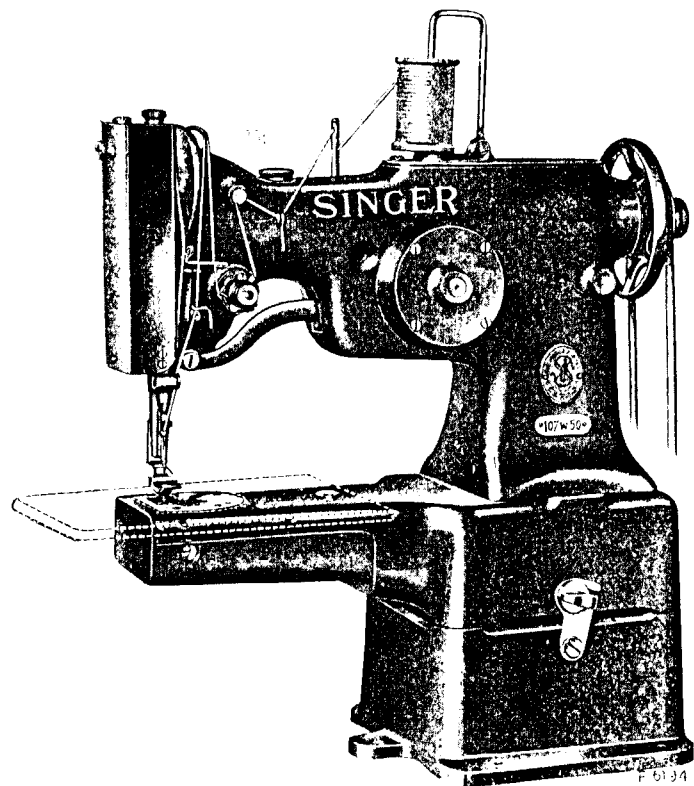


SINGER
107W50,W51

INSTRUCTIONS
FOR USING AND ADJUSTING
SINGER SEWING MACHINES



107w50 AND 107w51
CYLINDER BED

THE SINGER MANUFACTURING CO.

Purchasing of Parts and Needles

Supplies of parts and needles for Singer machines can be purchased at any Singer Shop for the Manufacturing Trade 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.

**Genuine Singer Needles should be used
in Singer Machines.
These Needles and their Containers
are marked with the
Company's Trade Mark "SIMANCO." 1**

**Needles in Containers marked
"For Singer Machines"
are not Singer made needles. 2**

DESCRIPTION

Machine 107 w 50 has a cylinder bed and is designed for sewing either full or half-size sweat bands into caps and cloth hats with zigzag lock stitches. The width of stitch or bight is adjustable up to $\frac{1}{4}$ inch and straightaway stitches can also be instantly made when desired.

Machine 107 w 51 has a cylinder bed and is intended for sewing either full or half-size sweat bands into caps and cloth hats. It makes an ornamental lock stitch seam consisting of a line of straightaway stitches having sideway stitches formed at regular intervals at right angles to the straightaway stitching. The machine will make the sideway stitches up to $\frac{3}{16}$ inch in length either at the left or at the right of the straightaway stitching, as desired. Unless otherwise ordered, the machine will be adjusted to make the sideway stitches to the left.



Fig. 2



Fig. 3

Illustrations (actual size) Showing Left and Right Sideway
Stitching Produced by Machine 107w51

Speed

The maximum speed recommended for Machines 107w50 and 107w51 is 2000 stitches per minute. The machines should be run slower than the maximum speed until the parts which are in movable contact have become glazed by their action upon each other. When the machines are in operation, the balance wheel should always turn over toward the operator.

Needles

Needles for Machines 107w50 and 107w51 are of Class and Variety 135x13 and are made in sizes 14, 16, 18 and 20.

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

Orders for needles must 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. 14, 135x13 Needles."

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

To Oil the Machine

When the machine is received from the factory, it should be thoroughly cleaned and oiled. Oil should be applied at each of

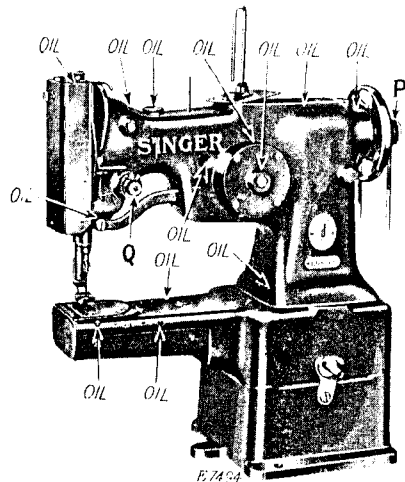


Fig. 4. Front View of Machine, Showing Oiling Points Also Adjustments on the Machine

the places designated by arrows in Figs. 4, 5, 6 and 7, and all other places where there are parts in movable contact. When the machine is in continuous use, it should be oiled at least twice each day. Swing back the cover which is on top of the machine and oil the bearings which are thus uncovered, then replace the cover.

