varied slightly to suit the fabric used. *Good threads are essential to good work.*

"The Davis" *will run coarser thread in fine needle* than any other machine in the market. This fact is frequently of great advantage, especially in leather stitching.

Fig. 14.

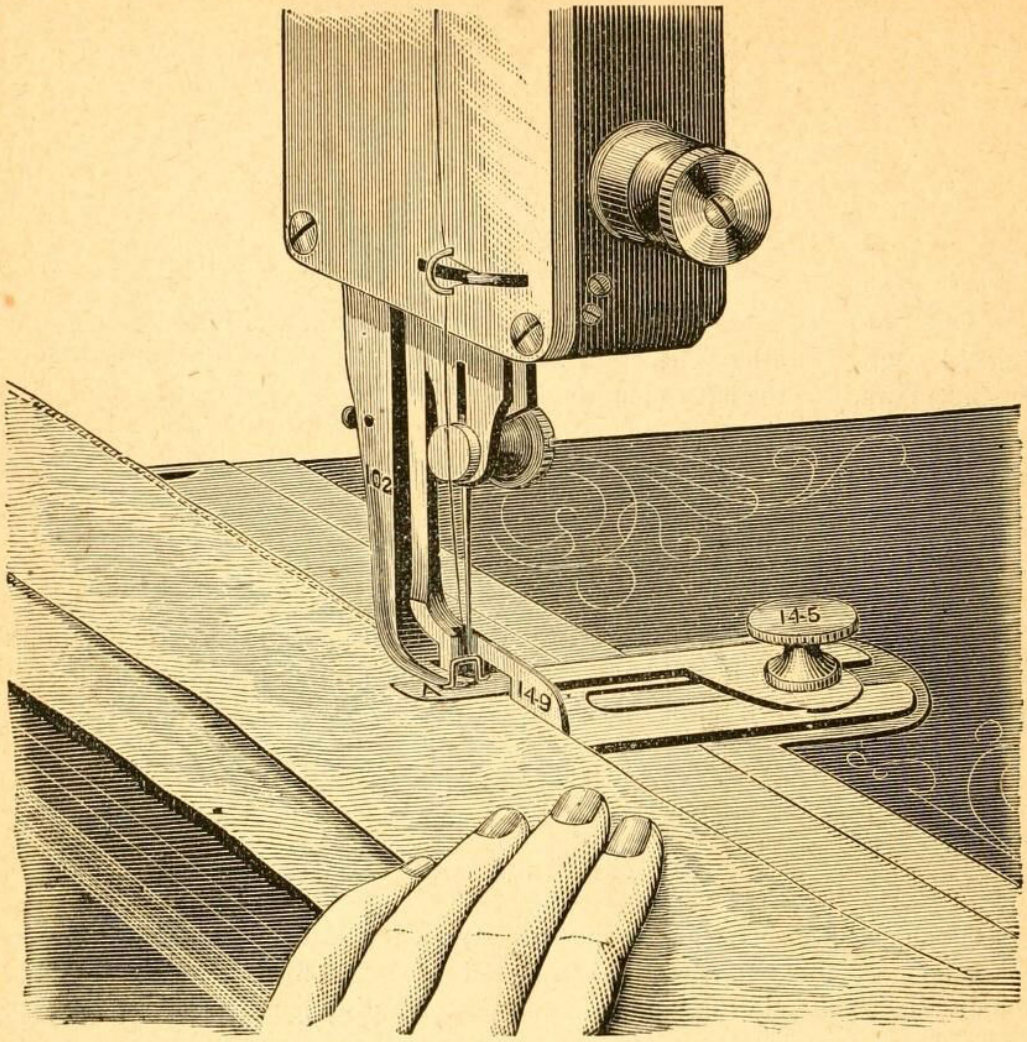


Fig. 15.

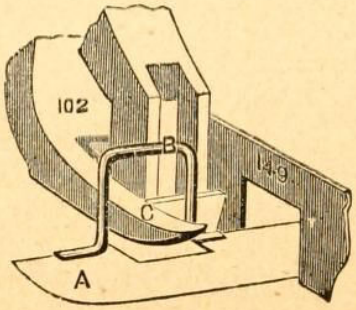
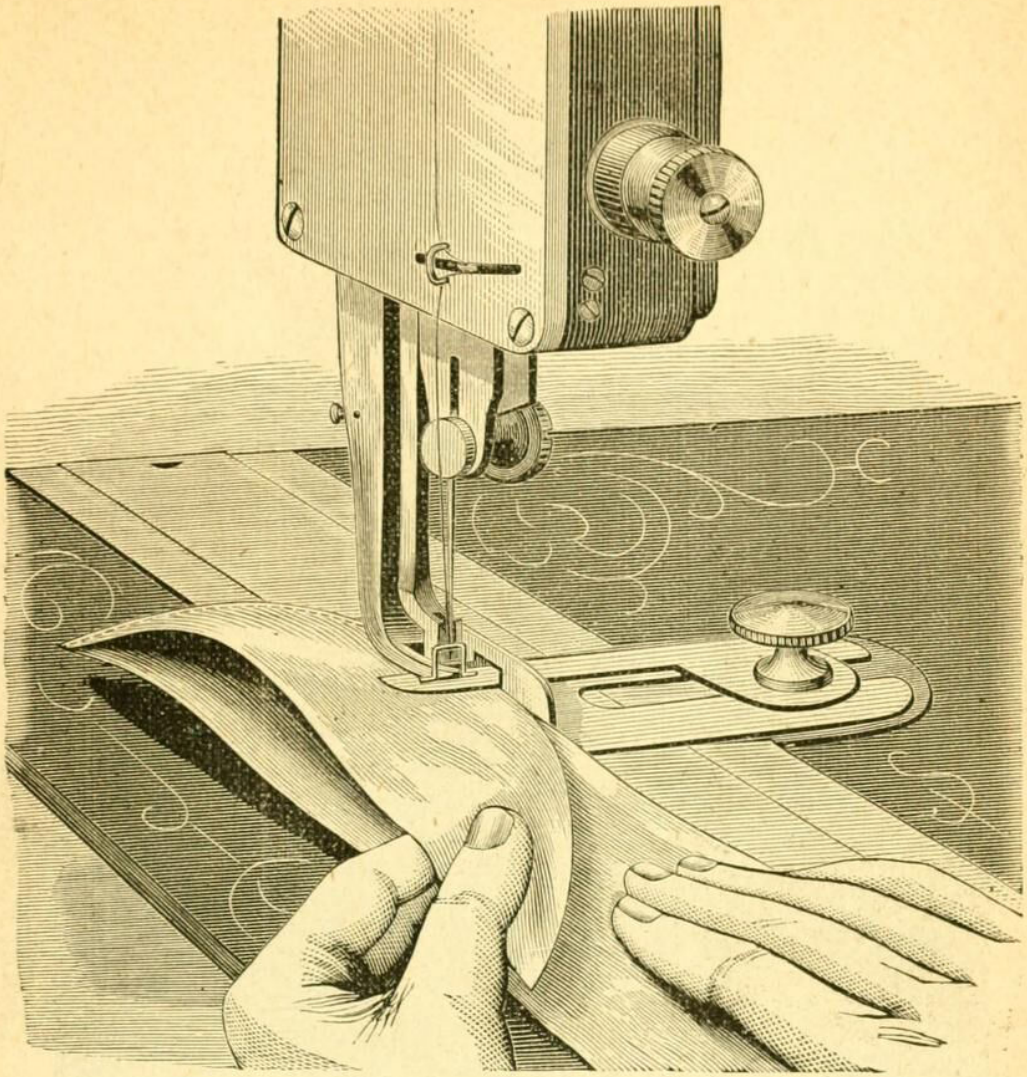


Fig. 16.



GAUGE AND SELF SEWER.

SEE FIGS. 14, 15 AND 16.

Attach the gauge and self sewer to the machine by the gauge screw 145, with the loop B of the spring A on the "toe" C of the presser bar 102, as shown in Figs. 14, 15 and 16.

Set the gauge 149 as far from the needle as you desire to have the line of stitching from the edge of the goods. Place the goods under the spring A, and under the needle and presser bar with the edge or edges against the gauge; lower the presser bar and sew as usual. The spring A will hold the goods smoothly up to the gauge, thus insuring a perfectly straight seam.

Fig. 16 shows the operation of sewing a curved piece on a straight one. This attachment is invaluable in sewing straight or parallel seams, curved edges on straight, or two curved edges together, and in an almost inconceivable variety of similar work, as *all can be done without basting* by using this attachment.

NOTE.—The spring A can be detached and the gauge 149 used alone when desired.

Fig. 17.

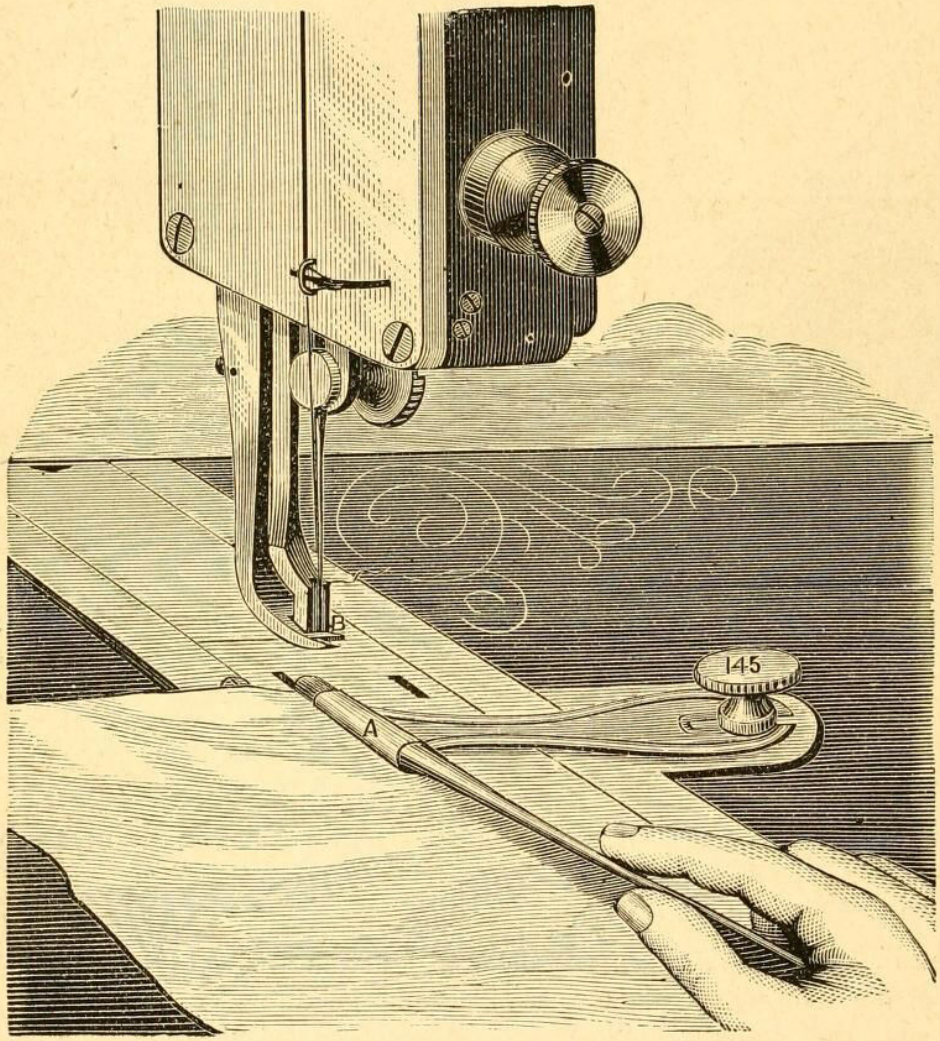
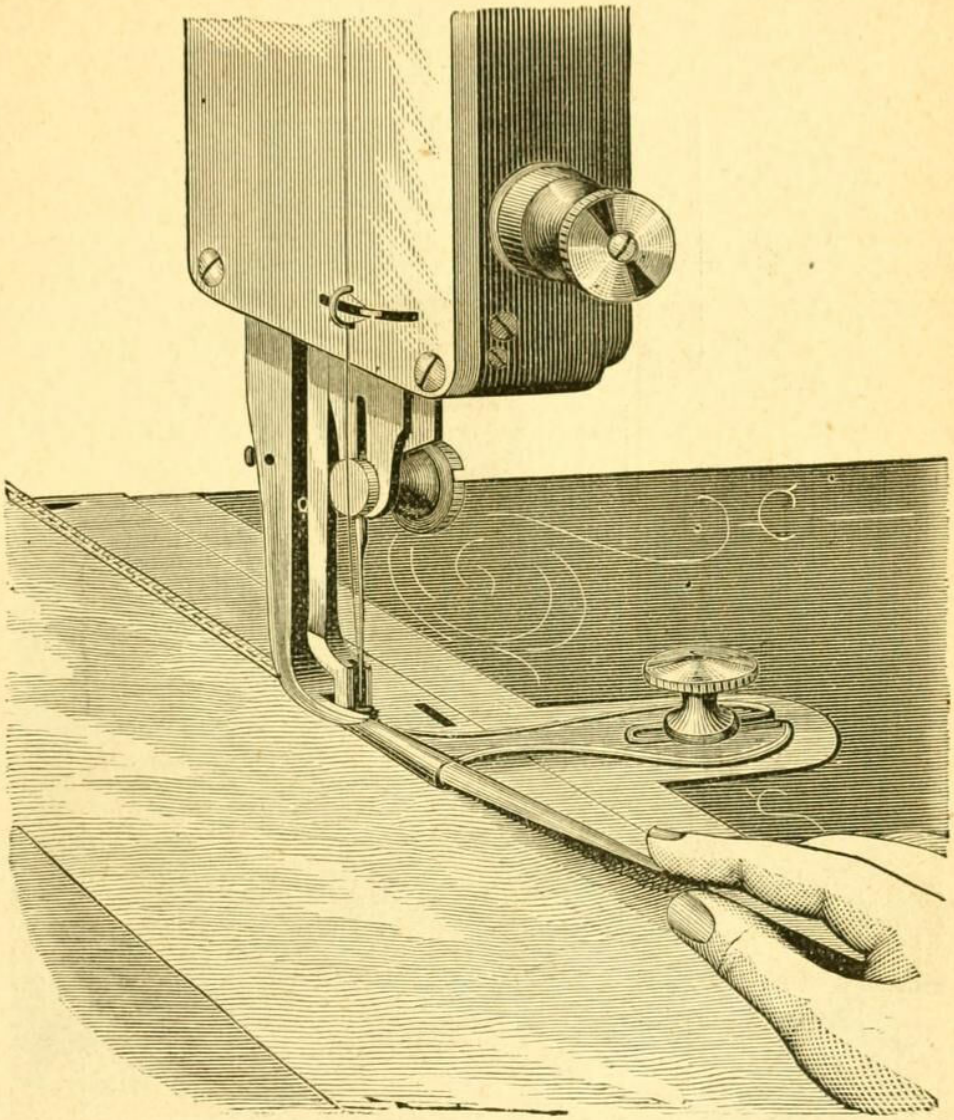


Fig. 18.

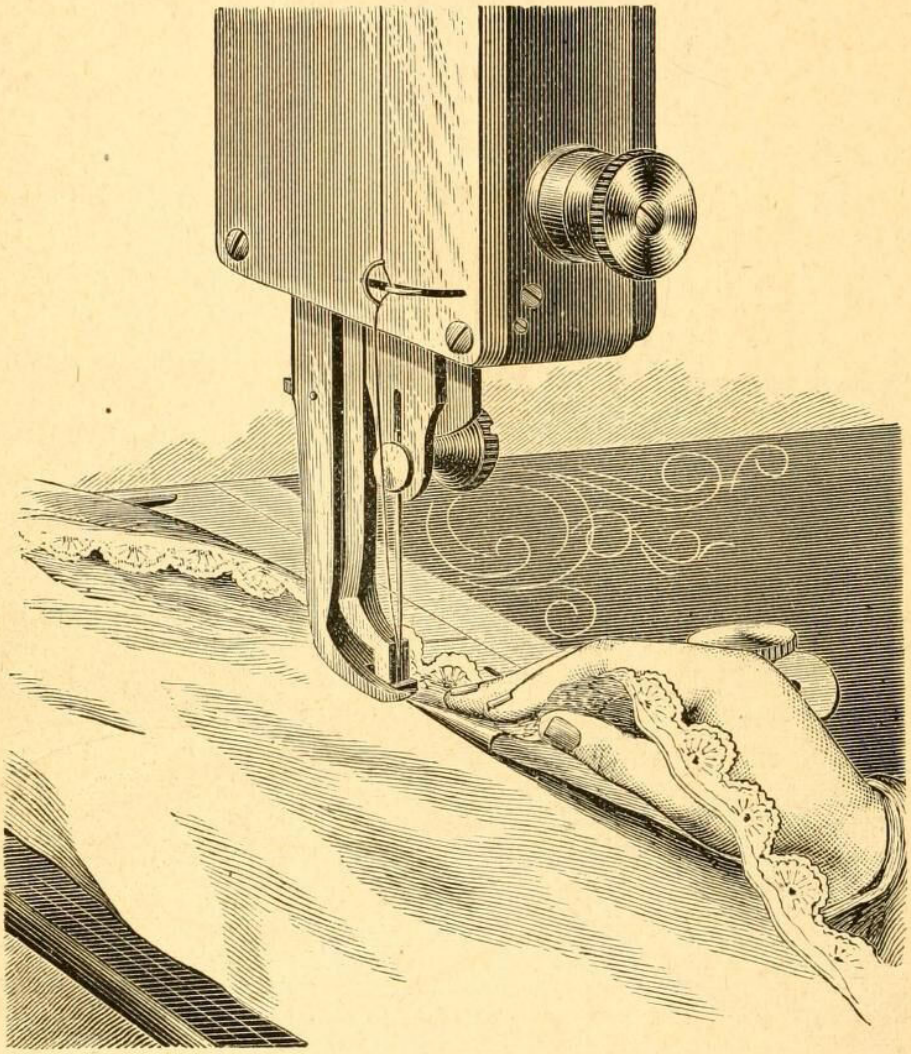


HEMMING.

SEE FIGS. 17 AND 18.

Attach the hemmer securely to the machine by the gauge screw 145, with the end of the scroll A close to the stripper B of the presser bar, (see Fig. 17, page 18) and in such position that the line of stitching will be on the edge of the hem as desired. Enter the edge of the cloth in the hemmer, drawing it forward and back a little until the scroll is filled and the hem evenly turned. Fig. 17, page 18 shows the hemmer attached, with cloth inserted in proper position. Lower the presser bar, and proceed as with ordinary work, guiding the material as shown in Fig. 18 above, so as to keep the scroll filled.

Fig. 19.



TO MAKE A HEM AND STITCH ON EDGING.

See Fig. 19.

Attach the hemmer and insert the goods as shown in Fig. 17, page 18; place the edging over the hemmer and under the needle and presser bar; lower the presser bar and proceed as with hemming, guiding the edging as shown in Fig. 19.

Fig. 20.

