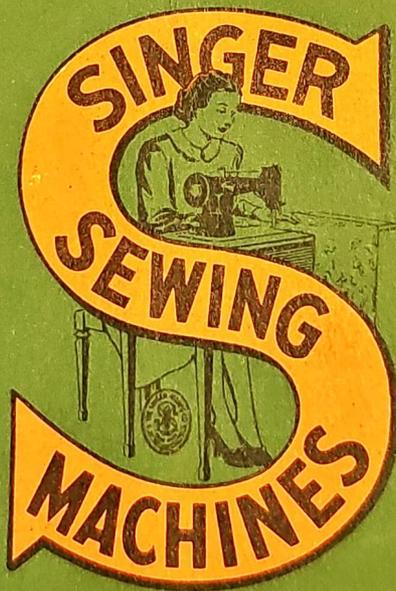


Form 1901w  
Reissue  
(137)

INSTRUCTIONS  
FOR USING AND ADJUSTING  
SINGER SEWING MACHINES  
OF  
CLASSES 61<sup>w</sup> AND 62<sup>w</sup>  
EXCEPT 61<sup>w</sup>91 AND 61<sup>w</sup>92



THE SINGER MANUFACTURING CO.

PRINTED IN U. S. A.

# USE ONLY SINGER OILS and LUBRICANTS

*They insure freedom from lubricating trouble and give  
longer life to sewing equipment*

---

## **SINGER OIL FOR HIGH SPEED SEWING MACHINES** (Cloth and Leather)

For all manufacturing sewing machines except where a stainless oil is desired.

## **SINGER STAINLESS OIL FOR HIGH SPEED SEWING MACHINES**

For all manufacturing sewing machines where a stainless oil is desired.

## **SINGER MOTOR OIL**

For oil-lubricated motors, power tables, transmitters and machinery in general.

## **SINGER STAINLESS THREAD LUBRICANT**

For lubricating the needle thread of sewing machines for stitching fabrics or leather where a stainless thread lubricant is required.

*NOTE: All of the above oils are available in 1 quart, 2 quart, 1 gallon and 5 gallon cans or in 55 gallon drums, and can also be supplied in customer's containers.*

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## **SINGER GEAR LUBRICANT**

This specially prepared grease is recommended for gear lubrication on manufacturing sewing machines.

## **SINGER BALL BEARING LUBRICANT**

This pure grease is specially designed for the lubrication of ball bearings and ball thrust bearings of motors and electric transmitters, ball bearing hangers of power tables, etc.

*NOTE: The above greases are furnished in ¼ lb. tubes and 1 lb. and 4 lb. tins.*

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1901w

# INSTRUCTIONS

FOR USING AND ADJUSTING

## Singer Sewing Machines



OF

CLASSES 61w and 62w

EXCEPT 61w91 and 61w92

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The Singer Manufacturing Company

To all whom it may concern:

The placing or renewal of the name "Singer" (Reg. U. S. Pat. Off.) or any of the trade marks of The Singer Manufacturing Company on any machine that has been repaired, rebuilt, reconditioned, or altered in any way whatsoever outside a Singer factory or an authorized Singer agency is forbidden.

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THE IMPORTANCE OF USING  
GENUINE SINGER PARTS AND NEEDLES  
IN SINGER MACHINES

The successful operation of Singer machines can only be assured if genuine Singer parts and needles are used. Supplies are available at all Singer Shops for the Manufacturing Trade and mail orders will receive prompt attention.

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

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

# MACHINES OF CLASSES

## 61 w and 62 w

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### DESCRIPTION

Machines of above Classes contain the horizontal, belt driven, rotating sewing hook with stationary bobbin case mechanism for making the lock stitch at high speed in fabrics and light leather work, and are distinguished for absolute cleanliness of operation, a feature especially desirable in stitching white goods.

The link thread take-up is a most efficient device for its purpose. It consists of a light and strong lever and link, working silently without the use of cam or spring. It is capable of the highest speed without vibration of the machine, and with least friction and wear of parts. The bearings and wearing parts are of such generous size and construction that the machines do their work under severe conditions for a long time without showing appreciable wear.

Machine 62 w 1 is designed for sewing tubular articles; otherwise similar to Machine 61 w 52.

## Speed

With the exception of Machines 61 w 62 and 61 w 63, Machines of Classes 61 w and 62 w can be operated as fast as the needle and grade of material will permit, up to a maximum of 3500 stitches per minute. The maximum speed recommended for Machines 61 w 62 and 61 w 63 is 3000 stitches per minute.

