

# INSTRUCTIONS

*The*  
***Davis***  
*Vertical Feed*  
***Sewing Machine***

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MANUFACTURED AND GUARANTEED

---BY---

**The Davis Sewing Machine Co.**

DAYTON, OHIO, U. S. AMERICA



## WHEN ORDERING NEEDLES OR PARTS

Always be sure to furnish the correct serial number of the machine which will be found on the front shuttle race cover immediately in front of the needle plate. This is imperative.

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### CAUTION

Do not allow inexperienced persons or children to run the machine and never attempt to take the machine apart or to change the general adjustment.

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### IMPORTANT NOTICE

The market is full of needles of an inferior quality made to sell cheap. It is of first importance that every owner of a Davis Vertical Feed Sewing Machine, to use it with satisfaction, use Genuine needles, stamped "Davis Short" on shank.

If there is no dealer in Davis Sewing Machines near you, write direct to the office of the Davis Sewing Machine Co., Dayton, Ohio, U. S. A., enclosing 50 cents in stamps for one dozen needles stating sizes you require and your order will be given prompt attention.

# INSTRUCTIONS



Before the "DAVIS VERTICAL FEED" Sewing Machine leaves the factory, it has been carefully inspected and adjusted, and tested with various sizes of needles and thread, and found to work perfectly in every respect.

The operator should study this book carefully before attempting to operate the machine even on plain sewing. By becoming familiar with your machine through a careful study of your instruction book, you will be able to overcome many of the apparent difficulties usually experienced by beginners and your machine will become your most willing helpmate.

Never run the machine with the shuttle race covers open, except to turn the wheel very slowly by hand, or the shuttle will, possibly, strike on the needle plate which is sure to cause serious injury to the machine.

Practice on strips of cloth and do not attempt practical sewing until you can guide the material and produce a regular motion of the machine.

Do not attempt to assist the feed by pulling the material lest you bend or blunt the point of the needle. The machine will feed without assistance. If it does not it is because the feed is entirely turned off at the stitch adjuster. If so, lengthen the stitch and the machine will perform its work properly.

Do not run the machine when it is threaded up unless there is cloth under the presser foot, or the thread will snarl and tangle, and perhaps bend or break the needle.

Do not allow lint or dust to accumulate in the shuttle or under the tension spring outside of the shuttle as any substance inside the shuttle will prevent the proper action of the bobbin, or under the tension spring will interfere with the tension on the lower thread.

To turn a corner; stop the machine with the needle part way in the material but just after it has begun to rise, raise the presser foot, and turn the material using the needle as a pivot.

When ordering needles, shuttles or parts of any kind, always give the name and number of the machine. The number will be found on the top side of the front shuttle race slide, directly in front of the needle plate.



FIG. 1

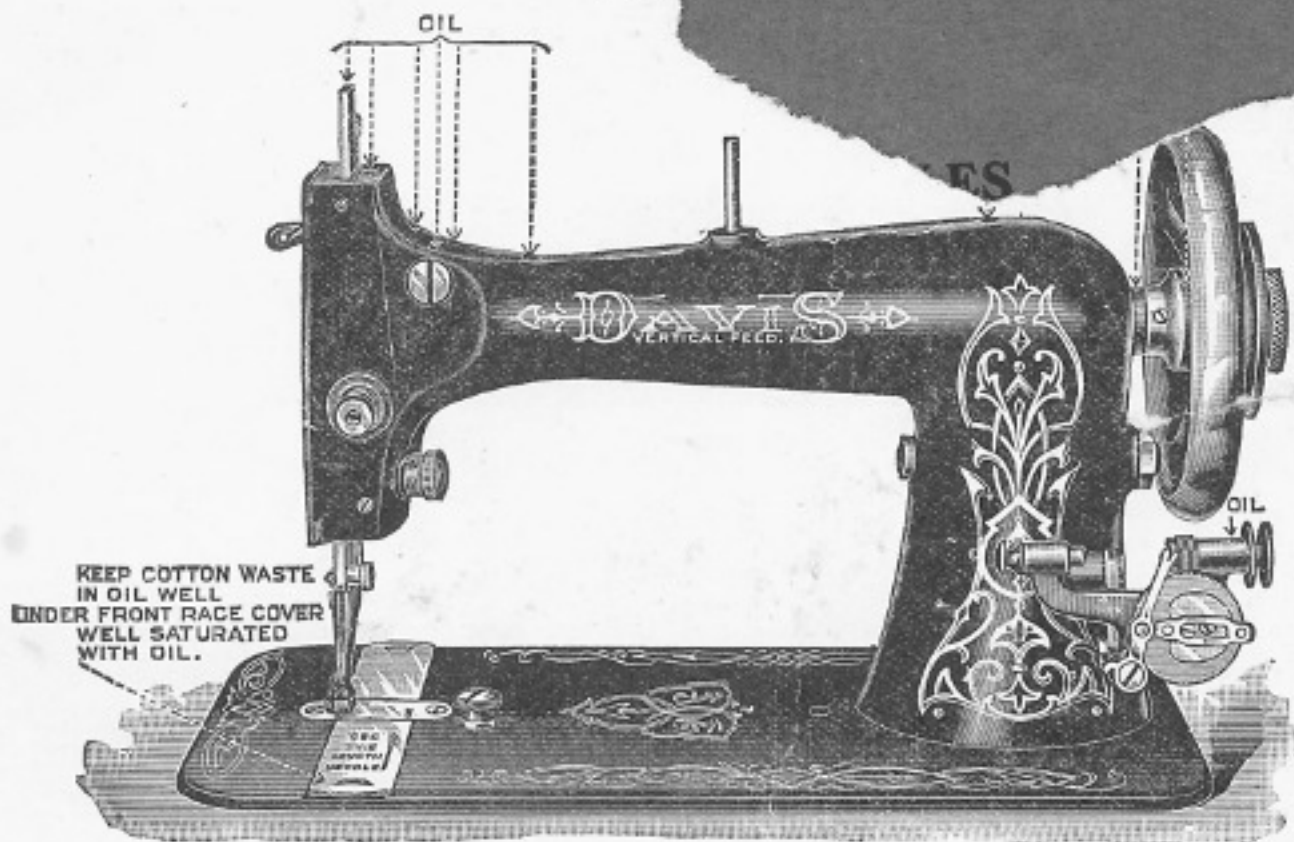
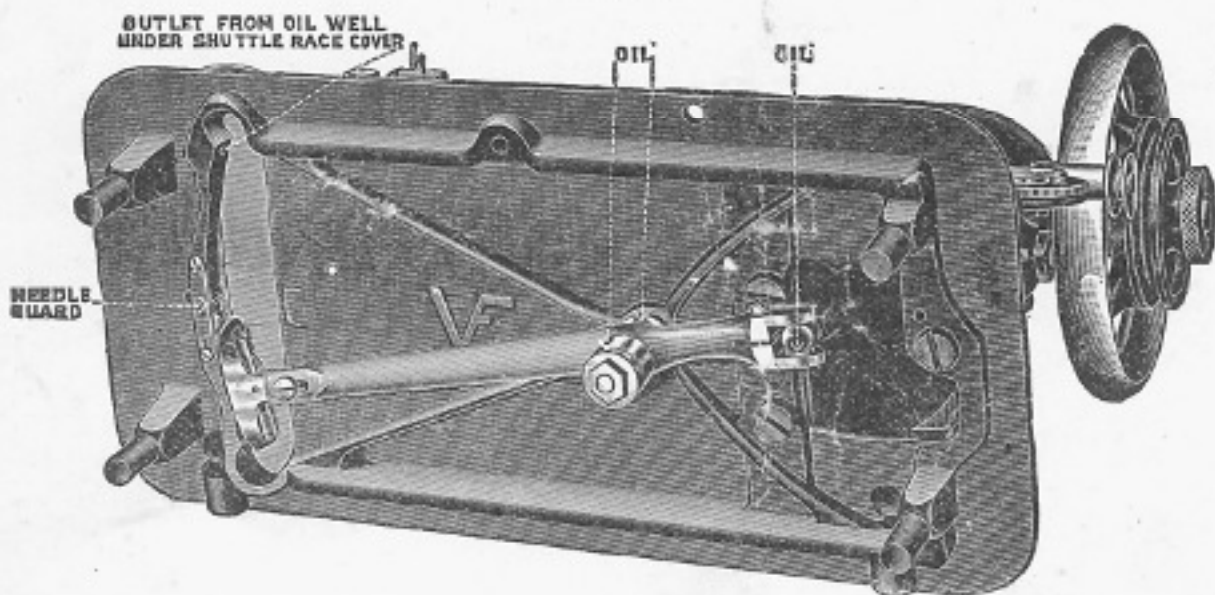


FIG. 2



## OILING THE MACHINE.

Great care should be exercised in keeping all bearings of the machine properly oiled as neglect in this respect is responsible for many apparent defects unjustly blamed on the machine.

Properly oiled bearings improve with the use of the machine but if the old oil is allowed to gum on the bearings and corrode them, they get rough and cause the machine to run hard.

Oil holes are placed in the head of machine for the purpose of reaching the bearings that cannot be reached directly. These points are indicated in Figures 1 and 2 page 4 by arrows running from the word "oil" to the location. These oil holes should be kept free from gum and dust to allow the oil to flow through the tubes to the bearings.

One drop of oil is sufficient on each bearing and your own good judgment should tell you when the machine requires oil. **Do not neglect it.**

The bearings underneath the head requiring oil are the ball races above and below the shuttle lever and the ball tip and slides forming the connection between the shuttle lever and the eccentric lever as shown by the arrows in Figure (2). These can be reached by throwing the belt off the hand wheel pulley and tilting the head back on its table hinges.

The stand parts will, of course, require oil occasionally. The points requiring oil are both ends of the pitman, the ball race at both ends of the balance wheel crank and both ends of the treadle.

## THE SHUTTLE RACE.

The face of the shuttle race must be kept clean, and free from dirt or gum. To do this, rub it occasionally with a piece of cloth having a drop of oil on it, afterwards wiping it with a dry, clean cloth. If, through neglect, the race has become very "gummy," first clean it with a cloth saturated with kerosene; then use an oiled cloth and a clean, dry cloth, as above. Breaking of threads and skipping of stitches are frequently caused by failing to keep the shuttle race clean.

## THE NEEDLE PLATE.

The needle plate is provided with two slots. The larger one is adapted to the use of a No. 6 or No. 7 needle; the smaller one for all finer needles. To adjust the needle plate, loosen the screws which hold it in place and remove the plate, reverse and replace the plate, taking care to have it in such position that the needle, when going down, will pass close to the right hand side of the slot, but without touching it.

The needle should pass perfectly straight down through the front end of the slot without touching the end or either side.

## SELECTING SIZES OF NEEDLES AND THREAD.

By carefully consulting the accompanying table showing the relative sizes of needles and thread and being guided by the information contained therein, you will have gone far in assisting your machine to make a perfect stitch.

Never use a large needle and very fine thread nor try to force a coarse thread through the eye of a fine needle ; this will in itself cause the machine to do imperfect work.

### Relative Sizes of Needles and Thread.

Size of Needle	SIZES OF THREAD		CLASS OF WORK
	COTTON	SILK	
No. 2	100 to 200	000 to 00.	Fine Linen and Silk
No. 3	70 to 100	00 to 0	Muslin and Shirtings
No. 4	50 to 70	A and B	Dressmaking and General Work
No. 5	36 to 50	B. C. and D.	Heavy Wool and Cotton Cloth
No. 6	Coarse		Extra heavy Cloth



This cut shows the exact length of needle to use on this machine.

Always specify the name and number of your machine when ordering needles or parts.

### SETTING THE NEEDLE.

Raise the needle bar to its highest position, then loosen the needle clamp screw (N), take the needle between the thumb and forefinger of the left hand, pass the shank up into the slot in the needle bar, with the Flat Side of the Shank toward or against the bar, until the end of the shank sets firmly against the Stop Pin, then turn the Needle Clamp Screw (N) tight.

The accompanying illustrations show the correct position of the needle in the needle bar slot and the needle clamp with needle set.

When the needle is set right the long groove is to the left and the short groove to the right.

It is not necessary to remove the needle clamp from the bar when taking out or setting a needle. To remove the needle, loosen the screw (N) only enough to free the needle and the clamp will remain in position.

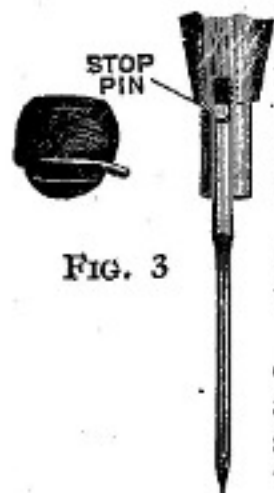


FIG. 3

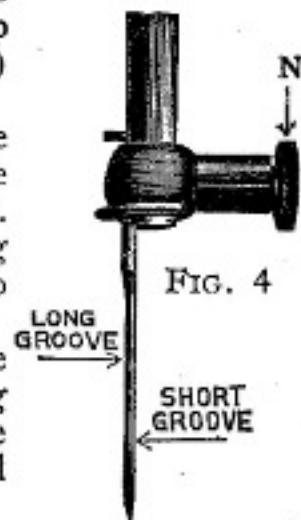
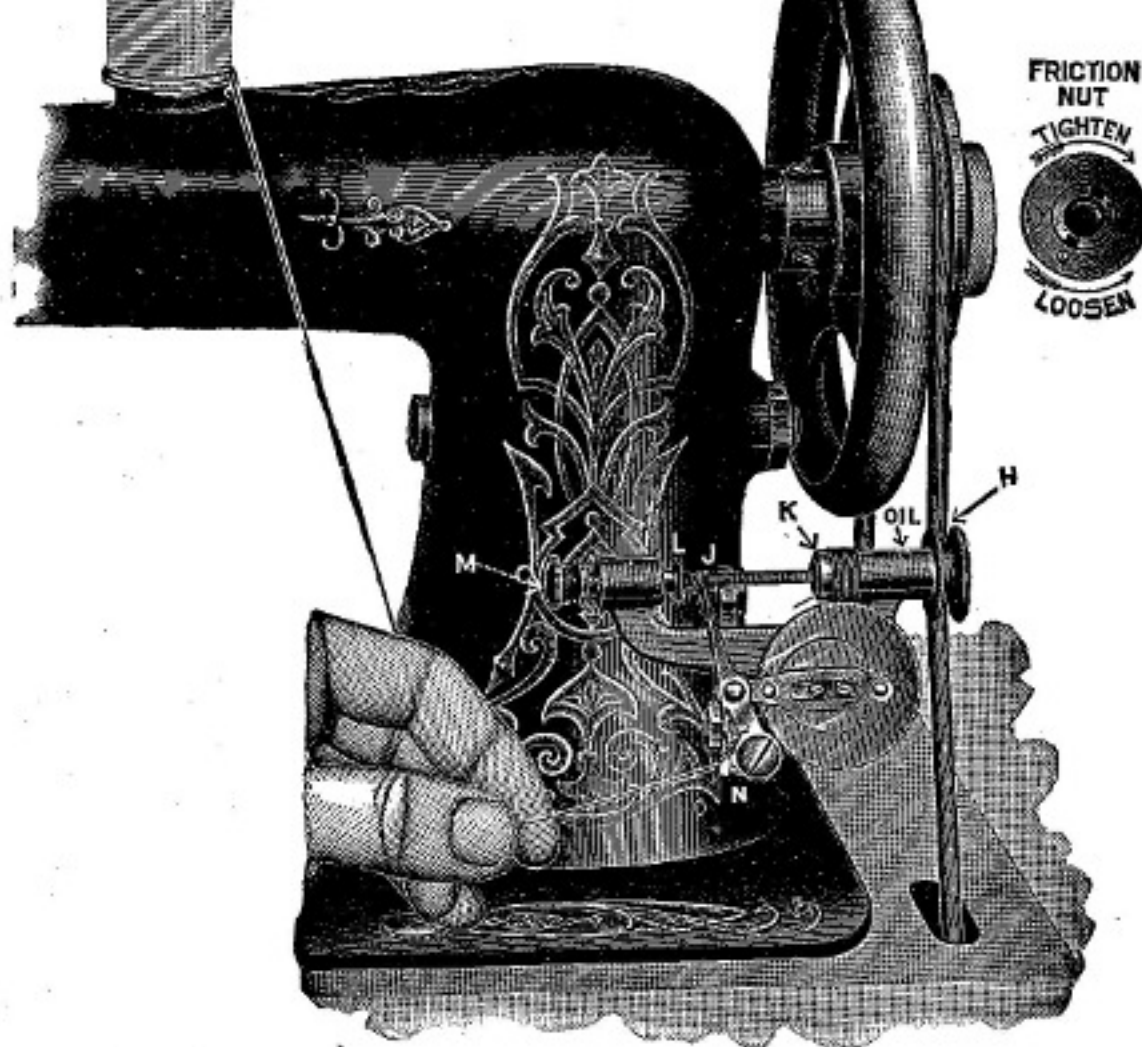


FIG. 4



### WINDING BOBBINS.

A smooth, firmly wound bobbin, together with the careful selection of needles and thread of the proper size will assist in producing a good stitch.

