

Form 18416  
Rev. (1151)

**SINGER\***  
**ELECTRIC SEWING MACHINES**  
**101-4 and 101-12**

WITH ATTACHMENTS 120606

HORIZONTAL ROTARY HOOK, FOR FAMILY USE



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18416

# SINGER

## ELECTRIC SEWING MACHINES

### 101-4 and 101-12

WITH ATTACHMENTS 120606

HORIZONTAL ROTARY HOOK, FOR FAMILY USE



CABINET 40

THE SINGER MANUFACTURING COMPANY

**TO ALL WHOM IT MAY CONCERN:**

**The improper placing or renewal of the Trade-Mark "SINGER" or any other of the Trade-Marks of The Singer Manufacturing Company (all of which are duly Registered Trade-Marks) on any machine that has been repaired, rebuilt, reconditioned, or altered in any way whatsoever outside a SINGER factory or an authorized SINGER agency is forbidden.**



## DESCRIPTION

**Machine 101-4**, for family use, has a rotary sewing hook on a vertical axis and makes the lock stitch.

It is especially designed for operation by electricity, having an efficient electric motor built in the back of its arm, the speed of the machine being controlled by means of a knee lever.

It is also equipped with the electric SINGER-LIGHT.

Cabinets 40 and 306, shown on pages 1 and 10, respectively, are intended for use with Machine 101-4. When closed, either of these cabinets resembles an attractive desk or library table, the sewing machine and motor being entirely concealed.

**Machine 101-12** is the same as Machine 101-4 except that the heavy parts are made of aluminum which reduces the weight of the machine to the minimum so that it is easy to carry.

Portable Case 204, shown on pages 11 and 12, is regularly sent out with this machine.

## **Motor Can be Operated on Either Alternating Current or Direct Current**

The electric motor, which is built in Machines 101-4 and 101-12, can be operated on either direct current or 25 to 75 cycle alternating current without change of adjustment. The standard windings of the motor are for 110-120 volts, but motors can also be furnished for any voltage between 50 and 250.

Special motors for 32 volts direct current and above 75 cycle alternating current have also been developed and are available.

### **Points to Determine Before Connecting Motor to Electric Service Line**

Obtain the following information from the Electric Light Company which supplies the electric current for the circuit to which the motor is to be connected:

1. Whether alternating current or direct current is used.
2. What is the voltage? The voltage must be within the range stamped on the motor name plate (B, Fig. 2, page 5).
3. If the electric service line is alternating current, what is the number of cycles? The number of cycles must be within the range stamped on the motor name plate.
4. The current and voltage of the electric service line and, if alternating current, the number of cycles, can be verified by looking at the name plate on electric meter installed by the local Electric Light Company.

### To Remove the Motor Cover

Turn the motor cover (C, Fig. 2) over toward the balance wheel and pull it outwardly to remove it, thus exposing the motor name plate (B, Fig. 2).

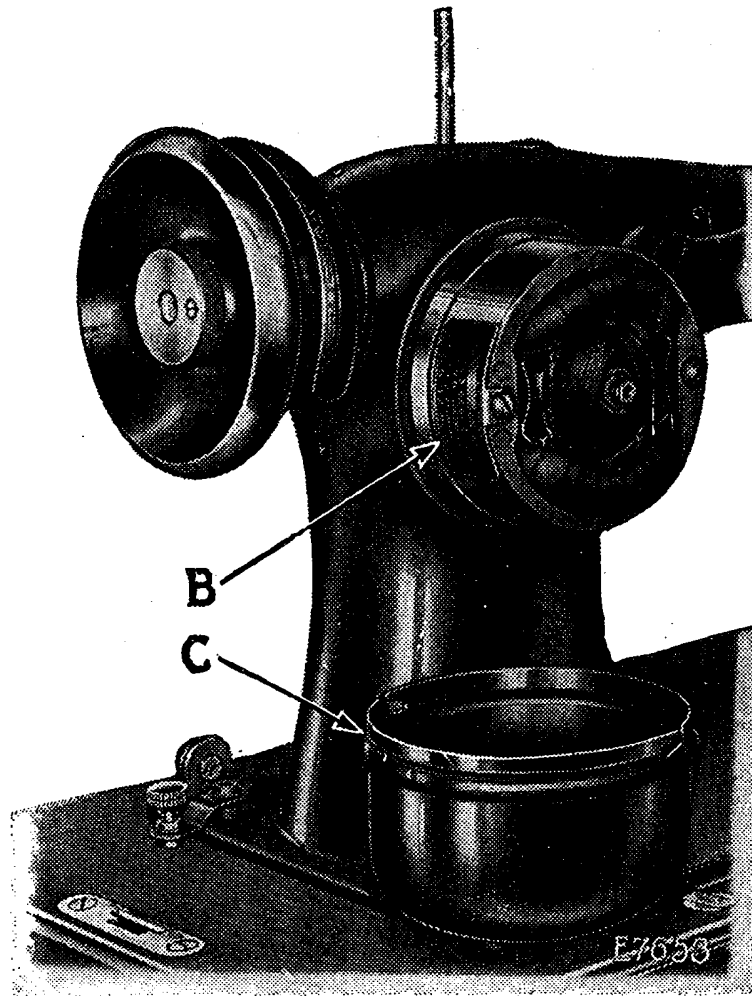


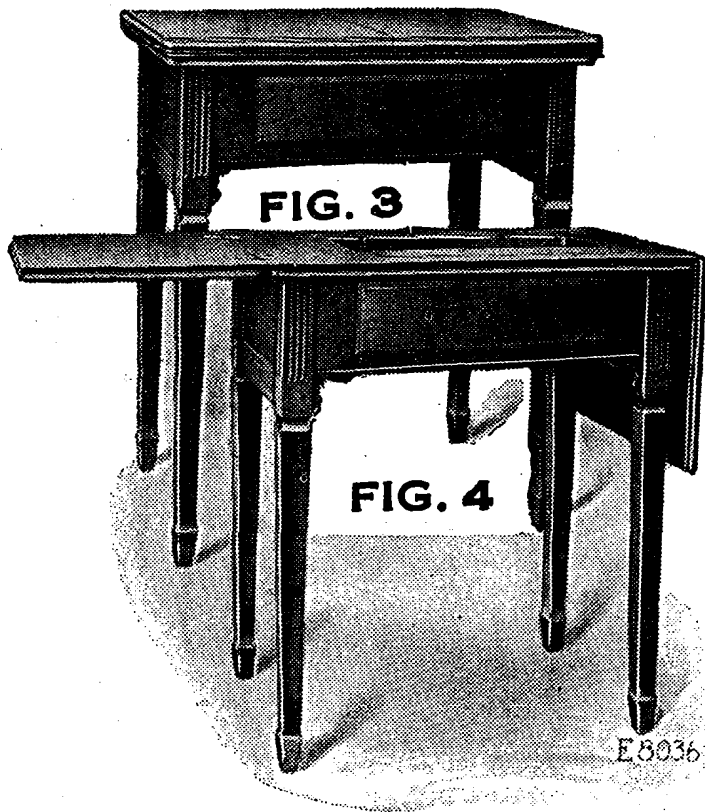
FIG. 2. MOTOR COVER REMOVED SHOWING  
MOTOR NAME PLATE

When replacing the motor cover (C), have the two notches in the cover engage the pins at the top and bottom of the motor frame.

## To Open Cabinet 40

(SEE FIGS. 3, 4, 5 AND 6)

Raise the two leaves at the top of the table and the supporting rod will automatically spring out at



FIGS. 3 AND 4. TO OPEN CABINET 40

the left of the table. Allow the left leaf to rest on the supporting rod and the right leaf to hang loosely at the right of the table, as shown in Fig. 4.

With the right hand raise the front hinged portion (B, Fig. 5) of the table, and at the same time, place the left hand under the front side of the arm of the machine, as shown in Fig. 5, **being very careful not to touch the electric lamp or shade**, and raise the sewing machine head, then replace the hinged portion of the table and lower the machine so that it rests on the table, as shown in Fig. 6.

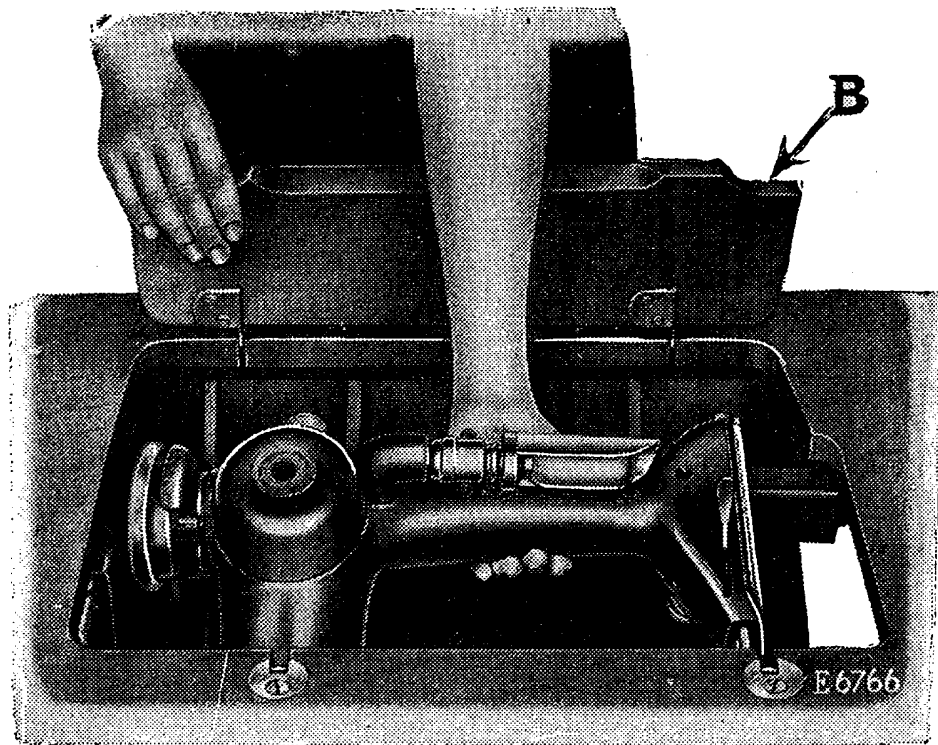


FIG. 5. RAISING MACHINE OUT OF CABINET 40

Pull down the knee lever (Q) to the vertical position as shown in Fig. 6.

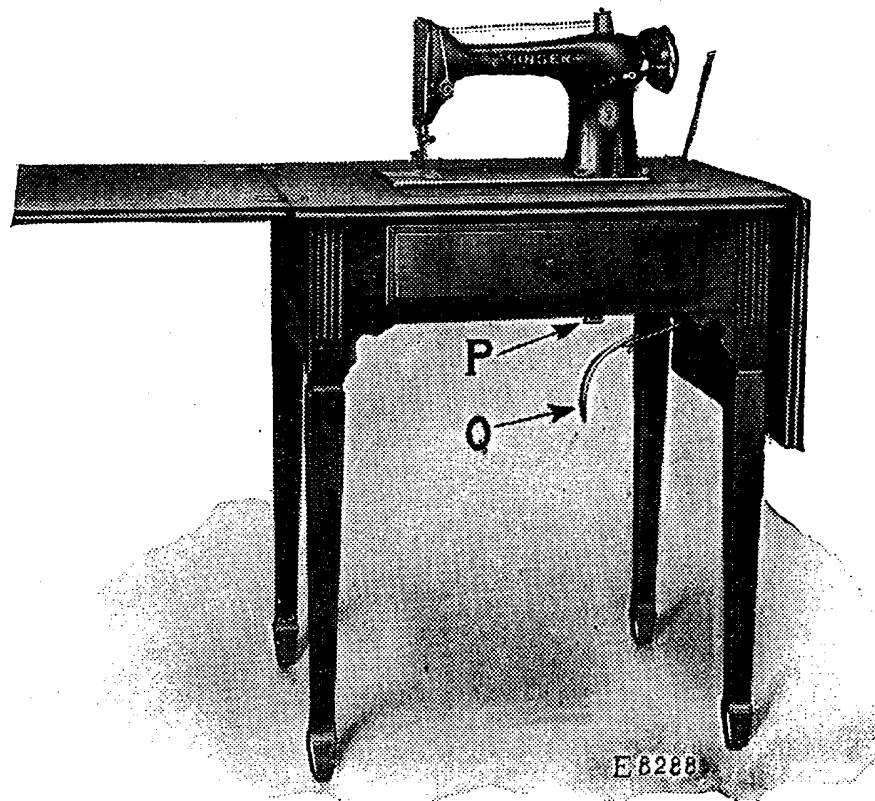


FIG. 6. KNEE LEVER LOWERED TO OPERATING POSITION  
ON CABINET 40  
ALSO ELECTRICAL CONNECTION

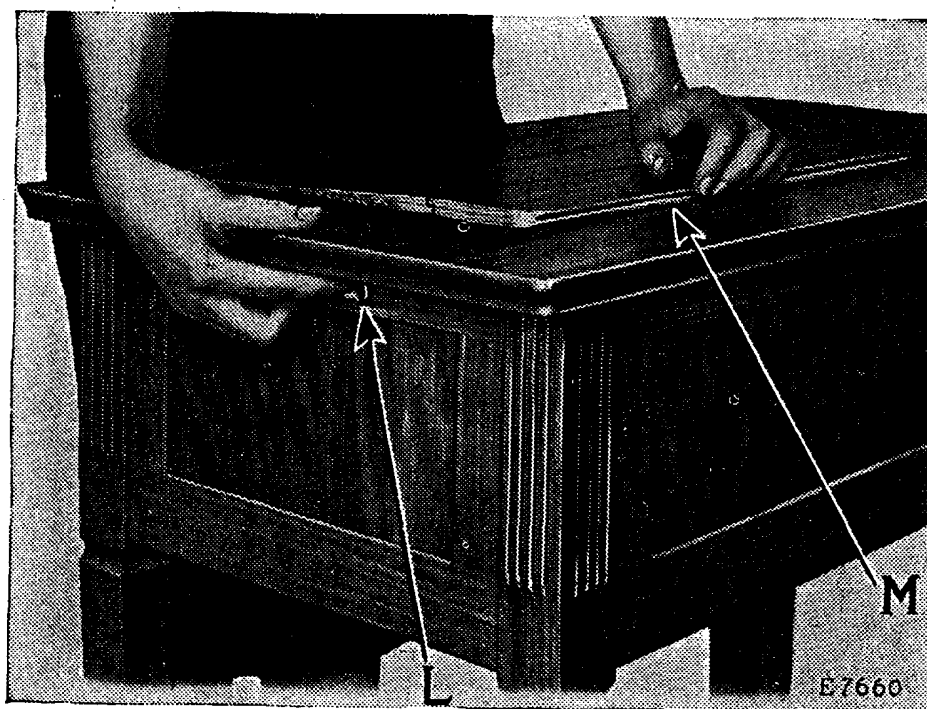
### **To Connect Machine 101-4 on Cabinet 40 to Electric Service Line**

Push the terminal plug at one end of the electric cord as far as it will go on the three-pin terminal block under the cabinet, as shown at (P) in Fig. 6.

