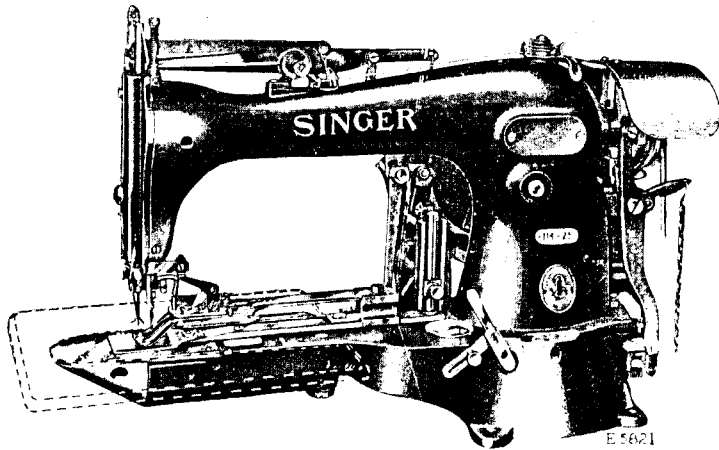


SINGER
114-25 thru 114-31

Form 8428
Revised

INSTRUCTIONS
FOR USING AND ADJUSTING
SINGER SEWING MACHINES



OF

CLASS 114-

(EXCEPT MACHINE 114-21)

SINGLE THREAD CHAIN STITCH

THE SINGER MANUFACTURING CO.

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.

DESCRIPTION

Machines of Class 114- have a cylinder bed and are designed for automatically sewing on flat buttons and for tacking paper tickets on clothing. They have one needle and one looper and make the single thread chain stitch.

***Machine 114-25** sews two or four hole or bar buttons on shirts, shirt waists, underwear, white goods, etc., with fourteen stitches, including a fastening stitch. This machine makes two parallel bars of stitches (across the arm) in four hole buttons.

***Machine 114-26** sews two or four hole or bar buttons on shirts, shirt waists, underwear, white goods, etc., with twenty-one stitches, including a fastening stitch. This machine makes two parallel bars of stitches (across the arm) in four hole buttons.

Machine 114-27 tacks paper tickets on clothing to distinguish lot, color, size, etc., while in process of manufacture. It is also used for tacking cost marks on finished garments. This machine makes a triangular shaped tack with thirteen stitches, the base of the tack being $\frac{5}{8}$ inch across and the apex $\frac{3}{8}$ inch from the base.

***Machine 114-28** sews two or four hole or bar buttons on shirts, shirt waists, underwear, white goods, etc., with fourteen stitches, including a fastening stitch. This machine makes crossed stitches in four hole buttons.

***Machine 114-29** sews two or four hole or bar buttons on clothing, etc., with twenty-one stitches, including a fastening stitch. This machine makes crossed stitches in four hole buttons.

Machine 114-30 sews two or four hole or bar buttons on coats, cloaks, overcoats, etc., with twenty-one stitches, including a fastening stitch. This machine makes two parallel bars of stitches in four hole buttons. It has an extra high lift needle bar which enables it to successfully handle work up to $\frac{1}{2}$ inch in thickness, including the button and material. It is fitted with a universal button clamp which will accommodate buttons from 22 to 50 lignes in diameter.

Machine 114-31 tacks paper tickets on clothing to distinguish lot, color, size, etc., while in process of manufacture. It is also used for tacking cost marks on finished garments and for tacking the cuffs of trousers. It is especially suitable for attaching tickets to waterproof clothing on account of the few needle punctures necessary for each tack. The machine produces a tack $\frac{3}{16}$ inch in length, each tack consisting of six stitches, including one fastening stitch.

*NOTE. Machines 114-25, 114-26, 114-28 and 114-29 are regularly fitted with Universal Button Clamp 124740 for sewing on flat buttons from 10 to 50 lignes in diameter (there are 40 lignes to an inch). Other button clamps for special styles of flat buttons can be furnished in place of the regular button clamp, when so ordered.

To Set Up the Machine

Machines of Class 114- are set so that their face plate is nearest the operator, as shown below.

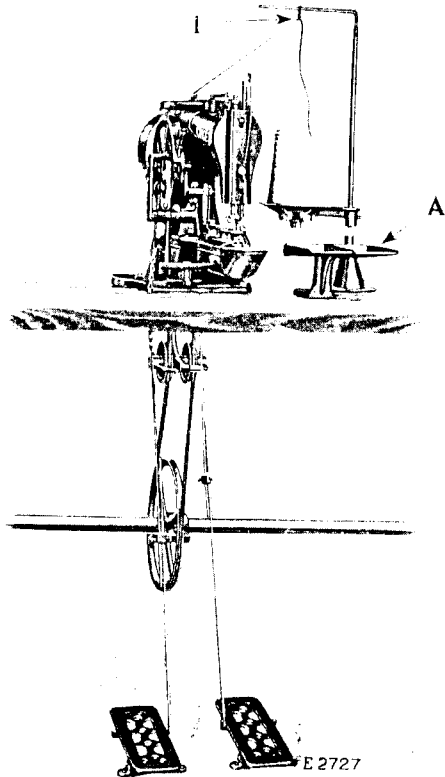


FIG. 2. MACHINE OF CLASS 114- SET UP ON POWER TABLE

A hinged base plate is furnished with each machine. Fasten this plate to the top of the table with the hinged portion of the plate flush with the back edge of the front table board.

The machine should then be firmly fastened to the hinged base plate by means of four screws.

A belt hole should be bored in the table directly below the machine driving pulley, and the belt guide (A, Fig. 3, page 5) fastened to the underside of the table, as shown in Fig. 3. The machine belt should then be passed around the driving pulley of the machine, around the two belt guide pulleys and around the large pulley on the driving shaft below.