The Friction Nut shown in the accompanying illustration loosens or tightens the hand wheel.

Loosen the hand wheel when operating the bobbin winder by turning the nut as indicated by the arrow and the word "loosen."

Bring the bobbin winder forward and place the belt back of the pulley (H). Place the bobbin in the spooler between the points (L) and (K) by pulling the step nut (M) to the left far enough to admit it, placing the end of the thread between the head of the bobbin and the spindle (K) then through the slot in the end of the automatic distributing lever (J) down under thread guide (N) allowing the thread to glide between the thumb and finger from the spool.

Start the bobbin winder by turning the hand wheel of the machine toward you from the top and wind the bobbin even full. Do not wind the thread higher than the bobbin heads as this would make the bobbin fit too tight in the shuttle and make the shuttle tension appear as though it was set too tight.

A minute drop of oil should be placed on the step (L) so that the bobbin will turn freely. The spindle on the other side of spooler should also be oiled as indicated.



FIG. 6



FIG. 7



FIG. 8



### THREADING THE SHUTTLE

Hold the shuttle in the left hand with the point toward you. Place the bobbin in the open end of the shuttle with the thread drawing off over the top of the bobbin to the right as in Figure 6. Place the forefinger of the left hand over the end of the shuttle to form a slight tension on the end of the bobbin. Draw the thread down into the thread slot "S" and under the point "T" of the shuttle tension spring, Figure 7. After the thread has been drawn to the left side of point "T", draw the thread out directly from you as in Figure 8, which brings the thread over the top of shuttle tension spring point "T" as shown in Figure 8, and the shuttle is threaded ready to place in the machine.

### TO PLACE THE SHUTTLE IN THE MACHINE.

Remove the front race slide cover, turn the hand wheel until the shuttle carrier comes to its extreme forward position. Take the shuttle in the right hand between the thumb and second finger placing the forefinger over the end of the shuttle to hold the bobbin in position. Place the point of the shuttle in the carrier first and it will drop into the proper position in the carrier. The shuttle should always be placed in the carrier with the spring up. Close the shuttle race being careful not to catch the thread between the race cover and needle plate. It is sometimes more convenient to remove the back race cover to place the shuttle in the machine especially when some of the attachments are in use.



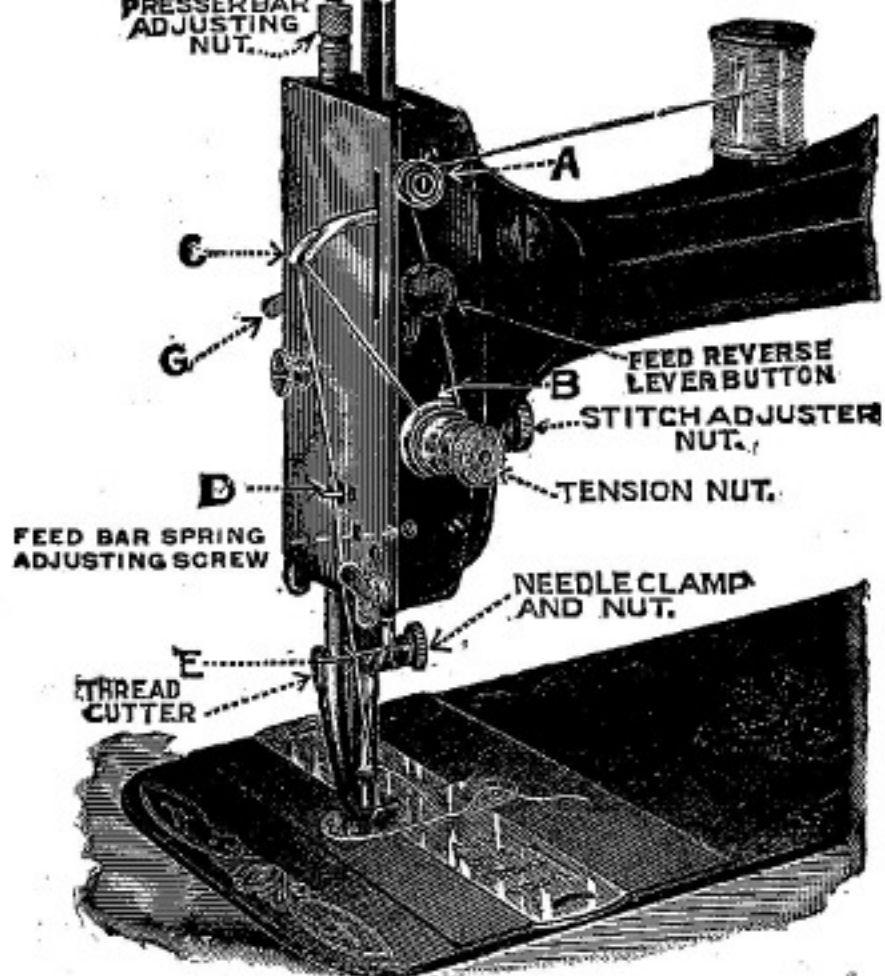


FIG. 9

## THREADING THE MACHINE

Place the spool of thread on the spool pin and draw the thread over the stud and between the discs of check spring (A), then down and around the stud and between the tension discs (B), up through takeup eye (C), down through eyelet (D), and needle clamp thread guide (E), then through the eye of the needle leaving the thread about three inches long.

### TO DRAW UP THE SHUTTLE THREAD.

The machine being threaded above in accordance with the instructions, take the end of the thread between the thumb and forefinger of the left hand but leave the thread slack so it will pass freely around the shuttle. With the right hand turn the hand wheel slowly toward you from the top until the needle passes down through the hole in the needle plate and up to its highest position again, then draw up the thread with the left hand and the lower thread will come with it. Draw both threads back under the presser foot and the machine is ready to sew.

### HIGH AND LOW LIFT.

The low lift gives as much rise to the presser and feed feet as is necessary in sewing any ordinary goods. When extremely heavy goods is to be stitched, or to sew over heavy seams, the High Lift can be thrown into operation by lifting lever (G) (Fig. 9) to its highest position.

After the machine has been properly threaded above and below and the threads drawn back into position under the presser foot, place the material under the presser foot with the needle directly above the place where you desire to commence stitching. Lower the presser foot and start the machine by turning the top of the hand wheel towards you.

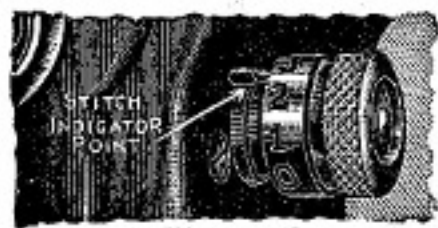
### TO TURN A CORNER.

Stop the machine with the needle in the goods but just as it has started to rise. Raise the presser foot and turn the goods to the proper position using the needle as a pivot. Lower the presser foot and start the machine as before described.

### TO REMOVE THE WORK FROM THE MACHINE.

Stop the machine with the needle at its highest point, raise the presser foot which will automatically release the upper tension and with the right hand draw the work out directly back from the needle.

### STITCH ADJUSTMENT

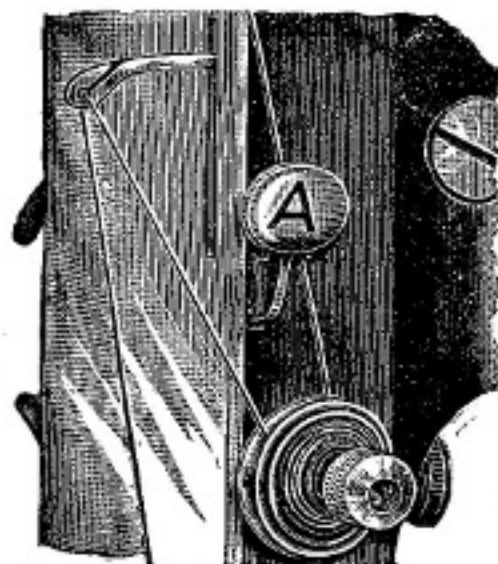


STITCH ADJUSTER

The Stitch Adjuster Nut is conveniently located under the arm, above the needle clamp screw. (See Fig. 9, Page 9.)

This nut is stamped with figures from 0 to 5. Turning the nut with the pointer to 1 gives the shortest stitch and at 5 the longest stitch. Intermediate lengths of stitch may be obtained by setting the nut with the pointer at or between any of the figures on the scale.

**CAUTION:**—Turning the NUT so the POINT is at (0) turns the FEED ENTIRELY OFF and the machine will refuse to FEED.



FEED REVERSE LEVER

### TO FASTEN THE THREAD ENDS OR TO BACK STITCH

It is often desirable to secure the ends of the thread in commencing or ending a seam. This can be done by simply pressing the lever button (A) shown in the accompanying illustration, which reverses the feed mechanism and causes the machine to sew backward as far as required or as long as pressure is placed on the lever. It is not necessary to stop the machine when reversing the feed.





## THE TENSIONS

This machine is fitted with an **Automatic** upper tension and when it leaves the factory is properly adjusted to handle different sizes of thread from 30 to 150 making a medium tight stitch on all materials ordinarily used; this adjustment is determined by an expert and is obtained by setting the adjusting nut so the line through the word "**Medium**" is opposite the arrow ←○ as shown in cut. To permit the operator to obtain a stitch a trifle looser or tighter the **tension nut** may be turned in either direction from the line marked **Medium**. To increase the tension turn the **Tension Nut** to the right at the top or so the word "**Tight**" comes toward the arrow ←○; to diminish the tension turn the **Tension Nut** in the opposite direction or so the word "**Loose**" turns toward the arrow ←○.

Bear in mind—only a half turn of the nut is provided for in either direction.

The lower tension is also properly adjusted for all ordinary sewing when the machine leaves the factory and ordinarily needs no further attention. In case it becomes






SHUTTLE  
TENSION  
SCREW

LOWER TENSION

necessary to change the lower tension for special work it may be done by means of the shuttle tension screw turning it to the right to tighten and to the left to loosen.

Operators are cautioned against unnecessary changing of the adjustment of the lower tension.

**NOTICE**—When the presser foot lifter is raised the automatic tension release is in operation and all tension is removed from the upper thread. To determine the amount of tension on the upper thread by drawing the thread through the tension by hand the presser foot must be resting on the needle plate.

Both upper and lower tensions being set properly will produce a stitch with the thread locked in the material thus:  if the upper tension is set too tight the loops will show on the upper side of the material thus:  if the lower tension is too tight the loops will show on the under side of the cloth thus: 

## DIFFICULTIES MOST FREQUENTLY ENCOUNTERED AND THEIR REMEDIES.

### Hard Running.

If your machine runs hard, clean out all the oil holes; freely oil all the bearings with kerosene or coal oil. Run it rapidly a few seconds, then wipe off the oil and gum, after which put on each oiling place one drop of good high-grade oil. More hard running is caused by poor oil than from any other cause.

### Don't Feed.

If your machine does not feed it may be caused by being gummed up by the use of poor oil. Treat it the same as for hard running.

The feed may be turned off; that is, the stitch may be so short that it does not feed the goods through. Remedy: Turn the stitch regulator in same direction as in lengthening the stitch until the feed works satisfactorily.

The presser spring may not be heavy enough. The pressure can be increased by turning to the right the thumb screw over the spring.

The needle plate may be rough around the needle hole, holding back the goods. Remedy: Smooth out with a strip of very fine emery cloth.

### Breaking the Upper Thread.

This may be caused by: Improper threading of the machine; the upper tension being too tight; the needle being too small for the thread; the needle set the wrong side out, or set crooked; the needle being too large for the hole in the needle plate; the shuttle race being gummed, in which case it should be rubbed clean with a piece of cloth having a drop of oil on it; or by the shuttle not having sufficient room in its carrier so that the thread will pass freely around the shuttle. When using silk thread, set the needle lower than for cotton. If too high, silk will rough up and break.

### Breaking the Lower Thread.

This may be caused by: The shuttle being wrongly threaded; the tension being too tight; the bobbin being wound too full, so it will not revolve freely; by the bobbin being wound too loose and soft; by a rough or sharp place around the needle hole in the throat plate; or by dirt or lint in the inside of the shuttle.

### Breaking of Needles.

If the needle breaks, it is more than likely your own fault, caused by pulling the goods to or from you, or in such a man-



ner that the needle strikes the throat plate, and is bound break. The needle may, however, break in trying to sew tremely heavy seams when the pressure on the presser foot is not heavy enough. To create more pressure upon the goods, turn the presser bar adjusting nut on the top of the presser bar to the right, to decrease the pressure, turn it to the left. A blunt or hook point needle will cause trouble and bad work.

### Cause of a Machine Missing Stitches.

Should there at any time be skipped or long stitches at intervals, it is owing to the needle being set too low (or too high in very heavy sewing), or its having become bent away from the shuttle, or its being too small for the thread in use, and sometimes the point of the shuttle becoming accidentally blunted. When using very fine needles, and also when stitching heavy work, be sure that the points of the needles are perfect and on a line with the center of the direction of the needle, and not blunted or turned over. An imperfect needle may cause any machine to miss stitches.

The presser bar spring must be strong enough to hold the goods down when the needle is being pulled up out of the goods. If not, then the machine is liable to skip. Dirt or gum on the shuttle race often causes machines to both skip and break threads.

### Bad Stitching.

If your machine should make bad stitching, uneven, etc., it is due to the tensions not being properly adjusted. The machine must be threaded right, and the proper sized needles used for the thread. Many people use too large threads when sewing light fabrics. To illustrate: It is impossible to make a good looking stitch on any machine with, say, No. 40 cotton when sewing two thicknesses of calico or shirting. No. 70 cotton is stronger than the fabric, and will make a handsome stitch.

Do not allow lint or dust to accumulate in the shuttle or under the shuttle tension spring, as any foreign substance inside of the shuttle (particularly in the inner end) will prevent the proper action of the bobbin; and under the tension spring will render the shuttle tension inoperative.

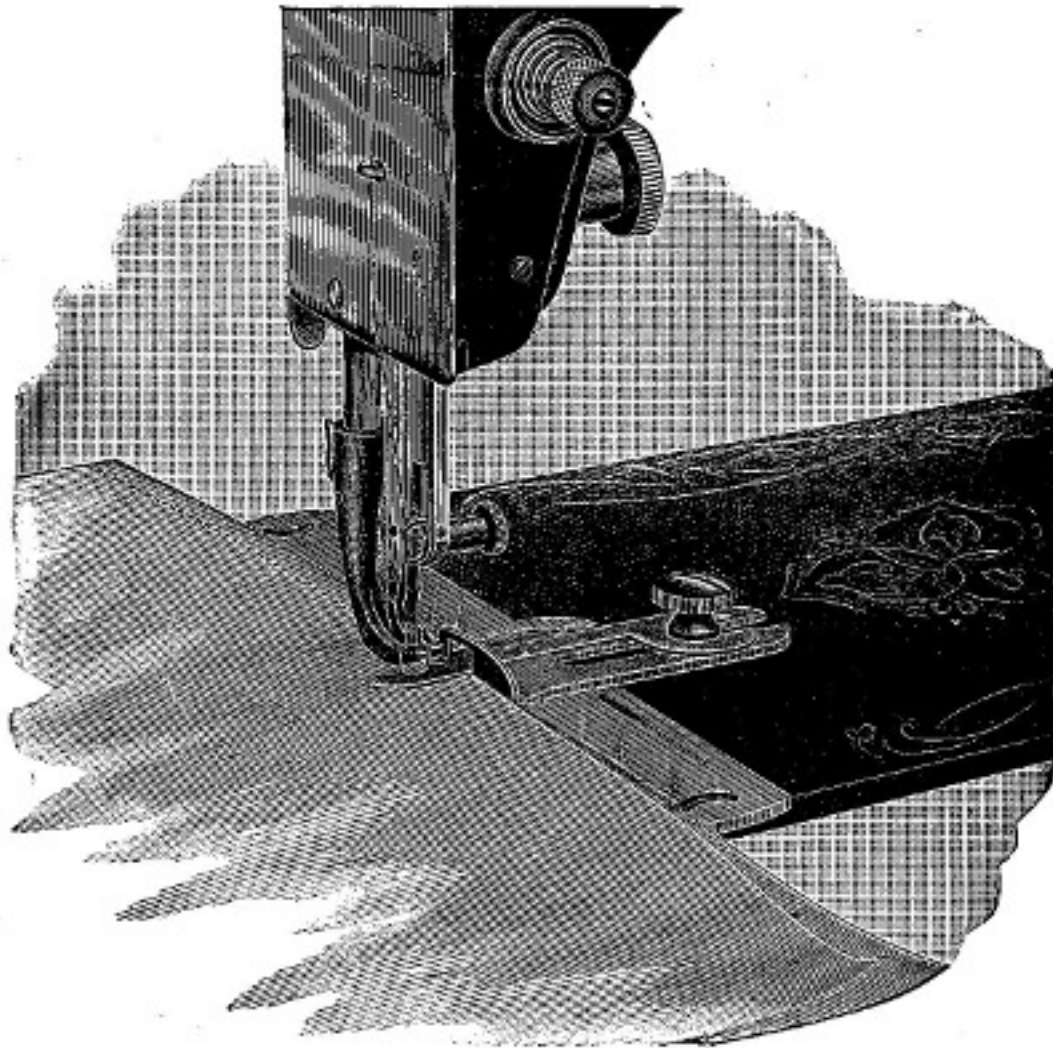
The thread should be fine enough so that it will be bedded or drawn into the fabric. The garment wears longer and looks better. When coarse threads are used, the stitching lies on the outside of the fabric, and is therefore worn away first.