Attach the plug at the other end of the cord to the nearest electric socket and the machine is ready for operation.

### **To Open Cabinet 306**

With the right hand push in the lever (L, Fig. 7) at the right of the table and at the same time with the left hand raise the hinged flaps of the table top as shown at M in Fig. 7.



**FIG. 7. TO OPEN CABINET 306**

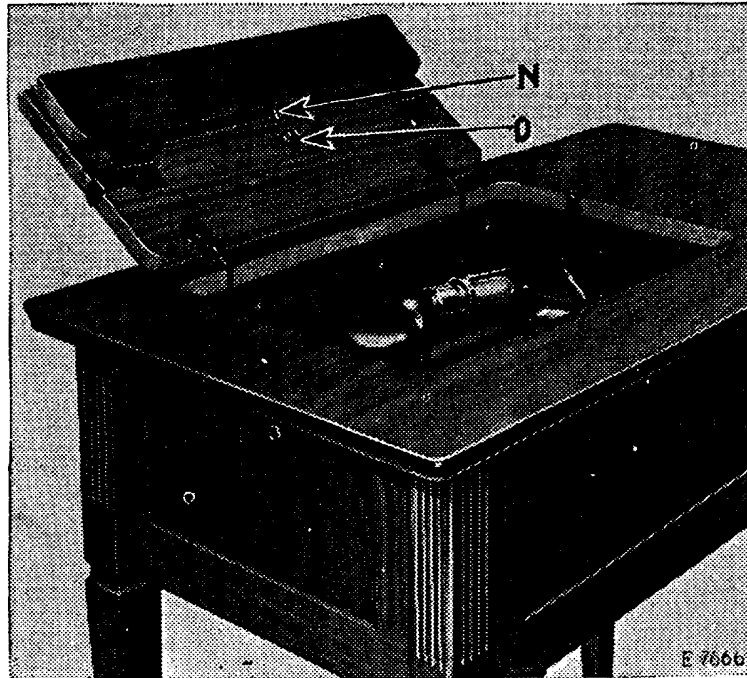


FIG. 8. To OPEN CABINET 306

Fold back the hinged flaps as shown in Figs. 8 and 9, having the catch (N, Fig. 8) enter the spring clip (O, Fig. 8).

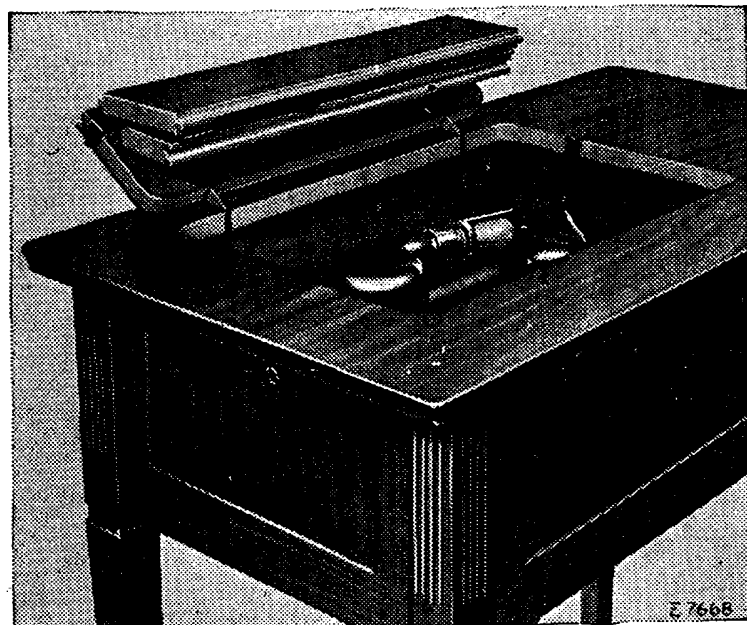


FIG. 9. To OPEN CABINET 306

Raise the sewing machine head out of the cabinet as shown in Fig. 5, **being very careful not to touch the electric lamp or shade**, then turn down the hinged flaps of the table top and lower the machine so that it rests on the table as shown in Fig. 10.

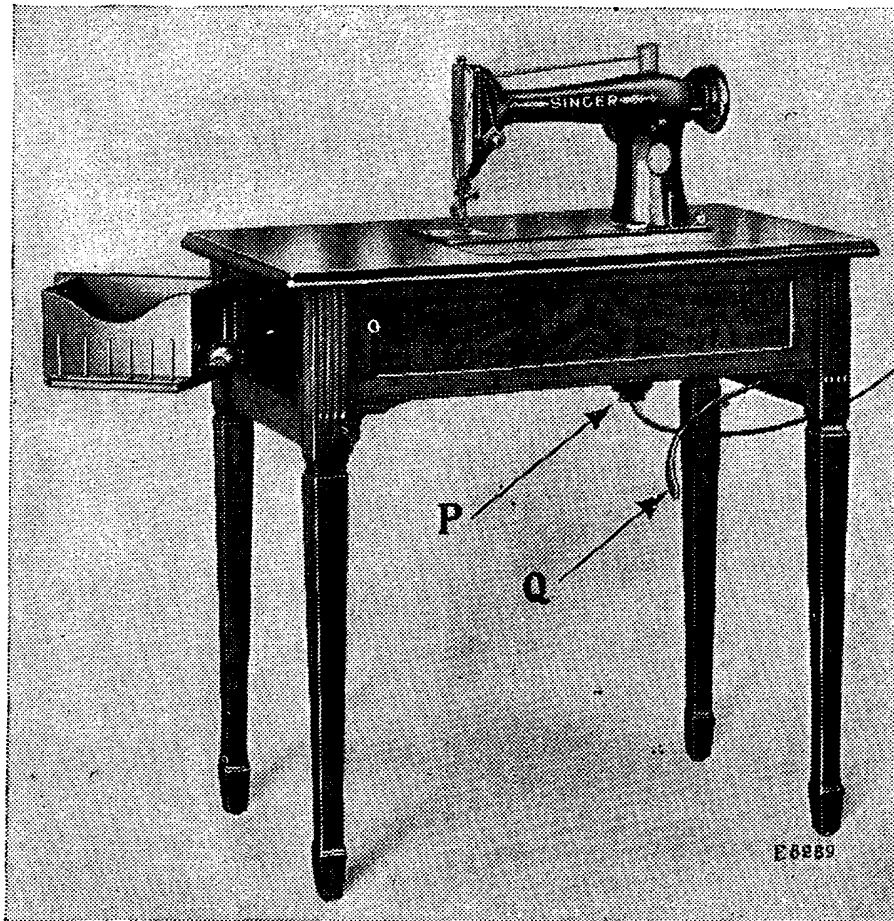


FIG. 10. KNEE LEVER LOWERED TO OPERATING POSITION  
ON CABINET 306  
ALSO ELECTRICAL CONNECTION

Pull down the knee lever (Q) to the vertical position as shown in Fig. 10.

Fig. 10 shows the swing-out drawer at the left of the table. This drawer is provided with holders for spools, bobbins and oil can and has a compartment for the box of attachments.

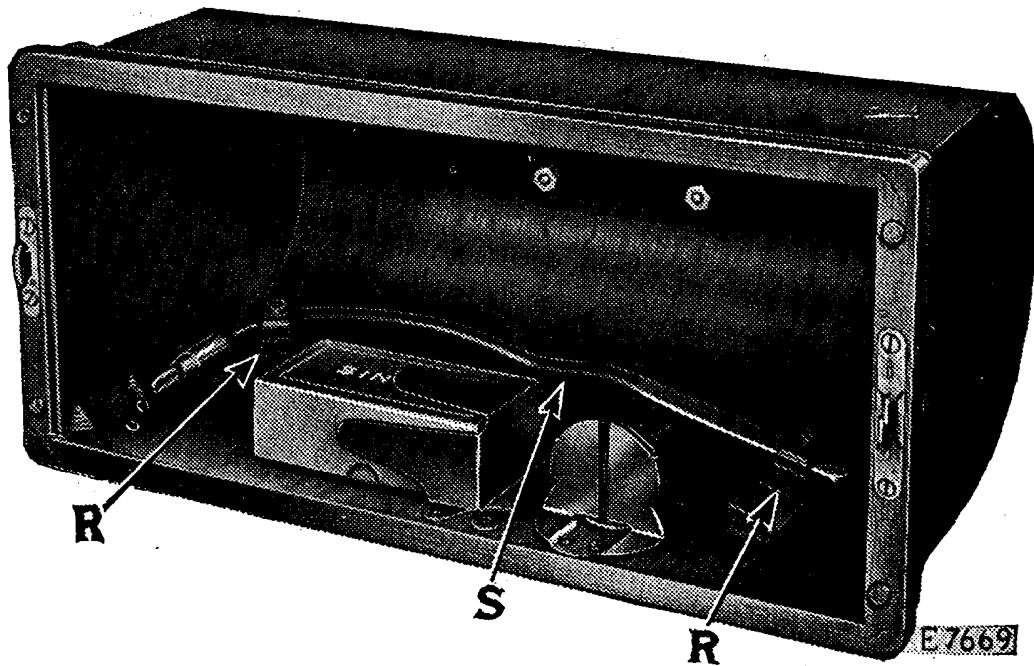


### **To Connect Machine 101-4 on Cabinet 306 to Electric Service Line**

Push the terminal plug at one end of the electric cord as far as it will go on the three-pin terminal block under the cabinet as shown at P in Fig. 10. Attach the plug at the other end of the cord to the nearest electric socket and the machine is ready for operation.

### **To Open Portable Set 204**

After removing the cover, remove the knee lever (S, Fig. 11) from the two cleats (R, Fig. 11).



**FIG. 11. KNEE LEVER IN POSITION IN COVER**



FIG. 12. PLACING KNEE LEVER IN POSITION  
ON PORTABLE SET 204

Hold the knee lever in a horizontal position with the handle toward the left as shown in Fig. 12, and push the end of the lever into the socket (T, Fig. 12).



**FIG. 13. KNEE LEVER IN POSITION READY FOR OPERATION ON  
PORTABLE SET 204  
ALSO ELECTRICAL CONNECTION**

Allow the knee lever to drop to the vertical position as shown in Fig. 13 and the end of the lever will engage the stop in the knee lever socket.

## **To Connect Machine 101-12 on Portable Set 204 to Electric Service Line**

Push the terminal plug at one end of the electric cord as far as it will go on the three-pin terminal block at the right of the cabinet as shown at U in Fig. 13. Attach the plug at the other end of the cord to the nearest electric socket and the machine is ready for operation.

## **To Ensure Perfect Action of the Machine**

The balance wheel must always turn over toward the operator.

Do not run the machine with the presser foot resting on the feed without cloth under the presser foot.

Do not run the machine when both bobbin case and needle are threaded, unless there is material under the presser foot.

Do not try to help the machine by pulling the fabric, lest you bend the needle. The machine feeds the work without assistance.

The slide over the bobbin case should be kept closed when the machine is in operation.

## **To Turn SINGERLIGHT "On" or "Off"**

Reach over the top of the machine and move the switch lever (V, Fig. 14) to the right or left as desired.

## **To Remove and Replace the Bulb**

To remove the bulb, hold the SINGERLIGHT socket tightly with one hand and with the other hand turn the shade halfway around until the pin (W,

Fig. 14) for the shade is in the slot of the shade, then gently slip the shade off and allow it to hang free as shown in Fig. 14.

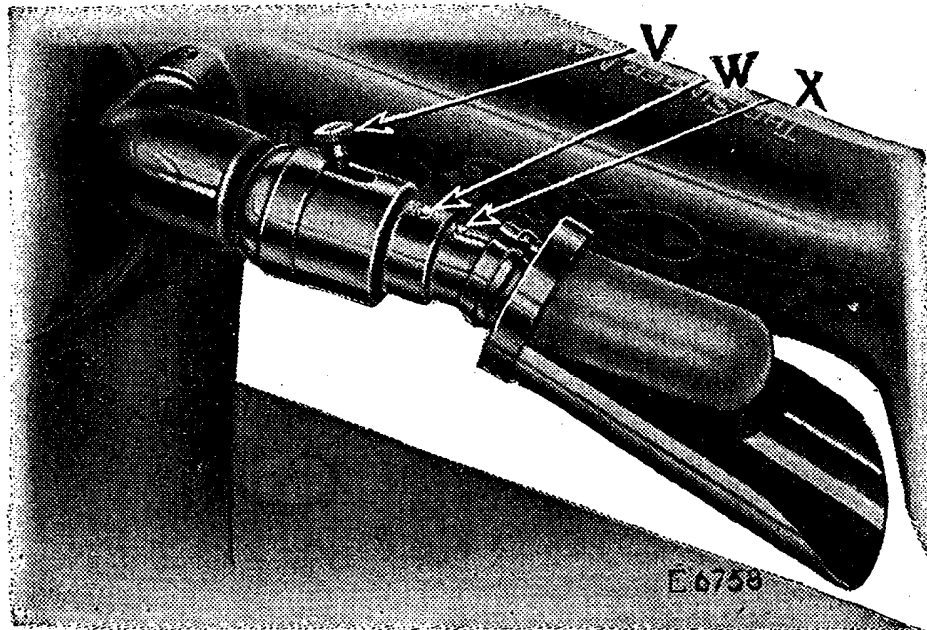


FIG. 14

Do not attempt to unscrew the bulb. It is of the bayonet and socket type and does not unscrew. Press the bulb into the socket and at the same time turn it until the bulb pin (X, Fig. 14) is out of the notch in the socket, then withdraw the bulb and shade.

To insert a new bulb, pass the bulb through the collar of the shade with the slot of the shade upward. Hold the socket tightly with one hand and at the same time with the other hand press the bulb into the socket with the bulb pin (X, Fig. 14) in the slot and turn it until this pin is in the notch. Then slip the shade over the socket, the pin (W, Fig. 14) for the shade entering the slot of the shade. See that the pin (W) is in the groove of the shade and turn the shade halfway around, or until it is at the top.

## CAUTION

**When you have finished your sewing, always disconnect the plug from the electric socket.**

### **To Close Cabinets 40 and 306**

Remove the plug from the electric socket, also remove the plug from the three-pin terminal block under the cabinet and coil the electric cord around the machine.

With the left hand grasp the machine around the front side of the arm, turn it slightly back on its hinges, and at the same time, with the right hand, raise the front hinged portion (B, Fig. 5, page 7) of the table, lower the machine head, **being careful not to touch the electric lamp or shade;** then lower the hinged portion (B).

On Cabinet 40 close the leaves, push in the supporting rod and swing back the knee lever.

On Cabinet 306, unfold the hinged flaps of the table top and place them into position, then swing back the knee lever.

### **To Pack Up Portable Set 204**

Remove the plug from the electric socket, also remove the plug from the three-pin terminal block at the right of the cabinet and coil the electric cord around the machine. Raise the knee lever to a horizontal position, remove it and replace it in the two cleats (R, Fig. 11) in the cover. Replace the cover and lock it.

## Instructions for Operating the Machine

Raise the presser foot (F, Fig. 15) by means of the presser bar lifter (H, Fig. 15) to prevent injury to the foot (F, Fig. 15) and feed (E, Fig. 15).

