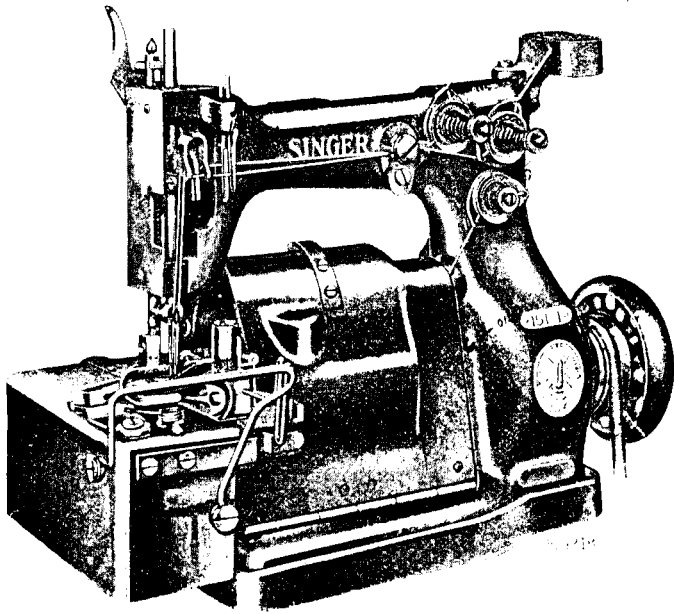


SINGER

151-1

INSTRUCTIONS
FOR USING
SINGER SEWING MACHINE



151-1

FOR USE IN THE

MANUFACTURE OF HAT SWEATS

THE SINGER MANUFACTURING CO.

DESCRIPTION

Machine 151-1 has two needles and one looper and makes an ornamental, overseaming three-thread chain stitch of $\frac{3}{32}$ inch gauge.

A reed or wire is inserted and the strip of cambric or sateen, etc., is attached to the sweat leather in one operation.

Paper cord or rattan reed may also be used, if desired.

Sweats having cord edge only can also be sewn on the machine without any other attachment than that furnished with the machine for the regular work.

Speed

The maximum speed recommended for Machine 151-1 is 2250 stitches per minute depending upon the character of the work and the method of accomplishing it. The machine should be run slower than the maximum speed at first until the parts which are in movable contact have become glazed by their action upon each other. When the machine is in operation, the balance wheel should turn over from the operator.

Needles

Needles for Machine 151-1 are of Class and Variety 16 x 240, sizes 11 and 14, for the left or outside needle, and 16 x 239, size 18, for the inside needle.

The size of the needles to be used should be determined by the size of the thread, which must pass freely through the eye of the needles. If rough or uneven thread is used, or if it passes with difficulty through the eye of the needles, the successful use of the machine will be interfered with.

Orders for needles should specify the Quantity required, the Size number, also the Class and Variety numbers separated by an "x".

The following is an example of an intelligible order:

"100 No. 11, 16 x 240 Needles," if for outside needle.

"100 No. 18, 16 x 239 Needles," if for inside needle.

The best results will be obtained in using the needles furnished by the Singer Sewing Machine Company.

To Oil the Machine

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

Purchasing of Parts and Needles

Supplies of parts and needles for Singer machines can be purchased at any Singer shop or ordered by mail. If orders are sent by mail, money or a post office order covering their value, including postage, should be enclosed and the order will then be promptly filled and forwarded by mail or express.

oiling, and when the machine is in continuous use, it should be oiled at least twice each day.

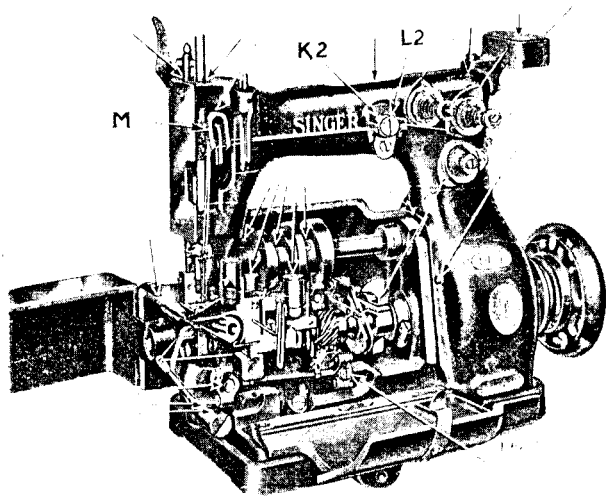


FIG. 2. OILING POINTS AT THE FRONT OF THE MACHINE.