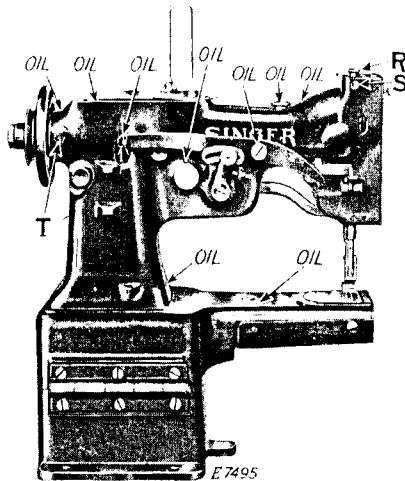


Fig. 5. Back View of Machine, Showing Oiling Points Also Adjustments on the Machine

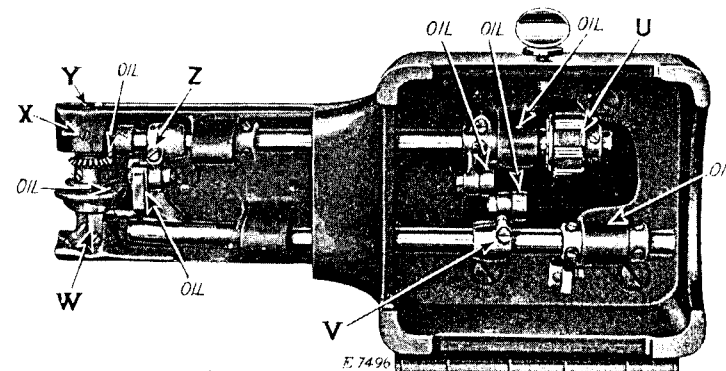


Fig. 6. Base View of Machine, Showing Oiling Points Also Adjustments on the Machine

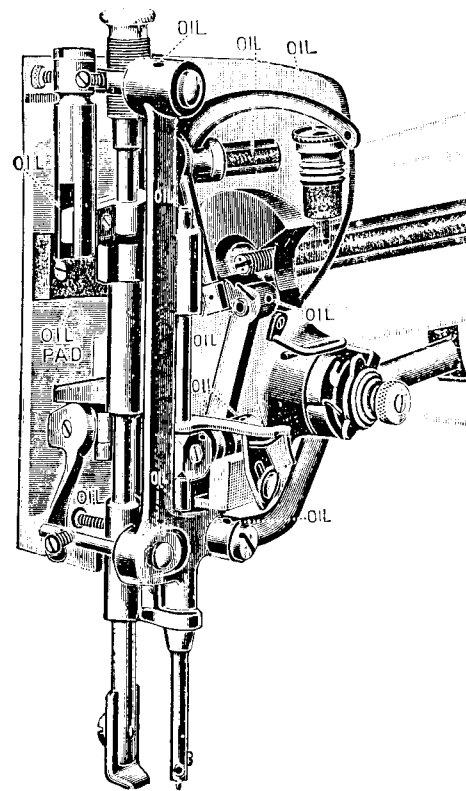


Fig. 7. Transparent End View of Machine, Showing Oiling Points

Apply oil freely, about four times a day, to the wicking which is retained in the oil pocket at the back of the sewing hook. Also oil the bobbin case bearing in the hook race each time a bobbin is replaced.

Turn the machine back on its hinges and apply oil at each of the places designated by arrows in Fig. 6, then bring the machine forward into place.

Remove the face plate and oil the wick and bearings which are thus uncovered, then replace the face plate.

Thread

Left twist thread should be used in the needle. Either right or left twist can be used for the bobbin.

