

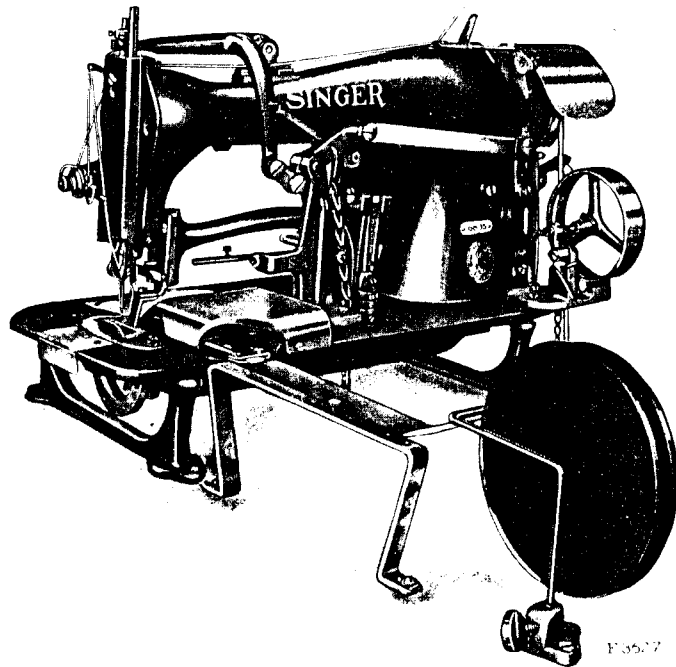
SINGER

68-35

INSTRUCTIONS

FOR USING AND ADJUSTING

SINGER SEWING MACHINE



68-35

FOR

STITCHING TAPE REINFORCEMENTS

THE SINGER MANUFACTURING CO.

DESCRIPTION

Machine 68-35 is designed for sewing tape reinforcements for buttons and buttonholes on the underside of union suits, etc., also for sewing marking tags on laundry articles. It automatically takes the reinforcements or tags from a roll of folded strip material, cuts them to the required length and attaches them, at one operation, with all four edges folded so that they cannot ravel or fray.

Each tape reinforcement or marking tag is permanently attached with 42 lock stitches, including tying stitches, the finished stitching being oblong in shape, $\frac{3}{2}$ inch long by $\frac{1}{2}$ inch wide. The reinforcements or tags are $1\frac{1}{8}$ inches long by $\frac{1}{2}$ inch wide and the stitching is a uniform distance from the folded edge on all four sides.

At the completion of the stitching of each reinforcement or tag, the machine stops automatically with the needle raised to its highest point and the needle and bobbin threads are automatically cut close to the underside of the material.

To Set Up the Machine

Fasten the iron base or the two table brackets, as the case may be, to the table so that when the machine is placed in position its face plate will be toward the edge of the table nearest the operator and the end of the bed will be about flush with the front edge of the table.

Fasten the table belt guide to the underside of the table so that the idler pulleys will guide the belt from the driving pulley on the shaft to the pulley on the machine.

Two treadles are sent with each machine, one for operating the clamp and one for starting the machine.

Bore a hole in the table directly under the clamp operating lever (D, Fig. 14) on the machine for the chain which connects this lever with the treadle for operating the clamp. Hook the chain to the lug nearest the toe edge of the clamp operating treadle.

Bore a second hole in the table directly under the starting lever (E, Fig. 14) on the machine for the chain which connects this lever with the treadle for starting the machine.

The chains connecting the treadles with the clamp operating lever and starting lever on the machine should be adjusted to properly operate the clamp and start the machine when the toe edge of each treadle is depressed.

Fasten the tape holder (H, Fig. 14) and measuring device (J, Fig. 14) to the table at the right of the machine so that the strip material passes in a direct line from the tape holder under the measuring device and into the tape guide on the machine as shown in Fig. 14, page 11.

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.

To Oil the Machine

When the machine is received from the factory, it should be thoroughly cleaned and oiled.