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

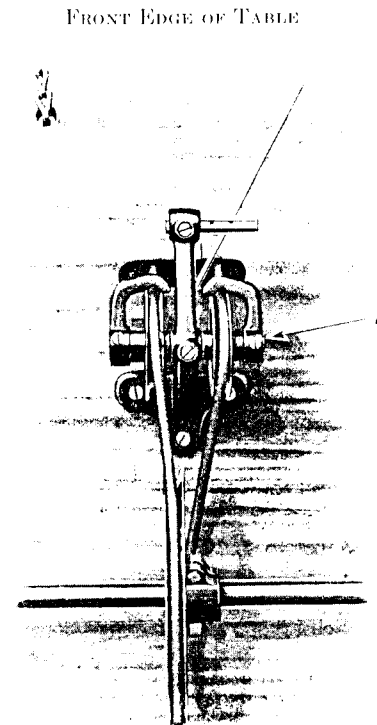


FIG. 3. UNDERSIDE OF POWER TABLE SHOWING BELT GUIDE

The treadles should be fastened to the floor as shown in Fig. 2, page 4, and the pitmans connected to the inside edge of each treadle.

A hole should be bored in the table for the chain to connect the left treadle with the lever (F, Fig. 5, page 7) for operating the clamp.

The pitman connecting the right treadle with the starting lever (B, Fig. 4, page 6) should be passed through the belt hole in the table as shown in Fig. 3, above.

The button tray (A, Fig. 2) should be fastened to the top of the table in the position most convenient for the operator.

Speed

The maximum speed recommended for Machines of Class 114- is 1500 stitches per minute. When the machine is in operation, the driving pulley on the machine should always turn over toward the right, as indicated by the arrow in Fig. 4.

To Oil the Machine

To ensure easy running and prevent unnecessary wear of the machine, the parts which are in movable contact should be regularly oiled at the places shown by arrows in Figs. 4, 5, 6 and 7.

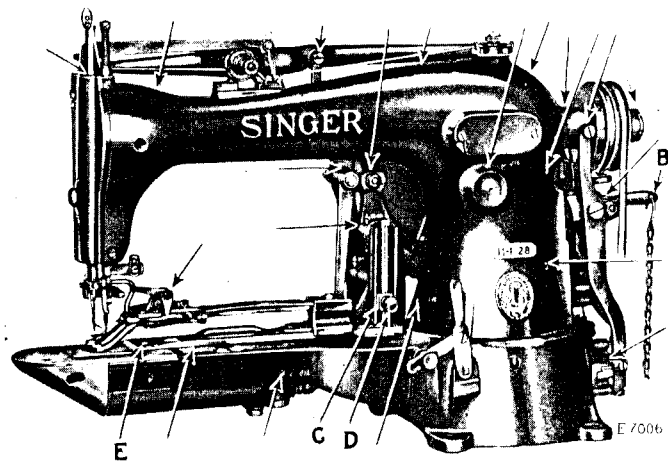


FIG. 4. OILING POINTS AT THE RIGHT OF THE MACHINE
ALSO ADJUSTMENTS ON THE MACHINE

- B. Lever for Starting the Machine.
- C. Sliding Block for Regulating Throw of Clamp Lengthwise the Machine.
- D. Thumb Screw for Holding Sliding Block (C) in Position.
- E. Nut for Holding Feed Plate in Position.

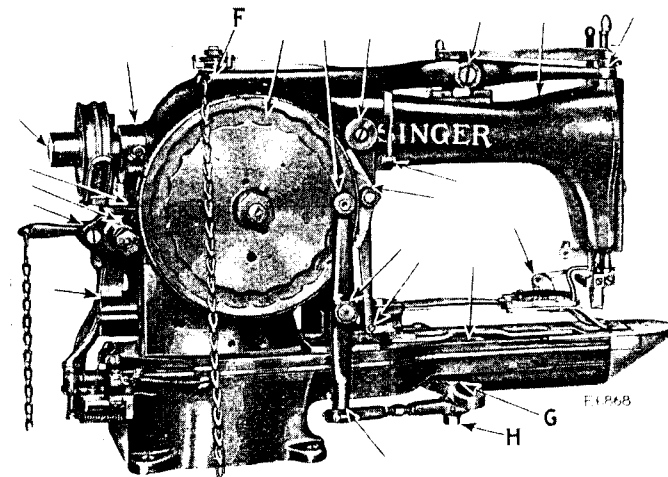


FIG. 5. OILING POINTS AT THE LEFT OF THE MACHINE
ALSO ADJUSTMENTS ON THE MACHINE

- F. Lever for Raising the Clamp.
- G. Stud for Regulating Throw of Clamp Across the Machine.
- H. Hexagon Nut for Holding Stud (G) in Position.

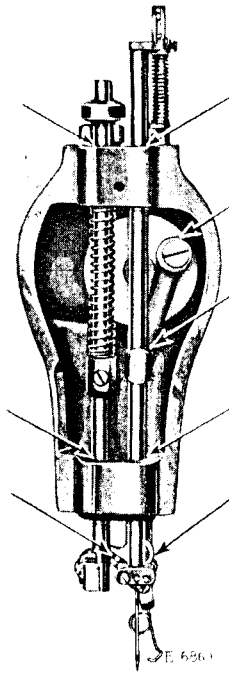


FIG. 6. OILING POINTS AT END OF MACHINE

Take out the screw at the upper end of the face plate, remove the face plate and oil the places shown in Fig. 6.

To reach the parts underneath the bed of the machine, take out the two front screws in the machine base. Then turn the machine

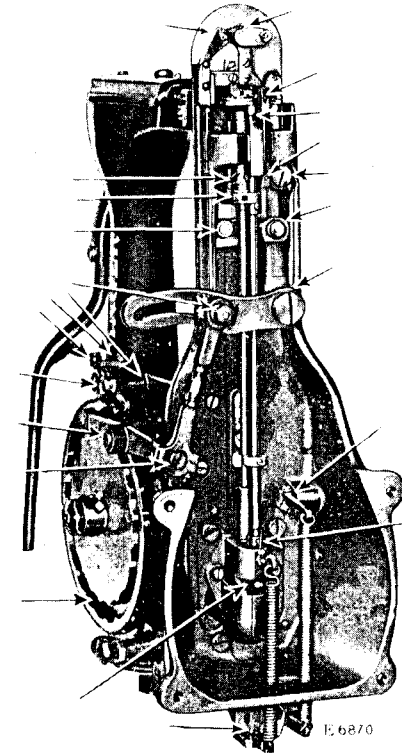


FIG. 7. OILING POINTS IN THE BED OF THE MACHINE

back on its hinges and pull out the cover on the underside of the cylinder. The places to be oiled are indicated by arrows in Fig. 7.