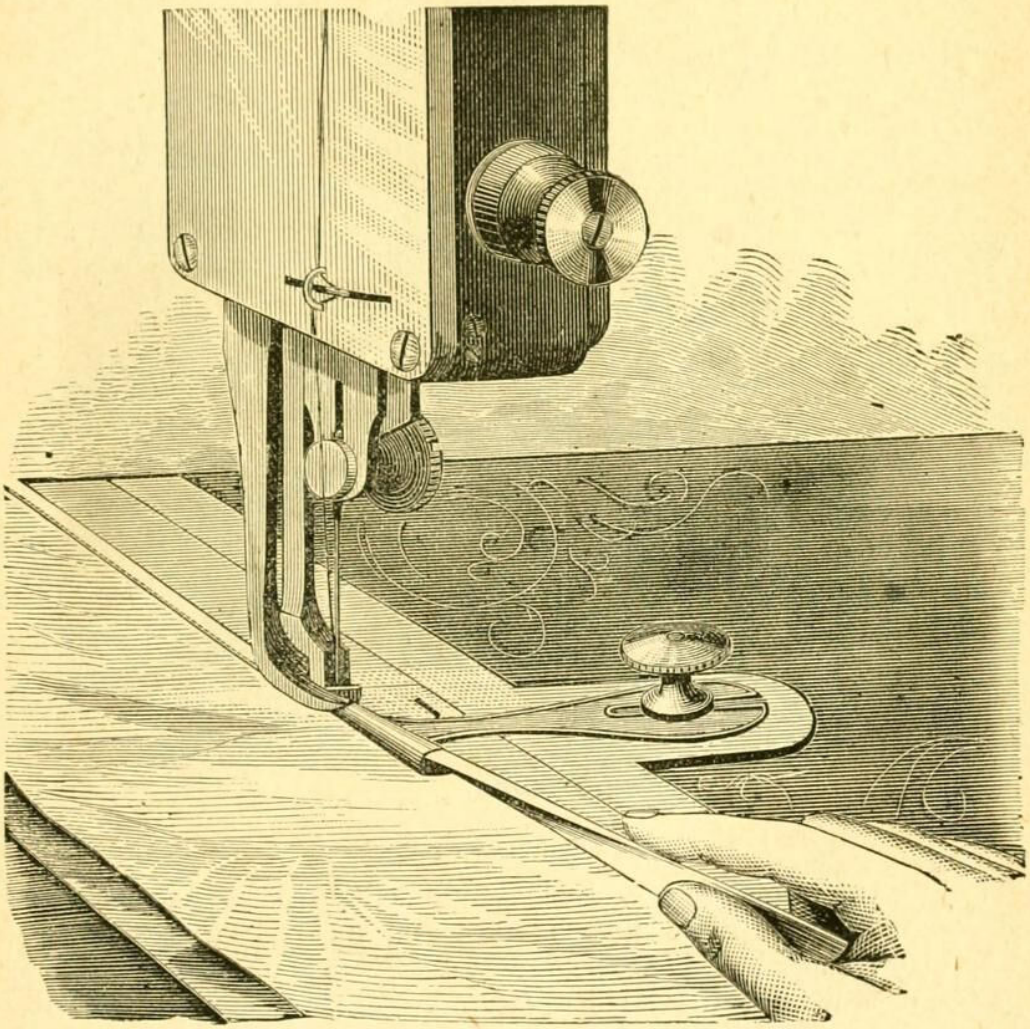
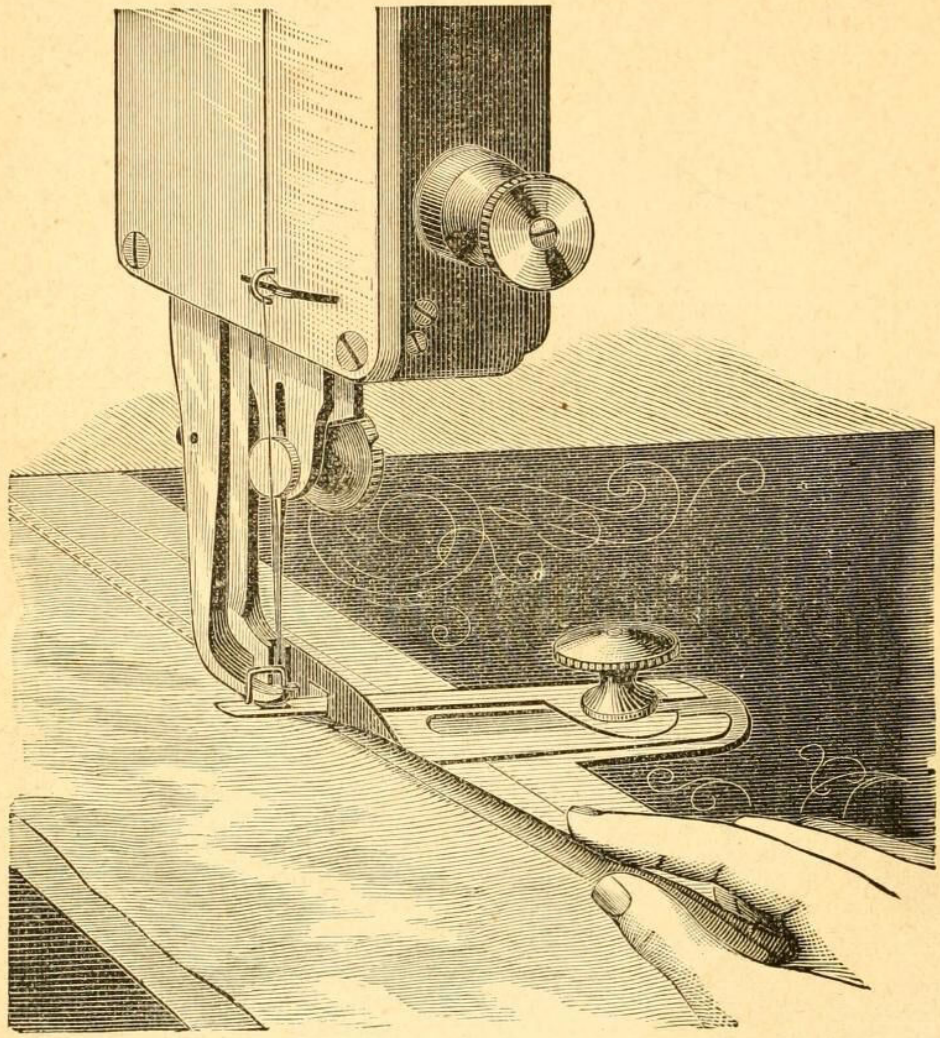


Fig. 21.



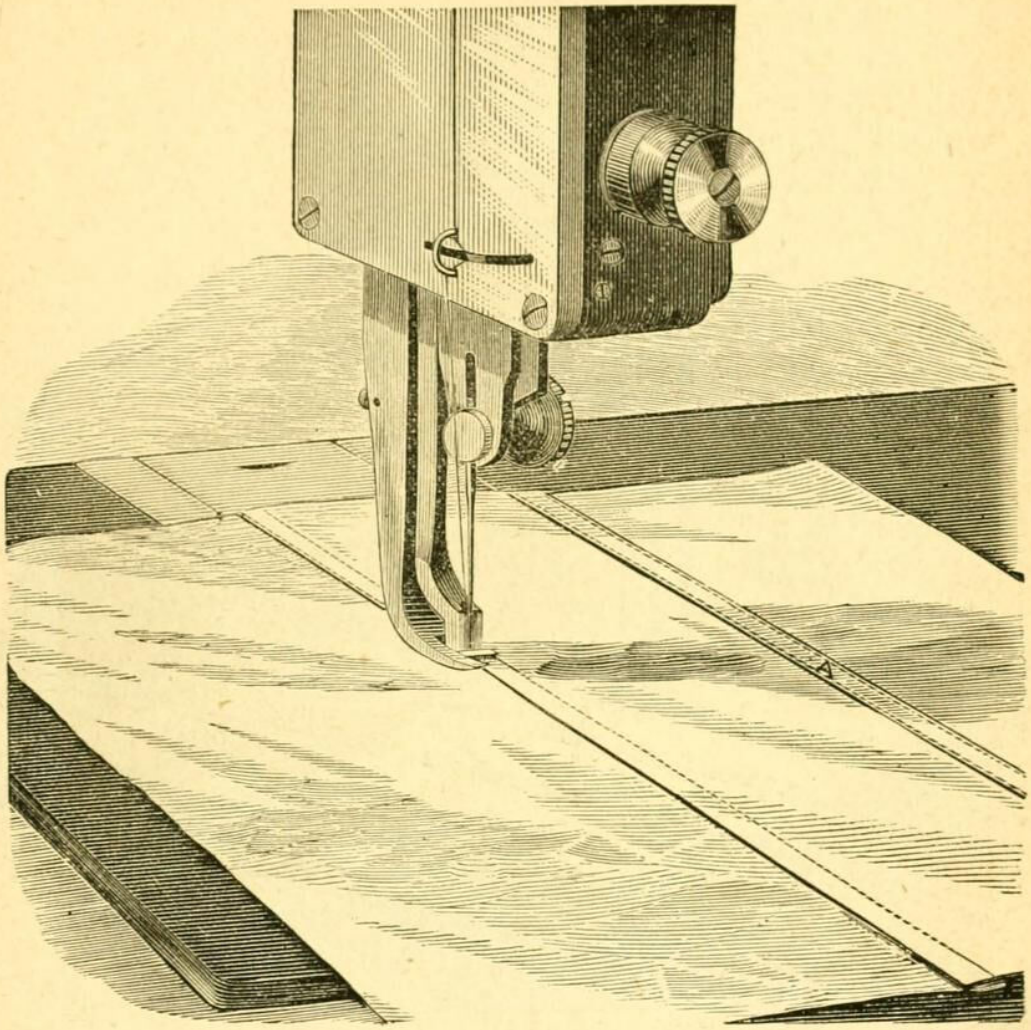
FELLING.

SEE FIGS. 20, 21 AND 22.

Place the two pieces of material together, having the edge of the under piece project beyond the edge of the upper far enough to admit of its being turned over the edge of the upper and stitched down, as hereafter explained. (With such goods as ordinarily require felled seams, the under edge should project about *one-eighth of an inch.*)

Pass the goods through the hemmer, as shown in Fig. 20, page 21 ; or through the gauge and self-sewer, as shown above in Fig. 21—turning the edge of the lower piece over the edge of the upper, and stitching it down as shown in both Figs. 20 and 21. In this operation the edge of the upper piece *should not be turned,* but should be held close to the fold in the lower piece. The edge of the lower piece should be turned *just enough to be fastened by the seam;* if turned over farther than necessary the edge can be trimmed close to the seam.

Fig. 22



FELLING.

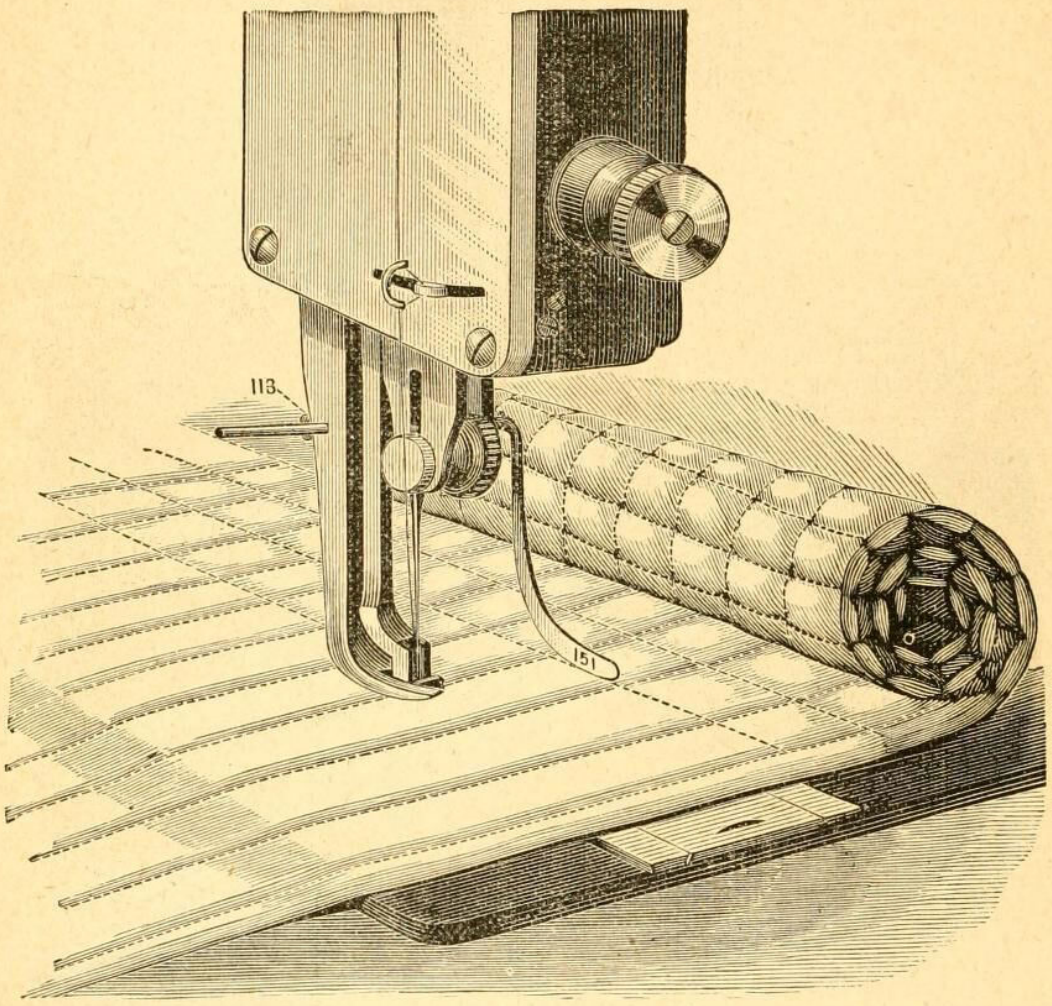
Remove the hemmer or self-sewer; spread the goods out smoothly at the seam and stitch down the edge of the fell, as shown in Fig. 22 above.

NOTE.—In the operation illustrated in Fig. 20, use either the No. 1, No. 2 or "B" hemmer, according to thickness of material.

By using the gauge and self-sewer, as in Fig. 21,page 22, a fell of any width can be made, and with any kind of goods, or *across seams and other fells.*

If it is desired to show both edges of the fell, as at A, in Fig. 22, a hemmer should be used in the first operation, having the edge of under piece project far enough so a *regular hem* will be made; then spread out the goods and stitch the other edge as in Fig. 22.

Fig. 23.



QUILTING.

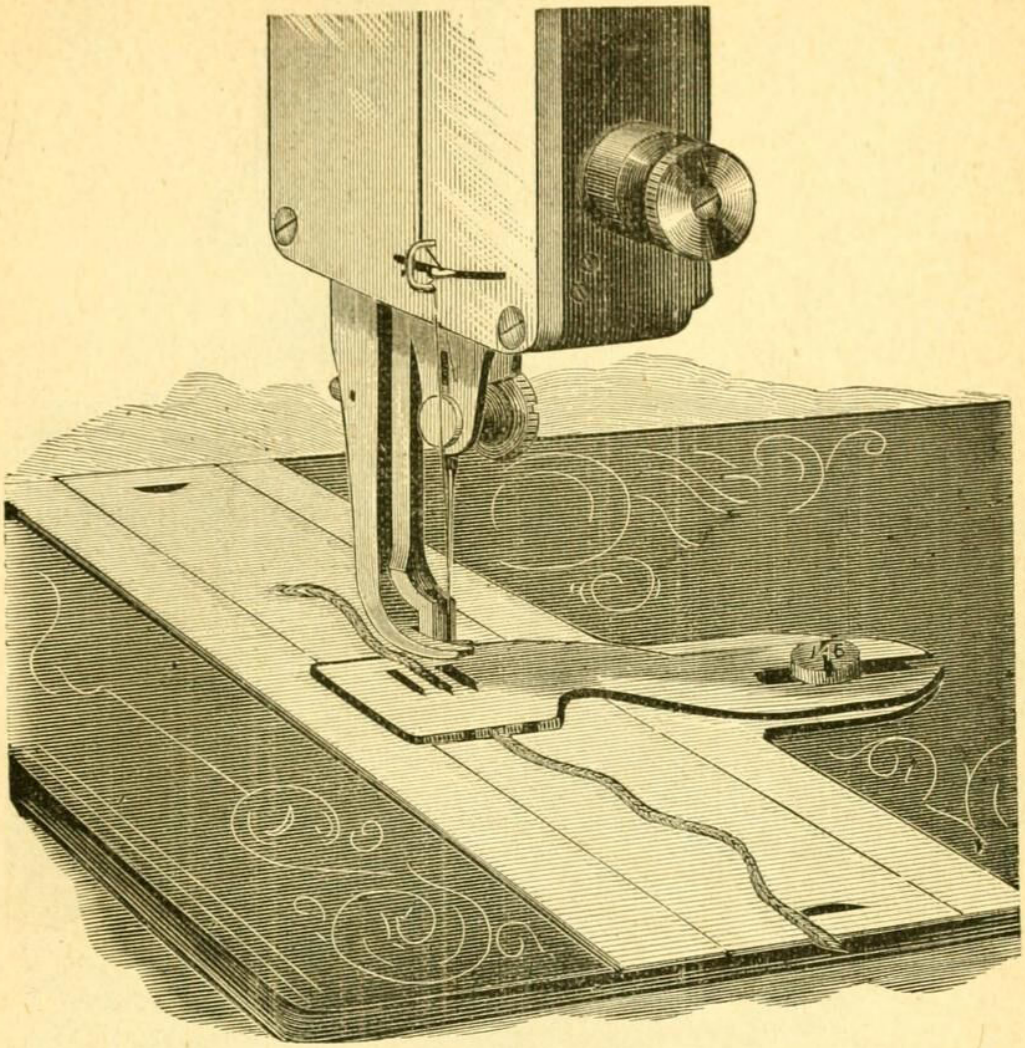
SEE FIG. 23.

The quilter 151, is attached by passing the rounded part through the hole in the presser bar made for that purpose, as shown in Fig. 23.

Adjust it to the right or left, according to the distance required between the lines of stitching; fasten it by the small screw 113, in the back side of the presser bar, having the guide or flat part of the quilter raised just far enough above the bed of the machine to allow the free passage of the work under it.

Guide the work so as to keep the seam last stitched directly under the flat part of the quilter. This insures the seams being perfectly straight and equal distances apart.

Fig. 24.



BRAIDING.

To Thread and Attach the Braider.

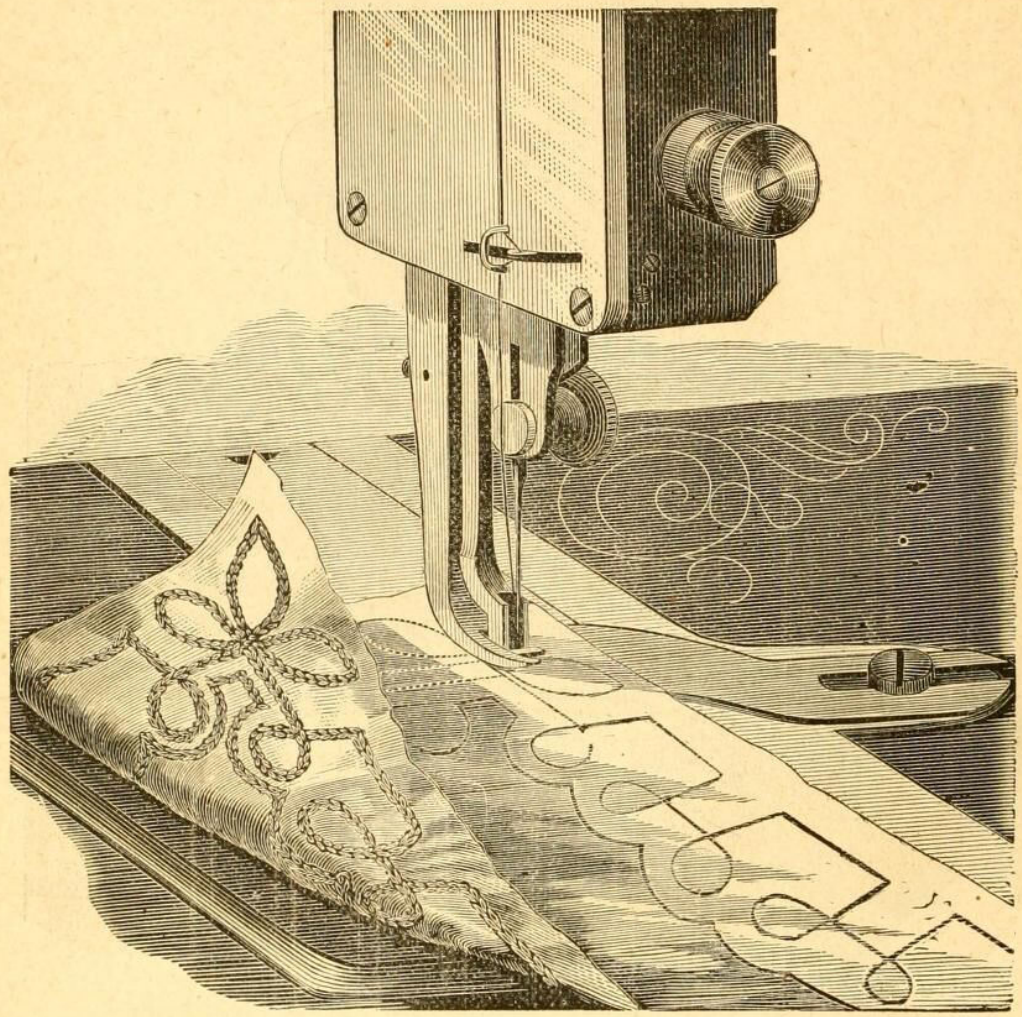
SEE FIG. 24.

Thread the braid through the slot from the under side of the braider, allowing the braid to pass out through the slot, back on the upper side about half an inch. Three sizes of slots are made to accommodate the size of braid to be used. The braid should pass freely through the slot. Attach the braider to the machine so that the slot used will be directly over the slot in the throat plate, and the needle pass down in the little hole at the front edge of the slot *without touching;* then *fasten the braider securely* with the braider screw 146; draw the shuttle thread up through the braid as explained on page 10, for "drawing up the lower thread."

Have the upper tension strong, and the lower tension light, so that sewing on two or three thicknesses of muslin, the knots formed by the lock would appear at the top.

The pattern should be marked or stamped on the "wrong side" of the material.

Fig. 25.



BRAIDING.

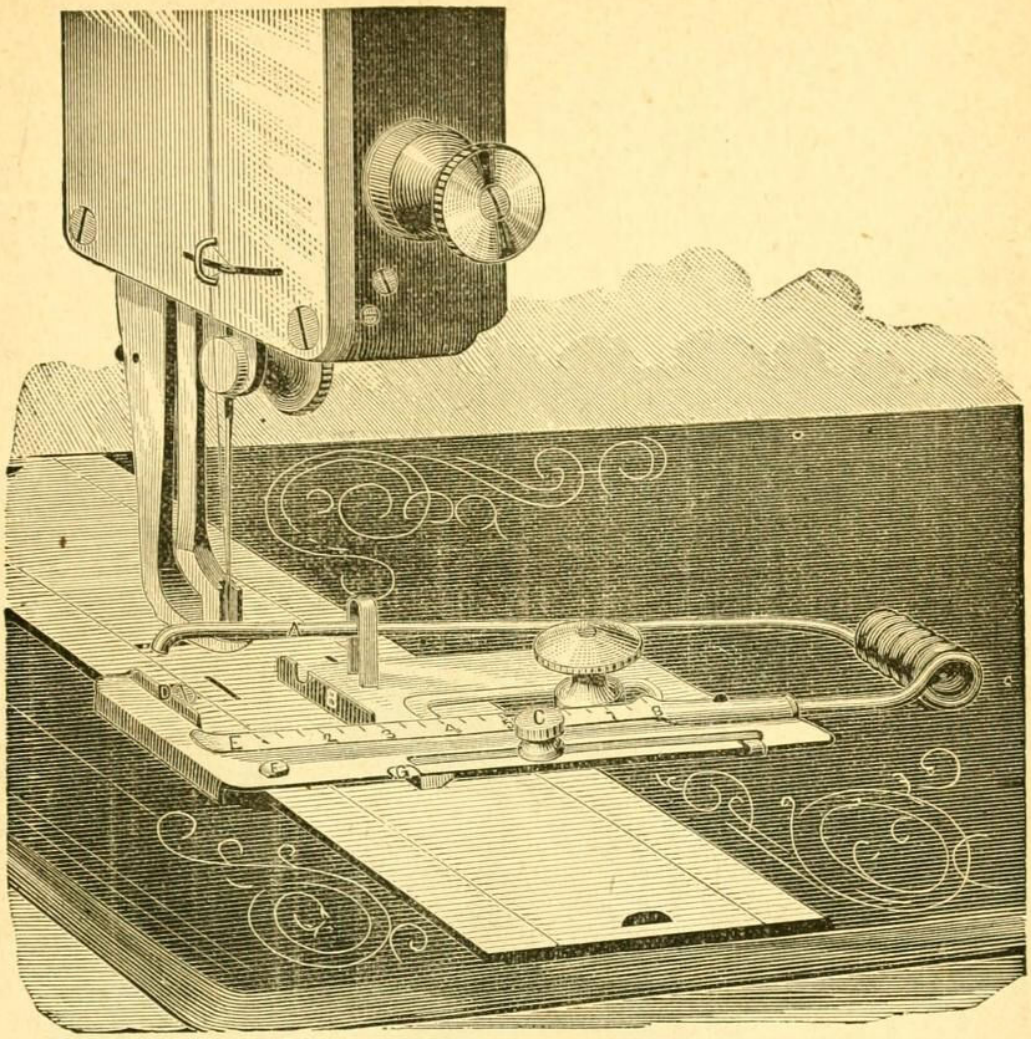
See Fig. 25.

