

SINGER
107W100

USE ONLY **SINGER*** OILS and LUBRICANTS

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

The following are the correct lubricants for this machine:

TYPE B — MANUFACTURING MACHINE OIL, HEAVY GRADE

When a stainless oil is desired, use:

TYPE D — MANUFACTURING MACHINE OIL, STAINLESS, HEAVY GRADE

OTHER **SINGER** LUBRICANTS

TYPE E — THREAD LUBRICANT

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

TYPE F — MOTOR OIL

For oil lubricated motors and plain bearings in power tables and transmitters.

NOTE: All of the above oils are available in 1 quart, 1 gallon and 5 gallon cans or in 55 gallon drums.

GEAR LUBRICANT

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

BALL BEARING LUBRICANT

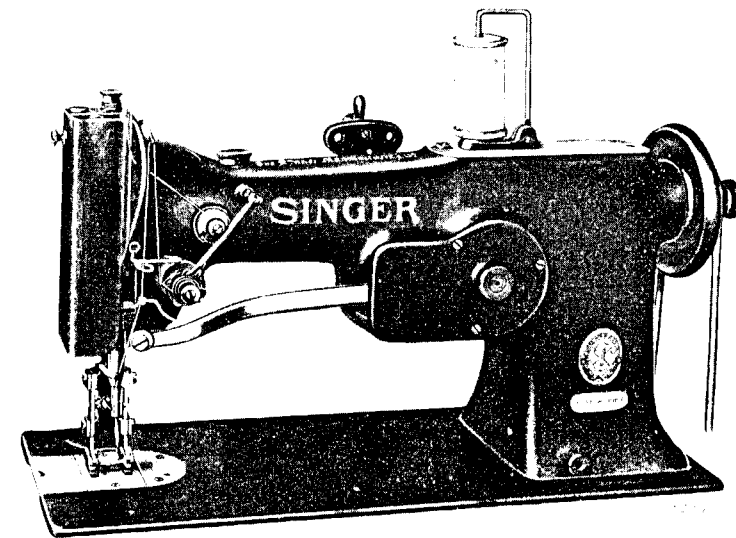
This pure grease is specially designed for the lubrication of ball bearings and ball thrust bearings of motors and electric transmitters, ball bearing hangers of power tables, etc. **Furnished in 1 lb. and 4 lb. tins.**

1423 w

INSTRUCTIONS

FOR USING AND ADJUSTING

SINGER* SEWING MACHINE



No. 107 w 100

ZIGZAG STITCHING

*A TRADE MARK OF

THE SINGER MANUFACTURING COMPANY

TO ALL WHOM IT MAY CONCERN:

The improper placing or renewal of the Trade Mark "**SINGER**" or any other of the Trade Marks of The Singer Manufacturing Company (all of which are duly Registered Trade Marks) 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.

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

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

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

Needles in Containers marked
"**FOR SINGER MACHINES**"
are **NOT SINGER** made needles. 2

DESCRIPTION

Machine 107 w 100 has a rotary hook and is designed for embroidery work. It makes a zigzag lock stitch formed of a needle thread and a bobbin thread. The finished seam has the appearance of hand embroidery.

Speed

The maximum speed recommended for Machine 107 w 100 is 1500 stitches per minute. The machine should be run slower than the maximum speed at first until the parts which are in movable contact have become glazed by their action upon each other. When the machine is in operation, the balance wheel should turn over towards you.

Needles and Thread

Needles for Machine 107 w 100 are of Class and Variety 135x7 and are made in sizes, Nos. 7, 8, 9, 10, 12, 14, 16 and 18.

The size of needle to be used should be determined by the size of thread which must pass freely through the eye of the needle, and care should be taken that the size of needle is no larger than necessary, so that the needle punctures in material will be small, to prevent disfiguration of the material by "shirring" or distortion. 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. Use soft finish thread of the same size for the needle and the bobbin. Use left twist thread, that is, thread twisted over from right to left.

Orders for needles must specify the *quantity* required, the *size* number, also the *class* and *variety* numbers separated by the letter x.