To Adjust the Button Clamp for Different Sizes of Buttons

To adjust the button clamp (P, Fig. 9) for the size of button to be sewn on, loosen the screw (K, Fig. 9) and raise the button

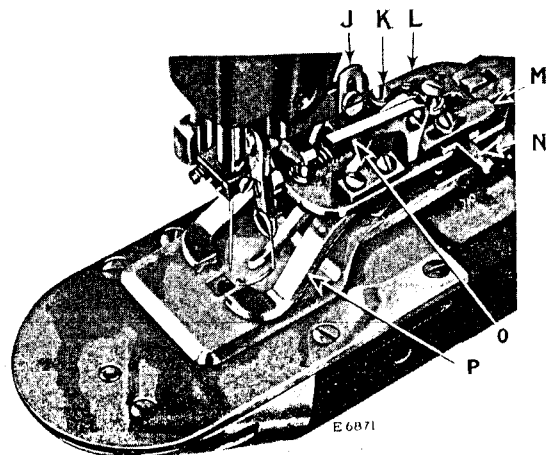


FIG. 9. ADJUSTMENTS ON BUTTON CLAMP

clamp. Then open the clamp by means of the lever (N, Fig. 9) and insert the button in the clamp, pushing it back as far as it will go. When the button is correctly placed in the clamp, release the lever (N) and move the stop plate (L, Fig. 9) back until it rests against the button clamp spreader lever (N), then securely tighten the screw (K) to retain the adjustment.

The button clamp opening lever pieces (J and M, Fig. 9) should be adjusted so that they come into contact with the button clamp opening lever (O, Fig. 9) to open the button clamp when the button clamp is raised.

To Change the Feed Plate

Machines 114-25, 114-26, 114-28 and 114-29 are equipped with feed plate 124747 for two hole and bar buttons and feed plate 62297 for four hole buttons.

Machine 114-30 is equipped with three feed plates as follows:

- Feed Plate 124875, $\frac{9}{32}$ inch hole, for small size buttons.
- Feed Plate 124867, $\frac{5}{16}$ inch hole, for medium size buttons.
- Feed Plate 124837, $\frac{3}{8}$ inch hole, for large size buttons.

Care must be taken to select the correct feed plate for the size of button to be sewn on. If the hole in the feed plate used

is too large for the button being sewn on, the material is liable to be pushed into the hole by the button or the needle, causing the machine to skip stitches.

To change the feed plate, remove the nut (E, Fig. 4, page 6), lift off the feed plate and put the desired feed plate in its place, being careful to have the four position pins enter the holes in the feed plate, then securely tighten the nut (E).

To Regulate the Throw of the Button Clamp Lengthwise the Machine

The throw or the amount of travel of the button clamp lengthwise the bed of the machine is regulated by means of the sliding block (C, Fig. 4, page 6) which is fastened into position by the thumb screw (D, Fig. 4) in the upright slot of the feed regulator. To increase the throw or movement of the button clamp lengthwise the bed of the machine, loosen the thumb screw (D) and move the sliding block (C) downwardly. To decrease the throw of the clamp, move the sliding block 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 enter the centre of the holes in the button. After the desired throw of the clamp has been obtained, tighten the thumb screw (D).

To Regulate the Throw of the Button Clamp Across the Machine

The throw or amount of travel of the button clamp across the bed of the machine is regulated by means of the movable stud (G, Fig. 5, page 7) which is fastened into position by the hexagon nut (H, Fig. 5) in the slot at the left and under the bed of the machine. To increase the throw of the clamp across the bed of the machine, loosen the hexagon nut (H) and move the stud (G) to the right in the slot. To decrease the throw of the clamp, move the stud to the left in the slot. Care should be taken to see that when the needle descends it will enter the centre of the holes in the button. When the desired throw of the clamp has been obtained, tighten the hexagon nut (H).

To Adjust the Machine for Sewing on Two Hole or Four Hole or Bar Buttons

To adjust the machine for sewing on two hole or bar buttons, loosen the thumb screw (D, Fig. 4, page 6) in the sliding block (C, Fig. 4) in the upright slot at the extreme rear of the clamp arm and move the sliding block up to the highest point in the slot, then tighten the thumb screw. The throw of the clamp across the bed of the machine can then be adjusted, as instructed on page 13, so as to bring the needle in the centre of each of the holes in the button.

To sew on four hole buttons, it will be necessary to adjust the throw of the clamp across the bed of the machine and lengthwise the bed of the machine according to the distance between the holes in the button being sewn on. See page 13.

To Regulate the Tension on the Thread

The tension should be as tight as possible without breaking the thread. To increase the tension on the thread, turn the thumb nut at the right of the tension discs (W2, Fig. 20, page 29) over from you. To decrease the tension on the thread, turn this thumb nut over toward you.

INSTRUCTIONS

FOR

ADJUSTERS AND MACHINISTS

Importance of Correctly Making the First Stitch

The successful stitching operation of Machines of Class 114 depends largely upon the making of the first stitch. If this stitch is skipped or pulls out after being made, the whole operation will be more or less of a failure and in most cases make it necessary to do the work over. This will also, in button sewing, often cause an end of thread or loose loop to show on the top side of the button. To avoid this trouble, it is therefore necessary to give careful attention to the timing of the looper with the needle and also to see that the thread nipper (lower) (A3, Fig. 13, page 20) on the under side of the throat plate functions properly.