No part of the machine head should touch the wood-work. The machine head should rest entirely upon the rubbers.

Never run the machine with the race covers open, except it is done with the hand, and very slowly.

Practice upon strips of cloth, and do not attempt practical sewing until you can guide the material and produce a regular motion of the machine.

FIG. 13



### GAUGE AND SELF-SEWER.

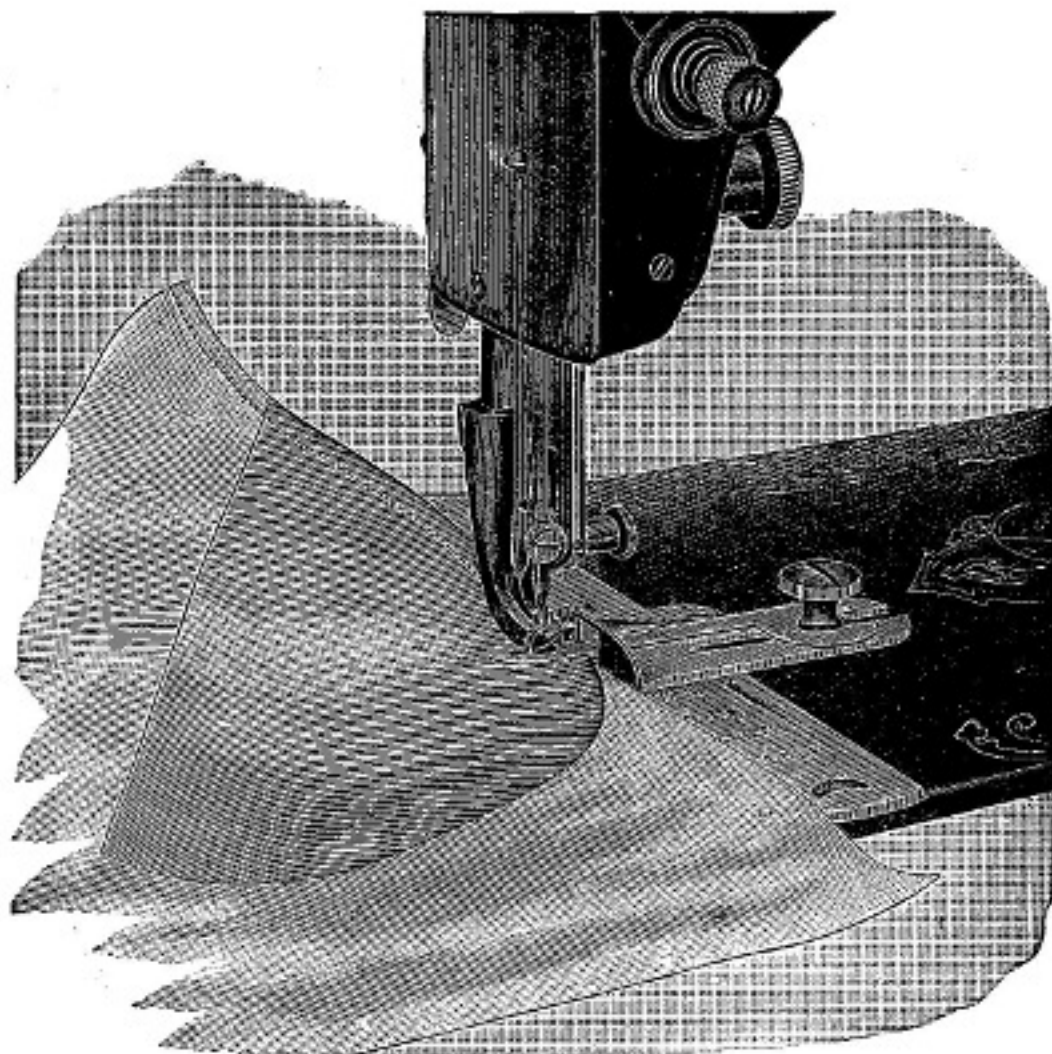
Attach the Gauge and Self-Sewer to the machine by means of the Gauge Screw, having the wire loop on the end of the spring, over the "toe" of the Presser Foot as shown in the above illustration.

Set the gauge as far from the needle (to the right) as you desire to have the line of stitching from the edge of the material. Place the material under the spring and against the gauge to the right of the needle; lower the presser foot and sew as usual.

The spring will hold the material smoothly against the gauge, thus insuring a perfectly straight seam.



FIG. 14



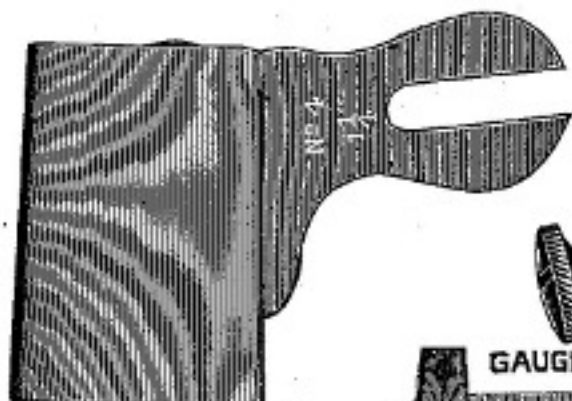
### GAUGE AND SELF-SEWER.

Figure 14 illustrates the operation of sewing a curved piece on a straight one, without basting; using for that purpose the Gauge and Self-Sewer.

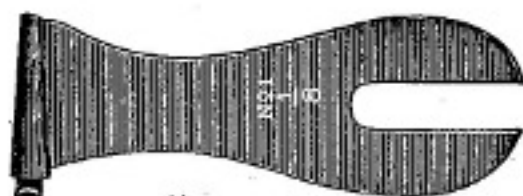
This attachment is invaluable in sewing straight or parallel seams, a curved edge on a straight one, or two curved edges together; also in an almost inconceivable variety of similar work, as all can be done without basting by using this attachment.

Note—The spring can be detached and the Gauge used alone when desired.

# ATTACHMENTS



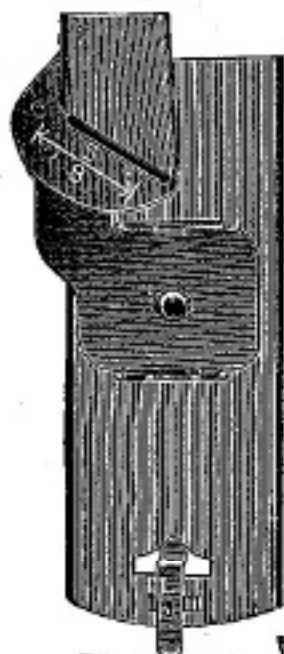
1 1/4" HEMMER (SHANK)



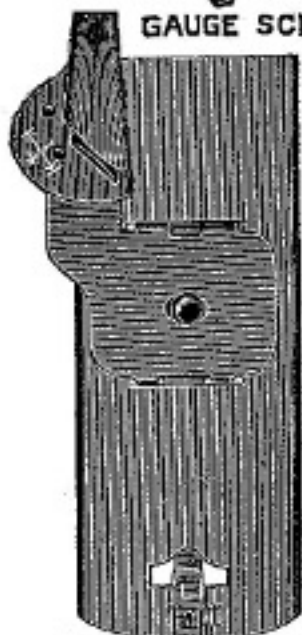
1/8" HEMMER (SHANK)



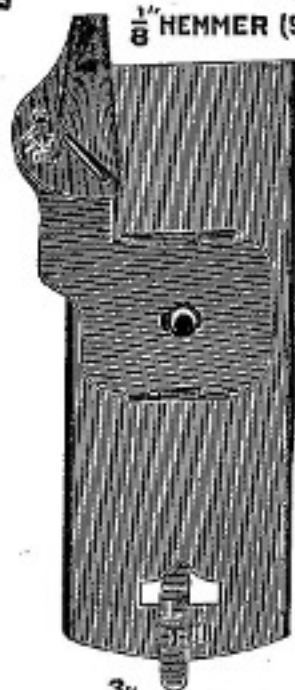
GAUGE SCREW



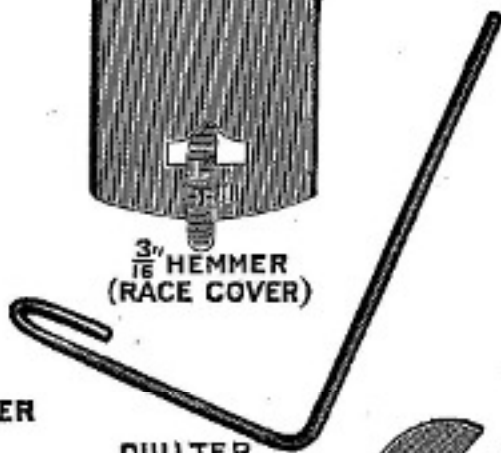
1/2" HEMMER (RACE COVER)



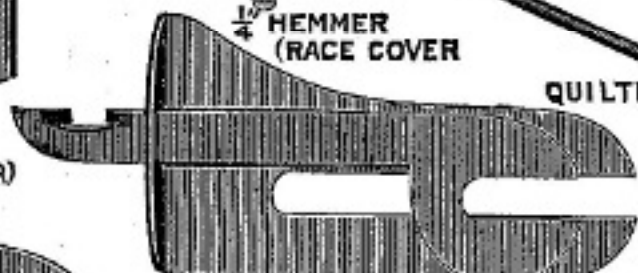
1/4" HEMMER (RACE COVER)



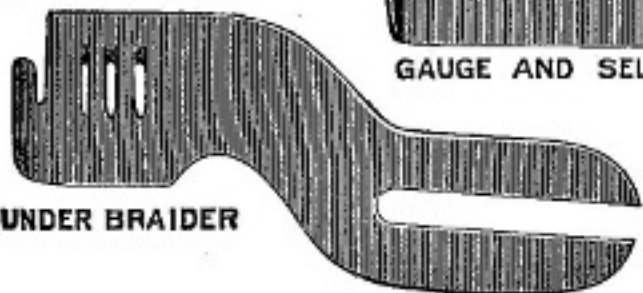
3/16" HEMMER (RACE COVER)



