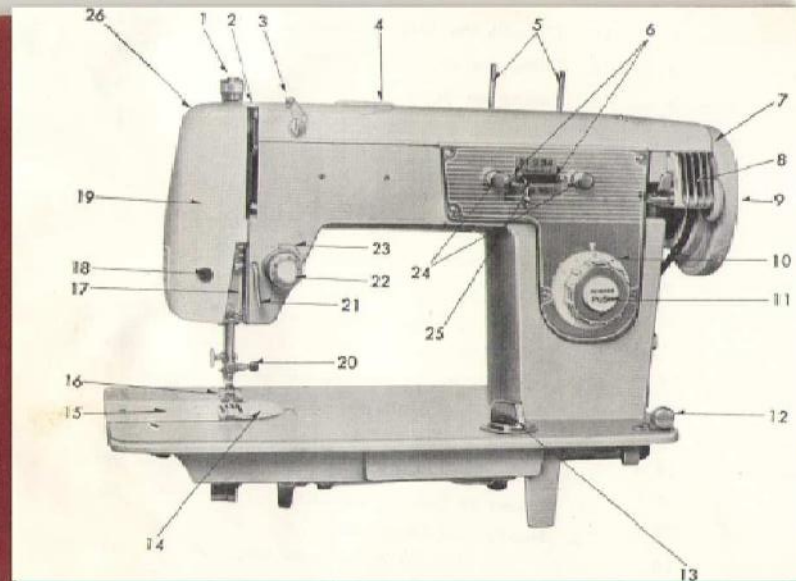




# ZIG ZAG



**MODEL # 400S**

## SEWING MACHINE INSTRUCTION MANUAL

**UNIVERSAL**

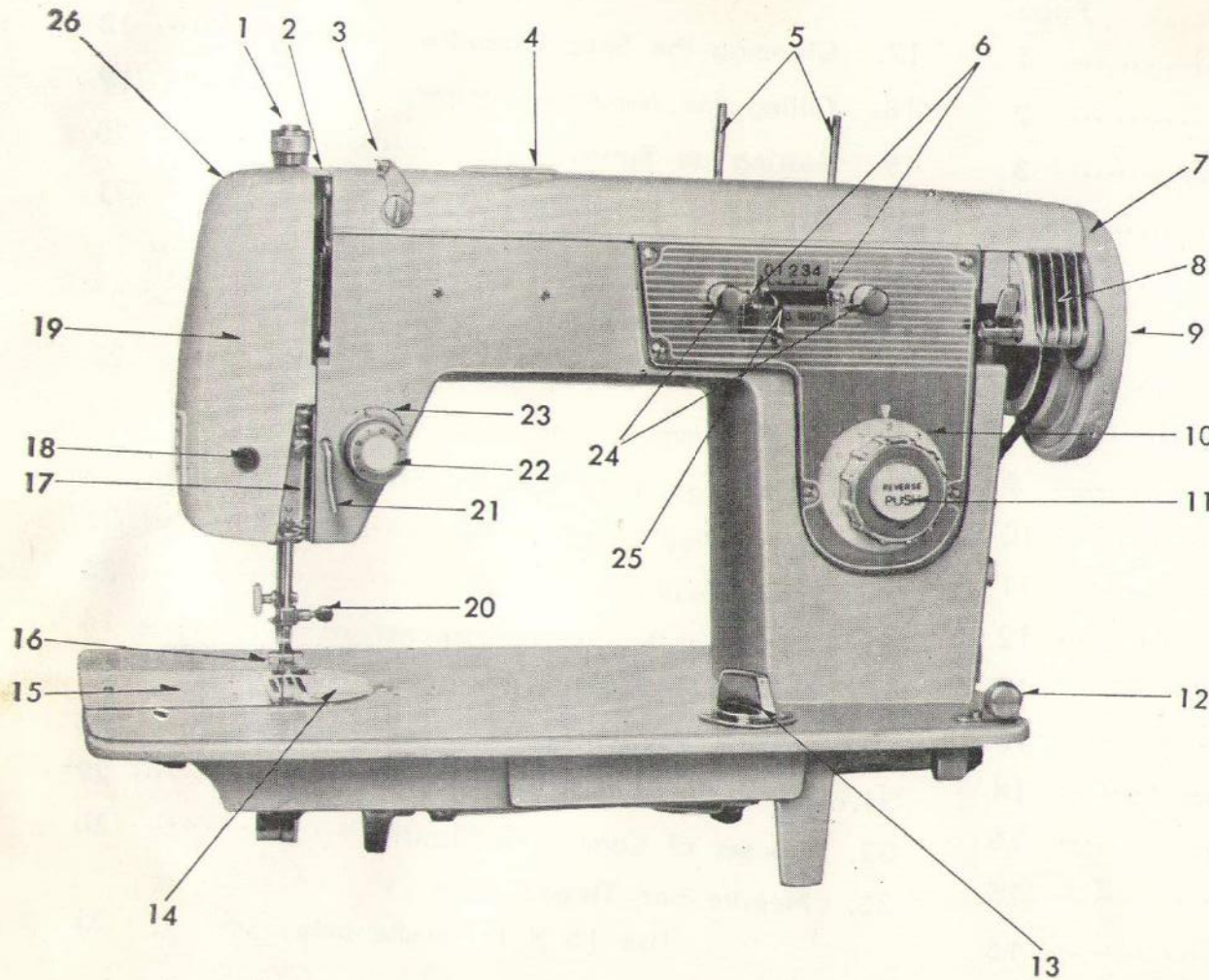


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## FEATURES AND PARTS



- 1 Automatic darning
- 2 Thread take up lever
- 3 Upper arm thread guide
- 4 Cam door
- 5 Spool pins
- 6 Zig-zag width stopper
- 7 Balance wheel
- 8 Bobbin winder
- 9 Stop motion knob
- 10 Stitch length control knob
- 11 Push-button for reverse sewing
- 12 Bobbin winder thread tension guide
- 13 Outside drop feed
- 14 Needle plate
- 15 Slide plate
- 16 Presser foot for zig-zag sewing
- 17 Upper thread protector
- 18 Signal cap for light
- 19 Face cover (Built-in-light)
- 20 Needle clamp
- 21 Upper thread retaining bar
- 22 Upper thread tension regulator
- 23 Check spring
- 24 Zig-zag width stopper lock screw
- 25 Zig-zag width control lever
- 26 Sew light switch

## **SPECIAL FEATURES**

**AUTOMATIC DARNER (PRESSURE REGULATOR)** - enables you to select the exact pressure by pushing the button according to materials.

**STITCH LENGTH CONTROL KNOB** - regulates the stitch length by turning the knob. It helps you to select the stitch size with ease and accuracy.

**PUSH-BUTTON FOR REVERSE SEWING** - changes to sew reverse stitch from forward by pushing this button.

**AUTOMATIC BOBBIN WINDER** - winds your bobbin and stops automatically when bobbin is filled.

**NUMBERED UPPER THREAD TENSION REGULATOR** - allows the tension of the upper thread to be easily and accurately adjusted according to thread and material weight.

**BUILT-IN-LIGHT** - none glare sew-light will be more efficient, light bulb can be changed easily.

**SNAP-OPEN-RACE** - is so constructed that cleaning or eliminating tangled thread is very easy and quick.

**OUTSIDE DROP-FEED** - darning & embroidery can be selected easily and accurately.

**AUTOMATIC ZIG-ZAG SEWING** - can be sewn beautiful patterns by inserting cams.



## 1. INSTALLING HEAD INTO CABINET

- 1) Loosen the two hinge screws under the holes in the rear edge of the machine bed (Fig. 1).
- 2) Raise hinge-pins in the cabinet cut-out, slip machine head on the pins, and tighten hinge screws securely.

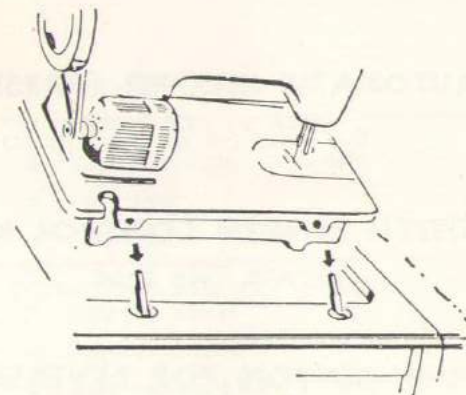


Fig. 1

## 2. ATTACHING MOTOR TO MACHINE

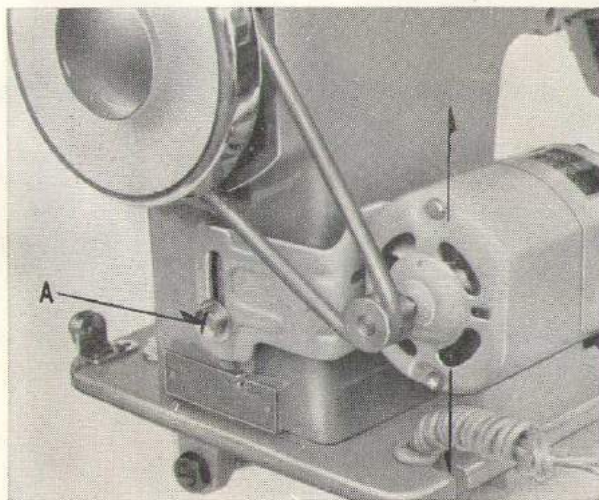


Fig. 2

- 1) Place the motor bracket over the tongue of the arm under the balance wheel, the screw hole in the center of the tongue can be seen through the slot of the motor bracket (Fig. 2).
- 2) Then insert the screw and after shifting the motor upward as far as it will go, tighten the screw.
- 3) Slip the motor belt into the groove of the balance wheel and then slip the belt into the groove of the motor pulley
- 4) Adjust the belt tension by loosening the motor bracket fastening-screw and let the motor drop downward until the correct belt tension is obtained.

Then tighten the motor bracket fastening-screw tightly. **NEVER OIL THE MOTOR.**

### 3. BUILT-IN-LIGHT

As shown in (Fig. 3), lamp is encased in the face cover. Light is put on when the lamp switch (A) located on back side of face cover is revolved clockwise, and when turned further it is put off. When you want to replace the new bulb, open the face cover and un-screw. Electric bulb (15w) is available at any department stores, electric shops, or your sewing machine dealers.

