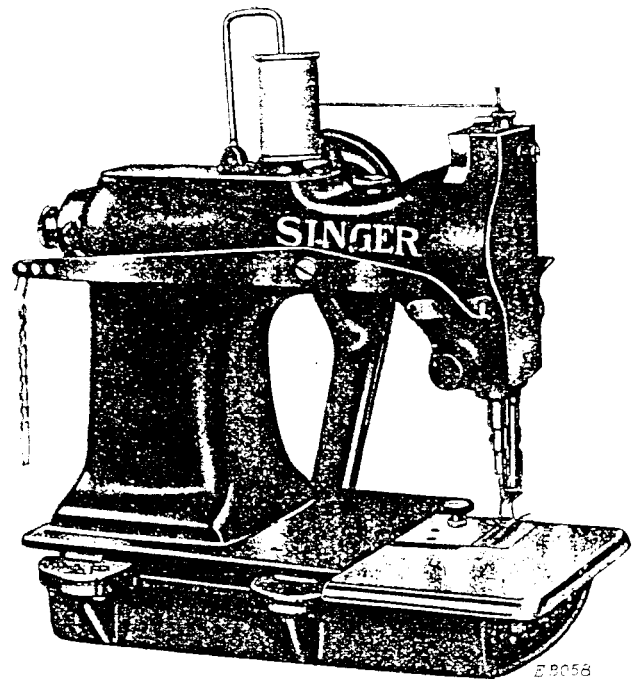


SINGER
CLASS 65W

988 w

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INSTRUCTIONS
FOR USING
Singer Sewing Machines



No. 65 w 1 Machine

CLASS 65 w

The Singer Manufacturing Co.

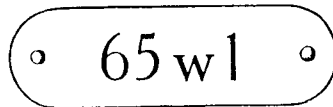
MACHINES OF CLASS 65 w

DESCRIPTION

Machines of Class 65 w are of the rotary motion, high speed type. They make the lock stitch and are designed to be set upon the bench with the front end toward the operator, the balance wheel being conveniently located on the side of the arm, for sewing shirts, collar, cuffs, etc.

The distance from needle to base of arm is $5\frac{3}{8}$ in. and the fabric is fed from left to right under the needle, this method being often preferred by operators on the kinds of work mentioned. The cloth plate extends but a short distance to the right, beyond the presser, thus facilitating rapid clearance of the work.

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.



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.

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

Class 65 w machines can be operated as fast as the needle and grade of material will permit; up to a maximum of 3000 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

Needles for 65 w machines are of Class and Variety 135 x 1 (No. 9 and above have reduced blade) made in sizes 7, 8, 9, 10, 12, 14, 16, 18, 20 and 22, and Class and Variety 135 x 3, for silk thread, no short groove above eye, made in sizes 9, 10, 12, 14, 16, 18, 20 and 22.

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 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—135 x 1 Needles.

Relative Sizes of Needles and Thread

NEEDLES. SIZE NOS.	COTTON THREAD	SILK THREAD	NEEDLES. SIZE NOS.	COTTON THREAD	SILK THREAD
7	200 to 300	..	14	60 to 70	A
8	150 " 200	..	16	40 " 50	B
9	100 " 150	000	18	30 " 40	C
10	80 " 100	00	20	20 " 30	D
12	70 " 80	0	22	16 " 20	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.

Commencing back of the arm head, on top of the arm, there are two large holes; the first one is for screw driver use and the back one for oiling the conduit to the take-up lever hinge stud. The adjacent thumb screw is for oiling the arm shaft bushing (front) and the needle bar link driving stud conduit, which with the aid of centrifugal force conducts the oil from the wicking in the hollow arm shaft through the needle bar driving crank into the needle bar connecting link and take-up driving studs.

Oil the balance wheel shaft through the two holes above it, move the arm cap aside and oil the feed connections, also oil the arm shaft bushing (back) near the end of the arm.

Oil the hook shaft bearing (front) through the oil hole in the bed plate (back) and the bearing (back) through the hole in the front side of the upright part of the arm, near its base and fronting towards the needle.

Move the face plate aside and oil the needle bar connecting stud and the slide behind the link, also the needle and presser bars, etc.

Tip the machine back and oil each end of the feed driving rock shaft, the feed bar hinge screw and slide block and the feed connection hinge screws.

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

To Set the Needle

Push the needle up in the needle bar as far as it should go, with the long groove to the right, towards the upright part 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.