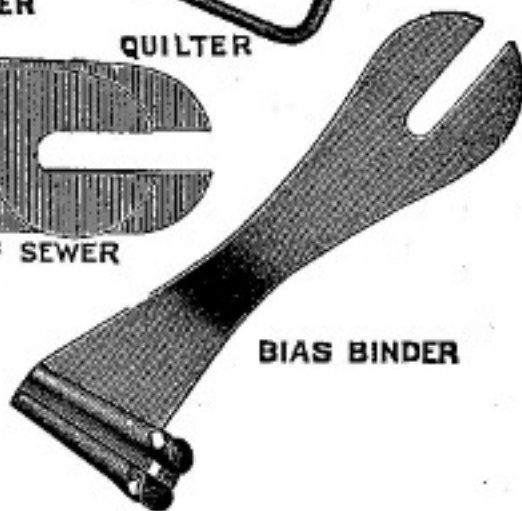
QUILTER



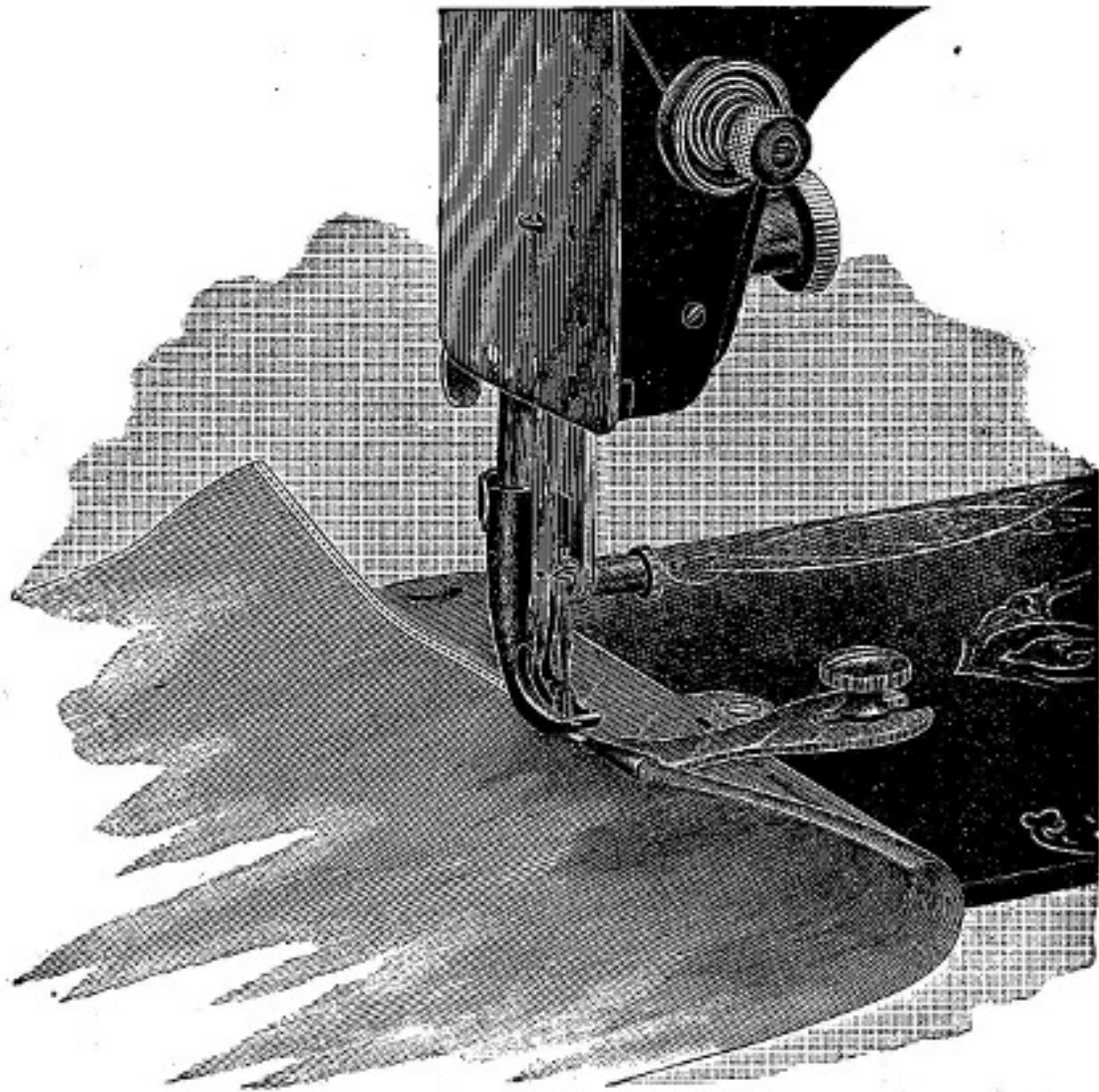
GAUGE AND SELF SEWER



UNDER BRAIDER



BIAS BINDER



### HEMMERS.

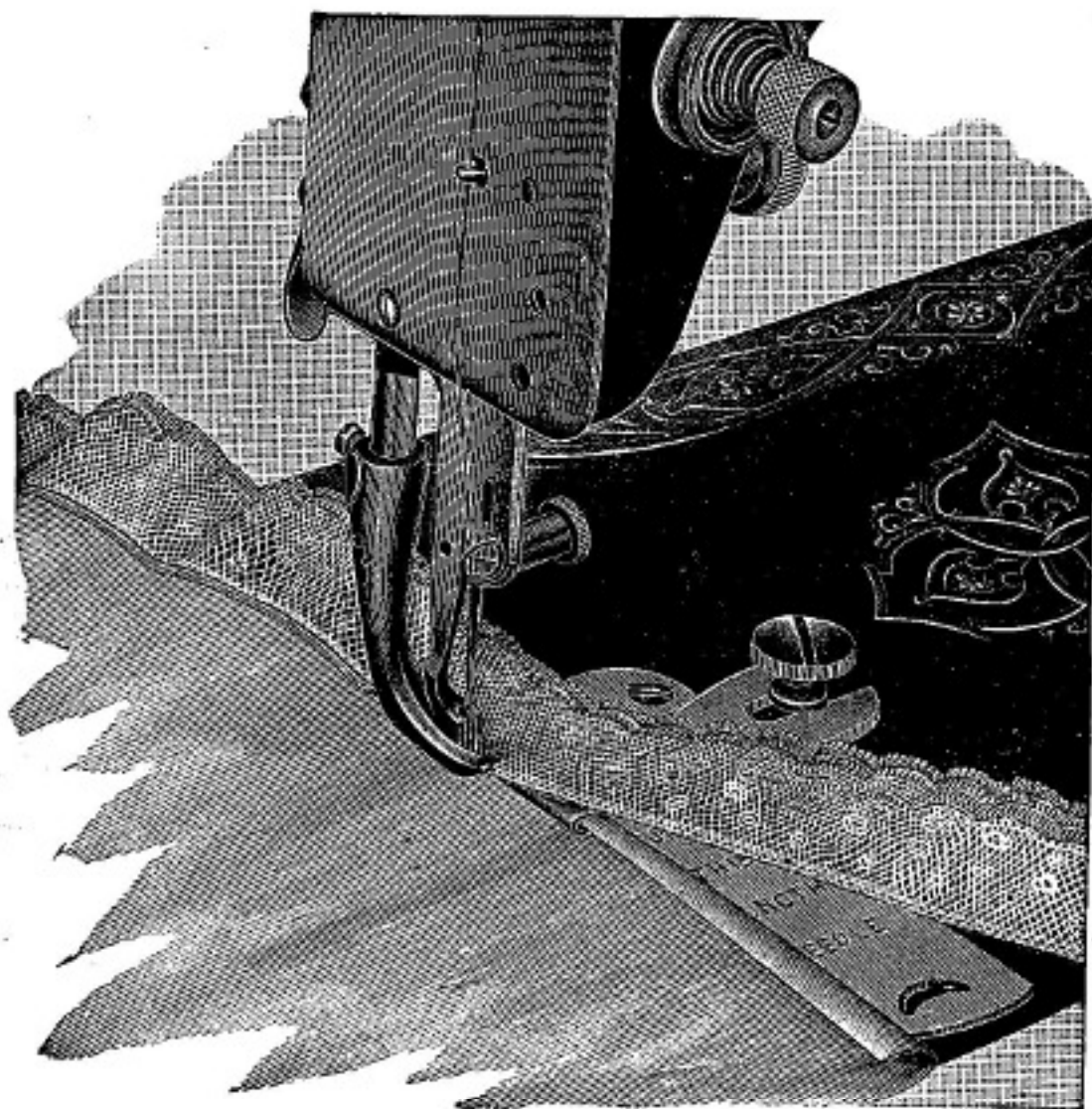
Five hemmers are furnished with each Machine. The largest ( $1\frac{1}{4}$ -inch) and smallest ( $\frac{1}{8}$ -inch) are of the "shank" pattern which attach to the bed plate by means of the gauge screw shown on the opposite page. The slot in the shank of hemmer permits of adjustment to the right or left to bring the line of stitching to the desired position on the hem.

The three intermediate sizes of hemmers are of the race cover pattern which fit in the bed plate in place of the front shuttle race slide and should fit up close to the needle plate. These three hemmers are adjusted by means of the lever (L) which moves the scroll either to the right or left as the case may require.

When the hemmers have been attached, work the edge of the goods to be hemmed into the scroll until it is just full enough to make a nice even hem; lower the presser foot and commence to sew, guiding the goods to keep the scroll properly filled.



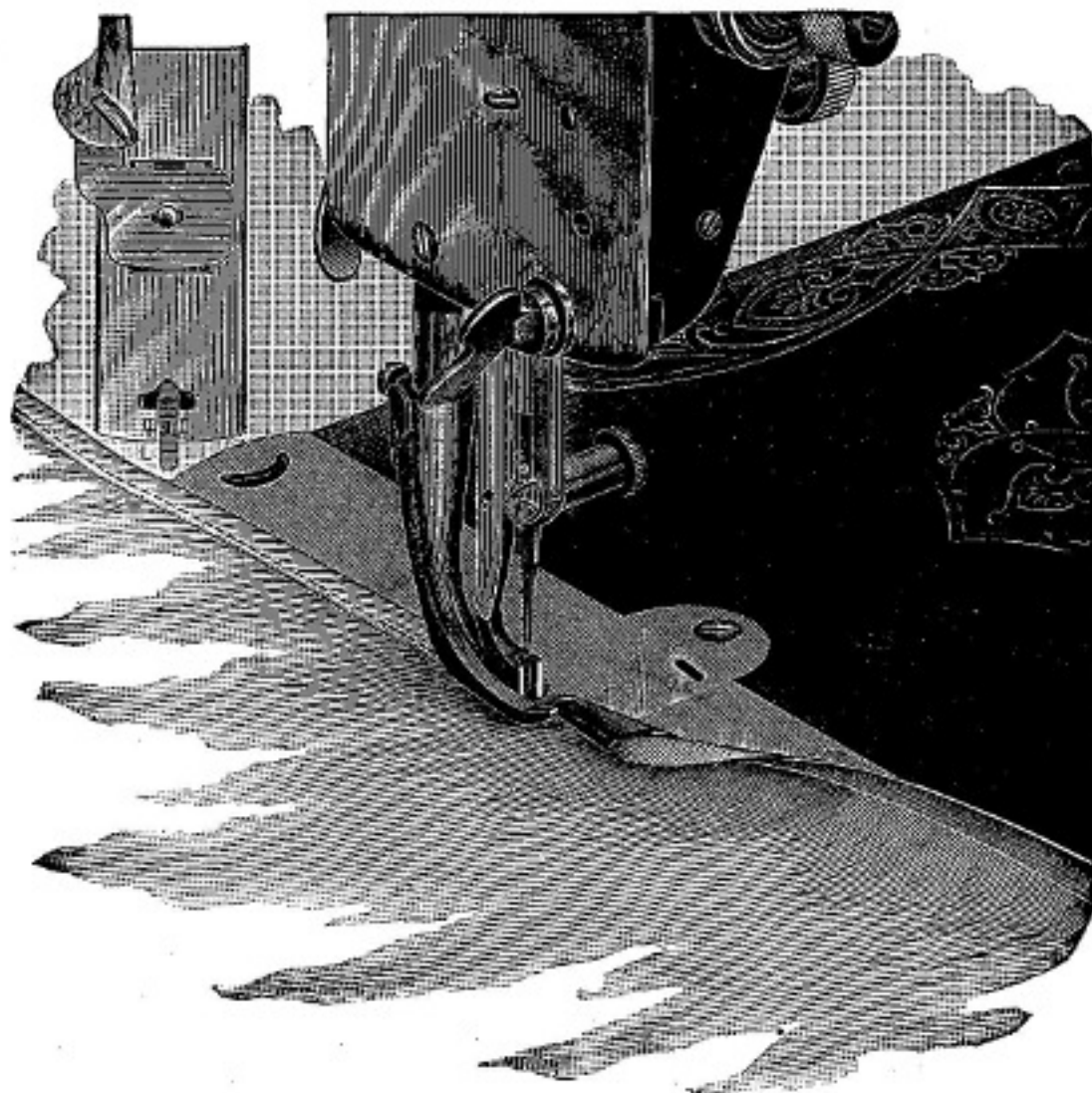
FIG. 17



**HEMMING AND STITCHING ON LACE IN  
ONE OPERATION.**

Attach the hemmer and insert the material as shown on Page 17, Figure 16. Place the lace over the scroll of the hemmer and under the presser foot so that the needle catches the edge. Lower the presser foot and sew as in regular hemming, guiding the lace so the needle will catch it.

FIG. 18

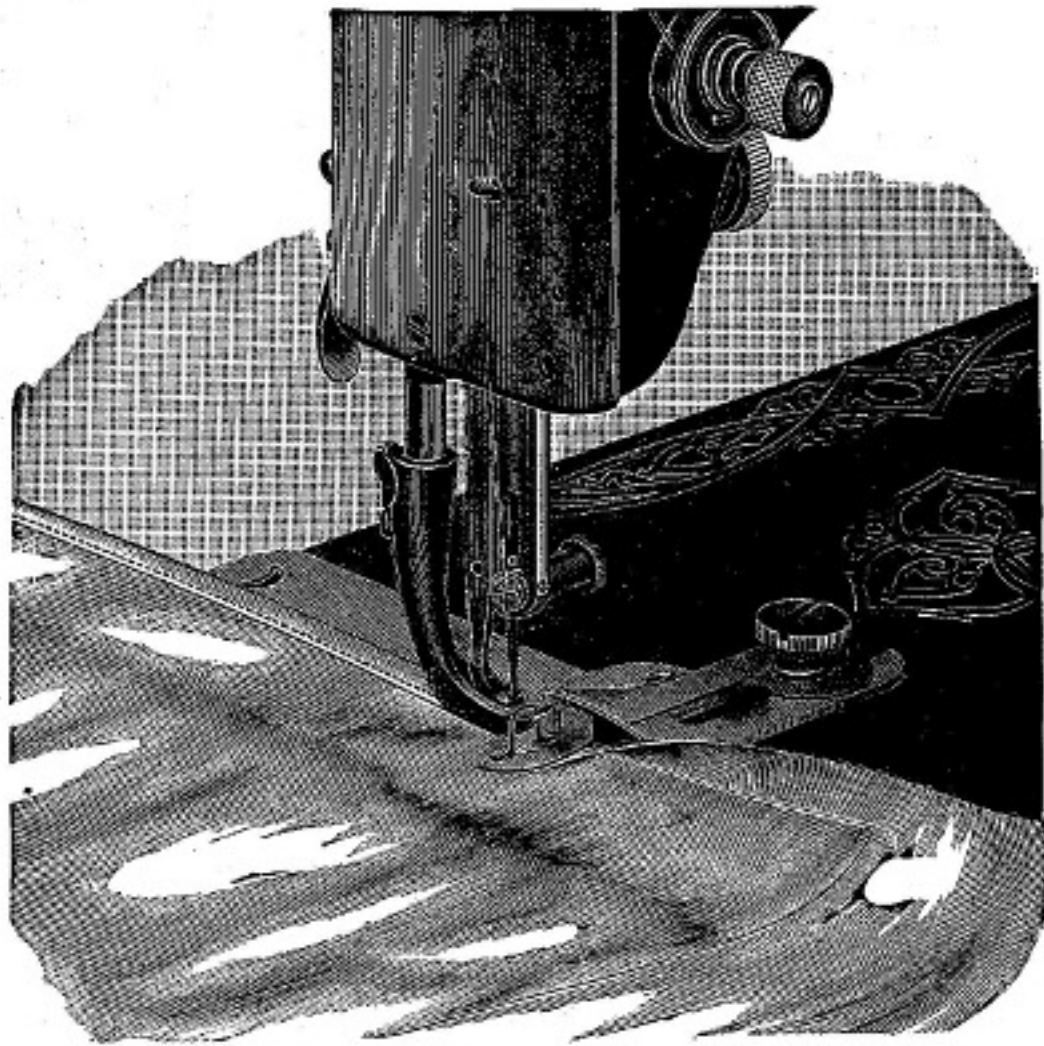


### FELLING WITH HEMMER.

Select a hemmer to turn the desired width of fell; attach to the machine as instructed on Page 17. Arrange the material so the under piece will extend from under the upper about one-eighth of an inch; work both pieces into the scroll of the hemmer, the same as in hemming, for the first operation. The second operation is to sew the welt down stitching close to the edge which makes a perfect felled seam. See Fig. 20, Page 21.

When the first felling operation is done with the hemmer, the welt can be folded either to the right or left before stitching down.

FIG. 19



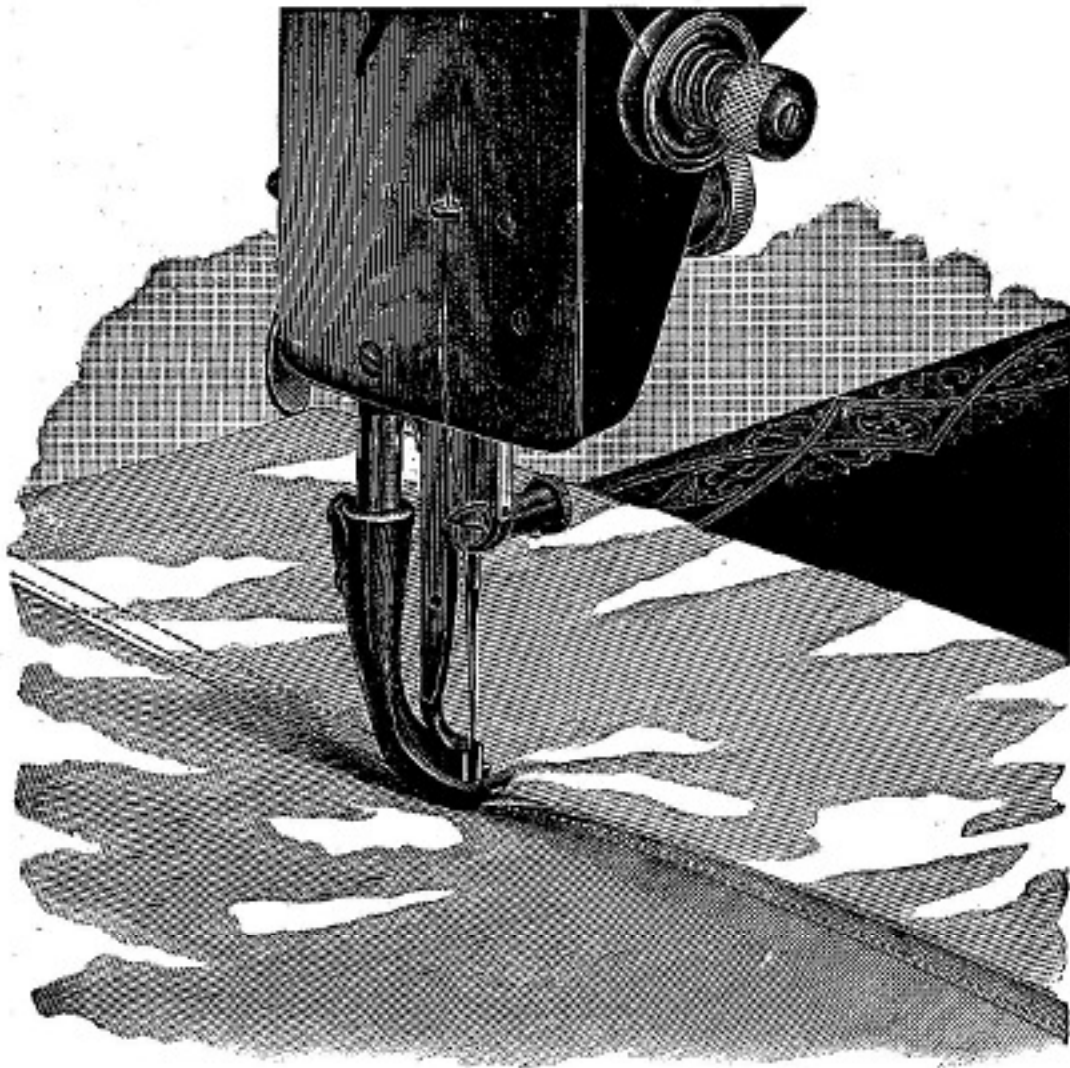
### FELLING WITH GAUGE AND SELF-SEWER.

Attach the gauge and self-sewer to the bed plate by means of the gauge screw. See that the staple on the end of the spring is over the toe of the presser foot and raise the foot.

Arrange the material with the under piece extending from under the upper to form a felled seam as wide as desired. Place the folded end under the spring and presser foot, lower the presser foot and sew as usual for the first operation. Remove the gauge, spread the goods out and sew the welt down by stitching close to the edge as shown on the following page. (Fig. 20.)