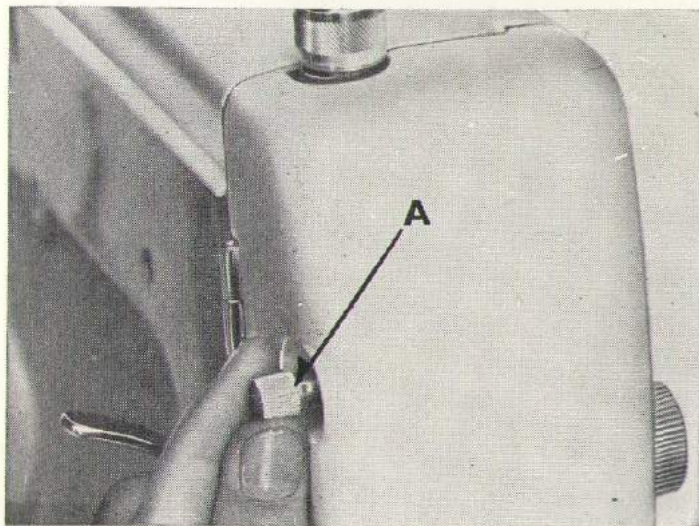


Fig. 3-B

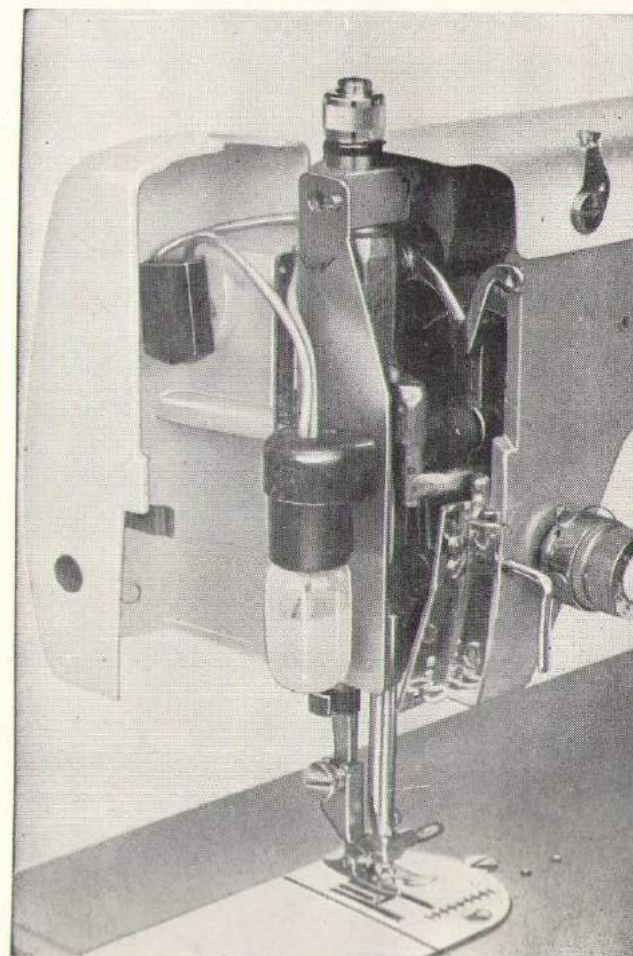


Fig. 3-A



## 4. WINDING THE BOBBIN

- 1) Hold the balance wheel with your left hand and turn the stop motion knob (A) (Fig. 4) toward you with your right hand (counter-clockwise). The balance wheel is now disconnected for the bobbin winding operation.
- 2) Place a spool of thread on the spool pin (Fig. 5). Draw the thread from the spool to thread guide, then downward across the machine from left to right.
- 3) Pass the thread through the tension device at the right corner on the bed.
- 4) Now wind the end of thread around an empty bobbin several times and insert the bobbin on the bobbin winder spindle.
- 5) Press the bobbin winder cover until a click is heard. The bobbin winder release lever is now touching the spindle of the bobbin. It holds the bobbin in place.



Fig. 4



- 6) Press your foot controller or knee controller in the same manner as in sewing, when the bobbin is nearly full, it will release automatically and stop turning.

Remove the bobbin from the spindle. Hold the balance wheel firmly with the left hand and tighten the stop motion knob away (clockwise) with right hand.

**You may continue sewing while you are winding bobbin without disconnecting balance wheel.**

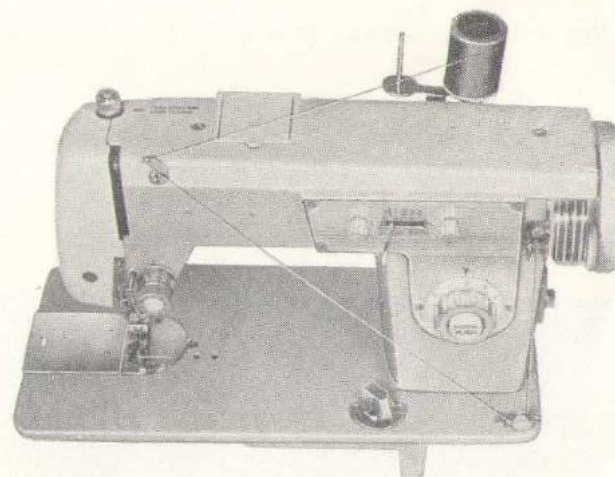


Fig. 5

## 5. TO INSERT AND REMOVE THE BOBBIN CASE

- 1) Raise the presser bar by lifting the presser bar lifter.
- 2) Turn the balance wheel toward you until needle bar comes to its highest position.
- 3) Pull out slide plate to the left (Fig. 6).

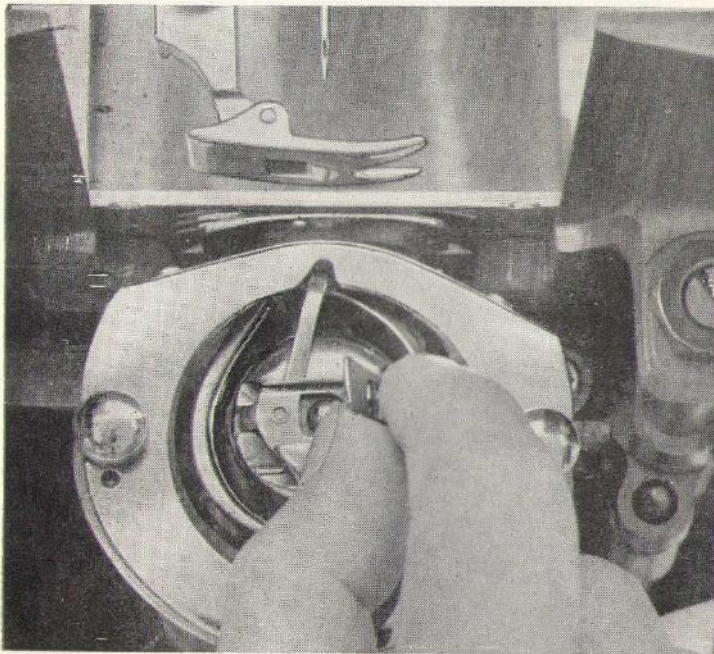


Fig. 7

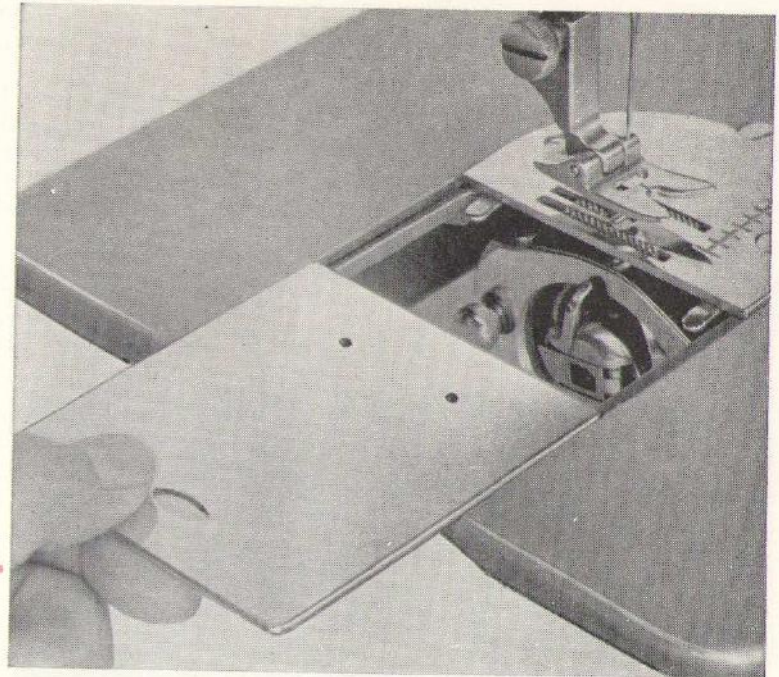


Fig. 6

- 4) With the thumb and forefinger of the left hand, grasp the bobbin case latch with thread coming from the top, slide out the case (Fig. 7).
- 5) Allow the end of thread to hang free.
- 6) Push back the slide plate.

To remove the bobbin case do all the above in reverse order.



## 6. THREADING THE BOBBIN CASE

Before threading the bobbin case, study (Fig. 8, 9, 10) to get a general idea as to how it is done.

- 1) Hold the bobbin case with your left hand and put the bobbin into the bobbin case with your right hand, leaving about two inches of the thread end unwound (Fig. 8). As the bobbin is being inserted in the bobbin case, the thread flow in clockwise.



Fig. 8

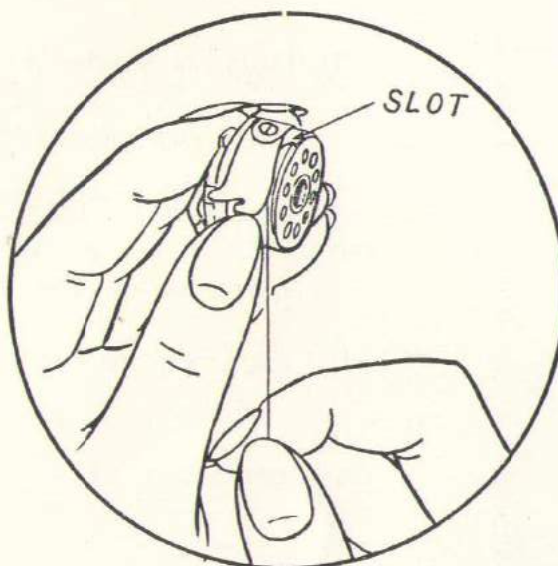


Fig. 9

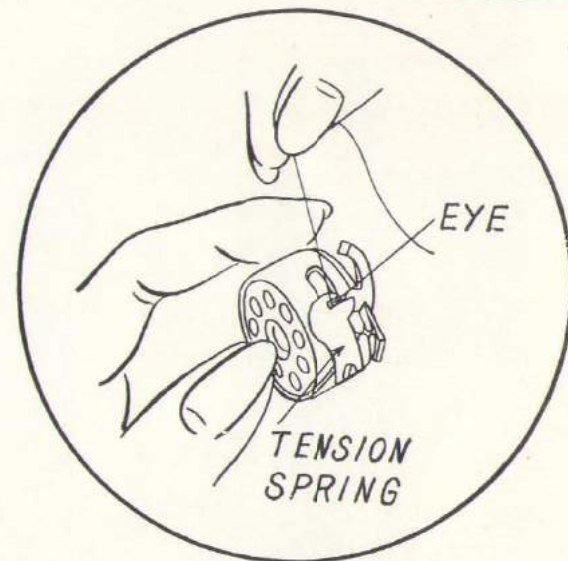


Fig. 10

- 2) While holding the bobbin case as before, grasp the thread end with your right hand, and draw it into the cross slot (Fig. 8).

- 3) Then pull it through under the tension spring of the bobbin case (Fig. 9) until it enters the delivery eye (Fig. 10).

## 7. PLACEMENT OF THE NEEDLE

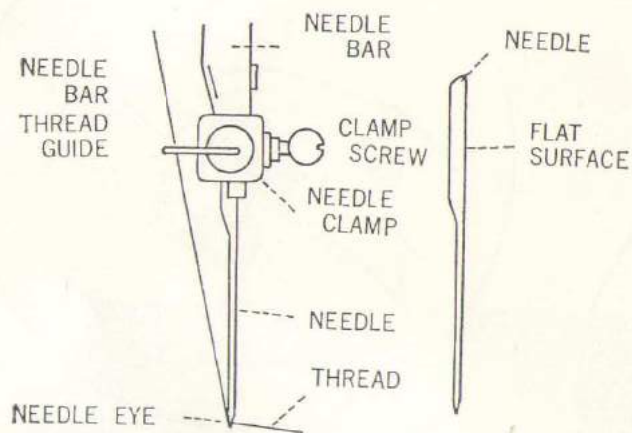
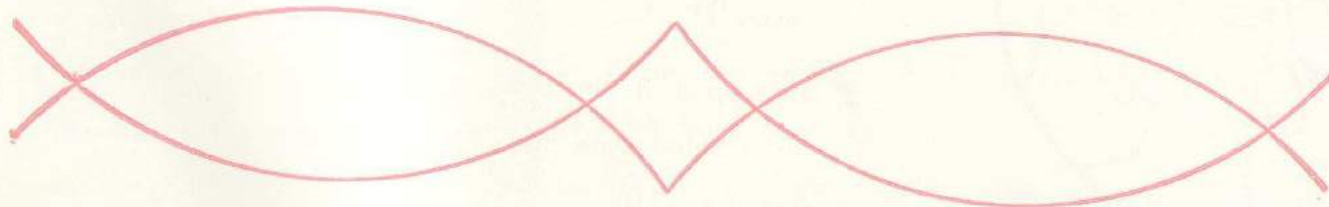


Fig 11

- 1) Turn the balance wheel toward you, raising needle bar to its highest position, and loosen the needle clamp screw half a turn.
- 2) Hold the needle in the left hand with the point down, and insert new needle up into the needle clamp as far as it will go, with its flat surface to the right, then tighten the clamp screw (Fig. 11)





## 8. THREADING THE MACHINE

- 1) Turn the balance wheel toward you until needle bar comes to its highest position.
- 2) Place a spool of thread on spool pin on the arm cover.
- 3) Lead the thread over and through the arm thread-guide (A). (Fig. 12).
- 4) Pull down to the tension disc (B) and between them from right to left, and up.
- 5) Hook the check spring (C) and retaining bar (D).
- 6) Pull up into the eyelet of thread take-up lever (E) from right to left.
- 7) Draw down through, wire guides of thread protector (F) and (G) needle clamp thread guide (H).
- 8) Thread the needle from left to right (I) and hang free about 3 inches of thread.

