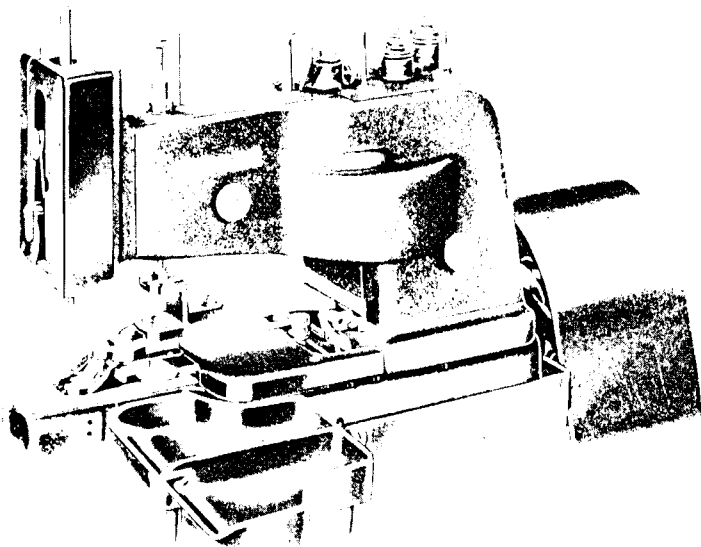


**SINGER**  
**176-62 AND 175-63**

SERVICE MANUAL  
FOR  
**SINGER\***  
SEWING MACHINES  
**175-62 AND 175-63**  
SINGLE THREAD CHAIN STITCH



Special attention is called to the lubricating instructions on pages 9 to 12

---

THE SINGER MANUFACTURING COMPANY

## DESCRIPTION

**Machine 175-62** makes the single thread chain stitch, and sews on buttons with fifteen stitches including a cross-over stitch and a knotting stitch. It can be adjusted for buttons with holes  $7/64$  inch to  $7/32$  inch apart from center to center.

It is equipped with a vibrating needle bar, and is regularly equipped with a clamp for sewing two-hole and four-hole flat buttons, from 20 to 45 ligne, close to the material, with through and through stitching, and can also be equipped to sew flat buttons in sizes from 10 to 120 ligne.

It makes two parallel bars of stitches across the machine bed and one right-angle cross-over stitch in four-hole buttons. The button clamp moves up the machine bed only when making the cross-over stitch.

It makes the Dubbilstay stitch in two-hole buttons, spreading the stitches in the material for maximum strength.

It can be equipped for sewing self-shank buttons, metal eyelet shank buttons, leather shank buttons and imitation leather shank buttons **in sizes up to 45 ligne.**

This machine can be equipped for blind-stitching flat buttons close to, or away from, the material; also for blind-stitching self-shank buttons and metal eyelet shank buttons.

All of these buttons, except buttons which are blind stitched, can be attached with or without stay buttons.

The needle bar stroke is  $1-7/8$  inch. When sewing flat buttons, the thickness of button and material, together, should not exceed  $5/8$  inch.

The thread is broken at the end of an operation by raising the button clamp.

**Machine 175-63** is the same as Machine 175-62 with the following exceptions:

The needle bar stroke is  $1-5/8$  inch. When sewing flat buttons, the thickness of button and material, together, should not exceed  $7/16$  inch.

It attaches self-shank buttons, metal eyelet shank buttons, leather shank buttons and imitation leather shank buttons **up to 28 ligne.**

It is not recommended for blind-stitching flat buttons, or for sewing stay buttons.

It can be equipped for blind-stitching self-shank buttons and metal eyelet shank buttons and for sewing snap fasteners.

**NOTE: All operations and adjustments, covered by this manual, are identical for both machines except as otherwise stated.**

See INDEX at the back of book

### PROCEDURE FOR ORDERING

Orders for **Machines 175-62 and 175-63** must specify the sizes and types of buttons to be sewn. Whenever possible, orders should be accompanied by samples of the buttons to be sewn.

When machine is ordered for sewing snap fasteners, snap holders for the three regular sizes of snap fasteners—0, 00 and 000 are furnished. Samples **must accompany orders** when special sizes and styles of snap fasteners are to be sewn. (See **page 31** describing two different types of snap fastener clamps.)

When ordering machine for sewing self-shank buttons, **samples must accompany the order.**

See detailed information, on **pages 32 to 34** inclusive, regarding types and sizes of buttons sewn on each machine.

### SPEED

**Do not operate these machines at speeds in excess of 1000 stitches per minute.**

The machine pulley must turn **over toward the right side** of the machine, when in operation.

### TO SET UP THE MACHINE

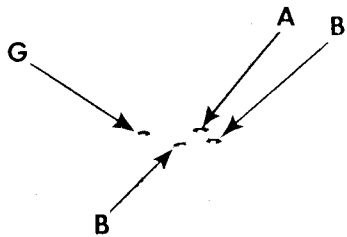


Fig. 2. Machine installed on SINGER universal Low Shaft Power Table

These machines are set up with the face plate toward the operator, as shown in **Fig. 2**. Each machine is furnished with a removable base. This base must be properly attached to the table before the sewing machine is placed upon it.

In the installation shown by **Figs. 2 and 3**, the two belt holes **B** are bored in the table to center 14-1/2 inches from the front edge of the table top. These belt holes should be spaced 2-1/2 inches center to center, and the diameter of the belt holes **B** may be from 5/8 to 1 inch.

Place the machine base on the table so that when the sewing machine is placed upon the machine base, the machine driving pulley **L**, **Fig. 3** will be directly above the two belt holes **B**, **Fig. 3**.

The treadle chain for the button clamp lifting rod **S**, **Fig. 3** (the left hand chain) passes through the elongated hole in the left hand side of the machine base; while the right hand treadle chain (for the starting lever which is inside the machine base) passes through

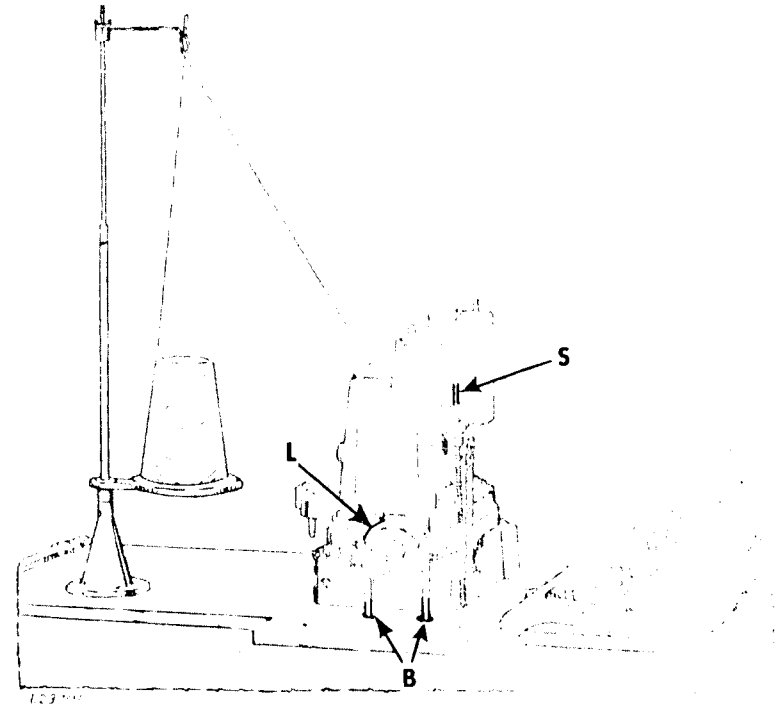


Fig. 3. Rear View of Machine—Installed  
(Belt and Pulley Guard Turned Aside)

the round hole in the right hand side of the machine base. Therefore, with the machine base placed in proper relation to the belt holes **B**, **Figs. 2 and 3**, as instructed above and on the preceding page, the holes **G** and **A**, **Fig. 2** should be bored in the table for the two treadle chains. The right hand treadle chain hole **A**, **Fig. 2** should be bored in the front plank so that it is directly beneath the corresponding

hole in the machine base, while the left hand treadle chain hole **G**, **Fig. 2** should be bored in the table so that it is directly beneath the rod **S**, **Fig. 5** which is attached to the button clamp lifting lever **T** **Fig. 5**, thus bringing the hole at the left hand end of the elongated hole in the machine base.

The sewing machine is placed in the machine base with the cast iron hub **M**, **Fig. 4** in the rear trunnion **N**, **Fig. 4** of the machine base, while the stud **Q**, **Fig. 4** is placed in the trunnion **P**, **Fig. 4** at

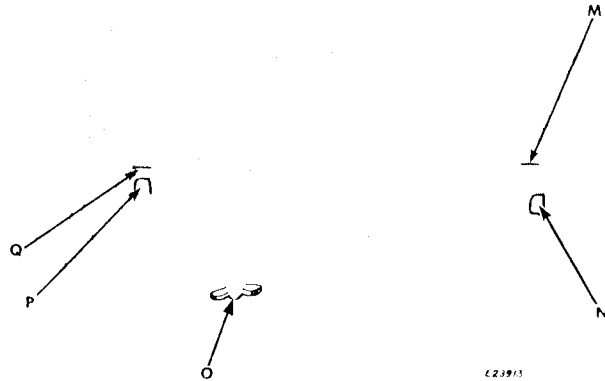


Fig. 4. Bottom View of Machine

the front end of the machine base, as shown in **Fig. 4**. When the machine is properly placed on the trunnions of the machine base, it can be laid over to the left, as shown in **Fig. 4**, for oiling or adjustment.

Always have the wing nut **O**, **Fig. 4** tight when the machine is in operation.

The front plank extension (rear) **K**, **Fig. 5** is fastened to the rear plank but with its front edge against the rear edge of the front plank and in such position, with relation to the machine driving pulley **L**, **Fig. 5**, that, when the belt and pulley guard **H**, **Fig. 5** is turned down to cover the pulley **L**, the rear bottom edge of the belt and pulley guard **H** will rest, throughout its entire length, upon this front plank extension **K**.

The bracket for the belt and pulley guard **H** should be attached to the table in such a position that when this guard is turned down it will fully cover the machine driving pulley **L**, and that portion of the belting which is above the top of the table and, at the same time, so that no part of the pulley **L** or the belting will come in contact with the guard **H**.

Fasten the bracket, with the two idler pulleys **C**, **Fig. 6**, in such position that the two belt guides **E**, **Fig. 6** are directly beneath the two belt holes **B**, **Figs. 5** and **6** in the front plank.

The machine belt should then be passed around the machine driving pulley **L**, **Fig. 5** through the belt holes **B**, **Figs. 5** and **6**, through the belt guides **E**, **Fig. 6** under the two idler pulleys **C**, **Fig. 6**

and around the large pulley **D**, **Fig. 6** on the drive shaft below.

Bear in mind that the direction of rotation of the machine driving pulley **L**, **Fig. 5** is from right to left, when facing the rear of the machine. This direction is indicated by the arrow, shown in **Fig. 5** on the pulley **L**. Note that this arrow appears only in the illustration and not on the actual pulley.