Pass the thread from the spool, toward you through the hole (1) in the thread guide on top of the machine, down and from you

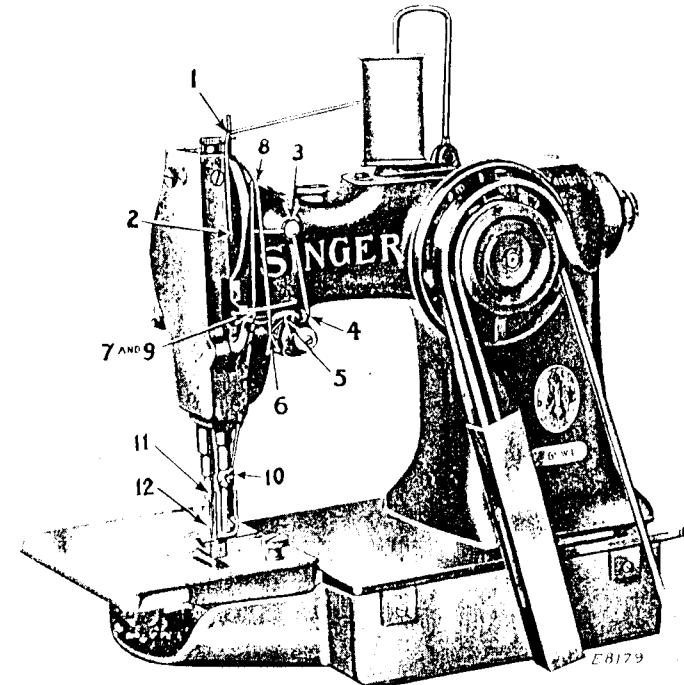


Fig. 3

To Thread the Needle

(See Fig. 3)

through the hole (2) in the thread take-up guard, over the top into the thread retainer (3), down, under and toward you between the tension discs (4), up into the fork (5) above the tension discs, into the hook of the wire controller spring (6), up through the wire guide (7), and toward you through the hole (8) in the end of the thread take-up lever, down through the wire guide (9), through the thread guide (10) on the presser bar, as indicated by the dotted line in Fig. 3, through the thread guide (11) at the lower end of the needle bar and toward you through the eye of the needle (12). Draw about three inches of thread through the eye of the needle with which to commence sewing.

Feed Regulator

Use the feed regulating spindle head at the back end of the machine to change the length of stitch. Turn it inward to lengthen and outward to shorten the stitch.

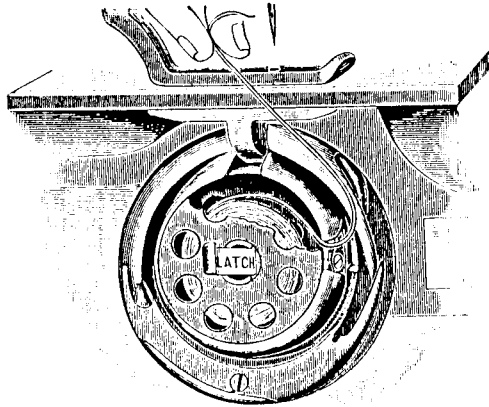


Fig. 4

To Thread the Bobbin Case

Place the bobbin in the bobbin case, with the thread leading from the top towards the right; hold the thread with the right hand (Fig. 4), guide it into the notch (close the latch) and draw until 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.

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

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 move the chain staple into another link of the chain, to lengthen or shorten the action of the rock lever on the chain.

To Wind the Bobbin

(See Fig. 5)

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.

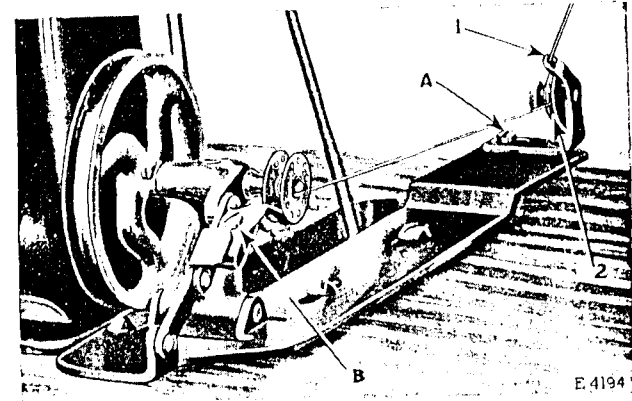


Fig. 5. Winding the Bobbin

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 towards you and commence to sew.

The Tensions

To regulate the tensions, please observe the following:



Fig. 6

The upper and under threads should lock in the center of the material as shown in Fig. 6.



Fig. 7

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. 7.



Fig. 8

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. 8.

To Regulate the Under Tension.—Tip the machine back and turn the screw in the center of the bobbin case tension spring slightly to the right to tighten and to the left to loosen the tension. See that there is no lint or dirt under the tension spring.

The Pressure on the Material

The pressure of the presser foot 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 at the top of the arm head into which the presser bar passes (Fig. 3).