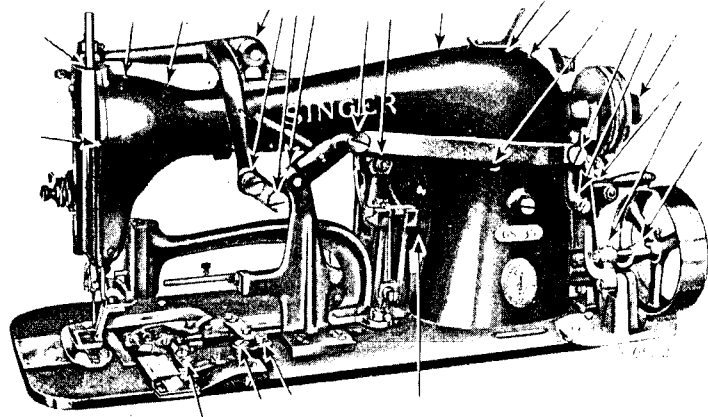


FIG. 2. OILING POINTS AT RIGHT SIDE OF MACHINE

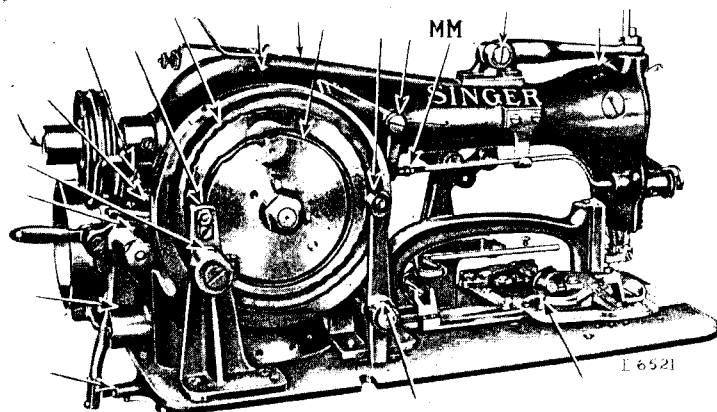


FIG. 3. OILING POINTS AT LEFT SIDE OF MACHINE

Oil should be applied at the places designated by arrows in Figs. 2, 3 and 18, and all other places where there are parts in movable contact, and when the machine is in continuous use it should be oiled at least twice each day. The loose pulley at the end of the machine must be oiled frequently through the hole in the centre of the large screw head at the end of the shaft.

The shuttle bearing in the shuttle race should be oiled each time a bobbin is replaced.

Speed

The maximum speed recommended for Machine 68-35 is 1000 stitches per minute.

Needles

Needles for Machine 68-35 are of Class and Variety 16 x 87 and are made in sizes Nos. 9, 11, 13, 14, 16, 17, 18, 19 and 21.

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*, also the *class* and *variety* numbers separated by the letter x.

The following is an example of an intelligible order:

"100 No. 16, 16 x 87 Needles."

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

Thread

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

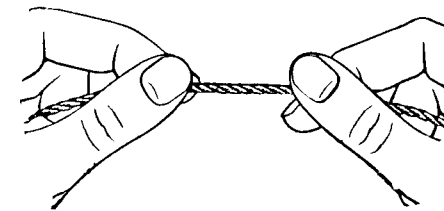


FIG. 3. HOW TO DETERMINE THE TWIST

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. The above illustration shows left twist.

To Set the Needle

Have the needle bar at its highest point. Loosen the set screw in the lower end of the needle bar and put the needle up into the bar as far as it will go, with the long groove of the needle toward the front of the machine and its eye directly in line with the bed of the machine, then tighten the set screw.

From the library of: Diamond Needle Co.

To Remove the Bobbin

Reach under the bed of the machine with the left hand and open the shuttle, pulling the hinged portion toward you, then remove the bobbin (see Fig. 7, page 7).

To Wind the Bobbin

Place the bobbin winder on the machine as shown in Fig. 5, and fasten it securely to the bed of the machine by the two screws.

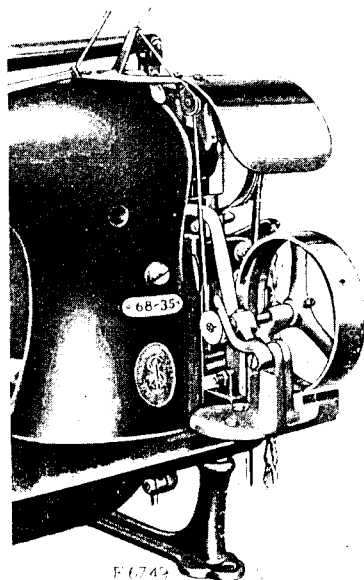


FIG. 5. WINDING THE BOBBIN

Place the bobbin on the bobbin winder spindle and push it up closely against the shoulder, having the small pin in the shoulder enter the slot in the bobbin. Place the spool of thread on the pin on the spool stand. Pass the thread from the spool up through the thread unwinder at the top of the spool stand, down through the thread guide at the top of the machine, and between the discs on the tension bracket; then wind the end of the thread around the bobbin a few times and push the bobbin winder driving pulley over against the machine belt. When sufficient thread has been wound upon the bobbin, the bobbin winder will stop automatically. Bobbins can be wound while the machine is stitching.