No other needles will give as good results as those sold by Singer Sewing Machine Company, and no other needles but those specified should be used with this machine as these needles 135x7 are especially designed for this work.

To Remove the Bobbin

Draw out the slide in the bed of the machine; reach under the bed of the machine with the thumb and forefinger of the left

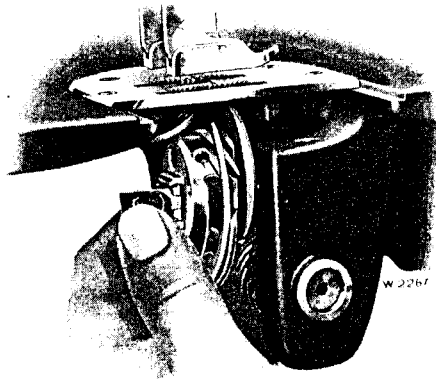


FIG. 2. TAKING OUT THE BOBBIN CASE

hand, open the bobbin case latch with the forefinger and lift out the bobbin case (see Fig. 2).

While the latch remains open the bobbin is retained in the bobbin case. Release the latch, turn the open end of the bobbin case downward and the bobbin will drop out.

To Wind the Bobbin

(SEE FIG. 3)

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.

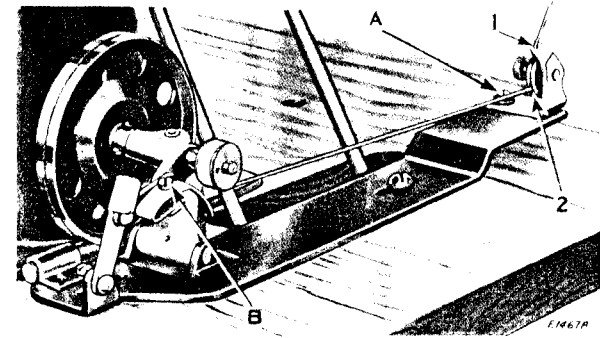


FIG. 3. WINDING THE BOBBIN

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.

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.

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

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.

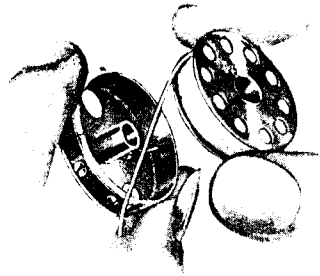


FIG. 4

the tension spring being at the front (see Fig. 4) and place the bobbin into it.

Then pull the thread towards the left into the slot in the edge of the bobbin case (see Fig. 5), draw the thread under the tension spring and into the second slot in the edge of the bobbin case; then

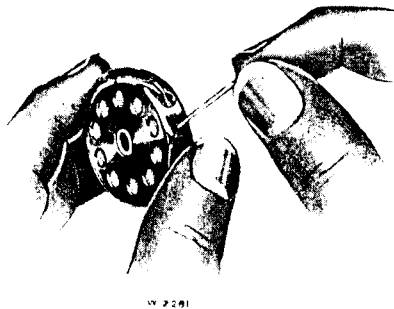


FIG. 6

To Thread the Bobbin Case

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

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

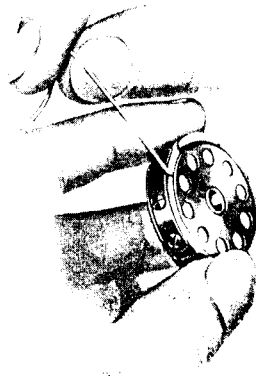


FIG. 5

pull the thread between the bobbin and bobbin case and into the third slot in the edge of the bobbin case, then into the delivery eye as shown in Fig. 6.