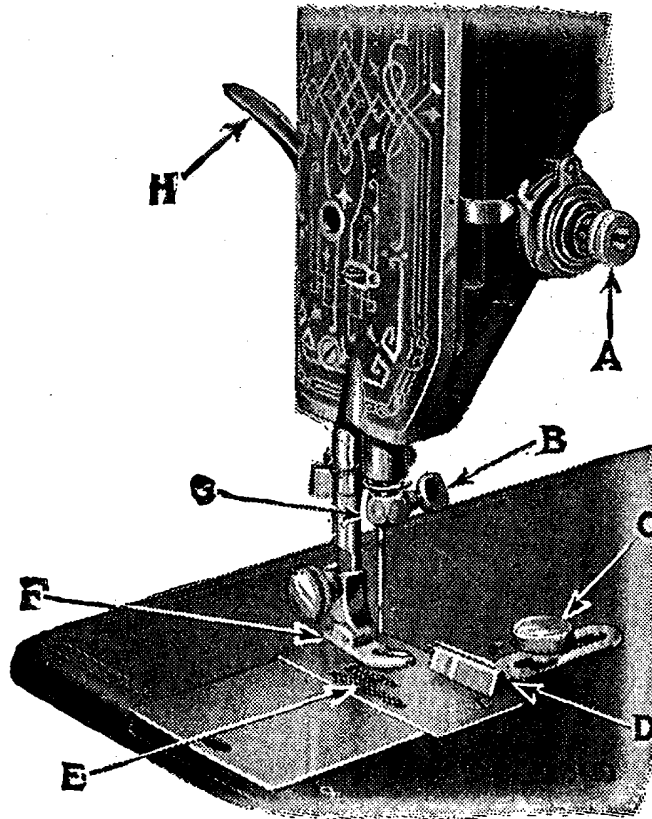


FIG. 15. FRONT VIEW OF THE MACHINE

Place a piece of cloth under the presser foot and let the foot down upon it.

## To Start the Machine

Turn on the electric current, press the knee lever to the right. As the pressure on the knee lever is increased the speed of the machine is increased, the speed being controlled entirely by the amount of pressure on the knee lever. Operate the machine in this way, without being threaded, until you have become accustomed to guiding the material and operating the knee lever.

### To Remove the Bobbin

Draw to the left the slide in the bed of the machine and take out the bobbin with the thumb and forefinger of the left hand, as shown in Fig. 16.

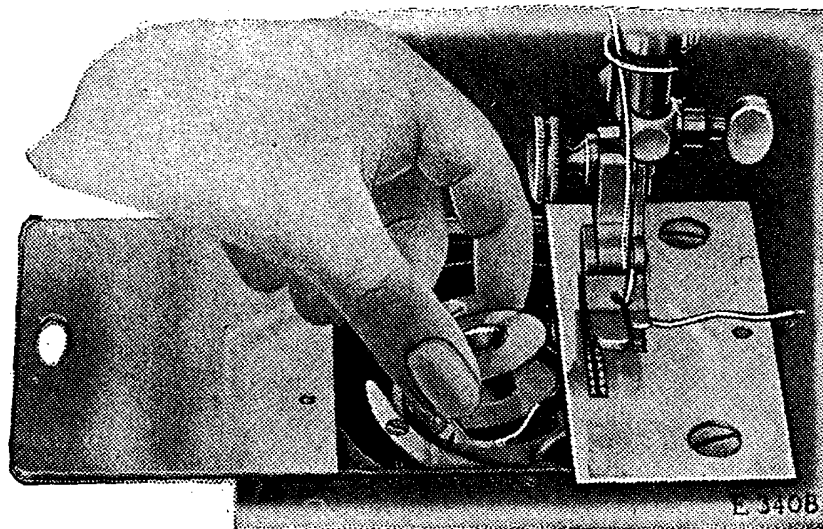


FIG. 16. REMOVING THE BOBBIN

### To Wind the Bobbin

It is necessary to understand the stop motion (B, Fig. 17) by which the balance wheel (C, Fig. 17) can be released when required, thus permitting the winding of bobbins without running the stitching mechanism.

To release the balance wheel (C, Fig. 17) turn the stop motion screw (B, Fig. 17) over toward you. It is necessary to hold the balance wheel while loosening the stop motion screw.

Place the bobbin on the bobbin winder spindle (E, Fig. 17) and push it up closely against the shoulder having the small pin in the shoulder enter the hole in the side of the bobbin. Put the spool of thread on the spool pin (1, Fig. 17) located on the bed of the machine at the right. Draw the thread under and between the tension discs (2, Fig. 17) on the bed of the machine at the right of the spool pin, then pass the thread through the hole in the left side of the bobbin (3, Fig. 17) from the inside.



Press down on the bobbin and the bobbin winder latch (A, Fig. 17) will drop down and hold the bobbin

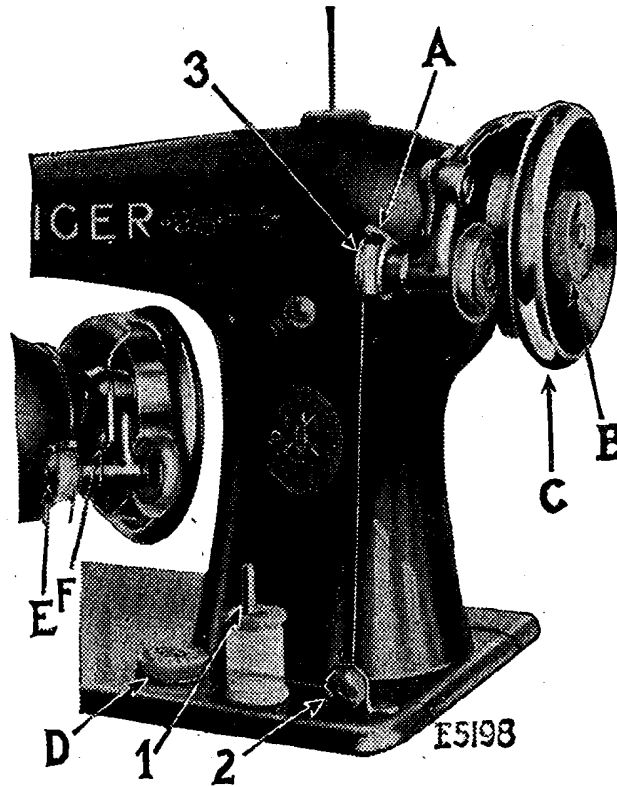


FIG. 17. WINDING THE BOBBIN

winder pulley against the hub of the balance wheel. Then press the knee lever the same as for sewing.

The end of the thread must be held by the hand until a few coils are wound and should then be broken off. When sufficient thread has been wound upon the bobbin, the bobbin winder is automatically released from the balance wheel.

If the pressure of the bobbin winder pulley against the hub of the balance wheel is insufficient for winding the bobbin, loosen the adjusting screw (F, Fig. 17) and press down on the bobbin winder until the pulley is in contact with the hub of the balance wheel, then tighten the adjusting screw (F).

Bobbins can also be wound while the machine is sewing.

### To Replace the Bobbin

Hold the bobbin between the thumb and forefinger of the left hand, the thread drawing on top from the right toward the left, as shown in Fig. 18.

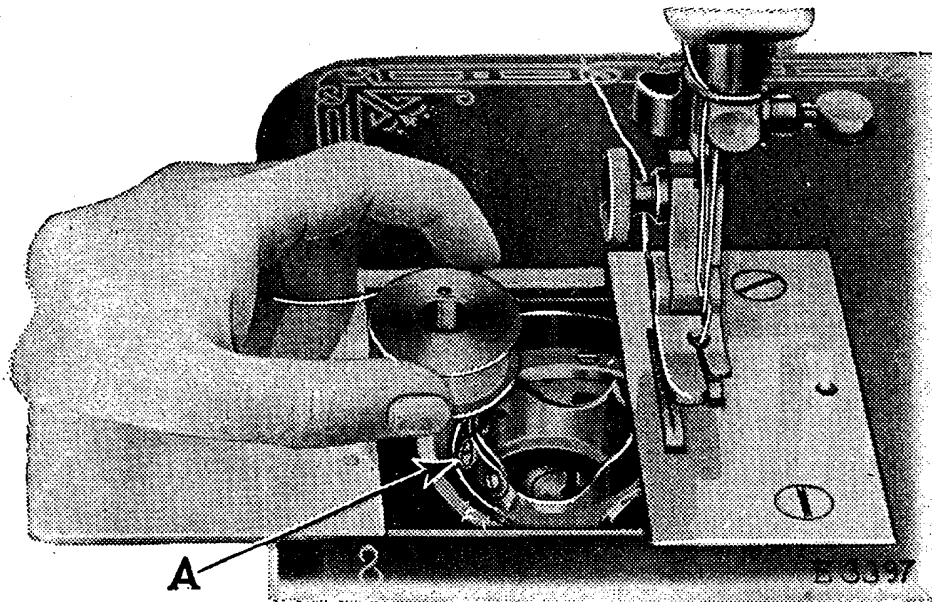


FIG. 18. REPLACING THE BOBBIN

Place the bobbin in the bobbin case and draw the thread into the slot (1, Fig. 19) in the bobbin case at the left, as shown in Fig. 19.

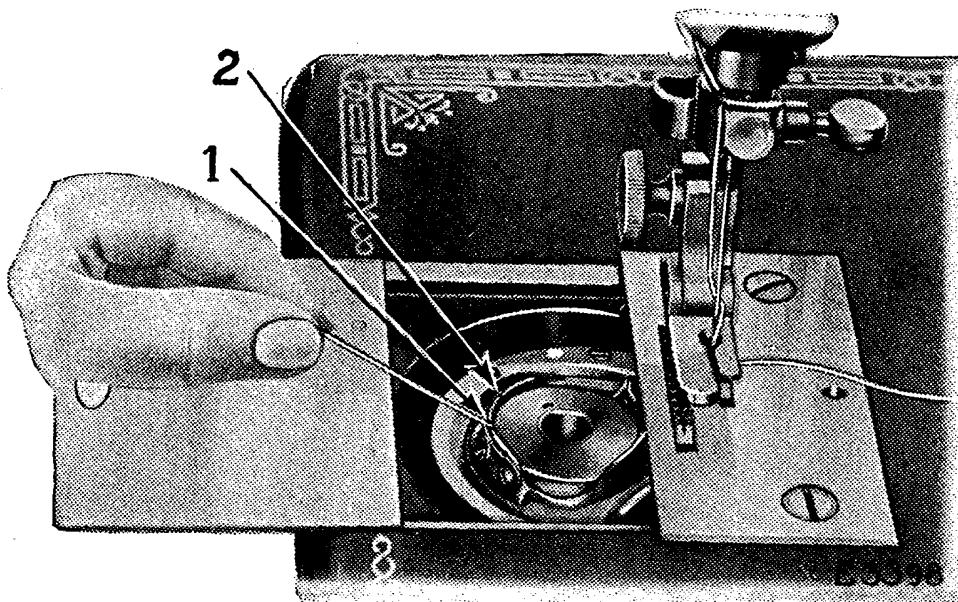


FIG. 19. THREADING THE BOBBIN CASE

Draw the thread backward between the bobbin case and the tension spring until it reaches the notch

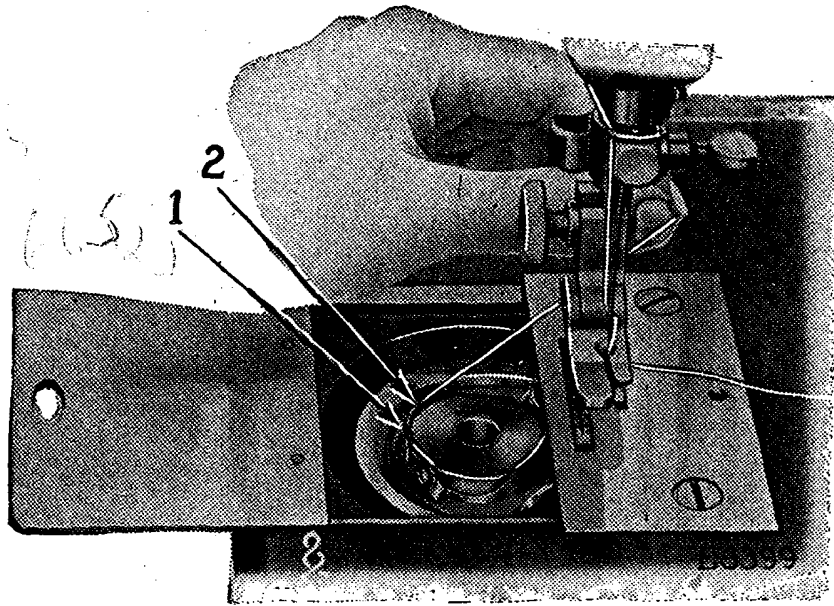


FIG. 20. BOBBIN CASE THREADED

(2, Fig. 20), then pull the thread toward the right, as shown in Fig. 20.

When closing the slide, leave just enough space for the thread to pass through, as shown at 3, in Fig. 21.

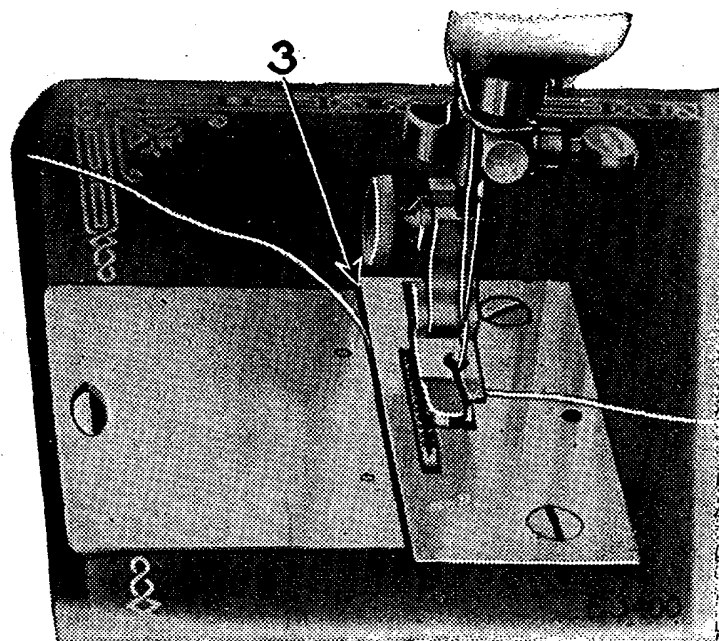


FIG. 21. UNDER THREADING COMPLETED

### **To Set the Needle**

Turn the balance wheel over toward you until the needle bar moves up to its highest point; loosen the thumb screw (B, Fig. 15, page 17) in the needle clamp (G, Fig. 15) and put the needle up into the clamp as far as it will go, with the flat side of its shank toward the right, then tighten the thumb screw. To select the correct needle, see page 53.