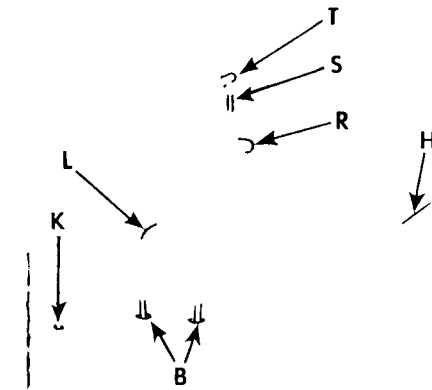


Fig. 5. Rear View of Machine

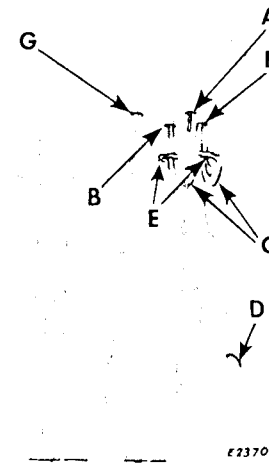


Fig. 6. Front View of Machine on Power Table

Fasten the two treadles in position on the floor as shown in **Fig. 6**. Pass the chain from the right hand treadle up through the right hand hole **A**, **Fig. 6** and fasten it to the machine starting lever in the machine base. Pass the chain from the left hand treadle up through the left hand chain hole **G**, **Fig. 6** and fasten it to the clamp **R**, **Fig. 5** on the lifting rod **S**, **Fig. 5** all as shown in **Fig. 5**. As will be seen in **Fig. 6**, the length of each chain is easily regulated, at its lower end, for proper installation.

## NOTICE TO OPERATOR

**NEVER REST FOOT ON STARTING TREADLE.** As soon as machine is "tripped" this treadle must be completely released in order to operate efficiently. Failure to observe this caution may result in severe damage to machine.

When these machines are installed on SINGER Universal Safety Power Tables, Transmitter control device **126890** should be bolted to the underside of the front plank. This device is provided with a cam action, and when the handle is moved in one direction, the starting lever of the transmitter is depressed, thus holding the transmitter clutch in engagement until the handle is turned in the reverse direction to release the clutch.

The belt holes in this table should be spaced three inches center to center.

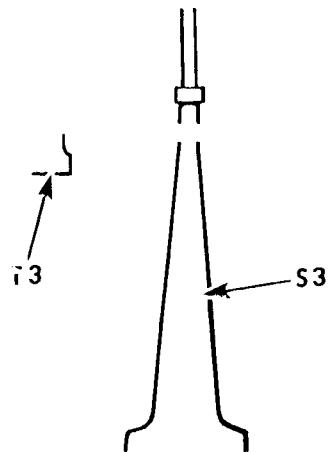


Fig. 7. Underside of Universal Power Table

Fasten the belt guide **126870** shown at **S3**, Fig. 7 to the cross member of the leg section, and fasten the idler **126885**, shown at **T3**, Fig. 7 to the underside of side of the center board as shown in Fig. 7.

**NOTE:** Idler **T3** must be positioned directly beneath the machine to insure that the travel of the belt from the machine driving pulley **L**, Fig. 5 to the pulleys of idler **T3** will be approximately perpendicular, as shown in Fig. 7.

## TO OIL THE MACHINES

To insure easy running and prevent unnecessary wear of the parts which are in movable contact, the machines should be oiled daily with "TYPE B" or "TYPE D" OIL, sold by Singer Sewing Machine Company. For description of these oils, see inside front cover of this book.

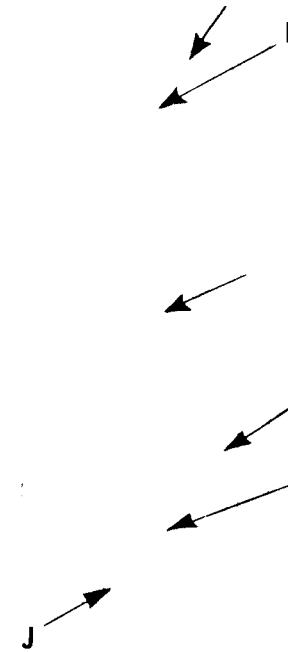


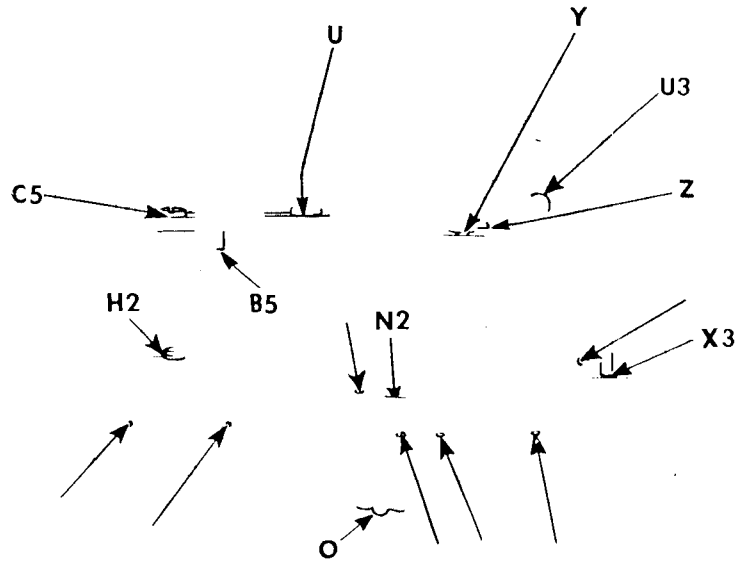
Fig. 8. Oiling Points in Machine Head

Remove the two face plate screws and remove the face plate.

Apply a drop or two of oil to the oil holes indicated, in Fig. 8, by the unlettered arrows; also at **F** to the upper needle bar bushing, and at **J** to the lower needle bar bushing as indicated in Fig. 8.

Remove the two knurled thumb nuts which retain the arm side cover, and remove the arm side cover.

Apply a drop or two of oil to the oil holes indicated by the unlettered arrows in **Fig. 9**; also to the other oiling points, in **Fig. 9**, as instructed below.



**Fig. 9. Right Side of Machine, Arm Side Cover Removed To Show Oiling Points**

**U.** Where the stud and adjusting bracket come in contact with the needle bar vibrating lever.

**Y.** Where the needle bar vibrating lever arm roller travels in the cam.

**U3.** To the thread nipper releasing lever hinge screw.

**Z.** To the upper end of the cam shaft.

**X3.** To the lower end of the tension release rod sleeve.

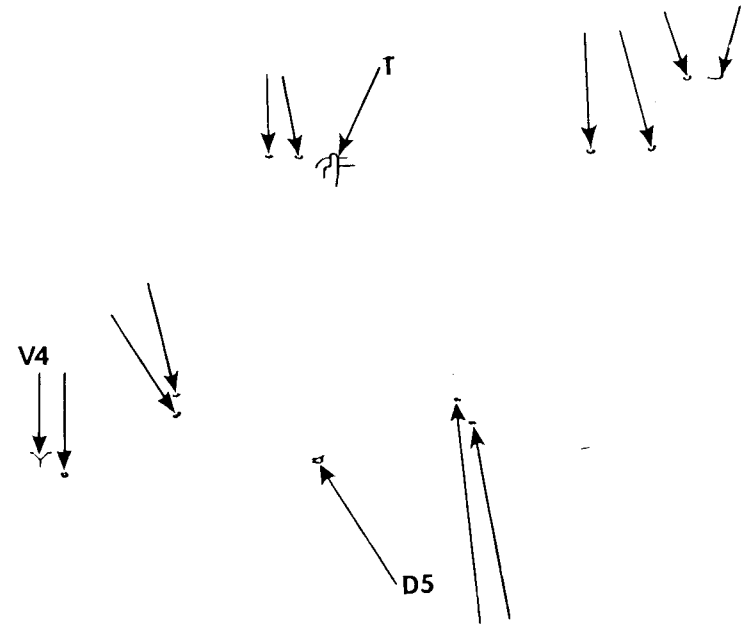
**N2.** Where the base of the regulating nut moves in the slot of the button clamp carrier.

**H2.** Where the head of the button stop screw is in contact with the button stop base.

**B5.** Where the button clamp presser bar passes through the arm casting.

**C5.** Where the head of the needle bar vibrating lever hinge screw is in contact with the vibrating lever.

Apply a drop or two of oil to the oil holes at the left side and rear of the machine, as indicated by the unlettered arrows in **Fig. 10**; also to the other oiling points in **Fig. 10**, as instructed below.



**Fig. 10. Left Side of Machine, Showing Oiling Points**

**T.** Where the upper end of the button clamp lifting rod is attached to the lifting rod arm.

**D5.** To the lower end of the button clamp lifting rod.

**V4.** In the groove of the small pulley which is engaged by the pulley shifter.

To reach the oiling points in the machine bed (not reached through oil holes at the top of the machine bed) loosen the wing nut **O**, **Fig. 9** and lay the machine back, to the left, as shown in **Fig. 11**.

Apply a drop or two of oil to the oiling points indicated by arrows in **Fig. 11**, as instructed on next page.

**R3.** Where the needle guard crank comes in contact with the needle guard cam.

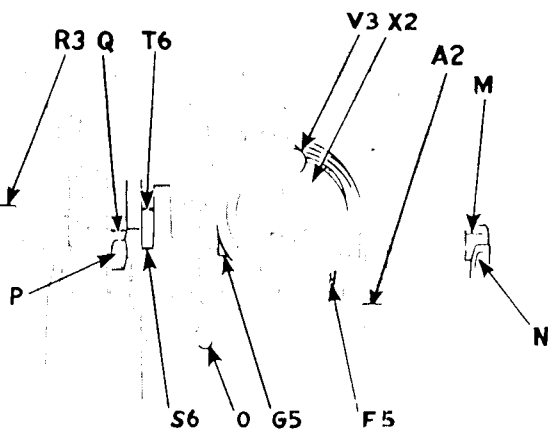


Fig. 11. Bottom View of Machine Showing Oiling Points

**S6 and T6.** At each end of the looper driving shaft crank connecting link. (Use plenty of oil at these points.)

**V3.** Where the feed plate carrier driving arm roller travels in the feed cam **X2**. (See Fig. 12.)

**E5.** To the feed cam driving worm and gear located at the upper side of the feed cam **X2** as shown in Fig. 12.

**A2.** To the hinge of the machine starting lever inside the machine base.

**M.** Where the rear hub turns in the trunnion **N** when the machine is turned back as shown in Fig. 11.

**F5.** To the needle bar eccentric pawl in its bracket.

**G5.** To the looper driving shaft gear and the pulley shaft gear.

**Q.** Where the front hub turns in the trunnion **P** when the machine is turned back as shown in Fig. 11.

When the oiling is completed, turn the machine down onto its base and firmly tighten the wing nut **O**.

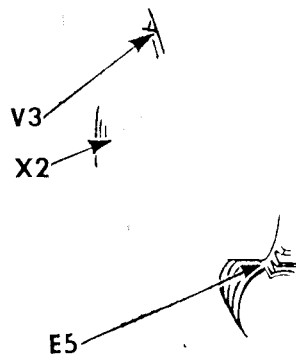


Fig. 12. Feed Cam

## NEEDLES

Needles for these machines are as follows:

**Machine 175-62:** Class and Variety 175 x 7; Sizes 16, 18, 20 and 22.

**Machine 175-63:** Class and Variety 175 x 3; Sizes 14, 16, 18 and 20.

The size of the needle is determined by the size of the thread which must pass freely through the needle eye. Rough or uneven thread, or thread which passes with difficulty through the needle eye will interfere with the successful use of the machine.

Orders must specify the **QUANTITY** required, the **SIZE** number, also the **CLASS** and **VARIETY** numbers separated by the letter **x**.

The following is an example of an intelligible order:

"100 No. 16, 175 x 7 needles" or "100 No. 14, 175 x 3 needles."

## TO SET THE NEEDLE

Insert the needle up into the needle bar, as far as it will go, with the long groove of the needle in front, facing the operator, then securely tighten the needle set screw.

