

SINGER
CLASS 123W

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.

"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 ¼ lb. tins.

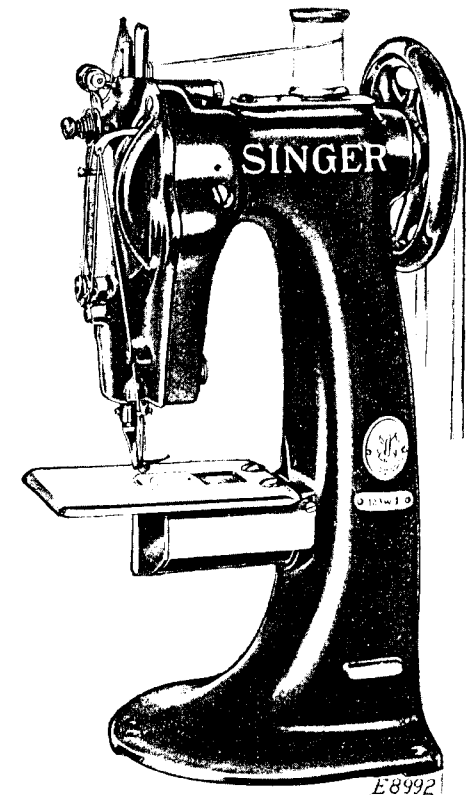
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987 w

INSTRUCTIONS

FOR USING

Singer Sewing Machines



Machine No. 123 w 1

OF

CLASS 123 w

The Singer Manufacturing Co.

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.

**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 CLASS 123 w

DESCRIPTION

Class 123 w are known as "Needle Feed Short Horizontal Cylinder Machines." The needle is assisted by a vibrating presser actuated by a positive motion, alternating presser mechanism of great strength and rigidity, in the arm head, operating as follows: the vibrating presser moves forward, descends and clamps the work while the needle passes down through the presser and the work and the lifting presser rises, then the needle, vibrating presser and work move as one compact body, completing a stitch of the length measured by the position of the feed regulator attached to the inside of the arm head, thus producing work having the upper and lower pieces of the material even at the end of a seam.

The feeding direction of the material can be reversed so as to make fastening off stitches $\frac{1}{16}$ inch long at the end of a seam. Some of these machines are so constructed that the forward and reverse stitches may each be $\frac{1}{8}$ inch long, or shorter, if so ordered.

These machines are provided with a device for drawing the necessary length of under thread from the bobbin to set each stitch properly. This device is set correctly at the factory for all ordinary thicknesses of material, and should not be changed except for some unusually thin work, or if an accident should make an adjustment imperative.

These machines are especially designed for sewing all kinds of material of ordinary and medium thickness where stitching is required close up to a straight wall, as the distance from the needle to the outer end of cylinder is only $\frac{1}{16}$ inch.

For stitching the ends of cylindrical leather boxes, pocket books, hand bags, binding leather cases, etc.

The specific designation of each Singer Sewing Machine consists of two numbers, separated by a hyphen or letter and stamped upon a number plate, which is attached to the machine, usually upon the arm.

123 w 1

The number before the hyphen or letter designates the **Class** to which the machine belongs, and the number after, the **Variety** of the machine in its Class.

When supplies for a machine are to be ordered and there is any uncertainty as to the correct numbers of needles or parts, the Class and Variety numbers of the machine, as shown on the number plate, should be given to ensure a correct understanding of the order.

Speed

The maximum speed recommended for machines of Class 123 w is 1000 stitches per minute.

Run the machine somewhat slower than the maximum at first and increase the speed after the parts become thoroughly glazed by their action upon each other.

Needles

Description of needles for Class 123 w sewing machines:

Blade—straight. Length of eye to upper end— $1\frac{1}{2}$ inch. Comparative length of point—regular. Groove—double, scarfed. Eye—punched. Finish—special. Diameter of shank—.069 inch. Shape of shank—round.

Needle Table

CLASS AND VARIETY NOS.	CLOTH OR LEATHER	SHAPE OF POINT	SIZES
134 x 1	Cloth	Round	10, 12, 14, 16, 18, 20, 22, 23, 24, 25, 26.
134 x 2	Leather	Points other than triangular	10, 12, 14, 16, 18, 20, 22, 23, 24, 25, 26.
134 x 4	"	Triangular	10, 12, 14, 16, 18, 20, 22, 23, 24, 25, 26.