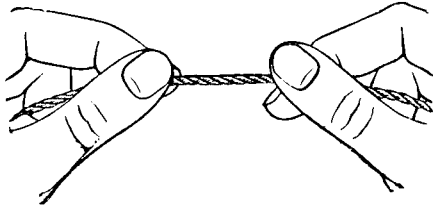


Fig. 8. How to Determine the Twist

Hold the thread as shown above. Turn the thread over toward you between the thumb and forefinger of the right hand; if left twist, the strands will wind tighter; if right twist, the strands will unwind.

To Remove the Bobbin

Draw out the cylinder end cover. Reach under the cylinder bed of the machine with the thumb and forefinger of the left hand, open the bobbin case latch (B2, Fig. 13) with the forefinger and draw out the bobbin case. While the latch remains open, the bobbin is retained in the bobbin case. Release the latch, turn the open end of the bobbin case downwardly and the bobbin will drop out.

To Wind the Bobbin

(See Fig. 9)

Fasten the bobbin winder to the table with its driving pulley in front of the machine belt so that the pulley will drop away from the belt when sufficient thread has been wound upon the bobbin.

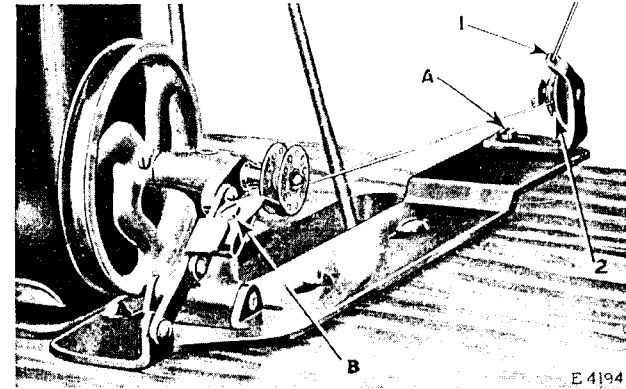


Fig. 9. Winding the Bobbin

Place the bobbin on the bobbin winder spindle and push it on as far as it will go.

Pass the thread down through the thread guide (1) in the tension bracket, around the back and between the tension discs (2). Then wind the end of the thread around the bobbin a few times, push the bobbin winder pulley over against the machine belt and start the machine.

When sufficient thread has been wound upon the bobbin, the bobbin winder will stop automatically.

If the thread does not wind evenly on the bobbin, loosen the screw (A) in the tension bracket and move the bracket to the right or left as may be required, then tighten the screw.

The amount of thread wound on the bobbin is regulated by the screw (B). To wind more thread on the bobbin, turn the screw (B) inwardly. To wind less thread on the bobbin, turn the screw outwardly.

Bobbins can be wound while the machine is stitching.

To Thread the Bobbin Case

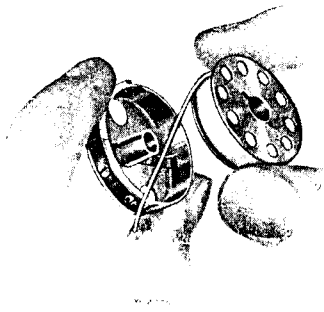


Fig. 10

the tension spring being at the front (see Fig. 10) and place the bobbin into it.

Then pull the thread towards the left into the slot in the edge of the bobbin case (see Fig. 11), draw the thread under the tension spring and into the second slot in the edge of the bobbin case; then

Hold the bobbin between the thumb and forefinger of the right hand, the thread drawing on top from the right towards the left.

With the left hand hold the bobbin case open side up,

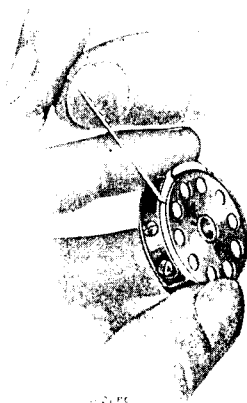


Fig. 11

pull the thread between the bobbin and bobbin case and into the third slot in the edge of the bobbin case, then into the delivery eye, as shown in Fig. 12.