Apply oil to each of the oil holes and bearings indicated by arrows in Figs. 2 and 3. The mechanism in the bed of the machine is accessible for cleaning and oiling after turning aside the two hinged covers at the front and side of the bed.

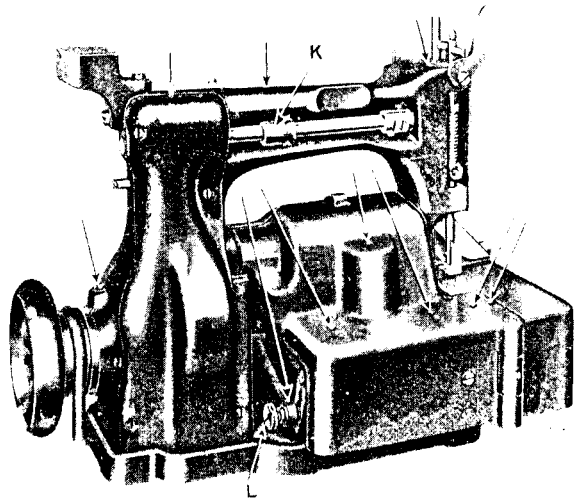


FIG. 3. OILING POINTS AT THE BACK OF THE MACHINE.

To Thread the Loper

(SEE FIGS. 4 AND 5)

Use cotton thread size 90 for the looper.

Pass the thread from the unwinder or from the spool, through the eyelet (1) at the side of the arm, through the eyelet (2) at

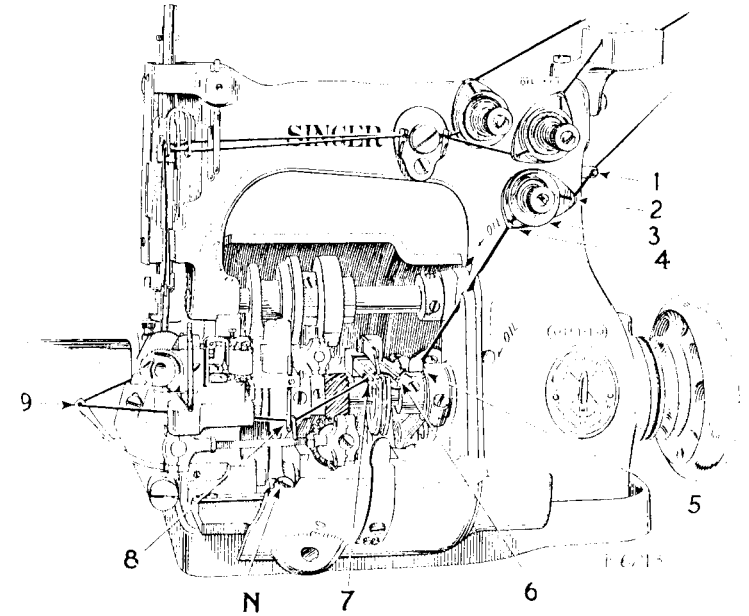


FIG. 4. THREADING THE LOOPER

the right of the lower tension discs, down and over from right to left between the tension discs (3), through the eyelet (4) in

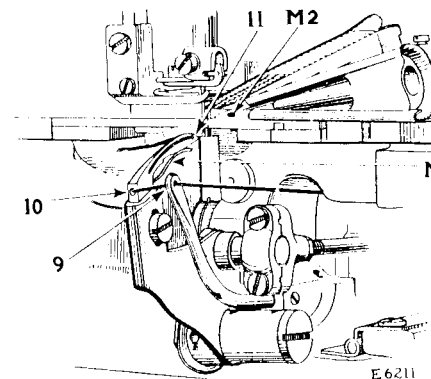


FIG. 5. THREADING THE LOOPER

the tension bracket, into the nipper spring (5), into the two eyelets (6 and 7) of the take-up staple, through the thread eyelet (8) and from front to back through the eyelet (9) in the end of the finger at the left of the machine, then through the hole (10) in the heel of the looper and from front to back through the eye (11) of the looper point.

To Set the Needles

Turn the balance wheel over from you until the needle bar moves up to its highest point. Loosen the set screw in the needle clamp at the lower end of the needle bar and put the needles up into the clamp as far as they will go with the long groove of each needle toward you and the eye of each needle directly in line across the bed of the machine, then securely tighten the needle clamp set screw.

To Thread the Needles

(SEE FIG. 6)

Use cotton thread size 80 or 90 for the inside needle.