To Remove the Work

Raise the presser foot lifter, turn the machine until the take-up is at its highest point and draw the work from you. If the threads do not draw out easily, the needle 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 loose.

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 should go; any particle of lint or dirt which prevents it from going up can be removed through the cross hole in the needle bar.

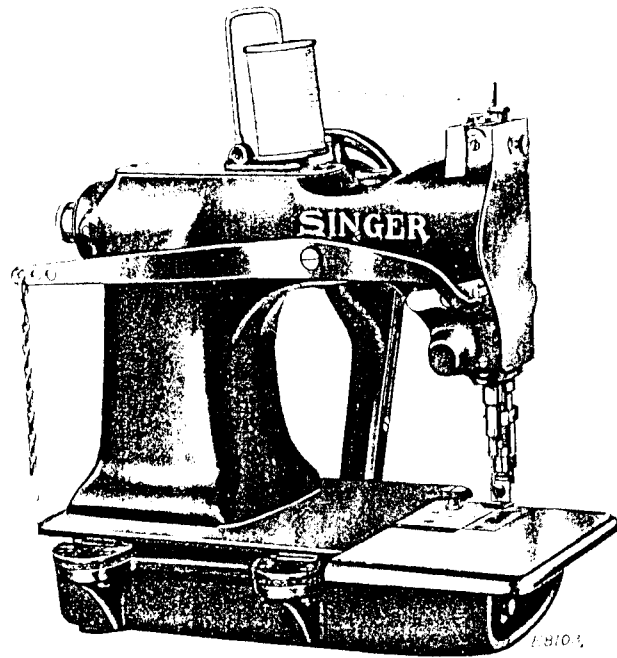


Fig. 9
No. 65 w 2 Machine

Compound Presser Bar Adjustments

The No. 65 w 2 Machine has the compound presser bar, composed of a presser bar in the arm head and an auxiliary bar, controlled by a light spring, holding the presser foot on the material with a direct and light pressure which can be regulated to the degree desired by moving the face plate aside and adjusting the stop collar on the presser bar to limit the pressure exerted by the presser bar spring on the auxiliary bar, a feature highly appreciated by collar and cuff workers.

This machine may be fitted with special pressers and gauges for collar and cuff work. The presser illustrated on the machine is readily adjustable to and from the operator, as may be required for different widths from line of stitch to the edge gauge.

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 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 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 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 towards you until the feed dog is at its highest position; loosen the feed lifting connection 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 (sewing).

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 $1\frac{1}{2}$ 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 $\frac{3}{32}$ in. from its lowest position the point of the hook will be at the center of the needle and about $\frac{1}{16}$ in. above the eye.

To See if the Hook is Correctly Timed

Remove the throat plate and turn the balance wheel towards 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 $\frac{1}{16}$ in. 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— $\frac{1}{16}$ in. above its eye—see that the end play to the shaft is eliminated, then retighten the pulley screws.

To Set the Hook To or From the Needle

Loosen the set screws that hold the hook shaft connection belt pulley and the screws in the collar on the feed lifting rock shaft through which the hook shaft runs, and carefully drive the feed lifting rock shaft to bring the hook closer to or farther from the needle. After carefully adjusting and timing the hook to the needle, move the collar against the rock shaft bearing and the pulley against the rock shaft, thus eliminating all end play and retighten the collar and pulley screws. Do not leave any end play to the shaft.

To Remove the Hook

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

To Remove the Belt from Within the Arm

Slide the arm shaft connection belt off the lower pulley, remove the feed regulating spindle 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.

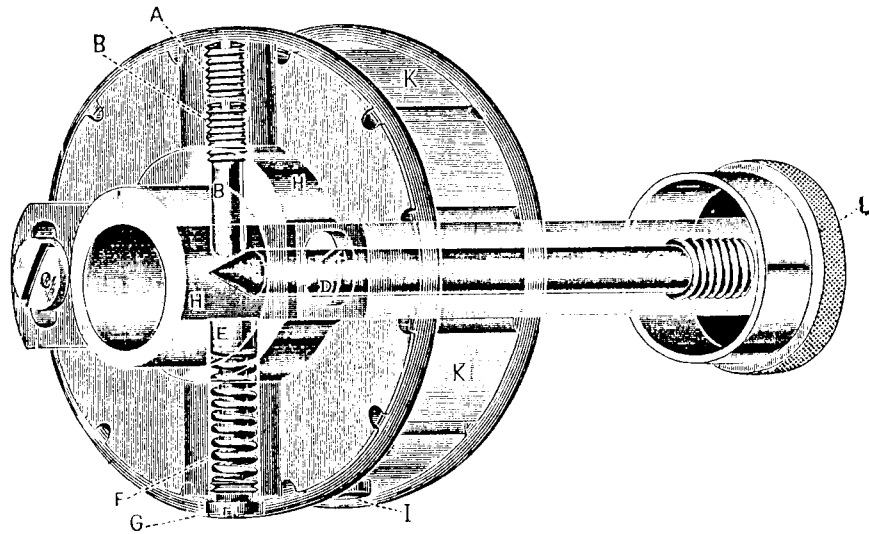


Fig. 10

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.