To Thread the Shuttle

Hold the bobbin between the thumb and forefinger of the left hand, the thread leading over from the right toward the left (see

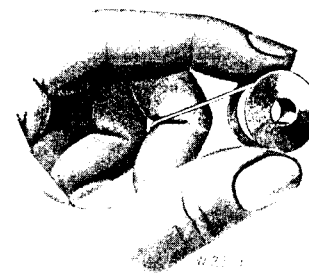


FIG. 6. SHOWING DIRECTION OF THREAD ON BOBBIN

Fig. 6), and place it into the shuttle cap as shown in Fig. 7. When the thread is drawn from the bobbin, the bobbin should turn over toward the left.

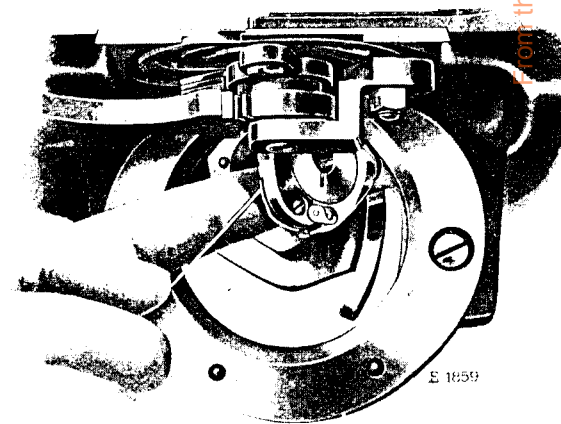


FIG. 7. REPLACING THE BOBBIN

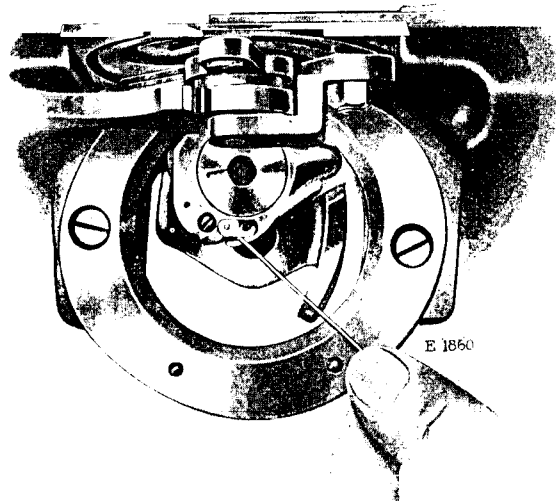


FIG. 8. THREADING THE SHUTTLE

Close the cap and draw the thread into the slot in the edge of the cap, as shown in Fig. 8, then into the delivery eye of the shuttle (see Fig. 9). Allow about three inches of thread to hang free from the shuttle.

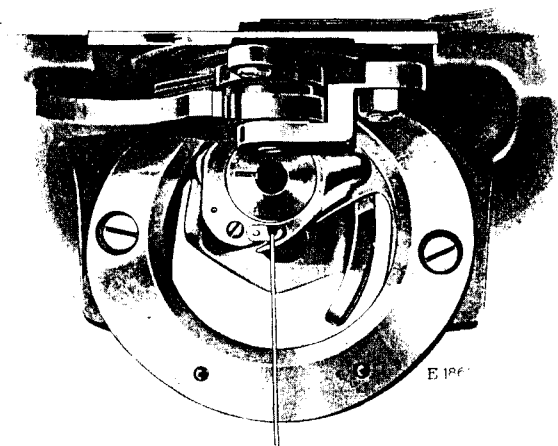


FIG. 9. SHUTTLE THREADED

To Thread the Needle

Place the spool of thread on the pin on the spool stand, pass the thread from the spool up through the thread unwinder at the

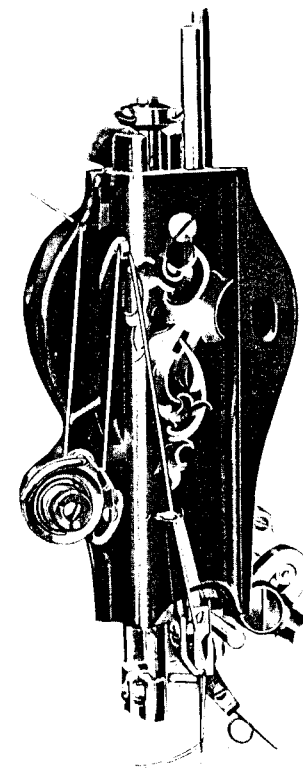


FIG. 10. THREADING THE NEEDLE

top of the spool stand, down through the thread guide on the top of the machine, through the thread eyelet in the upper end of the face plate, down under from left to right between the tension discs at the front of the face plate, over the wire guide above the tension discs, into the hook of the thread take-up spring, up and from left to right through the hole in the thread take-up lever, down through the wire thread guide at the front of the face plate, into the thread nipper near the lower end of the needle bar and from front to back or from the long groove side through the eye of the needle (see Fig. 10). Draw about two inches of thread through the eye of the needle with which to commence sewing.