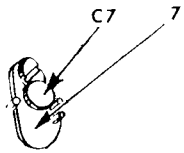


Fig. 13. Thread Nipper

### TO RELEASE THE THREAD NIPPER FOR THREADING

In order to draw the thread forward while threading the machine, as instructed below, it is necessary to depress the thread nipper releasing screw **C7**, **Fig. 13** thus releasing the thread from the grip of the thread nipper **7**, **Figs. 13** and **14**.

### TO THREAD THE MACHINES

See **Figs. 14, 15** and **16**

See instructions, above, to release thread from thread nipper.

Lead the thread from the thread unwinder and, from right to left, through guide **1**, then from right to left through guide **2**, around the left hand side of,

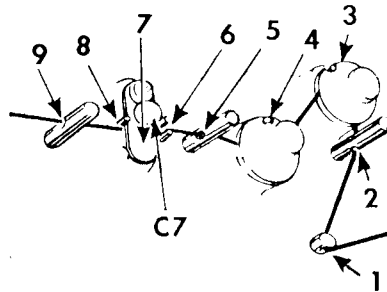


Fig. 14. Showing Threading at Top of Machine Arm

and between, the tension discs of the automatic tension **3**, forward to the right hand side of, and between, the tension discs **4**, forward through guide **5**, then forward between guide posts **6**, under thread nipper **7**, to the right of guide post **8**, forward and through guide **9**, forward through guide **10**, at top of face plate, down and from left to right through roller guide **12** at



Fig. 15. Showing Threading at Head of Arm

lower end of face plate, up and from left to right through thread take-up **13**, down through face plate thread retainer **14** at bottom of face plate, and down and from front to back through eye **15** of the needle. See instructions at top of **page 16** for adjusting face plate thread retainer.

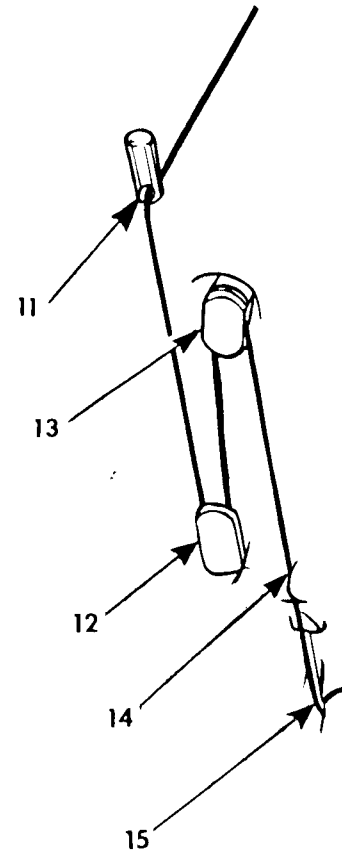


Fig. 16. Threading at Face Plate

### TO REGULATE THE THREAD TENSION

To increase thread tension, turn thumb nut **J6**, Fig. 17 downward. To decrease tension turn thumb nut **J6** upward. Face plate thread retainer **14**, Fig. 16 is adjustable. Loosen screw **D7**, Fig. 17 and move retainer **14**, Fig. 16 to left for more tension; or to right for less tension. Then tighten screw **D7**. Automatic tension **K6**, Fig. 17 requires no change in adjustment other than to make sure that the thumb nut **K6** is turned down sufficiently to insure that the thread is held tightly.

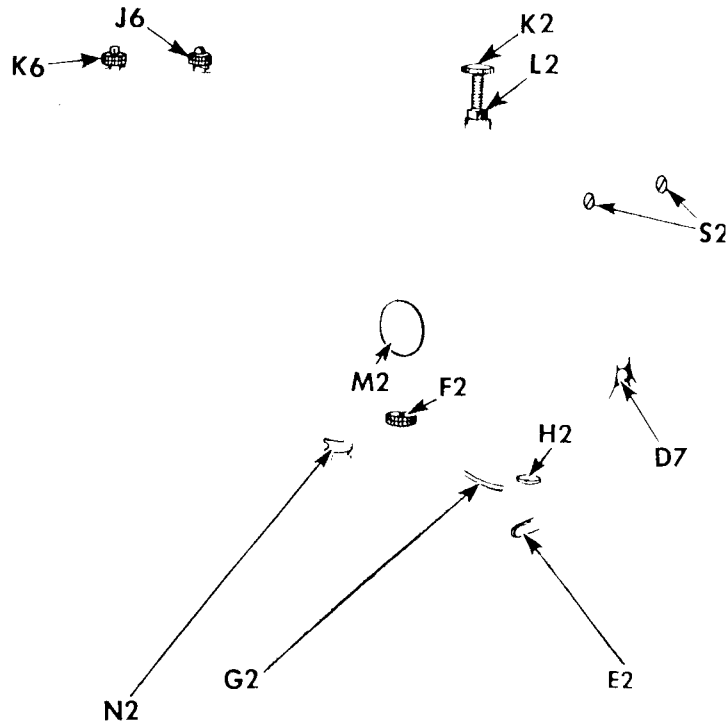


Fig. 17. Regulating Thread Tensions and Pressure on the Button Clamp

### TO ADJUST THE PRESSURE ON THE BUTTON CLAMP

Loosen the nut **L2**, Fig. 17 and turn the screw **K2** downward to increase the pressure; or upward to decrease the pressure on the button clamp. When proper adjustment has been obtained, securely tighten the nut **L2**.

### TO SEVER THE THREAD

By means of the foot treadle, raise the clamp all the way up before withdrawing the work, in order to sever the thread.

### CAUSES OF THREAD BREAKAGE

The machine may be improperly threaded. Needle point may be damaged. Loper may be rough, or looper point broken. Tension may be too tight. Thread finger may be damaged or rough. The needle guide may need adjustment or needle guide spring may be broken. Needle may be incorrectly inserted in needle bar.

### CAUSES OF NEEDLE BREAKAGE

The clamp may have been raised before machine stopped. The clamp may be out of adjustment, with result that needle does not center in holes in button. Needle bar vibration not coinciding with distance between holes in button. Needle guide out of adjustment. Loper out of time or adjustment. Needle point damaged. Needle bar or feed plate operating cam out of time.

### TO ADJUST THE BUTTON CLAMP OPENING

#### For Flat Buttons

By means of the button clamp opener **E2**, Fig. 17 open the clamp and place in the clamp jaws a button of the size to be sewn. Loosen thumb screw **F2** and move the adjusting lever **G2** to a point where it just clears the button stop screw **H2**. Then tighten the thumb screw **F2**.

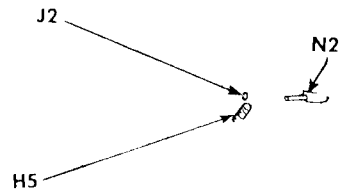
### TO REGULATE NEEDLE BAR VIBRATION

To change the extent of needle bar vibration, loosen nut **M2**, Fig. 17. By means of the nut **M2**, move the slide toward the needle to decrease the width of vibration, or away from the needle to increase the width of vibration, then tighten nut **M2**.

### TO REGULATE FORWARD AND BACKWARD MOTION OF BUTTON CLAMP

The forward and backward motion of the button clamp, which motion is utilized when the machine is sewing four-hole buttons, is regulated by means of the feed plate carrier regulating nut **N2**, Fig. 17. This regulating nut is provided with four holes for its handle. Screw the handle into whichever one of the four holes will bring the handle into the most accessible position. By means of the handle on the nut **N2**, loosen the nut and move it to the left to increase the movement of the button clamp, or move it to the right to decrease movement of the clamp. When proper adjustment is obtained, securely tighten the nut **N2**.

### TO ADJUST FEED PLATE FOR DUBBILSTAY WORK For Two-Hole Buttons



Make certain that the hinge pin **H5**, Fig. 18 is in the upper hole **J2**.

To regulate the spread of the Dubbilstay stitch, loosen nut **N2**, Fig. 18 and move it to left or to right until the desired spread of stitch is obtained, then securely tighten nut **N2**.

Fig. 18. Adjusting Feed Plate

### TO ADJUST FOR TWO-HOLE AND FOUR-HOLE FLAT BUTTONS

To change adjustment from four-hole to two-hole buttons remove hinge pin **H5**, Fig. 18 and insert this pin in the hole **J2** immediately above.

To change from two-hole to four-hole buttons, reverse the operation, inserting pin **H5** in the lower hole as shown in Fig. 18.

### TO ADJUST BUTTON CLAMP FOR THROUGH AND THROUGH STITCHING SHANK BUTTONS. TO CENTER NEEDLE IN NEEDLE HOLE IN BUTTON SHANK

Adjustment is the same as for flat buttons, as instructed next above, except that, in this case, the two adjusting screws **B7** are located at the rear of the clamp arm, viz., the same as the two adjusting screws **O7** shown in Fig. 19.

**NOTE:** Clamp adjustment for blind stitching shank buttons is covered below.

### TO ADJUST BUTTON CLAMP FOR BLIND STITCHING SHANK BUTTONS TO CENTER NEEDLE IN NEEDLE HOLE IN BUTTON SHANK

Loosen the two screws **O7**, Fig. 19 at rear end of clamp arm; also loosen hinge screw **P7** and clamping screw **R7** in ad-

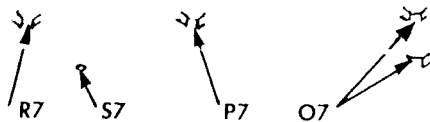


Fig. 19. Shank Button Clamp Adjustments

justable presser bar seat **S7** and set the clamp to insure that the needle will center in hole in button shank, then tighten these four

### TO ADJUST BUTTON CLAMP FOR FLAT BUTTONS, TO CENTER NEEDLE IN NEEDLE HOLES IN BUTTON

Should adjustment become necessary, loosen the two screws **B7**, Fig. 20 and adjust forward, backward, to left or right as may be required, then securely tighten the screws **B7**.

### TO CHANGE THE BUTTON CLAMP

Unscrew thumb screw **K5**, Fig. 20 from button clamp, then remove hinge pin **H5**, Fig. 18. Slightly raise presser bar to relieve pressure on clamp, and remove clamp from machine. To replace, reverse the operation, first inserting hinge pin **H5** in either upper or lower pin hole, depending upon whether two-hole or four-hole button is used. See instructions, "TO ADJUST FOR TWO HOLE AND FOUR HOLE BUTTON" on page 18.

### TO CHANGE THE FEED PLATE OR THE STAY BUTTON HOLDER

When both button clamp and feed plate, or button clamp and stay button holder, are to be changed, remove button clamp, as instructed above, before removing feed plate or stay button holder.

When only feed plate or only stay button holder is to be changed, first raise button clamp, then insert fingernail beneath chamfered end **J5**, Fig. 20 of feed plate, or chamfered end **J5**, Fig. 22 of stay button holder, raising it sufficiently so that the end **J5**, can be grasped with

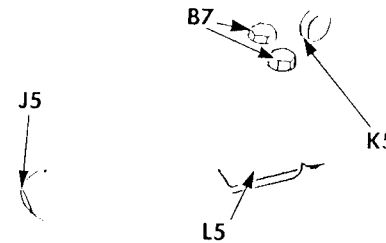


Fig. 20. To Remove the Feed Plate

the fingers, and withdraw feed plate or stay button holder toward the operator.

**CAUTION:** Never pry up the spring **L5**, Fig. 20 as this would probably injure the spring or render it useless.

To replace, insert the feed plate or stay button holder all the way back beneath spring **L5** to insure that the two shallow studs, on the under side of the feed plate or stay button holder, engage the holes for same in bed top cover beneath spring **L5**.