It is also important to see that the button clamp holds the button and material down on the feed plate as firmly as possible so as to prevent the material rising with the needle. If the material moves up and down with the needle it will affect the formation of the needle loop, and if excessive, prevent the formation of the loop, causing skipped stitches.

This is particularly true when making the first and second stitches in button sewing. After one or more stitches are made, this is not so liable to happen as the button and material are fastened together by these stitches which prevent the material rising with the needle. Any condition of machine or material that will prevent the formation of the first stitch must be given the closest attention or the machine will not operate satisfactorily.

To Set the Needle Bar at the Correct Height

When the needle bar is at the lowest point of its stroke, the distance from the top of the arm casting to the top of the screw which fastens the thread take-up (F, Fig. 10) to the needle bar should be about $\frac{3}{32}$ inch, as shown at E in Fig. 10. The upper part of the thread take-up (F) is not included in this measurement.

In case it is necessary to raise or lower the needle bar, loosen the set screw which fastens the needle bar in position in the

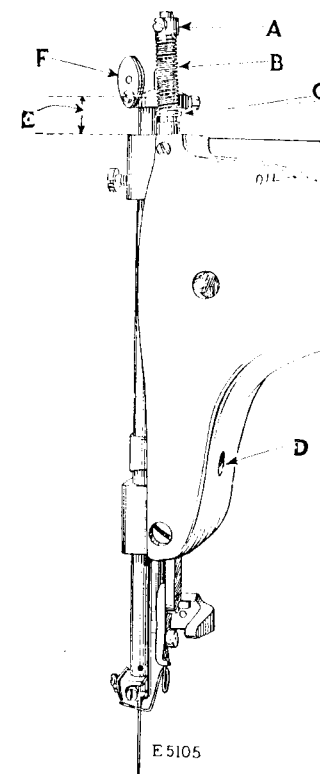


FIG. 10

needle bar connecting stud. (This set screw can be reached through the hole (D, Fig. 10) provided for the purpose in the arm). After loosening the set screw, move the needle bar up or down in the needle bar connecting stud until it is at the desired height, then securely tighten the set screw.

To Time the Loooper

See that the needle bar is set as instructed on page 17, then turn the machine driving pulley until the needle bar moves down to its lowest point. When the needle bar is in this position, the distance from the point of the looper to the centre of the needle should be $\frac{5}{32}$ inch. If this distance is not $\frac{5}{32}$ inch, loosen the two set screws in the looper shaft coupling (U, Fig. 12, page 19) and turn the shaft and looper until the looper is set at the required position as instructed above, then securely tighten the two set screws in the looper shaft coupling (U).

Now turn the machine driving pulley in the direction in which it rotates until the point of the looper reaches the centre of the

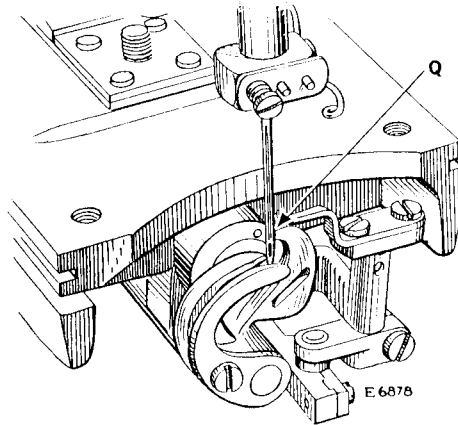


FIG. 11

needle. When the looper is in this position, the needle bar should have raised about $\frac{1}{8}$ inch and the top of the needle eye should be about $\frac{1}{32}$ inch below the point of the looper as shown at Q, in Fig. 11.

Thread the machine and place a button in the clamp and a piece of material under the clamp, then lower the clamp. By turning the machine driving pulley by hand and at the same time watching the formation of the loop and how the point of the looper enters it, you can readily determine whether the needle bar should be raised or lowered, or the looper timed earlier or later so as to get the loop where it is at its best.

For some threads, it may be necessary to set the needle bar and time the looper differently from that required by others, owing to the differences in finish, twist, elasticity, etc. This is also true of the different materials to be sewn.

To Adjust the Needle Guards

Before adjusting either of the needle guards in the machine, see that the needle is straight and that there is no work in the machine.

The purpose of the needle guard (X, Fig. 12) is to prevent the needle striking the point of the looper when deflected by imperfect

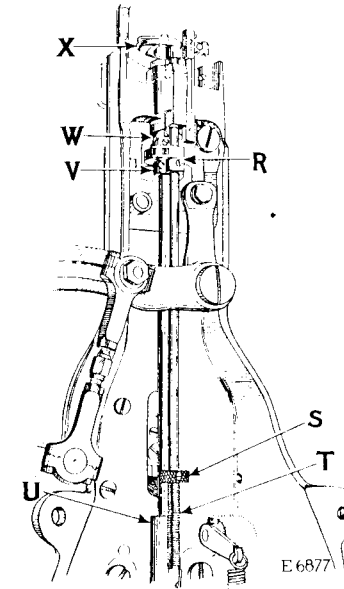


FIG. 12

buttons or other causes. The needle guard is operated by the small cam (V, Fig. 12) on the looper shaft and can be timed by loosening the two set screws in the cam (V) and turning the cam as required, after which the two set screws should be securely tightened. The needle guard should be timed so that when the point of the looper is even with the far side of the needle, in taking the needle loop, the guard should start to swing away from the looper.

The position of the needle guard in relation to the looper is controlled by the needle guard shaft crank (R, Fig. 12) and spring (T, Fig. 12) which holds the roller on the crank against the cam. The tension on this spring should be sufficient to hold the roller against the cam at all times, but not enough to make the machine run hard. The tension on this spring can be regulated by turning the knurled collar (S, Fig. 12) on the shaft.

The needle guard should be set so that when the needle is at its lowest point, the distance from the point of the needle guard

to the centre of the needle will be $\frac{1}{8}$ inch and the needle guard will just touch the rear side of the needle. The needle guard can be set to this position by moving it on or off its shaft, as required.