YOU ARE NOW READY TO SEW.

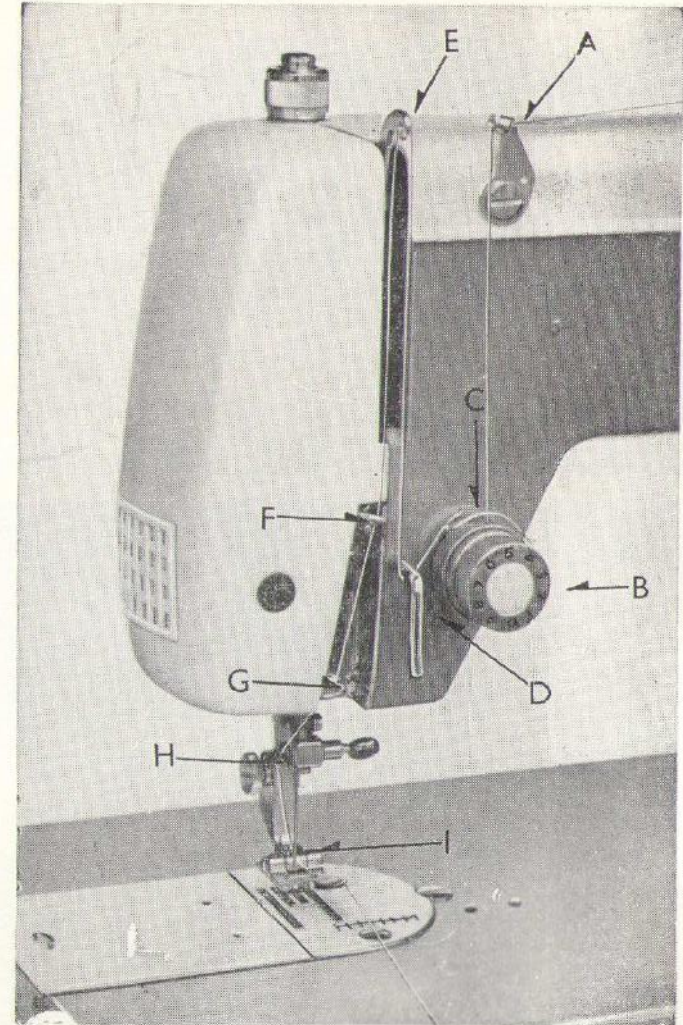


Fig. 12



## 9. PICKING UP THE BOBBIN THREAD

- 1) Hold the end of upper thread with the left hand, leaving it slack from the hand to the needle.
- 2) Turn the balance wheel toward you to raise again the needle bar to its highest position.
- 3) Pull the thread you are holding, and lower-thread loop will be brought up with it through the hole in the needle-plate, as shown (Fig. 13).
- 4) Place both ends of the upper and lower thread to the back of the presser foot (Fig. 14).

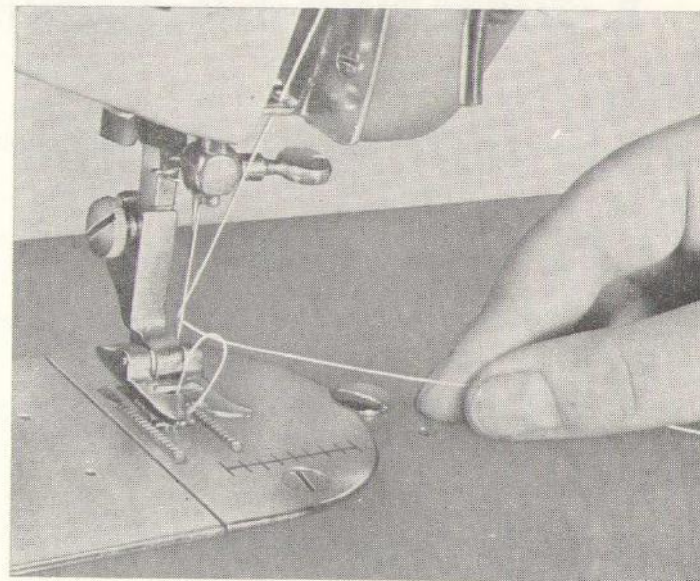


Fig. 13

## 10. COMMENCING SEWING

- 1) Place the fabric beneath the presser foot.
- 2) Lower the presser foot, by lowering the presser bar lifter.
- 3) Commence sewing by slowly turning the balance wheel in the direction toward you, while gradually working the foot or knee controller.

**Turn the balance wheel always toward you and not away from you.**

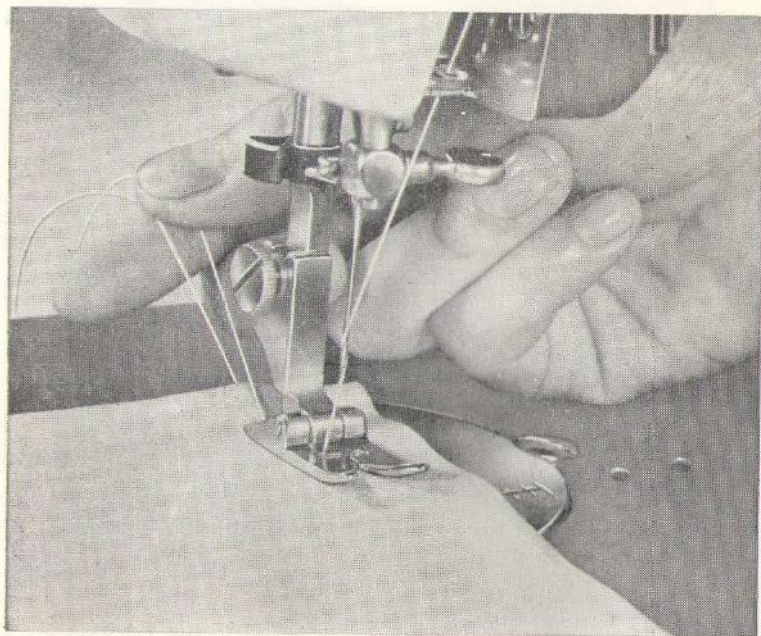


Fig. 14



## 11. REGULATING THREAD TENSION

For ordinary sewing, the tension of the upper and lower threads should be equal so as to lock both threads in the center of the material. (Fig. 15 A). If one tension is stronger than the other, imperfect stitching will result. Fine material requires a light tension, while heavy material requires more tension to obtain a perfect stitch.

**TO INCREASE** the tension, lightly turn the thread tension regulator (Fig. 16) clockwise.

**TO LESSEN** the tension, turn the thread tension regulator to the opposite direction. (Counter-clockwise).

Lower tension regulating screw

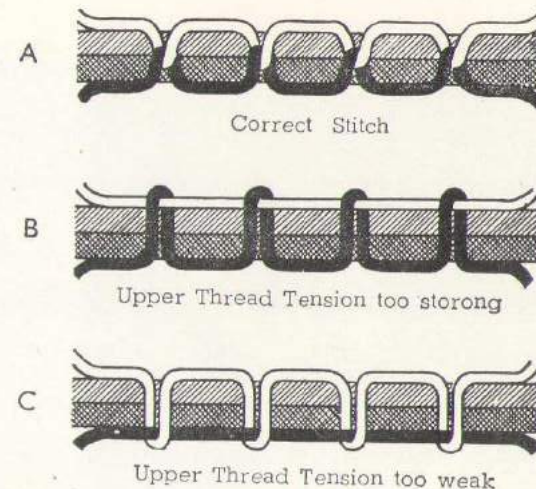


Fig. 17

As all machines are correctly adjusted before leaving the factory and readjusted before the dealer delivers to you, the lower tension seldom requires to be altered; but if this becomes necessary, tighten the screw in the tension

spring on the outside of the bobbin case for more tension, or loosen the screw slightly for lesser tension (Fig. 17).

Fig. 15



Upper Thread Tension Regulator

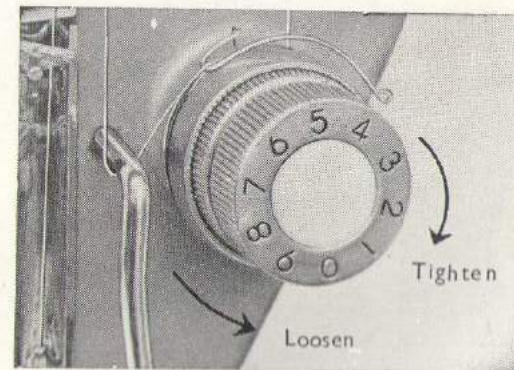


Fig. 16



## 12. REGULATING THE PRESSURE OF THE PRESSER FOOT

Light materials will not sew well under too much pressure, nor will heavy fabrics under too little.

To adjust for correct pressure, use your automatic darning. When used right in co-ordination with the upper thread tension regulator and the drop feed control, this automatic darning becomes an effective tool for obtaining good sewing results.

To release the pressure for darning, embroidering and monogramming push down the release ring to the direction of arrow (Fig. 18).

To increase the pressure for ordinary sewing and heavy material push down the knob in the center. (Fig. 19).

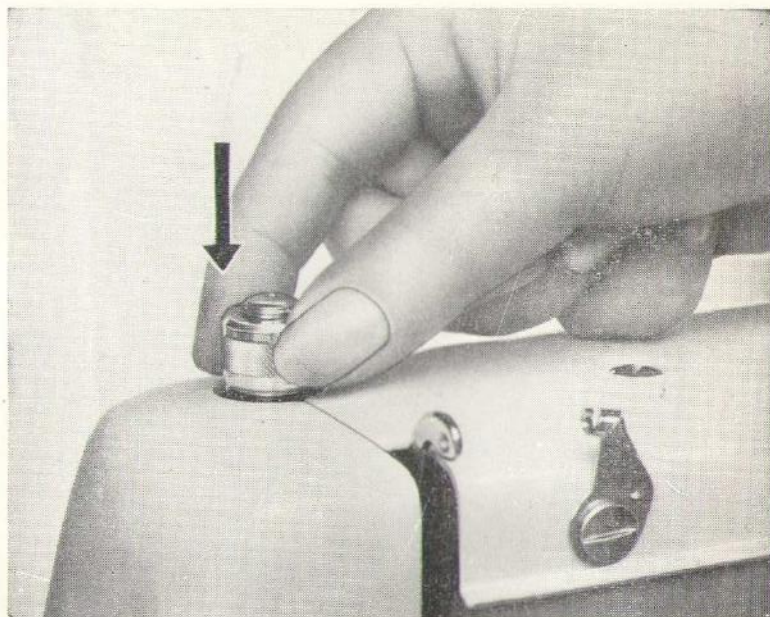


Fig. 18

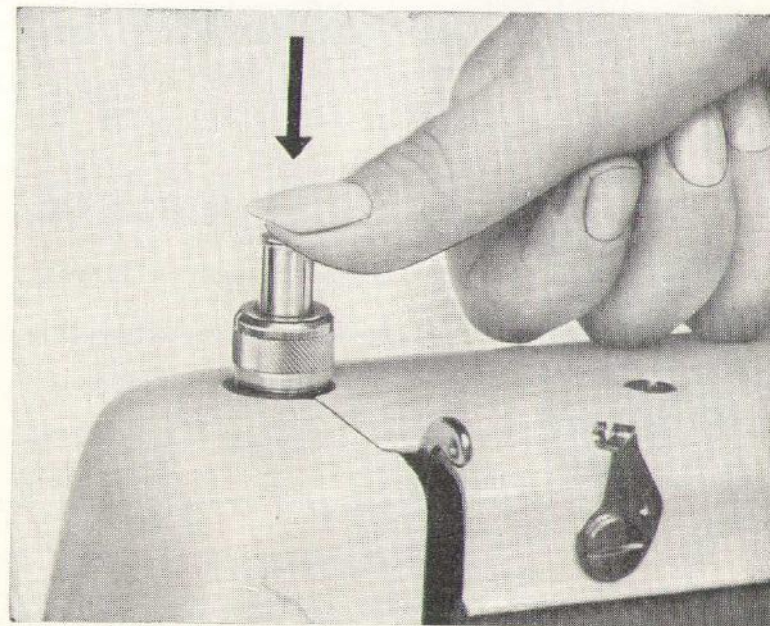


Fig. 19



### 13. DROP-FEED CONTROL

For regular sewing, set the knob to NORM.