### THROUGH AND THROUGH STITCHING FLAT BUTTONS CLOSE TO THE MATERIAL

Fig. 21 shows a 40-ligne, 4-hole, flat button in place in button clamp **175726**, in conjunction with feed plate **175685**, for through and through sewing of this type of button close to the material.



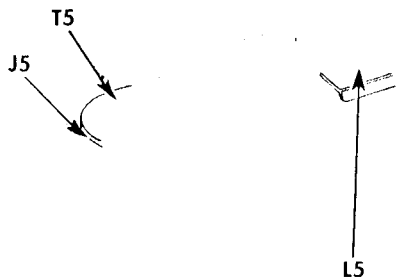
Note that the button is firmly held in the clamp jaws and in the notch **M5**, **Fig. 21** in button stop. (See instructions to adjust button clamp opening, **page 17**.)

To sew flat buttons away from the material, it is necessary to use

the equipment, including the shanking foot, as shown in **Fig. 23** and as instructed on the following page.

**Fig. 21.**

**THROUGH AND THROUGH STITCHING FLAT BUTTONS CLOSE TO THE MATERIAL WITH STAY BUTTONS**

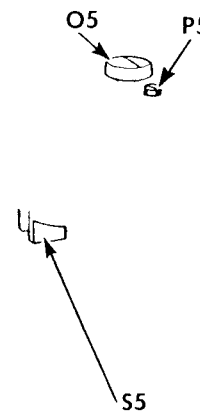


**Fig. 22** shows a 40-ligne, 4-hole flat button in clamp **175726** and with an 18-ligne stay button in stay button holder **175693**, for through and through stitching with stay buttons, close to the material.

The stay button holder **T5**, **Fig. 22** is attached to the machine as instructed on **page 19**.

**Fig. 22.**

**THROUGH AND THROUGH STITCHING FLAT BUTTONS AWAY FROM THE MATERIAL**



**Fig. 23** shows a 40-ligne, 4-hole flat button in button clamp **175744**, with feed plate **175685** and shanking foot **175411** for through and through sewing away from the material.

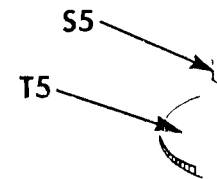
The shanking foot **S5**, **Fig. 23** is fastened to the button clamp by means of thumb screw **O5** and with the position screw **P5** in the slot of the shanking foot as shown in **Fig. 23**.

**Fig. 23.**

**THROUGH AND THROUGH STITCHING FLAT BUTTONS AWAY FROM THE MATERIAL WITH STAY BUTTONS**

**Fig. 24** shows a 40-ligne, 4-hole flat button in clamp **175744** with shanking foot **175411**, and with an 18-ligne stay button in stay button holder **175693**, for through and through stitching with stay buttons, away from the material.

The shanking foot **S5** is attached as instructed above.

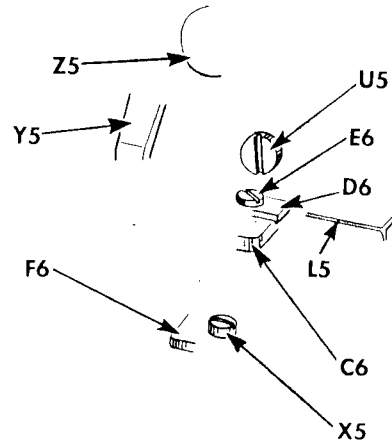


**Fig. 24.**

## THROUGH AND THROUGH STITCHING METAL SHANK BUTTONS

**NOTE:** Stop the motion of the feed carrier plate, as instructed at bottom of **page 23**.

**Fig. 25** shows a metal shank button held in place in button holder **175681** by button finger **175668**, in connection with clamp **175684** and with work support **175715**, for through and through stitching of metal shank buttons.



**Fig. 25.**

order that the shank of the button may be inserted to the proper depth in the button holder, then tighten screw **E6**.

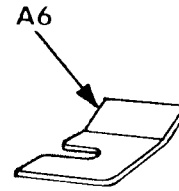
Button finger **Y5** is adjustable to left or right by means of thumb nut **Z5**, and must be set to hold the button shank firmly in its opening in the button holder. Select the button finger with reference to size and convexity of the button. See note at foot of **page 33**. The self-shank button must be held by the button finger **Y5** and button holder **C6** in such position that the needle, on its left hand vibration, will center in the needle hole of the button shank.

Work support **F6** is adjustable to allow for the needle vibration, or throw, and to insure that the material will be held close to the button during the stitching. Loosen screw **X5** and move the work support **F6** to the right or left, as required, then tighten the screw **X5**.

Button holder **C6**, shown in **Fig. 25**, (for large eyelet buttons) is provided with button support **D6**.

Attach button holder **C6** by means of screw **U5** and adjust for height as indicated in **Fig. 25**. Set it with its opening coinciding accurately with the shank of the button which is held in place by button finger **Y5**. Select the button holder with reference to size of button shank. See list of fittings for self-shank buttons, **page 33**.

To adjust loosen screw **E6** and move the button support to the left or to the right to hold the large eyelet button at the required distance from the button holder **C6** in



**Fig. 26.**

When this machine is to be used for through and through stitching metal shank buttons with short eyelets, button holder spring **A6**, **Fig. 26** is used.

The spring **A6** is fitted over the button holder as shown in **Fig. 26** and, together, are attached to the clamp by means of the screw **U5**, **Fig. 25**.

The function of the button holder spring **A6** is to lend added security in holding metal shank buttons with short eyelets, for through and through stitching; also to compensate for any slight inequalities in the thickness of the wire of which the button shanks are constructed.

The button shown in **Fig. 25** has a large eyelet and therefore does not require the use of button holder spring **A6**.

### TO REMOVE OR REPLACE WORK SUPPORT 175715 FOR THROUGH AND THROUGH STITCHING SHANK BUTTONS

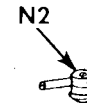
To remove work support **175715**, raise button clamp, grasp front end of work support and withdraw toward operator.

**CAUTION:** Never pry up spring **L5**, **Fig. 25**, as this may injure spring or render it useless.

To replace work support; insert support all the way back beneath spring **L5** to insure that the two shallow studs on the under side of the support engage the holes for same in bed top cover beneath spring **L5**.

Adjust as instructed at bottom of **page 22**.

### TO STOP THE FORWARD AND BACKWARD MOTION OF THE FEED PLATE



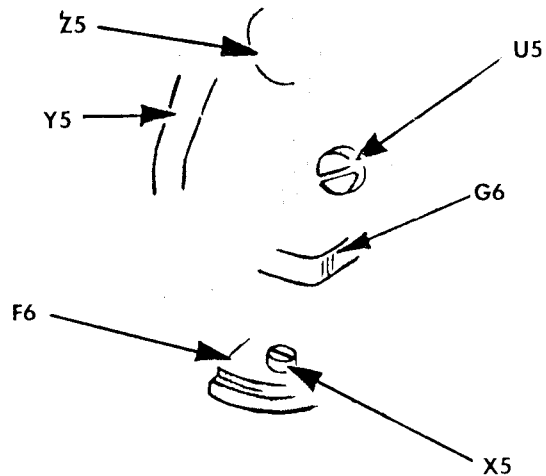
**Fig. 27. Regulating Nut on Feed Plate Carrier**

To stop forward or backward motion of feed plate, when sewing shank buttons, position nut **N2**, **Fig. 27** as far as it will go to the right (as when sewing two-hole flat buttons).

### THROUGH AND THROUGH STITCHING LEATHER SHANK BUTTONS

**NOTE:** Stop the motion of the feed carrier plate, as instructed at the bottom of **page 23**.

**Fig. 28** shows a leather shank button held in place in button holder **175383** by button finger **175668**, in connection with clamp **175684** and work support **175715**, for through and through stitching of leather shank buttons.



**Fig. 28.**

Button holder **G6** is attached and adjusted in the same manner as button holder **C6**, **Fig. 25**, as instructed on **page 22**.

Button finger **Y5** is adjusted as instructed on **page 22**.

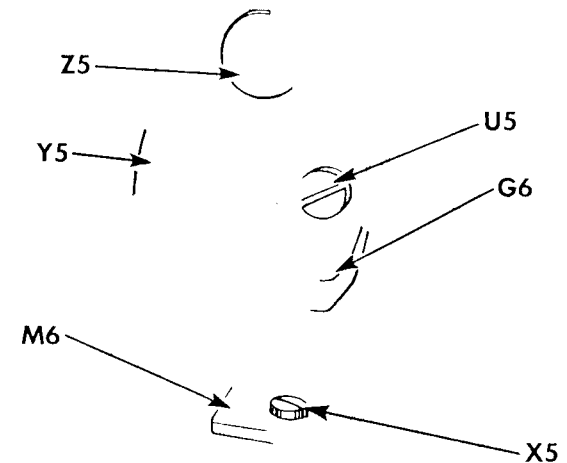
Work support **F6** is adjustable to allow the needle bar vibration, or throw, and to insure that the material will be held close to the button during the stitching.

To adjust, loosen screw **X5** and move the work support **F6** to the

### THROUGH AND THROUGH STITCHING LEATHER SHANK BUTTONS WITH STAY BUTTONS

**NOTE:** Stop the motion of the feed carrier plate, as instructed at bottom of **page 23**.

**Fig. 29** shows a leather shank button held in place in button holder **175383** by button finger **175668**, in connection with clamp **175684**, and with an 18-ligne stay button in stay button holder **175705**, for through and through stitching leather shank buttons with stay buttons.



**Fig. 29.**

Button holder **G6** is adjusted the same as button holder **C6**, **Fig. 25**, as instructed on **page 22**.

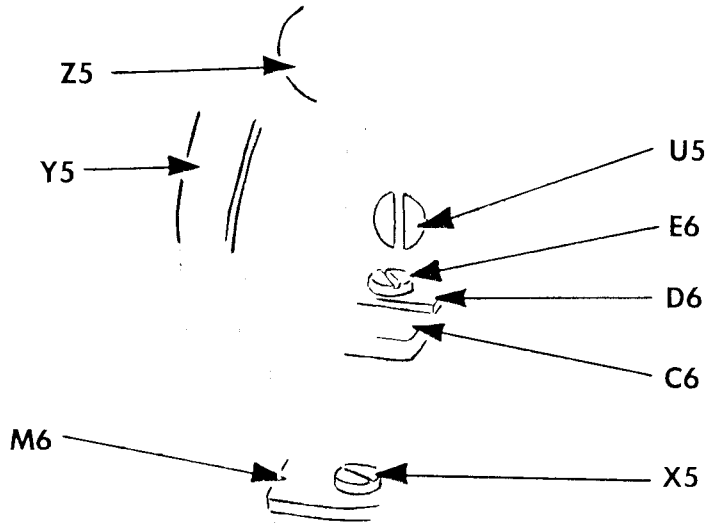
Button finger **Y5** is adjusted as instructed on **page 22**.

Stay button holder **M6** is adjustable to the right or left. Loosen screw **X5** and move the stay button holder **M6** to a position where the needle will center in the needle holes in the stay button, then tighten the screw **X5**.

### THROUGH AND THROUGH STITCHING METAL SHANK BUTTONS WITH STAY BUTTONS

**NOTE:** Stop the motion of the feed carrier plate, as instructed at bottom of **page 23**.

**Fig. 30** shows a large eyelet metal shank button held in place in button holder **175681** by button finger **175668**, in connection with clamp **175684**, and with an 18-ligne stay button in stay button holder **175705**, for through and through stitching metal shank buttons with stay buttons.