To Replace the Bobbin Case

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

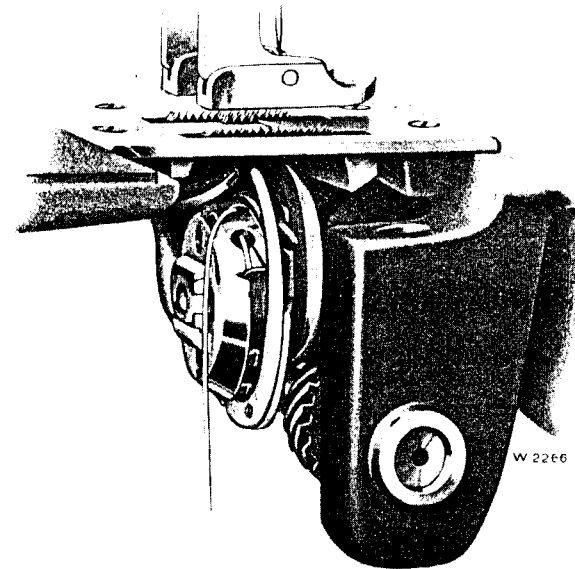


FIG. 7. BOBBIN CASE THREADED AND REPLACED

bobbin case on the center stud of the bobbin case base, release the latch and press the bobbin case back until the latch catches the groove near the end of the stud (see Fig. 7). Allow the thread to hang free and replace the slide in the bed of the machine.

To Set the Needle

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

To Thread the Needle

Pass the thread from the thread stand into the thread guide at the top of the face plate, down and from left to right through

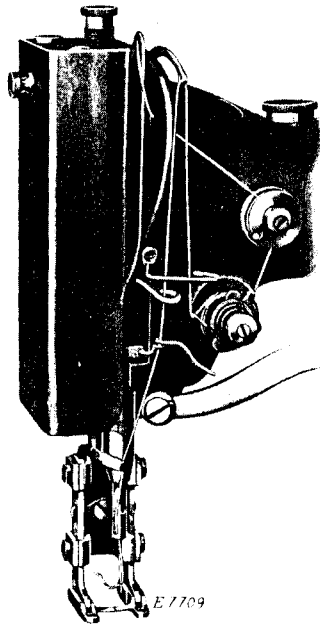


FIG. 8. THREADING THE NEEDLE

the hole in the head of the machine near the top, under the thread take-up lever and over from left to right between the discs of the thread controller on the front of the arm of the machine, down under from right to left between the tension discs up and into the hook of the tension discs down under the thread controller spring, up through the wire thread guide on the front of the arm head and from right to left through the eyelet in the end of the take-up lever, then down and through the auxiliary take-up and through the small wire thread guide at the front of the arm head, into the thread guide near the lower end of the needle bar frame and through the thread guide at the lower end of the needle bar, then from front to back through the eye of the needle. Draw about 3 inches of thread through the eye of the needle with which to commence sewing.

To Oil the Machine

The machine should be oiled at the places designated by arrows as shown in Figs. 9 and 10, and when in continuous use it should be oiled frequently.

Use "TYPE B" or "TYPE D" OIL, sold by Singer Sewing Machine Company. See inside front cover for descriptions of these oils.

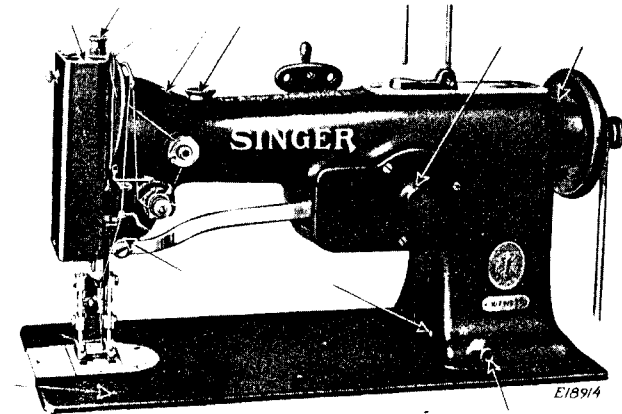


FIG. 9. FRONT VIEW OF MACHINE, SHOWING OILING POINTS

Remove the face plate and oil all of the bearings which are thus uncovered, then replace the face plate. Turn back the cap which is at the top of the arm of the machine and oil the bearings which are thus uncovered, then replace the cap.