For silk sewing, set the knob to SILK.

For embroidery sewing, turn the knob to the left to EMBR.



Fig. 20

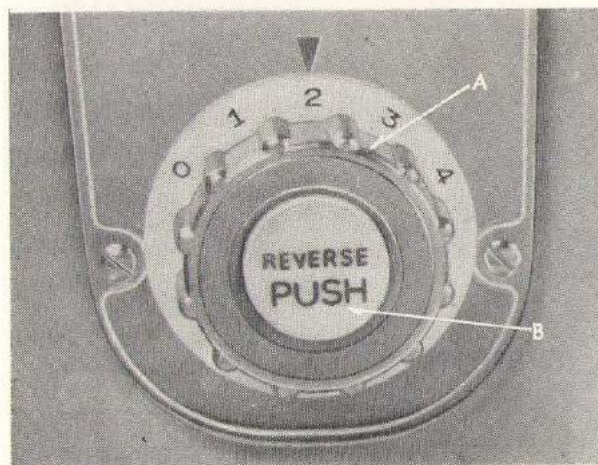


Fig. 21

### 14. REGULATING STITCH LENGTH

Length of stitch can be adjusted by turning the stitch length control knob (A), the numerals 0, 1, 2, 3, 4, on will help you to select easily.

The length of the stitch is increasing from 0 ~ 4, When the control knob is set at "0,, position, machine does not feed materials.

Reverse stitch in same length as froward stitches will be obtained by pushing reverse button over the control knob.

## 15. ZIGZAG SEWING

your zigzag Sewing Machine, by virtue of its design, permits you to do zigzag sewing and numerous other kinds of work requiring a similar stitch. The zigzag width control lever (A) is located on the zigzag panel, adjusts the width of the zigzag seam. For ordinary straight sewing this lever must be set to the left, of mark "0". By moving the lever gradually to the right toward "4", the machine will sew a zigzag stitch increasingly. For special type of work such as sewing buttons or making tacks etc, stoppers will be useful. These stoppers (B,C) serve for stop the lever. To set stoppers, tighten lock screw on both sides, turning to the right (clock-wise). Thus, when you want to alternate between a narrow and a wide zigzag stitch, you can use both stoppers. For example, set the left stopper (B) at mark 2 and right at mark 4, tightening the lock screws. This will assure you of being able to always revert to the same narrow and wide zigzag stitch.

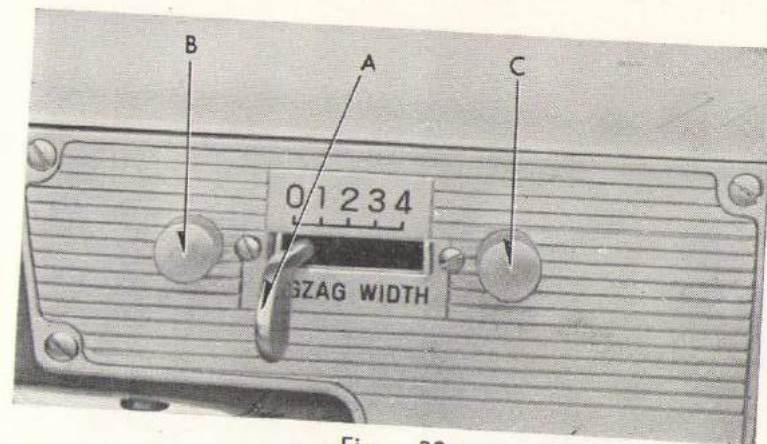


Fig. 22





## 16. AUTOMATIC ZIGZAG SEWING

Your machine can sew the most beautiful decorative and embroidery stitches AUTOMATICALLY by mean of various 12 cams in cam box.

- 1) Firstly set the zigzag width control lever (A) to the right, of mark "4", indicated in the front metal plate.
- 2) Tighten the both lock screws (C & D) to set the zigzag width stoppers (E & F) at Both end.
- 3) Open the cam door and insert cam which to make into the cam shaft, then close the cam door.
- 4) After inserting cam, put back the lever to the position of "0" and then run the machine and you will obtain same design on materials as shown on the patterns index. (Fig, 23).

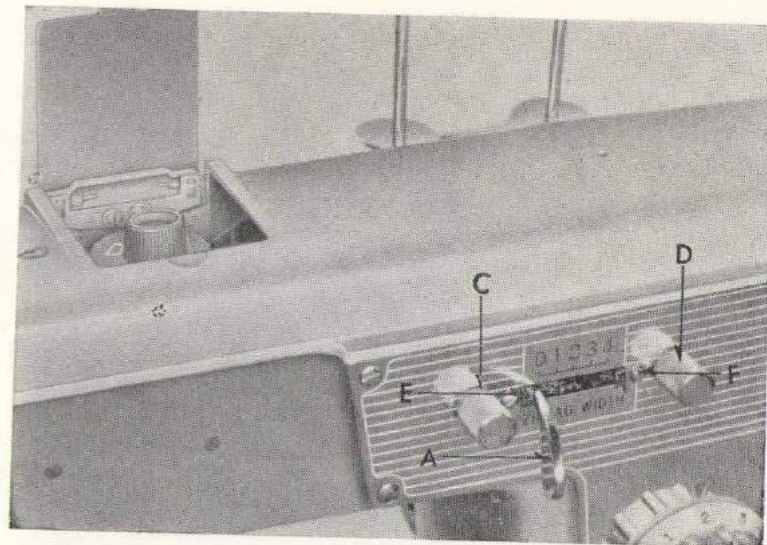


Fig. 23

(MANUAL)

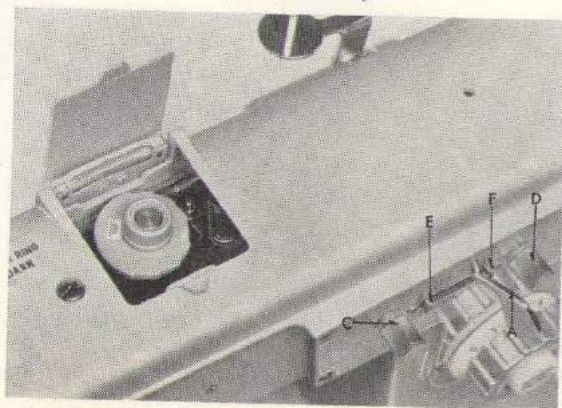


Fig. 24-A

(AUTOMATIC)

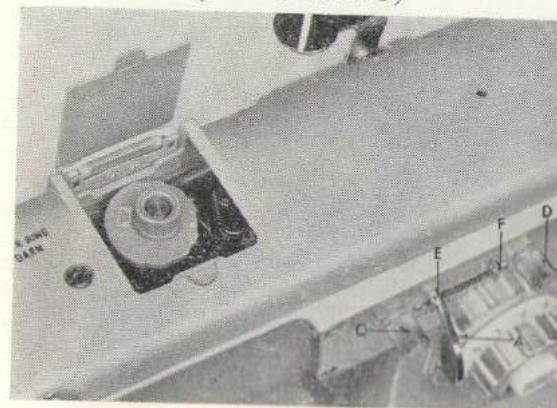


Fig. 24-B



## 17. CLEANING THE SNAP-OPEN-RACE

When the thread is tangled in the race or dust gets into the race-way, this will cause abrupt heavy running or complete stoppage of the machine.

If so:-

- 1) Raise the needle bar to its highest position and take out the bobbin case.

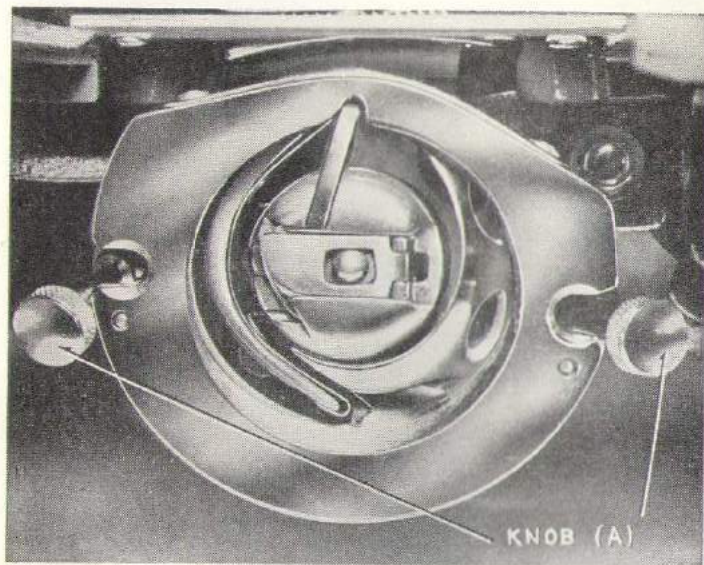


Fig. 26

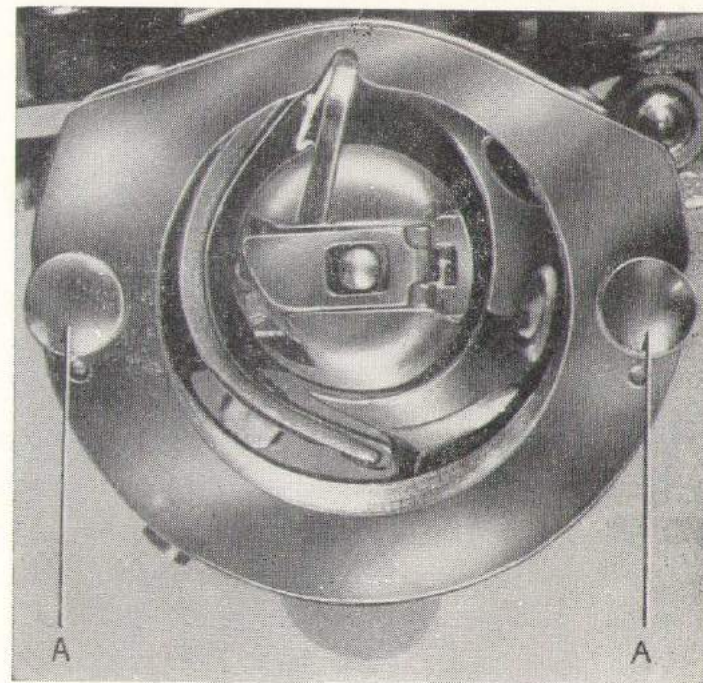


Fig. 25

- 2) Snap-out knob (A) on both sides of shuttle race releases to outside, then take out the outside-ring and the shuttle hook with your fingers. (Fig. 26).
- 3) After shuttle-race and shuttle-hook have been cleaned, put all of them back in reverse order.