**Fig. 30.**

Button holder **C6**, for large eyelet buttons, is provided with button support **D6**. To adjust, see instructions on **page 22**.

Button finger **Y5** is adjusted as instructed on **page 22**.

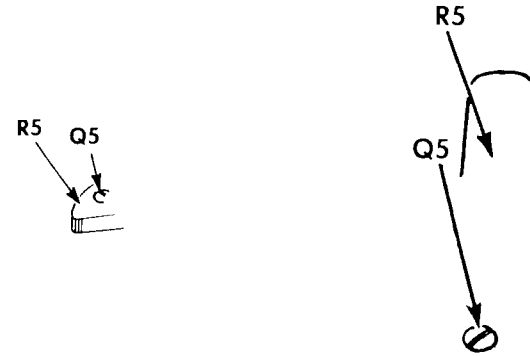
Stay button holder **M6** is adjusted as instructed on **page 25**.

**NOTE:** Shankng Feet **175401** and **175411**, listed on **page 32**, are regularly furnished in 1 8 inch height and in 1 1/2 inch height, while shankng feet **175786** and **175764** are regularly furnished to 9/32 inch height and in 1 1/2 inch height, the sizes mentioned being the lowest and the highest regularly furnished.

When shanking feet of other heights, within these limits, are desired, orders should specify the heights wanted, or samples of buttons, sewn to the material, should be submitted.

### BLIND STITCHING FLAT BUTTONS CLOSE TO THE MATERIAL

**Fig. 31** shows a 25-ligne, 4-hole flat button in button clamp **175726**, with feed plate **175689** for blind stitching close to the material.



**Fig. 31.**

**Fig. 32.**

L 2 J 9 2 3

### TO ADJUST WORK SUPPORT AND FEED PLATE FOR BLIND STITCHING FLAT BUTTONS

Feed Plate **175689** is provided with the adjustable work support **R5**, **Figs. 31** and **32**.

Feed Plate **175840** is exactly like Feed Plate **175689** but is made lower (thinner) to handle lighter work.

The elongated opening for the screw head at **Q5** permits of adjustment to the right or to the left as required.

Loosen the screw at **Q5** and, for **less needle penetration** of the material, move the work support **R5** to the **right**; for **more needle penetration** of the material, move the work support to the **left**, then tighten the screw at **Q5**.

### BLIND STITCHING FLAT BUTTONS AWAY FROM THE MATERIAL

**Fig. 33**, on the following page, shows a 30-ligne, 4-hole flat button held in button clamp **175746**, with shankng foot **175401** and feed plate **175689**, for blind stitching away from the material.

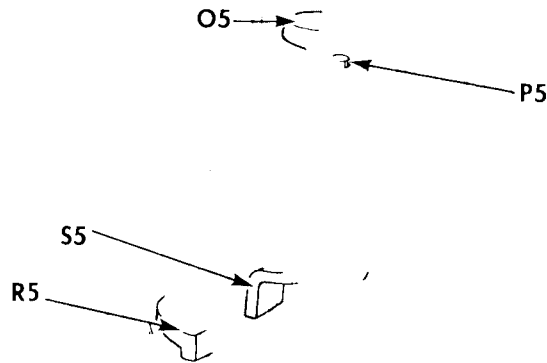


Fig. 33.

Shanking foot 175401, S5, Fig. 33 for blind stitching differs from shanking foot 175411, S5, Fig. 23, page 21 for through and through stitching in that 175401 (S5) has a single foot, its position being opposite the adjustable work support R5 shown in Fig. 33.

The shanking foot 55 is fastened to the button clamp by means of thumb screw O5; with the position screw P5 in the slot of the shanking foot as shown in Fig. 33.

#### BLIND STITCHING SELF-SHANK BUTTONS

**NOTE:** Stop the motion of the feed carrier plate, as instructed at bottom of page 23.

Fig. 34 shows a self-shank button held in place in button holder 175392 by button finger 175668, in connection with clamp 175684, and with Work Support 175388, for blind stitching self-shank buttons.

Attach button holder V5 by means of screw U5 and adjust for height as indicated in Fig. 34. Set it with its opening coinciding accurately with the shank of the button which is held in place by button finger Y5. Select the button holder with reference to size of button shank. See list of fittings for self-shank buttons, page 33.

Button finger Y5 is adjustable to left or right by means of thumb nut Z5, and must be set to hold the button shank firmly in its opening in the button holder. Select the button finger with reference to size and convexity of the button. See note at foot of page 33. The self-shank but-

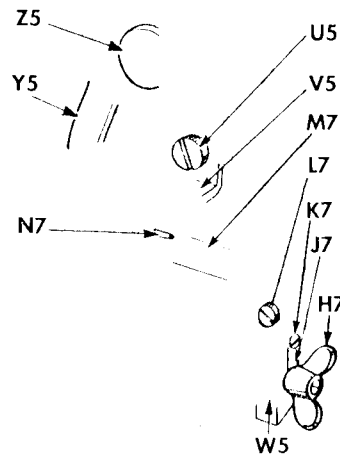


Fig. 34.

ton must be held by the button finger Y5 and button holder V5 in such position that the needle, on its left hand vibration, will center in the needle hole of the button shank.

Attach work support W5 by means of wing nut H7 having guide screw K7 in the slot J7 of the work support, as shown.

To adjust, set work support W5 to required height, then tighten wing nut H7. Loosen screw L7 and set bar M7 close to right hand side of button holder V5--not tight against it, as this would retard the raising and lowering of button clamp.

If the button shank projects through right hand side of button holder V5, set work support close to button shank, but not tight against it as this, also, would interfere with clamp operation. Slot N7 of the bar M7 must be exactly vertical and in line with travel of the needle. Tighten screw L7.

#### TO CHANGE WORK SUPPORT 175854

To change the Work Support, shown as W5 in Fig. 34, first remove the wing nut H7, Fig. 34, then remove and replace the work support as required.

Adjust as instructed above.

#### WORK SUPPORT 175855

Work Support 175855 is similar to Work Support 175854 except that Work Support 175855 is for blind stitching shank buttons smaller than those which can be handled by Work Support 175854.

#### BLIND STITCHING METAL SHANK BUTTONS

**NOTE:** Stop the motion of the feed carrier plate, as instructed at bottom of page 23.

Fig. 35, page 30, shows a metal shank button held in place, in button holder 175676, by button finger 175668, in connection with

clamp **175684**, and with Work Support **175854**, for blind stitching metal shank buttons.

Work support **W5** is attached to the machine as instructed on **page 29**.

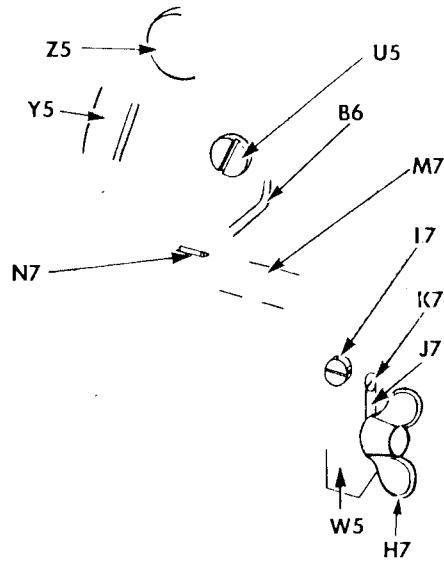


Fig. 35.

See note at foot of **page 33**. The button must be held by the button finger **Y5**. Button holder **B6** should be in such position that the needle, on its left hand vibration, will center in the needle hole of the button shank.

See instructions on **page 29** for adjustment of work support **W5**.

**NOTE:** For metal shank buttons with short eyelets, button holder **175667** and button holder spring **175678** are used. The spring **A6** is fitted over the button holder as shown in **Fig. 36** and, together, are attached to the clamp by means of the screw **U5** as shown in **Fig. 35**.

The function of the button holder spring **A6** is to lend added security in holding metal shank buttons with short eyelets, for through and through stitching; also to compensate for any slight inequalities in the thickness of the wire of which the button shanks are constructed.

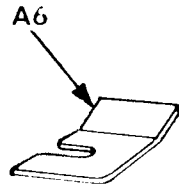


Fig. 36.

Attach the button holder **B6** to the clamp by means of the screw **U5**, and adjust for height as indicated in **Fig. 35**. Set **B6** with its opening coinciding accurately with the shank of the button which is held in place by button finger **Y5**. Select the button holder with reference to size of button shank.

See list of fittings for metal shank buttons, **page 34**.

Button finger **Y5** is adjustable to left or right by means of thumb nut **Z5**, and must be set to hold the button shank firmly in its opening in the button holder. Select the button finger with reference to size and convexity of the button.

## MACHINE 175-63 EQUIPPED FOR SEWING SNAP FASTENERS

**Fig. 37** shows Machine 175-63 equipped for sewing snap fasteners in sizes 000 small, 00 medium and 0 large. For this purpose,

Clamp **175842** is furnished, including three snap holders for the three snap sizes respectively.

To remove snap holder **T7**, **Fig. 37**, first withdraw hinge pin **H5**, **Fig. 38**. Then remove clamp arm **A7**, **Fig. 37**, with clamp and snap holder attached thereto.

Remove the screw at the under side of snap holder **T7** to detach snap holder from the clamp.

**NOTE**—The screw, for fastening snap holder to the clamp, is not shown. However, its position beneath the clamp is indicated in **Fig. 37**, by **U7**.

To replace snap holder, reverse the foregoing operations for its removal.

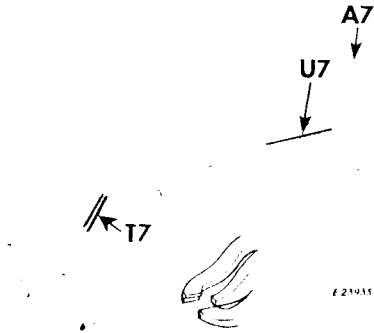


Fig. 37. Machine 175-63 with Clamp 175842 for Sewing Snap Fasteners (Inset Shows Clamp 175847)

Snap Fastener Clamp **175847**, (Button Clamp Type) is shown, in part, in inset at lower right corner of **Fig. 37**, above.

This universal snap fastener clamp handles all sizes and types of snap fasteners. It is attached to, and removed from, the machine in exactly the same manner as the regular button clamp. (See "To Change the Button Clamp") **page 19**.

This snap fastener clamp is adjusted for various sizes of snap fasteners in the same manner as the regular button clamp. (See "To Adjust the Button Clamp Opening"), **page 17**.