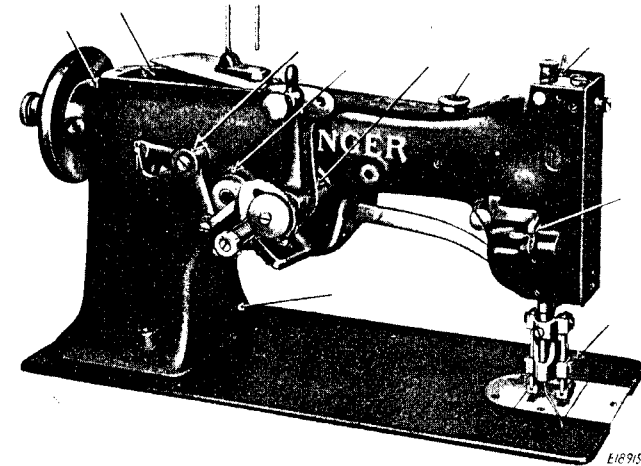


FIG. 10. BACK VIEW OF MACHINE, SHOWING OILING POINTS

Remove the belt and turn the machine back on its hinges and apply oil at the places designated by arrows, as shown in

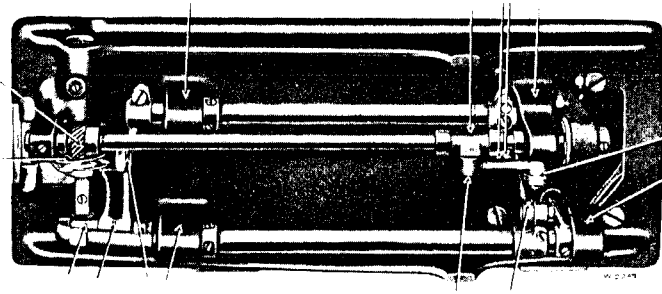


FIG. 11. BASE OF MACHINE, SHOWING OILING POINTS

Fig. 11; and all other places where there are parts in movable contact, then bring the machine forward into place.

Occasionally oil the bobbin case bearing in the bobbin case race.

To Prepare for Sewing

With the left hand hold the end of the needle thread, leaving it slack from the hand to the needle, turn the balance wheel over towards you until the needle moves down and up again and the take-up lever moves to its highest point, thus catching the under thread; draw up the needle thread and the under thread will come up with it through the hole in the throat plate. Lay both threads back under the presser feet.

To Commence Sewing

Place the material beneath the presser feet, lower the presser feet upon it and commence to sew, turning the balance wheel over towards you.

To Remove the Work

Have the thread take-up lever at its highest point, raise the presser feet, draw the work back and cut the threads close to the goods. Leave the ends of the threads under the presser feet.

Tensions

Ordinarily, for zigzag stitching the upper and under threads require very little tension; there should be only enough to prevent the loops from showing along the upper surface of the work.

For straight stitching the upper and under threads should be locked in the center of the thickness of the material, thus:



FIG. 12. PERFECT STITCH

If the tension on the upper thread is too tight or if that on the under thread is too loose, the loops of the under thread will be visible along the upper surface of the material, thus:



FIG. 13. TIGHT UPPER TENSION

If the tension on the under thread is too tight, or if that on the upper thread is too loose, the loops of the upper thread will be visible along the under side of the material, thus:



FIG. 14. LOOSE UPPER TENSION

To Regulate the Tensions

The tension on the upper thread is regulated by the thumb nut at the front of the tension discs on the front of the arm of the machine. To increase the tension turn the thumb nut over to the right. To decrease the tension turn the thumb nut over to the left.

The tension on the under thread is regulated by the screw nearest the center of the bobbin case tension spring. To increase the tension turn the screw over to the right. To decrease the tension turn the screw over to the left.

To Regulate the Length of Feed

The length of feed is regulated by the thumb screw at the right of the balance wheel. To increase the length of feed turn the thumb screw over towards you. To decrease the length of feed turn the thumb screw over from you.

To Regulate the Form of Seam

There are three separate forms of making the overseam with zigzag stitching, namely: seams varying in width from a zero



FIG. 15



FIG. 16



FIG. 17

point at the extreme right edge of the seam as shown in Fig. 15; seams varying in width equally on each side of a line central of the stitching as shown in Fig. 16, and seams varying in width from a zero point at the extreme left edge of the seam as shown in Fig. 17.