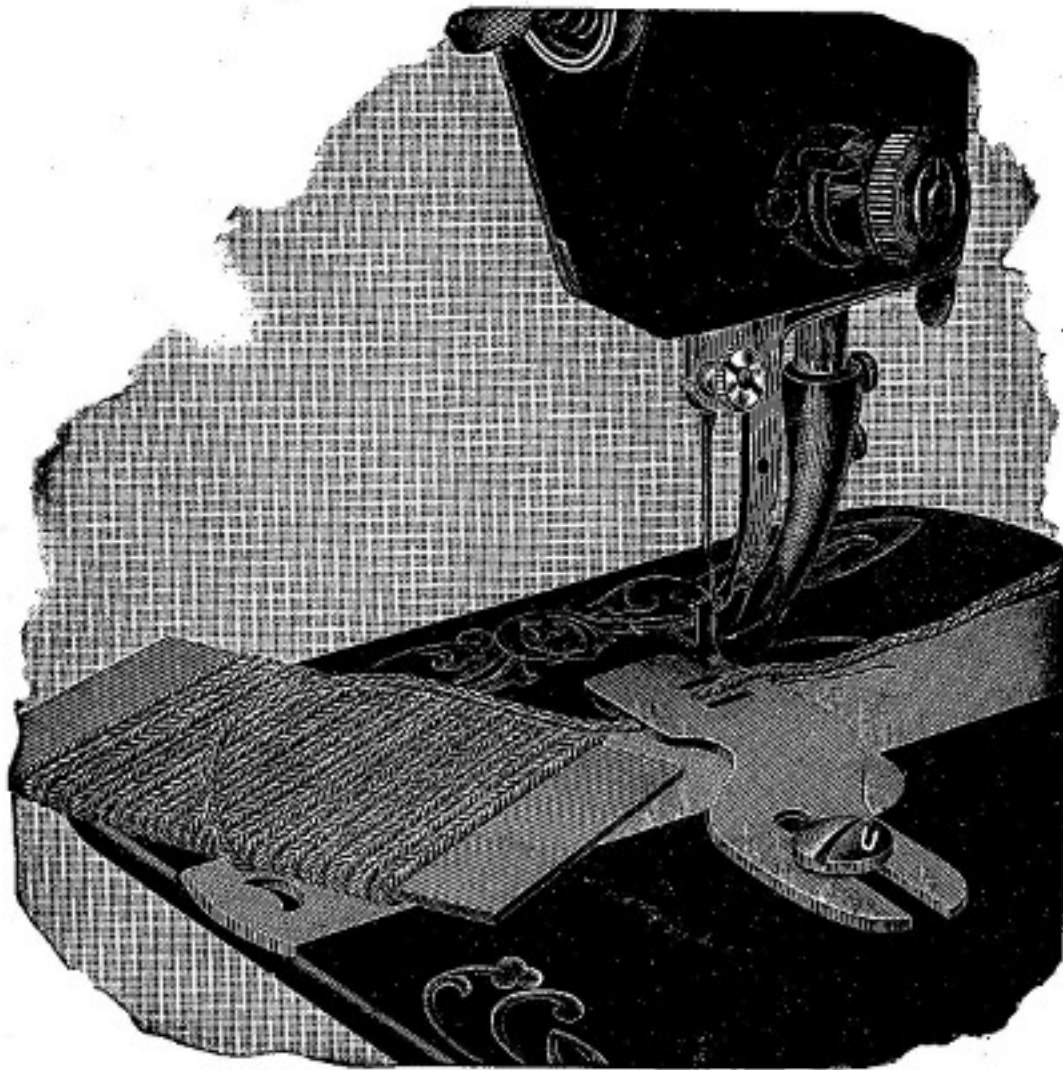


FIG. 20



**FELLING WITH GAUGE AND SELF SEWER.**

(Second operation as described on opposite page.)



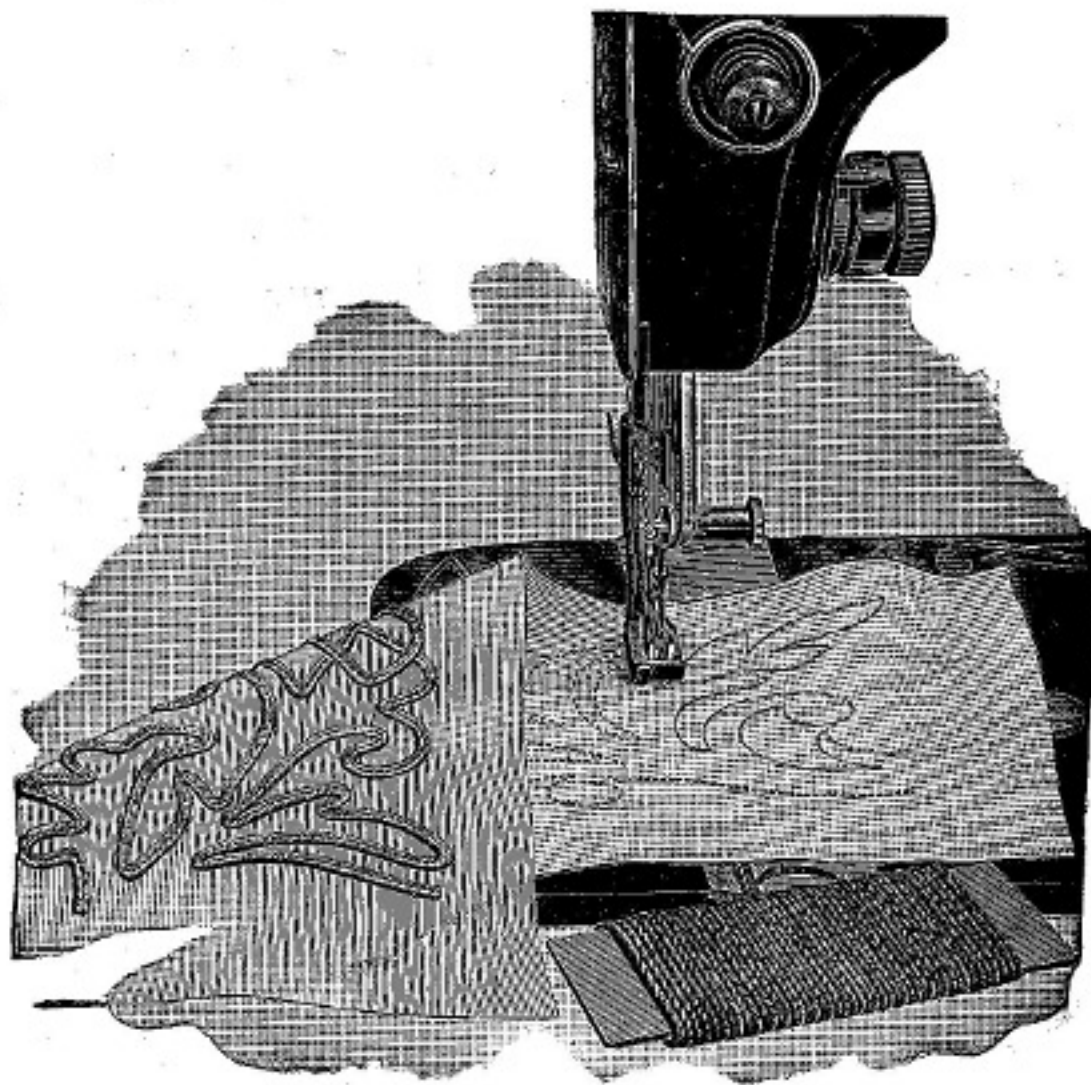
### TO THREAD AND ATTACH THE BRAIDER.

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. Attach the Braider to the machine so the slot used will be directly over the slot in the throat plate, and so the needle will pass down in the front end of the Braider slot **without touching**. Fasten the Braider securely with the Braider screw (U). Draw the shuttle thread up through the braid, as explained on Page 9, "to draw up the shuttle thread."

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

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

Three sizes of slots are made, to adapt the Braider to different sizes of braid. The braid should pass freely through the slot.



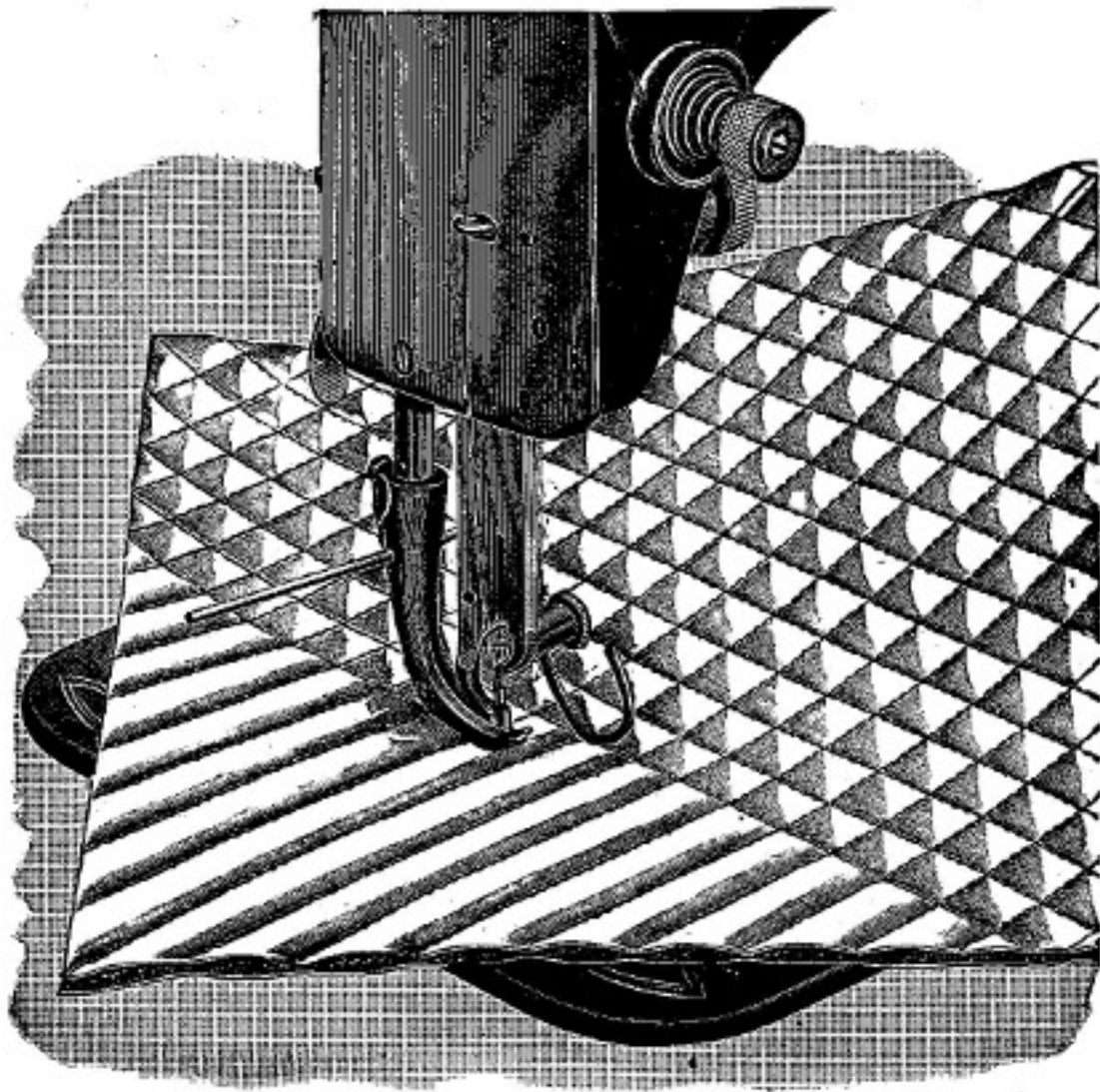
### BRAIDING.

Place the goods on the Braider and under the presser foot, 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. 22.

To make a square or sharp angle, sew to the point of turning; stop the machine while the needle is rising, and before it is out of the cloth; slightly raise the presser bar and swing the cloth round on the needle. Care must be taken in turning the cloth, not to pull the needle, thereby causing it to strike the plate and bend or break.

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





### QUILTING.

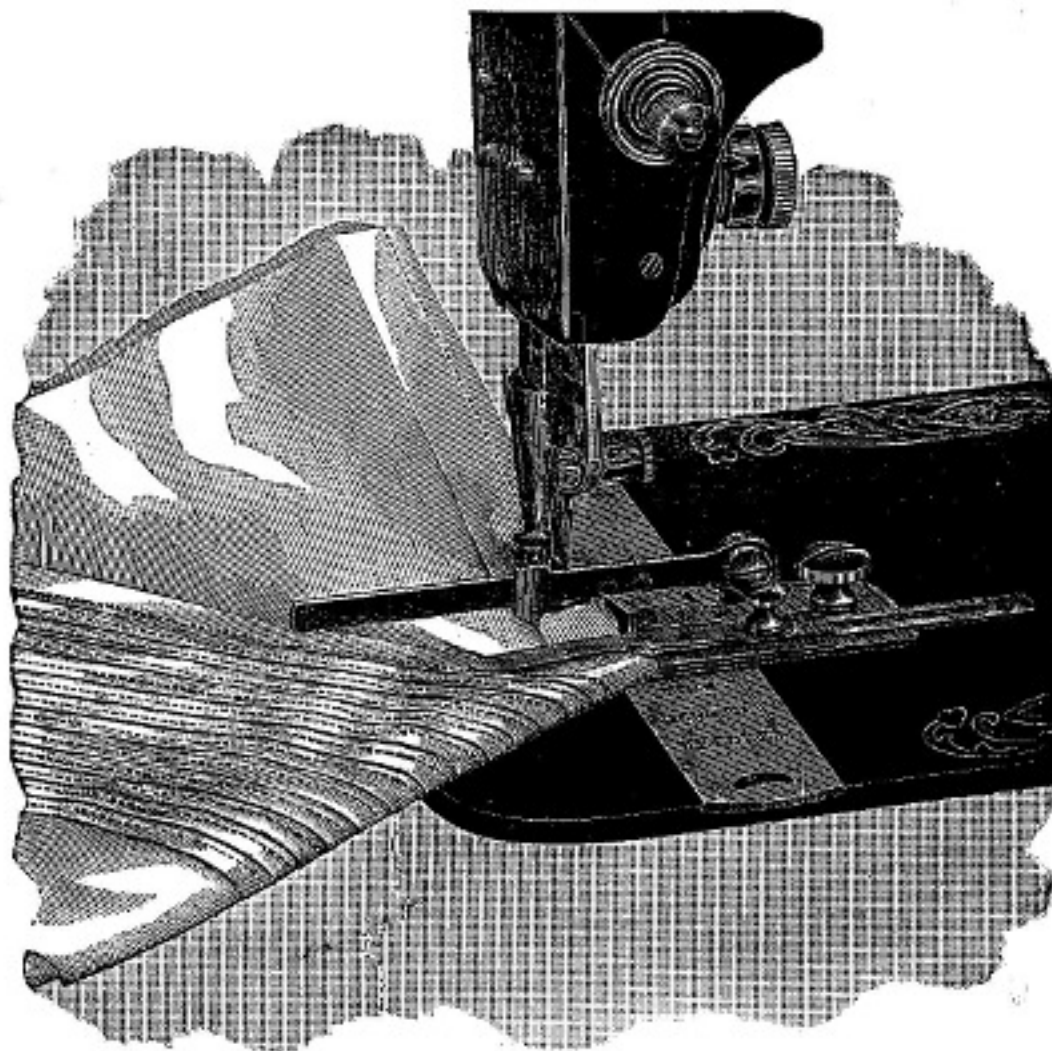
In preparing the material for the above operation, select a piece of goods of firmer texture for the under side than that of the upper. Cotton batting should be used between the material in quantity sufficient to make the tufts as desired.

Attach the Quilter to the machine by running the shaft through the hole in the shank of the presser foot and fasten it securely by the lower screw on the back of the presser foot. This should be set with the goods in position and the presser foot down so that sufficient clearance will be left for the goods to pass freely under the foot.

The round shoe of the quilter serves as a guide and the distance between the needle hole and the shoe of the quilter represents the distance between the lines of stitching.

Extreme care should be taken to have the first line of stitching absolutely straight as each line of stitching after, depends upon the first.

FIG. 24



## TUCKING.

To attach the tucker; lower the presser bar; fasten the tucker to the bed plate by means of the gauge screw, having the angle piece on the back of the tucker lever set directly over the toe of the presser foot so that when the presser foot raises, the lever will lift the creaser block and allow the goods to pass freely through the tucker.

On the bed of the tucker will be found a scale  $3\frac{1}{4}$ " long divided into  $\frac{1}{8}$ " spaces. Long mark "O" represents the line of stitching. The distance between mark "O" and the gauge to the right represents the width of tuck. The creaser blade and block should be set twice as far to the left of mark "O" as from this mark to the gauge on the right which makes a series of tucks, the edge of which on one will just meet the line of stitching on the next tuck. To make space between the tucks increase the space between mark "O" and creaser blade and block on the left.