Place the goods on the braider and under the presser bar, with the *pattern side up*, and so the needle will be directly over the point where you desire to commence braiding; lower the presser bar and sew as usual, guiding the material so the needle will follow the pattern. The braid will be stitched to the under side of the goods, as shown in Fig. 25.

To make a short or right angle turn (L), sew up to the point of turning; stop the machine while the needle is rising, and before it gets out of the cloth—slightly raise the presser foot and swing the cloth round on the needle. Care must be taken in turning the cloth while braiding, not to pull the needle, thereby causing it to strike on the side of the plate and break.

Note.—All the attention that need be given to the braid is to have it pass freely and smoothly up to the braider. The bunch or spool of braid may lie in the lap of the operator.

Fig. 26.



DIRECTIONS FOR USING THE DAVIS TUCK MARKER.

SEE FIG. 26.

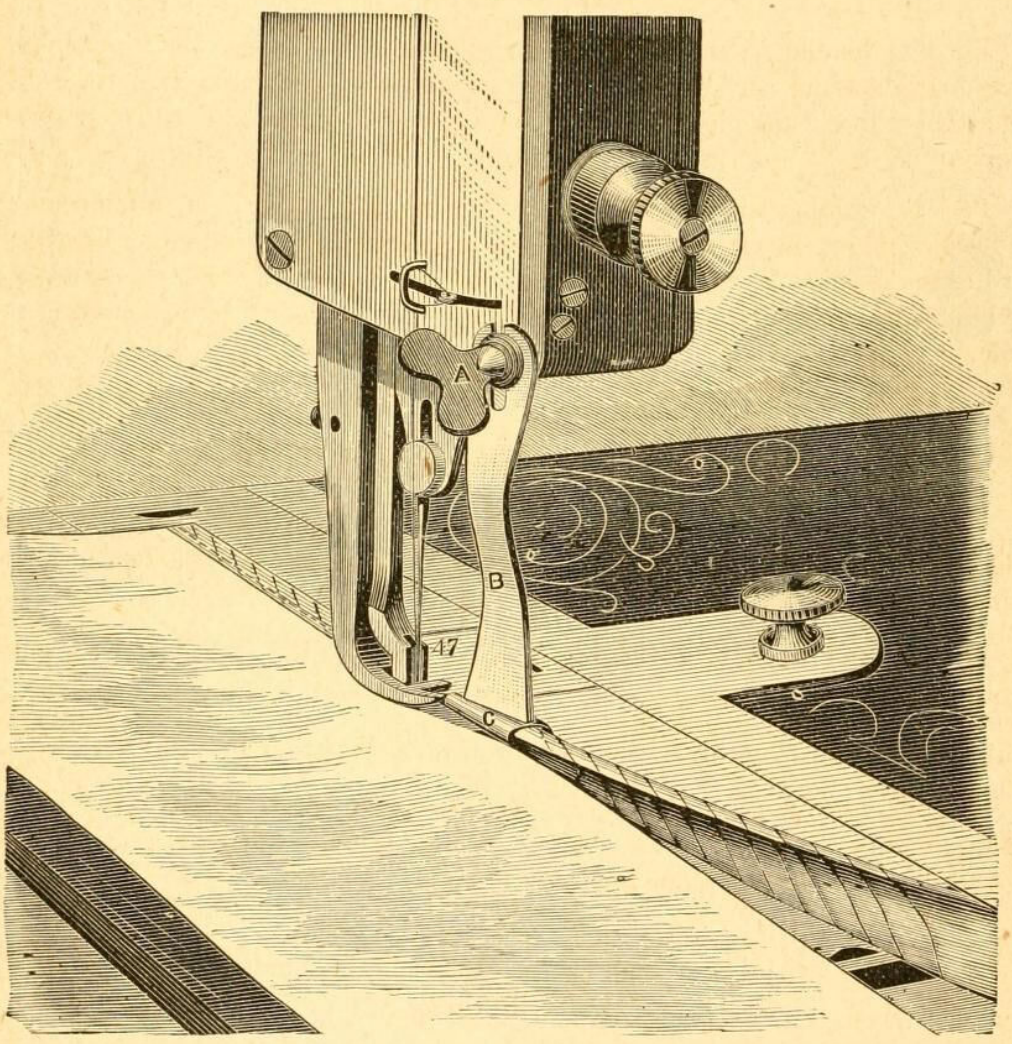
Place the tucker on the machine with the creaser spring or arm A over the presser foot, as shown in Fig. 26; set the gauge B *as far from the needle as the width of tuck desired;* fasten it firmly by the gauge screw; loosen the nut C, and move the creasing blade D *just twice as far from the needle to the left* as the gauge B is to the right. This will make tucks *without any space* between them. If space is desired move the creaser *as much farther from the needle as the space wanted;* secure the creasing blade D in proper position by the nut C.

Fold the cloth for the first tuck, and place it under the spring E, over the creasing blade D, and under the presser bar, with the folded edge against the gauge B and under the spur G; lower the presser bar and sew as usual, keeping the edge of the goods against the gauge B.

The creasing spring A, marks or creases the cloth as it passes over the blade D. After the first tuck is completed fold the cloth by the mark or crease just made, and place again as before. Have the tuck last made *under the spur* F. (This prevents it from running on the creaser, and keeps the tuck being made, to the gauge). Repeat the operation until the desired number of tucks have been made.

THE PRICE OF THE TUCK MARKER IS ONE DOLLAR.

Fig. 27.



BINDING.

SEE FIG. 27, PAGE 28.

Remove the screw from the lower front corner of the face plate; attach the binder, as shown in Fig. 27, by the screw A and washer accompanying it. The small end of the scroll C of the binder should *just touch the front edge* of the throat plate 47. *Fasten the binder firmly* with the screw A.

BIAS BINDING.

For bias binding, goods of any description can be used. Cut the binding three-quarters of an inch wide. (If very light "slazy" material is used, it may be necessary to cut the binding a little wider in order to have the edges properly turned under.)

Pass the binding through the scroll of the binder and draw it through under the needle; place the edge of the goods to be bound in the binder and draw forward to the needle; lower the presser bar and sew as usual. Fig. 27 shows the machine with binder attached, and the binding and the goods to be bound in the binder in proper position.

TO BIND WITH COMMON DRESS BRAID.

Proceed the same as when using bias binding, as explained above. The only difference is, the dress braid being narrower, the edges will not be turned under as is the case with bias binding.

NOTE.—The shank B of the binder may be bent to the right or left in order to bring the line of stitching the desired distance from the edge.

THE PRICE OF BINDER ABOVE DESCRIBED IS FIFTY CENTS.

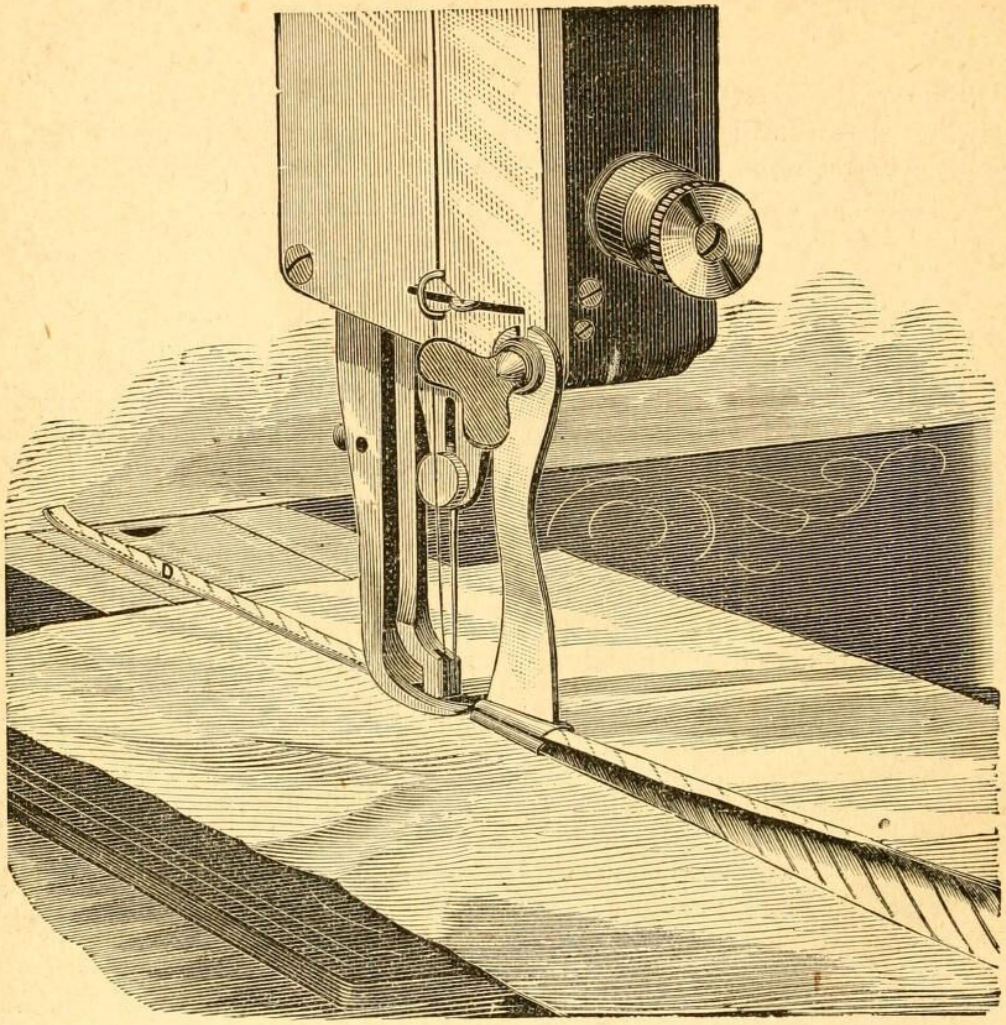
We also have binders of different widths, which are attached to the bed of the machine by the gauge screw, and are suitable for all the various kinds of binding that can be done with plate binders.

COAT BINDER.

In binding fine clothing it is customary to baste on the binding, then seam one edge and fold the binding over the edge of the garment and "fell" it down.

We furnish an attachment by which any width binding can be sewed on at any distance from the edge of the garment *without basting*, and without any special care in preparing the edge, *doing the work perfectly*, and with great economy of time.

Fig. 28.



TO MAKE FRENCH FOLDS.

SEE FIG. 28.

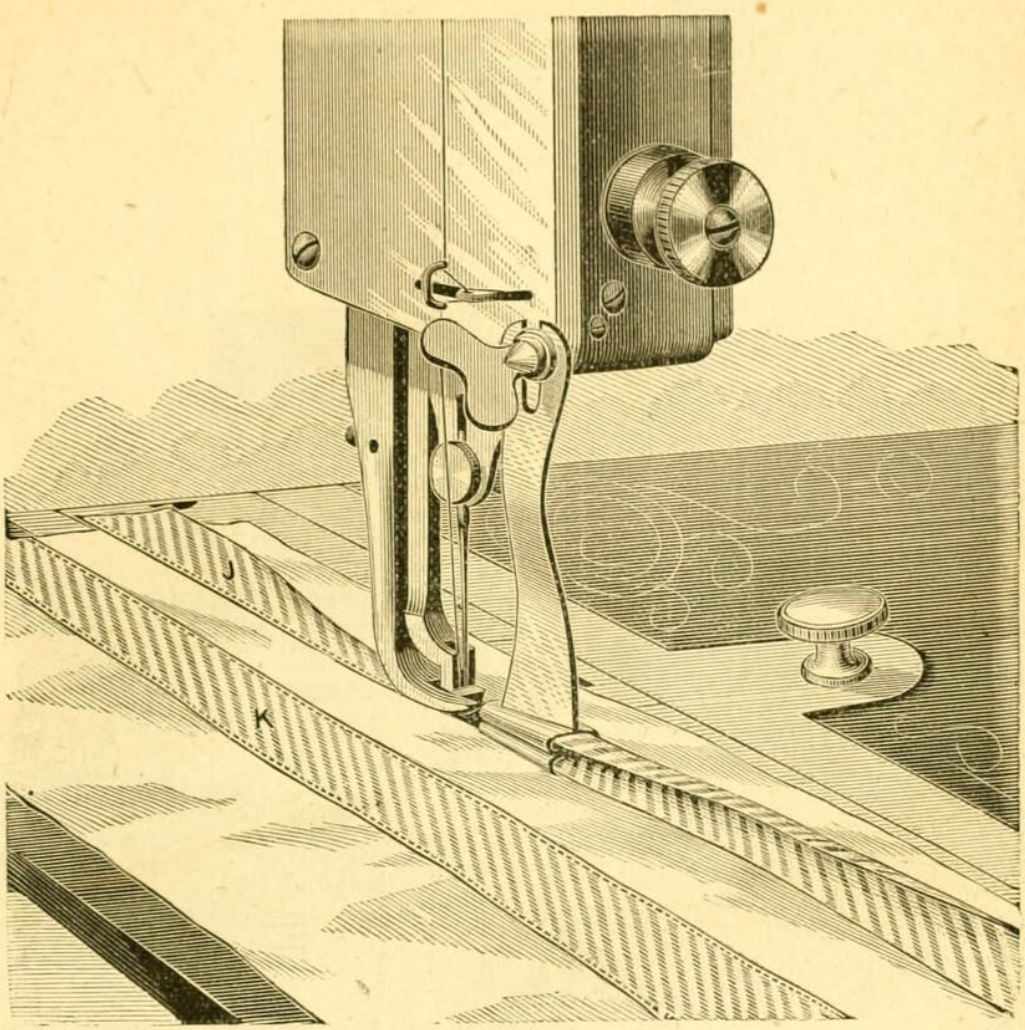
Attach the binder as explained on page 29; pass the binding through the binder and sew as usual, stitching the edges together. The French Fold is shown at D in Fig. 28.

TO MAKE FRENCH FOLDS AND SEW THEM ON AT ONE OPERATION.

Attach the binder as heretofore explained, but *raised enough above the plate to allow the garment to pass freely under the binder*. Pass the binding through the binder, and place the goods to which the fold is to be stitched *under* the binder. Sew as usual. This operation is illustrated in Fig. 28.

NOTE.—The fold may be laid straight, or in curves or circles, or any other desired form.

Fig. 29.



TO MAKE AND SEW ON BIAS TRIMMING.

SEE FIG. 29.

Use a binder with the *under scroll bent back so the lower edge of the binding will pass to the right of the needle* and *not be stitched down.* Attach the binder as before explained, having it raised sufficiently to allow the goods to pass freely under it.

Pass the binding through the binder, and place the goods under it. Sew as usual.

The upper edge of the binding will be turned under and stitched down; the lower edge will *not* be stitched, but will be folded smoothly and evenly.

Remove the work, spread out the under edge of the binding as at J in Fig. 29, and stitch the other edge.

The trimming completed and sewed on is shown at K, in Fig, 29.

Fig. 30.

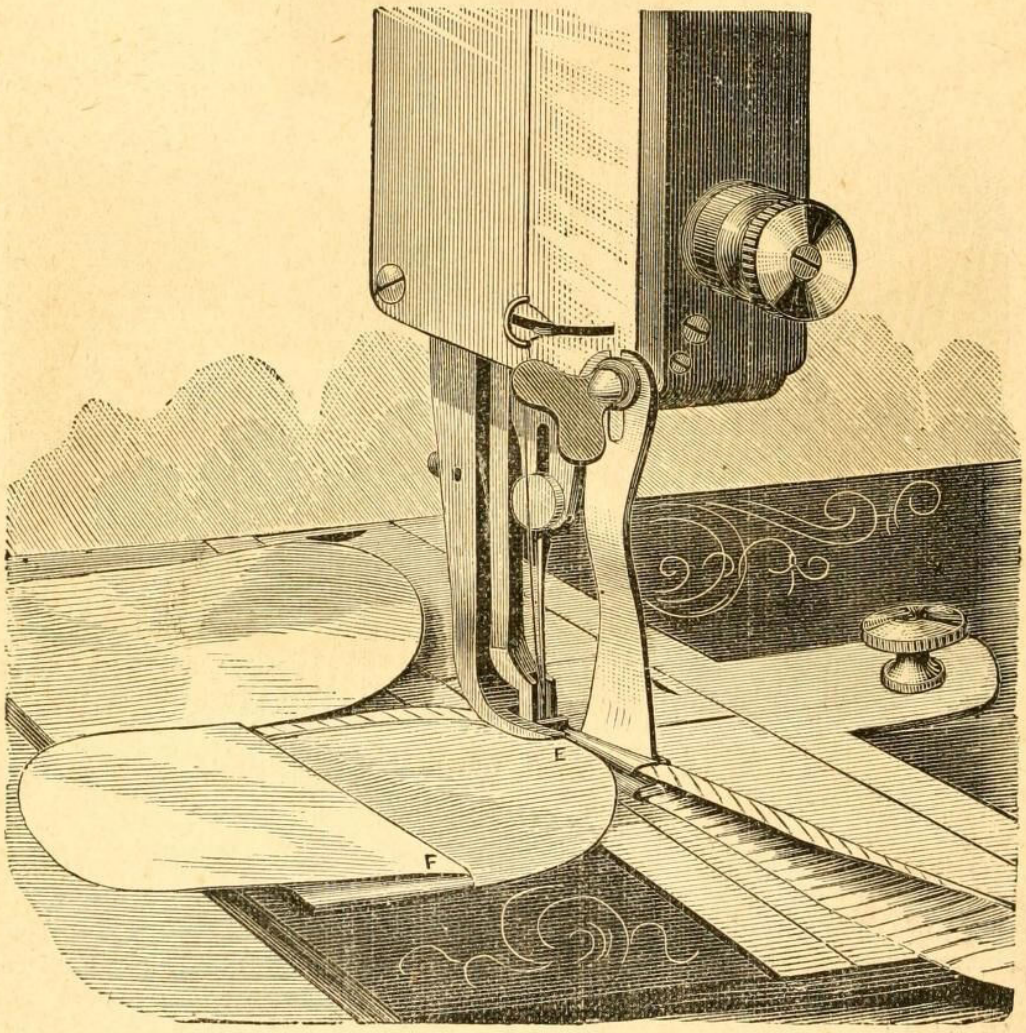
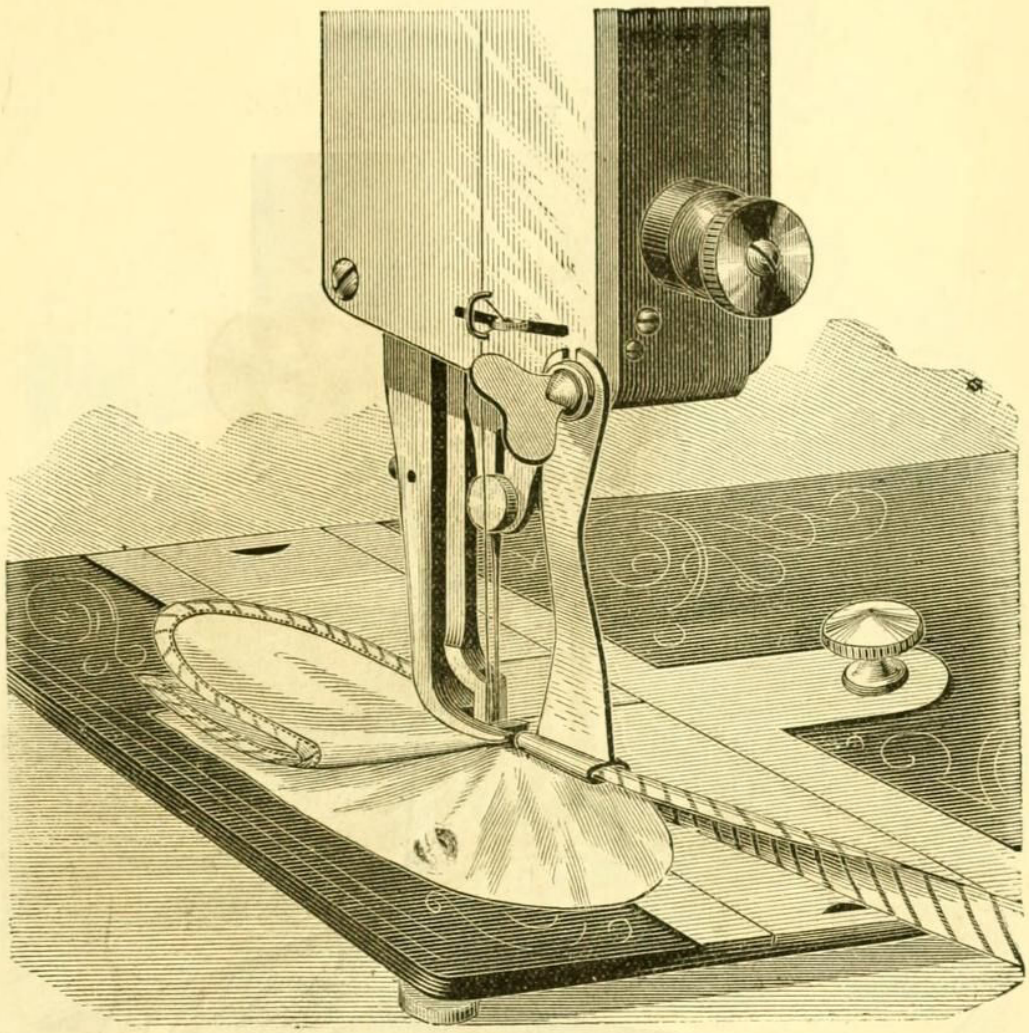


Fig. 31.