## 18. OILING THE MACHINE

To see that your machine is always in smooth running condition, you must keep it oiled at all times. No grease is required. Just a drop of oil is sufficient at each time of oiling. Oil at points indicated in Fig. 27, 28.

To oil your machine thoroughly, it will be necessary for you to open the face cover & arm cover and turn the machine over to get to parts underneath the bed.

After oiling, run the machine at high speed for a few minutes to get oil penetrated to all parts.

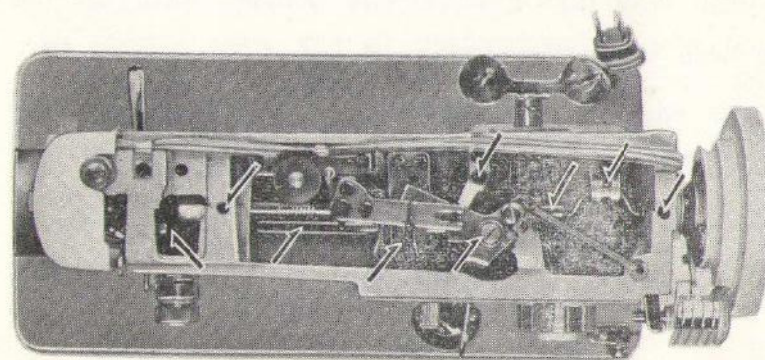


Fig. 27

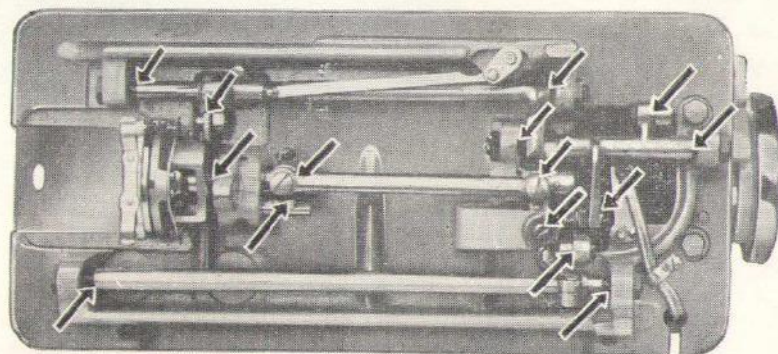


Fig. 28

## 19. SEWING ON BUTTON

Replace the presser foot for button sewing as in (Fig. 29). Drop down the feed dog by setting the drop-feed controller to embroidery position. Place the material or garment with button under the presser foot, so that holes in button align with oblong hole in presser foot.

Adjust the width of zig-zag stitch to permit the needle to pass through the center of holes in the button. Before sewing with power, turn the balance wheel by lever (toward you) forming one stitch in each hole of the button. Then with power sew five to six stitches to attach the button. Revert the zig-zag width control lever to marking "0" and let the needle stitch two or three times through the same hole to lock the thread. Remove the garment from the machine and snip the threads.

When attaching four-hole buttons, first sew one set of two holes, then stitch into second set of two holes and lock the thread with two or three plain stitches in last hole same as described above. Hooks, eyes, or rings are attached in the same manner.

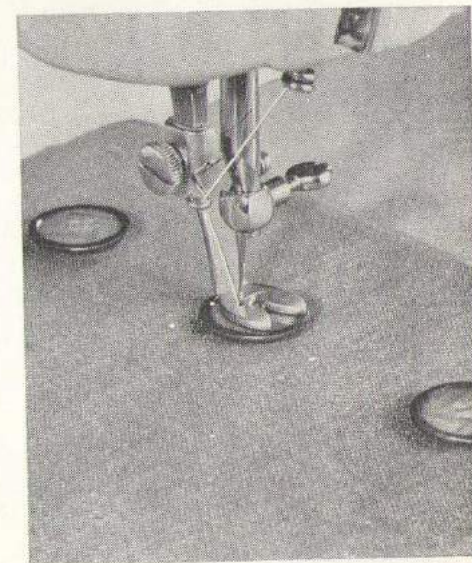
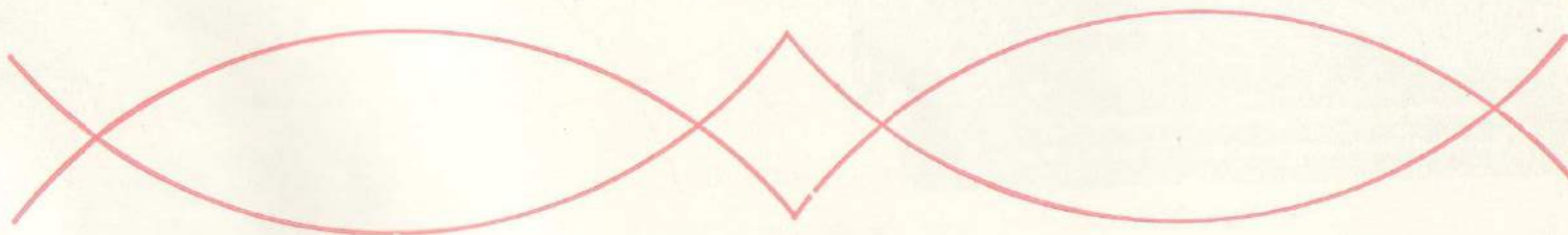


Fig. 29





## 20. DARNING & EMBROIDERY

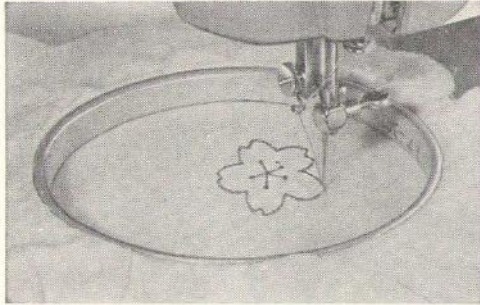


Fig. 30

It is easy to follow a stamped design or to work free hand when embroidering or monogramming (Fig. 30) set the drop feed control to EMBR.

Replace the needle plate for embroidering and remove the presser foot. Stretch the fabric in an embroidery hoop to make most successfully. Hold the hoop closely on the machine base with both hands. Press the fabric with left index finger in the vicinity of the needle to prevent making skip stitches. Manipulate work carefully and be sure to keep fingers out of path of the needle to avoid injury. For best appearance, increase the lower thread tensions slightly than the upper thread.

*Release presser foot. (Fig. 18.)*

## 21. QUILTING

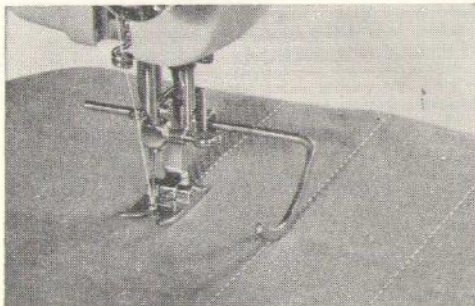


Fig. 31

The quilter helps you to sew equi-distant lines on padded fabrics without any marking them in advance. To attach the quilter to the presser bar, first pull long wire hook out of horse-shoe shaped clamp. Stride the clamp on the presser bar from behind and over the presser foot, and push the wire hook into previous place (Fig. 31). Adjust the wire hook to desired distance from the needle and bring it to press onto fabrics. Then tighten thumb-screw to lock quilter. When sewing, wire hook should follow preceding line of stitching. Zigzag stitch quilting is done the same as straight stitch quilting with the preceding exception of the position of the zigzag width control lever which should be set for desired zigzag width.

## 22. NARROW HEMMER

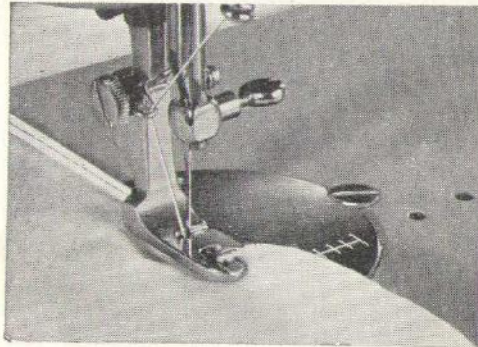


Fig. 32

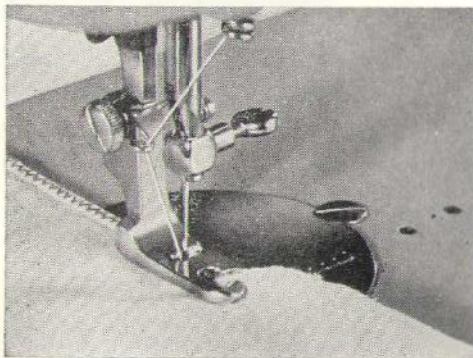


Fig. 33

With the needle in its highest position, replace the presser foot with the narrow hemmer (Fig. 32). For a plain narrow hem. Make a  $1/8$  inch double fold for about 2 inches along the edge of fabric. Hold each end of 2-inch fold, slip underneath hemmer. Bring fold up into the scroll of hemmer, draw forward to end and fasten with point of the needle. Lower the presser foot. Gently pull the end of thread as you start stitching. Guide the material slightly to right, and it will automatically take a double turn through scroll.

**NOTE;** Do not crowd the material into scroll and do not leave scroll only partly filled by the material. Feed just enough material into the hemmer foot to fill out the scroll. Also you can make the zigzag hemming operation, by adjusting the width of zigzag seam to be as wide as the hem itself. Using a very long stitch and tighten the tensions will produce a shell stitch. (Fig. 33).



## 23. FRENCH SEAM (FELLING)

The hemmer foot can also be used for doing felling. Proceed in the following manner :

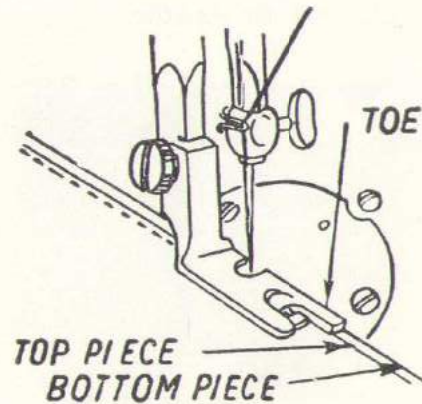


Fig. 34

1. Lay two pieces of cloth one on top of the other with their **RIGHT** sides facing each other. The right edge of the bottom piece must extend about  $1/8$  inch beyond the right edge of the top piece. See (Fig. 34).
2. Sew both pieces of cloth together. Use the right edge of long toe of hemmer foot to guide the bottom piece of material, while the left edge of the same toe serves as a guide for the top piece of material. (Fig. 34).
3. Open and spread out material and put back on machine right sides downward. Make sewn edges of material stand up.
4. Fold over the edges to the left and insert them into the scroll of the hemmer foot. Sew as you would do ordinary hemming. Use left edge of long toe of hemmer foot as guide, having original seam run alongside of it (Fig.35).