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 number of the needle is marked upon its shank.

The Sizes. 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 seriously interfered with.

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

The following are details of an intelligible order:

"100 No. 12—134 x 1 Needles
100 No. 14—134 x 2 Wedge Point Needles
100 No. 12—134 x 4 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	
SIZE NUMBERS OF NEEDLES	COTTON THREAD	SILK THREAD	COTTON THREAD	SILK THREAD
No. 10	70	OO and O	100 to 150	OOO to OO
" 12	50 to 60	A-B	80 " 100	OO " O
" 14	36 " 40	C	60 " 80	A
" 16	30	D-E	40 " 60	B
" 18	24	—	30 " 40	C
" 20	20	—	24 " 30	D
" 22	16	—	16 " 24	E

Twist, Linen and Cotton Thread and Needles

Do not use poor thread or needles. Any good thread will work well but you must not expect to make a smooth even stitch with poor rough thread, nor can you expect a machine to work well with a cheap grade of needles made in imitation of ours. It is our interest to maintain the reputation of the machine and therefore we always supply the best. Persons living at a distance from a Singer store can send by mail, enclosing the money, and orders will be filled and forwarded promptly.

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.

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 bobbin winder spindle should be oiled.

Oil the take-up lever bearing through the hole in the front of the arm head above the large screw, and oil the needle and presser bars.

On top of the arm head there are four oil holes. At the right of the needle bar, oil the feed and needle carrying frame hinge stud through the two oil holes over the stud, oil the arm shaft bushing (front) through the hole at the right of the collar, and when the needle bar is at its lowest position oil the groove in the take-up cam through the large hole near the front, above the cam. Oil the arm shaft bushing (back) through the hole near the balance wheel. Move the arm cap aside and oil the center of the vertical shaft gear (bevel), to oil the upper bearing of the vertical shaft.

Oil the lower bearing of the vertical shaft through the oil hole near the base of the arm, fronting toward the needle, remove the cylinder end cover and throat plate, oil the bearing of the vertical hook through the groove leading under the hook, oil the position stud of the hook driving gear (intermediate) at the right of the hook, and place a drop of oil on the bobbin case base flange. Remove the screw in the face plate above the take-up lever and the screw at the lower side (back), thus removing the face plate, and oil all movable parts wherever there is friction.

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

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, wipe thoroughly to remove all old oil and dirt, and oil as before directed.

To Set a Needle

Insert the needle in the needle bar with the short groove (scarf) towards the hook.

Be sure to push the needle as far up as it will go, then tighten the set screw firmly.

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.

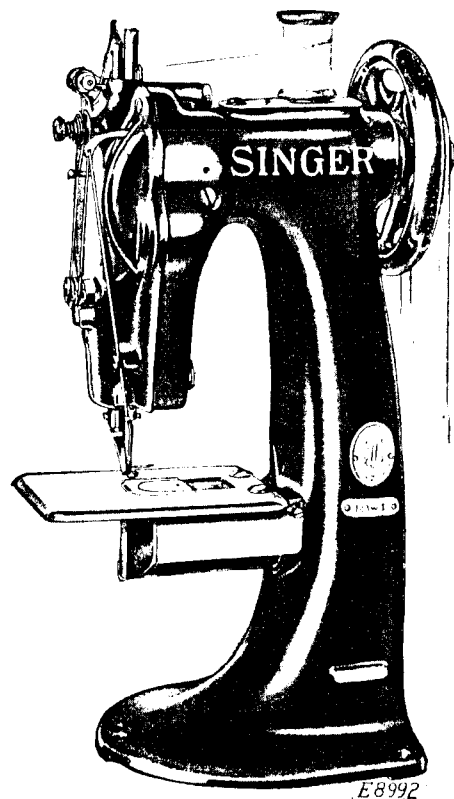


FIG. 2. MACHINE No. 123 W 1

To Thread the Needle

Lead the thread from the spool through the thread eyes on the arm head and presser bar, down under the wire and between the thread retainer and tension discs, back of the thread pin on the face plate, down under the thread controller, up through the take-up lever and down through the guides, and thread the needle toward the hook.