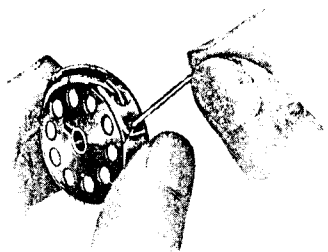


Fig. 12

To Replace the Bobbin Case

After threading, take the bobbin case by the latch, holding it between the thumb and forefinger of the left hand and place

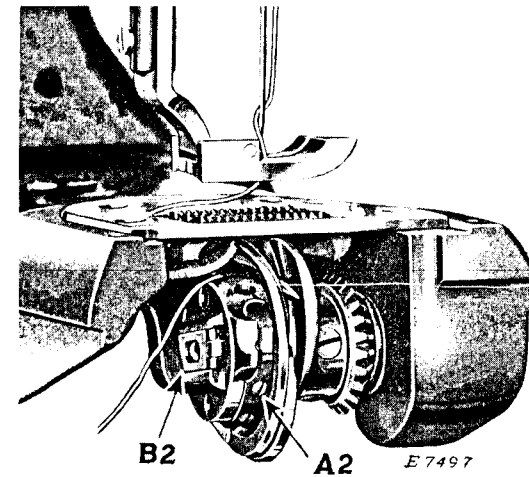


Fig. 13. Bobbin Case Threaded and Replaced

it on the centre stud of the bobbin case base, release the latch and press the bobbin case back until the latch catches the groove near the end of the stud (see Fig. 13). Allow about two inches of thread to hang free from the bobbin case, and replace the cylinder end cover.

To Set the Needle

Turn the balance wheel over toward you until the needle bar moves up to its highest point, loosen the set screw in the lower end of the needle bar and put the needle up into the needle bar as far as it will go, with the long groove of the needle squarely toward you and the eye directly in line across the bed of the machine, then tighten the set screw.

To Thread the Needle

(See Fig. 14)

Pass the thread from the spool on the machine from right to left through the upper hole (1) in the pin on top of the machine,

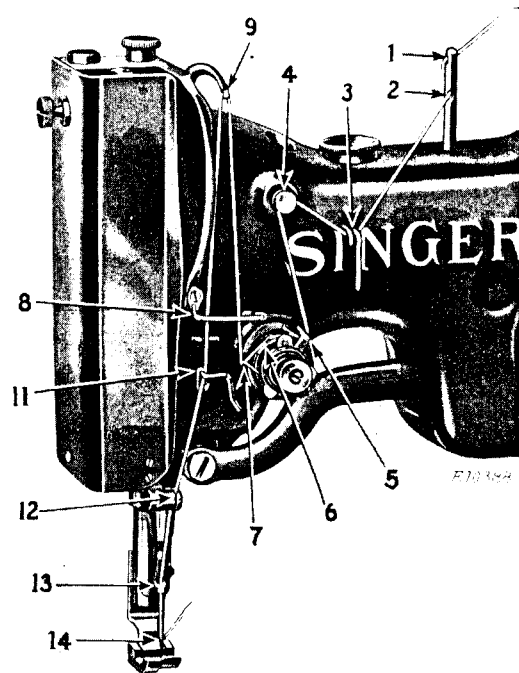


Fig. 14. Threading the Needle

down and from back to front through the lower hole (2) in the pin, to the left through the thread eyelet (3), over the top into the thread retainer (4), down, under from right to left between the tension discs (5), pull the thread up under the thread controller spring (7) until it enters the retaining fork (6), then pass the thread up through the thread guide (8) and from right to left through the hole (9) in the end of the thread take-up lever, down through the thread guide (8) again, through the thread guide (11) and thread retainer (12), down through the hole (13) at the lower end of the needle bar and from front to back through the eye of the needle (14). Draw about two inches of thread through the eye of the needle with which to commence sewing.

To Prepare for Sewing

With the left hand, hold the end of the needle thread, leaving it slack from the hand to the needle, 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 with it through the hole in the throat plate. Lay the threads back under the presser foot.

Presser Feet for Machine 107w50

This machine is regularly fitted with Presser Foot 242014 for guiding the left edge of the hat sweat and the accessories include Presser Foot 242016 for guiding the right edge of the hat sweat. Both of these presser feet have a lift of $\frac{3}{16}$ inch, and are hinged, "high tilting" feet which readily pass over the visor of caps.