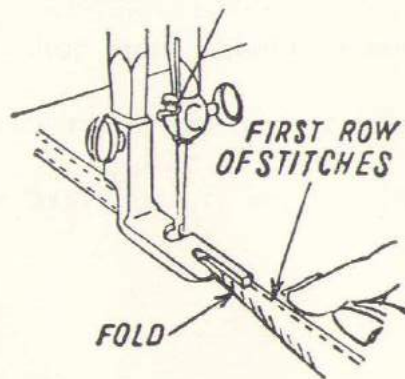
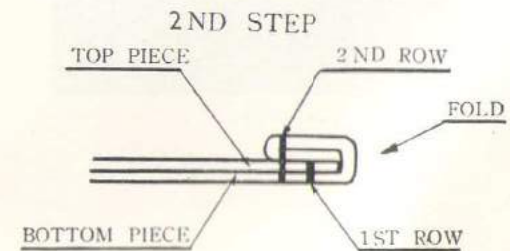
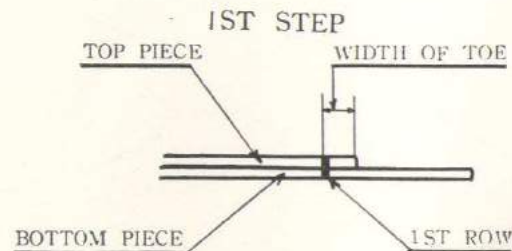


Fig. 35



## 24. LACE TRIMMED HEM

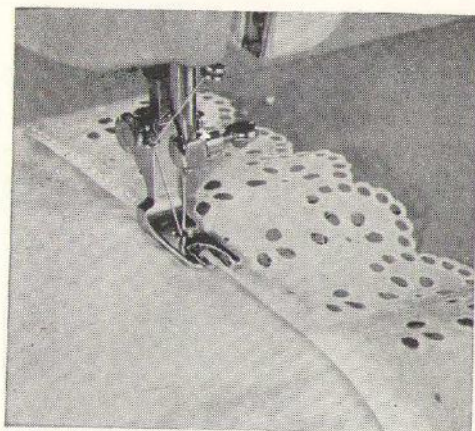


Fig. 36

To attach the lace to hem, insert the lace in the slot next to needle.  
Sew hem as above, guiding lace under needle and hem into scroll (Fig. 36).

## 25. LACE EDGE WITH INVISIBLE STITCHING

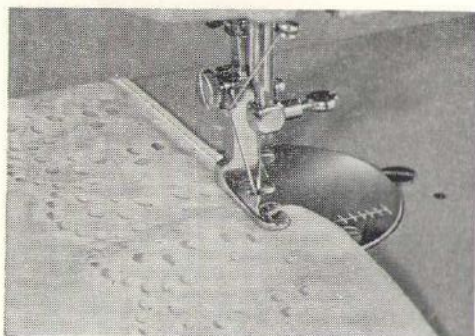


Fig. 37

Hold the lace  $1/8$  inch from raw edge on right side of fabric. Insert both in scroll as for plain narrow hem. Let hem roll over and sew in lace. Press lace out flat along edge with hem turned up. For a little fullness in lace, feed it freely under scroll (Fig. 37).



## 26. FLAT FELLED SEAM

Open out French seam and insert rolled edge in scroll of hemmer. Edge stitch to lay seam flat (Fig. 38).

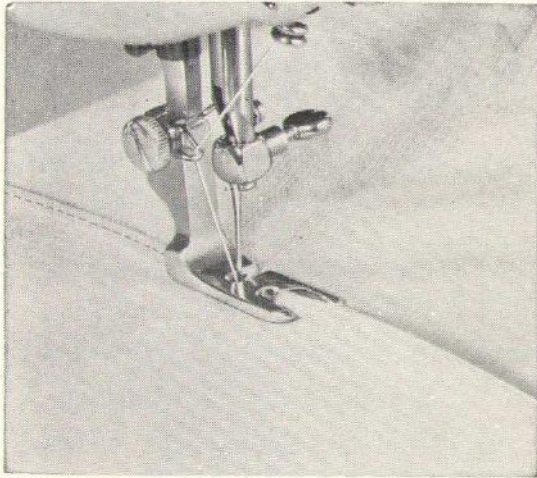
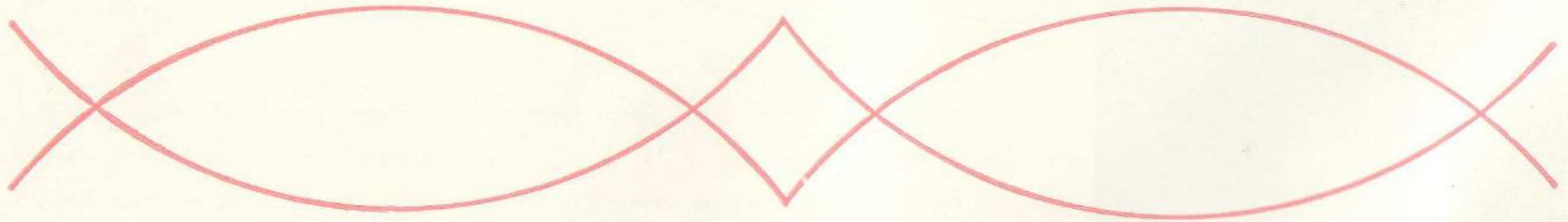
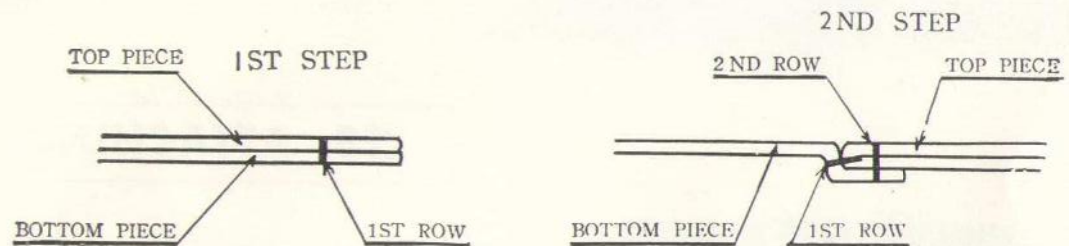


Fig. 38



## 27. CLOTH GUIDE

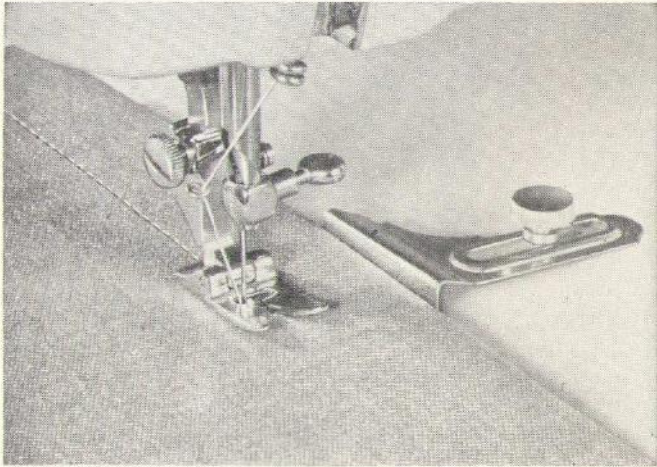


Fig. 39

This is an attachment designed as a guide for straight stitching when making wide hems, deep tucks or seam width which are greater than presser foot allows. (Fig. 39).

It is attached to machine as illustrated..... a very simple operation.

## 28. ATTACHING THE ZIPPER FASTENER

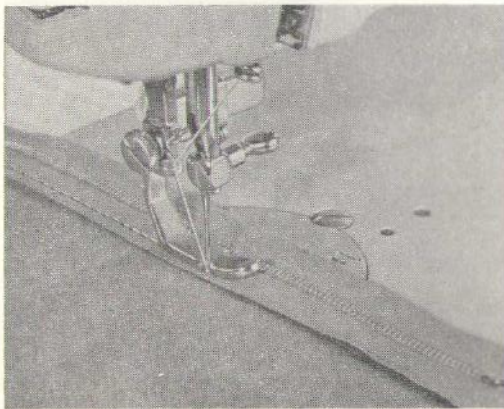


Fig. 40

This adjustable zipper foot can be dispatched to the left or right side of the needle. It is used for sewing zippers and cords.



## 29. BLIND STITCH HEM *cam 10*

Use standard zigzag foot. Set stitch length control at Number three or four. Set decorative stitch dial at blind hem position. Set zigzag stitch width lever to suit material being sewn and hold in place with left lock. The lower the number, the smaller the sidewise stitch.

Number 1

Number 5

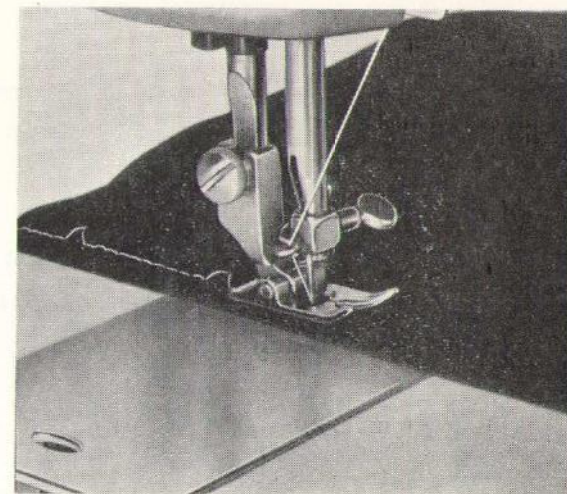


Fig. 41

Blind stitch hems provide a durable hem finish that is almost invisible and comparable to hand sewing.

Prepare the garment in the same manner as for hand hemming.

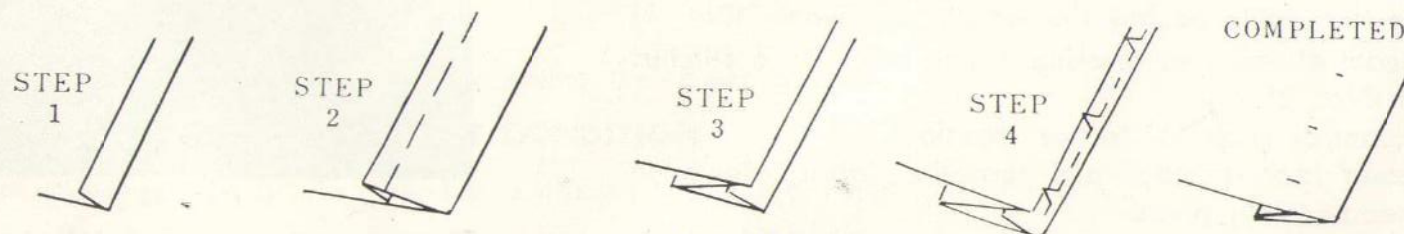


Fig. 42

Step 1. If hem with folded edge is used, make first fold  $\frac{3}{8}$ " deep.

Step 2. Turn hem the depth desired and baste  $\frac{1}{4}$ " from upper edge. Press into place.

Step 3. Fold hem back toward right side of garment leaving  $\frac{1}{4}$ " extended.

Step 4. Place garment under presser foot and sew blind hem automatically.

## 30. MAKING BUTTON HOLE



- 1) Raise the presser foot and bring the needle to its highest position by turning the balance wheel.
- 2) Replace the presser foot for button hole sewing. (Fig. 43).
- 3) Set the zig-zag width control lever (Fig. 22) between marking 1 and 2, and set at its position by tightening restricting ring.
- 4) Regulate the stitch length by turning the control knob (Fig. 21) as close as possible (between 0 and 1);
- 5) Place the fabric under the presser foot, lower presser foot and start sewing until reaches the length you want. (No. 1)
- 6) Move the control knob to marking 4, and make 5~6 stitches (bar tack.) (No. 2).
- 7) Return the control knob to former position.
- 8) Lift the presser foot a trifle, and turn the fabric clockwise using the needle as a pivot.
- 9) Lower the presser foot, and continue sewing until second row of stitches gets as long as first row. (No. 3.)
- 10) Move the control knob to marking 4, and make 5~6 stitches. (bar tack) (No. 4).
- 11) Turn the balance wheel by hand and bring needle up, and out of fabric.
- 12) Lift the presser foot and fabric.