Tensions

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



FIG. 11. 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. 12. 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:

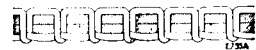


FIG. 13. LOOSE NEEDLE THREAD TENSION

To Regulate the Tensions

The tension on the needle thread is regulated by the thumb nut at the front of the tension discs at the front of the face plate. To increase the tension, turn this thumb nut over to the right. To decrease the tension, turn this thumb nut over to the left.

The tension on the bobbin thread is regulated by the screw near the delivery eye on the outside of the shuttle. To increase the tension, turn this screw over to the right. To decrease the tension, turn this screw over to the left.

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.

Strip Material

Strip material, one inch wide, must be used, both edges of which are folded $\frac{1}{4}$ inch, so that they butt together in the centre of the strip, making the folded strip $\frac{1}{2}$ inch in width.

It is necessary that the strip be accurately folded and of the proper material to ensure the satisfactory operation of the machine. Five rolls of tape are supplied with each machine, and tape purchased from manufacturers and dealers in bindings and folded tape, must be of similar material and of exactly the same fold.

To Prepare for Sewing

Place the roll of tape on the tape holder (H, Fig. 14) so that the tape unwinds from the top side of the roll. Pass the tape

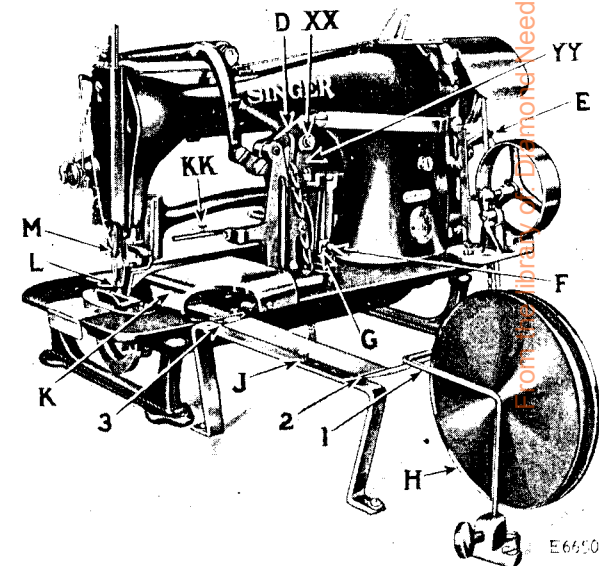


FIG. 14. ADJUSTMENTS ON THE MACHINE

from the roll down through the wire guide (1, Fig. 14) on the tape holder, under the plate (2, Fig. 14) attached to the measuring device and through the strip guide (3, Figs. 14 and 15) on the machine. Push the tape through the strip feed plate (4, Fig. 15) until the end of the tape is just visible at the end of the feed plate

as shown at 5, in Fig. 15. (To facilitate threading the tape through the strip feed plate (4), two slots are cut in the top of the strip guide into which the point of a pair of scissors or small screw-driver may be inserted to push the tape through.)

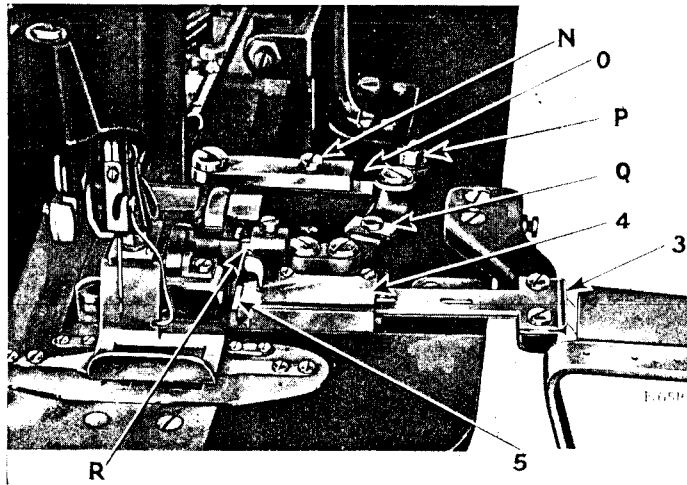


FIG. 15. ADJUSTMENTS ON THE MACHINE

Press down the clamp operating treadle to raise the work clamp foot and place a piece of cloth under the foot, then lower the work clamp foot and press down the starting treadle. While stitching the piece of cloth, the machine will automatically draw off, crease and cut the strip material for the first reinforcement, leaving the reinforcement in position ready to be carried forward under the work clamp foot when the work clamp foot is raised.