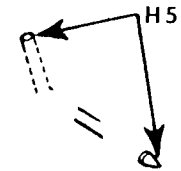


Fig. 38. Clamp Arm Hinge Pin

VARIETIES OF BUTTONS SEWN ON BY SINGER MACHINES 175-62  
AND 175-63 AND FITTINGS REQUIRED

FLAT BUTTONS—Blind Stitched  
(Two or Four-Hole)

Close to Material—Machine 175-62 only

Button Clamp Complete 175726 (20 to 45 Ligne Buttons)  
Feed Plate 175689 or 175840 (20 to 45 Ligne Buttons)

Away from Material—Machine 175-62 only

Button Clamp Complete 1757461 (20 to 45 Ligne Buttons) includes  
Shanking Foot 175401 (1 8 inch high and 11 32 inch high).  
Button Clamp Complete 175790 (40 to 55 Ligne Buttons) includes  
Shanking Foot 175786 (9 32 inch high and 11 32 inch high).  
Feed Plate 175689 or 175840 (20 to 45 Ligne Buttons)

Stitched Through and Through  
(Two or Four-Hole)

Close to Material—Machines 175-62 and 175-63

Button Clamp Complete 175725 (10 to 24 Ligne Buttons)  
Button Clamp Complete 175726 (20 to 45 Ligne Buttons)  
Button Clamp Complete 175852 (20 to 45 Ligne Buttons)  
Button Clamp Complete 175727 (40 to 80 Ligne Buttons)  
Button Clamp Complete 175749 (80 to 120 Ligne Buttons)  
Feed Plate 175685 (10 to 45 Ligne Buttons)  
Feed Plate 175686 (40 to 80 Ligne Buttons)  
Feed Plate 175687 (80 to 120 Ligne Buttons)

Away from Material—Machine 175-62 only

Button Clamp Complete 1757441 (20 to 45 Ligne Buttons) includes  
Shanking Foot 175411 (1 8 inch high and 11 32 inch high).  
Button Clamp Complete 175795 (40 to 55 Ligne Buttons) includes  
Shanking Foot 175764 (9 32 inch high and 11 32 inch high).  
Feed Plate 175685 (10 to 45 Ligne Buttons)

Stitched Through and Through  
with Stay Button  
(Two or Four-Hole)

Close to Material—Machine 175-62 only

Button Clamp Complete 175725 (10 to 24 Ligne Buttons)  
Button Clamp Complete 175726 (20 to 45 Ligne Buttons)  
Button Clamp Complete 175727 (40 to 80 Ligne Buttons)  
Button Clamp Complete 175749 (80 to 120 Ligne Buttons)  
Stay Button Holder 175693 (18 Ligne Stay Button)  
Stay Button Holder 175694 (19 Ligne Stay Button)  
Stay Button Holder 175695 (20 Ligne Stay Button)  
Stay Button Holder 175696 (22 Ligne Stay Button)

Away from Material—Machine 175-62 only

Button Clamp Complete 1757441 (20 to 45 Ligne Buttons) includes  
Shanking Foot 175411 (1 8 inch high and 11 32 inch high).  
Button Clamp Complete 175795 (40 to 55 Ligne Buttons) includes  
Shanking Foot 175764 (9 32 inch high and 11 32 inch high).  
Stay Button Holder 175693 (18 Ligne Stay Button)  
Stay Button Holder 175694 (19 Ligne Stay Button)  
Stay Button Holder 175695 (20 Ligne Stay Button)  
Stay Button Holder 175696 (22 Ligne Stay Button)

Same as Clamp 175726 but for heavier (thicker) buttons which may  
have to be held more firmly. (See page 34.)

VARIETIES OF BUTTONS SEWN ON BY SINGER MACHINES 175-62  
AND 175-63 AND FITTINGS REQUIRED  
SELF-SHANK BUTTONS

Blind Stitched—Machines 175-62 and 175-63  
(Machine 175-63 is for shank buttons not larger than 28 ligne)

Button Clamp Complete 175684, Use Button Finger 175667  
Button Holder 175392  
Work Support 175855 (Adjustable)

Button Clamp Complete 175684, Use Button Finger 175667  
Button Holder 175392  
Work Support 175855 (Adjustable)

Button Clamp Complete 175684, Use Button Finger 175668  
Button Holder 175392  
Work Support 175855 (Adjustable)

Button Clamp Complete 175684, Use Button Finger 175667  
Button Holder 175392  
Work Support 175855 (Adjustable)

Button Clamp Complete 175684, Use Button Finger 175668  
Button Holder 175393  
Work Support 175855 (Adjustable)

Button Clamp Complete 175684, Use Button Finger 175668  
Button Holder 175399  
Work Support 175855 (Adjustable)

Button Clamp Complete 175684, Use Button Finger 175668  
Button Holder 175398  
Work Support 175716 or 175854 (Adjustable)

Button Clamp Complete 175684, Use Button Finger 175668  
Button Holder 175399  
Work Support 175855 (Adjustable)

Button Clamp Complete 175684, Use Button Finger 175668  
Button Holder 175393  
Work Support 175716 or 175854 (Adjustable)

Button Clamp Complete 175684, Use Button Finger 175668  
Button Holder 175399  
Work Support 175716 or 175854 (Adjustable)

**NOTE:** The use of Button Fingers 175667 (small) and 175668 (large) is determined by the convexity and size of the button to be handled. In general, use Button Finger 175667 for small buttons, and Button Finger 175668 for large buttons.

**NOTE:** Work Support 175855 (Adjustable) is for blind-stitching self-shank buttons up to 11/16 inch (28 ligne) on either the 175-62 or 175-63 Machine.

For self-shank buttons in excess of 28 ligne, Machine 175-62 is used with either the Work Support 175716 or 175854 (Adjustable).

VARIETIES OF BUTTONS SEWN ON BY SINGER MACHINES 175-62  
AND 175-63 AND FITTINGS REQUIRED  
SHANK BUTTONS

Blind Stitched

(Machine 175-63 is for shank buttons not larger than 28 ligne)

Metal Shank—Machine 175-62 or 175-63  
Button Clamp Complete 175684, Use Button Finger 175668  
Button Holder 175676  
Work Support 175716 or 175854 (Adjustable)

Stitched Through and Through

Metal Shank—Machine 175-62 or 175-63

Button Clamp Complete 175684, Use Button Finger 175667  
Button Holder 175677 for Short Eyelet Buttons  
Button Holder Spring 175678, for Short Eyelet Buttons  
Button Holder 175681 for Large Eyelet Buttons  
Button Holder 175682 for Small Eyelet Buttons  
Work Support 175715

Leather Shank—Machine 175-62 or 175-63

Button Clamp Complete 175684, Use Button Finger 175668  
Button Holder 175383  
Work Support 175715

Stitched Through and Through  
with Stay Button

Leather Shank—Machine 175-62 only

Button Clamp Complete 175684, Use Button Finger 175668  
Button Holder 175383  
Stay Button Holder 175705 (18 Ligne Stay Button)  
Stay Button Holder 175706 (19 Ligne Stay Button)  
Stay Button Holder 175707 (20 Ligne Stay Button)  
Stay Button Holder 175708 (22 Ligne Stay Button)

Metal Shank—Machine 175-62 only

Button Clamp Complete 175684, Use Button Finger 175668  
Button Holder 175681 for Large Eyelet Buttons  
Button Holder 175682 for Small Eyelet Buttons  
Stay Button Holder 175705 (18 Ligne Stay Button)  
Stay Button Holder 175706 (19 Ligne Stay Button)  
Stay Button Holder 175707 (20 Ligne Stay Button)  
Stay Button Holder 175708 (22 Ligne Stay Button)

SNAP FASTENERS

Machine 175-63 only

Snap Fastener Clamp Complete 175842, for both square and round type fasteners, includes 3 snap holders, as follows:  
Snap Holder 175284 for Size OOO Snap Fasteners  
Snap Holder 175283 for Size OO Snap Fasteners  
Snap Holder 175282 for Size O Snap Fasteners  
Snap Fastener Clamp 175847 (Button Clamp Type)  
Adjustable for All Sizes and Types of Snap Fasteners.

HINTS FOR ORDERING

When shanking feet (of sizes other than those listed on page 32) are required, orders should specify the height desired and samples of buttons sewn on materials should be submitted.

As explained on page 32, the button clamps for sewing flat buttons, through and through, close to the material, are:

175725 for 10 to 24 ligne buttons

175726 for 20 to 45 ligne buttons

175727 for 40 to 80 ligne buttons†

175749 for 80 to 120 ligne buttons

Clamps 175725, 175726 and 175727 are basic clamps, and the clamp 175726, A7, Fig. 21, shown on page 20, will serve to illustrate any of these three clamps.

Any one of these three clamps, by the addition of the necessary accessories, will perform the stitching operations described on page 27 and illustrated by Figs. 21, 22, 23, 24, 31 and 33, pages 20 to 28 inclusive. Each clamp is, however, limited to the SIZES of buttons as stated above and as listed on page 32.

(Clamp 175749 is confined solely to sewing flat buttons—80 to 120 ligne—through and through, close to the material, with or without stay buttons, and can not be converted for any other stitching operation.)

Clamps 175725, 175726 and 175727, by the addition of positioning screw 140067 P5, Fig. 23, page 21 and thumb screw 140068 O5, Fig. 23 are equipped for the application of the shanking feet listed on page 32 and shown in Fig. 23 for through and through stitching flat buttons away from the material; in Fig. 33, page 28 for blind stitching flat buttons away from the material, and in Fig. 24, page 21 for through and through stitching away from the material, with stay buttons.

The numbers, by which these accessories must be ordered, are stated on page 32.

For instance—Clamp 175744, listed on page 32 for through and through sewing flat buttons (20 to 45 ligne) away from the material without stay buttons, also with stay buttons, is basic clamp 175726 with positioning screw 140067, thumb screw 140068 and the two shanking feet 175411.

Clamp 175746, listed on page 32 for blind stitching flat buttons (20 to 45 ligne) away from the material, is basic clamp 175726 with positioning screw 140067, thumb screw 140068 and the two shanking feet 175401.

The required feed plate or stay button holder also is listed on page 32.

†When Clamp 175727 is to be used for sewing buttons away from the material, the order should specify the size button to be sewn or, preferably, the order should be accompanied by a sample of the button to be sewn, in order that the shanking foot of the correct capacity may be furnished.

NOTE: The instructions on the following pages are for Adjusters and Mechanics only.

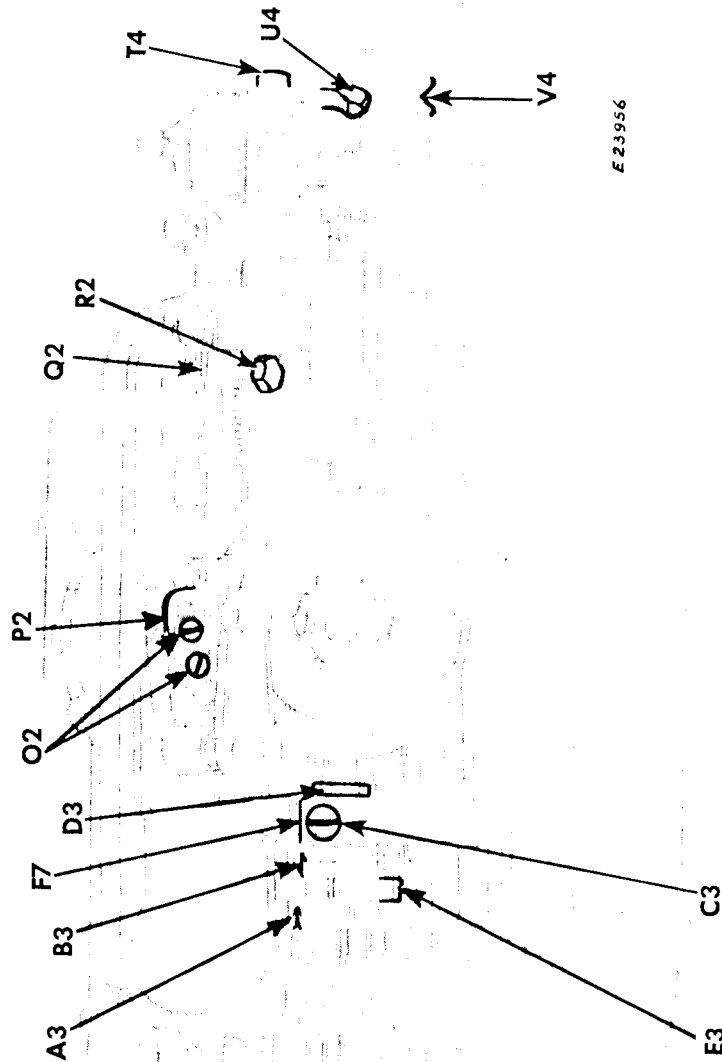


Fig. 39. Adjustments in Bed of Machine

### TO ADJUST THE STOP MOTION

When the machine is operated at recommended speed (not in excess of 1000 R.P.M.) it should come to a stop with the stop mechanism in locked position, and with the needle bar resting at the high point of its stroke. If the machine stops too early or too late, loosen the two screws **O2**, Fig. 39 and move the stop motion trip **P2**, Fig. 39 to the **left** for an **earlier** stop, or to the **right** for a **later** stop. When the required adjustment is made, securely tighten the two screws **O2**.