To thread the inside needle or the needle at the right, pass the thread down through the hole (A) in the upper tension bracket at the left, down and under between the tension discs (B),

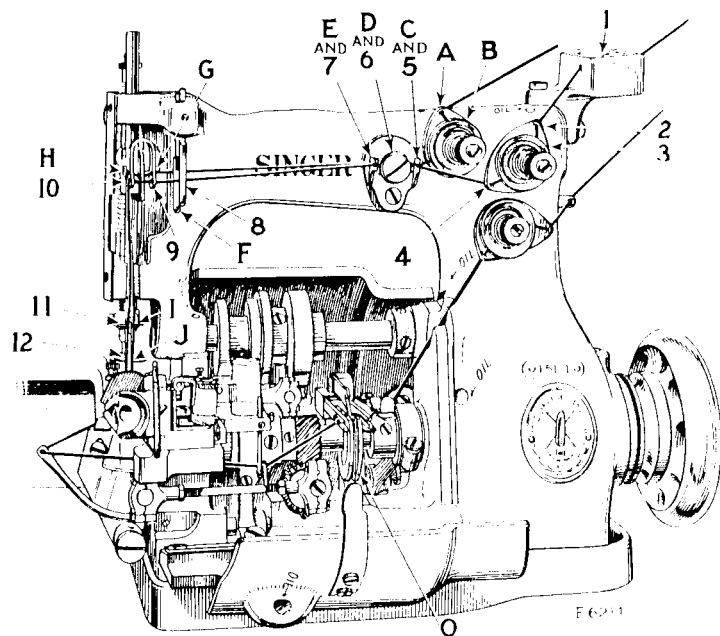


FIG. 6. THREADING THE NEEDLES

into the nipper staple (C), through the inside nipper disc (D), into the left staple (E), into the inside wire thread guide (F), through the two upper eyelets (G and H) in the thread take-up, passing the thread into the fork which lies between the eyelets, down behind at the right side of the cross pin (I) above the needle and from front to back through the eye of the right or inside needle (J).

Holland silk thread (letter 24) is generally used for the outside needle.

To thread the outside needle or the needle at the left, pass the silk thread over the oil wick (1), down through the hole (2) in the upper tension bracket at the right, down and under from right to left between the tension discs (3), through the lower hole (4) in the tension bracket, into the nipper staple (5), through the outside nipper disc (6), into the left staple (7), down into the outside wire thread guide (8), through the two lower eyelets (9 and 10) of the take-up lever, passing the thread outside of the fork which lies between the eyelets, down behind at the left side of the cross pin (11) above the needle and from front to back through the eye of the left or outside needle (12).

Lubricant for Silk Thread

The silk thread, which is carried by the left needle, is lubricated as it passes over the wick contained in the oil cup (1, Fig. 6) at the top of the machine. This lubricant is generally a stainless oil and should be applied to the wick often enough to keep it saturated.

Oil Cup for Patent Leather Sweats

When sewing patent leather sweats, the use of the oil cup (H2, Fig. 7), at the beginning of the folder, is recommended. This oil cup contains a wick which should be kept saturated with stainless lubricant when in use. The oil cup should be turned on its hinge so that the wick will come into contact with the top of the sweat leather, thus lubricating the edge of the leather as it passes under the wick.

Thick and Stiff Sweat Leathers

When thick and stiff sweat leathers are to be sewn, it is advisable to skive them at the sewing edge.

Reel for Cambric or Backing Material

Reel 35917, for holding the cambric or backing material, will be supplied, on order, at a charge additional to the machine.

To Prepare for Sewing

Pass the cambric or backing through wire guide (X, Fig. 7) and through folder (Y, Fig. 7) and adjust the folder, according to

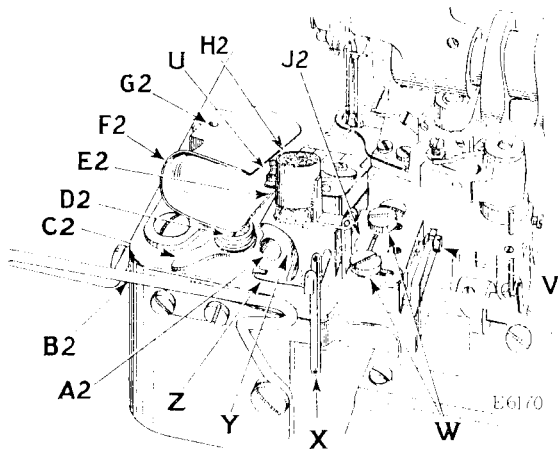


FIG. 7. ADJUSTMENTS ON THE MACHINE.

the width of the cambric being used, by loosening the screw (J2, Fig. 7) and sliding the lower half of the folder (Z, Fig. 7) in or out, as may be required, then securely tighten the screw (J2). Draw the cambric back under the presser foot.