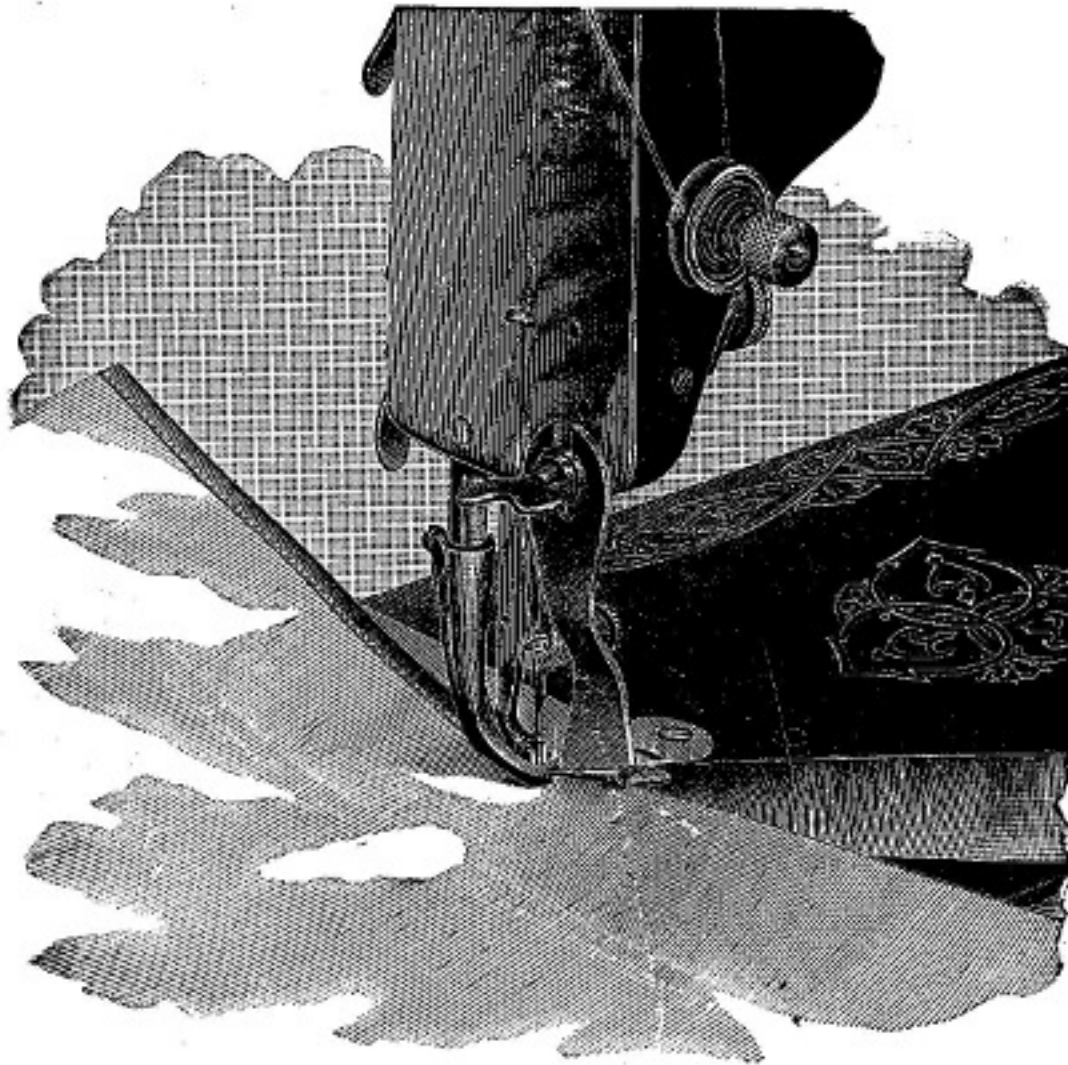
When the gauge and creaser have been set, fasten them firmly by means of the thumb screw on the tucker bed near the gauge screw, and the screw in the tucker creaser block.

The first crease should be made perfectly straight by hand and draw over the sharp edge of some object to make it permanent and each succeeding crease made by the creaser should be treated in the same manner.

Raise the presser bar, place the creased material in the tucker under the flat spring and against the gauge to the right of the needle and under the presser foot with the needle at its highest point.

After placing the goods in the proper position, lower the presser foot and sew as usual. For the next tuck, fold the material at the crease just made by the "TUCK MARKER" and repeat the operation described above.

FIG. 25




### BIAS BINDER.

Attach the binder as per the above illustration by means of the winged screw in the lower front corner of the face plate. The small end of the scroll should set close to the presser foot but not close enough to come in contact with the foot and retard its action on the material. The scroll should also be set close to the bed plate.

When the binder is found to be in the proper position, it should be set firmly by means of the winged screw.

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





### BIAS BINDING.

Pass the binding through the roll of the binder and draw it back under the presser foot and needle. Place the material to be bound in the binder and draw it back under the presser foot between the folds of binding, lower the foot and sew as usual.

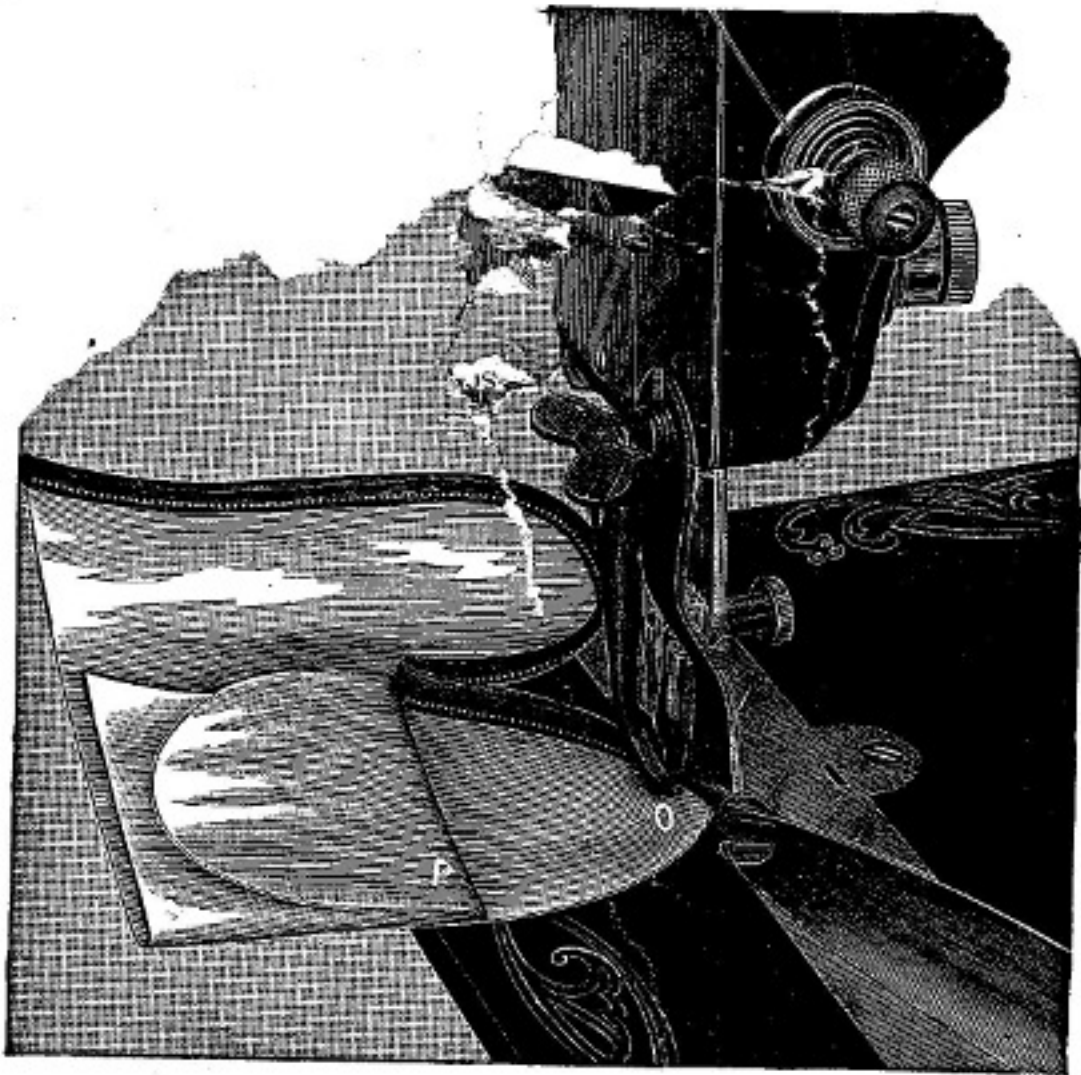
The illustration on the opposite page shows the binder and material in the proper position.

For bias binding, material of any description may be used. For the regular bias binder furnished with this machine, the binding should be cut seven-eighths of an inch in width. If very light or slazy material is used, the binding should be cut a trifle wider in order to have the edges properly turned under.

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### TO BIND WITH COMMON DRESS BRAID.

Proceed the same as when using bias binding, the only difference being that the dress braid is narrower and the edges will not be turned under as in bias binding.

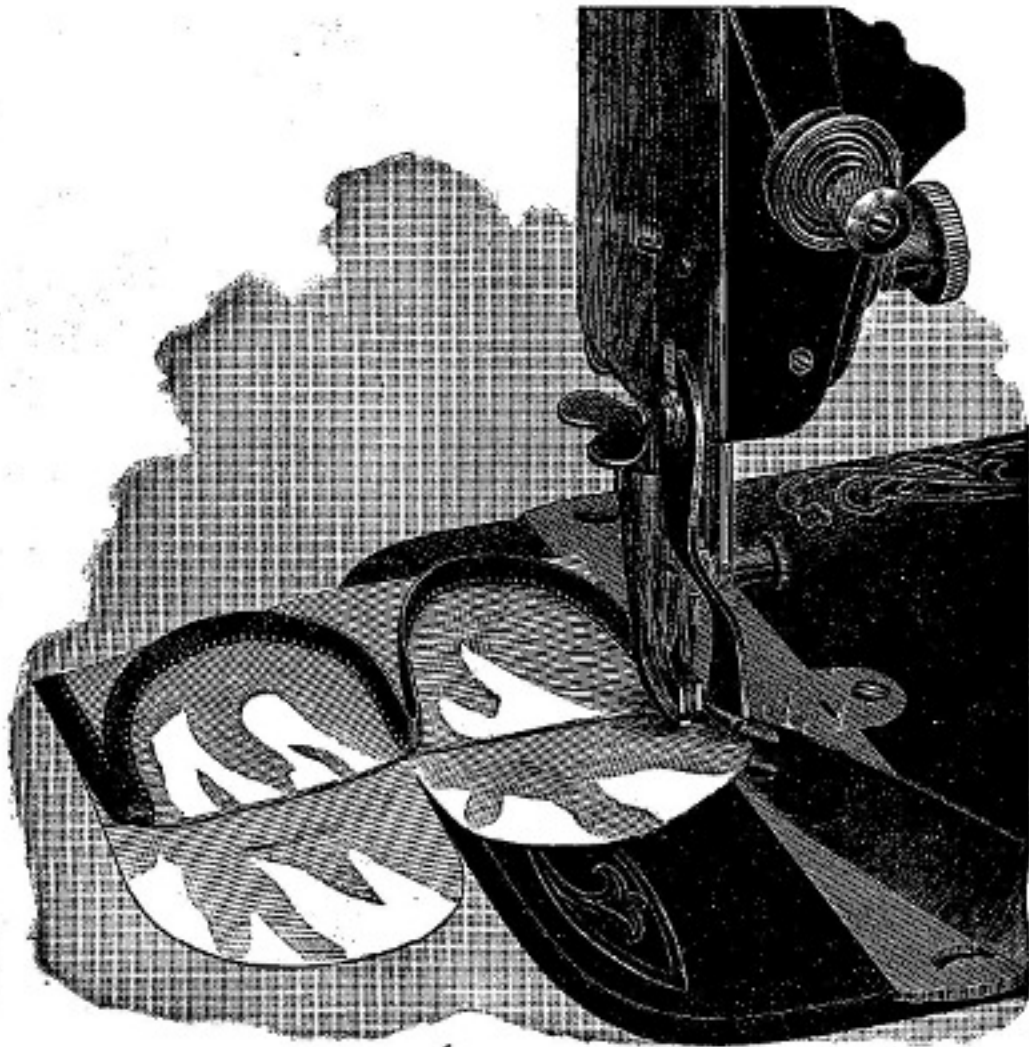


### BINDING SCALLOPS.

Attach the binder and insert the binding and material to be bound as instructed on Pages 26 and 27. Bind around to about the center of scallop as shown in illustration (Fig. 26, Page 28). Fold the material over from you at the angle between the scallops and fold the upper scallop to the left evenly as shown. Bind around the edge of the folded scallop (O), being careful to keep the edge of the scallop being bound between the folds of the binding as it leaves the scroll and under the needle. When binding down into the angle between the scallops, sew close to the folded edge of the next scallop (P) but stop the machine with the needle in the goods just before the needle reaches the folded edge.

(Continued on page 29.)

FIG. 27



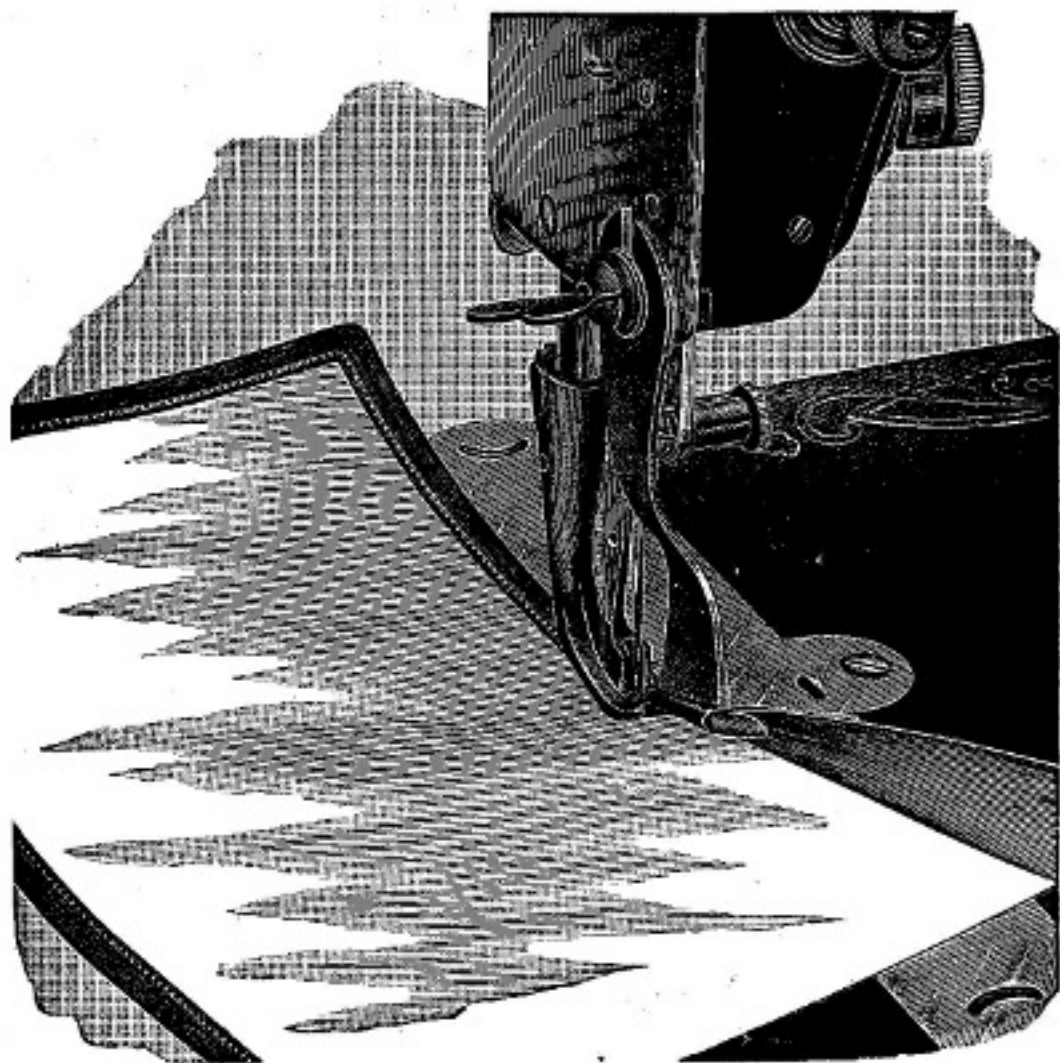
### BINDING SCALLOPS.

Allow the needle to remain in the goods, raise the presser foot and fold the two lower thicknesses of material back under the scallop just completed as shown in the illustration above (Fig. 27) thus leaving the next scallop to be bound as shown. Sew to the center of the scallop and repeat operation for each scallop.

Note—When the machine is stopped for the purpose of turning the material at a point or angle in the binding, it should be stopped just after the needle has reached its lowest position and commenced to rise, but before it leaves the hole in the throat plate.