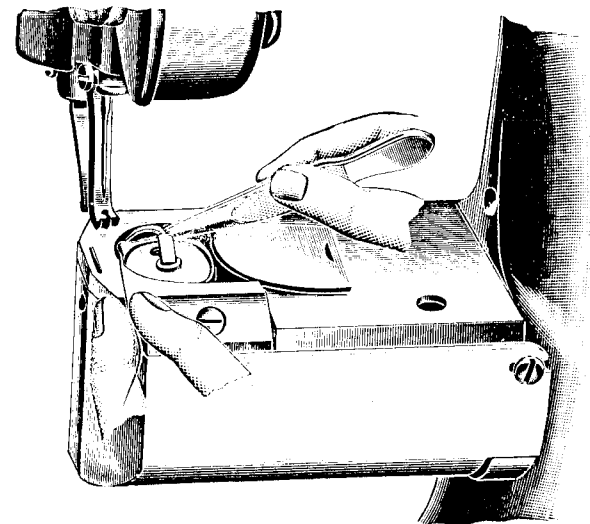


FIG. 3

To Remove the Bobbin

Push the bed slide off to uncover the hook (see Fig. 3), raise the bobbin case latch and remove the bobbin.

To Thread the Bobbin Case

Place the bobbin in the machine so that the unwinding thread will turn it in the same direction that the hook runs; hold the end of the thread with the left hand and with the tweezers in the right hand (see Fig. 3) guide the thread down into the slot and under the rim of the bobbin case, drawing it around toward the needle, under the tension spring on the bobbin case and close the latch.

For observation, loosen the cylinder end cover screw, near the right hand upper corner, and draw the cylinder cover off. See Fig. 12.

To Wind the Bobbin

(SEE FIG. 4)

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.

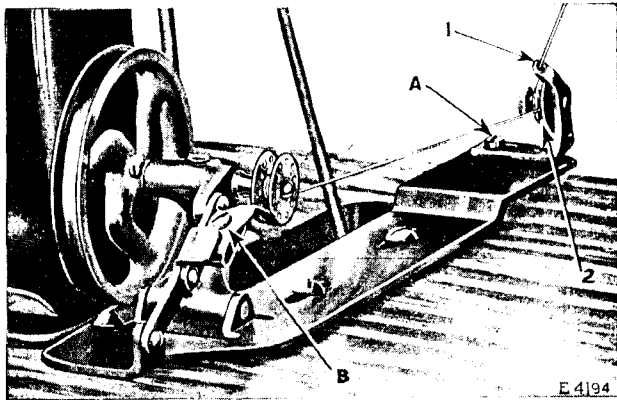


FIG. 4. WINDING THE BOBBIN

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.

Foot Lifter

The foot lifter is used for raising the presser foot by foot pressure on the lever at the right of the treadle, leaving both hands free to manipulate the work. If the foot lifter does not raise the presser foot satisfactorily, lengthen or shorten the chain which connects with the lever on the arm of the machine to lift the presser foot.

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 feet upon it, turn the balance wheel toward you and commence to sew.

The Tensions

To regulate the tensions, please observe the following:



FIG. 5

The upper and under thread should lock in the center of the material as shown in Fig. 5.



FIG. 6

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. 6.



FIG. 7

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. 7.

Upper Tension

Correctly made stitches, as shown in Fig. 5, can usually be obtained by regulating the upper tension only. Turn the tension thumb nut, in front of the face plate, toward you to tighten and from you to loosen the tension.

Caution. Do not try to adjust the upper tension when the presser feet are up, as the tension is then loose.

To Change the Under Tension. Turn the balance wheel until the small screw driver can be placed in the slot of the bobbin case tension regulating screw through the middle of the bobbin case tension spring on the bobbin case in the machine, and turn the screw slightly to the right to tighten or to the left to loosen the under tension.

See that there is no lint or dirt under the tension spring.

To Regulate the Length of Stitch

To lengthen the stitch, push the feed regulating lever attached to the right side of the arm head from you, and to shorten the stitch draw the lever toward you. The lever can be drawn sufficiently toward you to cause the feeding direction of the material to be reversed so as to make fastening off stitches $\frac{1}{16}$ inch long at the end of a seam. Some of these machines are so constructed that the forward and reverse stitches may each be $\frac{1}{8}$ inch long, or shorter.

The Pressure on the Material

The pressure of the presser feet should be only heavy enough to prevent the work from rising with the needle; if too heavy it will make the machine run harder and be of no benefit.