Measuring Devices

To enable the operator to accurately position the button and buttonhole reinforcements on union suits, the machine is equipped with two graduated measuring devices. One of these devices is used for positioning the button reinforcements and is located at the right of the machine on the power table, as shown at J in Fig. 14.

The other measuring device, which is used for positioning the buttonhole reinforcements, is located at the left under the arm

of the machine as shown at KK, in Fig. 14, and consists of a rod having several holes which are marked with numerals similar to those in the measuring device for the button reinforcements. The work is drawn back over the looped portion of the rod and drawn forward up to the thumb screw (KK).

Each measuring device is provided with a thumb screw which should be inserted in the selected holes to serve as guides for the union suit, so that each buttonhole reinforcement will be located exactly opposite the button reinforcement.

To Commence Sewing

Having set the measuring devices, press down the clamp operating treadle to raise the clamp foot, and the strip carrier (DD, Fig. 17) will automatically carry the cut reinforcement into position under the work clamp foot, the strip folders (AA and FF, Fig. 17) folding the two ends of the tape so that they will pass under the springs (BB and EE, Fig. 17).

Place the work under the clamp foot, using the required measuring device to locate the position for the reinforcement, then lower the work clamp foot and press down the starting treadle to start the machine. While the machine is sewing on the reinforcement, another reinforcement is automatically drawn off, creased, cut and held in position ready to be placed under the work clamp foot when the work clamp foot is raised. While the work clamp foot is being raised, withdraw the work toward you before the next reinforcement is positioned in the feed plate by the strip carrier.

If for some reason, the reinforcement has not been stitched to the material and it is necessary to stitch it over a second time, care should be taken to first remove the reinforcement held in the strip feed plate, so that there will not be two reinforcements in the feed plate at the same time.

CAUTION. Care must be taken to remove your foot from the starting treadle immediately after starting the machine. If you keep your foot on the starting treadle, it will cause more than one reinforcement to be cut and drawn into the machine, resulting in jamming the strip carrier.

**INSTRUCTIONS
FOR
ADJUSTERS AND MACHINISTS**

From the library of Diamond Needle Corp

To Adjust the Strip Carrier and Strip Feeding Mechanism

When it is necessary to make adjustments on the machine, loosen the two screws which hold the bed cover (K, Fig. 14) in position and remove the bed cover.

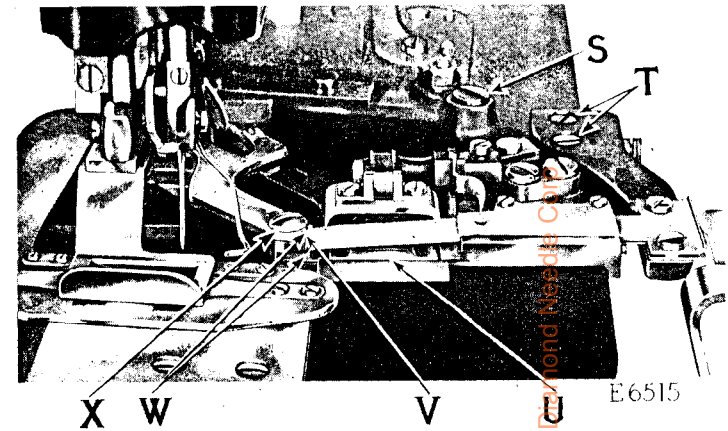


FIG. 16. ADJUSTMENTS ON THE MACHINE

The strip feed plate (U, Fig. 16) must be adjusted to pull off a length of tape sufficient to reach the side of the strip feed plate as shown at V in Fig. 16. The strip must be flat and be centrally located between the two pins (W, Fig. 16). If the strip feed plate pulls off too much tape, it will cause the tape to buckle so that it cannot be properly carried into position in the feed plate under the work clamp foot. If the strip feed plate pulls off too much tape, loosen the lock nut (P, Fig. 15) and move the strip feed lever connection (O, Fig. 15) slightly toward the rear of the machine. If the strip feed plate does not pull off enough tape, move the strip feed lever connection (O) toward the front of the machine. When this adjustment has been made, securely tighten the lock nut (P).

The strip carrier (DD, Fig. 17) must be adjusted so that it will carry the strip all the way into the feed plate (CC, Fig. 17), but not so far as to cause the strip to become crumpled or wrinkled. In case the strip carrier does not carry the strip far enough into the feed plate, loosen the lock nut (Y, Fig. 17) and turn the adjusting screw (Z, Fig. 17) outwardly. If the strip is carried too far into the feed plate, turn the adjusting screw (Z) inwardly. After this adjustment has been made, securely tighten the lock nut (Y).