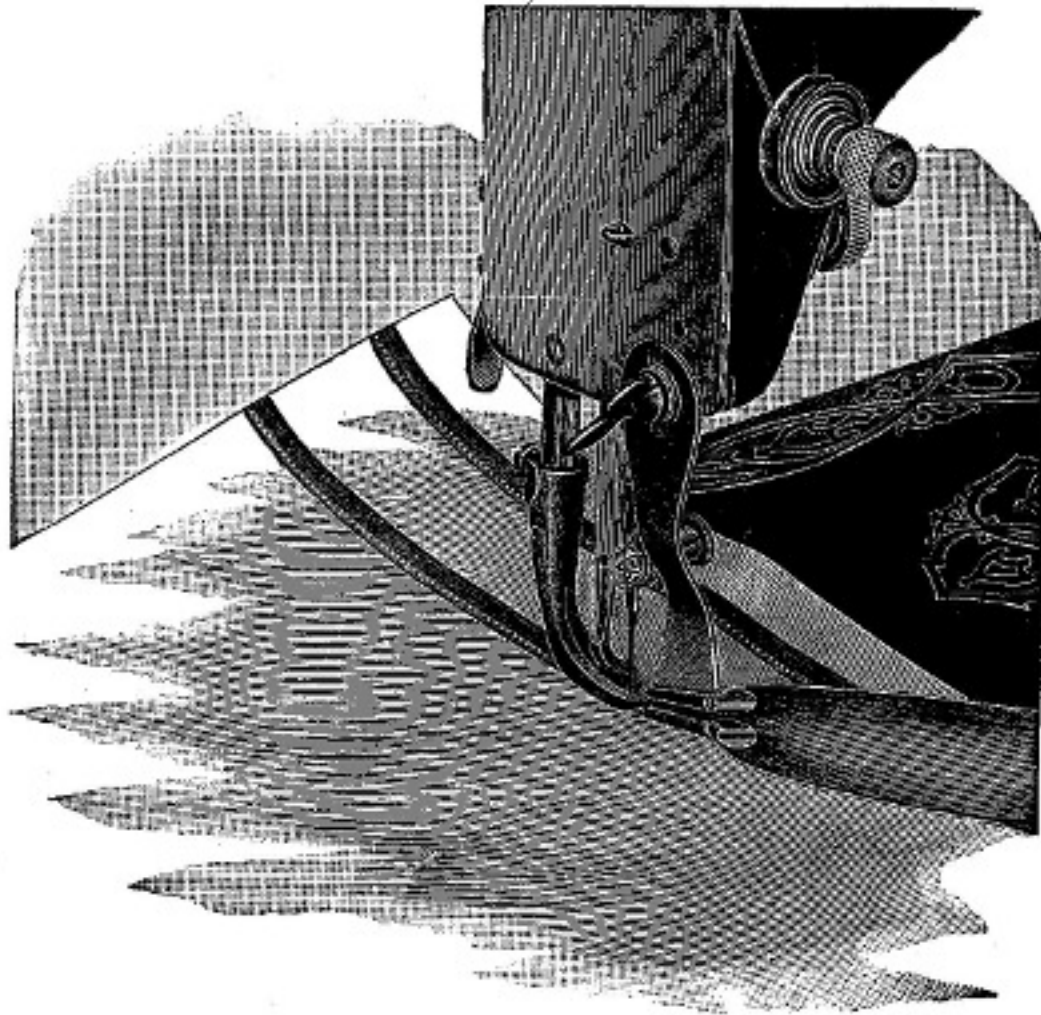


FIG. 28



### BINDING POINTS OR SQUARES.

Proceed in a manner similar to that heretofore instructed for binding scallops, folding the material in the same manner to complete the angles between the points and for the outer corners, stop the machine with the needle out of the material, raise the presser foot, turn the material and carry the binding back a trifle or enough to make small folds or plaits which should be laid with a small screw driver or stilleto to form perfectly square corners, lower the needle into the plait thus formed, lower the presser foot and proceed with the next side or point.



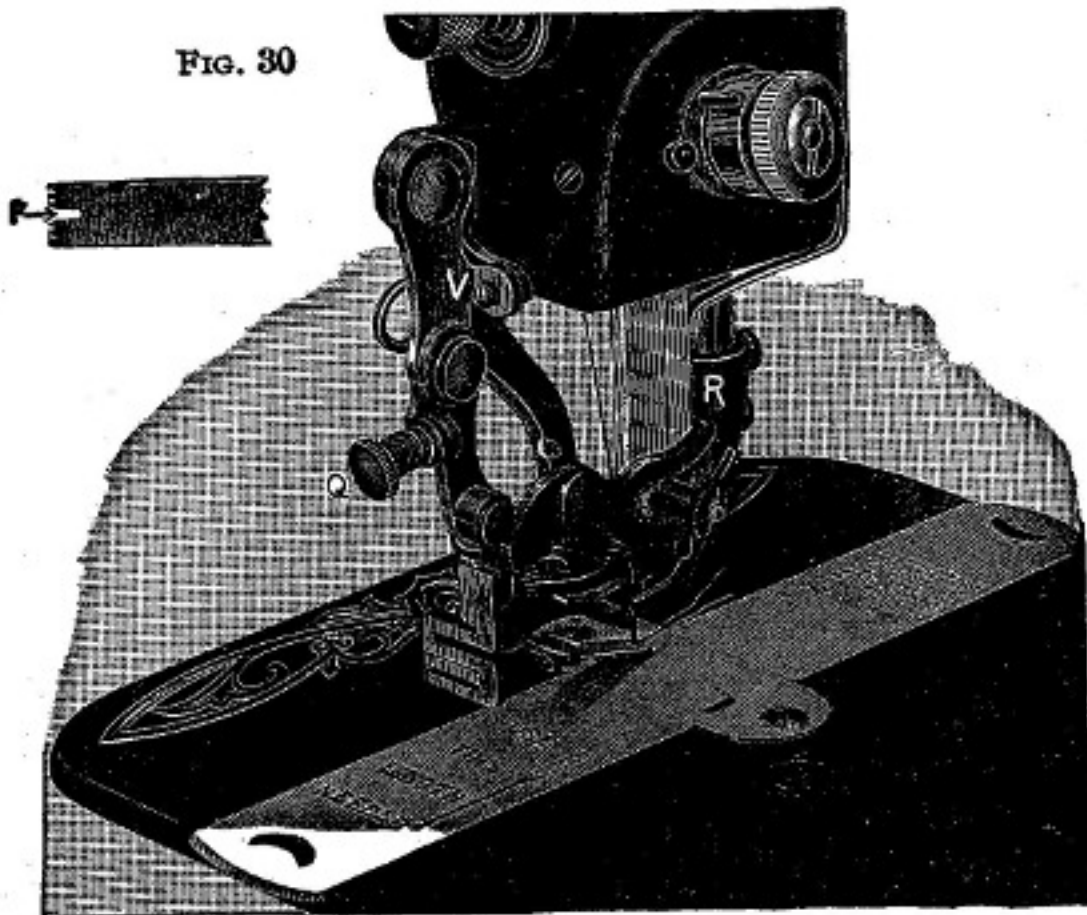
### TO MAKE FRENCH FOLDS.

Attach the binder as explained on Page 26. Pass the binding through the scroll of the binder and sew as usual, stitching the edges together.

### TO MAKE FRENCH FOLDS AND STITCH ON WITH ONE OPERATION.

Attach the binder as heretofore explained, but set the scroll high enough above the plate to allow the material upon which the fold is to be stitched to pass freely under the binder. Pass the binding through the scroll of the binder and place the material on which the fold is to be stitched under the scroll of the binder and sew as usual. This operation is illustrated above. (Fig. 29.)

FIG. 30



### TO ATTACH THE RUFFLER

Attach the special ruffler presser foot stamped 'R' in place of the regular sewing foot.

Raise the needle bar to its highest point, also raise the presser bar. Turn the winged screw out far enough to allow the ruffler to be set in place with the pin in position in the hole above the winged screw in face plate. In attaching ruffler, see that the forked lever engages the Needle Clamp Screw, then screw the ruffler in place firmly by means of the winged screw. The slot (F) in the end of the feeder spring should set directly over the needle slot in the throat plate and the points of the feeder spring should just pass the needle when the needle is in its forward position in the slot in the needle plate.

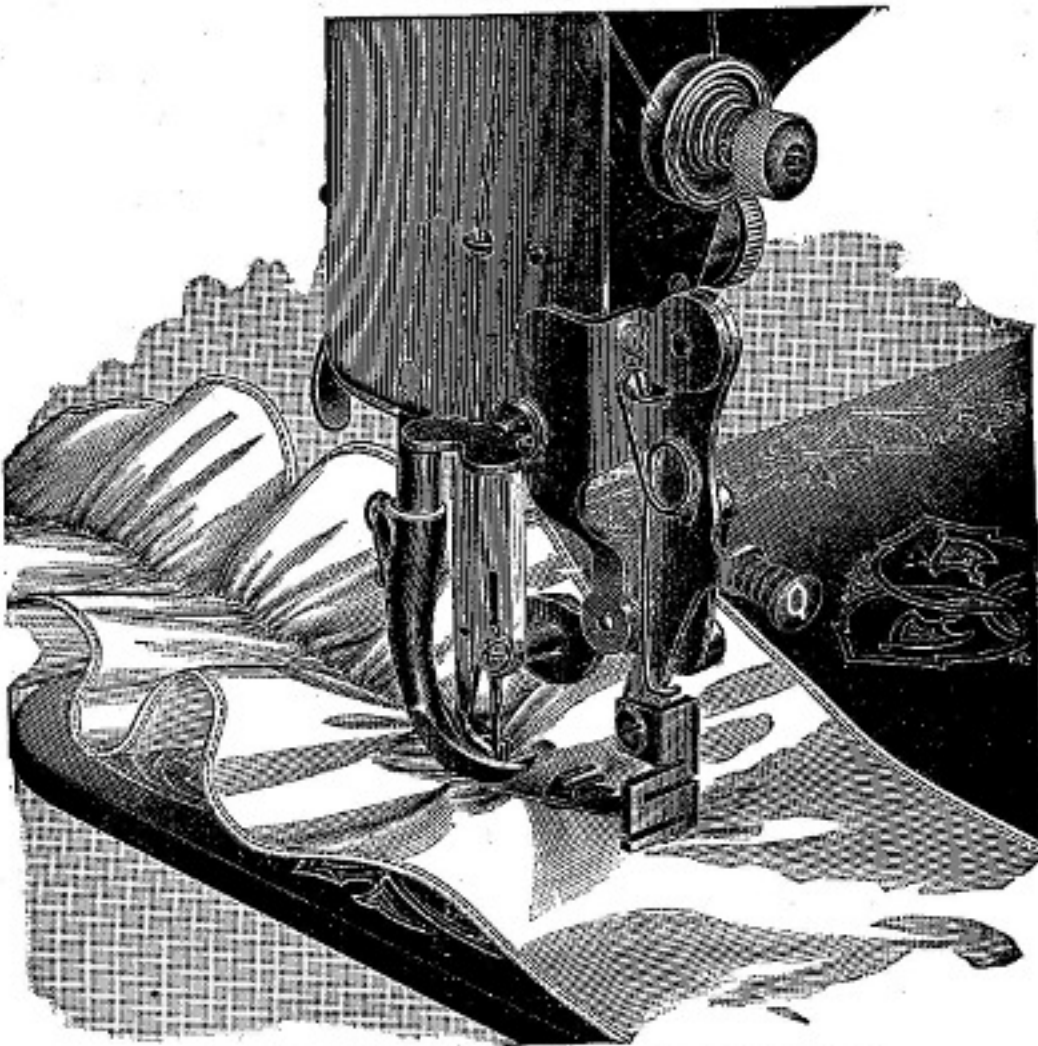
The ruffler properly attached is shown in the accompanying illustration.

A small drop of oil should be applied to the shank of the needle clamp to allow the ruffler cam lever fork to operate freely.

The fullness of the ruffle is adjusted by means of the thumb screw (Q) directly above the feed foot.

If upon attaching the ruffler it is found that the points on the feeder blade do not set in the right relation to the needle as explained, the adjustment can be made by means of the screw (V) shown in the angle piece just under the hinge rivet at the top. To carry the feeder blade forward turn this screw to the left, to carry the blade back, turn this screw to the right.





### TO GATHER (Without Sewing On).

Have the stitch short. This is necessary in all varieties of fine ruffling. Place the material to be gathered under the feed spring (F) as shown in the above illustration and sew as usual.

Regulate the fullness of the gathers by turning the screw (Q) to the right or left as explained on page 32.

If the gathers are to be laid near the edge, the lower slot (A) in the feed foot may be used as a guide by allowing the material to pass through it.

### TO GATHER AND SEW ON.

Place the material to be gathered under the Ruffler Feed Spring (F) and the piece or garment upon which the ruffle is to be laid, under the piece to be gathered. Sew as usual, holding the under piece lightly, so it will not be "fulled."

Note—The ruffle can be made, and at the same time sewed on the garment in any desired position.

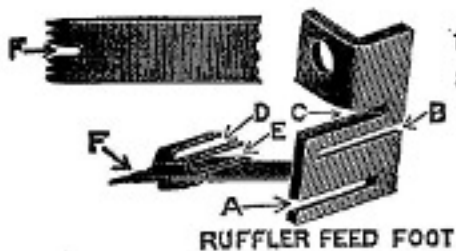
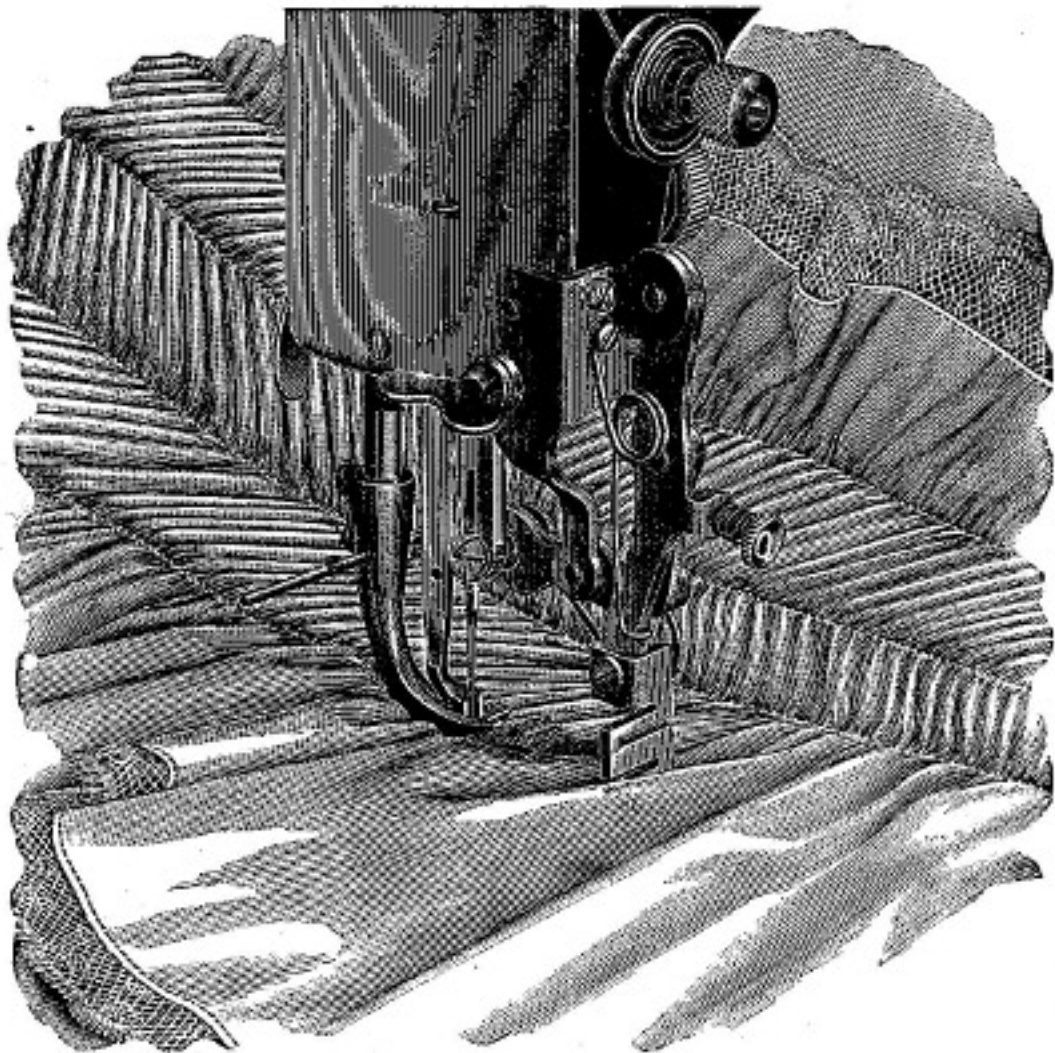
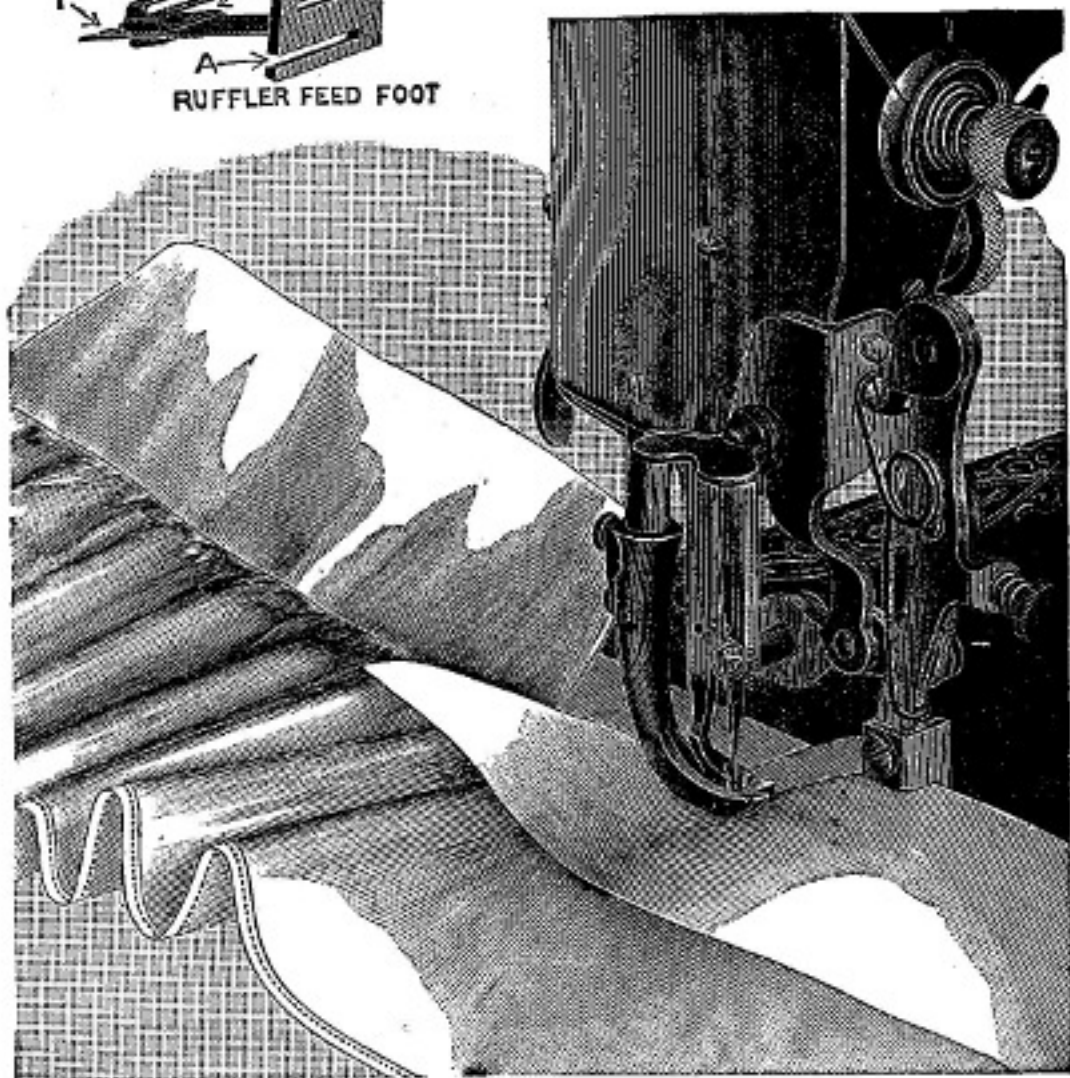
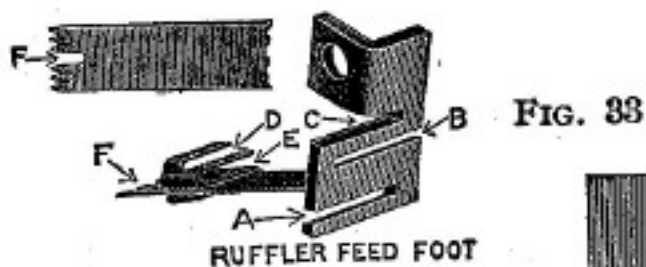