The position of the folder (Y, Fig. 7) in relation to the needles is determined by the length of the bight on the leather, the kind of reed, cord or wire to be used and whether it is desired to have the reed, cord or wire tight or loose in the cambric. The folder can be adjusted to or from the needles by loosening the two screws (W, Fig. 7) and moving the folder to the required position by means of the screw (V, Fig. 7), after which securely tighten the two screws (W).

Insert the reed, cord or wire to be used in the hole (A2, Fig. 7) and push it through until it is under the presser foot.

Pass the sweat leather over the wire support (B2, Fig. 7), into the sweat guide (E2, Fig. 7) and adjust the sweat follower (F2, Fig. 7) by loosening the screw (D2, Fig. 7) and turning the lever (C2, Fig. 7) for more or less pressure against the leather. The sweat follower (F2) may be turned on the axis (G2, Fig. 7)

to accommodate any width of sweat leather placed in the sweat guide (E2). To do this, turn the sweat follower (F2) to the right or left until it stands parallel with the edge of the leather. The sweat follower is usually set at a slight angle so that its pressure against the leather is greatest at the point nearest the needles.

The position of the sweat leather on the cambric or backing is controlled by moving the lever (U, Fig. 7), up or down, as may be required.

Lower the presser foot on the cloth and start the machine. While the machine is running, push the sweat leather under the presser foot. If it is preferred to have the reed or wire extend beyond the beginning of the leather, that is, the end of the leather which is placed in the machine first, run the leather through the machine about three or four inches or any convenient length behind the presser foot, then cut off the reed or wire and cambric extending beyond the leather. With the right hand, take hold of the reed or wire and push it through the machine while the machine is running at full speed. If about $\frac{3}{4}$ inch space is allowed between leathers, this will be found sufficient to cut and leave ends of proper length for subsequent operations.

To Sew Sweat Leathers with Cord Edge Only

When the machine is to be used for sewing sweat leathers with a cord edge only, pass the cord through the hole in the guide which is close to the needles as shown at (M2 in Fig. 5, page 5). The required tension on this cord is obtained by winding the cord once or twice around the wire (X, Fig. 7, page 8).

To Change the Length of Stitch

The length of stitch is regulated by the movable connection which is held in position by the thumb nut (L, Fig. 3, page 4) in the slotted lever at the back of the machine. To lengthen the stitch, loosen the thumb nut (L) and move it upwardly. To shorten the stitch, move this thumb nut downwardly. The shortest stitch which can be produced by the machine is 18 to the inch. When the desired length of stitch is obtained, securely tighten the thumb nut (L).

INSTRUCTIONS FOR ADJUSTERS AND MACHINISTS

To Adjust the Needle Bar

When the needle bar is at its lowest point, the top of the needle bar should be $\frac{1}{8}$ inch above the top of the casting. When the needle bar is in this position, the looper should be at its extreme left movement and the distance from the centre of the outside needle to the centre of the eye of the looper should be $\frac{3}{16}$ inch.

To Time the Thread Carrying Finger

The thread carrying finger (T, Fig. 8) should be timed by means of the cam (P, Fig. 8) at the right so that it carries the

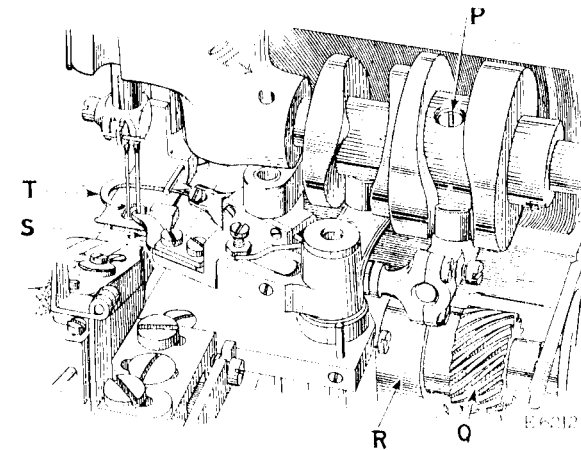


FIG. 8. ADJUSTMENTS ON THE MACHINE

silk thread from the outside needle and places it in the retainer or pull finger (S, Fig. 8) which places the silk thread across the inside needle.

Raise the presser foot to its highest point by means of the presser bar lifter. See that the thread carrying finger (T) lies flat on the presser foot, then loosen the screw (P, Fig. 8) in the cam and move the thread carrying finger (T) to the proper position, after which securely tighten the screw (P). The hook of the thread carrying finger must pass under needles without touching them when the balance wheel is turned either forward or backward.