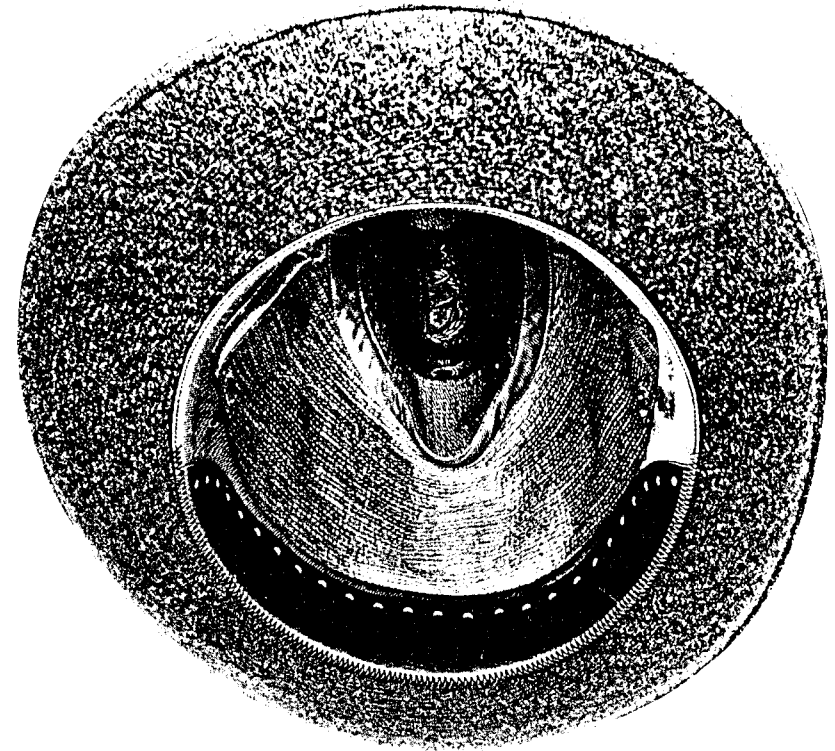


Fig. 15. Cloth Hat Showing Half Size Sweat Band Sewn in by Machine 107w50

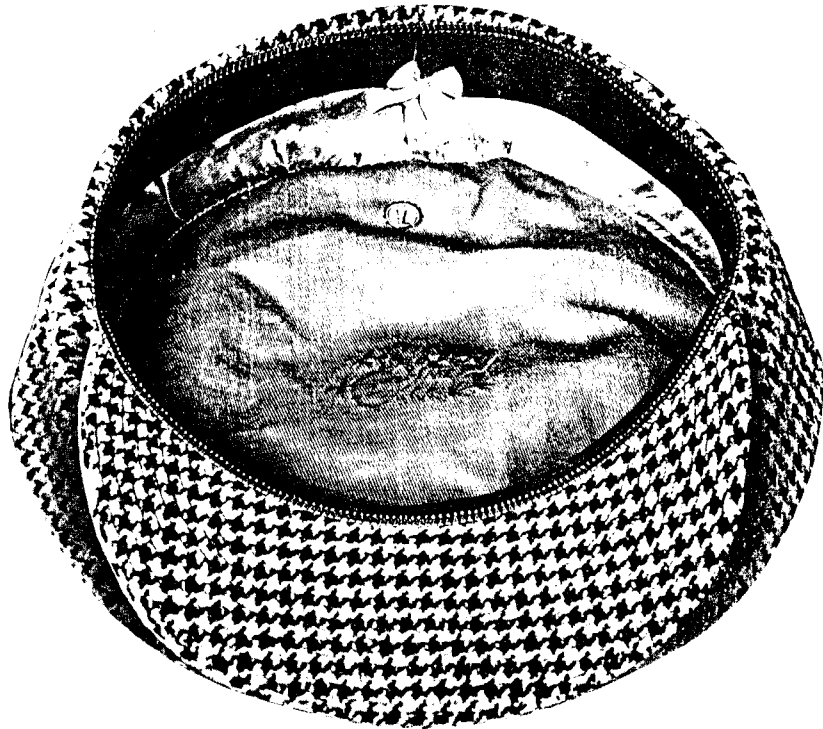


Fig. 16. Cap Showing Full Size Sweat Band Sewn in by Machine 107w50

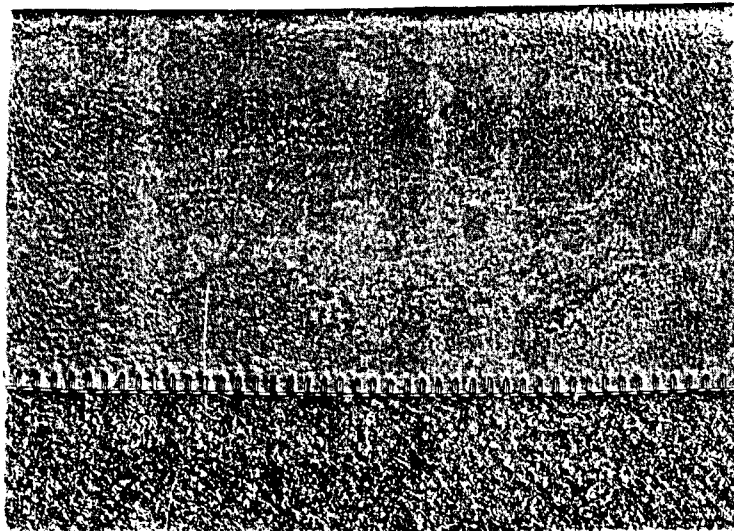


Fig. 17. Section of Soft Cap (full size) Showing Sweat Band Sewn on by Machine 107w51