## Needles and Thread

Needles for Machines of Classes 61 w and 62 w are of the Class and Variety numbers given in the following table:

CLASS AND VARIETY NOS. OF NEEDLES	BLADE	LENGTH FROM EYE TO UPPER END	SHAPE OF POINT	SIZE NUMBERS
135x1	Size 9 and above Reduced	1¼ in.	Round	7, 8, 9, 10, 12, 14, 16, 18, 20, 22
135x3	Reduced	1¼ in.	Round (For Silk)	9, 10, 12, 14, 16, 18, 20, 22
135x5	Reduced	1½ in.	Round	9, 10, 12, 14, 16, 18, 20, 22, 23
135x2	Straight	1¼ in.	Nar. Wedge	9, 10, 11, 12, 13, 14, 15, 16, 18, 20, 22
135x4	Straight	1¼ in.	Points Other Than Nar. Wedge	10, 11, 12, 13, 14, 15, 16, 18, 20, 22
135x6	Straight	1½ in.	Nar. Wedge	10, 11, 12, 13, 14, 15, 16, 18, 20, 22, 23, 24
135x8	Straight	1½ in.	Points Other Than Nar. Wedge	10, 11, 12, 13, 14, 15, 16, 18, 20, 22, 23, 24

## Machines, and Needles Adapted for Them

61 w 52	}		}		
61 w 62				61 w 66	USE NEEDLE 135 X 5
61 w 63				61 w 156	
61 w 72			61 w 157		
61 w 74		USE NEEDLE 135 X 1			
61 w 76					
61 w 78					
61 w 84					
61 w 154					
				61 w 80 USE NEEDLE 135 X 4	

The needle which is best adapted for the work that the machine is fitted to do is set in the machine at the factory.

The size No. of the needle is marked upon its shank.

The successful use of a sewing machine depends largely upon the quality and size of the needle in use. When needles are to be ordered the Class and Variety of the machine, as shown by its number plate, and the line of work to be accomplished must be considered, therefore the order should call for the style and size of the needle required, as shown by the Needle Table and the list of Relative Sizes of Needles and Thread. The size to be used should be determined by the size of the thread, which must pass freely through the eye. If rough or uneven thread is used, or if it passes with difficulty through the eye of the needle the successful use of the machine will be interfered with.

Orders for needles must specify the **quantity** required, the **size**, also the **class** and **variety** numbers separated by x. In the class and variety of needle of which various styles of points are made the order should also specify the style of point required.

The following are details of an intelligible order:

“100 No. 14—135 x 4 Reverse Triangular Point Needles.”

“100 No. 12—135 x 5 Needles.”

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

## RELATIVE SIZES OF NEEDLES AND THREAD

NEEDLES FOR LEATHER WORK			FOR CLOTH WORK	
<i>Size Numbers of Needles</i>	<i>Cotton Thread</i>	<i>Silk Thread</i>	<i>Cotton Thread</i>	<i>Silk Thread</i>
10	70	OO and O	100 to 150	OOO to OO
11	60	A	90 " 100	OO
12	50	B	80 " 90	O
13	40	C	70 " 80	A
14	36	D	60 " 70	A
15	30	D	50 " 60	B
16	30	E	40 " 50	C
18	24	—	30 " 40	C
20	20	—	24 " 30	D
22	16	—	16 " 24	E

### Twist, Linen and Cotton Thread and Needles

To make a smooth, even stitch with your sewing machine, use good, firmly twisted and smoothly finished thread, that passes freely through the eye of the needle. No other needles will give as good results and satisfaction as those recommended above.

In using slack twist or uneven silk, should it be frayed or roughened, the needle is too fine or too sharp, or has a hooked point, made by striking the throat plate. A hook may be easily honed off the needle.

For ordinary work use the same size of thread on the bobbin as in the needle.

Ready wound bobbins for Singer Sewing Machines are sold by thread manufacturers.

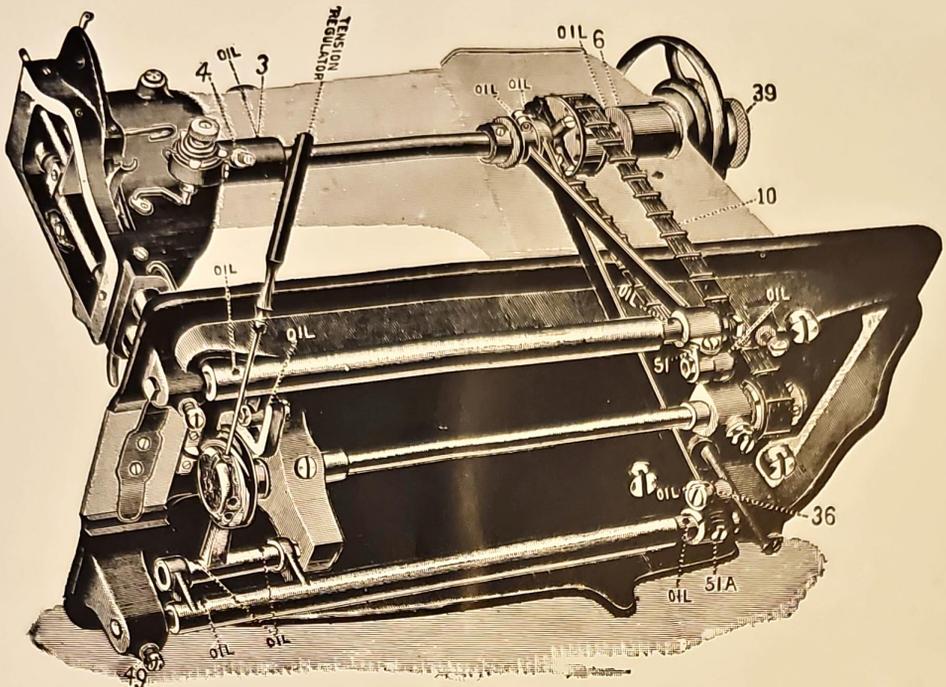


Fig. 2

### To Oil the Machine

Good oil is the life of a machine, and should be regularly used on any surface of metal which comes in movable contact with another surface.