### TO ADJUST SPRING TENSION OF STOP MOTION SHAFT

Loosen hexagon screw **R2**, Fig. 39, and by means of screw **R2**, turn collar **Q2** downward for greater tension, or upward for less tension, then securely tighten screw **R2**.

### TO ADJUST STOP MOTION PULLEY SHIFTER

The pulley shifter **U4**, Fig. 39 should be set as close as possible to the V-groove **V4**, Fig. 39 in the pulley, but without actually touching it.

To adjust, loosen the hexagon head screw **T4**, Fig. 39 and move the pulley shifter toward or away from the V-groove **V4** as may be required; then securely tighten screw **T4**.

### TO TIME THE LOOPER SHAFT CRANK AND THE LOOPER DRIVING SHAFT CRANK

Cranks **A3** and **B3**, Fig. 39 must be set with the arrow on the rim of each in exact alignment with the arrow on the machine casting at **F7**, Fig. 39, when the machine is in its stopped or locked position.

To align these cranks, loosen clamping screw **C3**, Fig. 39 which holds the shaft bushing **D3**, Fig. 39 in the machine bed. Turn this bushing (which is eccentric) with its high throw toward the bed of the machine. This will unmesh the gears and permit turning the cranks to required position. After the arrows on these cranks are aligned with the arrow at **F7**, turn bushing **D3** downward to again mesh the gears, then tighten clamping screw **C3**, Fig. 39.

Looper shaft link **E3**, Fig. 39, which connects cranks **A3**, and **B3**, Fig. 39 should be attached so that the large crank **B3** will **PULL** the link. If it is attached so that it is **PUSHED** by crank **B3**, the machine will not function properly.

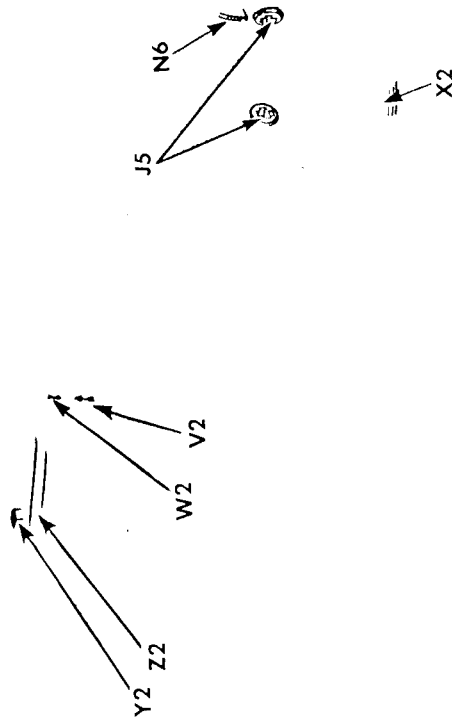


Fig. 40. Adjustments in Arm of Machine  
(Inset Shows Large Cam for Button Clamp Feed on Under Side of Machine Bed)

### TO SET NEEDLE BAR AT CORRECT HEIGHT

Take out the two face plate screws and remove the face plate. Insert needle of correct size in the needle bar, making sure that it is up into the needle bar as far as it will go.

Turn machine-driving pulley, by hand, to bring the needle bar to its highest position. Loosen clamping screw **T2**, Fig. 41, which fastens needle bar connecting link hinge stud **U2**, Fig. 41 to the needle bar; then, while the needle bar is still at the highest point of its stroke, move needle bar up or down to bring the top of the needle eye  $1\text{-}5/16$  inch above the top surface of the needle plate for Machine 175-62; or  $1\text{-}1/16$  inch above top surface of needle plate for Machine 175-63. To check this adjustment, for either machine, see that the needle point does not protrude through the needle hole in the looper when the needle bar is at the bottom of its stroke. This check can be made only after the looper is adjusted and timed as instructed on pages 40 and 41.

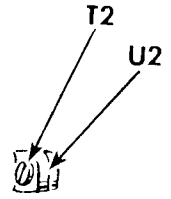


Fig. 41. Setting Needle Bar at Correct Height

### TO TIME THE NEEDLE BAR VIBRATION (With Machine at Stop Locked Position)

Set cam **V2**, Fig. 40 to bring the arrow on its rim in alignment with arrow on needle bar vibrating lever arm **W2** as shown in Fig. 40. With cam **V2** in proper time, needle bar vibration will start about  $1/2$  inch from top of upward stroke of needle bar.

To adjust, loosen the two screws **J5**, in worm gear **N6** (see inset at lower right corner of Fig. 40). These screws are located between the under side of machine bed and the large cam **X2** (underneath the machine bed). Use the special splined wrench which accompanies the machine for this purpose. When correct adjustment is made, securely tighten the two screws **J5**.

### TO ADJUST NEEDLE BAR VIBRATION CENTRALLY WITH LOOPER SHAFT AND WITH RELATION TO THE NEEDLE SLOT IN THE NEEDLE PLATE

When adjusting, make sure that needle clears the left hand and right hand ends of the slot in needle plate. Remove feed plate or stay button holder, needle plate and looper. In place of the looper, insert a stud or pin in looper stem opening in looper shaft. This pin should be of proper size to fit snugly in looper shaft (a size 20 drill will serve the purpose). Loosen hexagon head screw **Y2**, Fig. 40 and move lever **Z2**, Fig. 40 to right or left until the needle, on both vibrations, just touches both sides of the projecting stud, pin or drill,

then tighten screw **Y2**. By this method it is possible to determine, accurately, whether both vibrations are exactly equidistant from the center of the looper shaft.

### TO ADJUST THE LOOPER WITH RELATION TO THE NEEDLE

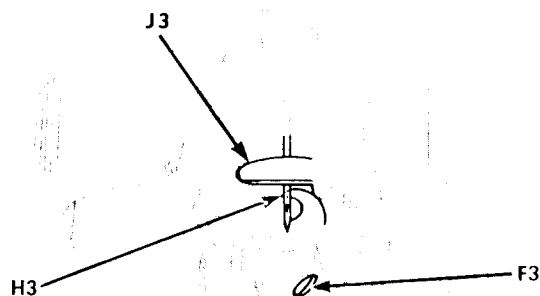
Loosen the looper set screw **F3**, **Fig. 42** and set the looper as close as possible to the needle, but without actually touching it.

Be sure that the set screw **F3** engages the "flat" of the looper shank when this screw is tightened.

### TO TIME THE LOOPER

With the needle bar set at correct height, as instructed on **page 39**, turn the machine-driving pulley, by hand, to bring the needle bar to the **bottom of its LEFT HAND STROKE**. Continue to turn the machine-driving pulley until, as the needle bar rises, the **TOP of the looper point** (see **Fig. 43**) reaches the center of the needle.

With the **TOP** of the looper point at the center of the needle, the

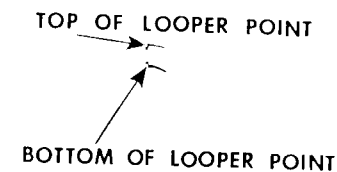


**Fig. 42. Timing the Looper  
(Left Hand Stroke of the Needle Bar)**

**BOTTOM** of the looper point (see **Fig. 43**) should be exactly at the top of the needle eye, as indicated at **H3**, **Fig. 42**, on the left hand stroke of the needle bar.

If the **BOTTOM** of the looper point (see **Fig. 43**) is not exactly at the top of the needle eye when the **TOP** of the looper point is at the center of the needle, on the **LEFT HAND STROKE** of the needle bar, make adjustment as follows:

Loosen the two set screws in the crank **A3**, **Fig. 44** using, for this purpose, the special splined wrench which accompanies the machine. Turn the looper shaft until the **BOTTOM** of the looper point is exactly at the top of the needle eye when the **TOP** of the looper point is at the center of the needle on the **LEFT HAND STROKE** of the needle bar and the needle bar has risen slightly from its lowest position. Then securely tighten the two set screws in the crank **A3**, **Fig. 44**.



**Fig. 43. Indicating  
Top and Bottom of  
Looper Point**

**NOTE:** When the looper point is correctly set with relation to the needle on the **LEFT HAND STROKE** of the needle bar, the looper point will be in proper relationship to the needle on the **RIGHT HAND STROKE** of the needle bar.



E23957

**Fig. 44. Looper Shaft Crank**

The above setting must be made for each variation in the distance between holes in the button as the distances between holes increase; that is, if the looper is timed for a button with holes  $7/64$  inch apart, it must be reset for a button with the holes farther apart.

However, if the looper is timed to handle a button with the holes  $7/32$  inch apart, it is not necessary to retime the looper for every button having lesser distances between the holes.

### NEEDLE GUIDE AND THREAD CONTROL

The guide **J3**, shown in **Figs. 42** and **45**, having two functions, as a needle guide and as a thread control, requires two adjustments.

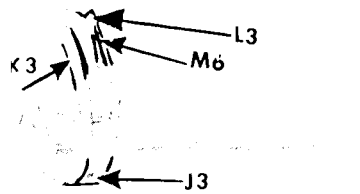


Fig. 45. Needle Guide and Thread Control Removed from Machine

#### To Adjust as a Needle Guide:

The front prong **K3**, Fig. 45 is the needle guide and should be adjusted with its inside surface just clearing the needle.

To adjust, loosen the set screw **M3**, Fig. 46 which holds the needle guide shaft bushing (in which the needle guide shaft has its bearing). Move this bushing endwise in the desired direction. Then securely tighten the set screw **M3**, Fig. 46. The needle guide shaft bushing is concealed in Fig. 46 by the coil spring **N3**.

#### To Adjust for Thread Control:

The needle guide thread finger **L3**, Fig. 45 which forms the rear prong of the guide **J3**, is the thread controlling portion. It should be adjusted so that the point of the needle, on its downward stroke, clears the inside of the thread finger at **M6**, Fig. 45 by about 1.32 inch when the needle bar is on its left hand vibration, or throw.

To adjust, loosen clamping screw **Q3**, Fig. 46 in the needle guide oscillating crank **R3**, Fig. 46. Turn the needle guide **J3** to the required position and securely tighten the screw **Q3**.

**NOTE:** The above adjustment, to provide a clearance of about 1.32 inch, must be made for each variation in the distance between the holes in the button.

#### To Time the Needle Guide:

The guide **J3**, Fig. 45 is generally timed so that it starts to move back (toward the right) when the needle bar, on its upward stroke, has risen approximately 13.16 inch.

To adjust, loosen the screw **P3**, Fig. 46 in the cam **O3**, Fig. 46 on the looper shaft. Turn the cam to the required position, then tighten the screw **P3**.

**NOTE:** It is sometimes necessary to vary slightly the timing of the needle guide, depending upon the nature of the material to which the button is sewn and the distance between the holes in the button.