To Adjust the Presser Foot of Machine 107w51

The presser foot furnished with this machine can be used for guiding the hat sweat when making the sideway stitches either to the right or to the left of centre line.

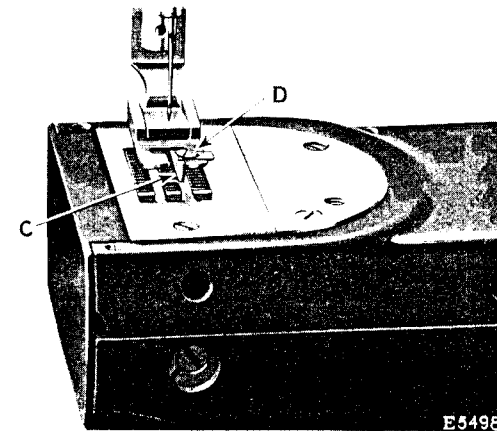


Fig. 18. Adjustment of Presser Foot of
Machine 107w51

When making the sideway stitch to the **right**, the right side of the guide (C, Fig. 18) is used. To adjust the presser foot for the sideway stitch to the **right**, loosen the screw (D, Fig. 18) and move the guide (C) to the left as far as may be required to make the stitching margin the desired width, then securely tighten the screw (D).

When making the sideway stitch to the **left**, the left side of the guide (C) is used. To adjust the presser foot for the sideway stitch to the **left**, loosen the screw (D) and move the guide (C) to the right as far as may be required to make the stitching margin the desired width, then securely tighten the screw (D).

To Remove the Work

Stop the machine with the thread take-up lever at its highest point, raise the presser foot, draw the work back and cut the threads close to the goods.

To Regulate the Pressure on the Material

The pressure on the material is regulated by the thumb screw (R, Fig. 5) at the top of the machine. To increase the pressure, loosen the lock screw (S, Fig. 5) at the rear of the machine and turn the thumb screw (R) over to the right. To decrease the pressure, turn the thumb screw (R) over to the left. When the desired pressure on the material is obtained, tighten the lock screw (S).

To Regulate the Tensions

The tension on the needle thread is regulated by the thumb nut (Q, Fig. 4) at the front of the tension discs at the front of the machine. To increase the tension, turn this thumb nut over to the right. To decrease the tension, turn the thumb nut over to the left.

The tension on the bobbin thread is regulated by the screw (A2, Fig. 13) nearest the centre of the bobbin case tension spring. To increase the tension, turn this screw over to the right. To decrease the tension, turn the screw over to the left.

To Regulate the Width of Zigzag Stitch on Machine 107w50

The width of bight or zigzag stitch is regulated by moving the upper end of the needle vibrator regulating lever (F, Fig. 19)

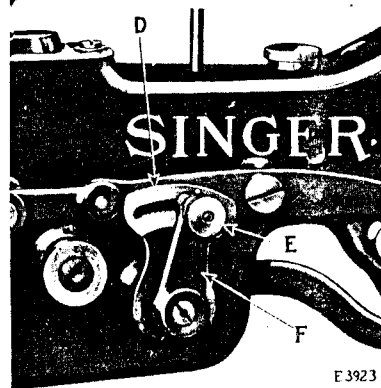


Fig. 19. Adjustment for Regulating the Width of Zigzag Stitch on Machine 107w50

which is fastened by the thumb nut (E, Fig. 19) in the slotted position bracket (D, Fig. 19) at the back of the machine. The

position bracket (D) is marked with graduations from zero to $\frac{1}{4}$ inch, which indicate the various widths of zigzag stitches that the machine will make, each graduation representing a change of $\frac{1}{32}$ inch in the width of stitch. To change the width of stitch, loosen the thumb nut (E) in the needle vibrating lever (F) and move the lever to the mark indicating the desired width of stitch, then tighten the thumb nut. When the lever is set at "0", the machine will make straightaway stitches only.