The large hole on top of the arm near the take-up lever is for screw driver use.

There are five oil holes outside of the arm and bed as follows:

1st. Back of the large hole, to oil the conduit to the take-up lever hinge stud (see Fig. 3).

2nd. The oil packing wick thumb screw, to oil the arm shaft bushing (front) and conduits (see Fig. 3).

3rd. Near the balance wheel, to oil the arm shaft bushing (back).

4th. Near the bed on the inside of the arm, to oil the hook shaft bushing (back).

5th. In the center of the bed plate, to oil the hook shaft bushing (front).

Move the arm cap aside, to oil the feed connections.

Move the face plate aside, to oil the needle bar connecting link stud, the needle and presser bars, and the slide behind the link (see Fig. 3).

Tip the machine back, to oil each end of the rock shafts, the feed bar, slide block, and the connection hinge screws (see Fig. 2).

Oil the bearings at both ends of the treadle, pitman and shaft, and all other movable parts of the transmitter, etc.

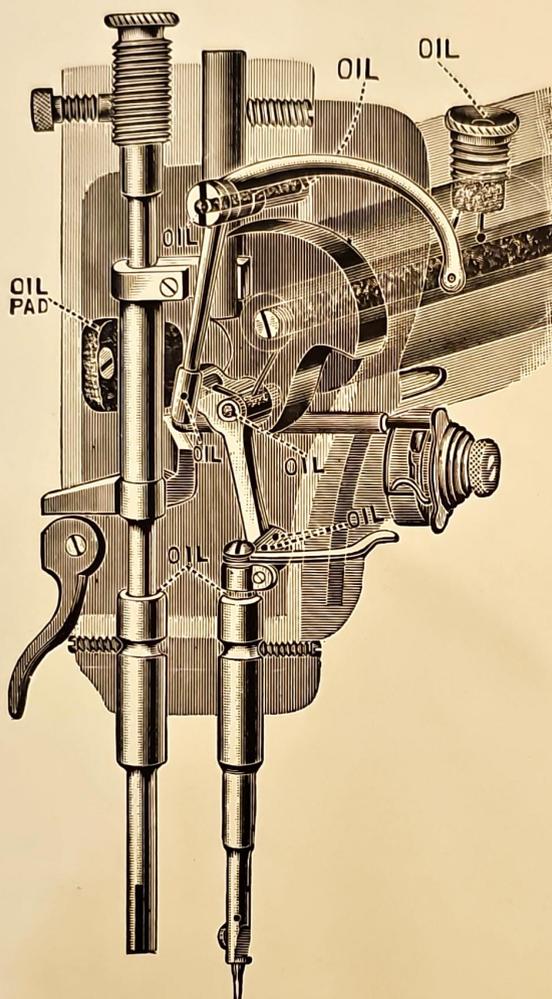


Fig. 3

### Oil Conduits

Fig. 3 shows that the shaft and studs are hollow and filled with oil wicking, as are also the conduits for conducting the oil from the shaft through the needle bar crank to the needle bar driving and the take-up driving studs. The centrifugal force works the oil from the shaft to the bearing and through the conduits and studs. There is a conduit from the top of the arm to the stationary take-up stud.

**Oil the bobbin case bearing in the hook race each time a bobbin is replaced.**

When a machine has been neglected or becomes gummed, it should be soaked well with benzine and run for a short time, keeping all parts flooded with oil, until it runs freely, then wipe thoroughly to remove all old oil and dirt and oil as before directed.

Never run the machine with the presser foot down except when sewing, as it will scratch the presser foot and dull the teeth of the feed dog.

### **To Set the Needle**

Push the needle up in the needle bar as far as it will go, with the long groove to the right, or toward the column of the arm, and secure it firmly with the set screw.

It may be necessary to turn the needle slightly to the right or left for some threads, if stitches are missed.

Operators are liable to use needles which are too fine. Better results usually follow the use of a larger size.

For ordinary work use the same size of thread on the bobbin as in the needle.

## FOR MACHINES WITHOUT OPENERS

### To Thread the Bobbin Case

Place the bobbin in the bobbin case, with the thread leading from the top toward you; hold the thread with the right hand

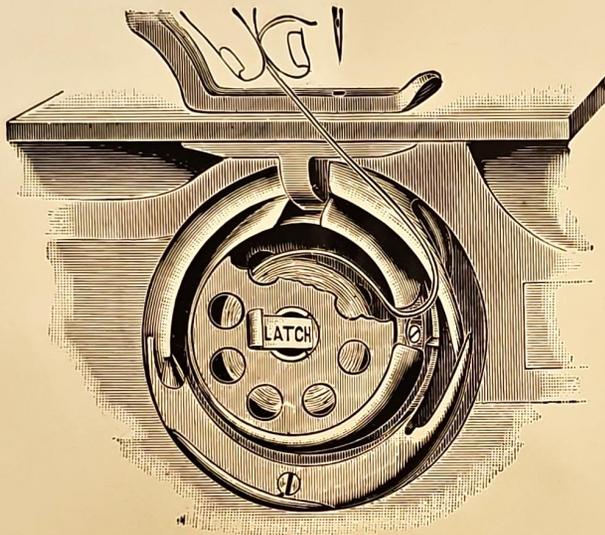


FIG. 4

(see Fig. 4), guide it into the notch (close the latch) and draw until the thread is under the spring on the bobbin case, or drawing the thread up through the needle hole in the throat plate will draw the thread under the spring as you start to sew.