Attached to the rear side of this guide is the needle guide thread finger. Fig. 45 shows only the tip **L3** of this thread finger, the thread finger being almost entirely concealed by the needle guide **J3**.

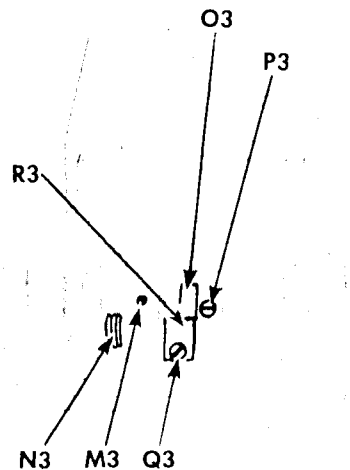


Fig. 46. Timing Needle Guide

#### TO TIME THE BUTTON CLAMP FEED CAM

The button clamp feed cam **X2**, Figs. 47 and 48 should be timed so that the arrow on its rim is in alignment with the arrow on the button clamp carrier driving arm **V3**, Figs. 47 and 48 when the machine is in its stopped or locked position.

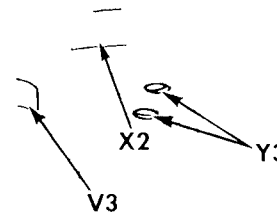


Fig. 47. Feed Cam

To adjust, loosen the two screws **Y3**, Figs. 47 and 48 and set cam **X2** so that the arrows are in alignment with each other at **W3**, Fig. 48, then tighten the screws **Y3**.

#### TO TIME THE AUTOMATIC TENSION

Depending upon the type of button and material being sewn, the needle bar should move from about 3.8 inch to about 5.8 inch (for Machine 175-62), or from about 1.4 inch to about 3.8 inch (for Machine 175-63) to complete its upward stroke after the automatic tension has released the thread.

To adjust, loosen the two screws **A4**, Fig. 48 using, for this purpose, the special splined wrench which accompanies the machine, and turn the cam **Z3**, Fig. 48 to the required position. Note that this cam also serves as an end thrust collar for the main shaft; therefore make certain that it is in contact with the shaft bearing in the machine bed, then securely tighten the two screws **A4**.

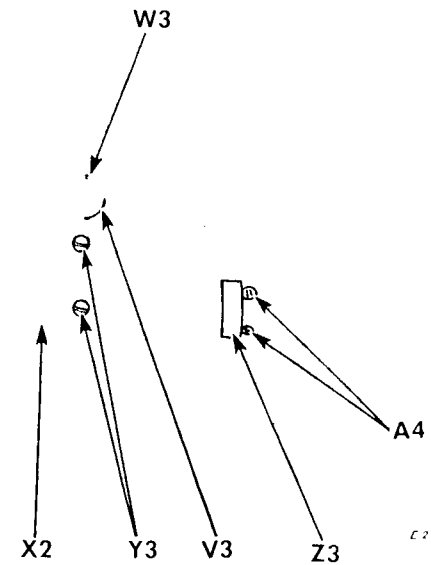


Fig. 48. Timing Automatic Tension

then securely tighten the two screws **A4**.

### TO REGULATE THE HEIGHT OF LIFT OF THE BUTTON CLAMP

The height to which the button clamp is raised is controlled by the position of the button clamp lifting rod arm stop plate **F4**, Fig. 49.

To adjust, loosen the two screws **G4**, Fig. 49 and move the stop **F4** downward to raise the button clamp higher, or move the stop **F4** upward to lessen the height of the button clamp lift. When the desired adjustment is obtained, securely tighten the two screws **G4**.

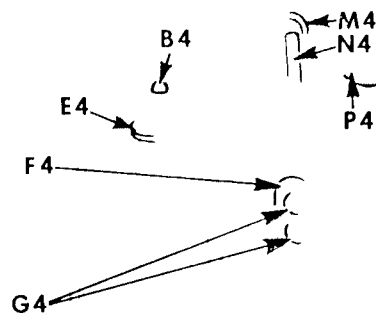


Fig. 49. Regulating Button Clamp Lift

### TO ADJUST THE AUTOMATIC TENSION

When the automatic tension **B4**, Figs. 49 and 50 is closed (without thread being between the discs) there should be about 1/64 inch between the upper end of the automatic tension rod **D4**, Fig. 50 and the tension release disc **E4**, Figs. 49 and 50.

To adjust, loosen the nuts **C4**, Fig. 50 and turn the rod **D4**, Fig. 50 up or down until the proper end play is obtained, then securely tighten the nuts **C4**.

### TO ADJUST THE TENSION OF THE THREAD PULL-OFF (FRONT)

Should it become necessary to adjust the tension of the thread pull-off (front) **L4**, Fig. 50, loosen set screw **H4**, Fig. 50 and turn the hexagon nut **J4**, Fig. 50 up to tighten the spiral spring **K4**, Fig. 50 thus increasing the tension of the thread pull-off (front) **L4**, or turn the hexagon nut **J4** down to decrease the tension. When the tension is correctly set, securely tighten screw **H4**.

### TO ADJUST THE THREAD PULL-OFF (BACK)

Thread pull-off (back) **M4**, Figs. 49 and 50 should move back toward the left of the thread post **N4**, Figs. 49 and 50 about 1/2 inch when the button clamp is lifted to its highest position.

To adjust, loosen screw **O4**, Fig. 50 and move the thread pull-off (back) **M4** backward or forward (left or right), as required, to set as stated; then securely tighten screw **O4**.

### TO ADJUST THE TENSION OF THE THREAD NIPPER

The thread nipper **P4**, Figs. 49 and 50 should hold the thread tightly while the machine is in its stopped position.

Should adjustment be necessary, loosen screw **Q4**, Fig. 50 in the collar **R4**, Fig. 50 and move the collar **R4** downward for tighter thread nipping or upward for less thread grip. When the required adjustment is obtained, securely tighten screw **Q4**.

### TO ADJUST THE TIMING OF THE THREAD NIPPER

When the machine is in its stopped or locked position, the stud **S4**, Fig. 50 on the underside of the thread nipper releasing lever, should rest upon the center of the stud **O6**, Fig. 50 on the top surface of the cam **V2**, Fig. 50.

To adjust, loosen the nut **P6**, Fig. 50 at the upper side of the thread nipper releasing lever. By means of this nut **P6**, move the stud **S4** toward or away from the needle (the slot in the lever permitting of this adjustment). When correct adjustment is made, securely tighten the nut **P6**.

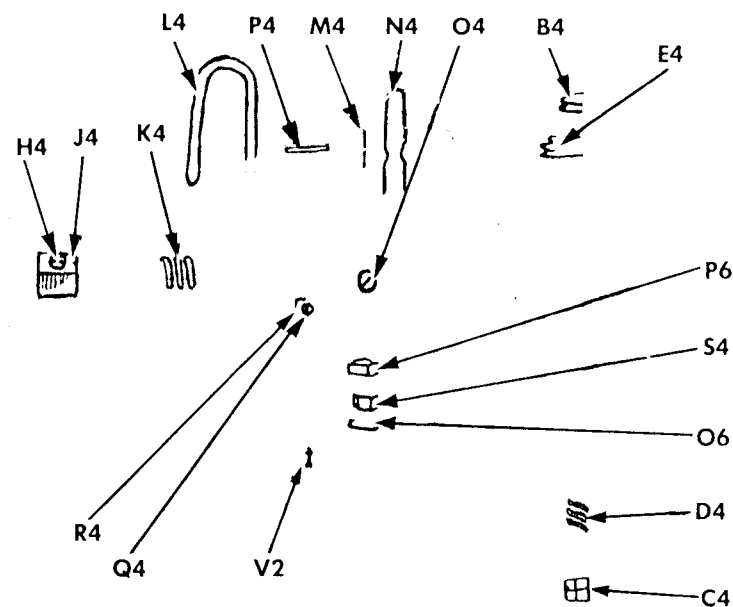


Fig. 50. Timing the Thread Nipper

## INDEX

## INSTRUCTIONS FOR OPERATORS

	Pages
BUTTONS Sewn on Machines 175-62 and 175-63—Lists of	32-34
BUTTON CLAMP	
To Adjust for Blind Stitching Flat Buttons	27, 28
To Adjust for Blind Stitching Shank Buttons	18, 28-30
To Adjust for Flat Buttons	19
To Adjust for Through and Through Stitching Flat Buttons	19-21
To Adjust for Through and Through Stitching Shank Buttons	18, 22-27
To Adjust Opening for Flat Buttons	17
To Adjust Pressure on Button Clamp	16
To Adjust for 2-hole and 4-hole Flat Buttons	18
To Change the Button Clamp	19
To Regulate Forward and Backward Motion	17
To Center Needle in Needle Holes in Flat Buttons	19
To Center Needle in Needle Hole in Button Shank	18
DESCRIPTION	3
FEED PLATE—To Adjust for Dubbilstay Work	
To Change the Feed Plate	19
To Stop Motion	23
NEEDLES—Class and Variety	
To Set the Needle	13
NEEDLE BREAKAGE—Causes of	
	17
NEEDLE BAR—To Regulate Vibration	
	17
OILING	9-12
ORDERING	4, 35
SPEED	4
TO SET UP THE MACHINES	4-8
SNAP FASTENERS—MACHINE 175-63—To Remove and Replace	
	31
STAY BUTTON HOLDER—To Change	19
THREAD BREAKAGE—Causes of	
	17
TO THREAD THE MACHINES	14, 15
THREAD NIPPER—To Release for Threading	14
THREAD TENSION—To Regulate	16
THREAD—To Sever	17
WORK SUPPORT—To Change	29
To Adjust Work Support for Blind Stitching Flat Buttons	27
To Adjust Work Support for Blind Stitching Self-Shank Buttons	29

## INDEX

## INSTRUCTIONS FOR ADJUSTERS AND MACHINISTS

	Pages
AUTOMATIC TENSION	
To Adjust	44
To Time	43
BUTTON CLAMP—To Regulate Height of Lift	44
BUTTON CLAMP FEED CAM—To Time	43
LOOPER	
To Time	40, 41
To Adjust with Relation to the Needle	40
LOOPER SHAFT CRANK AND LOOPER DRIVING SHAFT CRANK—To Time	37
NEEDLE BAR	
To Set at Correct Height	39
To Time Vibration	39
To Set Vibration with Relation to Looper Shaft and the Needle Slot in the Needle Plate	39 and 40
NEEDLE GUIDE AND THREAD CONTROL	
To Adjust	41 and 42
To Time	42
STOP MOTION—To Adjust	37
STOP MOTION SHAFT—To Adjust Spring Tension	37
STOP MOTION PULLEY SHIFTER—To Adjust	37
THREAD PULL-OFF (Front)—To Adjust Tension	44
THREAD PULL-OFF (Back)—To Adjust	44
THREAD NIPPER	
To Adjust Tension	44
To Adjust Timing	45

## INDEX

ILLUSTRATIONS SHOWING EQUIPMENT  
FOR VARIOUS TYPES OF BUTTONS

	Pages
FLAT BUTTONS—Various Methods of Stitching, with or without Stay Buttons	19-21, 27, 28
LEATHER SHANK BUTTONS, with or without Stay Buttons	24, 25
METAL SHANK BUTTONS	30
METAL SHANK BUTTONS, with Stay Buttons	26
SELF-SHANK BUTTONS	28, 29
BUTTONS—Varieties Sewn on Machines 175-62 and 175-63	32-34
SNAP FASTENERS—MACHINE 175-63	31