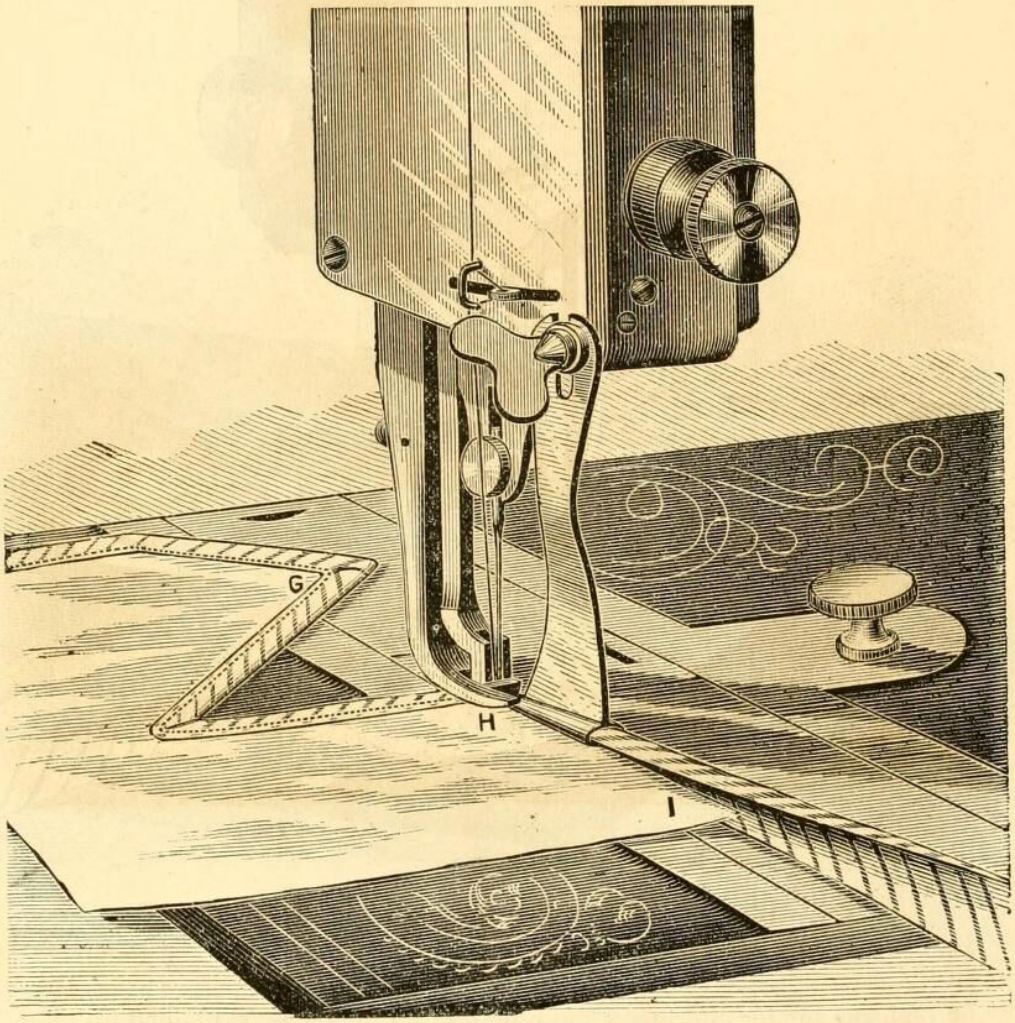
TO BIND SCALLOPS.

SEE FIGS. 30 AND 31.

Attach the binder and insert the binding and goods as explained on page 29. Bind around to the centre E of the scallop, as shown in Fig. 30. Fold the goods *over from you* at the angle between the scallops, and fold the next scallop to the left. (See Fig. 30, page 32.) Bind around to the edge F of the folded scallop, *taking care to keep the edge of the scallop being bound between the folds of the binding and under the needle;* when binding down into the angle between the scallops, sew *close* to the edge F of the next scallop, but stop the machine *just before the needle would reach that edge.* Raise the presser bar and unfold the goods, bringing them into the position shown in Fig. 31 above, and proceed as before.

NOTE.—When the machine is stopped for the purpose of turning the goods at a point or angle in binding, or in *any* work, it should be stopped *while the needle is rising*, and *before it is out of the goods.*

Fig. 32.



TO BIND POINTS AND SQUARES.

SEE FIG. 32.

Proceed similarly to binding scallops, as heretofore explained.

At the points G, H and I, (Fig. 32) stop the machine, raise the presser bar and carry the binding forward *a trifle*, making *small folds* or "*plaits*" in both the upper and lower edges. Fold the goods at the angles precisely the same as in binding scallops.

Fig. 33.

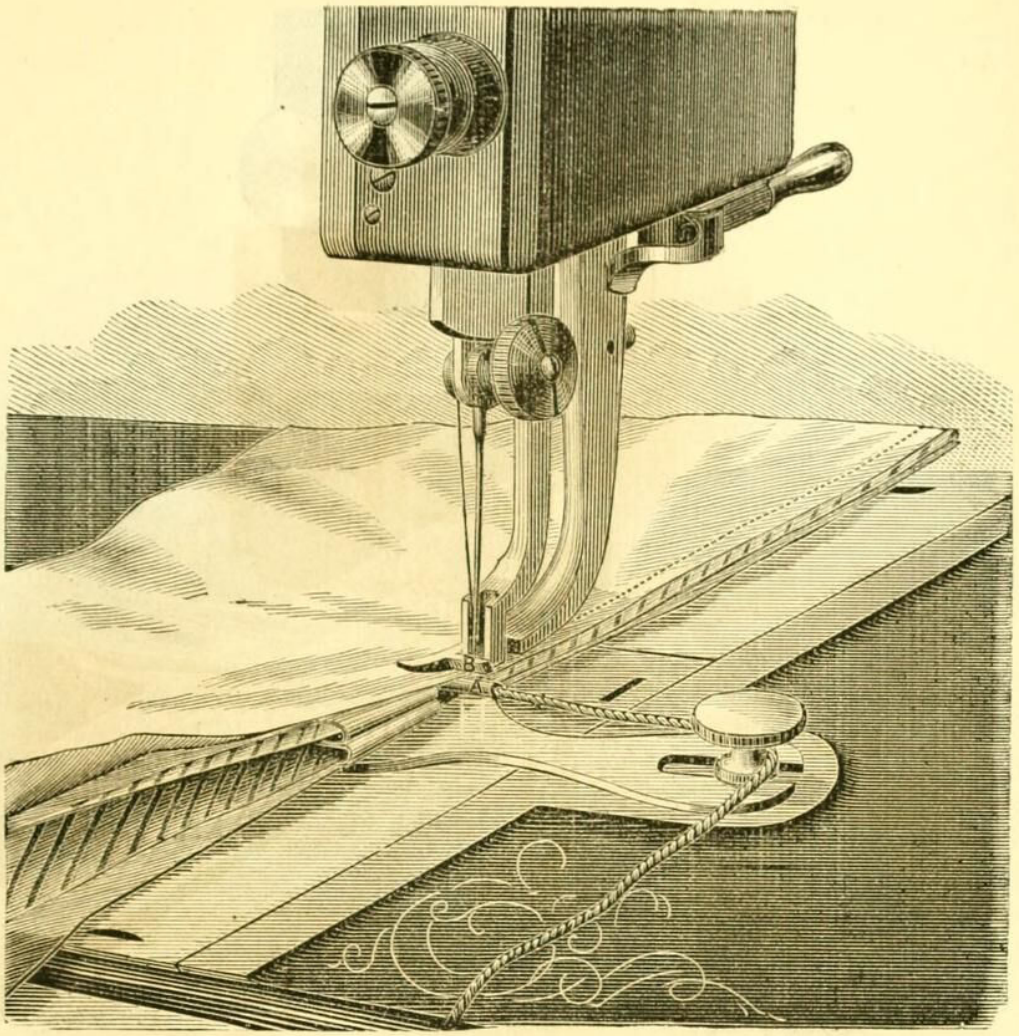


Fig. 34.

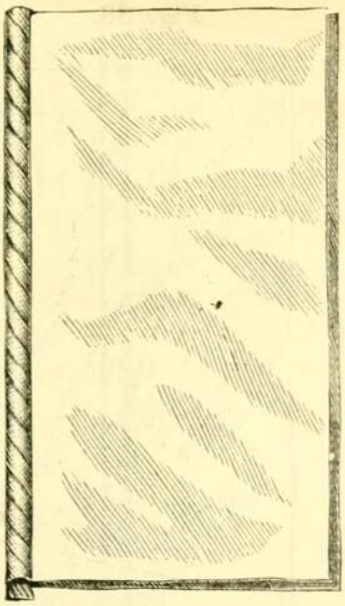


Fig. 35.

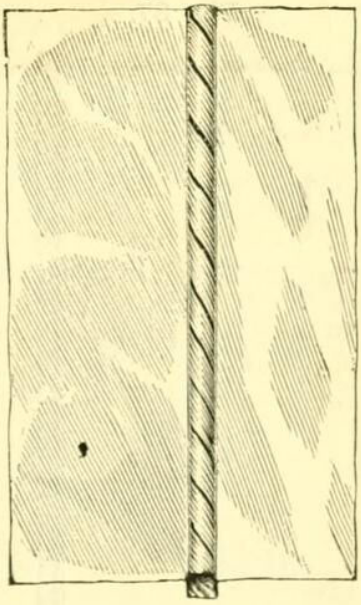


Fig. 36.

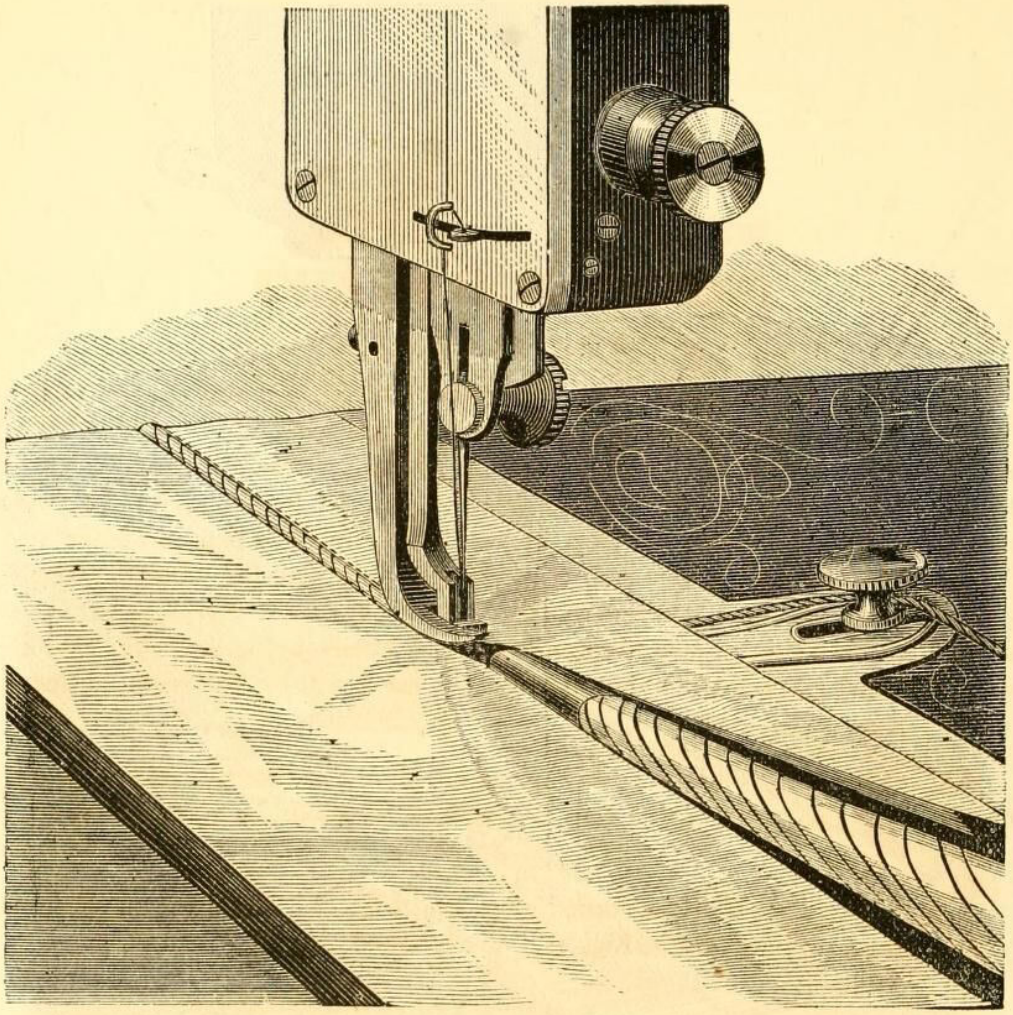


Fig. 37.

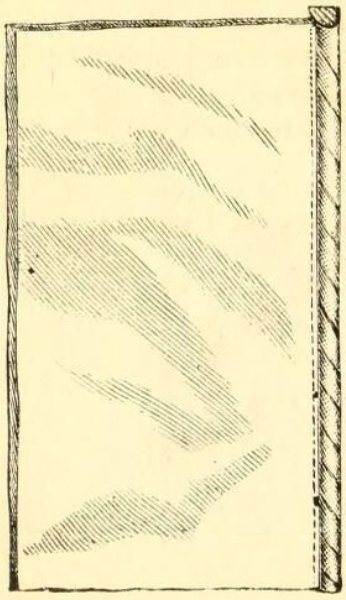
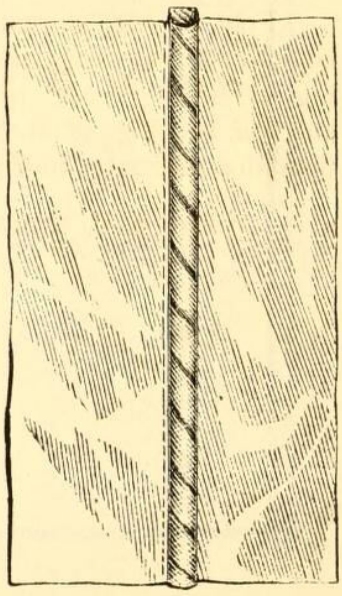


Fig. 38.



COMBINATION CORDER AND BINDER.

SEE FIG. 33.

Attach it to the machine by the gauge screw so the left end of the cord tube A will be on a line with the needle and about three-eights of an inch in front of the stripper B of the presser bar; *fasten it firmly*. Pass the cord through the tube A and draw it back to the left of and beyond the needle; pass the binding through the binder and draw it back under the needle, enfolding and covering the cord with the binding. Place one piece of goods under the binder, with edge against the "shank," and another over the binder. Lower the presser bar and sew as usual, keeping the edge of the under piece of goods up against the "shank" of the binder, and guiding the upper piece so the seam will be the required distance from the edge.

Fig. 33, page 35, illustrates this operation, showing the attachment in proper position, with the cord, binding and two pieces of goods in place as above described.

Fig. 34, page 35, shows a corded edge, and Fig. 35 a corded seam, both made by the operation illustrated in Fig. 33 and explained above.

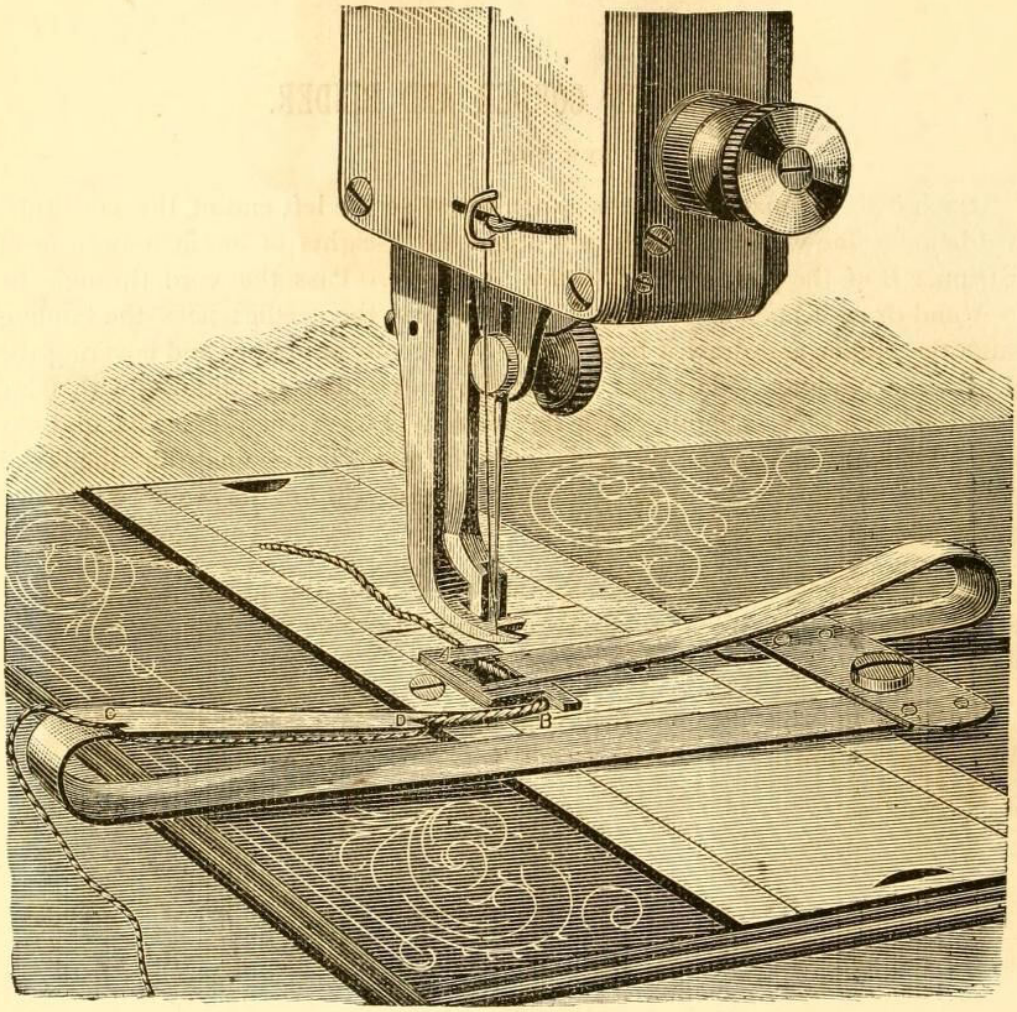
TO EDGE-STITCH THE SEAM.

SEE FIG. 36.

Fold the edge of the upper piece, and place it over the binder, with the folded edge under the needle, as shown in Fig. 36, page 36. Guide it so the line of stitching will be on the edge as desired. Fig. 37, *page* 36 shows a *corded edge edge-stitched*, and Fig. 38 shows an *edge stitched corded seam*, both made by the operation illustrated in Fig. 36.

PRICE OF COMBINATION CORDER AND BINDER, 75 CENTS.

Fig. 39.



CORDING.

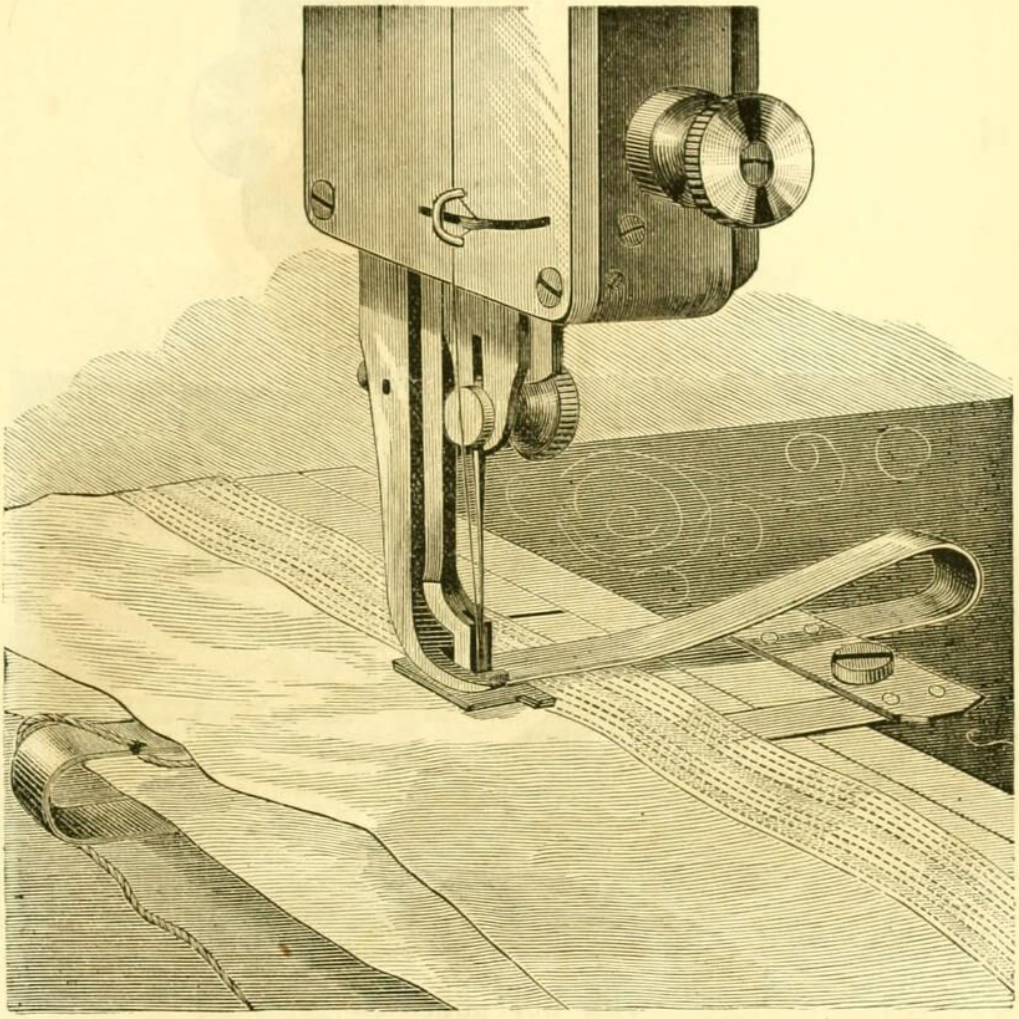
To Attach and Thread the Corder.