### **To Thread the Needle**

(SEE FIG. 22 ON THE FOLLOWING PAGE)

Turn the balance wheel over toward you until the thread take-up lever (5) is raised to its highest point. Place the spool of thread on the spool pin at the top of the machine; pass the thread into the thread guide (1) at the left, down, under and from right to left between the tension discs (2). Hold the spool tightly in the right hand and with the left hand pull the thread up under the thread take-up spring (4) until it enters the retaining fork (3), then pass the thread up and from right to left through the hole (5) in the end of the thread take-up lever, down into the eyelet (6) at the front of the face plate, into the lower wire thread guide (7), then from left to right through the eye of the needle (8). Draw about two inches of thread through the eye of the needle with which to commence sewing.

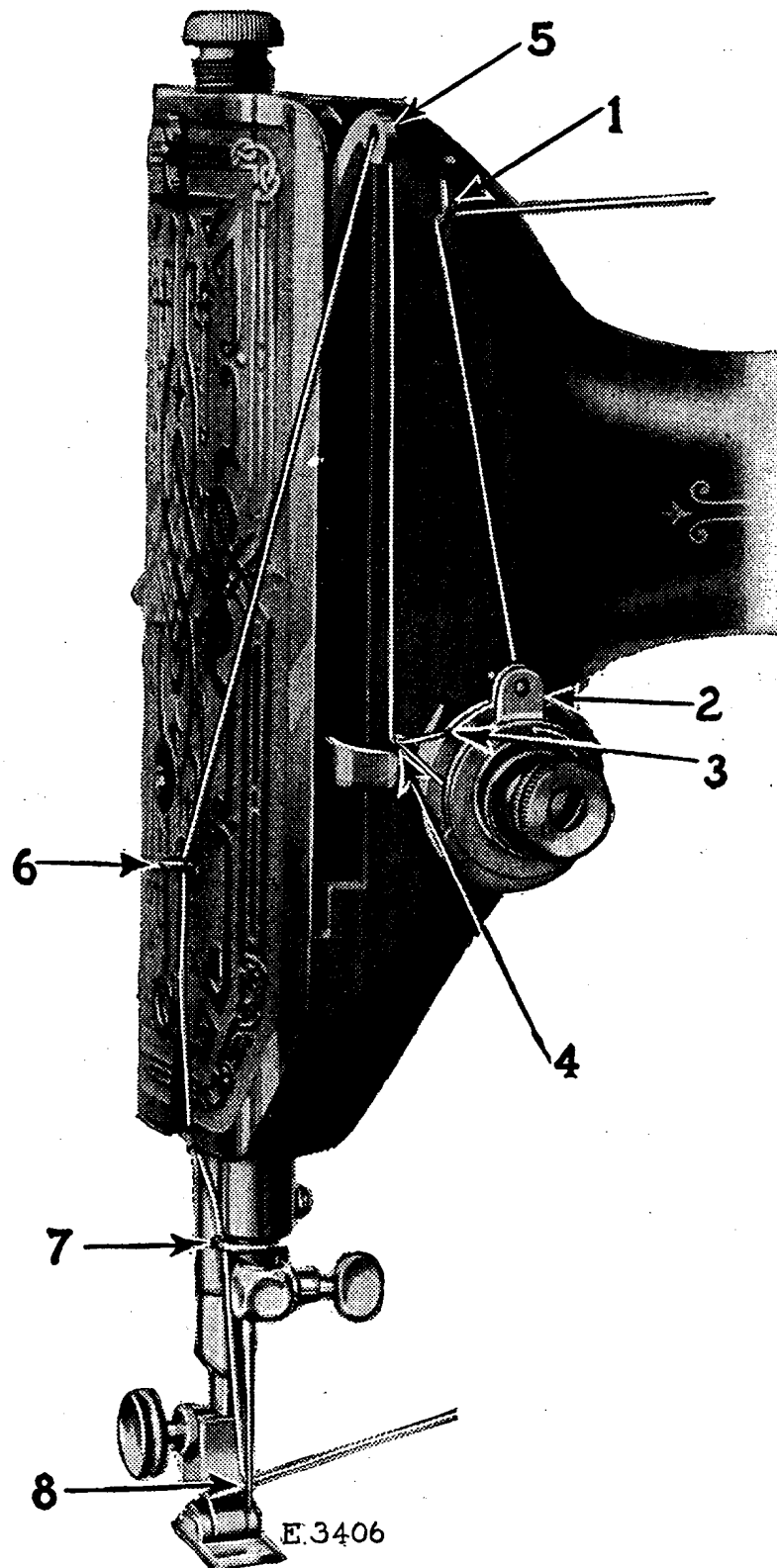


FIG. 22. THREADING THE NEEDLE

### To Prepare for Sewing

With the left hand hold the end of the needle thread, leaving it slack from the hand to the needle.

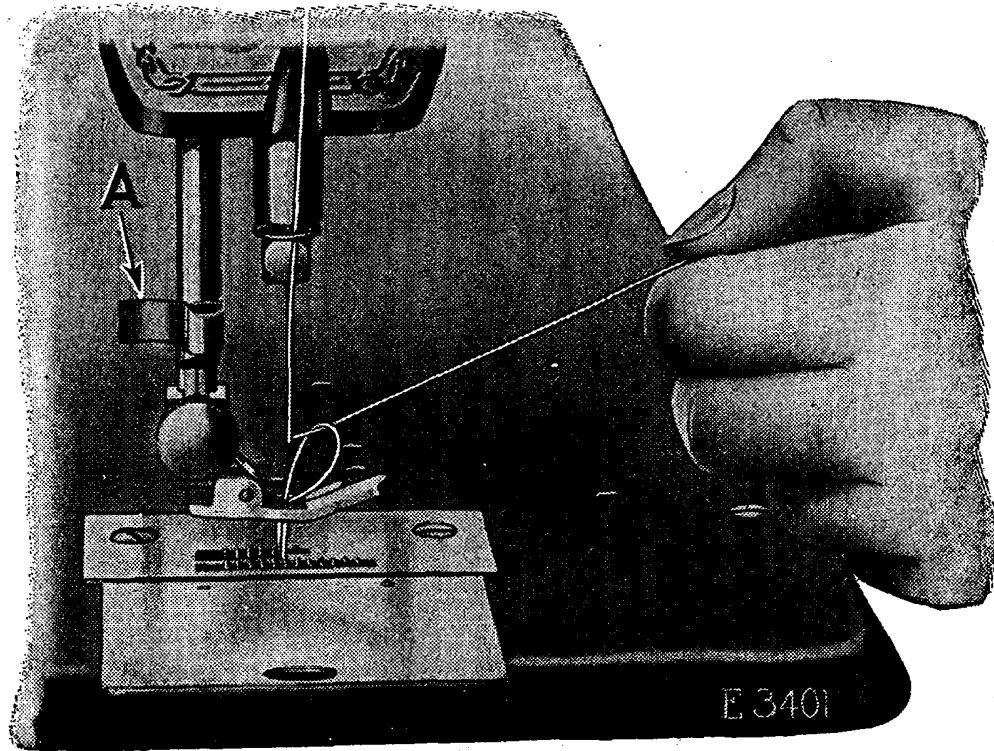


FIG. 23. DRAWING UP THE BOBBIN THREAD

Turn the balance wheel over toward you until the needle moves down and up again to its highest point, thus catching the bobbin thread, draw up the needle thread and the bobbin thread will come up with it through the hole in the throat plate, as shown in Fig. 23. Lay both threads back under the presser foot and close the slide.

### To Commence Sewing

Place the material beneath the presser foot, lower the presser foot and commence to sew, pressing the knee lever (Q, Fig. 6, page 7) to the right to start the machine.

When sewing thick material, it may be necessary to turn the balance wheel over toward you by hand to start the machine. This should also be done if the machine stops when sewing across thick seams.

## To Remove the Work

Let the thread take-up lever rest at its highest point, raise the presser foot and draw the fabric back and to the left about two inches; pass the threads over the thread cutter (A, Fig. 23) and pull down lightly to sever them. Leave the ends of the threads under the presser foot.

## Tensions

For ordinary stitching, the needle and bobbin threads should be locked in the centre of the thickness of the material, thus:



FIG. 24. PERFECT STITCH

If the tension on the needle thread is too tight, or if that on the bobbin thread is too loose, the needle thread will lie straight along the upper surface of the material, thus:

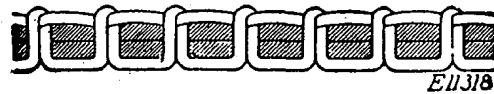


FIG. 25. TIGHT NEEDLE THREAD TENSION

If the tension on the bobbin thread is too tight, or if that on the needle thread is too loose, the bobbin thread will lie straight along the under side of the material, thus:



FIG. 26. LOOSE NEEDLE THREAD TENSION

## **To Regulate the Tensions**

The tension on the needle thread should only be regulated when the presser foot is down. Having lowered the presser foot, turn the small thumb nut (A, Fig. 15, page 17) at the front of the tension discs over to the right to increase the tension. To decrease the tension, turn the thumb nut over to the left.

The tension on the bobbin thread is regulated by the larger screw (A, Fig. 18, page 20) which is nearest the back in the bobbin case tension spring. To increase the tension, turn the screw over toward you. To decrease the tension, turn the screw over from you.

When the tension on the bobbin thread has been once properly adjusted it is seldom necessary to change it, as a correct stitch can usually be obtained by varying the tension on the needle thread.

## **To Turn a Corner**

Stop the machine with the needle at its lowest point. Raise the presser foot and turn the work as desired, using the needle as a pivot.

## **To Regulate the Length of Stitch**

The length of the stitch is regulated by the feed regulating disc (D, Fig. 17, page 19) located on the bed of the machine, at the right. This disc is marked with arbitrary numbers, ranging from 6 to 30, which indicate the various lengths of stitches that the machine will make, No. 6 being the longest stitch and No. 30 the shortest stitch (The numerals do not denote the number of stitches to the inch). The length of stitch that the machine is ready to make is indicated by the number nearest the arrow marked on the cloth plate of the machine.



To increase the length of stitch, turn the feed regulating disc (D) over to the right until the number of the desired length of stitch is nearest to the point of the arrow. To shorten the stitch, turn the feed regulating disc over to the left until the number of the desired length of stitch is nearest to the point of the arrow.

### **To Regulate the Pressure on the Material**

For ordinary family sewing, it is seldom necessary to change the pressure on the material. If sewing fine silk or flimsy material, lighten the pressure by turning the thumb screw (A, Fig. 29, page 29) on the top of the machine over to the left. To increase the pressure, turn this thumb screw over to the right. The pressure should be only heavy enough to prevent the material from rising with the needle and to enable the feed to move the work along evenly; a heavier pressure will make the machine run hard.

### **To Sew Flannel or Bias Seams**

Use a short stitch and as light a tension as possible on the needle thread so as to leave the thread loose enough in the seam to allow the goods to stretch if necessary.

### **A Stitch to Ravel Easily**

can be made if desired, by having the tension on the needle thread so light that the bobbin thread will not draw into the goods, but lie straight, as shown in Fig. 26, page 25.

## To Oil the Machine

To ensure easy running and prevent unnecessary wear of the parts which are in movable contact, the

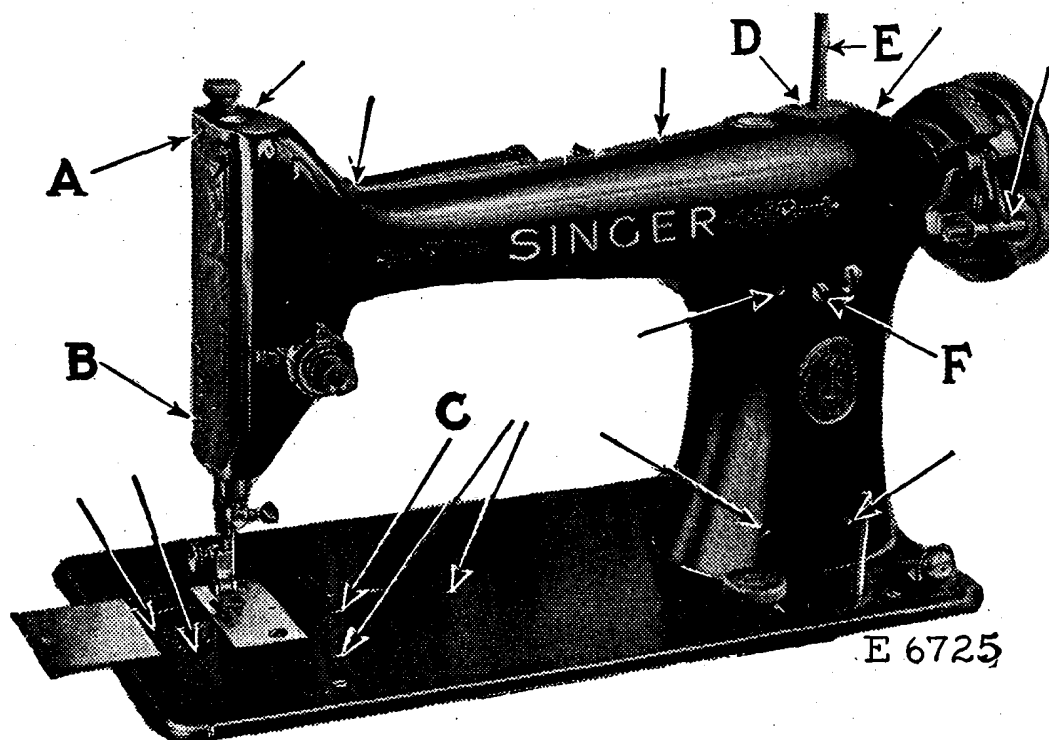


FIG. 27. FRONT VIEW, SHOWING OILING POINTS

machine requires oiling, and if used continuously, it should be oiled each day. With moderate use, an occasional oiling is sufficient. Oil should be applied at each of the places shown by arrows in Figs. 27, 28 and 29. One drop of oil at each point is sufficient with the exception of the oil hole (C, Fig. 27) into which hole about 12 drops of oil should be poured each time the machine is oiled. Oil holes are provided in the machine for bearings which cannot be directly reached.

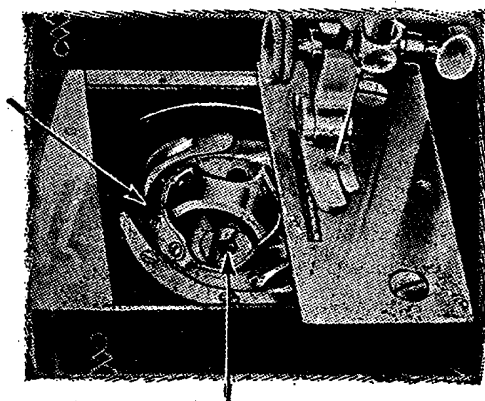


FIG. 28. VIEW OF SEWING HOOK SHOWING OILING POINTS

To oil the hook mechanism, draw to the left the slide in the bed of the machine and after removing the lint and dust which may have accumulated around the sewing hook, take out the bobbin and apply a drop of oil to the oil hole and bob-

bin case bearing, as indicated by arrows in Fig. 28, then replace the bobbin and slide plate.