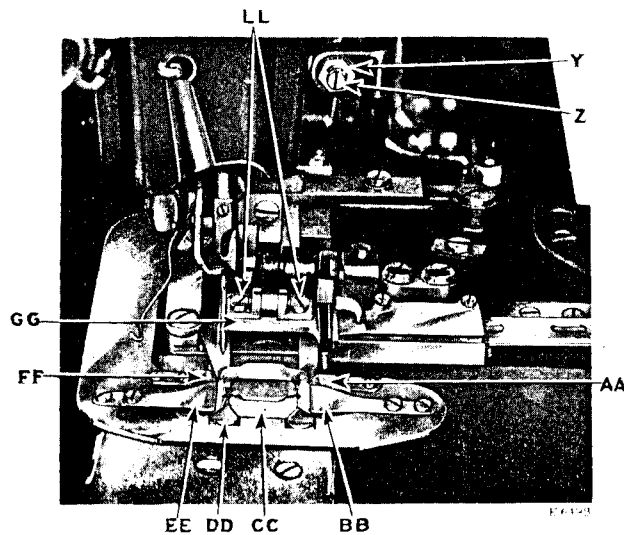


FIG. 17. ADJUSTMENTS ON THE MACHINE

The strip carrier must be adjusted to carry the tape centrally into the feed plate so that the creased ends will properly enter the folders (AA and FF, Fig. 17). If the strip carrier does not carry the tape centrally into the feed plate, loosen the screw (N, Fig. 15) and move the strip feed plate slightly to the right or left, as may be required, then securely tighten the screw (N).

Care must be taken not to move the strip carrier so far as to cause the end of the strip guide (3, Fig. 15) to project through the strip feed plate. If this caution is not observed, the knife is liable to descend on the strip guide, resulting in damage to the machine.

The strip feed lever stop (Q, Fig. 15) should be set so that it will stop the movement of the strip feed lever to which it is fastened, before the strip guide projects through the strip feed plate.

After making adjustments, always turn the driving pulley of the machine over by hand to ascertain if the adjustments are correctly made, before starting the machine by power.

The pressure on the strip clamp (GG, Fig. 17) should only be sufficient to crease the tape so that it will pass under the folders (AA and FF, Fig. 17). To increase the pressure, loosen the screw (G, Fig. 14) which stands up from the bed of the machine toward the rear, then turn the machine over on its hinges and move the rod (JJ, Fig. 18) toward the back of the machine, thus lowering the strip clamp. To decrease the pressure, move the rod (JJ) toward the front of the machine, thus raising the strip clamp. Too much pressure on the strip clamp will cause the machine to stop. When the required pressure is obtained, securely tighten the screw (G, Fig. 14).

The strip clamp (GG, Fig. 17) must be positioned so that its creasing edges enter the centre of the grooves in the strip feed plate. To make this adjustment, first see that there is not too much end play on the stud for the knife bell crank (HH, Fig. 18) then loosen the two screws (LL, Fig. 17) and move the strip clamp to the right or left, as may be required, then securely tighten the two screws (LL).

To Remove and Resharpener the Upper Strip Knife

If the upper strip knife fails to cut the tape, the cutting edge of the knife may be dull. The upper strip knife can be removed from the machine, for resharpening, after taking out the screw (R, Fig. 15) and removing the strip feed awl. When replacing the upper knife see that the end of the knife does not interfere with the tape when the tape feeds into the clamp.

Knife Grinder No. 126244 should be used to resharpen the upper strip knife. Sharpen the cutting edge of the knife on the beveled side only. The least possible amount ground off is usually sufficient.

To Remove and Resharpen the Lower Strip Knife

The lower strip knife has two cutting edges so that its position may be reversed in the machine when one of the cutting edges becomes dull.