## FOR MACHINES WITH OPENERS

### To Remove the Bobbin

Draw out the slide in the bed of the machine. Reach down with the thumb and forefinger of the left hand, open the bobbin case latch with the forefinger and lift out the bobbin case cap. While the latch remains open, the bobbin is retained in the bobbin case cap. Release the latch, turn the open end of the bobbin case cap downward and the bobbin will drop out.

### To Thread the Bobbin Case Cap

Hold the bobbin between the thumb and forefinger of the right hand, the thread leading on the bottom from the left toward the right.

With the left hand hold the bobbin case cap open side up and place the bobbin into it.

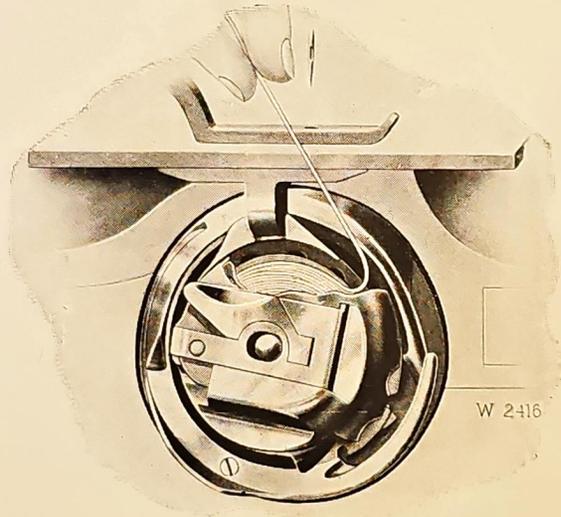


FIG. 5

Then pull the thread into the slot in the edge of the bobbin case cap and under the tension spring and into the notch in the end of the tension spring.

### To Replace the Bobbin Case Cap

After threading, take the bobbin case cap by the latch, holding it between the thumb and forefinger of the left hand, place the bobbin case cap on the center stud of the bobbin case base. Release the latch and press the bobbin case cap back until the latch catches the groove near the end of the stud.

### To Thread the Needle

Guide the thread as shown in Fig. 6, and as the thread is passed around between the tension discs draw it up to the right until it passes into the fork above the thread controller.

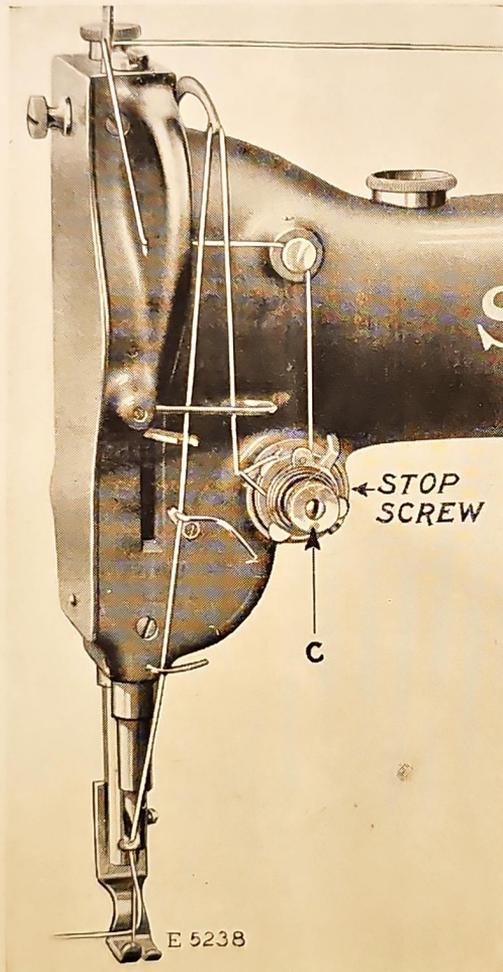


FIG. 6

### Roller Presser

For convenience in threading, press down on the roller and swing it out to the left.