The purpose of the stationary needle guard, which is screwed to the under side of the throat plate, as shown at Y, in Fig. 13, is to keep the needle from being sprung away from the looper. This needle guard should be adjusted so that it just touches the front side of the needle when the needle is at its lowest point.

Owing to the smallness of the needle loop made in Machines of Class 114-, it is necessary for the looper point to pass as close to the needle as possible without rubbing against it. The looper can be moved in or out, as required, after loosening the set screw which holds it in position. When the looper is correctly set, securely tighten the set screw.

To Adjust the Thread Controller

The thread controller (B, Fig. 10, page 17) is intended to relieve any undue strain on the thread which may be caused when setting the stitch or by variation in the thickness of buttons, material or other conditions. It also helps to prevent the end of the thread from being pulled out of the under thread nipper (A3, Fig. 13) too soon at the start of the sewing operation. The tension on the thread controller spring (B, Fig. 10) should only be sufficient to ensure the spring working in accordance with the speed at which the machine is driven. After the end of the thread has been caught by the thread nipper (A3, Fig. 10) and the looper has taken the second needle loop and starts to draw the thread, the tension on the thread controller spring (B) should allow the thread controller sleeve (C, Fig. 10) to be raised about $\frac{3}{16}$ inch by the strain on the thread before the thread begins to slip through the thread nipper (A3). The tension on the thread controller spring (B) is regulated by loosening the set screw in the collar (A, Fig. 10) and moving this collar up or down, as required, after which the set screw should be securely tightened.

To Adjust the Lower Automatic Thread Nipper

The function of the lower automatic thread nipper, located on the underside of the throat plate as shown at A3, in Fig. 13, is to

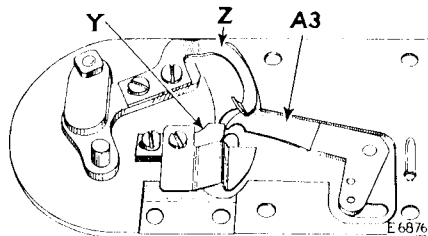


FIG. 13

catch the end of the thread after the looper has drawn it down through the goods and throat plate, on the first stroke of the needle at the beginning of each operation and to hold the thread hard enough to prevent its being drawn out of the goods by the needle on its second descent, or by the looper when taking the second loop.

The thread nipper should hold the end of the thread just hard enough to prevent its being drawn out of the goods and no more. If the pressure of the thread nipper is too great, it will cause the thread to break as soon as the looper begins to draw the thread after taking the second loop from the needle. After the looper has taken the second loop and the needle point is about out of the goods, the looper will require thread and at this point it should be able to draw thread from the nipper. The pressure of the nipper should, therefore, not be enough to prevent this from taking place. When the needle bar about reaches the highest point of its second stroke, the nipper should start moving back and release the end of the thread entirely.

The pressure of the thread nipper can be regulated by removing the throat plate and nipper and bending the nipper blade (A3, Fig. 13) until it holds the thread as required.

The timing of the operation of the thread nipper is controlled by the three nipper cams (B3, Fig. 14) fastened to the rim of the

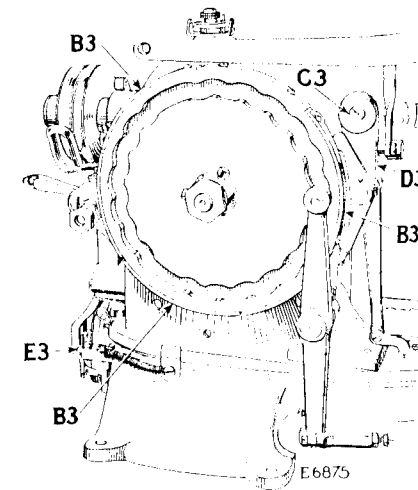


FIG. 14

feed cam by means of the two screws in each cam. After loosening these screws, the cams can be moved to make the nipper operate earlier or later, as desired. There are two of these cams on twenty-one stitch machines and three on fourteen stitch machines, operating alternately. It is, therefore, necessary in observing the effect of moving one of them to be sure which one was moved and when it comes into operation again, because on twenty-one stitch machines the same cam operates at every second group of stitches and on fourteen stitch machines at every third group.

The thread nipper (lower) shaft bracket (D3, Fig. 14) is adjustably connected to the arm of the machine and can be moved, after loosening the screw (C3, Fig. 14) to take up any excess motion between the thread nipper lever and the cam. When setting this bracket, care must be taken to see that it is not set so as to cause binding, as the mechanism must work freely.

In machines equipped with a button clamp locking device, care must also be taken to see that the moving of the bracket (D3, Fig. 14) does not cause this device to bind or make end play in the shaft. If it does, loosen the two pinch screws (H2, Fig. 19, page 28) in the button clamp locking device latch (G2, Fig. 19) and adjust this latch, as required, then tighten the pinch screws (H2). The latch (G2) should be set so that when the button clamp is down on the goods, the stop cam interlocking rod case (K2, Fig. 19) can just pass it when the starting lever (J2, Fig. 19) is depressed.

To Adjust the Thread Pull-off

The thread pull-off (R2, Fig. 20, page 29) controls the amount of thread which is held in the automatic thread nipper located on the underside of the throat plate. It should be adjusted to pull off only as much thread as will be required to leave an end long enough for the nipper to hold. If the end of the thread held in the nipper is too long, loosen the screw and lower the thread pull-off (R2), thus pulling off less thread. If the end of the thread held in the nipper is too short, raise the thread pull-off, thus pulling off more thread. When the thread pull-off has been adjusted to the required position, securely tighten its set screw.

For some threads, it may be necessary to set the thread pull-off differently from that required by others, owing to the differences in finish, twist, elasticity, etc.

As the amount of thread drawn off by the thread pull-off (R2) is controlled by the treadle, it is obvious that the operator must always raise the button clamp to the highest point.