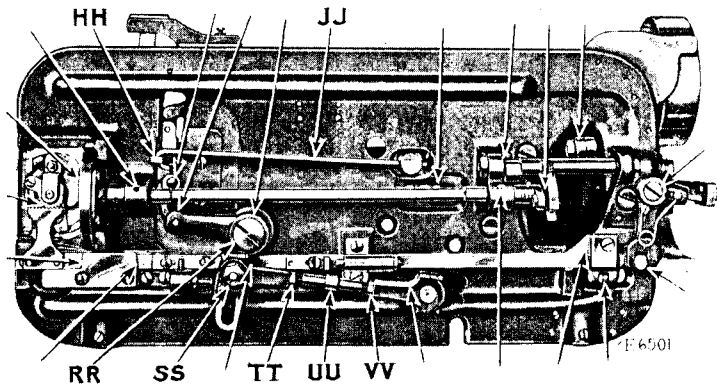


FIG. 18. ADJUSTMENTS AND OILING POINTS UNDERNEATH THE BED OF MACHINE

To remove the lower strip knife, take out the two screws (T, Fig. 16) and remove the tape guide bracket, then take out the strip feed lever hinge screw (S, Fig. 16), also take out the strip retainer spring holder hinge screw (X, Fig. 16) and remove the strip retainer spring holder, unhook the rod (JJ, Fig. 18) from the upper strip knife bell crank (HH, Fig. 18) underneath the bed of the machine and remove the strip feed plate (NN, Fig. 19) from the machine. Take out the screw (OO, Fig. 19) on the underside of the strip feed plate, being careful not to lose the small tension spring which is retained in the plate; slide the knife (QQ, Fig. 19) out of the plate and reverse its position in the plate so as to use the other cutting edge. When replacing the knife in the plate, it may be necessary to remove the lock screw (PP, Fig. 19) and back out the tension screw (PP, Fig. 19) which bears against the tension spring, to permit the screw (OO) to be properly inserted in the knife. The tension screw (PP, Fig. 19) should be turned in sufficiently to cause the cutting edge of the lower strip knife to press hard enough against the cutting edge of the upper strip knife to ensure making a shear cut. When the tension screw is turned in as far as required, securely tighten the lock screw (PP) against the tension screw to retain the adjustment.

Before replacing the strip feed plate (NN) in the machine, it is advisable to test the cutting edges of the knives on a piece of tape.

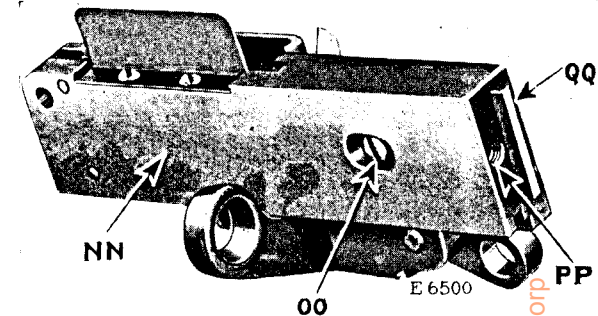


FIG. 19. ADJUSTMENTS ON LOWER STRIP KNIFE

When it is necessary to resharpen the cutting edges of the lower strip knife, Knife Grinder No. 126244 should be used.

To Regulate the Amount of Travel of the Clamp

When the machine is shipped from the factory, the movement of the clamp lengthwise and across the machine is accurately timed with the strip carrier and strip feeding mechanism and should require no adjustment. If, however, it should become necessary to adjust the movement of the clamp, this can be done as follows:

The throw or amount of travel of the clamp lengthwise the bed of the machine is regulated by means of the sliding block (G, Fig. 14) which is fastened in position by the screw (F, Fig. 14) in the upright slot at the extreme rear of the clamp arm. To increase the throw or movement of the clamp lengthwise the bed of the machine, loosen the screw (F) and move the sliding block (G) downwardly in the slot. To decrease the throw of the clamp, move the sliding block (G) upwardly. When the sliding block is at its highest point in the slot, there will be no movement of the clamp lengthwise the bed of the machine. Care should be taken to see that when the needle descends, it will not strike the work clamp foot. After the desired throw of the clamp has been obtained, tighten the screw (F).

If the stitching on the reinforcement is out of the centre (side-wise), this may be caused by a bent needle or improper adjust-

ment of the machine. Put a straight needle in the machine, then loosen the nut (XX, Fig. 14) and move the lever (YY, Fig. 14) forward or backward, as may be required, to bring the stitching an equal distance from both sides of the reinforcement.

The throw or amount of travel of the clamp across the bed of the machine is regulated by means of the movable stud which is fastened in position by the hexagon nut (SS, Fig. 18) in the slot underneath the bed of the machine. To increase the throw of the clamp across the bed of the machine, loosen the hexagon nut (SS) and move the stud toward the screw stud (RR, Fig. 18). To decrease the throw of the clamp, move the stud away from the screw stud (RR). Care should be taken to see that when the needle descends it will not strike the work clamp foot. When the desired throw of the clamp across the bed of the machine has been obtained, tighten the hexagon nut (SS).

If the stitching on the reinforcement is out of the centre (endwise), loosen the two lock nuts (TT and VV, Fig. 18) and turn the feed across connection adjusting stud (UU, Fig. 18) as may be required to bring the stitching an equal distance from both ends of the reinforcement, then securely tighten the two lock nuts (TT and VV).