Each form of seam is governed by the lever shown in Fig. 18 at the back of the machine. To move the lever, pull back the

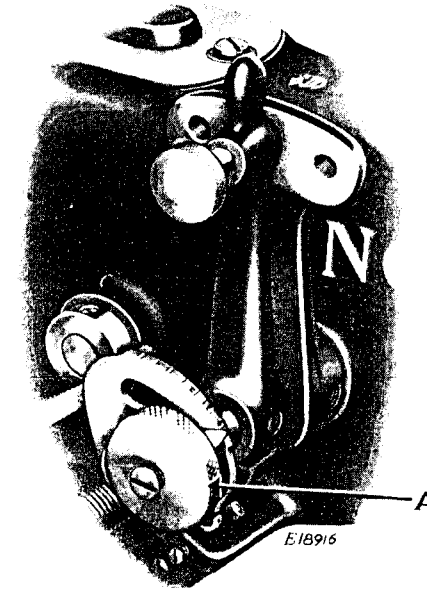


FIG. 18. SHOWING LEVER FOR REGULATING THE POSITION OF THE NEEDLE

spring pin at its upper end, press the knee lifter and move the lever to the left or right as desired, allowing the pin to enter the hole in the bracket.

When the lever is in the central position, the lateral vibrations of the needle can be increased or diminished equally on each side of a line central of the stitching.

When the lever is in the left position the needle will be caused to vibrate to the left and the line of stitching can be increased or diminished laterally from a zero point at the extreme right edge of the seam. When the lever is in the right position the needle will be caused to vibrate to the right and the line of stitching can be increased or diminished laterally from a zero point at the extreme left edge of the seam.

To Regulate the Width of Zigzag Stitch

The width of zigzag stitch or extent of the lateral vibrations of the needle is regulated by the knee lifter which can be operated to make each form of seam any width varying from zero to $\frac{1}{2}$ inch.

To Make Seams of Continuous Widths

Set the lever spring pin in the centre hole in the bracket on the back of the arm of the machine and press the knee lifter until the needle vibrates to the desired width of the seam, then tighten the large thumb nut A, as shown in Figure 18.

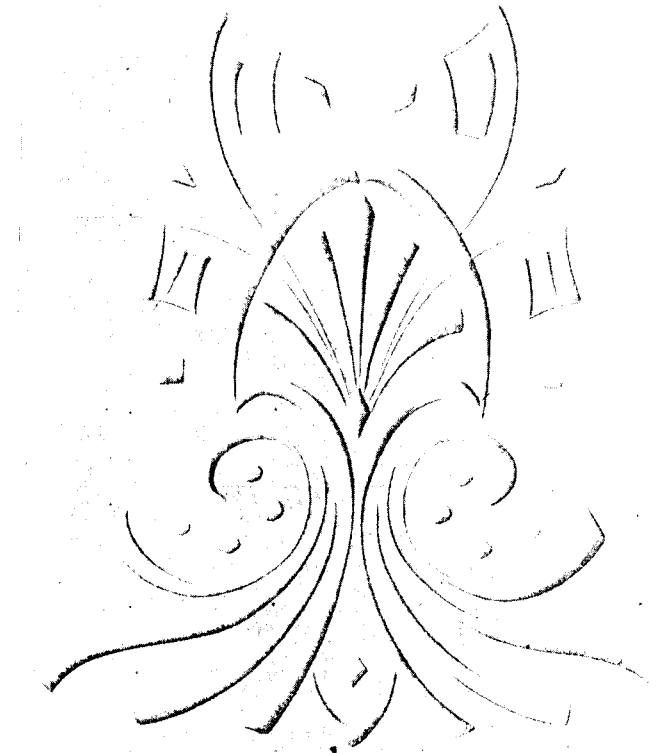
For making seams of continuous widths as in "striping," the index shown in Figure 18 is provided so that the striping position may be readily returned to after sewing other various ornamental figures.

To Regulate the Pressure on Material

The pressure on the material is regulated by the thumb screw on the top of the head of the machine. To increase the pressure turn the thumb screw over to the right. To decrease the pressure turn the thumb screw over to the left. The pressure should be only heavy enough to enable the feed to move the work along evenly.