To Time the Upper Automatic Thread Nipper

The upper automatic thread nipper (C2, Fig. 15) should be timed so that it starts to open when the needle bar is about $\frac{3}{32}$ inch from its highest point on its upward stroke.

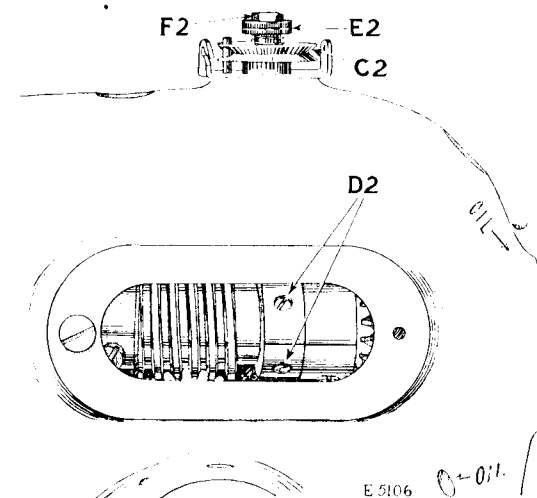


Fig. 15

To time the upper automatic thread nipper (C2), loosen the two set screws (D2, Fig. 15) in the cam on the arm shaft inside of the machine and turn the cam as required, after which securely tighten the two set screws (D2).

The upper automatic thread nipper discs (C2) should be adjusted to open only enough to permit the thread to be pulled through. To increase the amount of opening of the nipper discs, loosen the lock nut (F2, Fig. 15) and turn the thumb nut (E2, Fig. 15) around to the right or downwardly. To decrease the amount of opening, turn the thumb nut (E2) around to the left or upwardly. When the required amount of opening of the nipper discs is obtained, securely tighten the lock nut (F2).

Adjustment of Face Plate Thread Nipper

The tension spring in the face plate thread nipper (A2, Fig. 16) should only be strong enough to overcome the tension of the needle bar thread retainer (B2, Fig. 16) so as to keep the thread taut between the needle and the work.

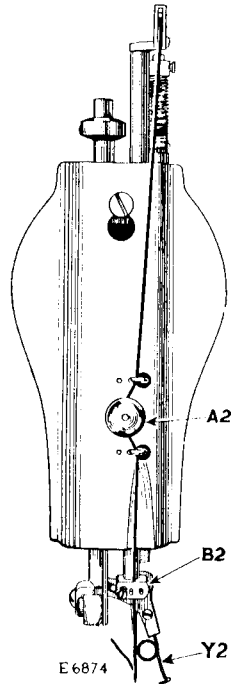


FIG. 16

Adjustment of Needle Bar Thread Retainer

The needle bar thread retainer (B2, Fig. 16) should be adjusted to produce a very light tension on the thread.

To Adjust the Thread Wiper Wire

The thread wiper wire (Y2, Fig. 16) should be set so that it stands at the right of the needle when the machine is sewing. There should be a clearance of $\frac{5}{16}$ inch between the needle and the eyelet of the thread wiper wire. When the clamp is raised, the thread wiper wire (Y2) should move to the left and draw the end of the thread out of the goods and return to its normal position when the clamp is lowered.

To Time and Adjust the Thread Loop Positioning Finger

The thread loop positioning finger (M2, Fig. 17) carries the needle thread loop to the rear and to the right of the needle so that the needle can pass the loop on the outside regardless of the direction of feed. The positioning of the loop in this manner ensures that the next loop formed will be entered by the looper and carried through the previous loop and that the loop cannot be twisted when the work is fed either toward or away from the operator.

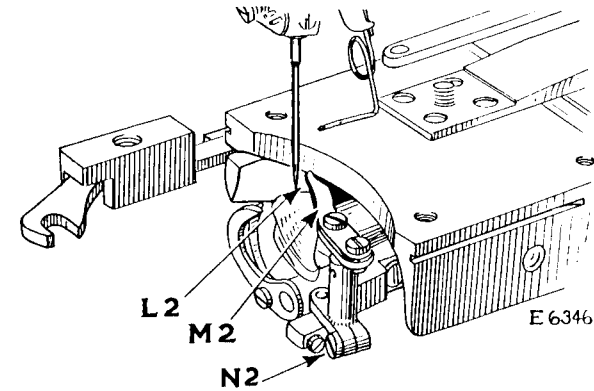


FIG. 17

The loop positioning finger (M2, Fig. 17) must be timed so that it starts its movement toward the rear of the machine when the needle commences its downward stroke. In case the loop positioning finger is not correctly timed, loosen the two set screws in the cam (W, Fig. 12, page 19) on the looper shaft and turn this cam over to the right or left, as may be required, until the correct timing is obtained, then securely tighten the two set screws in the cam.

The loop positioning finger should be set so that when the point of the needle has reached the level of the positioning finger on the downward stroke of the needle bar, there will be a clearance of $\frac{1}{16}$ inch between the point of the needle and the point of the positioning finger as shown at L2, in Fig. 17.

When the needle bar is at its lowest point, there should be a clearance of not less than $\frac{1}{32}$ inch between the needle and the point of the loop positioning finger as shown at O2, in Fig. 18.

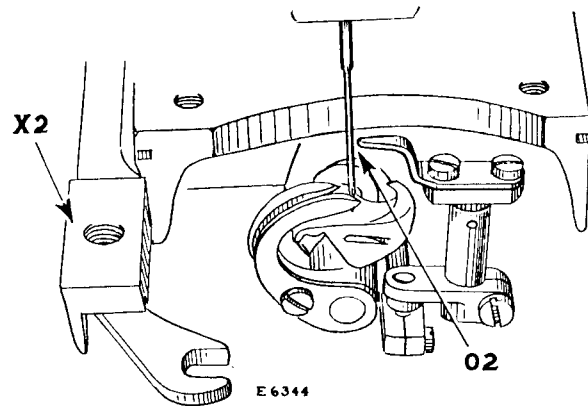


Fig. 18

If the loop positioning finger is not correctly set as instructed above, loosen the screw (N2, Fig. 17) and swing the positioning finger until it is set as required, then securely tighten the screw (N2).