To Regulate the Pressure of the Presser Feet on the Material. Remove the position screw from the lifting presser bar sleeve screw nut on top of the back part of the arm head, then turn the lifting presser bar spring follower screw inwardly to increase and outwardly to decrease the pressure of the presser

feet on the material. Locate the slot of the follower screw opposite the hole for the position screw in the nut and replace the small position screw.

To Remove the Work

Have the take-up lever at its highest point; raise the presser feet, draw the work back and to the left about three inches, then cut the threads near the work.

For convenience in taking out the work, the tension of the upper thread is released by raising the presser feet with the lifter; but is not released by thick goods or seams passing under the presser feet.

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.

INSTRUCTIONS
FOR
ADJUSTERS AND MACHINISTS

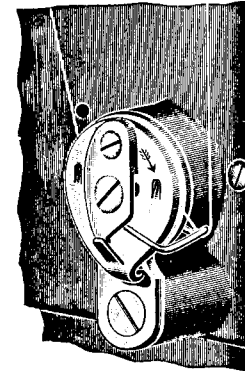


FIG. 8

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.

The thread controller stop is in the form of a crescent: push on the upper end of the stop for less controller action and on the lower end for more controller action on the thread.

It may be found advisable to increase the tension of the spring for coarse thread, or to lessen it for fine thread.

To vary the tension of the thread controller spring remove the face plate and loosen the small set screw (see Fig. 8) at the right of the controller, which sets the thread controller stud, then from the inside turn the stud forward or backward as required, and retighten the set screw. In any case when an unusually light tension is used, the tension on the spring should be correspondingly light. The coils of the spring should be oiled occasionally.

To Place a New Thread Controller in Position. Remove the entire thread controller by taking out the largest screw (see Fig. 8) and release the spring by removing the middle screw. (Be careful not to lose the small roller.) Place the new spring, roller and screw in their positions. Next put the entire thread controller on the face plate, taking care to slide the little tail, on the coil of the spring, into the notch in the stud over which the coil slides. Oil the small roller occasionally.

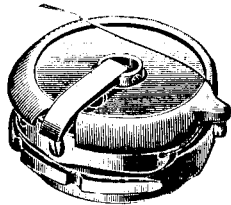


FIG. 9
Bobbin Case No. 213703

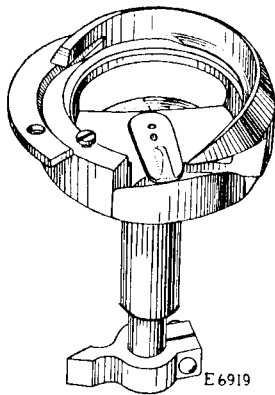


FIG. 10
Hook, Bobbin Case (opening) Lever
and Arm

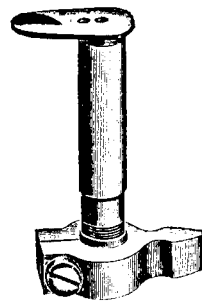


FIG. 11
Bobbin Case (opening) Lever
and Arm

Bobbin Case (Opening) Lever Device

Loosen screw I (see Fig. 12) and pull the cylinder end cover off.

There is a bobbin case (opening) lever under the bobbin case (see Fig. 10), projecting into a slot in the bobbin case, and having a stem (see Fig. 11) extending through an eccentrically located hole in the hook. The stem is clamped by bobbin case lever arm E (see Fig. 12) extending to bobbin case lever arm (stop)

bracket F, which prevents the stem from rotating. The rotation of the hook gives this eccentrically held (opening) lever (see Fig. 10) a vibratory motion which moves the bobbin case slightly, causing an opening between the stops on the bobbin case and throat plate, when the upper thread loop is across the bobbin case and passing outwardly between the stops.

If the upper thread should break frequently, remove the bobbin and see if the upper thread passes freely between the (opening) lever projection and the bobbin case; if it does not, loosen pinch screw E (see Fig. 12) at the base of the hook and turn the balance wheel until the point of the hook is half way around from the needle toward the upright part of the arm, then with a small screw driver push the projection of the lever toward you against the bobbin case and retighten the pinch screw.