Needle Bar Thread Nipper

The needle bar thread nipper (M, Fig. 14) holds the needle thread during the first descent of the needle, and the end of thread from the eye of the needle must not be caught, but left loose, so that it will be drawn down through the goods.

The nipper is adjusted by changing the length of the nipper rod by means of the stud and nut (MM, Fig. 3) on the rod near the nipper driving lever; the nipper should be adjusted so as to prevent the withdrawal of the thread from the eye of the needle by the action of the thread controlling spring, when the machine stops automatically.

When the machine is started and the needle has descended to the goods, the nipper is released to allow the thread to pass freely down the side of the needle; and while on the upward movement of the needle, the eye is practically free, the nipper again holds the thread, which is drawn back by the upward motion of the needle bar, and again released by the nipper to allow the take-up lever to withdraw the balance of the thread which has passed around the shuttle.

The Thread Cutting Mechanism

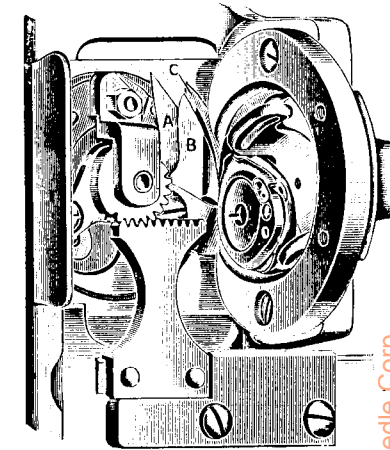


FIG. 20

Fig. 20 shows the position of the thread cutting knives A and B, and the barbed spring (C), at the instant of cutting the threads; A is the shuttle thread knife and B the needle thread knife; there is an immediate slight retraction from this cutting position, owing to the recovery by the parts from the overthrow which causes the knives to cut the threads.

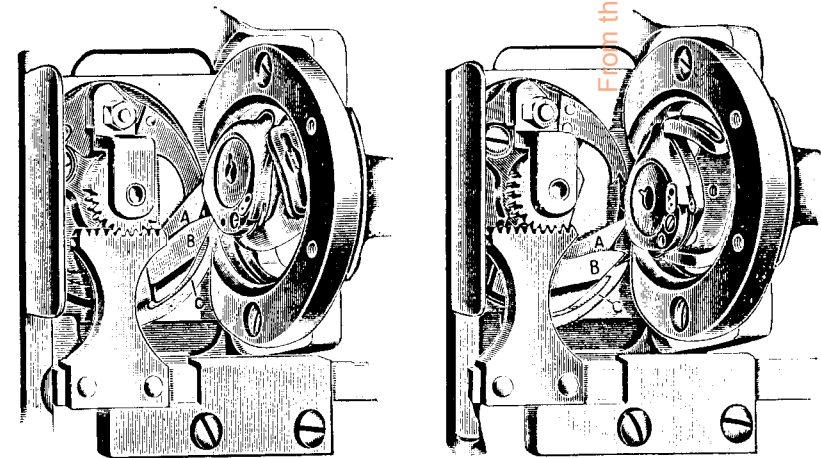


FIG. 21

FIG. 22

After the first puncture of the goods by the needle, the knives are retracted to the position shown in Fig. 21.

Part of the thread drawn by the shuttle beneath the throat plate must pass under the end of the barbed holding spring C, which should lie flat against the underside of the throat plate so as to control the thread with a light pressure but not hold it with sufficient strength to cause the take-up lever to draw thread through the tension discs, after which the parts are still further retracted to the position shown in Fig. 22, in which position they remain until moved forward for the succeeding cutting operation.

The knives must be kept sharp, the teeth in the knife holder pinion and the rack properly meshed together and the knife holder bracket firmly secured in place; at the final puncture of the needle before stopping, the knives should have moved forward and stopped in such position that a gentle pressure on the knife bar will cause the needle thread knife to clear the needle one thirty-second to one-sixteenth inch, so that the needle will not strike the knife in the last puncture.

This position is secured by means of adjustment provided for the knife bar; this bar is in two pieces which may be separated further or be brought closer together, thus making the bar longer or shorter. When the position is correct, the time of the knives can be adjusted as follows; the shuttle thread knife must meet the heel of the shuttle at the needle hole during the stitch preceding the last one of the group, and engage the thread where the shuttle has spread it most.

Thread Wiper

The thread wiper wire (L, Fig. 14) must stand at the right of the needle while sewing; it moves over to the left when the clamp is raised, drawing the end of needle thread out of the goods and returns to its normal position when the clamp is let down.