## To Wind the Bobbin

(SEE FIG. 7)

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

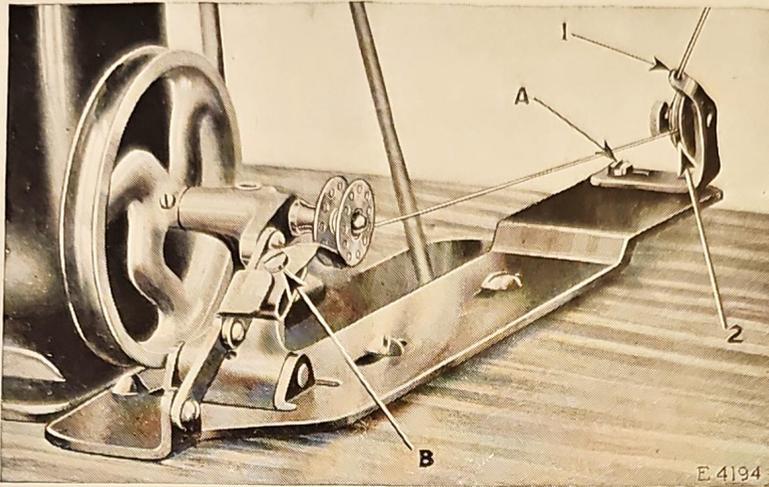


FIG. 7. WINDING THE BOBBIN

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

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

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

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

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

Bobbins can be wound while the machine is stitching.

## To Commence Sewing

With the left hand take hold of the needle thread, leaving it slack between the hand and the needle, turn the balance wheel toward you until the needle moves down and the take-up lever rises to its highest point, thus catching the bobbin thread; draw up the needle thread and the bobbin thread with it through the needle hole in the throat plate and lay both threads back across the feed dog; then place the material beneath the needle, lower the presser foot upon it, turn the balance wheel toward you and commence to sew.

## The Tensions

To regulate the tensions, please observe the following:



FIG. 8

The upper and under threads should lock in the center of the material as shown in Fig. 8.

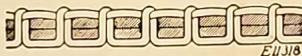


FIG. 9

If the upper thread is held too tightly by its tension, or if the under thread is too loose, the thread will be straight along the upper surface of the material as shown in Fig. 9.



FIG. 10

If the under tension is too tight or the upper too loose, the thread will be straight along the under side of the material, as shown in Fig. 10.

## To Regulate the Tension on the Under Thread

The tension on the under thread is regulated by the screw in the center of the tension spring on the outside of the bobbin case cap. To increase the tension turn this screw over to the right. To decrease the tension turn this screw over to the left. See that there is no lint or dirt under the tension spring.

Correctly made stitches, as shown in Fig. 8, can usually be obtained by regulating the upper tension only, turn the tension thumb nut inwardly to tighten and outwardly to loosen the tension (see Fig. 6).

**Caution.** Do not try to adjust the upper tension when the presser foot is up, as the tension is then released.

### **Feed Regulator**

The figures on the feed regulating spindle head at the right of the balance wheel, showing through the notch in the balance wheel, indicate the number of stitches to the inch which the machine should make. Turn the spindle head until the figures representing the desired number of stitches to the inch appear in the notch.

### **To Turn a Corner**

Stop the machine while the needle is rising, but before it is out of the material, raise the presser foot and turn the corner, using the needle as a pivot.

In sewing where special elasticity is required, as on bias seams or very elastic material, hold the work back slightly, to keep the cloth stretched while being sewed.

### **The Pressure on the Material**

The pressure of the presser foot or of the roller presser should be only heavy enough to assure an even length of stitch and to prevent the work from rising with the needle; if too heavy it will make the machine run harder and be of no benefit.

The pressure is regulated by turning the thumb screw (see Fig. 6) at the top of the arm head through which the presser bar passes.

### **Roller Presser**

The roller should be set close enough to the needle to steady it and prevent it from staggering, and far enough back to prevent the leather from stretching.

## To Remove the Work

Raise the presser lifter, turn the machine by the balance wheel until the take-up lever is at its highest point and draw the work from you. If the threads do not draw out easily, the take-up lever is not in the right position, as directed. If the machine is stopped as directed, the needle will not be unthreaded in starting to sew, even if only a short end is left through the needle.

For convenience in taking out the work, the tension of the upper thread is released by raising the presser foot with the lifter; but is not released by thick goods or seams passing under the presser foot. Do not try to adjust the upper tension when the presser lifter is up as the tension is then released.

Causes of the machine not working properly will usually be found in the tension not being correctly adjusted, or its discs may be clogged with lint or knots of thread, or the thread may be too coarse or too fine for the needle, or the needle and thread too coarse or too fine for the throat plate, or the needle bent or blunt. See that a straight needle is pushed up in the needle bar as far as it will go; any particle of lint or dirt which prevents it from going up can be removed through the cross hole in the needle bar.

## Knee Lifter

The knee lifter is used for raising the presser foot by knee pressure against the knee plate, leaving both hands free to manipulate the work. If the knee lifter does not raise the presser foot satisfactorily, adjust the rod in the rock lever which connects with the rod in the arm of the machine to lift the presser foot.

# INSTRUCTIONS

## FOR

### ADJUSTERS AND MACHINISTS

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#### **Thread Controller**

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

For more controller action on the thread, loosen the stop screw (see Fig. 6) at the right of the tension and set the stop lower, and for less action set the stop higher.

To strengthen the action of the controller spring on the thread, loosen the tension stud screw (C, see Fig. 7) at the right of the stop screw and turn the tension stud slightly to the left with a screw driver, or to lighten its action turn to the right and tighten the tension stud screw.

#### **Feed**

To take up lost motion of the feed connections, adjust their hinge and pinch screws.