FIG. 32



### SHIRRING.

Attach the Ruffler as described on page 32. The quilter is used as a guide to regulate space between lines of stitching. Fold and slightly crease the goods through the center as a guide for the first line of stitching. Place goods under the feeder spring (F), and then stitch along the folded crease, making the desired fullness by regulating the length of stitch with the stitch regulating nut Fig. 10. The length of stitch makes fineness, and the screw Q fullness. To obtain the effect shown in above cut alternate the line of stitching each side the center until complete. When using thin, light goods for shirring, wiggins can be placed underneath and the goods shirred thereon which will give it strength.

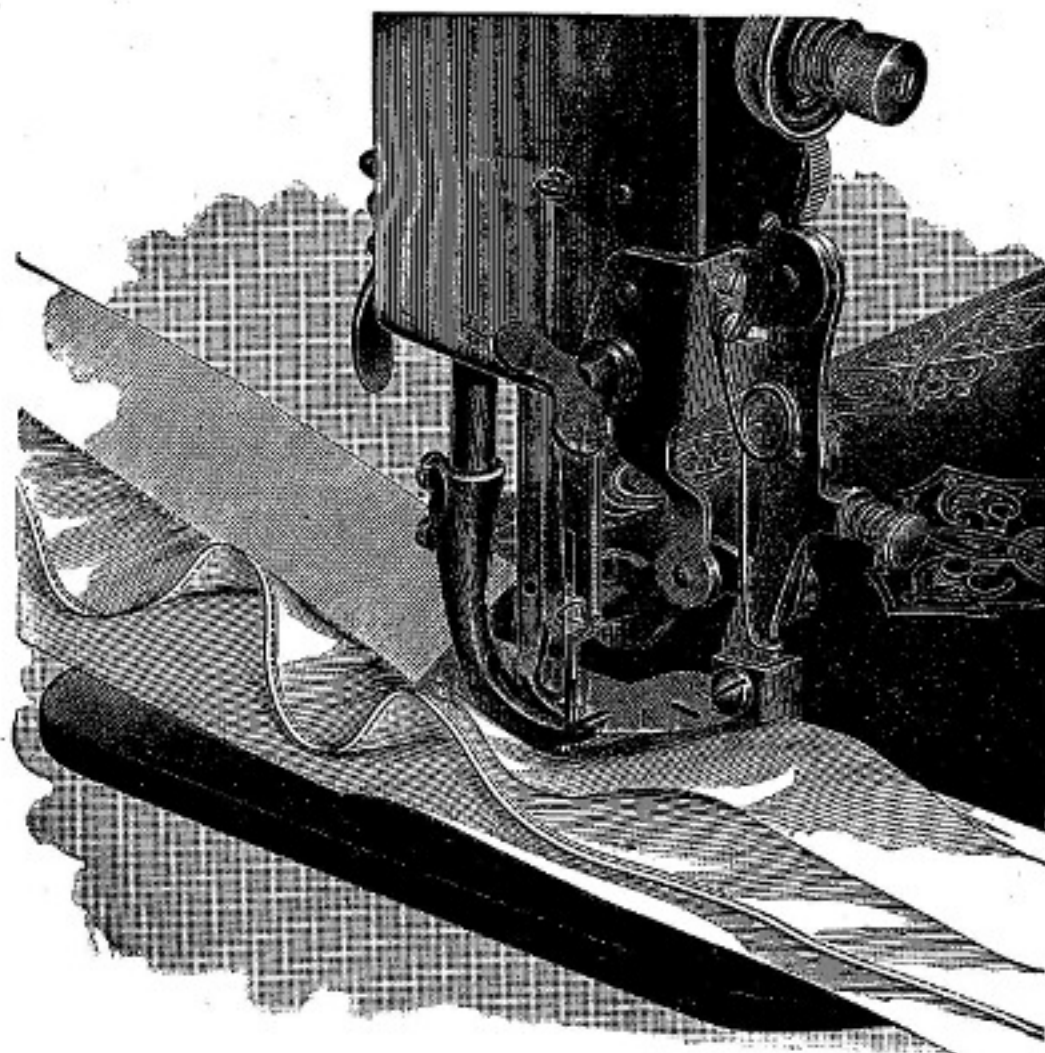


### TO GATHER THE EDGE AND SEW ON A BAND.

Place the edge of the piece to be gathered in the lower slot (A) of feed foot and pass it through under the feed spring (F) and under the needle. Place the edge of the band in the slot (C) of the feed foot and pass it through over the feed spring and under the needle and sew as usual.

In the above illustration a portion of the band has been cut and turned back to show the work as it would appear when the operation is completed. This operation is what would be termed "Blind Stitching a Band onto a Ruffle in One Operation."



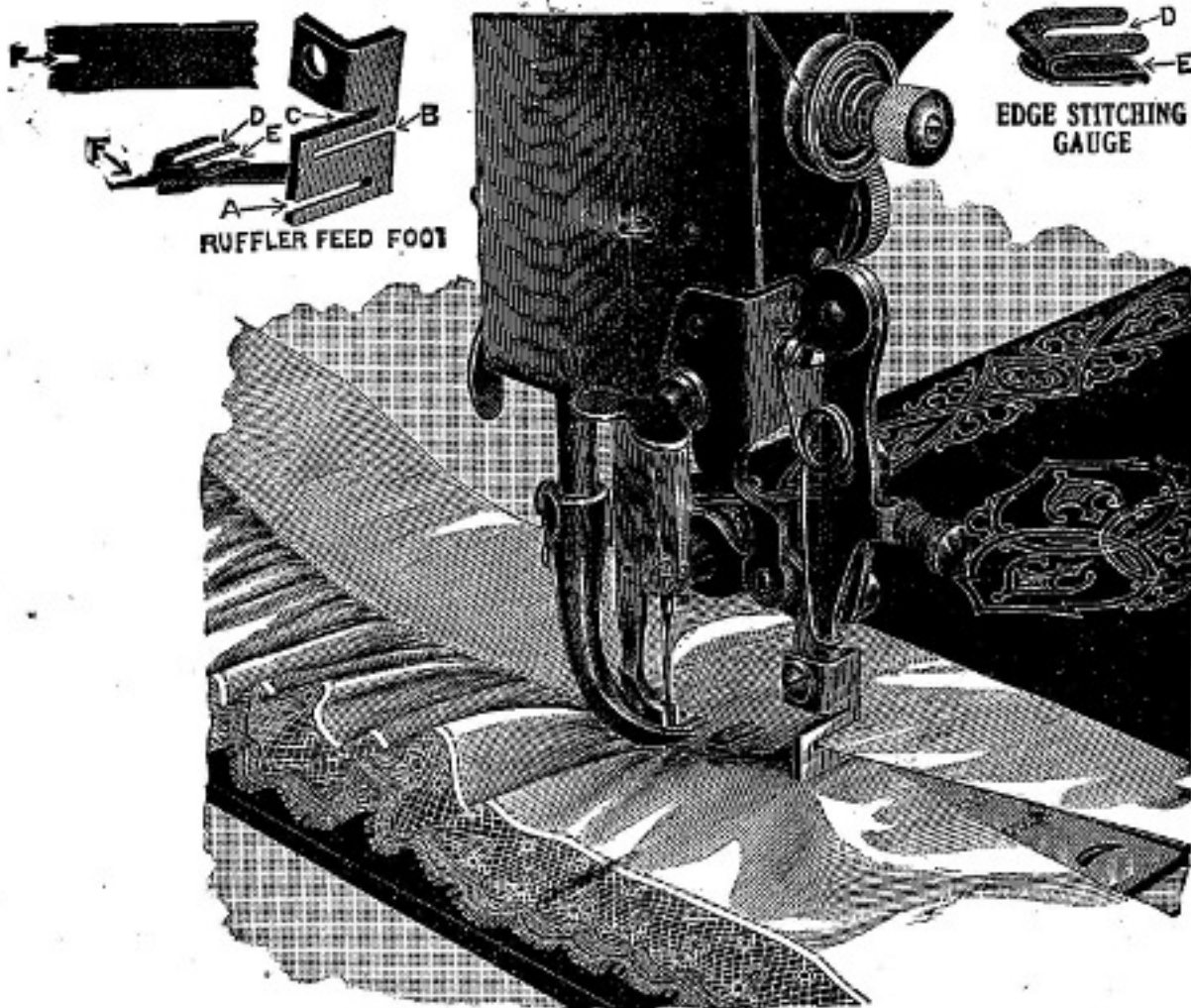


**TO GATHER BETWEEN TWO BANDS AND BLIND  
STITCH THE TOP BAND.**

Place the edge of the piece to be gathered in the lower slot (A) of the feed foot and through under the feed spring (F). Place one band under the piece to be gathered, under the feed spring or with the edge also in the lower slot (A) of the feed foot.

Place the edge of the other band in the upper slot (C) of the feed foot and through over the feed spring and under the needle.

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



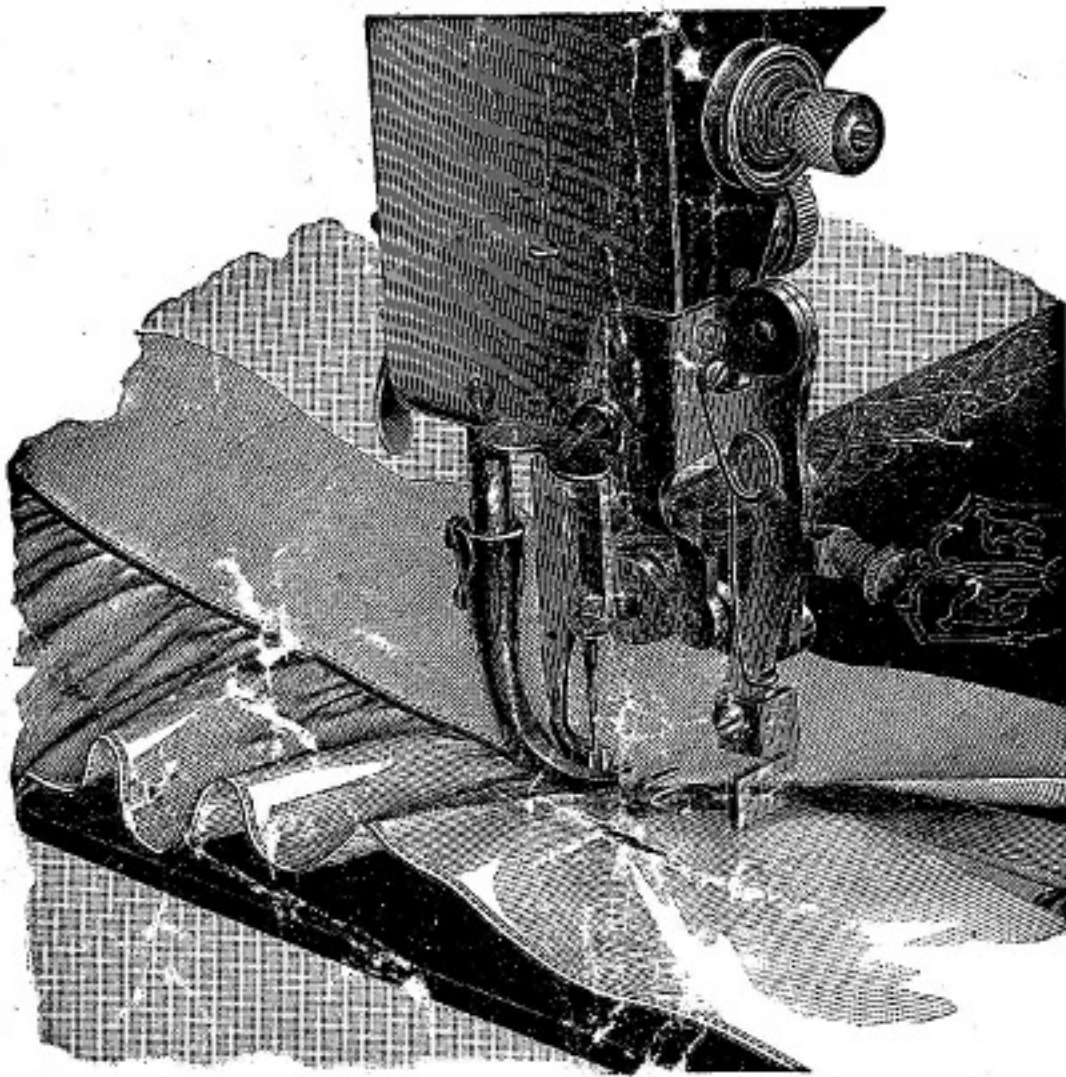
### TO GATHER AND SEW ON AND EDGE STITCH THE BAND.

Place the small Edge Stitching gauge on the feed spring as shown in the accompanying illustration, about one-half of an inch from the slotted end of the spring.

Place the piece to be gathered in the lower slot (A) of the feed foot, and draw it back under the feed spring (F). Fold the edge of the band, and place the folded edge in slot (B) of the feed foot (on the right hand side) and draw it back over the feed spring and through slot (D) of the Edge Stitching Gauge and on under the needle.

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

Note—A second band can be sewed on under the ruffle by placing it as explained on Page 36.



**TO GATHER AND SEW ON AND EDGE STITCH A BAND  
AND INSERT PIPING BETWEEN RUFFLE  
AND BAND.**

This operation is exactly the same as described on Page 37 and by running the piping through a slot (B) in the feed foot under the folded edge of the band and through the lower slot (E) in the edge stitching gauge and following the instructions given on Page 37.

Piping should be cut on the bias and folded through the center and the folded edge run through the gauges to the left. This will make the finished edge show between the ruffle and band.