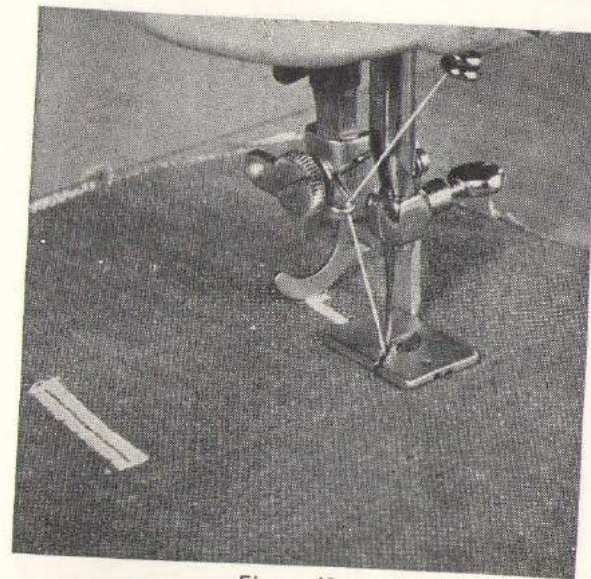


Fig. 43

**NOTE;** In sewing second row of stitches, be sure to guide first row of stitches in groove provided for it on bottom face of button hole foot, then both row of pearl stitches will be spaced apart properly.



## **31. SOME USEFUL HINTS**

### **TO TURN CORNERS:**

1. Stop the machine while the needle is still in the material.
2. Raise the presser foot and turn the fabric using the needle as a pivot.
3. Lower the presser foot and resume sewing.

### **TO SEW ELASTIC FABRICS:**

In sewing such elastic materials flannels, bias cut cloths etc, it is advisable to sew them with moderately low thread tension, otherwise the thread will break when the sewn materials are stretched

### **TO SEW VERY THIN CLOTH:**

When sewing very thin cloth which tends to gather as you sew, place a sheet of newspaper or any other thin paper underneath the material and sew with the shortest stitch possible. This will keep your work from gathering.

### **BASTING:**

1. Use a thicker lower thread than the upper.
2. Loosen the tension of the upper thread (and or tighten the lower thread tension) and employ the longest stitch possible.
3. The stitches may be easily undone by pulling the lower thread

### **TO KEEP YOUR MACHINE IN PERFECT CONDITION:**

1. Keep all moving parts of the machine constantly oiled and clean
2. Always turn the balance wheel towards you. even by hand.
3. Do not run the machine without cloth.
4. When sewing, do not pull the material otherwise you will bend the needle The machine is designed to feed itself.
5. Do not operate the machine when presser bar lifter is raised.

## 32. CAUSES OF COMMON DIFFICULTIES

### **BREAKING OF THE UPPER THREAD:**

1. Incorrect threading.
2. Upper thread tension too tight.
3. Faulty needle or needle set in incorrectly.
4. Needle brushing against presser foot or other attachments.
5. Upper thread too big for needle eye.
6. Starting the machine suddenly or with a jerk.
7. Starting the machine with the take up lever at its highest position.

### **BREAKING OF THE LOWER THREAD:**

1. Incorrect threading of the bobbin case.
2. Lower thread tension too tight.
3. Bobbin being wound too fully.
4. Rough edge of hole in needle plate caused by improper needle action.

### **BREAKING OF THE NEEDLE:**

1. Pulling the fabric while machine is sewing thus causing the needle to strike the needle plate or shuttle hook.
2. Using bent needle or incorrect setting.

### **SKIPPING STITCHES:**

1. Using bent or blunt needle.
2. Needle inserted incorrectly
3. Needle threaded improperly.
4. Using wrong size needle.
5. Pressure of presser foot insufficient, especially when sewing heavy material.

### **UNEVEN STITCHES:**

1. Presser foot not resting evenly on material.
2. Feed dog not being high enough.
3. Too short stitches used.
4. Pulling the cloth while the machine is sewing.
5. Using too fine a needle with too coarse a thread.

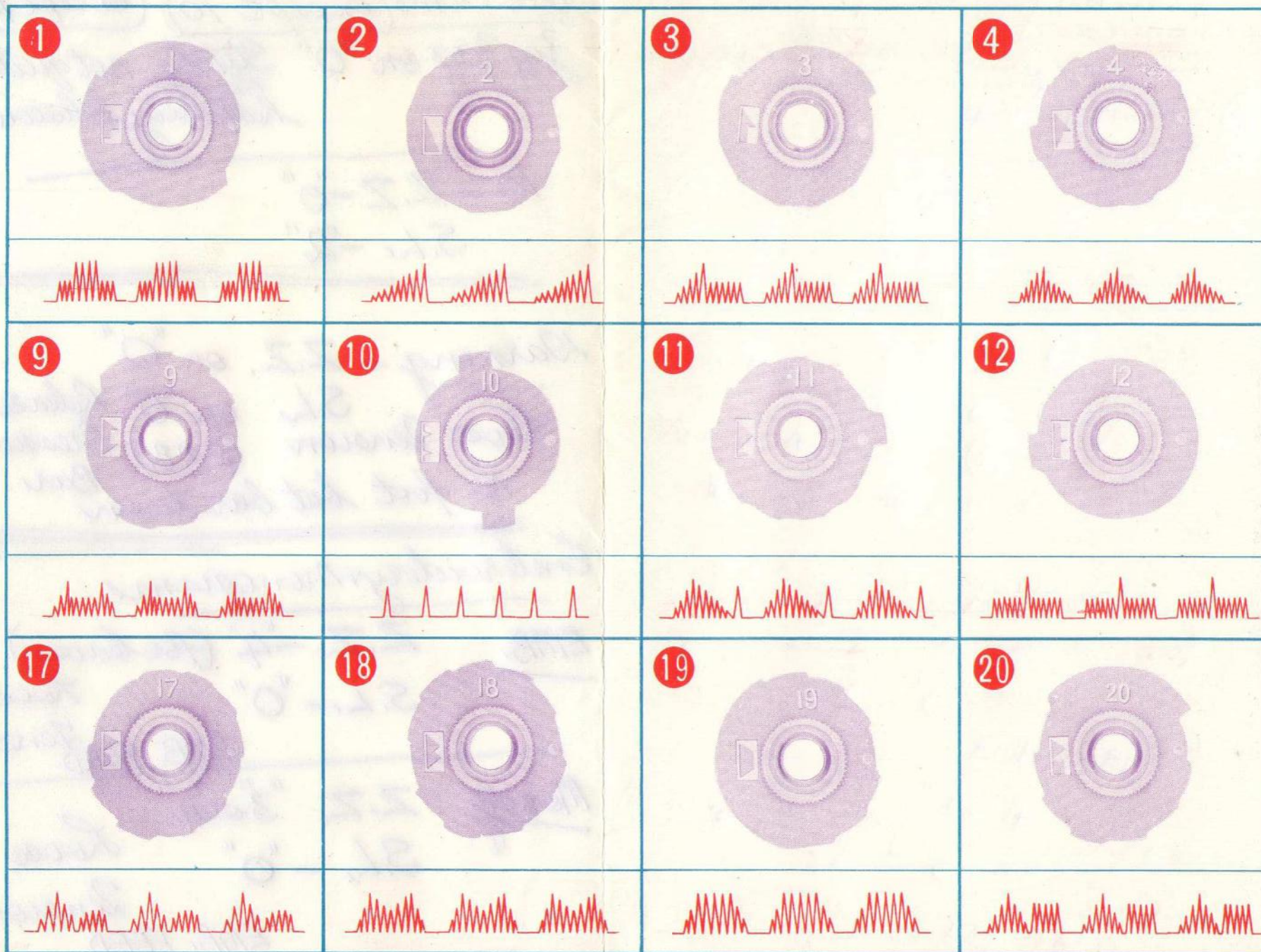


### 33. NEEDLE AND THREAD SIZES (USE 15 × 1 NEEDLE ONLY)

Sizes & Grades of Needles	Type of Fabric and Work to be done	SIZE OF THREAD		
		Cotton	Silk	Linen
B or 11 (Medium-Fine)	Medium light-weight and summertime fabric. For house dresses, children's dresses, washable cotton dresses, aprons, curtains.	80 to 100	0 Twist	
1/2 or 14 (Medium)	Dress, silks and cotton light weight woolens, draperies, fabric furnishings. For general household sewing, fine men's shirts, smocks, window draperies and fabric decorations.	60 to 80	A & B Twist	
1 or 16 (Light-Heavy)	Heavy cretonne, madras, muslin, brocades and quilts. For men's work shirts, sturdysmocks and aprons, heavy quilting and fabric furnishings.	40 to 60	C Twist	
2 or 18 (Medium-Heavy)	Heavy woven coating, light weight canvas, bed ticking, upholstery and awning materials, slipcover fabrics. For work or sports uniforms, suits made of strong linen or cotton fabrics, awnings, slip covers and mattresses.	30 to 40	D Twist	
3 or 19 (Heavy)	Heavy woven suiting, coating, duck, ticking, drilling, canvas and sacking. For heavy wash uniforms, bedding supplies for hospitals, hotels and camps.	10 to 30	E Twist	60 to 80
4 or 21 (Extra-Heavy)	For bags, canvas, coarse cloths and heavy goods.	Very Coarse		40 to 60

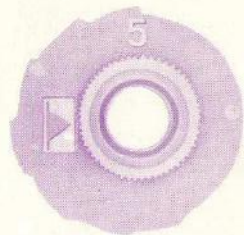


# UNIVERSAL Model 314

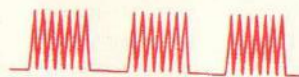




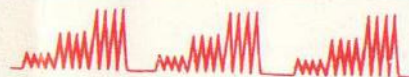
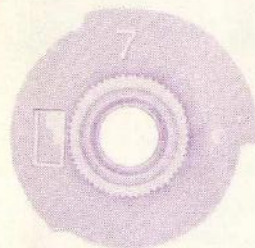
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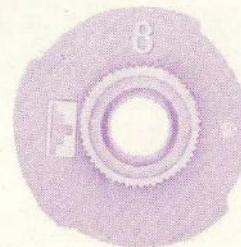
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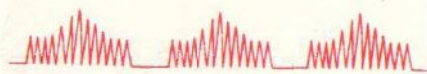
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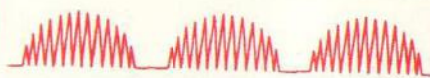
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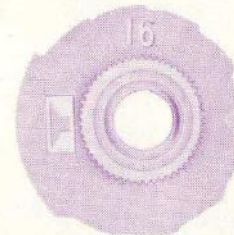
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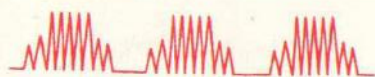
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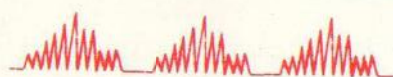
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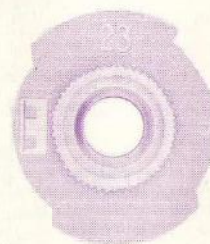
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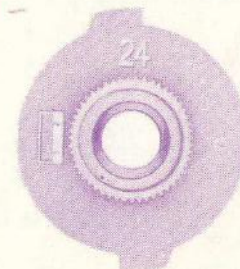
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23



24





Applique stitch design on first  
turn edges to  $\frac{1}{16}$ ". <sup>NORM.</sup> ~~normal~~ feed  
Z.Z. - 2 } Satin  
S.L. - 0 } stitch  
of tension

---

Loose Tension  
all cams (except 10) (except 10)  
Zig Zag on "O" <sup>Stitch</sup> not quite  
<sup>Length</sup> halfway between "O" & "1"

---

10 - Z.Z. - "O"  
S.L. - "2"

---

Warning - Z.Z. on "O"  
S.L. on "O" Release  
Loose Tension (EMB.) Pressure  
No foot but bar down Bar.