To Adjust the Thread Breaker

The thread breaker (Z, Fig. 13, page 20) automatically breaks the thread close to the stitches on the underside of the fabric at the completion of the sewing on of the button.

This thread breaker differs from the thread cutter generally used in machines of this type in that it has no cutting edge. It is intended to break the thread instead of cutting it. **Therefore, never under any circumstances must the thread breaker be sharpened.** The edge which comes into contact with the thread should be kept sufficiently rounded and smooth to break the thread cleanly and close to the stitching.

If the thread breaker (Z, Fig. 13) fails to break the thread, the upper automatic thread nipper (C2, Fig. 15), located at the top of the machine, may be opening too far. See instructions on page 23 for adjustment of the upper automatic thread nipper.

Failure of the thread breaker (Z) to break the thread may also be caused by improper adjustment of the tension (W2, Fig. 20), face plate thread nipper (A2, Fig. 16), needle bar thread retainer (B2, Fig. 16) or the thread breaker (Z, Fig. 13) may not be timed early enough. See page 24 for adjustment of face plate thread nipper and needle bar thread retainer.

The tension (W2, Fig. 20) should be adjusted to produce sufficient tension on the thread to prevent the thread from being drawn through the tension discs when the thread breaker breaks the thread.

The thread breaker (Z, Fig. 13) can be timed earlier by loosening the two screws in the thread breaker retaining spring bracket (E3, Fig. 14, page 21) at the left of the machine and moving the thread breaker holder connection (X2, Fig. 18, page 26) toward you, after which securely tighten the two screws in the bracket (E3). Care must be taken not to advance the thread breaker connection (X2) so far as to cause the thread breaker to interfere with the loop of thread on the looper.

To Adjust the Thread Cutting Mechanism on Machine 114-31

The mechanism for cutting the thread is entirely automatic, the knife being actuated by the overthrow of the machine when it comes to a stop at the finish of the stitching operation.

There are only two points of adjustment in the thread cutting mechanism. One for setting the knife so that the cutting portion will enter the needle loop which is on the looper and cut the back strand of thread when the overthrow takes place. This adjustment is made by loosening the two set screws which fasten the knife in its holder and sliding the knife in or out of the holder, as may be required, after which the two set screws should be securely tightened.

The other adjustment is for positioning the knife when it is out of operation so that it will not interfere with the needle or the looper. This adjustment is made by loosening the two set screws which fasten the knife bar retaining spring bracket (E3, Fig. 14, page 21), knife bar and the knife bar connection together at the back of the machine on the left side at the base of the arm, and moving the knife to the desired position, after which the two set screws should be securely tightened. The only other attention the thread cutting mechanism may require is to keep the knife sharp and to replace worn parts.

To Adjust the Clamp Locking Device

The clamp locking device prevents any possibility of the clamp being raised before the machine is automatically stopped by the stop cam.

This device is correctly set when the machines leave the factory, but if for any reason it may be necessary to readjust it, the correct setting can be determined as follows:

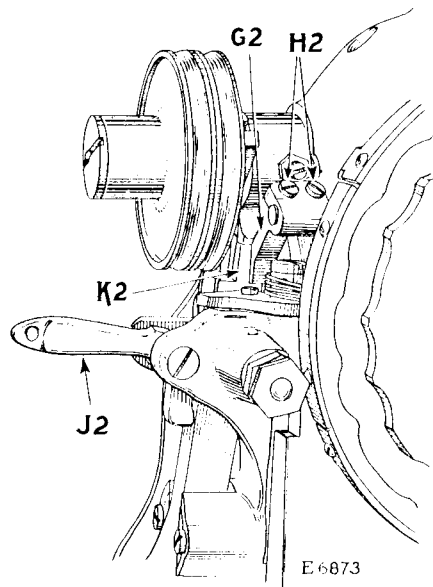


Fig. 19

The clamp locking device latch (G2, Fig. 19) should be set so that when the clamp is lowered on the goods, the stop cam interlocking rod case (K2, Fig. 19) can just pass the latch when the starting lever (J2, Fig. 19) is pressed down. In case the latch is not correctly set, loosen the two pinch screws (H2, Fig. 19) and adjust the latch to the required position, then securely tighten the two pinch screws (H2).

To Adjust the Machine Driving Pulley Brake

Owing to the increased speed of these machines, they are fitted with a brake as shown at S2 in Fig. 20. This brake is automatically

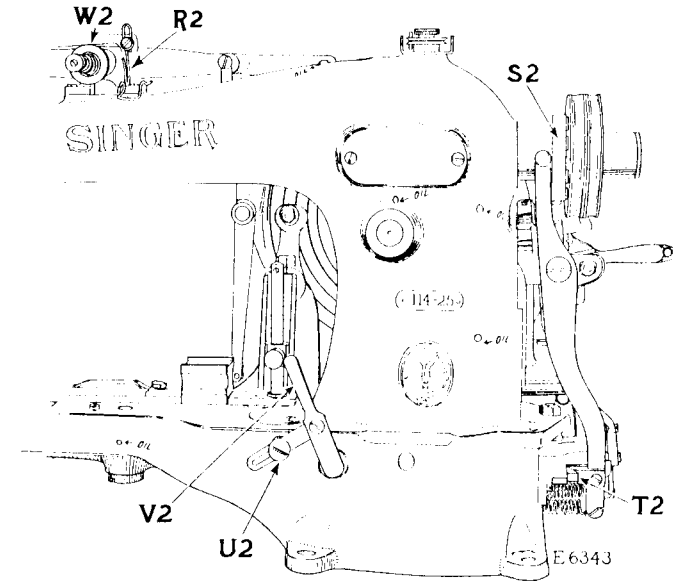


Fig. 20

pressed against the side of the driving pulley at the beginning of its last revolution, thereby relieving the strain on the stop motion mechanism when the stop cam interlocking rod drops into the notch in the stop cam on the driving pulley to stop the machine.