To oil movable parts in the head of the machine, take out the screw (B, Fig. 27) near the lower end of the face plate and loosen the screw (A, Fig. 27)

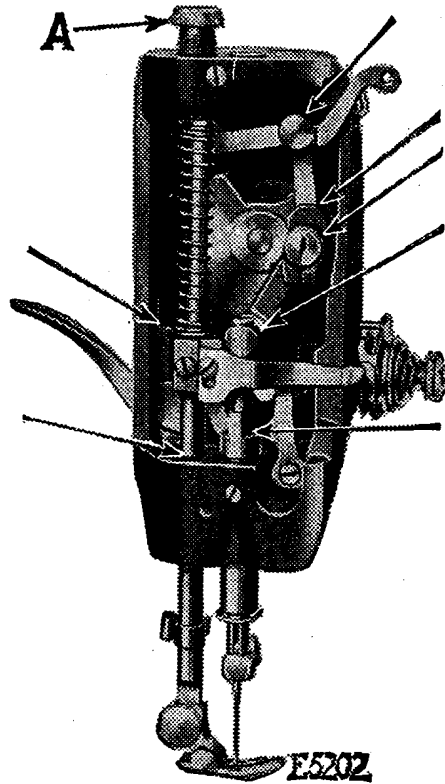


Fig. 29. END VIEW, SHOWING OILING POINTS

near the upper end of the face plate, then raise the plate and slip it off over the head of the screw (A). Put one drop of oil into each of the holes and joints thus uncovered, as shown in Fig. 29.

The gears of the motor should occasionally be lubricated with grease from the tube of **SINGER** MOTOR LUBRICANT which is furnished with the machine. Unscrew the spool pin (E, Fig. 27)—a slot being cut at the top of the spool pin to permit the use of a screwdriver. After removing the spool pin and felt washer (D, Fig. 27) insert the tip of the motor lubricant tube into the spool pin hole and force a small quantity of the lubricant through the hole to lubricate the gears, then replace the spool pin and felt washer. **Under no circumstances should oil be used at this hole, but only the lubricant.**

## To Lubricate the Motor

1. When the machine is shipped from the factory, the two motor grease cups (HH, Fig. 30) are filled

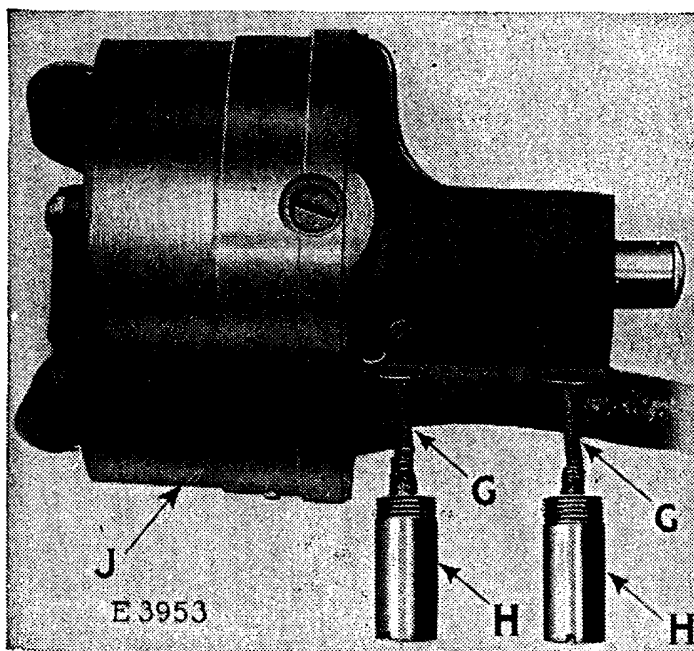


FIG. 30. VIEW OF MOTOR, SHOWING GREASE CUPS REMOVED

with sufficient lubricant for one year's use, under ordinary circumstances.

2. At least once a year thereafter, these grease cups should be removed, thoroughly cleaned out and refilled with the MOTOR LUBRICANT furnished with the machine and sold only by Singer Sewing Machine Company. To do this, the motor must be removed from the machine.

3. To remove the motor.

- (a) Remove the motor cover (C, Fig. 2, page 5).
- (b) Remove the screw (F, Fig. 27, page 28) which holds the motor.
- (c) Withdraw the entire motor (J, Fig. 30) from the machine by turning it slightly from side to side and at the same time pulling it toward you. The motor should only be withdrawn far enough to expose the two

grease cups (HH, Fig. 30). **Do not disconnect any of the electric wiring of the machine or the motor.**

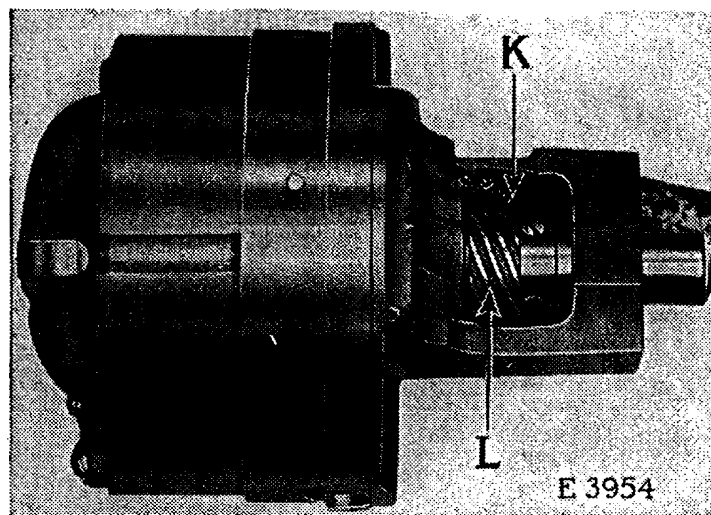


FIG. 31. VIEW OF MOTOR, SHOWING LUBRICANT WELL AND SPIRAL DRIVING PINION

- (d) Unscrew the two grease cups (HH, Fig. 30).
- (e) Both the wicks and the interior of the grease cups should be thoroughly cleaned of all old grease. Then replace the wicks in the cups and refill the cups with **SINGER** Motor LUBRICANT, (**not oil**).

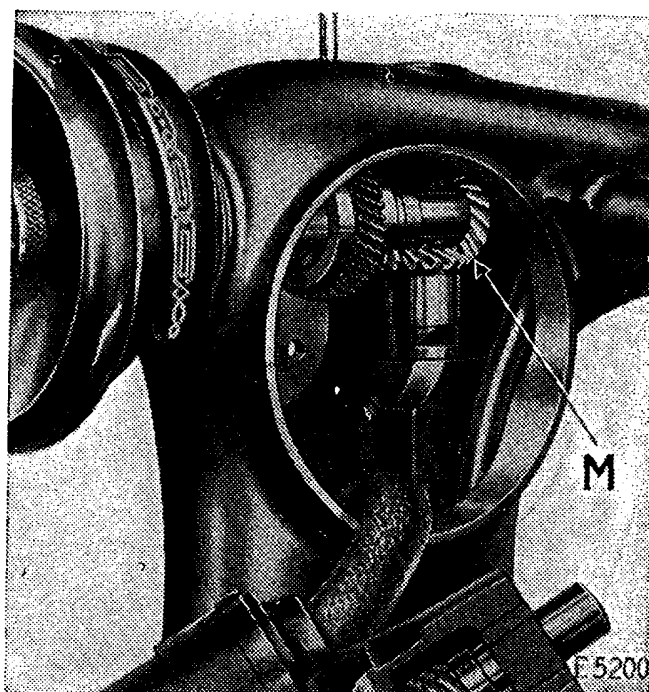


FIG. 32. BACK VIEW, SHOWING BEVEL GEARS IN ARM OF MACHINE

- (f) Fill the well (K, Fig. 31) in which the spiral pinion (L, Fig. 31) revolves, with **SINGER MOTOR LUBRICANT**, (**not oil**).
- (g) Apply **SINGER MOTOR LUBRICANT** to the teeth of the two bevel gears (M, Fig. 32) next the spiral gears. (The greasing of these two bevel gears should be done at the same time when the motor grease cups are refilled, inasmuch as they can only be reached when the motor has been withdrawn from the sewing machine head).
- (h) Replace the grease cups, being sure that the wicks (GG, Fig. 30) enter the small holes which lead to the armature shaft.
- (i) Replace the motor in the machine.
- (j) Replace the screw (F, Fig. 27, page 28). The final position of the motor has an important bearing on the free running of the machine, and it may be necessary to slightly shift the motor to the left or right before the final tightening of the screw (F, Fig. 27).
- (k) Replace the motor cover.

### **To Lubricate the Bevel Gears**

1. There are three sets of bevel gears in the machine, as shown at (M, Fig. 32) and (N and O, Fig. 33). These bevel gears should be greased once a year, preferably at the time of greasing the motor.

2. The method of greasing the upper set of bevel gears (M, Fig. 32), i.e., those which are located in close proximity to the motor itself, has been explained under the heading "To Lubricate the Motor."

3. The two lower sets of bevel gears (N and O, Fig. 33) are exposed by removing the two round

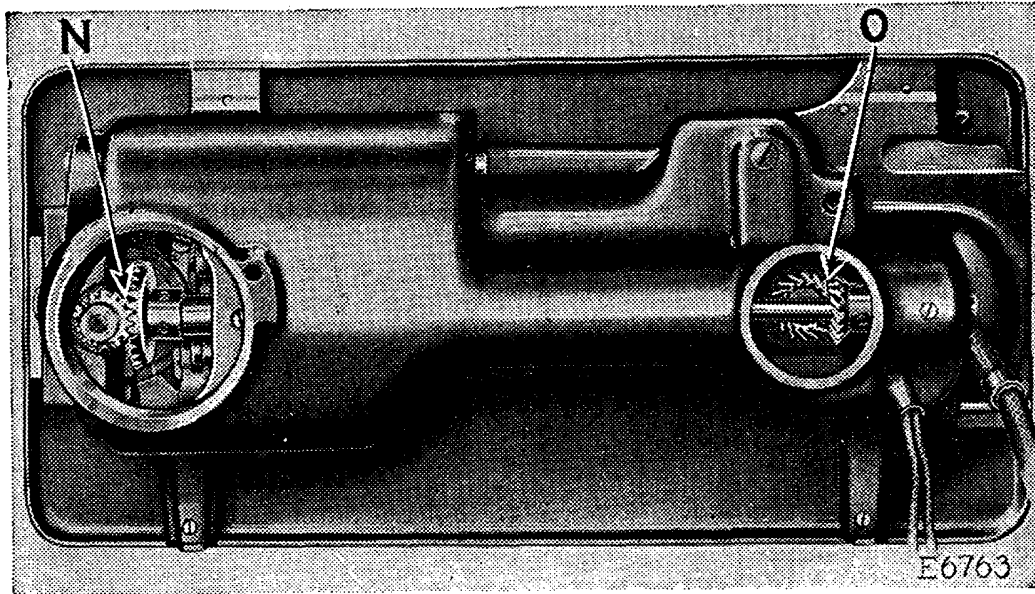


FIG. 33. BASE VIEW, SHOWING BEVEL GEARS  
IN BED OF MACHINE

sheet metal covers located in the bottom of the machine. This can be done with a small screw driver.

4. **SINGER** MOTOR LUBRICANT should be applied to the teeth of these two sets of gears in the same manner as described in the upper bevel gears in 3 (g) under the heading "To Lubricate the Motor."

5. Replace the sheet metal covers.

### To Oil the Controller

Also occasionally lubricate the bearing points of the controller mechanism located beneath the machine at the right of the cabinet.

## HINTS

**Machine Working Heavily.** If the machine runs hard after standing idle for some time, use a little kerosene in the oiling places, run the machine rapidly, then wipe clean and oil.

**To Avoid Breaking Needles.** See that the presser foot or attachments are securely fastened by the thumb screw. Do not sew heavy seams or very thick goods with too fine a needle. A large needle and thread to correspond should be used on heavy work (see page 53).

See that the needle is not bent and avoid pulling the material when stitching.

**Breaking of Needle Thread.** If the needle thread breaks it may be caused by:

Improper threading.

Tension being too tight.

The thread being too coarse for size of needle.

The needle being bent, having a blunt point, or being set incorrectly.

**Breaking of Bobbin Thread.** If the bobbin thread breaks it may be caused by:

Improper threading of bobbin case.

Tension being too tight.

**Skipping of Stitches.** The needle may not be accurately set into the needle bar or the needle may be blunt or bent. The needle may be too small for the thread in use.



**INSTRUCTIONS**

**FOR USING**

**ATTACHMENTS**

**120606**

**WITH**

**SINGER**

**ELECTRIC SEWING MACHINES**

**101-4 and 101-12**

## FOOT HEMMER—Hemming

Raise the needle to its highest point. Remove the presser foot and attach the foot hemmer in its

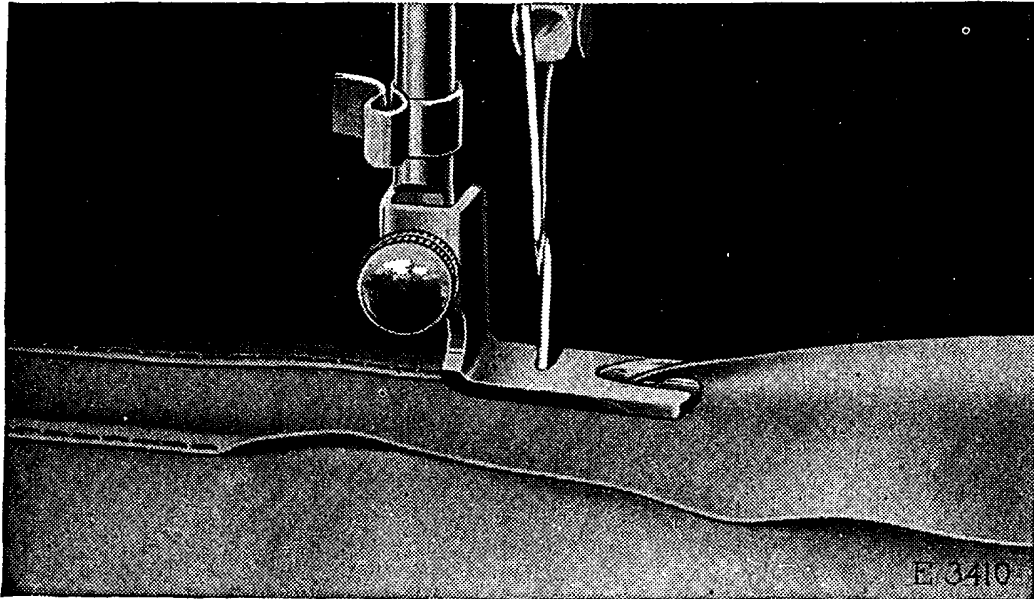


FIG. 34

place (see Fig. 34). Clip off the right hand corner of the cloth, so that it will take the roll easily, turn up the edge about a quarter of an inch, insert it in the mouth of the hemmer and draw or push it along until under the needle. Then let down the presser bar, and after taking two or three stitches, draw gently on the ends of the threads to help the work along till the feed catches it. In order to produce a smooth even hem, the mouth of the hemmer must be kept just full.