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Embroidery Monograms

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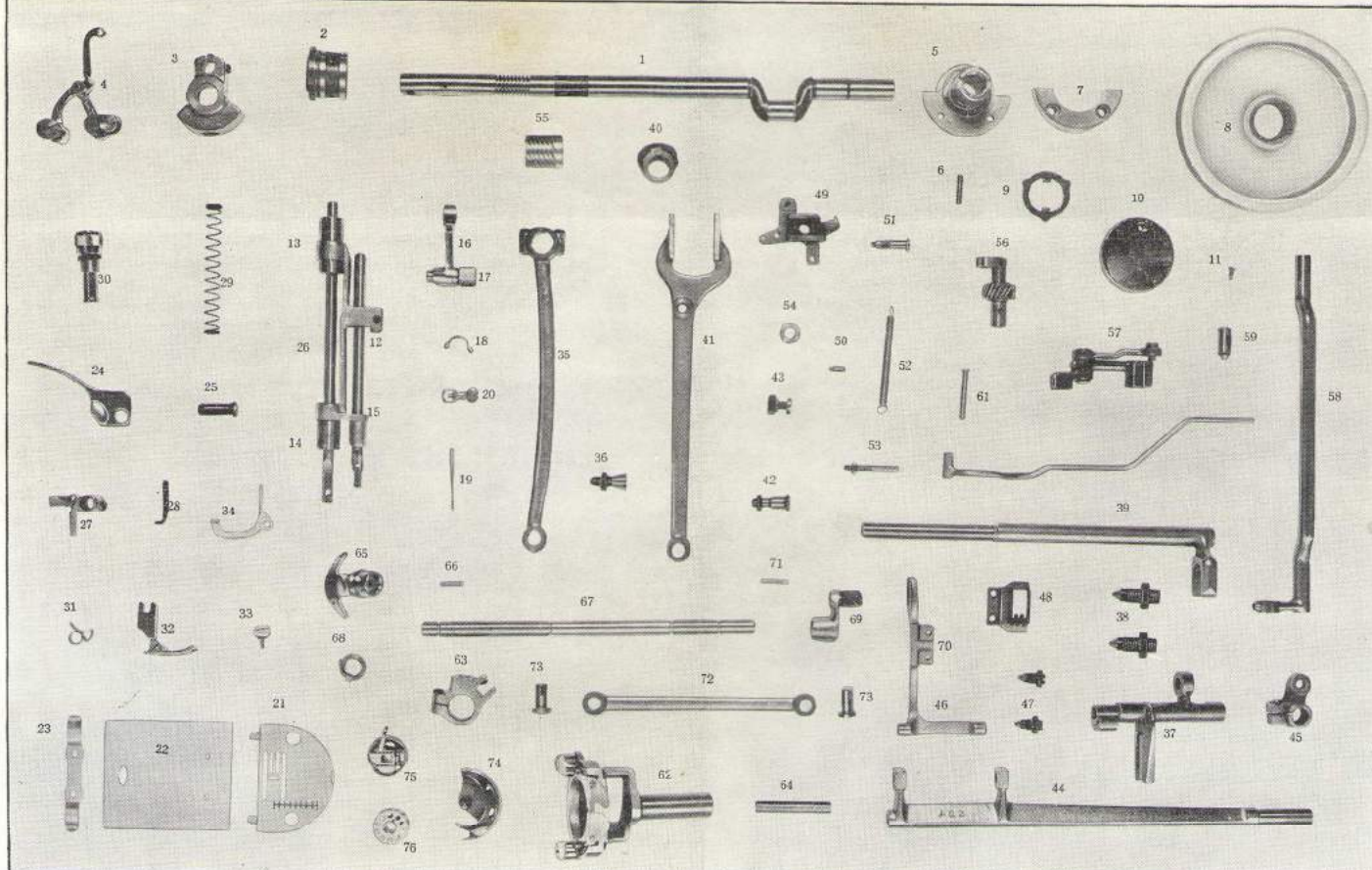
EMB. Z.Z. - "4" (for leaves)  
S.L. - "O" <sup>Local</sup>  
<sup>Tension</sup>  
EMB. FEED

---

Monog. Z.Z. - "3" & "4"  
S.L. - "O" <sup>Loose</sup>  
<sup>Tension</sup>  
EMB. FEED

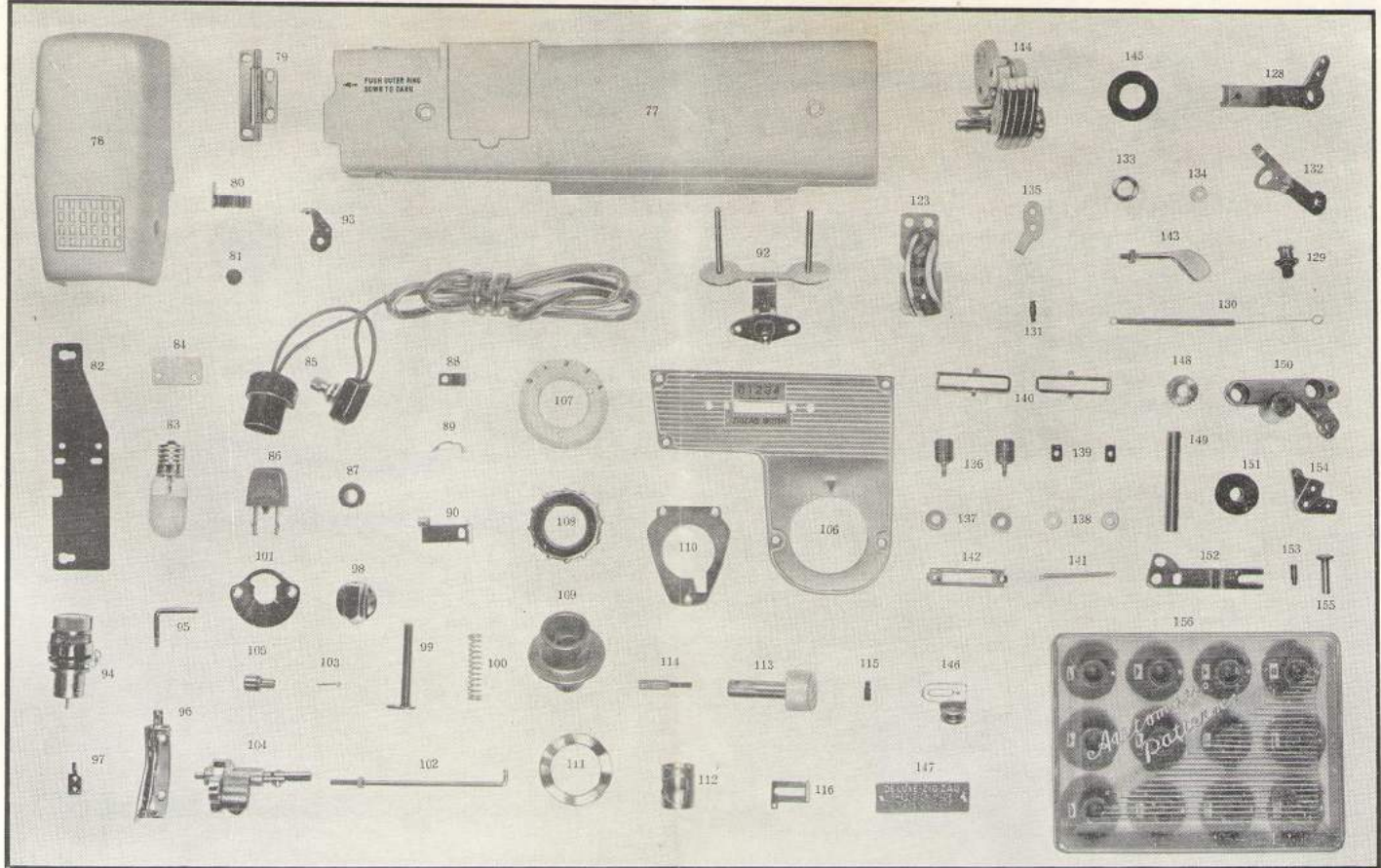
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Parts No.	Parts Name	Parts No.	Parts Name	Parts No.	Parts Name
1	Upper shaft	26	Presser bar	51	Shaft for feed regulator
2	Upper shaft bushing	27	Presser bar guide bracket w/screw	52	Spring for feed regulator
3	Needle bar crank	28	Lifting pin for upper thread tension release	53	Spring bracket w/nut
4	Thread take up lever (Assembly) link type	29	Presser bar spring	54	Spring washer for 51
5	Balance wheel bushing	30	Automatic darning (Assembly)	55	Zigzag spiral gear
6	Taper pin (Large)	31	Thread cutter	56	Zigzag cam gear (Assembly)
7	Balance weight	32	Presser foot for zigzag sewing	57	Vertical rock shaft arm, rod and needle bar connecting junction
8	Balance wheel	33	Thumb screw for presser foot	58	Vertical rock shaft
9	Stop motion clamp washer	34	Upper thread tension release	59	Upper center pin for 58
10	Stop motion knob	35	Crank connecting rod	60	Needle bar support connecting bar
11	Stop screw for stop motion knob	36	Hinged screw w/nut for connecting rod	61	Pin for 60
12	Needle bar support with screw	37	Oscillating rock shaft	62	Shuttle race
13	Upper bushing for presser bar	38	Center screw with nut (Large)	63	Shuttle race guide bracket
14	Lower bushing for presser bar	39	Feed lifting rock shaft	64	Guiding pin for 63
15	Needle bar	40	Feed cam	65	Shuttle driver (Assembly)
16	Needle bar connecting link	41	Forked rod	66	Taper pin (Small)
17	Needle bar connecting stud	42	Hinged screw for forked rod	67	Lower shaft
18	Needle clamp thread guide	43	Slide block w/stud for feed regulator	68	Collar for screw for lower shaft
19	Needle	44	Feed driving rock shaft	69	Lower shaft crank w/slide block
20	Needle clamp	45	Feed driving rock shaft arm w/screw	70	Lower shaft slide block
21	Needle plate for zigzag sewing	46	Feed dog bearer	71	Taper pin (middle)
22	Slide plate	47	Center screw w/nut	72	Shuttle race driving rod
23	Spring for slide plate	48	Feed dog	73	Pin for 72
24	Presser bar lifter	49	Feed regulator	74	Shuttle hook
25	Pin for presser bar lifter	50	Pin for feed regulator	75	Bobbin case
				76	Bobbin





Parts No.	Parts Name	Parts No.	Parts Name	Parts No.	Parts Name
77	Top plate	105	Drop feed roller	140	Zigzag width slide frame
78	Face plate	106	Zigzag plate	141	Stopper spring
79	Face cover hinge	107	Stitch length dial plate	142	Zigzag width stopper frame
80	Face cover clamp spring	108	Stitch length control knob	143	Zigzag width control lever
81	Signal cap	109	Bushing for stitch	144	Bobbin winder
82	Sew-light reflector	110	Clamp plate for 109	145	Bobbin winder rubber ring
83	Sew-light bulb	111	spring for 109	146	Bobbin winder thread tension guide
84	Sew-light insulated board	112	Stitch length control cam	147	Medallion
85	Sew-light cord switch and socket	113	Reverse sewing push button	148	Worm gear
86	Sew-light plug	114	Adjusting pin for reverse sewing push button	149	Shaft for pattern cam supporting base bushing
87	Rubber bushing	115	Guiding pin for 113	150	Pattern cam supporting base bushing
88	Cord clamp washer (B)	116	Guide bracket for reverse push button	151	Pattern cam supporting base
89	Cord clamp washer (C)	123	Needle displacement lever w. zigzag oscillating cam guide	152	Cam selector plate
90	Cord clamp washer (K)	128	Zigzag width regulator	153	Pin for cam selector, plate
92	Spool pin assembly rotary type	129	Pivot-screw	154	Cam selector base with pin
93	Upper thread guide	130	Pull spring for zigzag width regulator	155	Shaft for 154
94	Upper thread tension regulator	131	Bracket for 130	156	Automatic pattern cams with box
95	Upper thread retaining bar	132	AM change lever		
96	Upper thread protector assembly	133	Spring for 132		
97	Face cover clamp bracket	134	Zigzag ring		
98	Drop feed control knob	135	Stopper for zigzag width regulator		
99	Shaft for drop feed control knob	136	Zigzag width control knob		
100	Spring for 99	137	Fibre washer for 136		
101	Drop feed plate	138	Steel washer for 136		
102	Drop feed crank w/nut	139	Nut for 136		
103	Pin for 102				
104	Drop feed assembly				