When the machines are being driven at their maximum speed of 1500 stitches per minute, more pressure on the driving pulley brake (S2) will be required than when the machines are operated at slower speeds. There should only be enough pressure on the brake to permit the stop cam interlocking rod to enter the notch in the stop cam and to allow sufficient overthrow of the driving pulley to release the brake. To increase the pressure on the brake, loosen the thumb screw (U2, Fig. 20) and push back the lever (V2, Fig. 20) at the right side of the bed until the required pressure is obtained. To decrease the pressure, pull the lever (V2) forward. When the required pressure on the brake is obtained, securely tighten the thumb screw (U2).

In case the brake is set up too tightly against the driving pulley, loosen the screw which holds the block (T2, Fig. 20) in position and move this block downwardly. To set the brake closer to the driving pulley, move the block upwardly. When the brake is correctly set, securely tighten the screw which holds the block (T2) in position.

Hints

1. If the machine breaks thread, it may be caused by incorrect timing of the thread loop positioning finger (M2, Fig. 17, page 25). **It is very important that this thread loop positioning finger be accurately timed as instructed on page 25, or the machine will not sew satisfactorily.**

2. If the machine leaves too long an end of thread at the finish of the sewing, it may be due to the lower thread nipper (A3, Fig. 13, page 20) holding the first end of the thread too tightly when the looper is taking the second loop. This thread nipper should be adjusted so that its pressure on the thread is sufficient to prevent the end of the thread from being drawn out of the goods, yet light enough to permit the looper to draw the thread from the nipper instead of through the tension discs (W2, Fig. 20, page 29) when the looper is taking the second loop. The end of the thread held by the nipper should not exceed $\frac{1}{4}$ inch in length.

3. When sewing large buttons on heavy materials, it may be necessary to slightly raise the thread pull-off wire (R2, Fig. 20) so as to pull off more thread. Further instructions covering the adjustment of the thread pull-off wire (R2) are given on page 22.

Instructions for Installing Lever 124901 for Controlling the Driving Pulley Brake of Machines of Class 114-

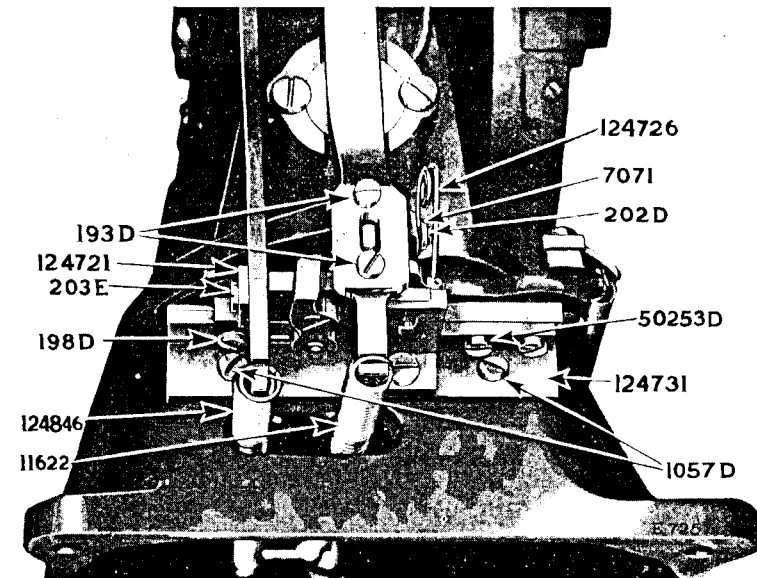


FIG. 21

Release Interlocking Rod Spring 11622 and Brake Spring 124846.

Take out Screw 202D and Brake Latch Spring Washer 7071, and remove Brake Latch Spring 124726.

Take out Screw 198D and Screw 50253D.

Take out two Screws 1057D and remove Brake Releaser Slide Bracket 124731 complete.

Take out Screw 203E and remove Brake Arm Extension 124721.

Take out the two Screws 193D.

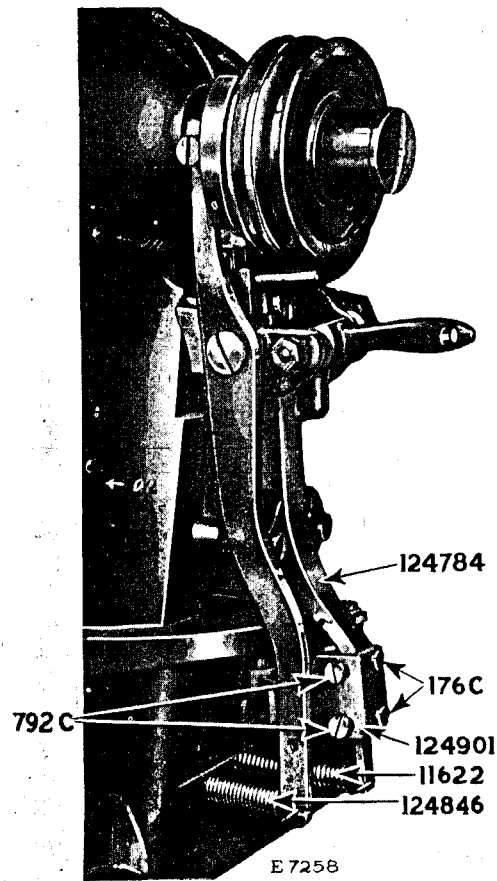


FIG. 22

Apply the Brake Lever 124901 to Interlocking Rod 124784, using the two Screws 176C sent with the Lever.

Re-attach Rod Case Spring 11622 and Brake Spring 124846 and the machine is ready for operation.

The brake should have about .015 inch clearance from the side of the Driving Pulley. The amount of clearance is obtained by loosening the two Screws 792C and adjusting the Bracket Finger, after which the two Screws are firmly tightened.