The Automatic Thread-Check or Controller

The action of the thread controller or automatic thread-check through which the thread passes just previously to entering between the regular tension discs is such, when in proper adjustment, that the thread is released as the take-up lever is nearing the end of its upward stroke, about $\frac{5}{8}$ to $\frac{3}{4}$ of an inch from its highest position, and is so set when the machine leaves the factory. In case this does not release the thread early enough, loosen the jam nut at rear side of discs and screw the knurled bushing inward or toward the right; or to make it release later, screw the bushing outward or toward the left. Be sure to retighten the jam nut to secure the bushing in its desired adjustment. When in proper adjustment as above indicated, the sewing may be done with a far lighter tension on the regular tension discs than is otherwise possible, thereby permitting the use of various kinds and qualities of thread and at speeds that would otherwise be impracticable.



w 2290

FIG. 19. SAMPLE OF WORK PRODUCED BY MACHINE 107 w 100

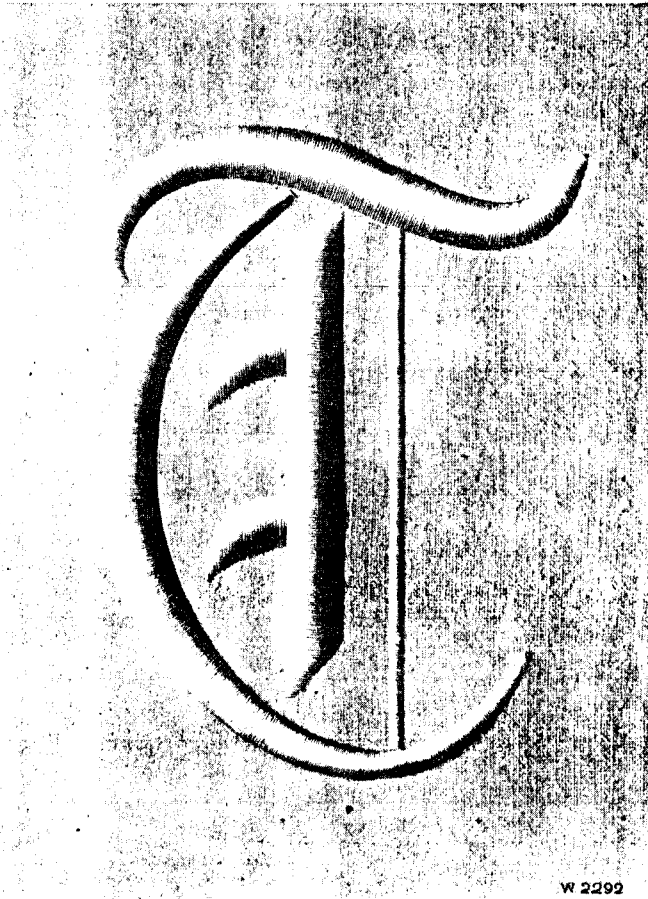


FIG. 20. SAMPLE OF WORK PRODUCED BY MACHINE 107w100

INSTRUCTIONS FOR ADJUSTERS AND MACHINISTS

Thread Controller

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

For more controller action on the thread, loosen the stop screw 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 at the right of the stop screw and turn the tension stud slightly to the left with a screw driver, or to lighten its action turn to the right and retighten the tension stud screw.

Feed

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

To Prevent the Feed Dog from Striking at Either End of the Slots in the Throat Plate. Loosen feed driving connection crank pinch screw 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 feed bar slide block crank pinch screw 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.

Needle, Needle Bar and Hook Timing

The timing or position marks on the needle bar register with the lower edge of the needle bar frame when the needle is in central position midway between its extreme sidewise movements. This condition may be obtained by placing the lever at the back of the machine in central position, as shown in Fig. 18.

With the parts in this setting and the needle bar at the downward limit of its movement, the upper mark on the needle bar should be just barely visible at the under edge of the needle bar frame; then, as the needle bar rises, the sewing hook point should pass the needle at its centre just as the lower mark on needle bar registers with under edge of needle bar frame.