SEE FIG. 39.

Raise the presser bar, having the needle at its highest point. Attach the corder as shown in Fig. 39, with the grooved plate A under the presser bar, in such position that the feed will pass backward and forward in the slot in the centre of the plate, and the end B of the corder blade *be in line with the needle. Fasten the corder firmly* with the gauge screw or braider screw. Thread the cord down through the hole C, thence up through the hole D, thence through the hole in the end of the corder blade B, drawing it out *to the right of the needle*, about an inch beyond the needle.

THE PRICE OF THE CORDER IS ONE DOLLAR.

Fig. 40.



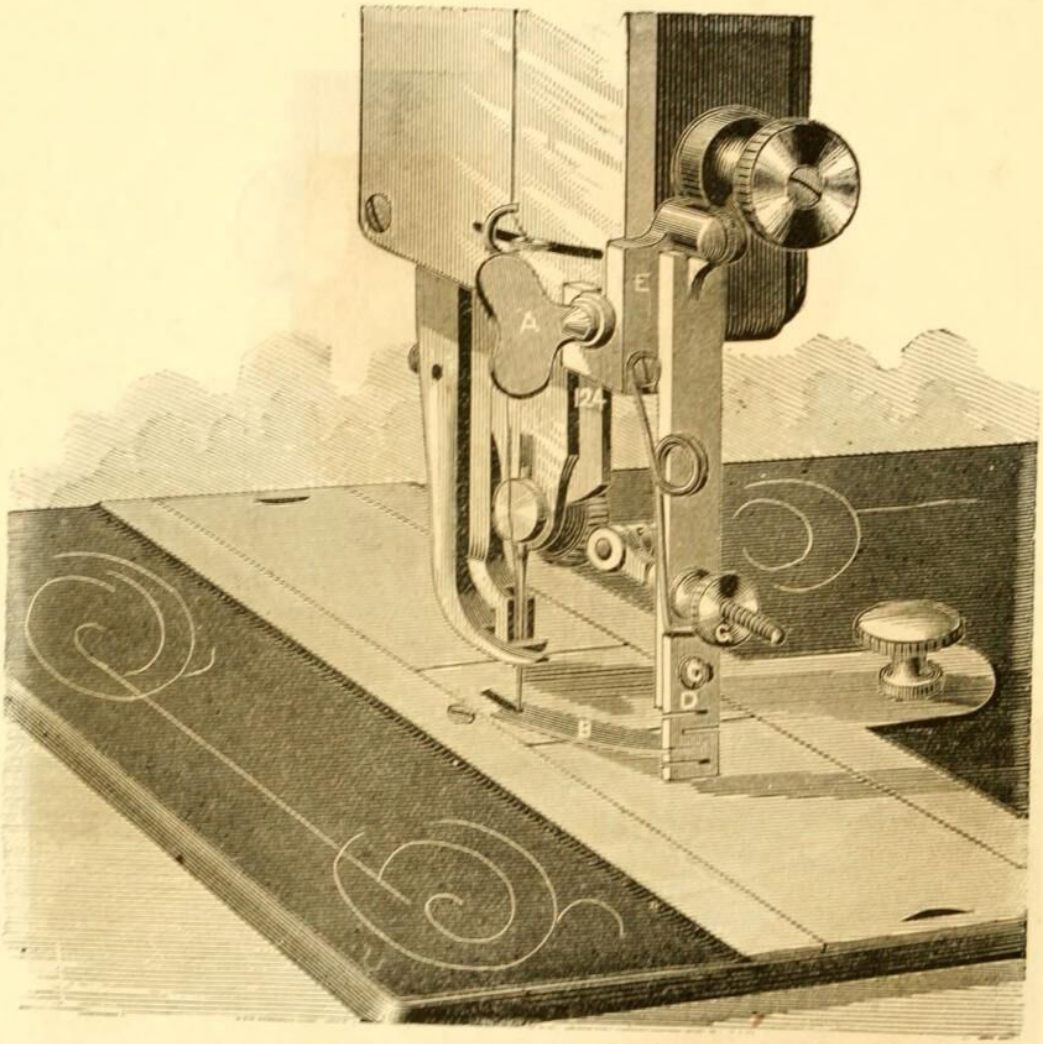
CORDING.

SEE FIGS. 39 AND 40.

Fold the cloth around the end B (Fig. 39.) of the corder blade, and draw it back under the grooved plate A (Fig. 39.), *about half an inch beyond the needle.* Sew as usual, guiding the work slightly to the left, so as to lay the cord close into the fold, keeping the cloth smooth and even in front of the needle. The cord which is being sewed in should pass under the *second groove* (from the right) under the plate A.

Fig. 40 illustrates the *operation of cording.* Stitch the second cord in close against the first, and repeat the process as above described and illustrated, until the requisite number of cords have been laid. Spaces may be left between the rows of cording if desired, as shown in figure 40.

Fig. 41.



THE RUFFLER.

SEE FIG. 41.

To attach the ruffler, raise the needle bar to its highest point; also raise the presser bar. Remove the screw from the lower right hand corner of the face plate, and with the screw A fasten the ruffler firmly, as shown in Fig. 41. The slot in the feeding spring B should be exactly over the slot in the throat plate, and the point of the feeding spring *just pass the needle.* If necessary, the feeding spring can be adjusted to the right or left by loosening the screw C, and moving the feeder D (to the right or left) and tightening the screw C.

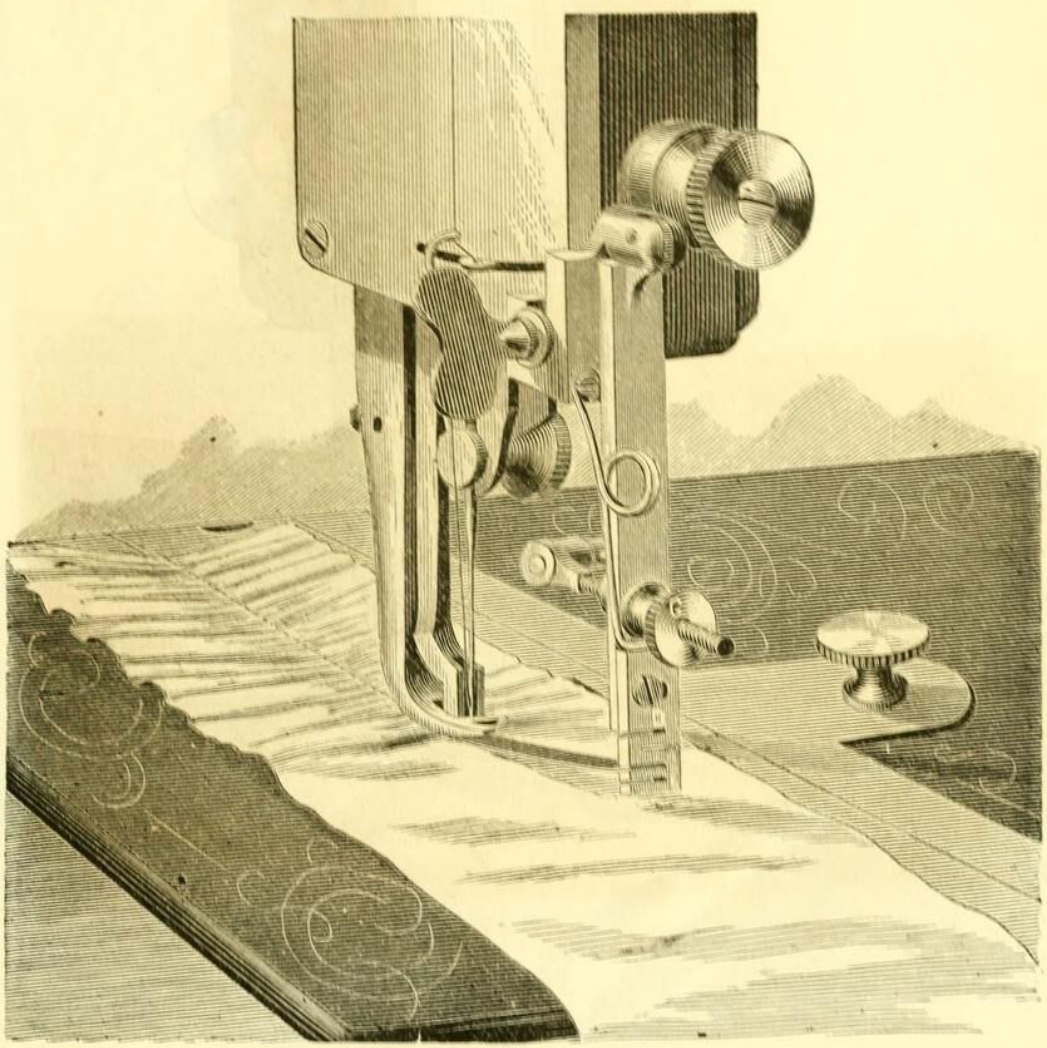
The proper pressure of the feeding spring on the goods is usually obtained by setting the ruffler as high as the slot in the clamp E will admit. The cam bar 124, in its downward passage, comes in contact with the roll F and gives motion to the feeding spring. The "*throw*" of the ruffler is graduated by turning the nut G.

To increase the fullness of the ruffle, turn the nut G *to the left.*

To decrease the fullness of the ruffle, turn the nut G *to the right.*

THE PRICE OF THE RUFFLER IS THREE DOLLARS.

Fig. 42.



TO GATHER WITHOUT SEWING ON.

SEE FIG. 42.

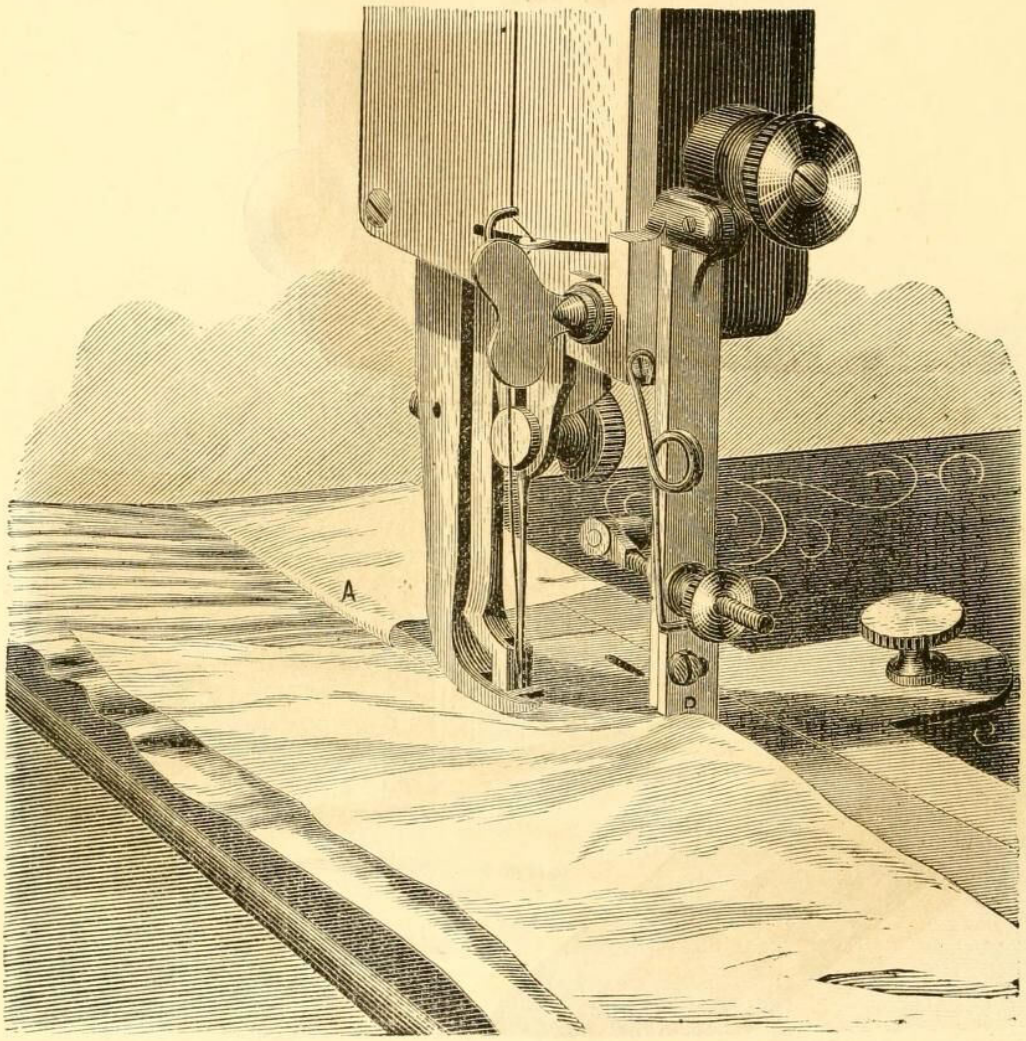
Have the stitch short. This is necessary in all varieties of fine ruffling.

Place the piece of goods to be gathered *under the feeding spring*, as shown in Fig. 42, and sew as usual.

Regulate the fullness of the gathers by turning the nut G to the right or left as explained on page 40.

If it is desired to gather *the edge* of the material, place the edge in the lower slot of the feeder D, and draw through under the feeding spring.

Fig. 43.



TO GATHER THE EDGE AND SEW ON A BAND.

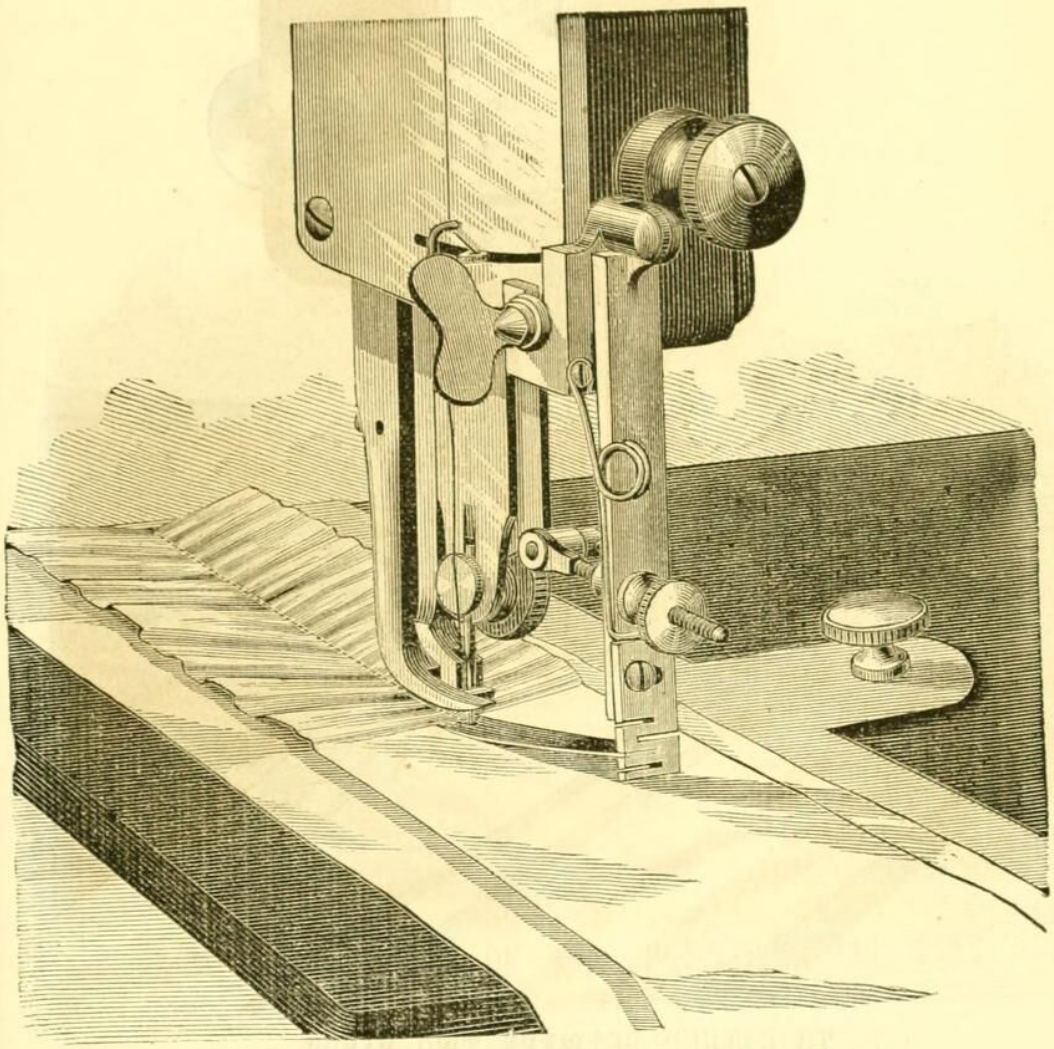
SEE FIG. 43.

Place the *edge of the piece to be gathered* in the *lower slot* in the feeder D and pass it through *under the feeding spring* and under the needle. Place the *edge of the band* in the *upper* slot in the feeder D, and pass it through, *over the feeding spring* and under the needle. Sew as usual.

In Fig. 43, the band at A is shown turned back, as would be done when the gathering is completed.

NOTE.—If the band is of very elastic material it may be necessary to *hold it slightly* in order to prevent its being "fulled."

Fig. 44.



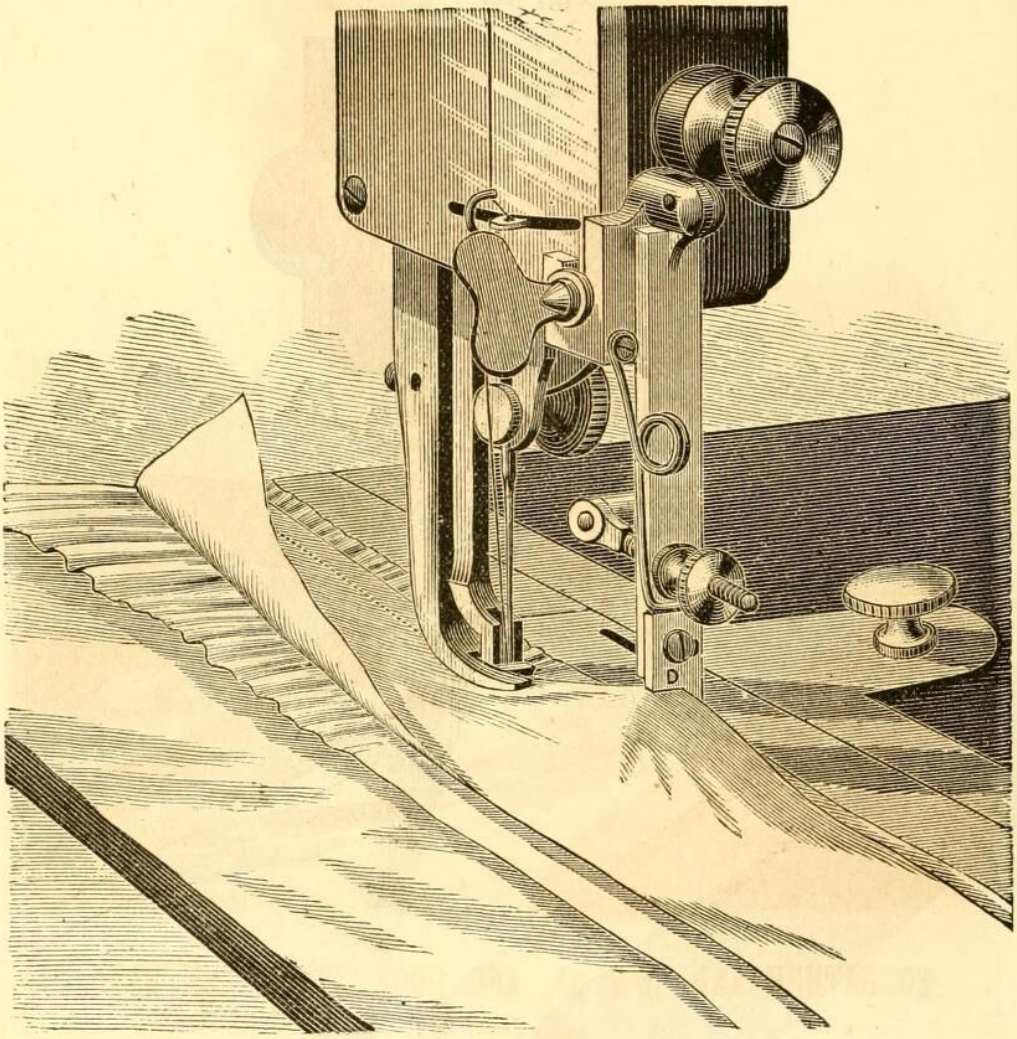
TO GATHER THE CENTRE AND SEW ON.

SEE FIG. 44.

Place the piece to be gathered under the ruffler and feeding spring, and the piece or garment to which the gather is to be stitched *under the piece to be gathered,* as shown in Fig. 44. Sew as usual. *Hold* the lower piece *slightly,* so it will not be "fulled."

NOTE.—It will be noticed that the ruffle can be made and at the same time sewed on the garment in any desired position.

Fig. 45.



TO GATHER BETWEEN TWO BANDS.