To Regulate the Width of the Sideway Stitches on Machine 107w51

(Operator Standing at the Front of the Machine)

The width of the sideway stitch is regulated by the lever (B, Fig. 20) at the back of the machine. When this lever is set

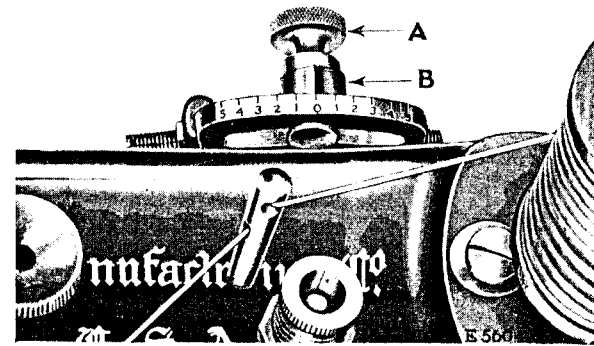


Fig. 20. Adjustment for Regulating the Width of Sideway Stitch on Machine 107w51

in line with zero on the slotted position bracket, the machine will make straightaway stitches only. To make the sideway stitches to the left of centre line, loosen the thumb nut (A, Fig. 20) and move the lever (B) to the left until the desired width of stitch is made. To make the sideway stitches to the right of centre line, move the lever (B) to the right until the desired width of stitch is made. After making this adjustment, securely tighten the thumb nut (A).

To Regulate the Length of Feed

The length of the straightaway stitches or distance between the sideway stitches or the space between the points of the zigzag stitches is regulated by the feed regulating spindle head (P, Fig. 4) at the right of the balance wheel.

There is a notch in the hub of the balance wheel and the number appearing in the notch shows the number of straightaway stitches to the inch that the machine is ready to make.

To increase the length of feed, turn the feed regulator (P) over toward you. To decrease the length of feed, turn the feed regulator (P) over from you.

INSTRUCTIONS FOR ADJUSTERS AND MACHINISTS

Thread Controller

The function of the thread controller spring is to hold back the slack of the upper thread until the eye of the needle nearly reaches the goods in its descent.

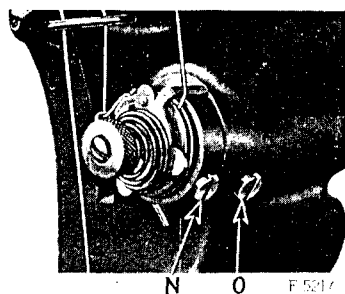


Fig. 21. Adjustments on Thread Controller

For more controller action on the thread, loosen the stop screw (N, Fig. 21) at the right of the tension and set the stop lower, and for less action set the stop higher, then tighten the stop screw (N).

To strengthen the action of the controller spring on the thread, loosen the tension stud screw (O, Fig. 21) at the right of the stop screw and turn the tension stud slightly to the left with a screw driver, or to lighten its action turn to the right and retighten the tension stud screw (O).

Feed

To Take up Lost Motion of the Feed Driving and Lifting Connections, adjust their hinge and pinch screws.

To Prevent the Feed Dog from Striking at Either End of the Slots in the Throat Plate. Loosen screw (V, see Fig. 6) and move the feed dog forward or backward until the longest stitch can be taken without the feed dog striking the throat plate and retighten the screw.

To Raise or Lower the Feed Dog

Usually when at its highest position, the feed dog should show a full tooth above the throat plate.

Remove the throat plate; clean the lint and dirt from between the feed points and replace the throat plate; tip the machine back and turn the balance wheel toward you until the feed dog is at its highest position; loosen screw (Z, see Fig. 6) and raise or lower the feed dog as desired and retighten the screw.

When raising or lowering the feed dog be careful that its underside does not drop low enough to strike the hook.

To Time the Needle Bar

Loosen the screws in the pinion on the arm shaft and turn the balance wheel over toward you or over from you, as the case may be. The time of the needle vibration cam should be such as to finish the lateral vibrations of the needle just prior to the entrance of the needle into the material, or, in other words, as slow as is practical before the needle point enters the material.

To See if Needle Bar is Set Correctly

See that the needle is up into the bar as far as it will go.

There are two lines $\frac{3}{32}$ inch apart, about two inches from the lower end of the needle bar, and when the needle bar is at its lowest position, the upper mark should be just visible at the end of the needle bar frame.