To Set the Looper

Turn the balance wheel over from you until the looper carrier moves out as far as it will go, to permit easy access to the looper set screw. Place the looper in the looper carrier and loosely clamp the looper by means of the looper set screw, being careful to see that the looper is at its lowest point in the looper carrier. Turn the balance wheel over from you until the looper has moved half-way out on its backward stroke, then raise the looper in the looper carrier as far as it will go, and securely tighten the set screw. This ensures the looper riding against the retaining finger on the underside of the throat plate.

To Time the Needle Avoiding Motion of Looper

The needle avoiding motion of the looper should be timed so that the looper is rocked across from one side of the needles to the other when it is all the way in. To change the time of the needle avoiding motion of the looper, loosen the two set screws in the eccentric (R, Fig. 8) and turn the eccentric on the shaft until the correct timing is obtained. The needle avoiding motion of the looper is correctly timed if the needles do not strike the looper when the balance wheel is turned in either direction.

To Change the Sidewise Position of the Looper in Relation to the Needles

To set the looper closer to or farther away from the needles, loosen the clamping screw (N, Fig. 4, page 5) and move the looper carrier to the required position, then securely tighten the clamping screw (N).

To Time the Looper

When the needle bar has risen $\frac{1}{8}$ inch above its lowest point, the point of the looper should be at the centre of the left or outside needle. To time the looper motion, in or out, loosen the two screws in the spiral gear (Q, Fig. 8) and turn this gear until the point of the looper is in the correct position as instructed above, then securely tighten the two screws in the gear (Q).

To Time the Looper Thread Take-up

The looper thread take-up (O, Fig. 6, page 6) should be timed so that it commences to take up the slack thread from the looper when the looper begins its outward stroke. To time the looper thread take-up (O), loosen the set screw which holds it in position on the shaft and turn it until it is in the correct position as instructed above, then tighten the set screw.

To Time the Nipper

The nipper (L2, Fig. 2, page 4) should be timed by means of the nipper cam (K, Fig. 3) so that it commences to open when the top of the needle bar has risen $\frac{3}{4}$ inch above the casting. The nipper should close when the points of the needles reach the bottom edge of the looper on the downward stroke of the needle bar.

The duration of nip or length of time the nipper holds the threads must be regulated according to the quality of thread being used. To shorten the duration of nip, loosen the lock nut (K2, Fig. 2) and turn the screw stud (L2, Fig. 2) inwardly. To lengthen the duration of nip, turn this screw stud outwardly. When the nipper is correctly set, securely tighten the lock nut (K2).

Care must be taken to see that the lock nut (K2, Fig. 2) is loose before using a screwdriver on the screw stud (L2, Fig. 2). Never tighten the nipper body by means of the screw stud (L2). Always tighten the nipper body by means of the lock nut (K2), using the wrench provided for the purpose.

To Adjust the Looper Loop Retainer

The purpose of the looper loop retainer wire (N2, Fig. 5, page 5) underneath the looper is to produce just enough tension on the loops of the needle threads to keep them from snapping under the points of the needles. Care must be taken to see that the loop retainer wire (N2) does not carry the needle thread loops too far back of the left or silk needle, about $\frac{1}{16}$ inch is sufficient.

To determine the correct adjustment of the loop retainer wire (N2), form a loop with a piece of thread and pass the looper through this loop in the same manner in which it is done by the machine when sewing. The resistance should be greater when pulling the thread off the looper than when putting it on. The loop retainer wire (N2) can be adjusted to produce the required tension on the thread by bending the wire up or down on the looper, only a very light tension being required.

To Adjust the Needle Thread Take-up

The size of the loop of the cotton thread is controlled by raising or lowering the thread take-up (M, Fig. 2, page 4). To decrease the size of the loop, set the thread take-up higher. To increase the size of the loop, set the thread take-up lower.

HINTS

If it is found difficult to obtain a loose wire or reed when using a soft backing, bring the reed or wire and backing as close as possible to the inside or cotton needle and lighten the tensions.

The successful operation of the machine depends largely upon having the tensions on the cotton and silk threads properly balanced. If the correct balance of these tensions is not maintained, the machine will not produce perfect stitching. Therefore, never attempt to disturb the timing of the machine or replace any parts in an endeavor to make the machine sew, until you have ascertained positively that there is no lint between the tension discs and that the tensions are balanced.

If the machine breaks thread, the points of the needles may be blunt or bent, or the nipper (L2, Fig. 2, page 4) may be holding the thread too long. (See page 13 for instructions covering the nipper).

No other adjustments but those mentioned in this book are required on this machine to make any of the styles of hat sweats generally used and known as reeded hat sweats.