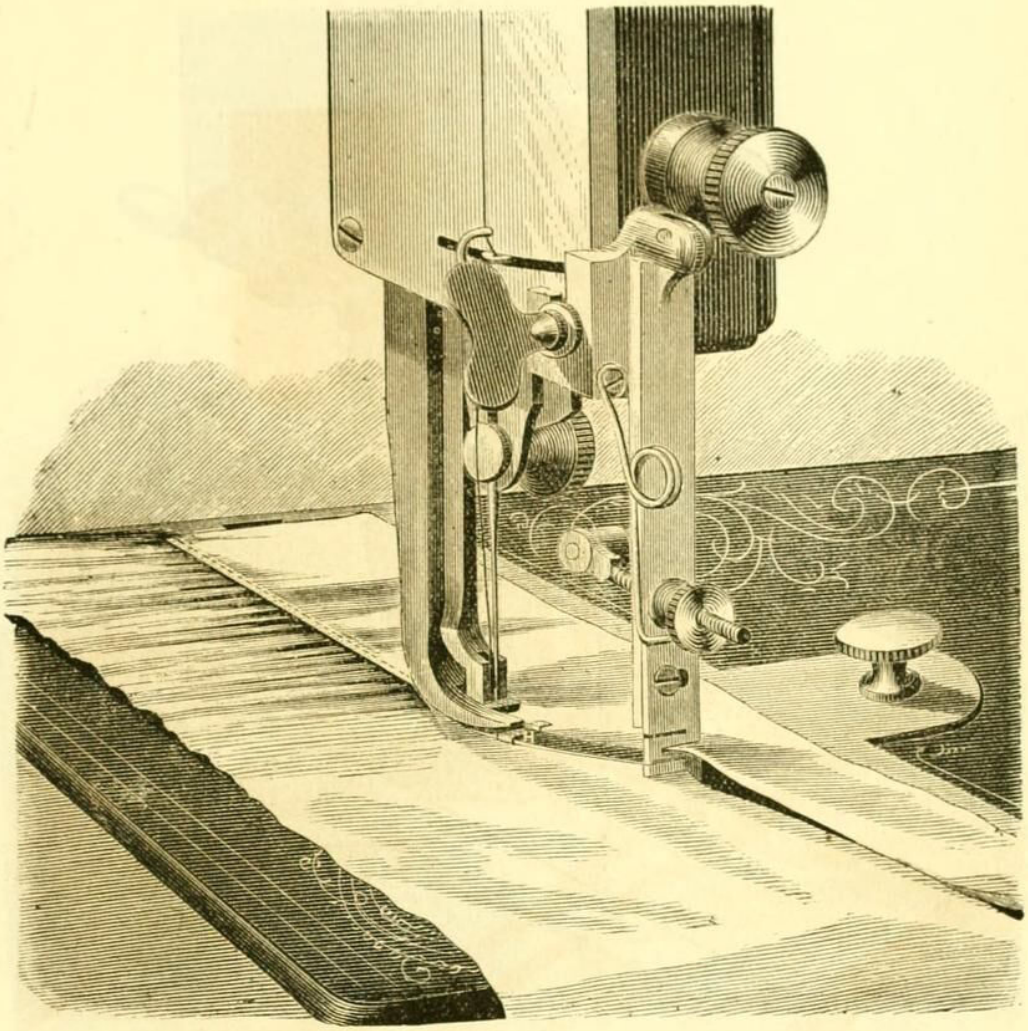
SEE FIG. 45.

Place the edge of the piece to be gathered in the lower slot of the feeder D, and through under the feeding spring; place one band *under the piece to be gathered*, under the feeder (or with edge also in lower slot of the feeder).

Place the edge of the other band in the upper slot in the feeder and through over the feeding spring and under the needle.

Sew as usual, being careful to keep the bands and ruffle in proper position, and holding the bands lightly to keep them straight and smooth.

Fig. 46.



TO GATHER AND SEW ON, AND EDGE-STITCH THE BAND.

SEE FIG. 46.

Place the small guage H on the left hand side of the feeding spring, about half an inch from the end of the spring.

Place the edge of the piece to be gathered in the lower slot of the feeder, and pass through, under the feeding spring; fold the edge of the band and place it in the middle slot of the feeder (on the right hand side) and pass it through, over the feeding spring, under the gauge H, and on under the needle.

Sew as usual, holding the band smoothly up to the gauge. Adjust the guage H to the right or left as may be necessary, to bring the line of stitching on the edge of the band.

NOTE.—Another band can be sewed on under the ruffler, by placing it as explained on page 44.

Fig. 47.

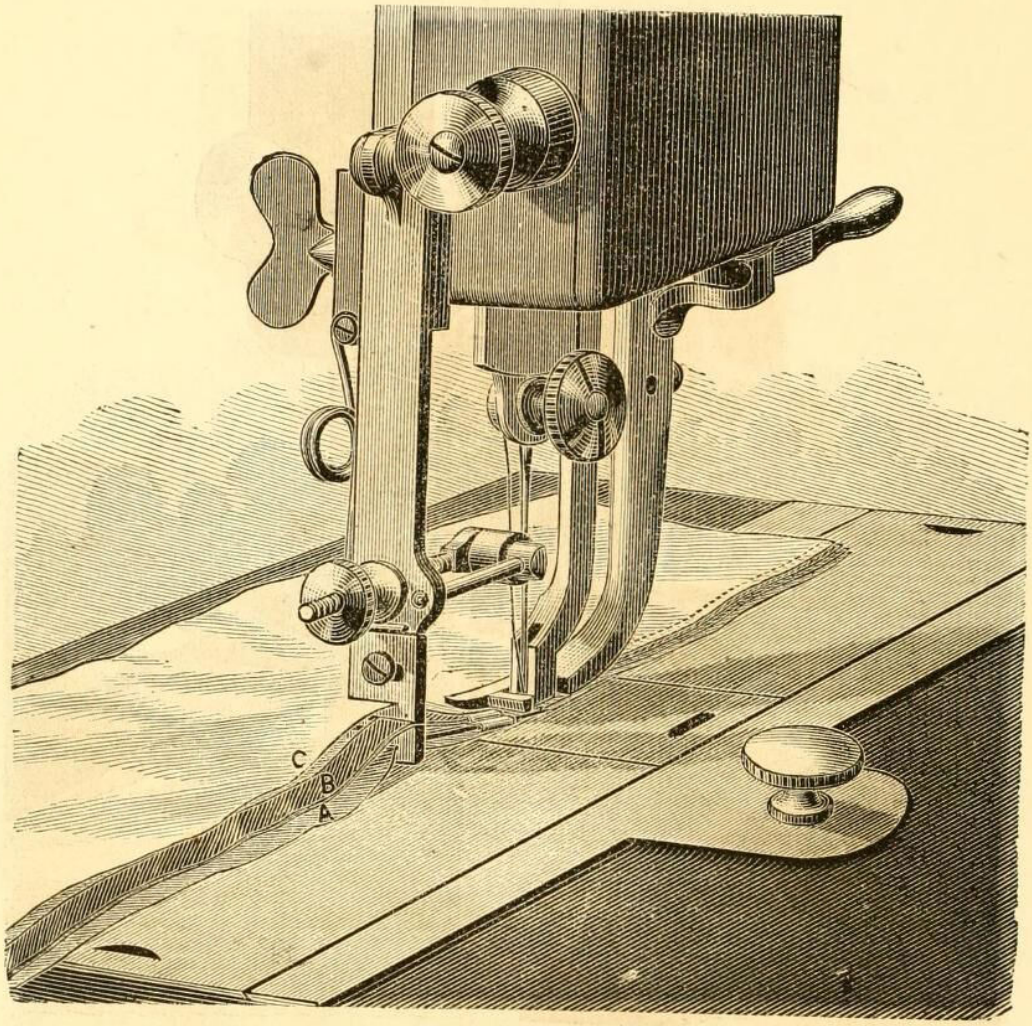
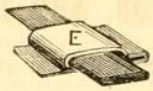


Fig. 48.



To gather and sew on a band with Piping between Ruffle and Band.

SEE FIG. 47.

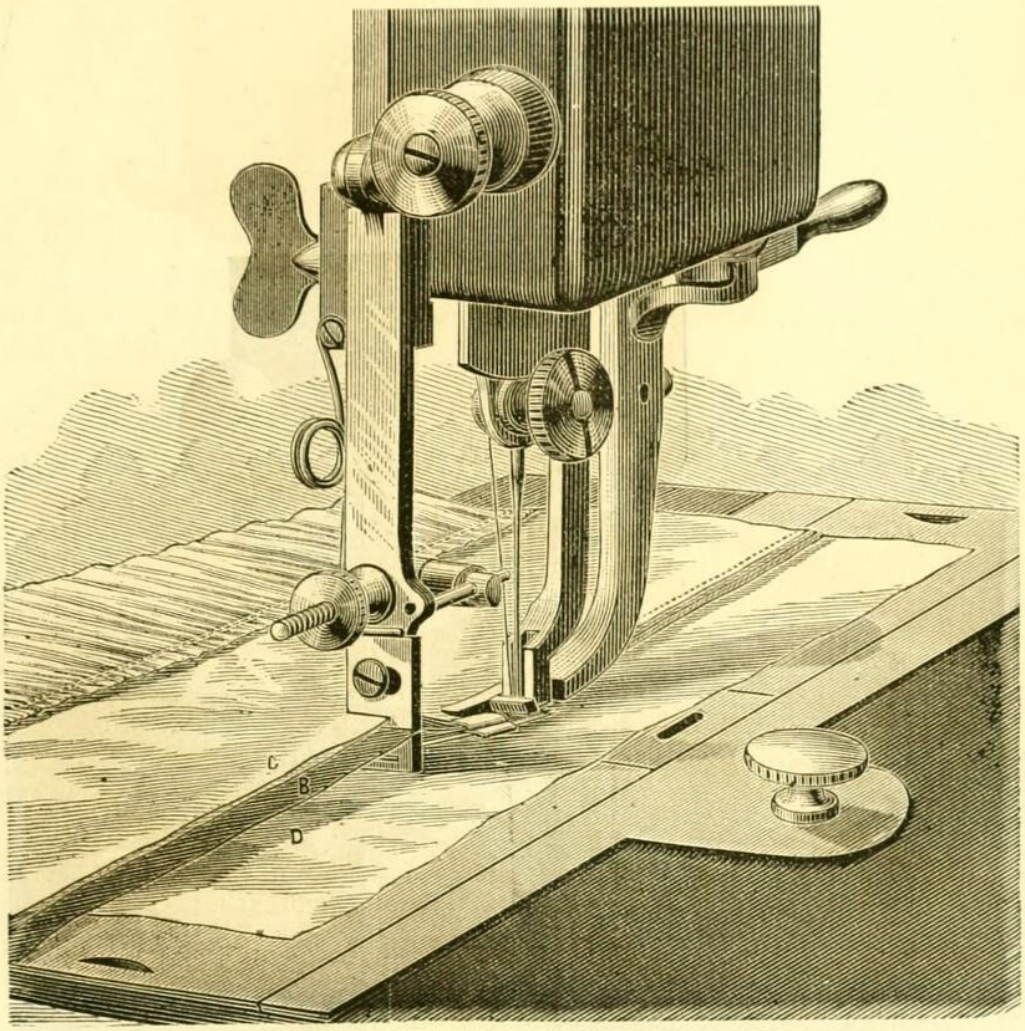
Attach the ruffler as explained on page 40.

Place the piping gauge E (Fig. 48) on feeding spring from the right hand side. Place the edge of the ruffle A in the lower slot of the feeder; pass the piping B through the gauge E, and on under the needle; place the edge of the band C in the upper slot of the feeder.

Proceed as in ordinary gathering, holding the piping a little "taut."

NOTE.—The piping, if cut, should be such width, that when folded it will pass freely through the gauge.

Fig. 49.



To Sew on a Band with Piping at the top.

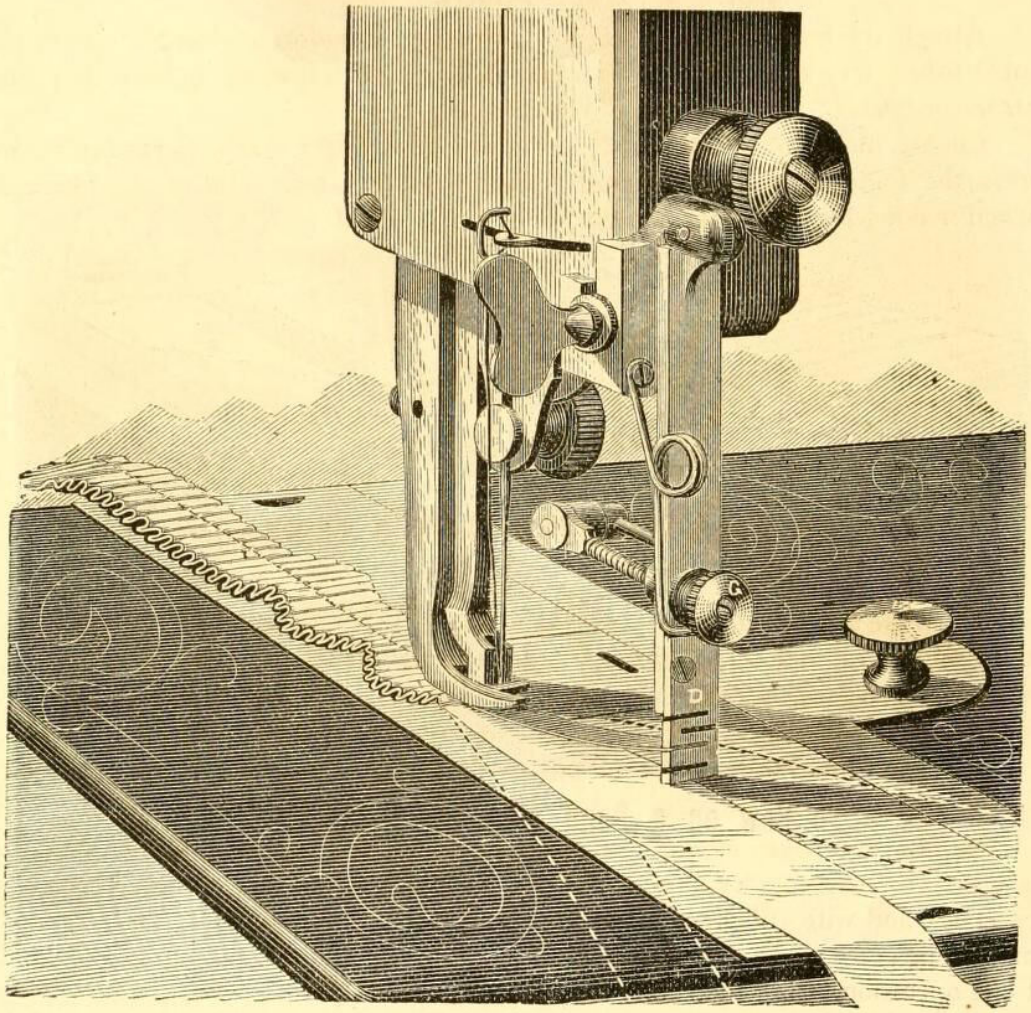
SEE FIG. 49.

The band with ruffle, made as explained on page 46 and illustrated in Fig. 47, can also be sewed on a dress or other garment, with piping at the top of the band, at one operation, using the ruffler for that purpose.

To do this, place the dress D under the ruffler; pass the piping B through the gauge E (Fig. 48); place the edge of the band C in the upper slot of the feeder; *turn the ruffler nut to the right as far as possible so no gathers will be made.*— Sew as usual, holding the piping and band smooth.

This operation is illustrated in Fig. 49. The form of the work when completed is shown in Fig. 80, page 61.

Fig. 50.



TO MAKE PLAITED TRIMMING.

SEE FIG. 50.

Attach the ruffler the same as for gathering, as before explained. Turn the nut G to the left, nearly to the extreme end of the screw, to make a *very full gather* or "*plait.*" Have stitch of medium length.

Cut the material *an inch wide*, and *across the goods;* fold it in the centre and press the folded edge down smooth; place it in the lower slot of the feeder D (when making the trimming straight) and sew as usual.

TO MAKE SCALLOPED PLAITED TRIMMING.

SEE FIG. 50.

Place the folded material *under* the feeder D. While sewing move the goods to the right and left alternately, as indicated by the dotted lines in Fig. 50, far enough to make the scollops the desired depth. The *length* of the scallops depends on the frequency of these alternate movements of the goods.

A regular and even movement can easily be acquired, by which the scallops will be made perfectly uniform.

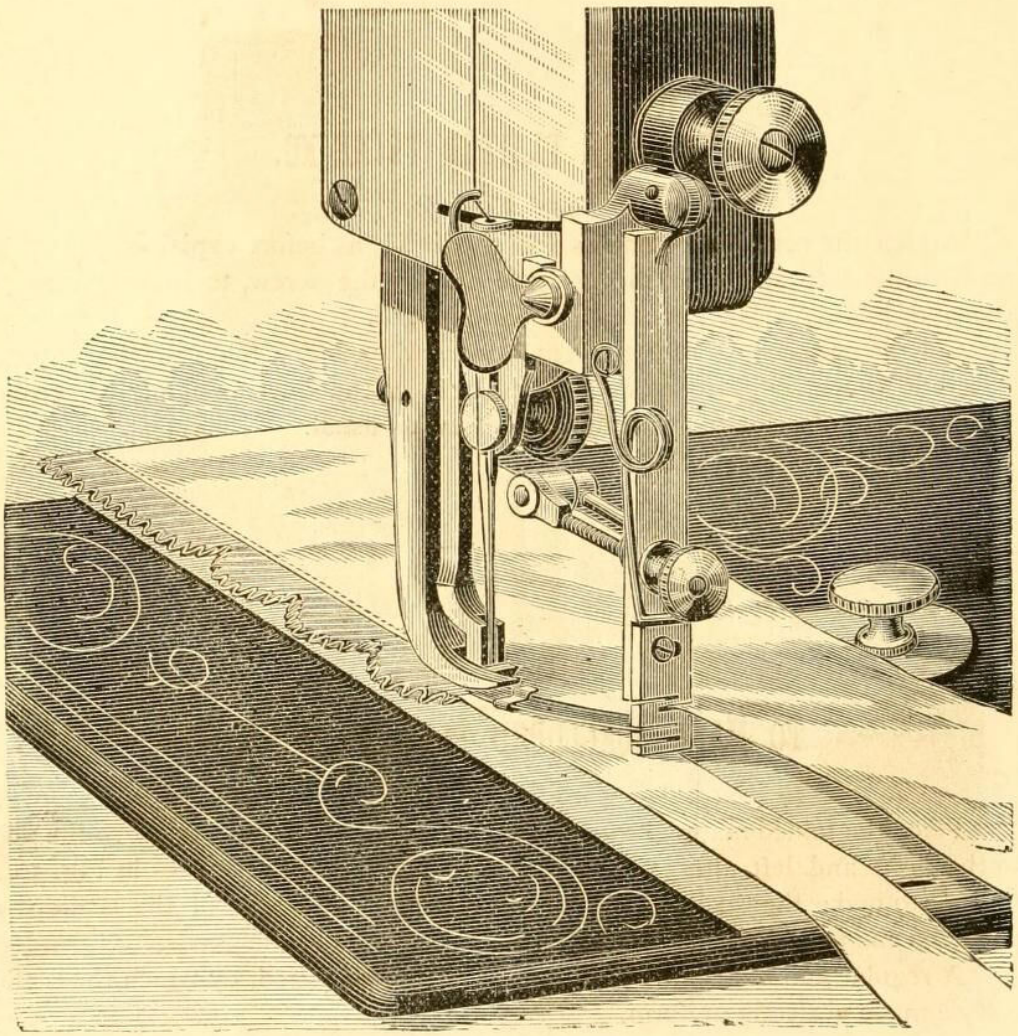
NOTE.—Lonsdale cambric is the most suitable goods for this trimming, if used on white garments that are to be washed, although it can be made of other materials, according to the purpose for which the trimming is intended.

The goods may be cut a little wider and *both edges folded*, if desired.

The plaited trimming, either straight or scalloped, is extensively used on collars, cuffs, aprons, children's dresses and ladies' underwear.

"THE DAVIS" is the only machine on which it can be made.

Fig. 51.



To Make Plaited Trimming and Sew on a Band, and Edge-Stitch the Band.

SEE FIG. 51.

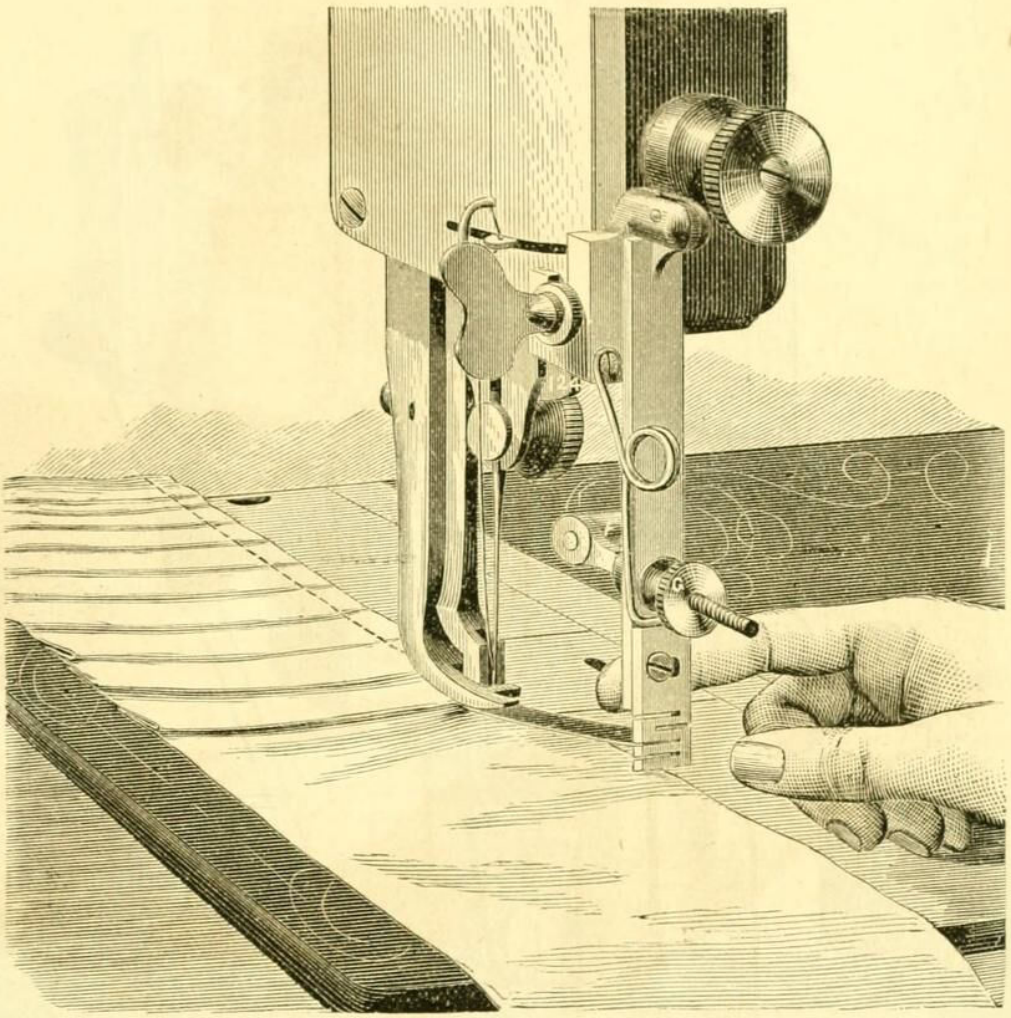
Adjust the ruffler and place the material for the trimming as explained on page 49, having the edge-stitching gauge on the feeding spring. Proceed the same as when "gathering and sewing on and edge-stitching the band," as explained on page 45. The operation is fully illustrated in Fig. 51.