Fig. 34 also shows what is known as a bag seam or fell, made by passing two pieces of fabric through the hemmer together and hemming them down.

## FOOT HEMMER—Hemming and Sewing on Lace

Start the hem as previously explained, and when it is well started, raise the needle to its highest point.

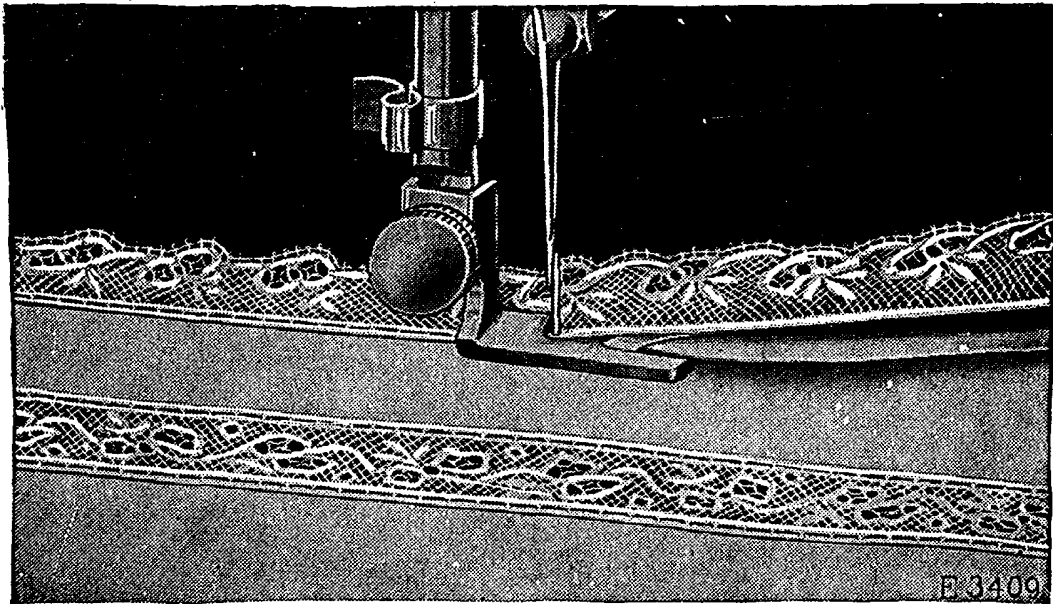


FIG. 35

Raise the hemmer to relieve its pressure on the hem, pass the end of the lace through the slot in the side of the hemmer, under the back of the hemmer and over the hem, as shown in Fig. 35.

Take care that the hem is not displaced in the hemmer and that the needle goes down through the lace and hem together. Then let down the presser bar and guide the lace over the front of the hemmer, keeping it well into the slot.

## FOOT HEMMER—Felling

The two pieces of cloth to be felled should be laid one over the other, right sides together, the edge of the under piece being a little farther to the right

than the upper piece. Stitch them together, using the hemmer as a presser foot, the front end of the

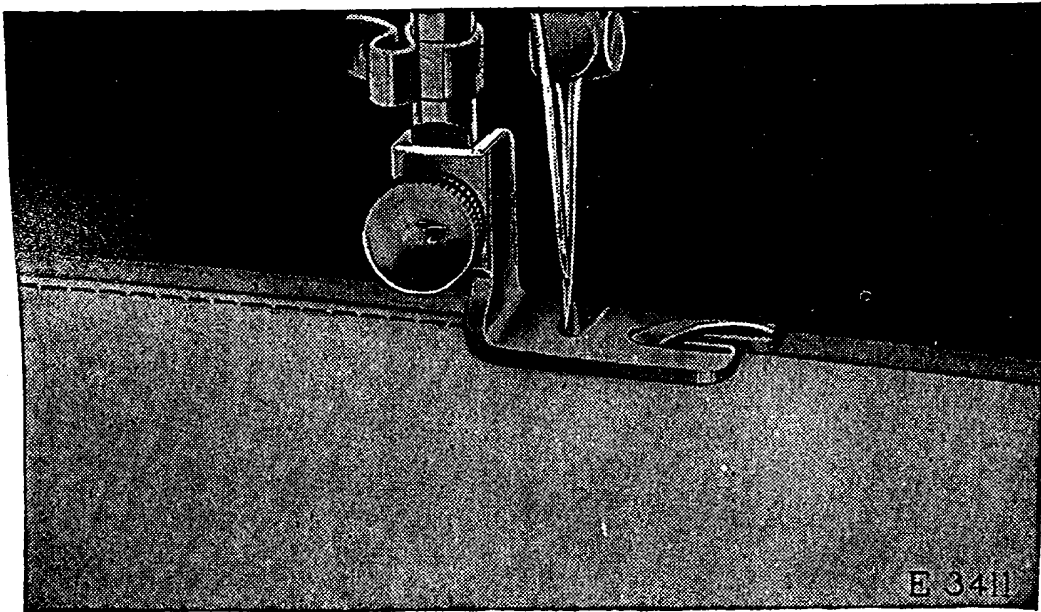


FIG. 36

hemmer forming a guide for the edges of both pieces, the upper piece being guided by the inside and the under piece by the outside of the projecting front of

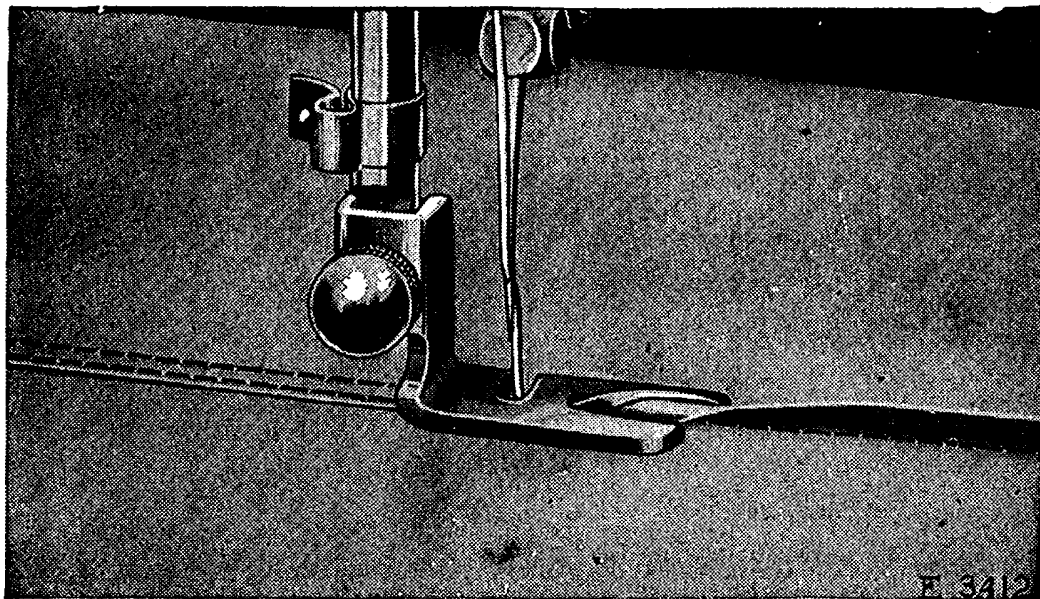


FIG. 37

the foot hemmer (see Fig. 36). Then open the work out flat, wrong side up, the edges standing up

straight, and taking the edges near the beginning of the seam in the right hand, and the ends of the threads in the left hand, draw the edges into the hemmer, which will turn them as in hemming. Guide the second row of stitching by following the first row with the inside of the projecting front of the foot hemmer (see Fig. 37, page 38).

### ADJUSTABLE HEMMER—Hemming

Remove the presser foot and attach the adjustable hemmer in its place as shown in Fig. 38. This

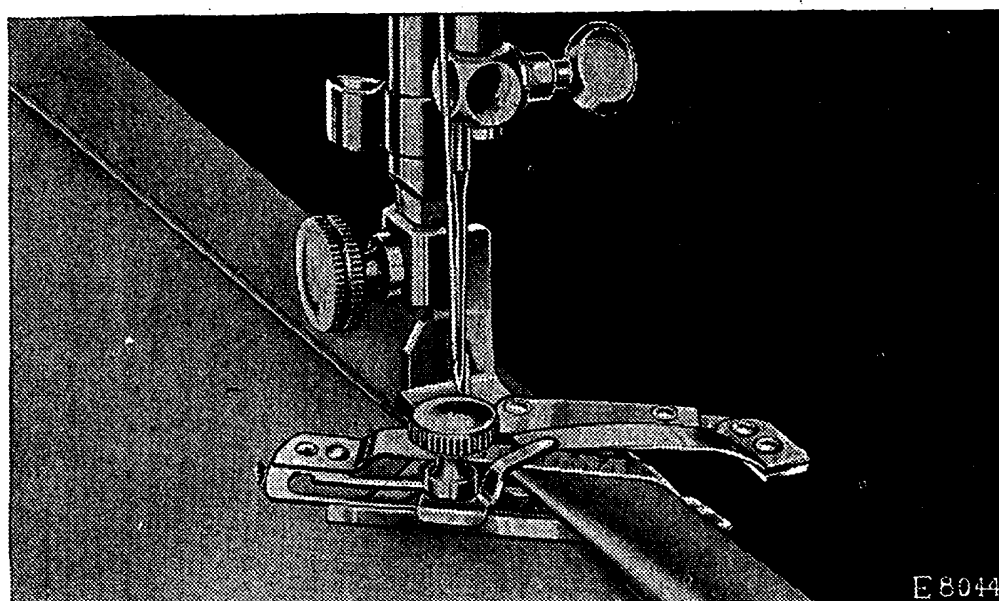


FIG. 38

hemmer will turn hems from  $\frac{3}{16}$  in. to  $\frac{15}{16}$  in. wide. The adjustment is made by loosening the thumb screw on the hemmer and moving the scale to the right or left until the hem turned is of the desired width. Place the cloth under the hemmer and draw the edge toward the left under the scale, as shown in Fig. 38. Draw the edge of the cloth back and forth until the hem is formed, stopping with the end under the needle. Lower the presser bar and commence to sew, being careful to so guide cloth as to keep hemmer full.

### ADJUSTABLE HEMMER—Wide Hemming

To make a hem more than  $\frac{15}{16}$  inch wide, loosen the thumb screw in the hemmer and move the scale

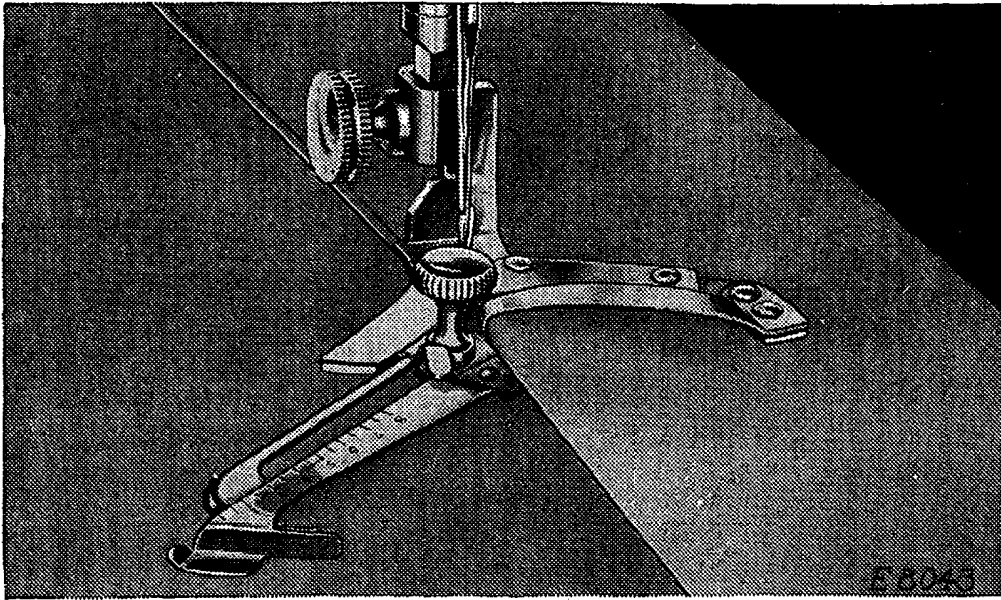


FIG. 39

to the right as far as it will go, then swing it toward you as shown in Fig. 39 and tighten the thumb screw. Fold and crease down a hem of the desired width; pass the fold under the extension at the right of the hemmer, and the edge into the folder as shown in Fig. 39, and proceed to stitch the hem.

### BINDER—Binding

Remove the presser foot and attach the binder in its place. Pass the binding through the scroll of the binder and draw it back under the needle. Place the edge of the goods to be bound between the scrolls of the binder and draw it under the needle. Lower the presser bar and sew as usual. To make French folds, proceed as directed for binding, except that the fold is stitched on to the face of the material

instead of on the edge (see Fig. 40). After loosening the binder set screw and adjusting the binder, the

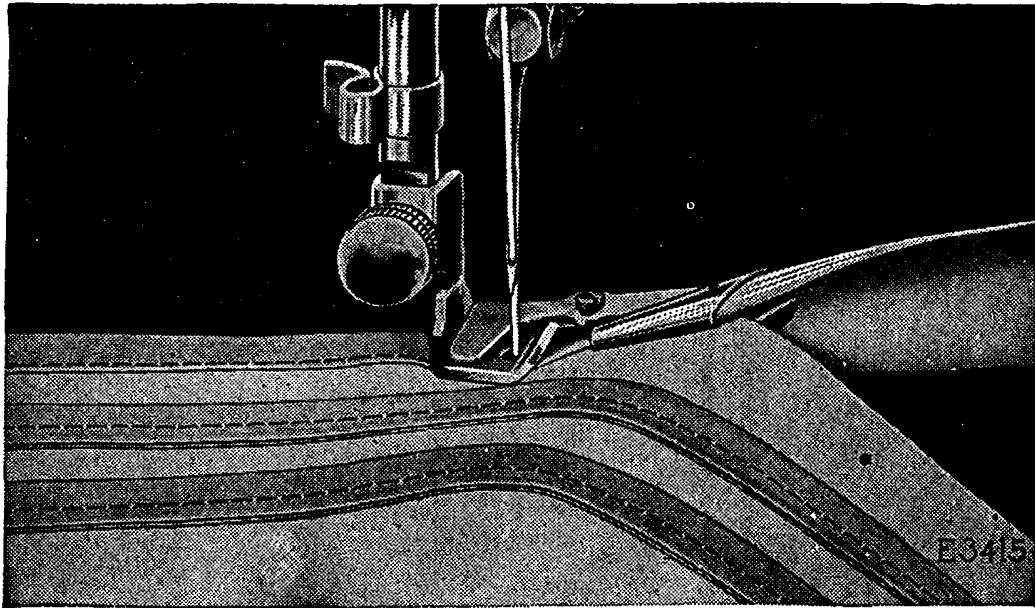


FIG 40

line of stitching can be brought nearer the centre, this being more effective when making French folds.