To prevent the feed dog from striking at either end of the slots in the throat plate, loosen the feed driving connection crank pinch screw (51A, see Fig. 2) and move the feed dog forward or backward until the longest stitch can be taken without the feed dog striking the throat plate and retighten the screw.

#### **To Raise or Lower the Feed Dog**

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

Remove the throat plate; clean the lint and dirt from between the feed points and replace the throat plate; tip the machine back and turn the balance wheel toward you until the feed dog is at its highest position; loosen the feed lifting connection crank pinch screw (51, see Fig. 2) and raise or lower the feed dog as desired and retighten the screw.

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

### **To See if the Needle Bar is Set Correctly**

See that the needle is up in the bar as far as it will go. The needle bar which is in the machine when shipped from the factory has upon it (about  $1\frac{1}{2}$  inches from the bottom) two lines  $\frac{3}{32}$  inch apart.

When the needle bar is at its lowest position, the upper mark should be just visible at the end of the bushing.

**To Set the Needle Bar in Correct Time.** Loosen the needle bar connecting stud pinch screw and place the needle bar in the proper position as directed above, then retighten the screw.

**To Set a Needle Bar Which Has no Mark.** Set the needle bar so that when it rises  $\frac{3}{32}$  inch from its lowest position the point of the hook will be at the center of the needle and about  $\frac{1}{16}$  inch above the eye.

### **To See if the Hook is Correctly Timed**

Remove the throat plate and turn the balance wheel toward you until the lower mark across the needle bar, as it is going up, is just visible at the end of the bushing; now, if the needle bar and hook are in correct time the point of the hook will be at the center of the needle and about  $\frac{1}{16}$  inch above its eye.

### **To Time the Hook**

Loosen the screws in the hook shaft connection belt pulley and turn the balance wheel toward you until the needle bar goes to its lowest position and upward until the lower mark across the needle bar is just visible at the end of the bushing, then stop turning and hold the wheel firmly; with the left hand, turn the hook until the point is at the center of the needle— $\frac{1}{16}$  inch above its eye—see that the end play to the shaft is almost eliminated, then retighten the pulley screws.

### **To Remove the Hook**

Loosen the screws which hold the belt pulley, remove the throat plate and draw the hook and shaft out.

### To Set the Hook To or From the Needle

Loosen the set screws that hold the belt pulley on the hook shaft and the set screw at the right of the hook (see Fig. 4) that holds the bushing, and carefully drive the bushing to the right, to set the hook closer to the needle, or to the left, to set it farther from the needle. After carefully adjusting and timing the hook to the needle, tighten the screws that hold the bushing and the pulley. Leave the least amount of end play possible to the shaft, for lubricating purposes.

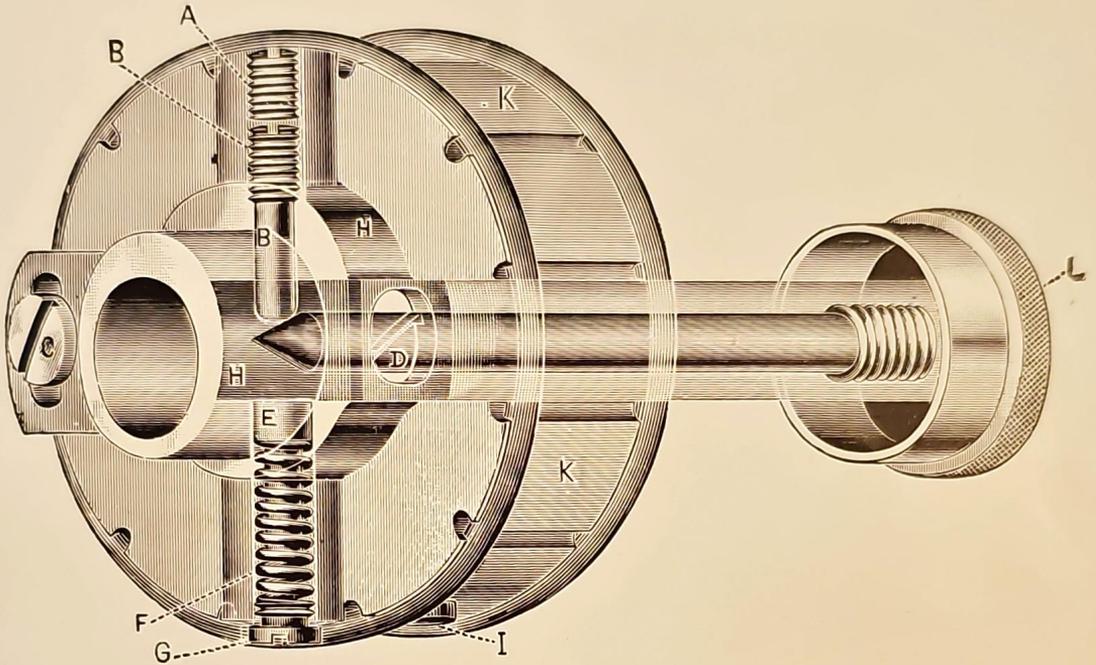
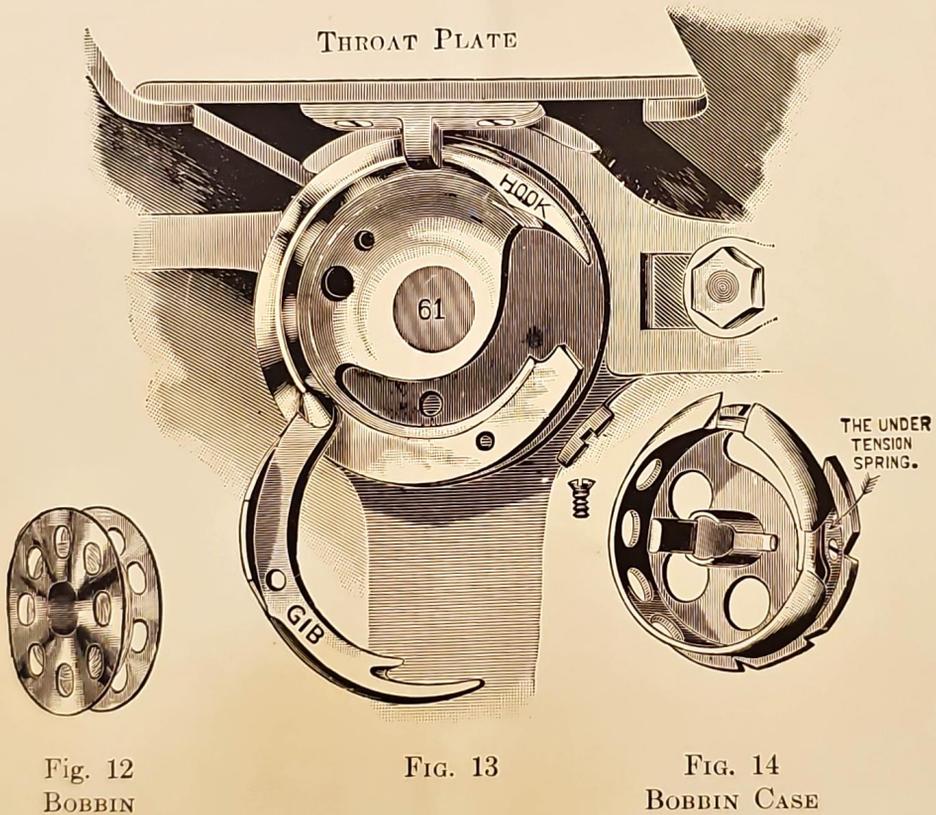