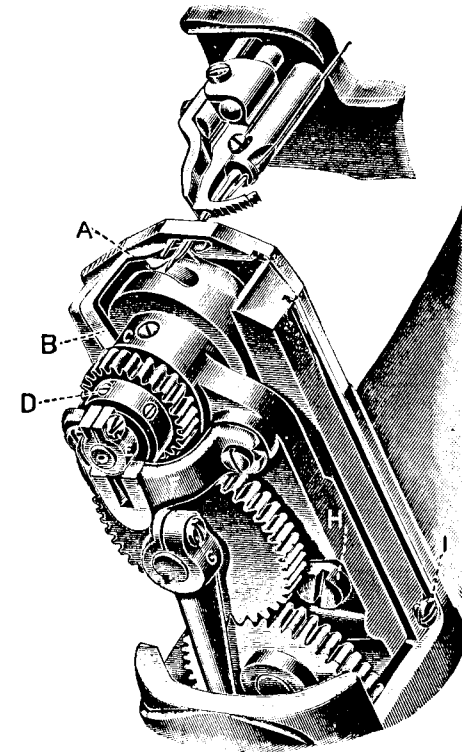


FIG. 12

Thread Draw Device

The thread draw consists of a vibrating steel finger A (see Fig. 12) which extends up past the hook, nearly to the throat plate, and strikes the under thread on its way to the throat hole and material, drawing enough thread from the bobbin into the seam to set well formed stitches in thick material.

To See if the Thread Draw is Properly Set. Remove the cylinder end cover and tip the machine to the right, with the balance wheel on the table, to observe the movement of thread draw A located near the hook, which, if in correct time, will finish its movement towards the front when the take-up lever has moved down $\frac{1}{4}$ inch from its highest position.

The Adjustment. To draw more or less thread, loosen pinch screw G in the thread draw driving lever under the gears and move thread draw A backward to draw less thread and retighten the pinch screw; to draw more thread, set the thread draw more to the front.

Caution. When setting the thread draw toward the front, care must be taken that its base B does not strike against the shoulder in hook saddle C, as striking would make the machine noisy or damage the thread draw.

To Time the Thread Draw. Loosen the set screws in the vertical shaft driving gear on the arm shaft and turn the balance wheel until the take-up lever has moved down $\frac{1}{4}$ inch from its highest position, then bring base B (see Fig. 12) of thread draw A as close to the shoulder of hook saddle C as it will go without striking, and retighten the driving gear set screws firmly, which adjustment may move the hook out of time with the needle.

To Time the Hook

To See if the Hook is Correctly Timed. Remove the cylinder end cover and throat plate; 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 needle bar frame; 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 $\frac{1}{8}$ inch above the eye.

Caution. One part of the shank of the hook is quite thin so that one of the screws in the hook gear if set firmly may cause an indentation and bind the stem of the bobbin case (opening) lever within the eccentrically located hole through the hook; therefore tighten the hook gear set screw moderately against the thin part of the hook and tighten the other screw firmly against the thick part of the hook.

Note. See that the thread draw is in correct time before attempting to time the hook.

To Time the Hook. Loosen screws D (see Fig. 12) in the hook gear under the hook 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 feed and needle bar carrying frame, hold the balance wheel firmly while you turn the hook until its point is at the center of the needle and $\frac{1}{8}$ inch above the eye and retighten the screws in the gear.

To Set the Hook Closer to or Farther from the Needle. Slightly loosen saddle screws H (see Fig. 12) and carefully drive the saddle in the direction required, and retighten the screws.

To Set a Needle Bar

The needle bar which is in the machine when shipped from the factory has upon it (about $1\frac{3}{4}$ inches from the bottom) two lines $\frac{5}{64}$ inch apart. When the needle bar is at its lowest position, set it so that its highest mark is even with the under end of the needle bar frame.

To Set a Needle Bar Which has no Mark. Set the needle bar so that when it rises $\frac{5}{64}$ inch from its lowest position the point of the hook will be at the center of the needle and $\frac{1}{8}$ inch above the eye.

To Remove the Arm Shaft

Place a screw driver in the large hole above the take-up cam, loosen the set screw and remove the take-up cam position screw, loosen the set screws in the vertical shaft driving gear on the arm shaft, then take hold of the balance wheel and draw the shaft out.

To Remove the Take-up Cam

Remove the feed and needle bar carrying frame link, etc., and after loosening the set screw, and removing the take-up cam position screw, draw the cam out.

To Remove the Arm Shaft Bushing (Front)

After the take-up cam has been removed, loosen the bushing position screw at the back of the arm, move the arm cap aside, and drive the bushing out.

To Remove the Arm Shaft Bushing (Back)

Loosen the bushing position screw at the back of the arm, remove the balance wheel, move the arm cap aside and drive the bushing out.

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