The trimming may be made and sewed on in scallops, by observing and following the directions on page 49 for making "scalloped plaited trimming."

NOTE.—The trimming can be sewed on a plain band, or between two plain bands, or between two bands with the upper one edge-stitched.

To do either, the bands should be placed the same as in gathering, as heretofore explained.

Fig. 52.



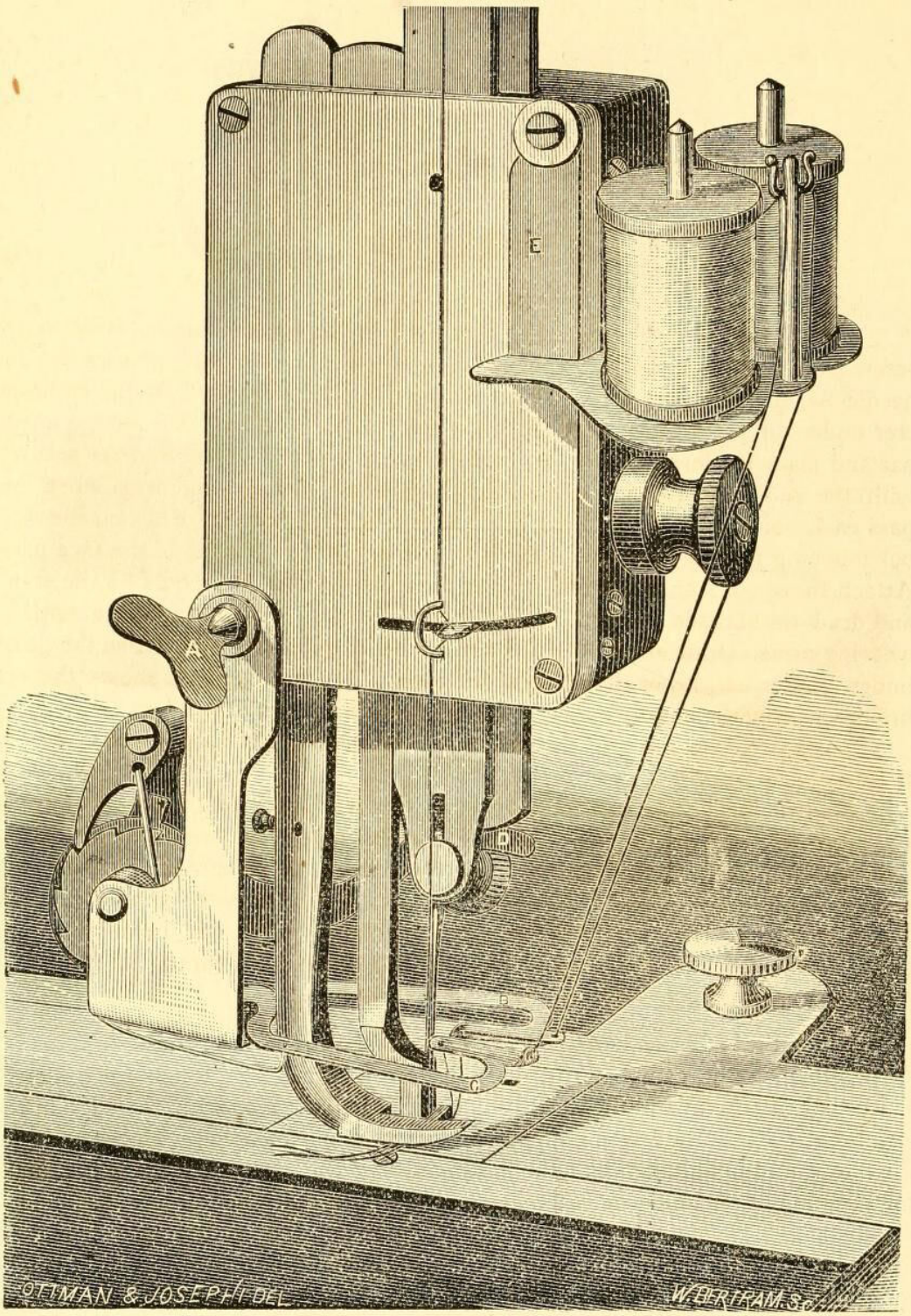
TO MAKE SIDE PLAITING.

SEE FIG. 52.

Attach the ruffler as heretofore explained. Turn the nut G to the right as far as possible, so the cam bar 124, when it descends, will not touch the roller F. Place the material under the feeder, as shown in Fig. 52, or with the edge in the lower slot. Draw the feeder toward you twice the distance you wish the width of the plait; let the bar go back; the feeding spring will carry back the goods, making the plait; sew until you reach the edge of the plait, then proceed as before.

NOTE.—One of the lines of letters and figures on the front race cover may be used as a guide for the distance which the feeder should be drawn forward to make the plaits of even width.

Fig. 53.



EMBROIDERER.

SEE FIG. 53.

Thread the machine above and below as for ordinary sewing. Remove the screw from the lower back corner of the face plate; raise the presser bar and needle bar to the highest point; pass the weaving arms B and C of the embroiderer under the presser bar from the back side of the machine. Lower the needle bar and place the lever D over the needle nut. Fasten the embroiderer securely with the screw A in such position that the ends of the weaving arms when they pass each other shall come as close as possible to the front side of the needle without touching it. Remove the screw from the upper front corner of the face plate. Attach the spool stand, and fasten with the screw. Place the spools on the stand, and draw the threads over the guides on spool stand, then through the holes of weaving arms. Draw all the threads directly back under the feed. Place the goods under presser bar, lower it, and sew as usual. Fig. 53, page 52, shows the embroiderer properly attached and threaded, as when in operation.

NOTE.—Never run the Machine with the presser bar raised when the embroiderer is attached.

A great variety can be made in the embroidery stitch by the use of different sizes and colors of silk, or other thread in needle and embroiderer, according to the taste and ingenuity of the operator. A very pretty stitch is made by using one thread only in embroiderer, it being crossed back and forth with the needle thread. To work solid patterns, leaves, flowers, &c., with chenille, use one thread of chenille in the embroiderer, selecting such colors of chenille and silk for the needle, as may be most appropriate for the pattern to be embroidered.

NOTE.—The embroiderer can be used with other attachments, thus making a hem, binding, &c., with a handsome embroidered seam.

THE PRICE OF THE EMBROIDERER IS FIVE DOLLARS.

VARIOUS STYLES OF WORK.

On the foregoing pages we have endeavored to fully illustrate and explain the operation of the machine, and of such attachments as are ordinarily used. The range of work that can be done on "THE DAVIS" is so great that the limits of an instruction book will not admit of illustrations or explanations of *all* that can be performed. We add on this and the following pages illustrations of a few varities which will be found useful.

Fig. 54.

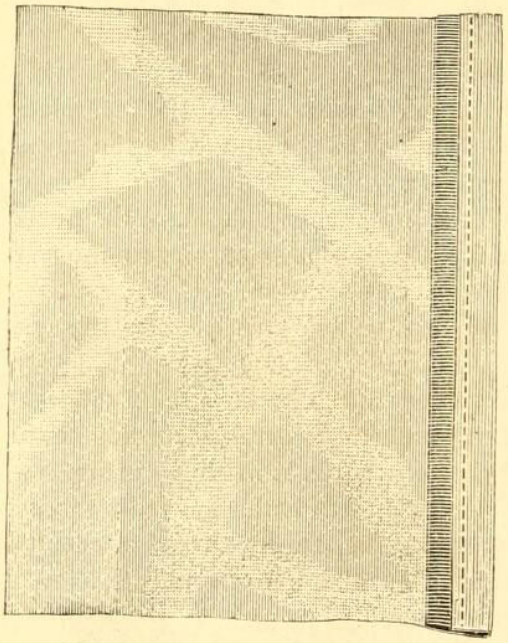
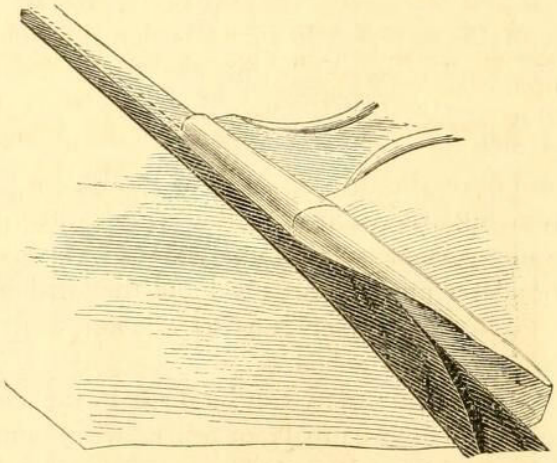


Fig. 55.



HEM WITH BIAS FOLD INSERTED.

SEE FIG. 54.

Place the goods in the hemmer, as shown in Fig. 55.

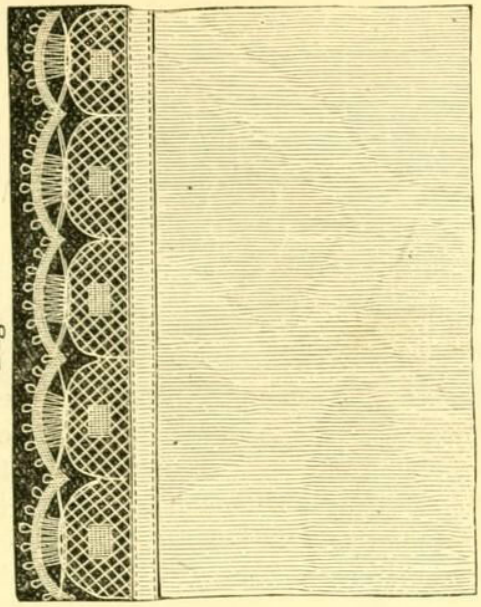


Fig. 56.

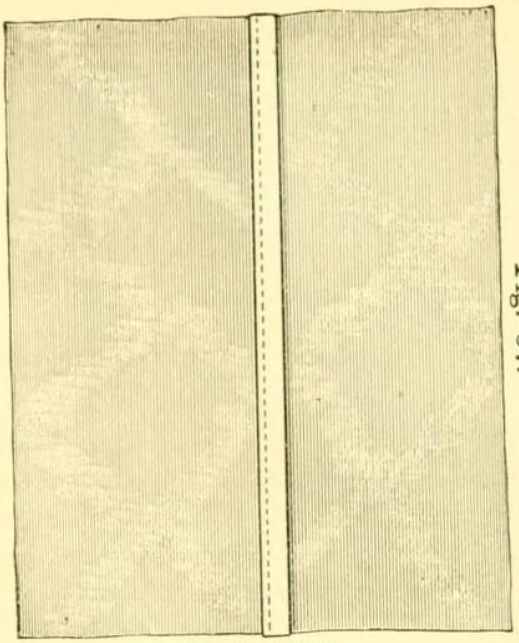


Fig. 57.

DOUBLE STITCHED HEM WITH LACE EDGING.

SEE FIG. 56.

First make a hem with the lace inserted in the same manner the bias fold is inserted, as shown in Figs. 54 and 55, page 54. Then fold back the hem, and stitch down the edge.

Narrow Tuck or Fold in Fine Goods Made with No. 1 Hemmer.

SEE FIG. 57.

Fold the goods and run the folded edge through the hemmer, turning it just ar enough to stitch the edge; then spread the goods out at the seam.

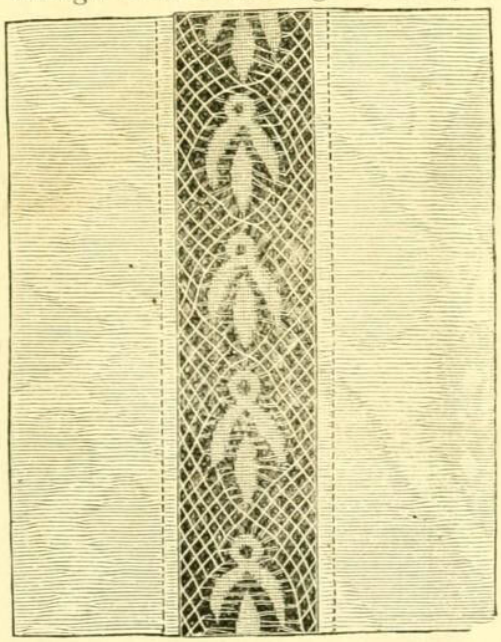


Fig. 58.

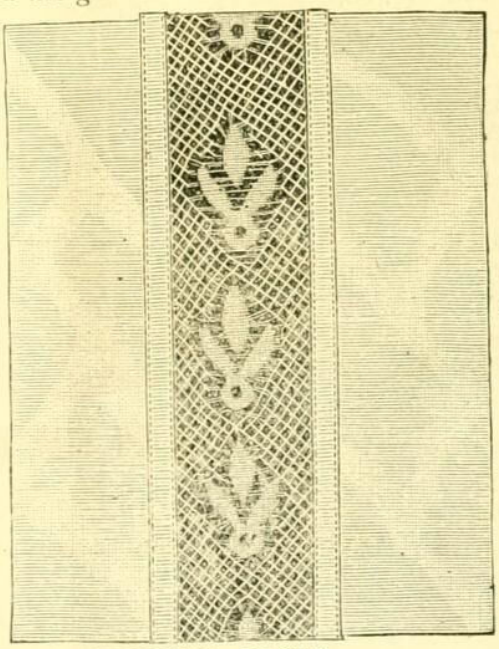


Fig. 59.

INSERTION BETWEEN PLAIN HEMMED EDGES.

SEE FIG. 58.

The insertion is put on the bands in the same manner that edging is stitched on, as illustrated in Fig. 19, page 20.

INSERTION BETWEEN DOUBLE-STITCHED HEMMED EDGES.

SEE FIG. 59.

This work is done in the same manner the "double-stitched hem with lace edging" is made, as explained above, under Fig. 56.

Fig. 60.

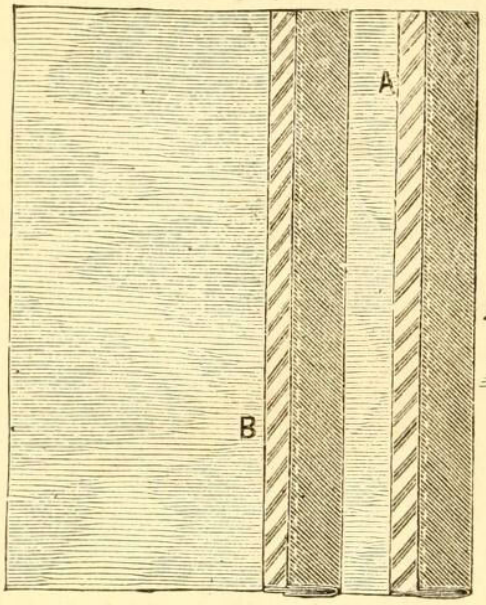
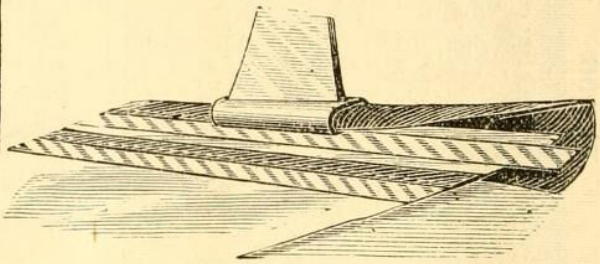


Fig. 61.



Folds Made with two Varieties of Goods, of Different Colors if Desired.

See Fig. 60.

Insert binding and the extra fold in the binder, as shown in Fig. 61.

The edge of the garment can be bound and the fold inserted at the same operation, as at A in Fig. 60, or by raising the binder sufficiently to allow the body of the goods to pass under it, the fold can be made on any part of the garment, as at B in Fig. 60.

Fig. 62.

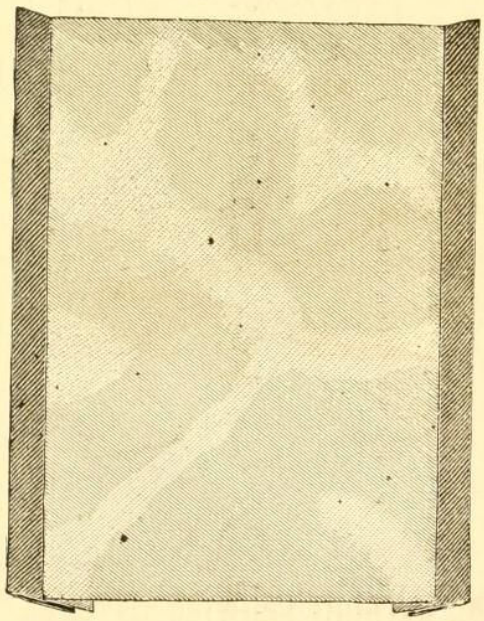
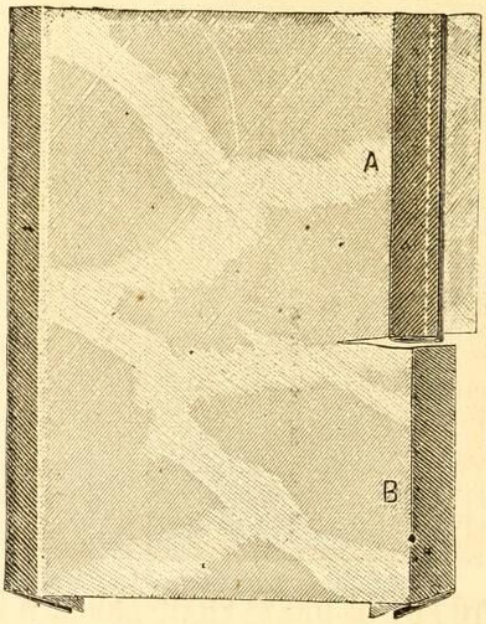


Fig. 63.



BIAS BAND, BOUND WITHOUT SHOWING STITCHES.

See Fig. 62.

Stitch on the binding near the edge of the goods, as at A in Fig. 63, in the same manner the French fold is made and sewed on, as explained on page 30 and illustrated in Fig. 28.

Then fold back the binding, as shown at B in Fig. 63.

Fig. 64.

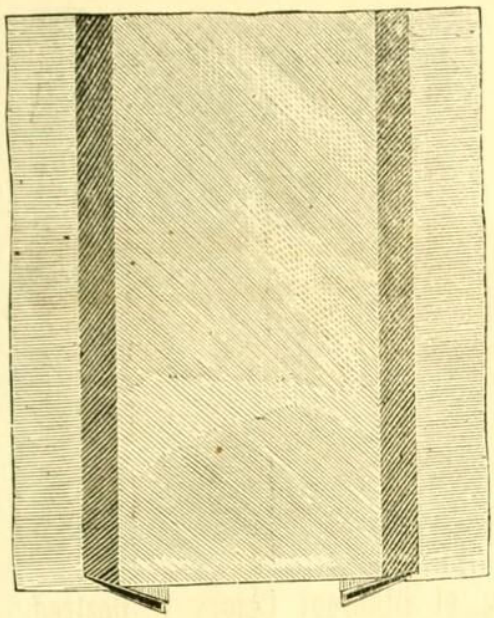
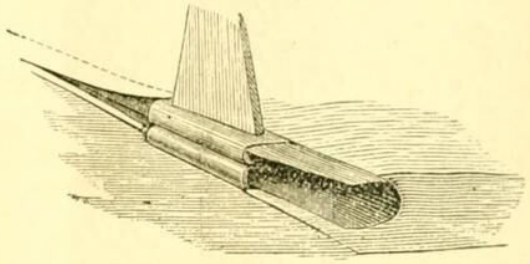


Fig. 65.



BIAS BAND BOUND AND SEWED ON WITHOUT SHOWING STITCHES.

SEE FIG. 64.

Place the goods in the binder as shown in Fig. 65, having the band above. When stitched turn back the band at the seam.

Fig. 66.

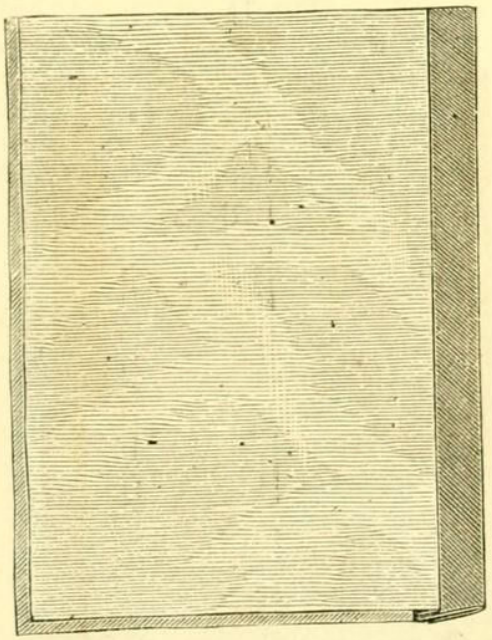
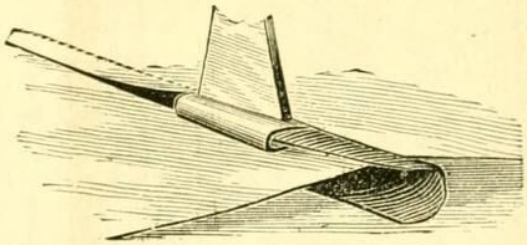


Fig. 67.