FIG. 11. Transparent view through the arm shaft connection belt pulley and shaft, showing the feed regulating spindle and adjusting screw (B), which comes in contact with the cone of the spindle to gauge the length of stitch.

The figures on the feed regulating spindle head, showing through the notch in the balance wheel, indicate the number of stitches to the inch which should be made. If more or less stitches are made, adjust as follows: Remove screw (A, see Fig. 11), set the indicator at 8 and the feed dog at its highest point, a full tooth showing above the throat plate, then adjust screw (B) until eight stitches to the inch is the result and replace check screw (A) firmly, making the master adjustment, which controls the other numbers of stitches as indicated.

**To Set the Feed Regulator so that a Stitch Longer than the One desired Cannot be made.** Turn spindle head (L, see Fig. 11) toward you and make the longest stitch possible; remove check screw (A) and turn screw (B) down until the machine places the desired number of stitches to the inch, then turn screw (A) down tightly on screw (B) as a check. The stitch may then be changed by turning spindle head (L) for a shorter stitch, but operators cannot make longer stitches than the limit that screw (B) is set to produce.

### FOR MACHINES WITHOUT OPENERS



Figs. 13 and 14 show the Hook Gib open and the Bobbin Case removed.

To remove the bobbin case from the hook to thoroughly clean the bobbin case, remove the screw from the gib and open the gib as shown in Fig. 13; turn the balance wheel until the point of the hook is toward you and lift out the bobbin case. See that there is no lint or dirt under the tension spring.

When returning the bobbin case to the hook, have the positions the same as when removing it, be sure to have the notch at the top of the bobbin case entered by the stop on the throat plate, then close the gib and turn the screw in firmly, being careful not to damage the head of the screw.

When returning the throat plate to its position be sure that the stop on the throat plate enters the notch at the top of the bobbin case.