Having ascertained the correctness of the needle bar setting (by these position marks) the sewing hook may also be timed by first moving the needle to its extreme left-hand position and then timing the hook point so that it will pass the needle at a point just barely above the needle eye, or as "slow" in passing the needle at this point as will ensure it seizing the thread loop. In any case, the hook should never be so fast in time as to drag the needle point on any part of the hook when rising. This method of hook timing may be found beneficial in handling some varieties of thread.

Should the needle require slight adjustment to the right or left, this may be done by turning the needle bar frame pitman eccentric stud at the lower end of the needle bar frame, and in case this eccentric stud is removed, be careful in replacing to have the bulge downward.

Lateral Motion of Needle Bar

The sidewise or lateral motion of needle bar should terminate as late as possible, just before the needle point enters the fabric. The time of this motion is important as it also affects the motion of the sewing hook, and by delaying such motion to as late time as can be employed without injury to the fabric enables the thread to be withdrawn from the hook by the take-up at a favorable period.

To Time Movement of Needle Bar Frame

Change the time of the needle vibrator driving gear pinion on arm shaft.

To See if the Needle Bar is Set Correctly

See that the needle is up in the bar as far as it should go.

The needle bar which is in the machine when shipped from the factory has upon it (about two inches from the bottom) two lines $\frac{3}{32}$ inch apart. When the needle bar is at its lowest and central position, the upper mark should be just visible at the end of the needle bar frame.

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 and central position the point of the hook will be at the centre of the needle and about $\frac{1}{16}$ inch above the eye.

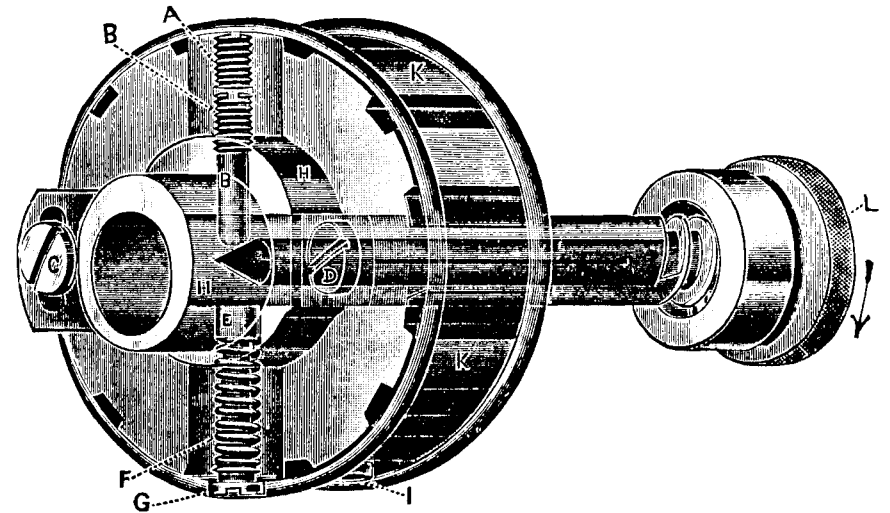


FIG. 21

Transparent view through the arm shaft connection belt pulley and shaft showing the feed regulating spindle and feed driving eccentric regulating 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. 21) 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 the spindle head (L, see Fig. 21) in the direction indicated by the arrow 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.

To Remove the Belt from Within the Arm

Slide the arm shaft connection belt off the hook driving bevel pinion shaft belt pulley, remove the feed regulating spindle and balance wheel; loosen the arm shaft bushing (back) position 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 left by the bushing.

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.

To Remove the Arm Shaft

Remove screws (B and I, see Fig. 21) and compression screw (G); loosen the set screw in the belt pulley, also loosen the screw and remove the position screw from the feed lifting eccentric and from the needle bar crank; loosen the set screws from the needle bar frame driving gear pinion (on the arm shaft) and draw the shaft out from the balance wheel end of the machine.

To Replace the Arm Shaft and Connections

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

To Remove the Arm Shaft Bushing (front)

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

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