TO PUT ON DRESS BRAID AND SEW ON FACING WITHOUT SHOWING STITCHES.

SEE FIG. 66.

Pass the braid through the binder; place the edge of the facing in the binder and the edge of the skirt above. Fold back the skirt at the seam when stitched. The position of the goods in the binder is shown in Fig. 67.

Fig. 68.

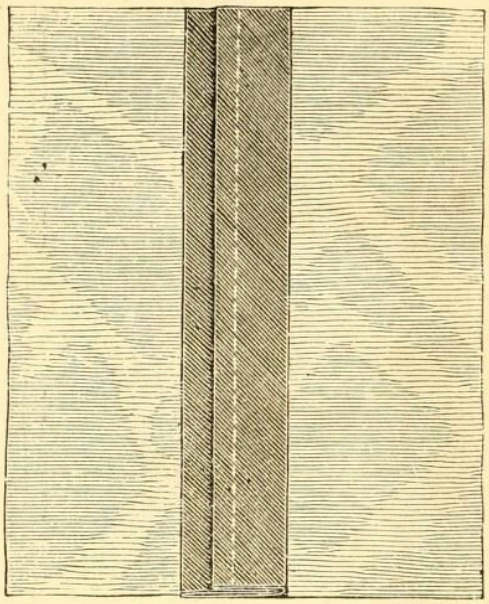
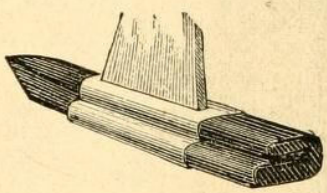


Fig. 69.



MILLINER'S FOLD.

SEE FIG. 68.

The folder is attached the same as the binder.

Cut the goods for the fold, *on the bias*, from 1¼ to 1½ inches wide.

Pass through the folder as shown in Fig. 69. The fold can be made without sewing on, or made and sewed on at one operation, in manner similar to making "French Folds," or "making French Folds and sewing on at one operation." See Fig. 28 and explanations on page 30.

Fig. 70.

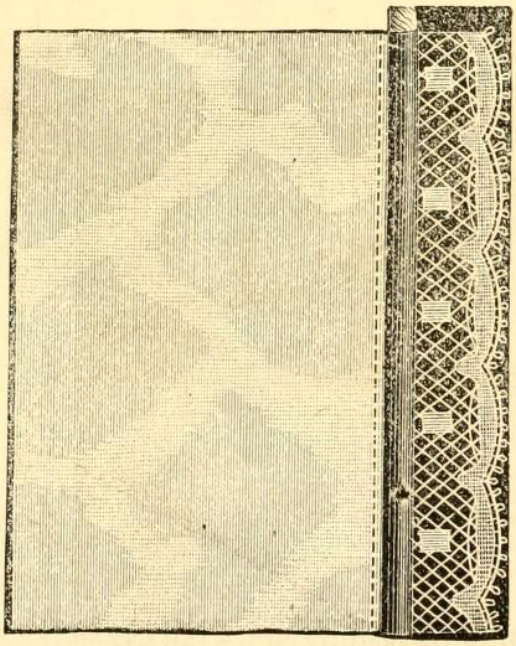
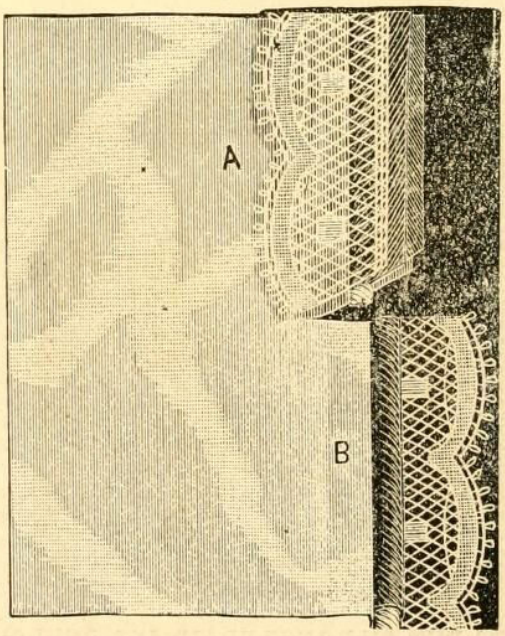


Fig. 71.



CORDED EDGE WITH LACE TRIMMING.

SEE FIG. 70.

Made with the combination corder and binder, first as at A in Fig. 71. Then fold back the edge at the seam, as shown at B in Fig. 71. The operation is the same as that illustrated in Fig. 33, page 35, and explained on page 37, the lace edging being used in place of the upper piece of goods.

Fig. 72.

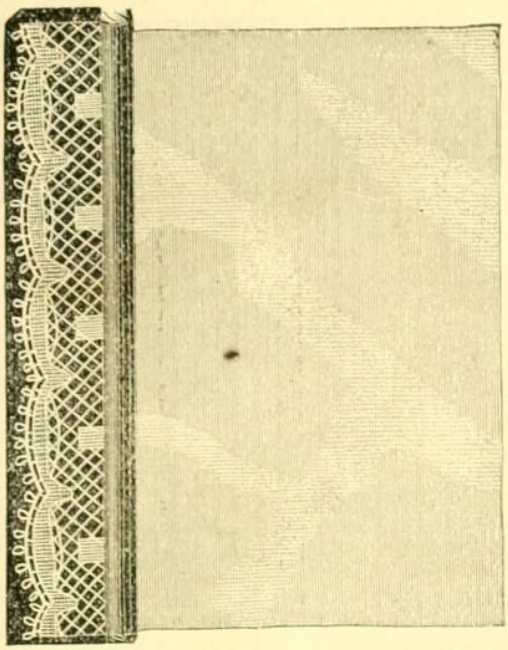
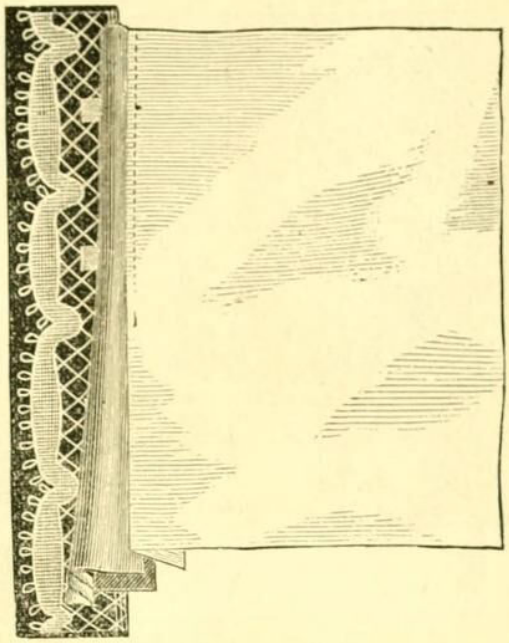


Fig. 73.

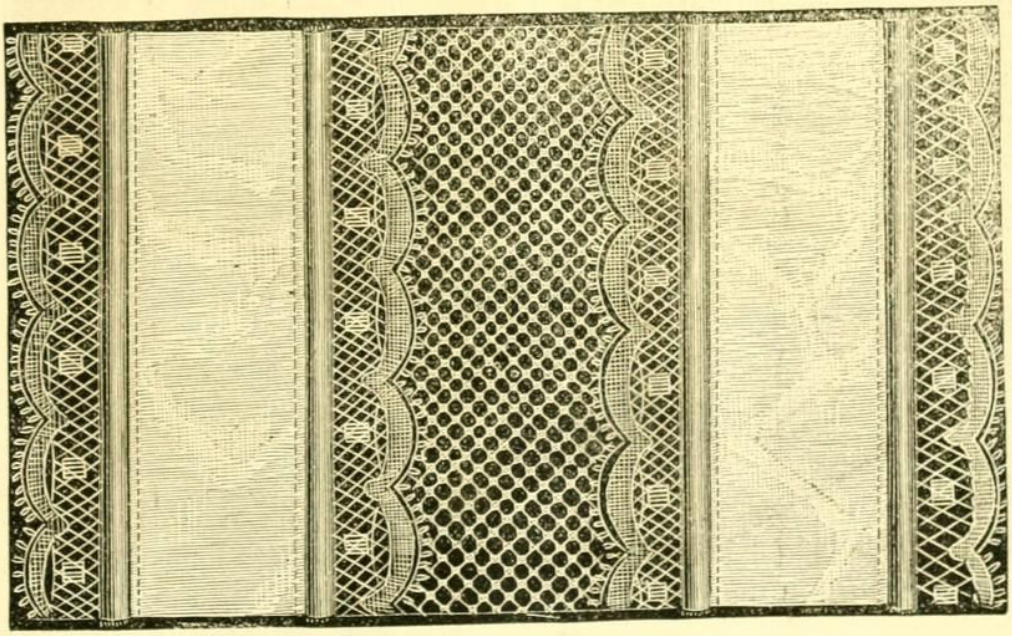


EDGE-STITCHED CORDED EDGE WITH LACE TRIMMING.

SEE FIG. 72.

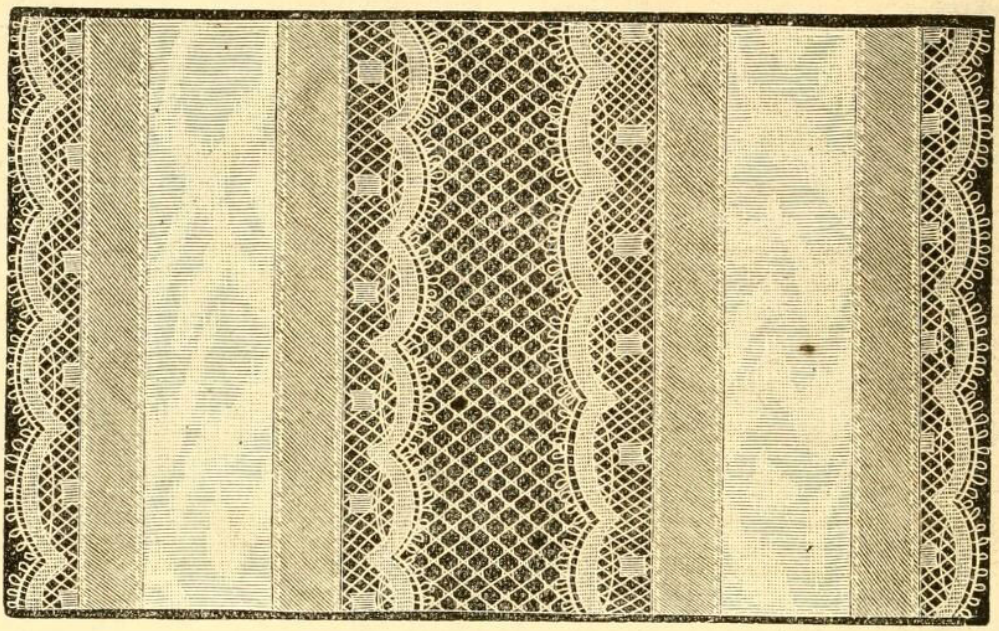
Made with the combination corder and binder. The manner in which the goods are placed in the attachment will be readily understood by their position as shown in Fig. 73. See also Fig. 36, page 36, and directions "to edge stitch the seam," on page 37.

Fig. 74.



The work illustrated in Fig. 74 is done with the combination corder and binder, in the manner similar to that described above for Fig. 72. The edge of the insertion in the centre is placed under the lace trimming when stitched.

Fig. 75.



The work illustrated by Fig. 75 is made with the binder, as illustrated in Fig. 29 and explained on page 31. The manner in which the lace and edging are inserted will be readily understood from above cut.

Fig. 76.

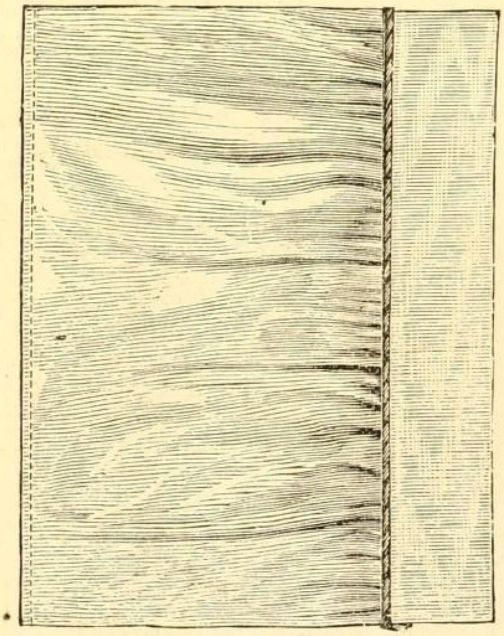
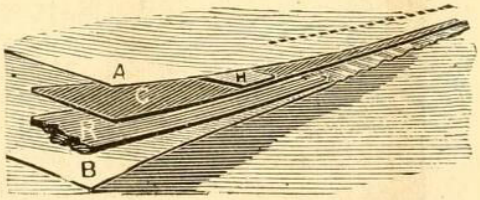


Fig. 77.



Ruffling and Sewing on a Band with Narrow Piping Between Ruffle and Band.

SEE FIG. 76.

Place the goods in the ruffler in the position shown by Fig. 77. A is the band; B the ruffle; C the piping; R the ruffler feeding spring, and H the edge-stitching gauge. The gauge is used to guide the piping, and can be set to make it show the desired width.

Fig. 78.

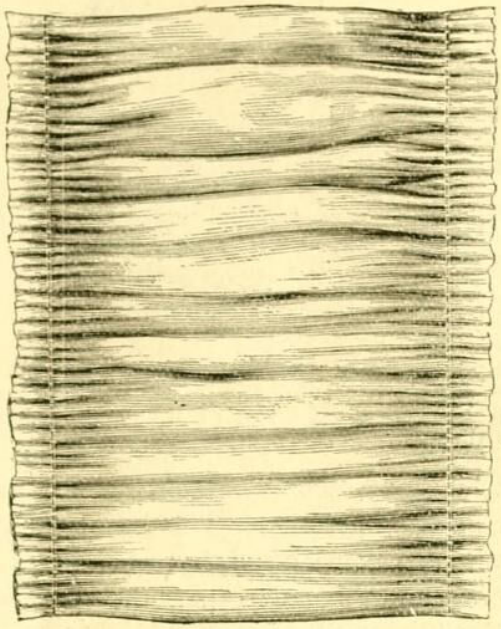
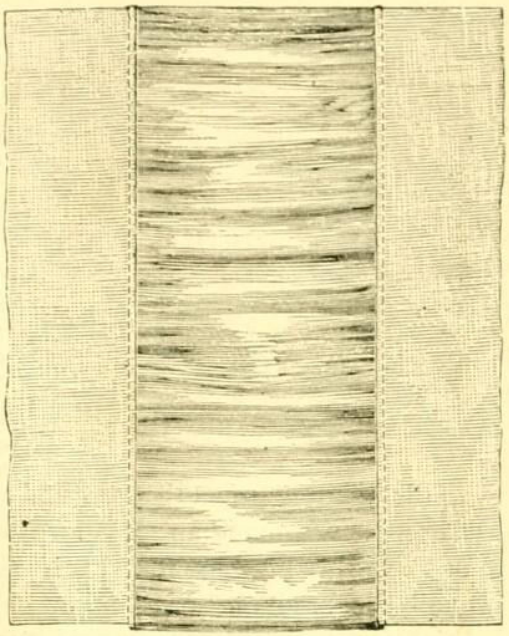


Fig. 79.



PLAIN PUFF.

SEE FIG. 78.

The plain puff is made with the ruffler by gathering each side consecutively the same fulness.

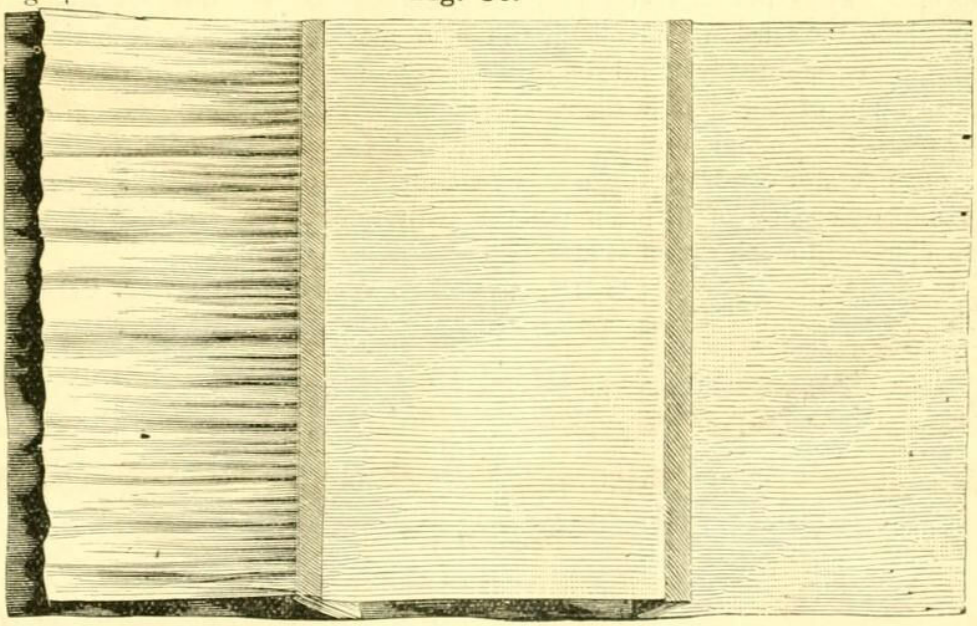
PUFF BETWEEN BANDS.

SEE FIG. 79.

The puff between bands is made by gathering and sewing a band on each side. See Fig. 43 and directions for "gathering the edge and sewing on a band," on page 42.

If it is desired to edge-stitch the band as shown in Fig. 79, follow directions for "gathering and edge-stitching the band," as given on page 45 and illustrated by Fig. 46.

Fig. 80.



Band and Ruffle Sewed on With Piping Between, and at Head of Band.

SEE FIG. 80.

For explanation see pages 46 and 47 and Figs. 47 and 49.

TO THE OPERATOR.

It is a matter of fact that any and all machinery will sooner or later, by constant use, become worn, and an adjustment of the parts be necessary. This is not likely to occur in this machine for years, and yet it is so constructed that when necessary all "lost motion" or wear can be taken up and the parts kept in their proper position for an indefinite length of time. But operators are cautioned not to attempt to adjust the machine, unless its sewing qualities are impaired, and not then, unless they are *perfectly familiar with its principles and mechanism.*— The attempt by any unskilled person to repair a machine, often occasions more derangement than years of ordinary wear could accomplish. Should the machine be taken apart and the bars taken out of cam house in head of machine, notice carefully the position of each bar or part when taking them out, and be sure and put them all back *in proper places.* See that the spring which presses forward the feed is *back of the bar*, and the *end of the spring in the slot in face plate made for that purpose.*

Read the foregoing insructions carefully and undertsandingly, and follow them to the letter, particularly those with reference to the setting of the needle, the proper size of thread to use with it, the manner of threading the shuttle and the machine, the tension and oiling, and your machine will always be in proper running order, and ready at all times to serve you, and capable of executing the greatest range of work and in the most parcticable manner of any sewing machine in the market. There is nothing we advertise the machine capable of doing but what any operator can learn to do. Any communication addressed to the office o the Company or any of its branch offices, with reference to anything concerning the machine will receive prompt attention.

THE DAVIS SEWING MACHINE CO.,
WATERTOWN, N. Y.

See what "The Davis" Vertical Feed will do without basting.

—o—

It will sew over uneven surfaces as well as plain.

It will sew over seams in any garment, without making long or short stitches, breaking of thread, or puckering the lining of the goods at the seam, requiring no assistance from the operator, except to run the machine and to guide the work. A point which no other machine possesses.

It will sew a curved piece on a straight one, or two curved edges together.

It will make wide and narrow hems, and hem all kinds of woolen goods, such as soft merino, or goods difficult to hem on other machines.

It is the only practical machine for hemming bias Alpacas, poplins, muslins, and other similar goods without basting, and it is the only machine in the world that will turn a wide hem across the end of a sheet without fulling the under or upper side of the hem.

It will turn a hem and stitch on trimming at one operation.

It will turn a hem and sew in a fold at one operation.

It will do felling, bias or straight, on any cotton or woolen goods.

It will fell across seams on any goods.

It will bind dress goods with the same or other material, either scallops, points squares or straight.

Bind folds without showing the stitches.

Bind folds without showing the stitches, and sew on at the same time.

It will put on dress braid and sew in facing at one operation without showing the stitches.

It will put on dress braid and sew in facing and a bias fold at one operation, without drawing either dress, braid or skirt, and without showing the stitch on right side.

It will make French folds.

Make French folds and sew on at the same time.

Fold bias trimming and sew on at one operation.

Make Milliners' folds with different colors and pieces of goods at one operation.

Make Milliners' folds with different colors and pieces of goods at one operation, and sew on at the same time.

It will cover a cord and sew it in between edges at one operation.

It will sew in a sleeve, covering a cord and stitching it into the seam at the same time.

It will gather without sewing on. It will gather and sew on at the same time.

If will gather between two pieces and sew on at the same time.

It will gather between two bands, showing the stitches on the right side, at one operation.

It will make and sew a ruffle on any part of a dress skirt, and sew on a bias fold for heading at one operation, showing the stitches on the right side.

It will gather and sew on a band with piping between ruffle and band, at one operation.

It will sew a band and ruffle on a dress skirt, stitching in piping at head of band, at one operation.

It will make plaited trimming either straight or scalloped.

Make plaited trimming and sew on at the same time.

Make plaited trimming either scalloped or straight and sew on a band, and edge stitch the band, at one operation.

It will, with one operation for each variety, without basting, execute 20 practical varieties of ruffling, being 12 more than can be produced on any other machine with same number of operations.

It will make a more elastic stitch than any other machine.

It does not change length of stitch on scroll work.

It sews from lace to leather without changing stitch or tension.

For tucking, cording, braiding, quilting, embroidering, shoe-fitting, dress-making, tailoring and general family use or manufacturing, it has no equal.

INDEX.

SEP 2 7 1950