To set the feed regulator so that a stitch longer than the one desired cannot be made.—Turn spindle head (L) (Fig. 10) inwardly 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.

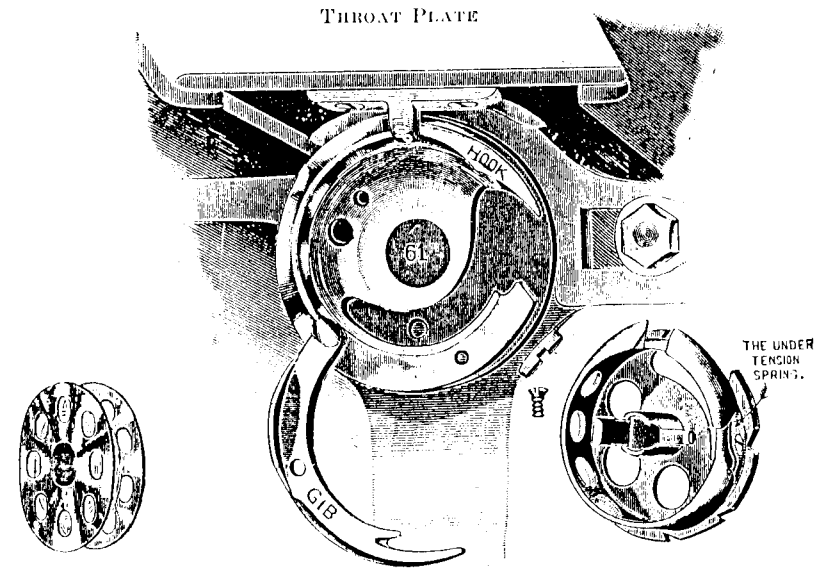
Fig. 11
Bobbin

Fig. 12

Fig. 13
Bobbin Case

Figs. 12 and 13 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 (Fig. 12); turn the balance wheel until the point of the hook is towards the right 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.

To Remove the Arm Shaft

(See Fig. 10)

Remove check screw (A), position screws (B) and (I) and compression screw (G); loosen the set screws in the arm shaft connection belt pulley and bevel gear, also loosen the set screws and remove the position screws from the feed lifting connection eccentric and from the needle bar crank, and draw the shaft out from the back end of the machine.

To Replace the Arm Shaft and Connections

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

To Remove the Front Bushing

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

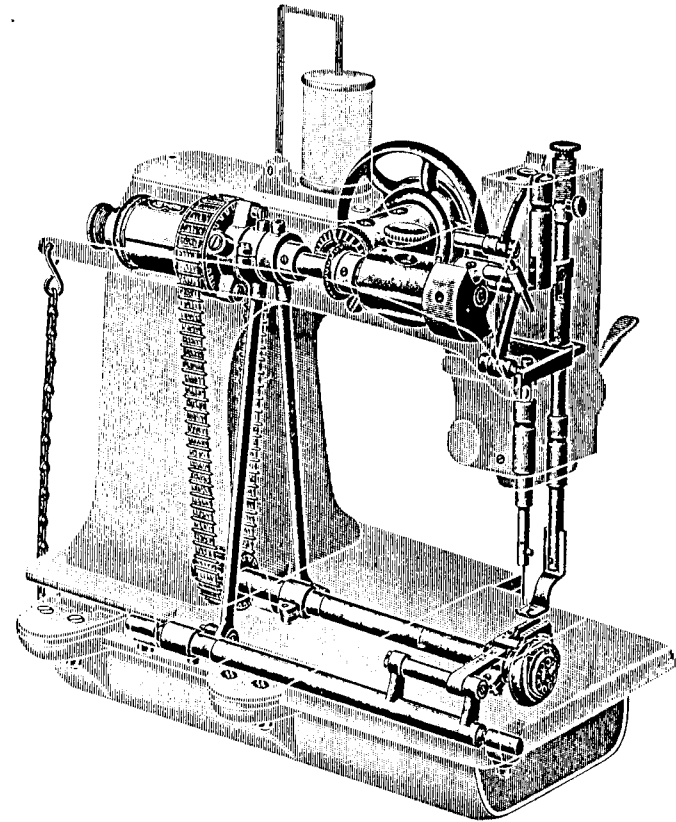


Fig. 14
No. 65 w 1 Machine

Phantom view showing the interior placement of the working parts in a finished machine.