## TUCKER

Remove the presser foot and attach the tucker in its place. The width of the tuck is determined by the scale of figures nearest the needle, which shows in eighths and sixteenths of an inch the distance of the edge of the fold from the line of stitching.

The crease or mark for the second and following tucks is determined by the scale nearest the operator and this is set by the line in front of the needle hole in the presser foot. For blind tucks without spaces, adjust the scale nearest the operator so that the figure opposite the line on the presser foot will be the same as that at which the guide is located on the scale nearest the needle. To make spaces between the tucks, move the front scale farther to the left until the desired space is obtained.

Having adjusted the scales for tuck and space as desired, fold the material and crease by hand; pass

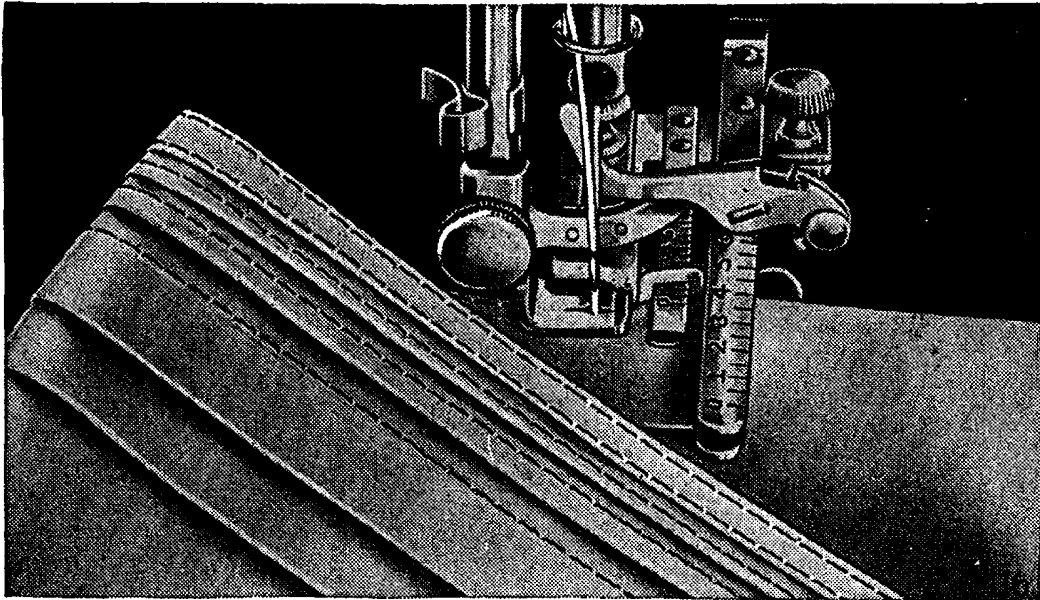


FIG. 41

the folded edge between the spring and spur near you, then between the two blades of the second scale, and back under the presser foot; draw to the right against the guide, lower the presser bar; see that the lever for the needle clamp to strike is in its backward position, so as to form a crease for the next tuck, then proceed with the first tuck.

For the second tuck, fold carefully at the crease made by the spur and place the edge of the first tuck underneath and against the spur at the left. The spur will serve as a guide and will also make a distinct crease for the next tuck. Always place the last tuck against the spur to ensure perfect work.

When making the last tuck, the lever upon which the needle clamp strikes while tucking should be raised to its highest point; while the lever is in this position, no crease for a succeeding tuck is made upon the goods.



## Ruffler

Lines 1, 2, 3, 4 and 5 shown in Fig. 42 indicate where the material is to be placed for various operations, as follows:

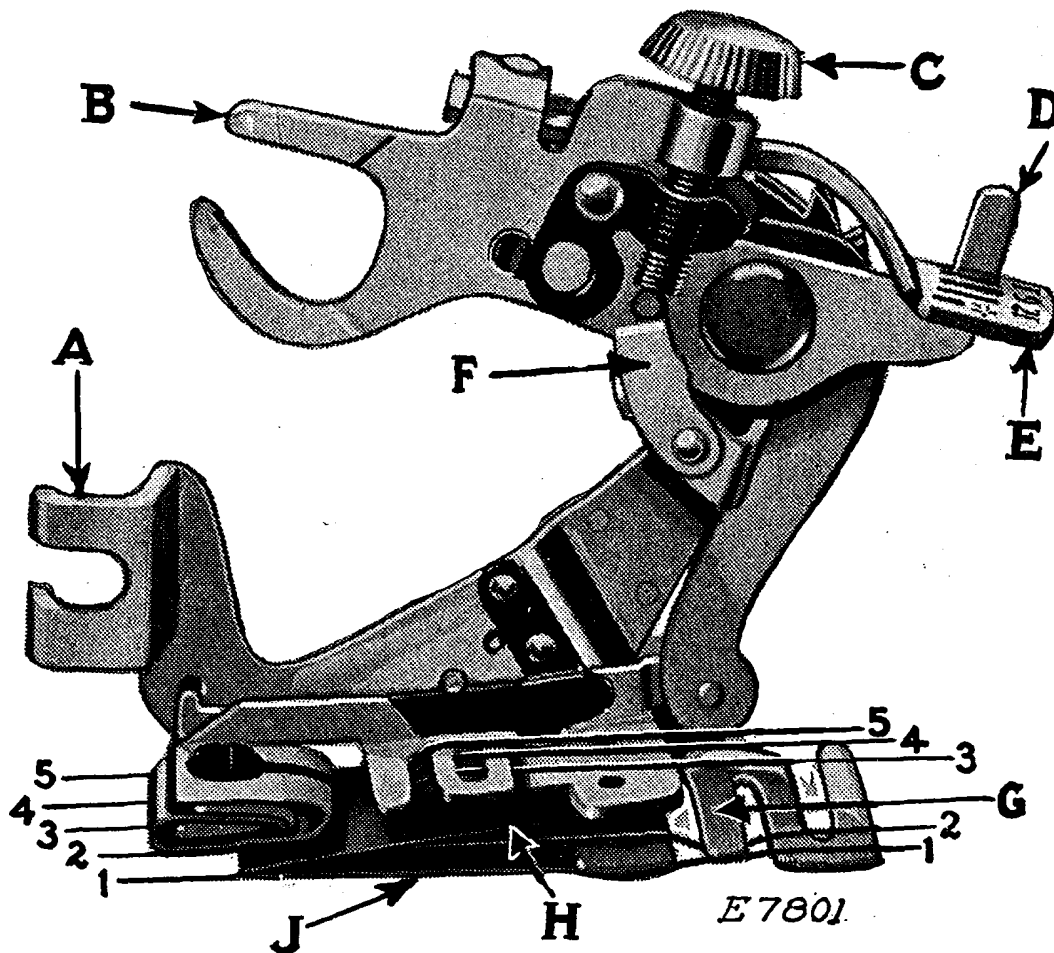


FIG. 42. THE RUFFLER AND ITS PARTS

**Line 1**—the correct position for the material to which the ruffled material is applied.

**Line 2**—material to be ruffled.

**Line 3**—the facing for the ruffle.

**Line 4**—the strip of piping material.

**Line 5**—the edge to be piped.

Refer to Fig. 42 when inserting the material in the ruffler.

The names and uses of the principal parts of the ruffler are as follows:

(SEE REFERENCES IN FIG. 42)

- A—Foot**—the part by which the ruffler is attached to the presser bar.
- B—FORK ARM**—the section that must be placed astride the needle clamp.
- C—ADJUSTING SCREW**—the screw that regulates the fullness of the gather.
- D—PROJECTION**—the part that projects through the slots in the adjusting lever.
- E—ADJUSTING LEVER**—the lever that sets the ruffler for gathering or for making a plait once at every six stitches or once at every twelve stitches, as desired; also for disengaging the ruffler, when either plaiting or gathering is not desired.
- F—ADJUSTING FINGER**—the part which regulates the width or size of the plaits.
- G—SEPARATOR GUIDE**—the guide on the underside of the ruffler, containing slots into which the edge of the material is placed to keep the heading of the ruffle even; also for separating the material to be ruffled from the material to which the ruffle is to be attached.
- H—RUFFLING BLADE**—the upper blue steel blade with the teeth at the end to push the material in plaits up to the needle.
- J—SEPARATOR BLADE**—the lower blue steel blade without teeth, which prevents the teeth of the ruffling blade coming into contact with the feed of the machine, or the material to which ruffling or plaiting is to be applied.

### **To Attach the Ruffler to the Machine**

Raise the needle bar to its highest point and remove the presser foot. Attach the ruffler foot (A, Fig. 42) to the presser bar by means of the thumb screw, at the same time placing the fork arm (B, Fig. 42) astride the needle clamp as shown in Fig. 43.

## To Adjust the Ruffler for Gathering

The adjusting finger (F, Fig. 43) is not intended for gathering and should be moved forward or away from the needle, as shown in Fig. 43.

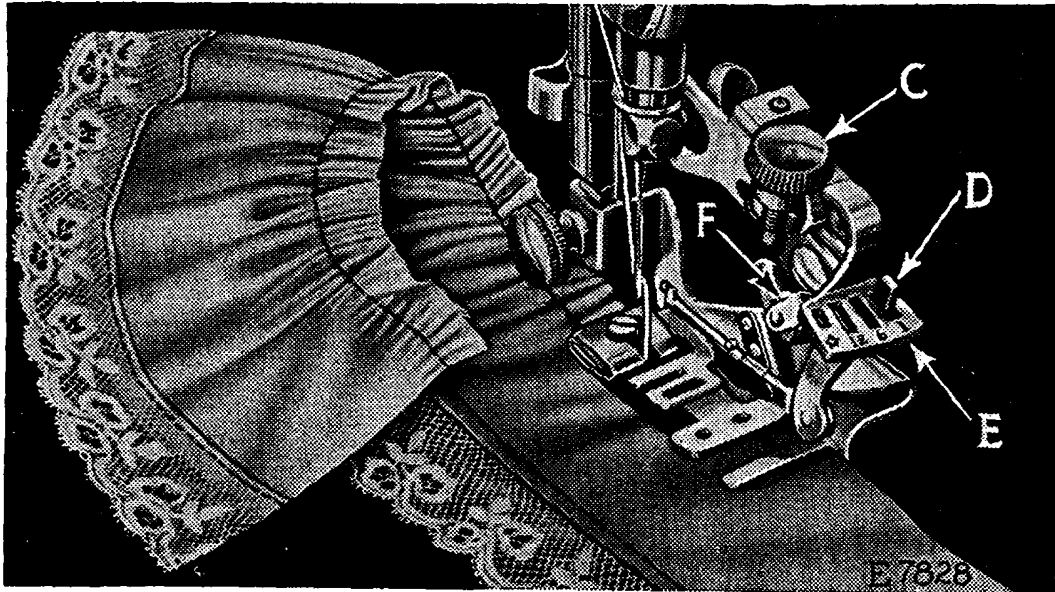


FIG. 43

Raise the adjusting lever (E, Fig. 43) and move it to the left so that the projection (D, Fig. 43) will enter the slot marked "1" in the adjusting lever (E) when the lever is released. The ruffling blade will then move forward and back once at every stitch. Insert the material to be ruffled between the two blue blades, following the line 2 in Fig. 42. Draw the material slightly back of the needle, lower the presser bar and commence to sew.

To make fine gathering, shorten the stroke of the ruffling blade, also shorten the stitch. To make full gathering, lengthen the stroke of the ruffling blade by turning the adjusting screw (C) downwardly, also lengthen the stitch. By varying these adjustments, many pleasing varieties of work can be accomplished.

## **To Make a Ruffle and Sew it to a Garment in One Operation**

Insert the material to be ruffled between the two blue blades, as shown in Fig. 44, following the line

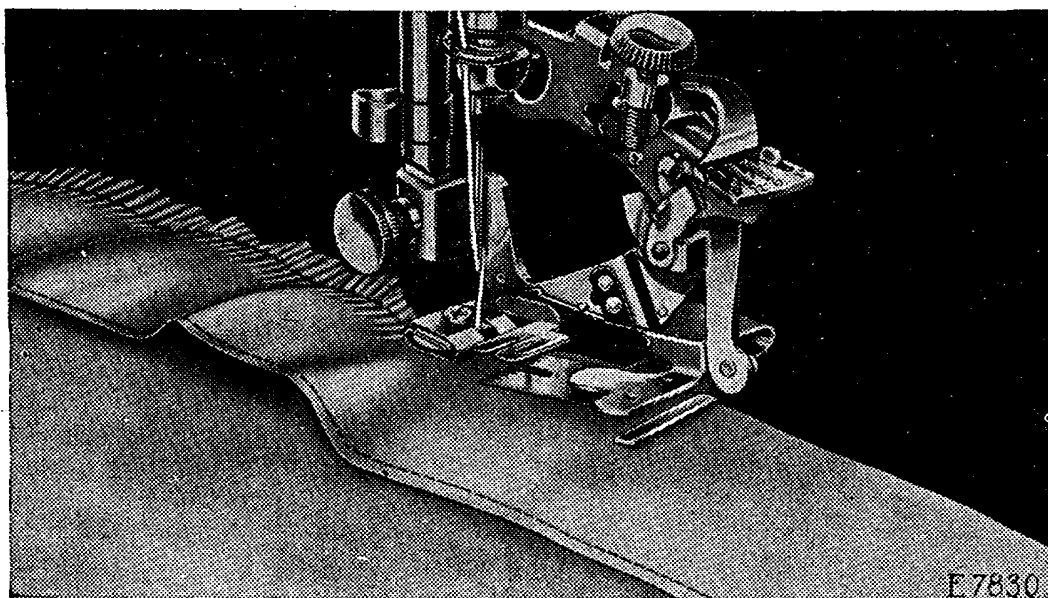


FIG. 44

2, in Fig. 42. Place the garment to which the ruffle is to be attached, under the separator blade, following the line 1, in Fig. 42. Proceed the same as for gathering.

The edge of the ruffled seam can be bound by using the binder.

## **To Ruffle and Sew on a Facing in One Operation**

Insert the material to be ruffled between the two blue blades, following the line 2, in Fig. 42. Place the garment to which the ruffle is to be attached, under the separator blade, following the line 1, in Fig. 42. Place the material for the facing over the upper blue blade, as shown in Fig. 45, following the line 3, in Fig. 42. The facing may be straight or bias material. If the facing is to be on the right side of the garment, place the garment and

the ruffle so that the wrong sides are together. If the facing is to be on the wrong side, place the right sides of the garment and the ruffle together.