### FOR MACHINES WITH OPENERS

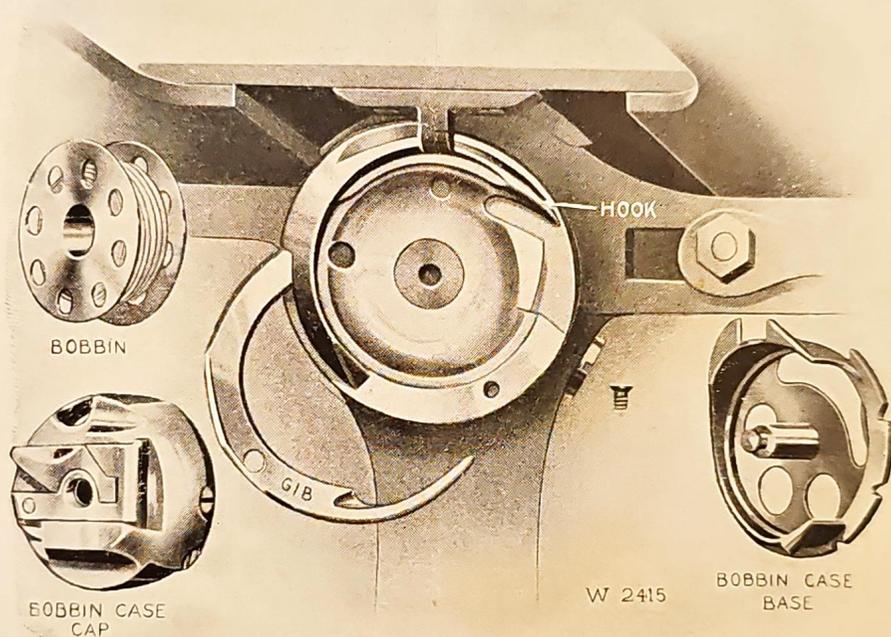


Fig. 15. Hook Gib open and the Bobbin Case removed.

To remove the bobbin case from the hook to thoroughly clean the bobbin case, remove the bobbin case cap then remove the screw from the gib and open the gib as shown in Fig. 15; turn the balance wheel until the point of the hook is toward you and lift out the bobbin case base.

When returning the bobbin case base to the hook, have the positions the same as when removing it, be sure to have the notch at the top of the bobbin case base entered by the stop on the throat plate, then close the gib and turn the screw in firmly, being careful not to damage the head of the screw.

When returning the throat plate to its position be sure that the stop on the throat plate enters the notch at the top of the bobbin case base.

### **To Remove the Belt from Within the Arm**

Slide the arm shaft connection belt off the lower pulley, remove the feed regulating spindle and balance wheel from the end of the arm shaft, loosen the arm shaft bushing (back) screw at the back of the arm and remove the bushing, lift the belt up through the arm cap hole as far as possible and draw it out through the space where the bushing was.

In replacing the belt see that the hook (sewing) and needle are in correct time before running the belt on the lower pulley, and verify the correctness of the timing before commencing to sew.

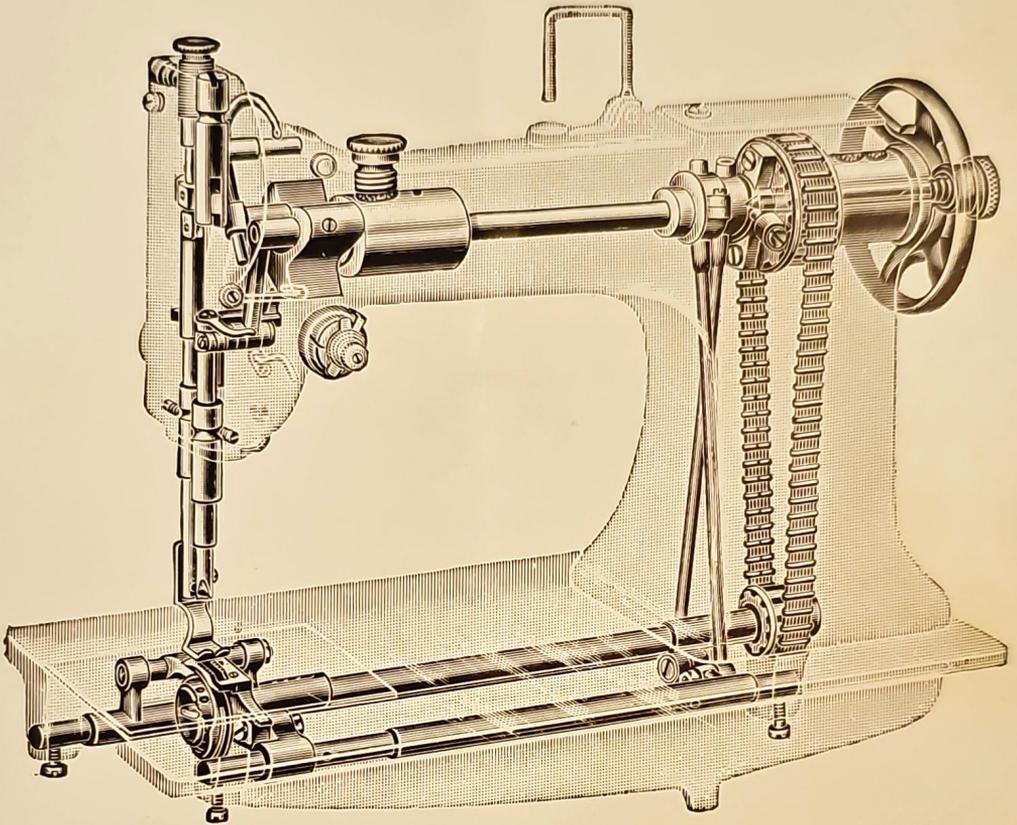


Fig. 16. Machine 61 w 52. Phantom view showing the interior placement of the working parts in a finished machine.

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Needles in Containers marked  
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**This Trade Mark is on the Arm  
of Every Singer Sewing Machine**