To Set the Needle Bar to the Correct Height

Loosen the needle bar connecting stud pinch screw and place the needle bar in the proper position as directed above, then tighten the screw.

To Set a Needle Bar which has no Mark

Set the needle bar so that when it rises $\frac{3}{32}$ inch from its lowest position, the point of the hook will be at the centre of the needle and about $\frac{1}{16}$ inch above the eye.

To Time the Hook

Remove the throat plate and turn the balance wheel over toward you until the lower mark on the needle bar is just visible at the end of the needle bar frame; if the needle bar and hook are in correct time the point of the hook will be at the centre of the needle and about $\frac{1}{16}$ of an inch above its eye.

Loosen the hook driving belt pulley set screws and turn the balance wheel over toward you until the needle bar moves down to its lowest position and upward until the lower mark on the needle bar is just visible at the end of the needle bar frame, then turn the hook until the point is at the centre of the needle about $\frac{1}{16}$ of an inch above its eye, then tighten the pulley screws, being careful that the end of the pulley hub is flush with the end of the shaft.

To Remove the Sewing Hook

Remove the bobbin case stop (W, Fig. 6), then remove the hook spindle screw (Y, Fig. 6) and withdraw the sewing hook from its socket.

To Set the Sewing Hook To or From the Needle

Loosen the screw (X, Fig. 6) and slide the sewing hook to the desired position, then tighten the screw (X).

To Remove the Belt from within the Arm

Slide the arm shaft connection belt (U, Fig. 6) off the hook driving belt pulley, remove the feed regulating spindle and balance wheel, loosen the arm shaft bushing position screw (T, Fig. 5) at the back of the arm and remove the bushing. Then lift up the belt through the arm cap hole as far as possible and draw it out through the space normally occupied by the bushing.

Before replacing the belt on the lower pulley, see that the sewing hook and needle are in correct time.

To Remove the Arm Shaft

Remove screws (A, B and I, Fig. 22) and compression screw (G, Fig. 22), loosen the set screw in the belt pulley, also loosen

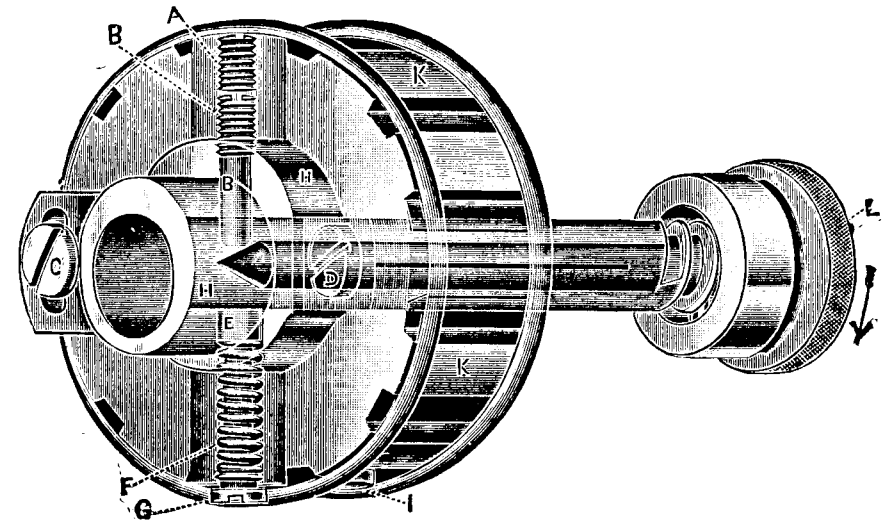


Fig. 22

the screw and remove the position screw from the feed lifting eccentric and from the needle bar crank; loosen the set screws in the needle bar frame driving gear pinion (on the arm shaft) and draw the shaft out from the balance wheel end of the machine.

To Replace the Arm Shaft and Connections

Return the shaft to its place through the belt pulley, the feed lifting eccentric, the shaft gear, friction washer and needle bar crank; return the position screws to the belt pulley, feed lifting eccentric and needle bar crank, and into their position holes in the shaft; tighten the set screw of each and replace the balance wheel, leaving the least possible end play to the shaft.

To Remove the Arm Shaft Bushing (Front)

After removing the needle bar crank, remove the bushing position screw (T, Fig. 5) from the back of the arm, insert a brass rod through the arm cap hole and drive the bushing out.