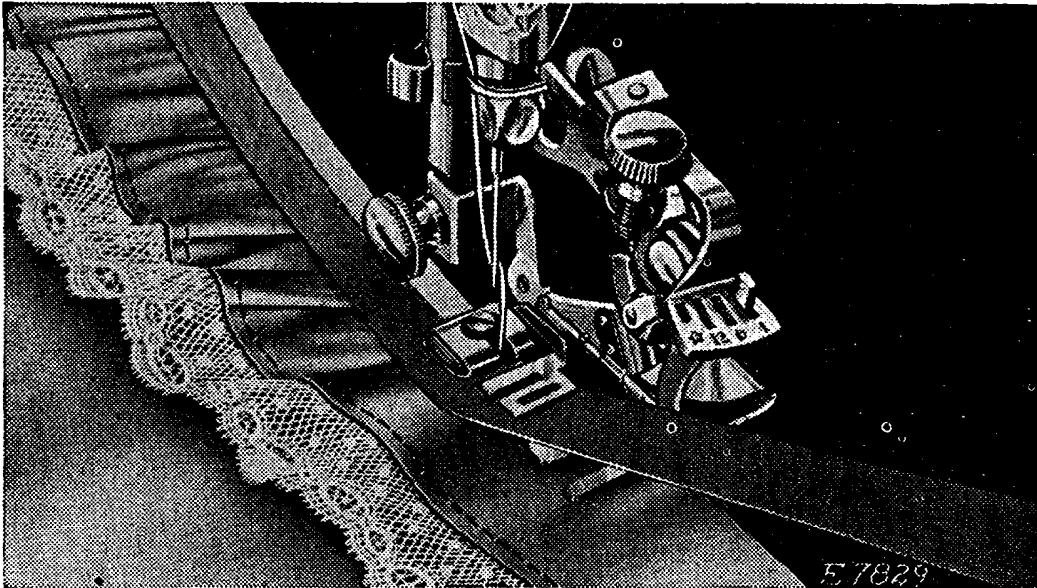


FIG. 45

### Piping a Ruffle

Insert the material to be ruffled between the two blue blades, following the line 2, in Fig. 42. This

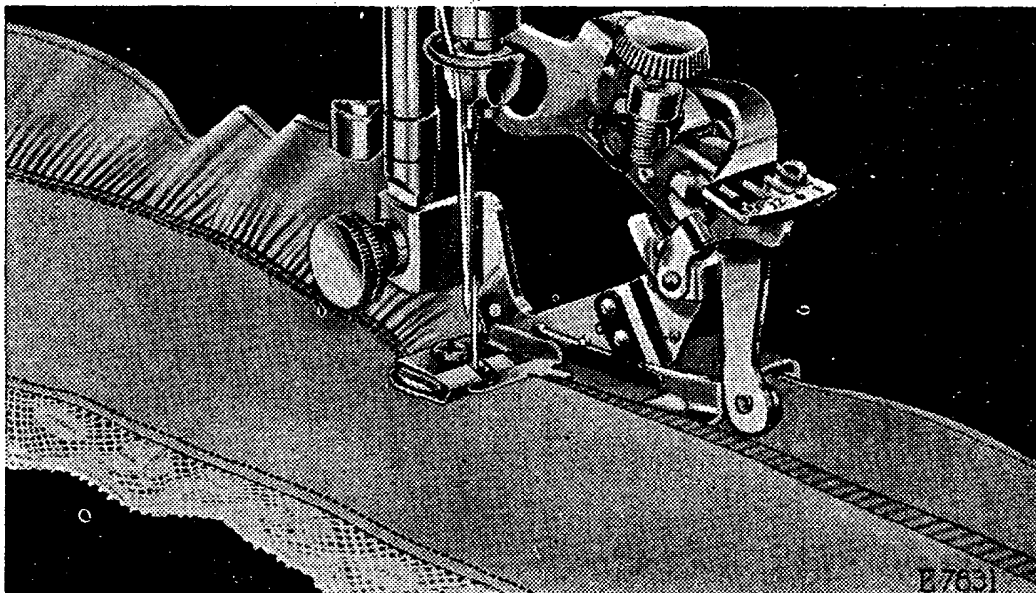


FIG. 46

material must not be over  $1\frac{1}{4}$  inches wide, as it is carried through the ruffler with the finished

edge of the ruffle to the right of the attachment as shown in Fig. 46.

The material for piping must measure about  $\frac{1}{4}$  inch wide when folded in the centre and is usually cut on the bias. Place the piping material in the ruffler, following the line 4, in Fig. 42, with the folded edge of the piping to the right. The material to which the piping and ruffling are to be sewn should be folded on the edge and inserted in the ruffler, following the line 5, in Fig. 42.

### To Adjust the Ruffler for Plaiting

Raise the adjusting lever (E, Fig. 47) and move it to the right so that the projection (D, Fig. 47)

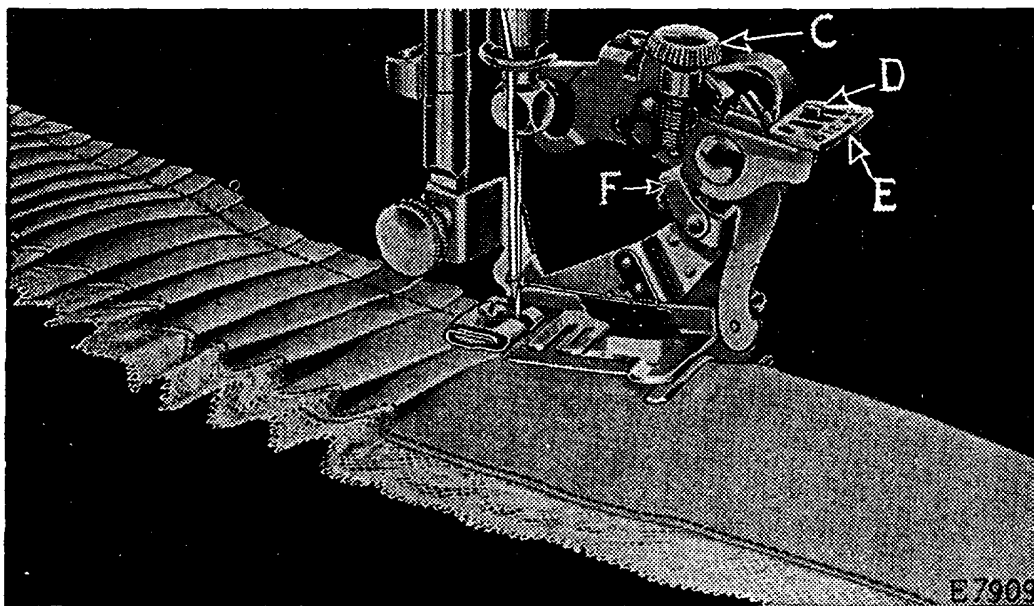


FIG. 47

will enter the slot marked "6" in the adjusting lever when the lever is released. The ruffling blade will then move forward and back once at every six stitches. To adjust the ruffling blade to make a plait once at every twelve stitches, place the adjusting lever (E, Fig. 47) so that the projection (D) enters the slot marked "12" in the adjusting lever. Insert the material to be plaited between the two blue blades, following the line 2, Fig. 42. The size or width of plaits is regulated by the adjusting screw

(C, Fig. 47) and the adjusting finger (F, Fig. 47). To make a wider plait, move the adjusting finger (F) back or toward the needle and turn the adjusting screw (C) downwardly. To make a smaller plait, turn the adjusting screw (C) upwardly. The distance between plaits is regulated by the length of stitch.

### **To Adjust the Ruffler for Group Plaiting and Gathering**

The ruffler can be adjusted for group plaiting by lifting the adjusting lever (E, Fig. 48) and moving

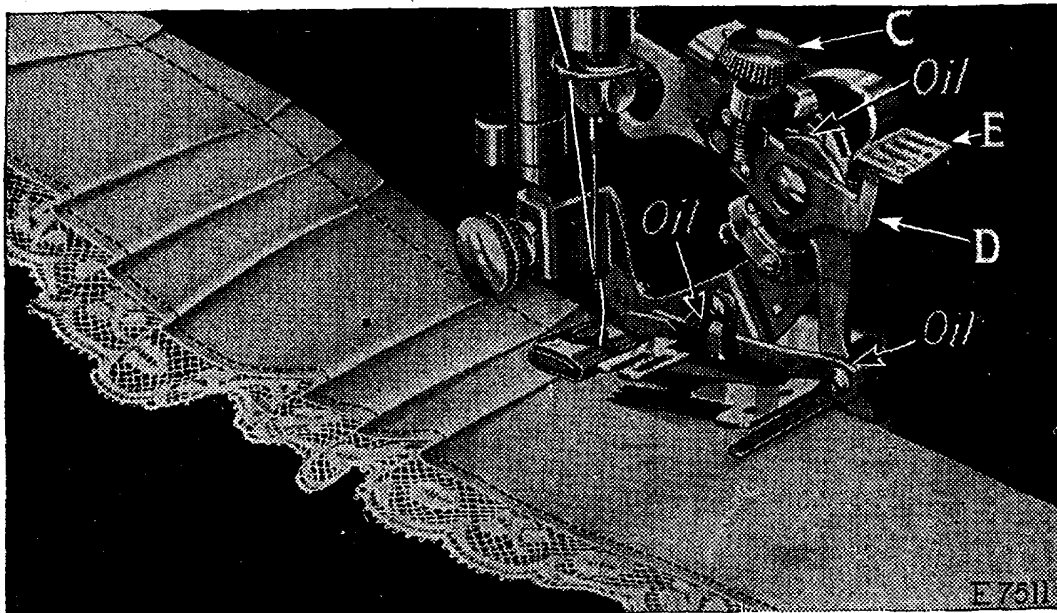


FIG. 48

it to the right so that the top of the projection (D, Fig. 48) engages the small slot indicated by the star on the adjusting lever. This should be done at the points where you wish to make the space between the plaits. The ruffler will then stop and plain stitching will be made. When the desired space has been made, adjust the lever (E) so that the projection (D) enters either the slot marked "6" or the slot marked "12." By alternately making groups of plaits and plain spaces, as shown in Fig. 48, very attractive work can be produced.

### **To Oil the Ruffler**

Occasionally apply a drop of oil to the working parts of the ruffler at each of the places indicated by arrows in Fig. 48. After oiling, operate the ruffler on a waste piece of material to prevent the oil soiling the work. If the ruffler does not plait evenly, a drop of oil may remedy the trouble.

### **Slide Plate**

When it is necessary to replace a slide plate in a cloth plate, this can be done by removing the cloth plate from the machine and slipping the slide plate into the slideway from the throat plate end; or, if desired, the slide plate can be replaced with the cloth plate attached to the machine by holding the slide plate at an angle of 45 degrees across the slide opening and slipping one end of the spring under one side of the slideway, then tipping the slide plate and slipping the other end of the spring under the opposite side of the slideway and swinging the slide plate around straight, so that it will drop into position.

### **To Use the Cloth Guide**

To ensure accurate guiding of the work when sewing close to the edge of the goods, the cloth guide (D, Fig. 15, page 17) should be used. Fasten the cloth guide to the cloth plate of the machine by means of the clamping thumb screw (C, Fig. 15) inserting the thumb screw into either one of the two screw holes in the cloth plate of the machine. The cloth guide can be adjusted to bring the edge of the goods as close to the line of stitching as desired.



## To Use the Darning Foot for Embroidery or Darning

Put on the feed cover plate No. 66628 (A, Fig. 49).

Turn the balance wheel over toward you until the take-up lever is at its highest point. Remove the

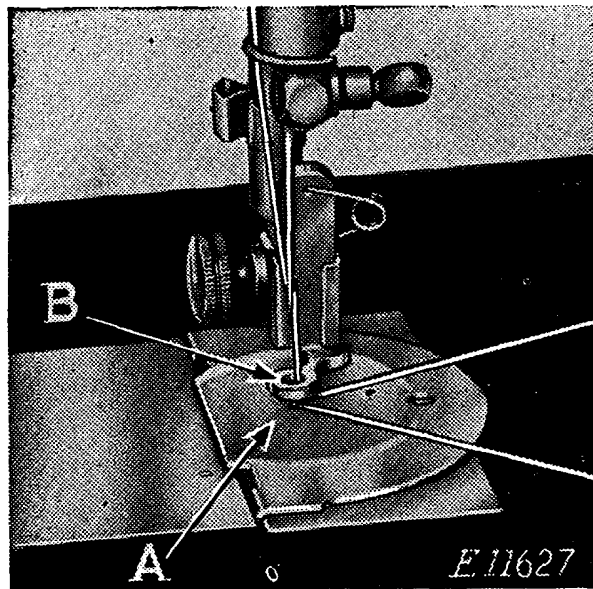


FIG. 49. MACHINE THREADED FOR EMBROIDERY AND DARNING

presser foot (F. Fig. 15, page 17), and attach the darning foot No. 121094 to the presser bar by means of the presser foot thumb screw as shown above. Lower the presser bar and move the darning foot up or down on the presser bar until there is just room for the material to move freely between the bottom of the foot and the feed cover plate, then tighten the thumb screw. Thread the machine in the usual way, passing the thread down through the hole (B) in the darning foot.

Having placed the work to be darned or embroidered on a **SINGER** Darner or in two embroidery hoops, raise the presser bar and place the work under the needle as shown in Fig. 50, then lower the presser bar. Holding the needle thread in the usual way with the finger and thumb of the left hand, turn the balance wheel over toward you with the right hand to draw up the bobbin thread.

Start the machine by pressing the knee lever and steadily move the work forward and back. The

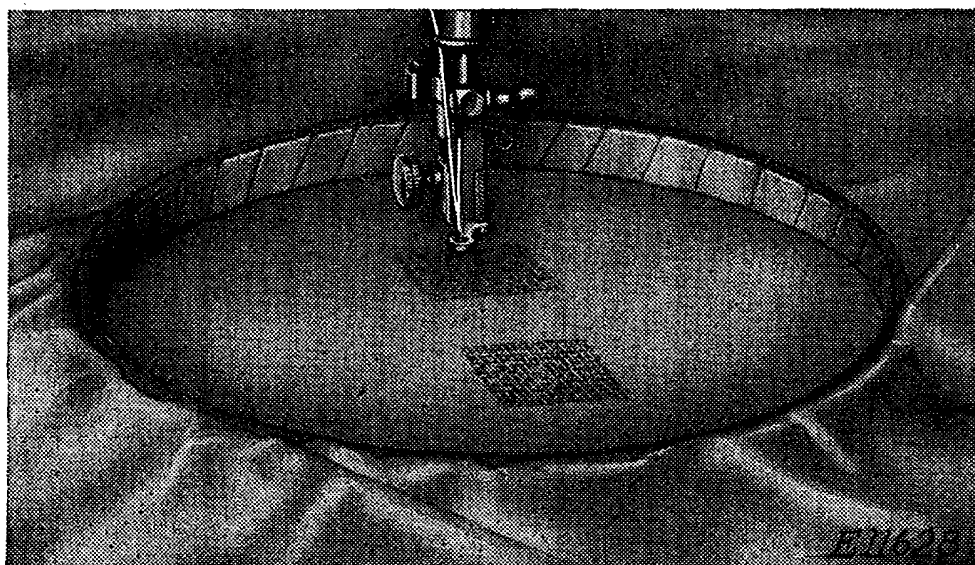


FIG. 50. USING THE DARNING FOOT

darning or embroidery will be quickly accomplished with ease and without skipping of stitches or breaking of thread.

After you are through with the darning or embroidery, raise the presser bar, take out the embroidery hoops or darner, take off the feed cover plate and remove the darning foot. Replace the presser foot and the machine is again ready for the usual sewing.